Appendix M

Transportation

Appendix M.1

Transportation Assessment



2159 Bay Street Project

Transportation Assessment

July 2020

Prepared for

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Prepared by

The **Mobility** Group

2159 Bay Street Project

Transportation Assessment

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Introduction & Report Contents

This report documents a Transportation Assessment conducted for the 2159 Bay Street Project in downtown Los Angeles. The assessment was conducted according to the Los Angeles Department of Transportation (LADOT) Transportation Assessment Guidelines[1], July 2019. The report addresses both a CEQA Analysis and a Non-CEQA Analysis per the guidelines.

Background

The Transportation Assessment Guidelines provide the following background and context.

In compliance with the California Environmental Quality Act (CEQA) and/or in accordance with City regulations, the City of Los Angeles Department of Transportation (LADOT) may require Applicants to analyze and assess project-specific transportation impacts. This edition of the City of Los Angeles Transportation Assessment Guidelines (TAG) establishes criteria for project review objectives and requirements, provides instructions and sets standards for preparation of a transportation assessment in the City of Los Angeles.

This updated version of the City's TAG, which supersedes the Guidelines last updated in December 2016, conforms to the requirements of Senate Bill 743; incorporates updates to the CEQA guidelines proposed by the Governor's Office of Planning and Research (OPR) and further guidance provided in OPR's corresponding Technical Advisory[2]; and are consistent with the City of Los Angeles CEQA Thresholds Guide update. As part of the preparation of this version of the City's TAG, the City updated its travel demand simulation model and transportation impact thresholds to be consistent with the vehicle miles traveled (VMT) impact methodology.

Senate Bill 743 tasked the Office of Planning and Research (OPR) with developing new guidelines for evaluating transportation impacts under CEQA using methods that no longer focus on measuring automobile delay and level of service (LOS). Senate Bill 743 directed lead agencies to revise transportation assessment guidelines to include a transportation performance metric that promotes: the reduction of greenhouse gas emissions, the development of multimodal networks, and access to diverse land uses. OPR's proposed updates to the CEQA guidelines in support of these goals[3] establish VMT as the primary metric for evaluating a project's impacts on the environment and transportation system. Another proposed update to the CEQA guidelines requires that a project's environmental assessment

[1] Formerly referred to as the Transportation Impact Study (TIS) Guidelines. Any ordinance or policy referring to LADOT's TIS Guidelines or the Traffic Study Policies and Procedures shall be inferred to mean the Transportation Assessment Guidelines (TAG) as its successor document.
[2] State of California, Governor's Office of Planning & Research, *Technical Advisory on Evaluating Transportation Impacts in CEQA*, April 2018.
[3] State of California, Governor's Office of Planning & Research, *Proposed Updates to the CEQA Guidelines, Final*, November 2017.

must assess and disclose whether the proposed project conflicts or is inconsistent with local plans or policies. The California Natural Resources Agency certified and adopted the CEQA Guidelines in December 2018, and are now in effect.[4]

Report Contents

This report follows the procedures and requirements in the LADOT Transportation Assessment Guidelines, including the format of the study report. Chapter 0 provides a summary of the Project Description, and Chapter 1 provides a description of the Project Context with respect to the transportation system. Chapter 2 provides the CEQA Analysis of Transportation Impacts. Chapter 3 provides the Non-CEQA Transportation Analysis. Chapter 4 provides a description of transportation mitigation measures (for any impacts identified in the CEQA Analysis), and corrective actions (for any concerns identified in the Non-CEQA Analysis).

[4] State of California, Natural Resources Agency, Final Adopted Text, Dec 2018. http://resources.ca.gov/ceqa/

0. Project Description

The proposed Project is located at 2159 Bay Street in the Arts District in downtown Los Angeles. The Project Site is bounded by Bay Street to the north, BNSF railroad tracks and the Los Angeles River to the east, Sacramento Street to the south, and private property to the west. The project location is shown in Figure 0.1.

The Project Case Number is: ENV-2017-625-EIR.
The Assessor Parcel numbers are: 5166-001-002 and 5166-005-008, -009, -010, -013.
The Proposed Project is in Council District 14.

The LADOT Transportation Assessment Guidelines (TAG) require a description of the key transportation facilities within a quarter mile radius of the Project Site. This radius is shown in Figure 0.1.

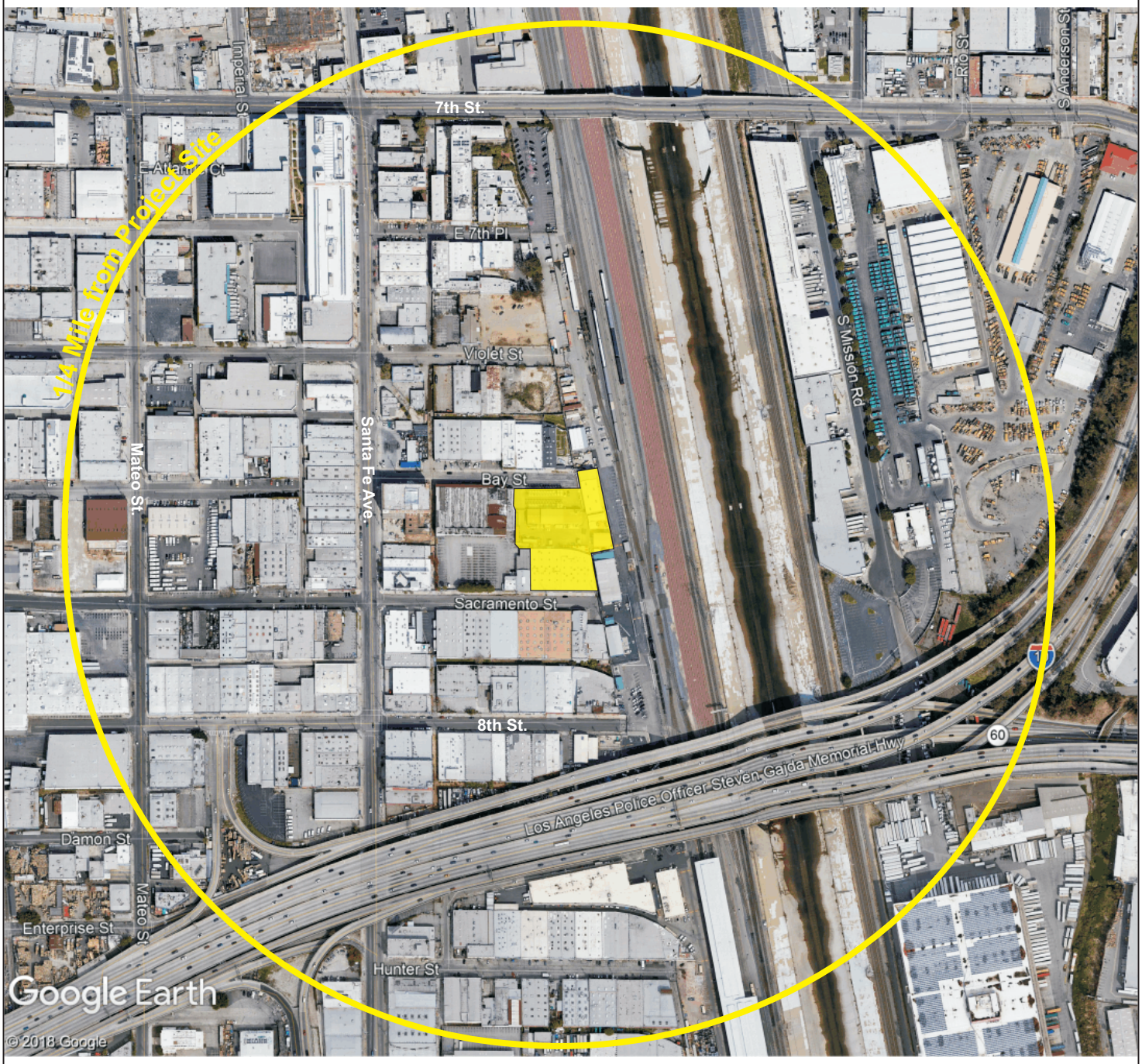
Upon review and consultation with LADOT it was determined that none of the streets south of the I-10 freeway and east of the LA River are part of the street and pedestrian network serving the Project Site. Figure 0.2 shows that part of the initial study area that encompasses the street and pedestrian networks serving the Project Site. Furthermore, some minor streets are not essential to the vehicular and pedestrian network serving the Project Site, and so with LADOT's approval were excluded from further analysis, as shown in Figure 0.3.

The Project Site is currently developed and utilized as an industrial and office facility totaling approximately 39,328 square feet. The Proposed Project will consist of 217,189 sq. ft. of creative office space, and 5,000 sq. ft. of commercial space (for purposes of preparing a conservative analysis this will be analyzed as restaurant space). Figure 0.4 shows the concept site plan, including driveways, loading/unloading areas, and any highway dedications.

Vehicle access into the Project Site will be provided by a total of three driveways. The principal driveway will be 2-way driveway on Bay Street to access the subterranean garage level. This is a proposed three-lane driveway with one lane in, one lane out and one reversible lane that can accommodate the peak period directional flow as appropriate. A second driveway on Bay Street, east of the main driveway will be an ingress only driveway to the surface parking on the ground floor of the building. The third driveway will be a two-way driveway on Sacramento Street to provide ingress and egress for the surface parking. Figure 0.5 shows the study intersections (further discussed in Section 3.3) and the distance of Project driveways from adjacent intersections on Santa Fe Avenue.

The Proposed Project would provide a total of 711 on-site parking spaces. A total of 607 would be located below grade only accessed from Bay Street. A total of 104 would be surface parking

and accessed from both Bay and Sacramento Streets. The Proposed Project would also provide 25 short-term and 46 long-term bicycle parking spaces for a total of 71 spaces.



Note: Quarter mile boundary is a composite from each edge of project site

Legend

- Project Site
- 1/4 Mile from Project Site (Study Area)

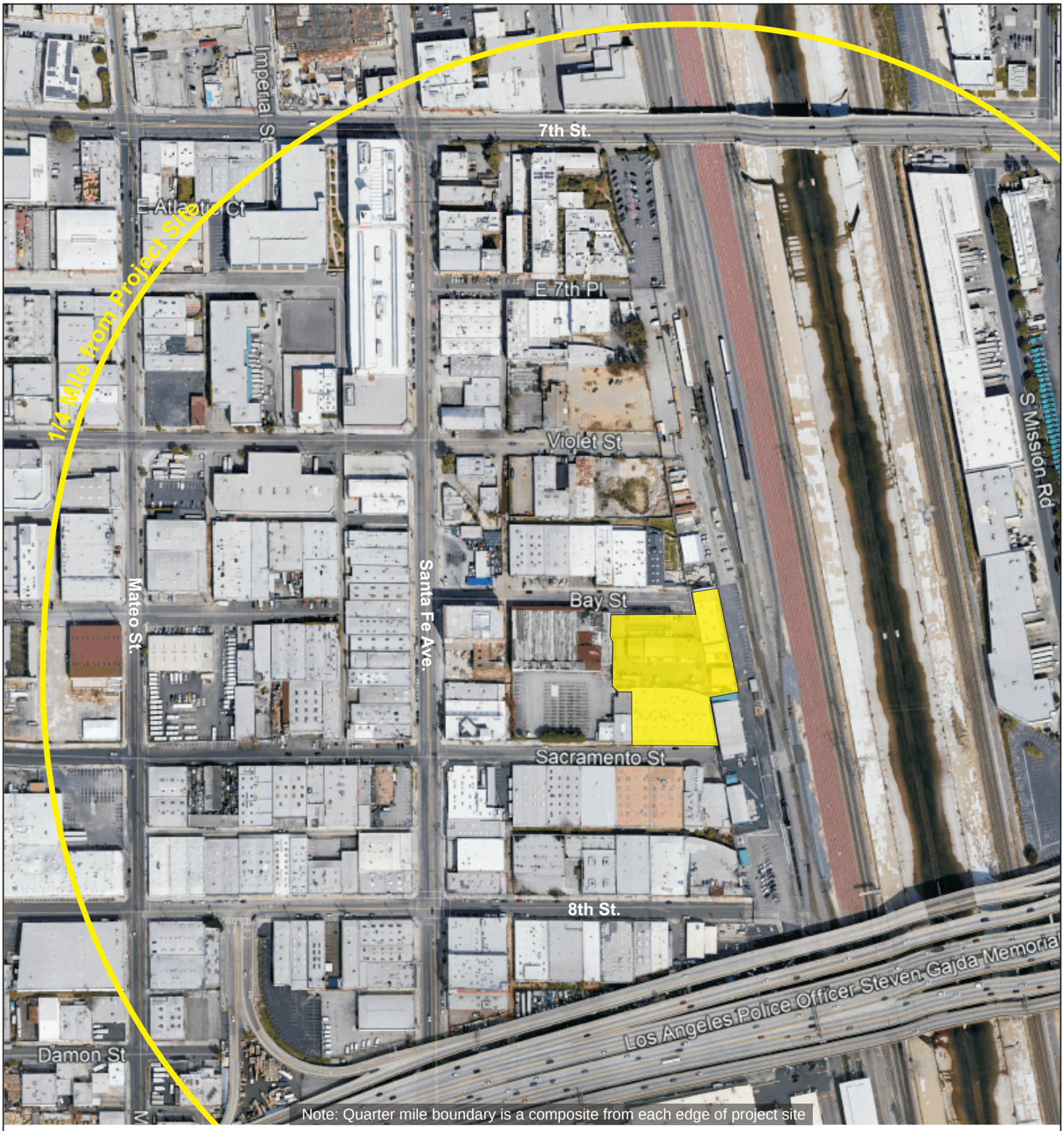
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Figure 0.1
Project Site and Quarter Mile Boundary

2159 Bay Street

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Legend

Project Site

1/4 Mile from Project Site (Study Area)

N

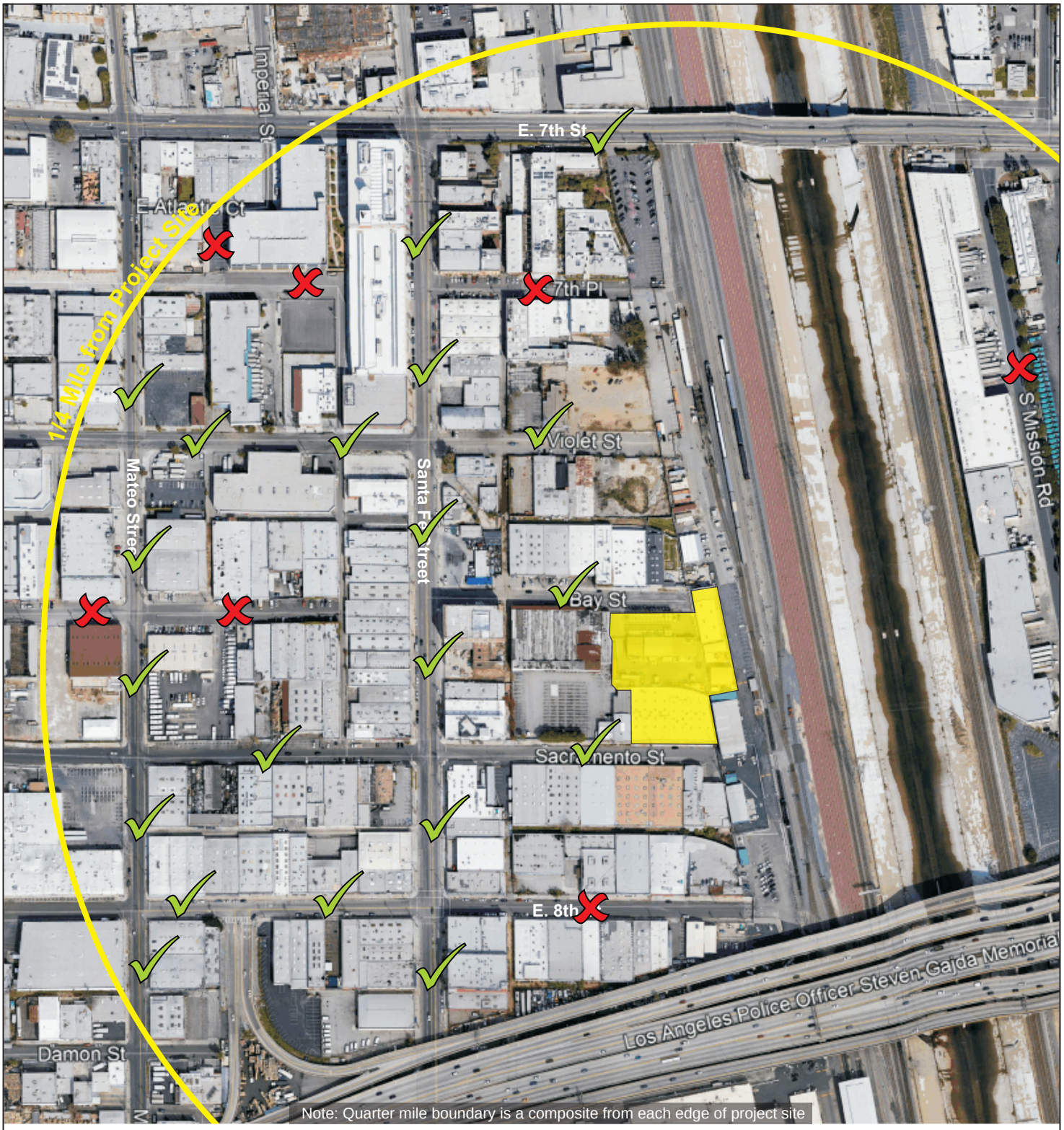
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Figure 0.2
Project Site and Study Area

2159 Bay Street

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Legend

Project Site

1/4 Mile from Project Site (Study Area)

Roadway Segments included in the inventory

Roadway Segments not included (not necessary) in the inventory

N

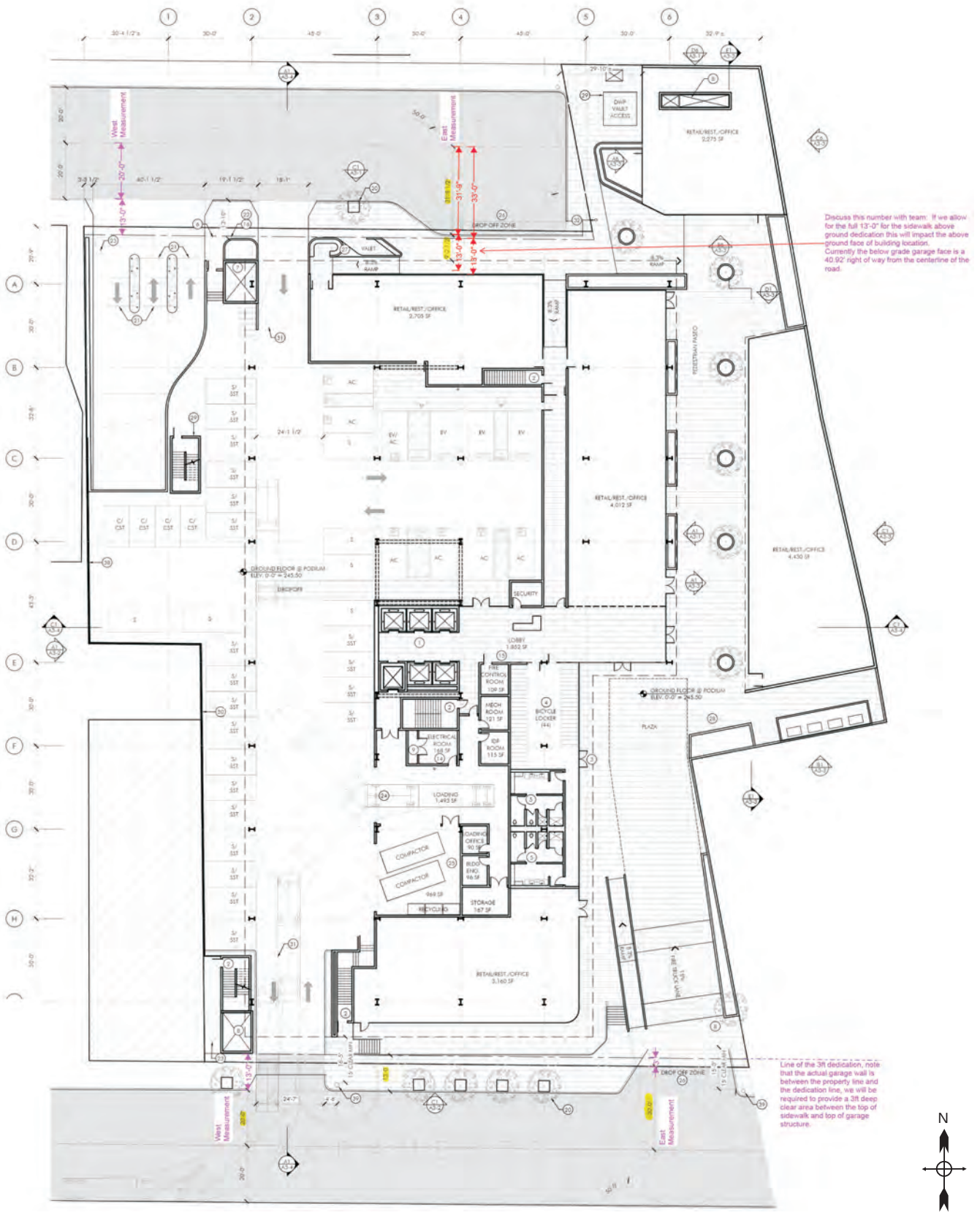
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Figure 0.3
Roadway Segments Included in the Study

2159 Bay Street

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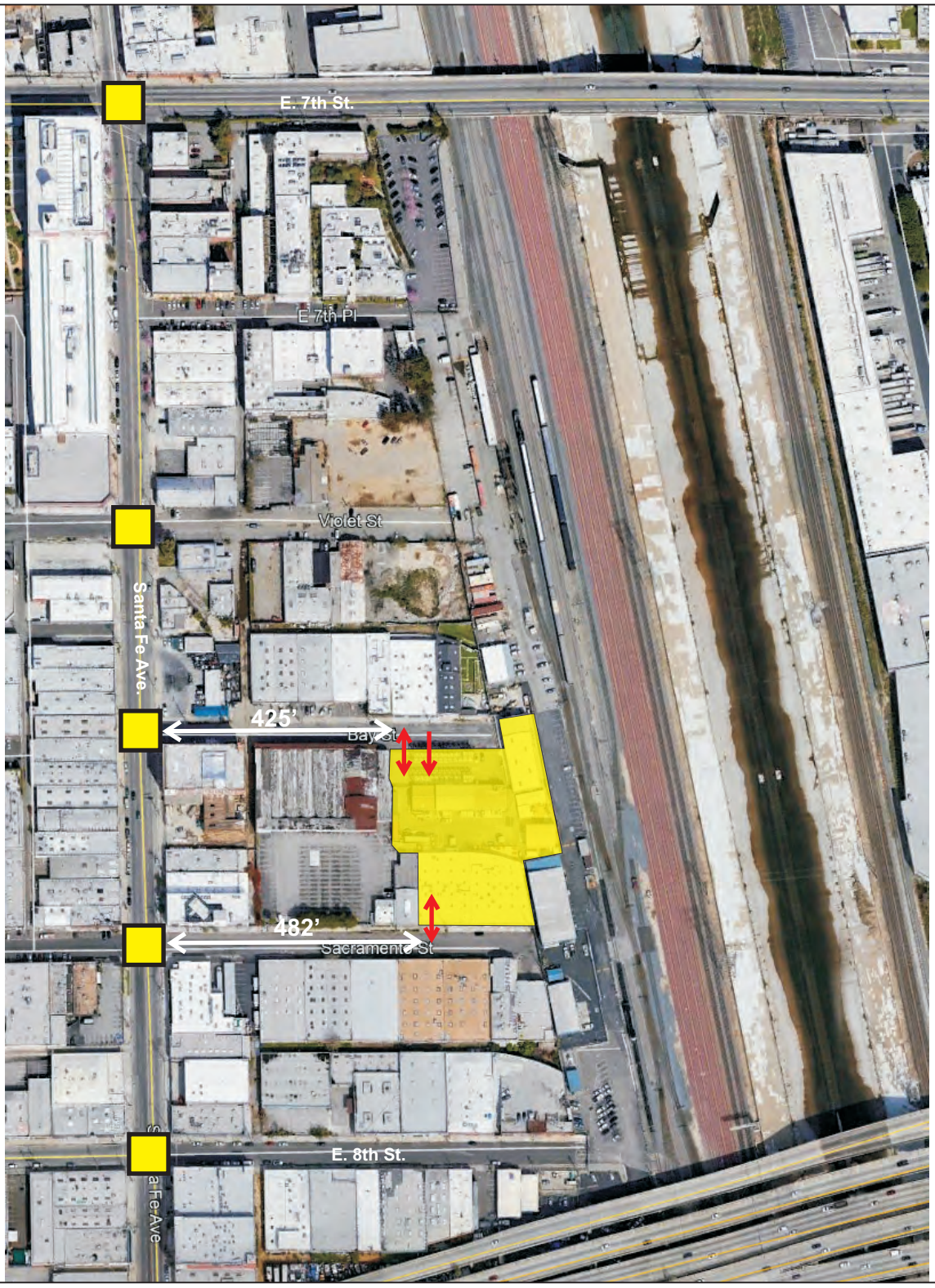
Source: Shimoda Design Group 1/21/20

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Figure 0.4
Project Site Plan

2159 Bay Street

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Legend

Project Site

Study Intersection

Two-Way Driveway

Inbound Driveway

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Figure 0.5
Study Intersections and Project Driveways

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1. Project Context

This chapter provides a summary of the project context with respect to the transportation system. Further details are provided in Chapter 3 in the Non-CEQA Transportation Analysis.

1.1 Roadway System

The Project Site is located in the Arts District region of downtown Los Angeles which is served by an extensive freeway network. Primary regional access to the general area of the site is provided by the Santa Monica Freeway (I-10), the Santa Ana Freeway (US-101) and the Golden State Freeway (I-5). The Santa Monica Freeway runs in an east-west direction and is located 0.3 miles south of the Project Site. The Santa Ana and Golden State freeways run in a north-south direction and are located 0.5 miles east of the Project Site. These facilities also provide access to the San Bernardino (I-10) and Pomona (SR-60) freeways to the east, the Hollywood (US-101) freeway to the north, and to the Harbor Freeway (I-110) to the west.

The key surface streets serving the immediate area of the Project (within two blocks) are 7th Street, and 8th Street in the east-west direction, and Mateo Street and Santa Fe Avenue in the north-south direction. Local streets directly serving the Project Site are Bay Street and Sacramento Street. Other local circulation streets in the area include Violet Street. Figure 1.1 shows the street classifications per the Mobility Plan 2035. 7th Street and Santa Fe Avenue are classified as Avenue II, Mateo Street is an Avenue III, and Violet Street, Bay Street, Sacramento Street, and 8th Street are Collector Streets. Figure 1.2 shows the street designations (both from the Mobility Plan 2035) in the vicinity of the Project. Table 1.1 lists the street characteristics in the vicinity of the Proposed Project including number of lanes, direction of flow, peak period tow-away lanes, and bike lanes.

There are both signalized and unsignalized intersections in the study area. All signalized intersections in the study area currently operate under the City's ATSAC system (Automated Traffic Surveillance and Control). This is a centralized control system that provides for the coordination of traffic signal timing to maximize the street capacities and to minimize traffic delays on City streets. All signalized intersections also operate under the ATCS system (Adaptive Traffic Control System), which is an enhancement to the ATSAC system that allows traffic-adaptive signal control based on real-time traffic conditions.

1.2 Existing Transit Service

The Project Study Area is currently served by 5 Metro bus lines. Metro Rapid Line 760 (Lynwood to Downtown Los Angeles) and Metro Line 60 (Compton to Downtown Los Angeles) run on Santa Fe Avenue adjacent to the Project Site and on 7th Street to the west of Santa Fe Avenue. Additional transit lines include Metro Rapid Line 720 (Santa Monica to

Commerce), Metro Line 18 (Wilshire Center to Montebello), and Metro Line 62 (Downtown Los Angeles – Hawaiian Gardens) which run on 7th Street north of the Project Site. Table 1.2 lists the individual bus lines serving the Project Area, and indicates the frequency of service (headways) during the AM and PM peak periods. Figure 1.3 shows transit service provided in the Project Area.

1.3 Key Pedestrian Destinations

Figure 1.4 shows key pedestrian destinations within a quarter mile (1,320 feet) of the Proposed Project (bus stops along Santa Fe Avenue and 7th Street), and pedestrian routes from the Project Site to these destinations.

1.4 Bicycle and Pedestrian Facilities

Bicycle Facilities

The Mobility Plan 2035 designates a network of bicycle lanes (Tier 1, Tier 2, and Tier 3) in the area of project.

> Tier 1 Bicycle Lanes are bicycle facilities on arterial roadways with physical separation.
>
> Tier 2 and Tier 3 Bicycle Lanes are bicycle facilities on arterial roadways with striped separation.
>
> Bicycle Routes are identified routes for bikes and are streets signed to alert drivers to bicyclists sharing the roadway spaces – often with the use of "sharrow" symbols painted on the street.

There are no bicycle lanes/routes currently in the Project study area as shown in Figure 1.5. However, the Mobility Plan 2035 identifies designated bicycle facilities planned for implementation. For the Project Study Area, these are shown in Figure 1.6, and comprise the following:

- 7th Street – Tier 2 bike lane

Metro Bike Share Facilities

There is one existing Metro Bike Share station close to the Study Area at the following approximate location, as shown in Figure 1.5:

- Imperial Street & 7th Street

Pedestrian Facilities

The Project Site is located in the Arts District, which is an area with numerous local streets without sidewalks, and with some streets that are uncurbed where vehicles and pedestrians share the "roadway space". The arterial streets generally have developed pedestrian facilities, including sidewalks and crosswalks. Adjacent to the Project Site, there is currently no sidewalk on Bay Street and a ten foot sidewalk on Sacramento Street. The closest signalized pedestrian crossings to the Project Site are located at Santa Fe Avenue and 8th Street south of the Project Site, and Santa Fe Avenue and 7th Street north of the Project Site.

According to Walkscore.com[5], the Project Site has a walkability score of 62 (out of 100) – which is described as a "Somewhat Walkable" where 'some errands can be accomplished on foot'. (Walkscore also allocates a transit score of 61 - 'good transit, many nearby public transportation options, and a bike score of 53 – bikeable, flat as pancake, minimal bike lanes') to the Project Study Area.

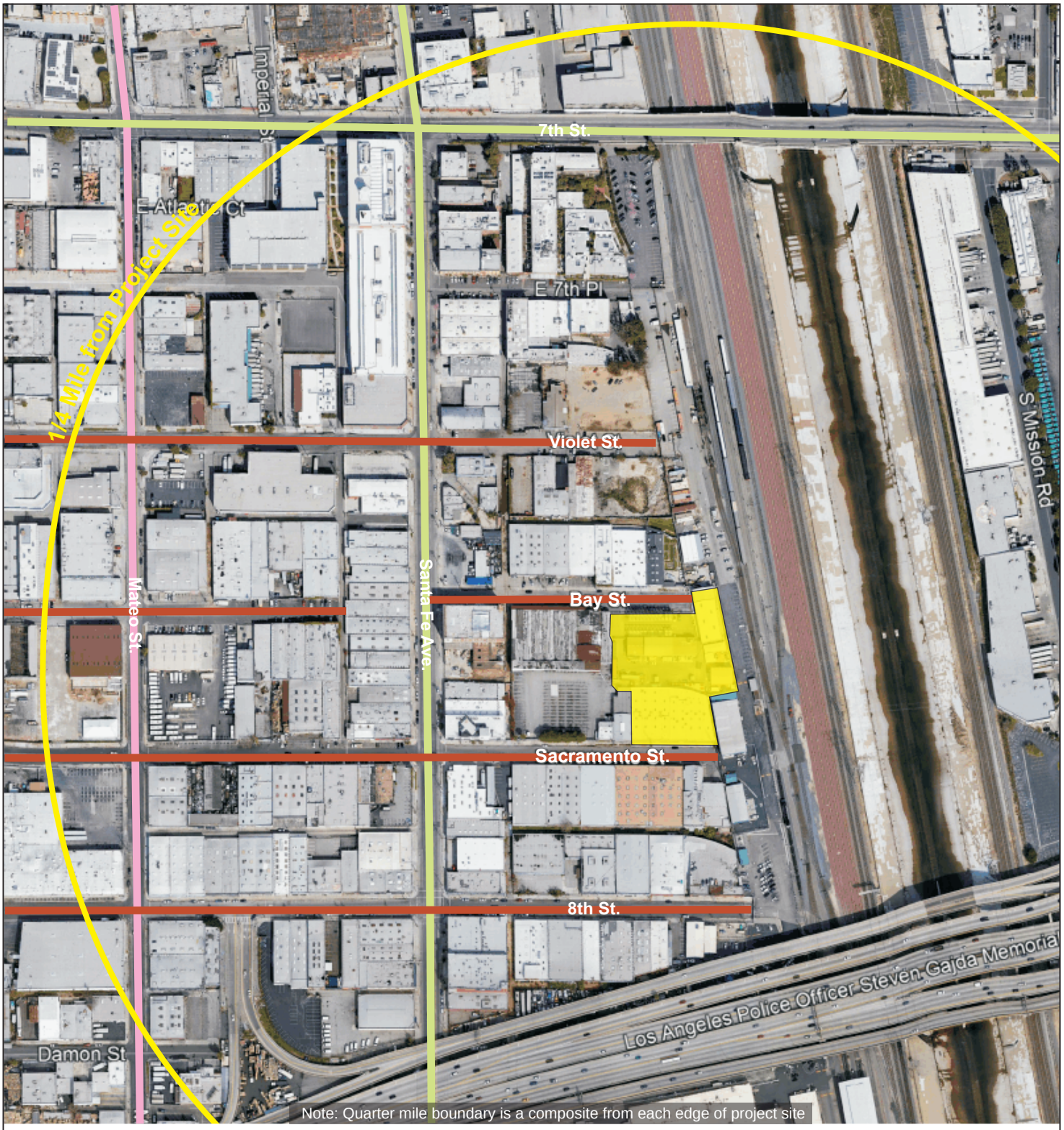
1.5 Freeway Access

The closest freeway access points to the Project Site are the I-10 westbound on/off-ramps located approximately 0.3 miles from the Project Site on 8th Street west of Santa Fe Avenue, and the I-10 eastbound on/off-ramps located 0.5 miles away on Porter Street west of Santa Fe Avenue. Additionally, an I-5 NB off-ramp, I-5 SB on-ramp, and US-101 SB Off-ramp are located approximately 0.8 miles away on 7th Street to the northeast of Project Site. Figure 1.7 shows the location of these freeway ramps including routes to/from the Project Site.

1.6 Related Projects

As required by LADOT Transportation Assessment Guidelines[6], related projects were identified within approximately a quarter mile of the Project Site, and are shown in Figure 1.8. They are also listed in Table 1.3 along with trip generation estimates. This list was verified and approved by the Department of City Planning and LADOT[7]. Further discussion is provided in Section 3.3.4.

[5] Walk Score is a large-scale, public access walkability index that assigns a numerical walkability score to any address in the United States, Canada, and Australia. Walk Score is based on analysis of walking routes to nearby amenities, as well as measuring pedestrian friendliness by analyzing population density and road metrics such as block length and intersection density.
[6] Transportation Assessment Guidelines, LADOT, July 2019
[7] MOU Approved by LADOT November 21, 2019.



Legend

- Project Site
- 1/4 Mile from Project Site (Study Area)
- Boulevard II
- Modified Boulevard II
- Avenue I
- Modified Avenue I
- Avenue II
- Modified Avenue II
- Avenue III
- Modified Avenue III
- Collector

N

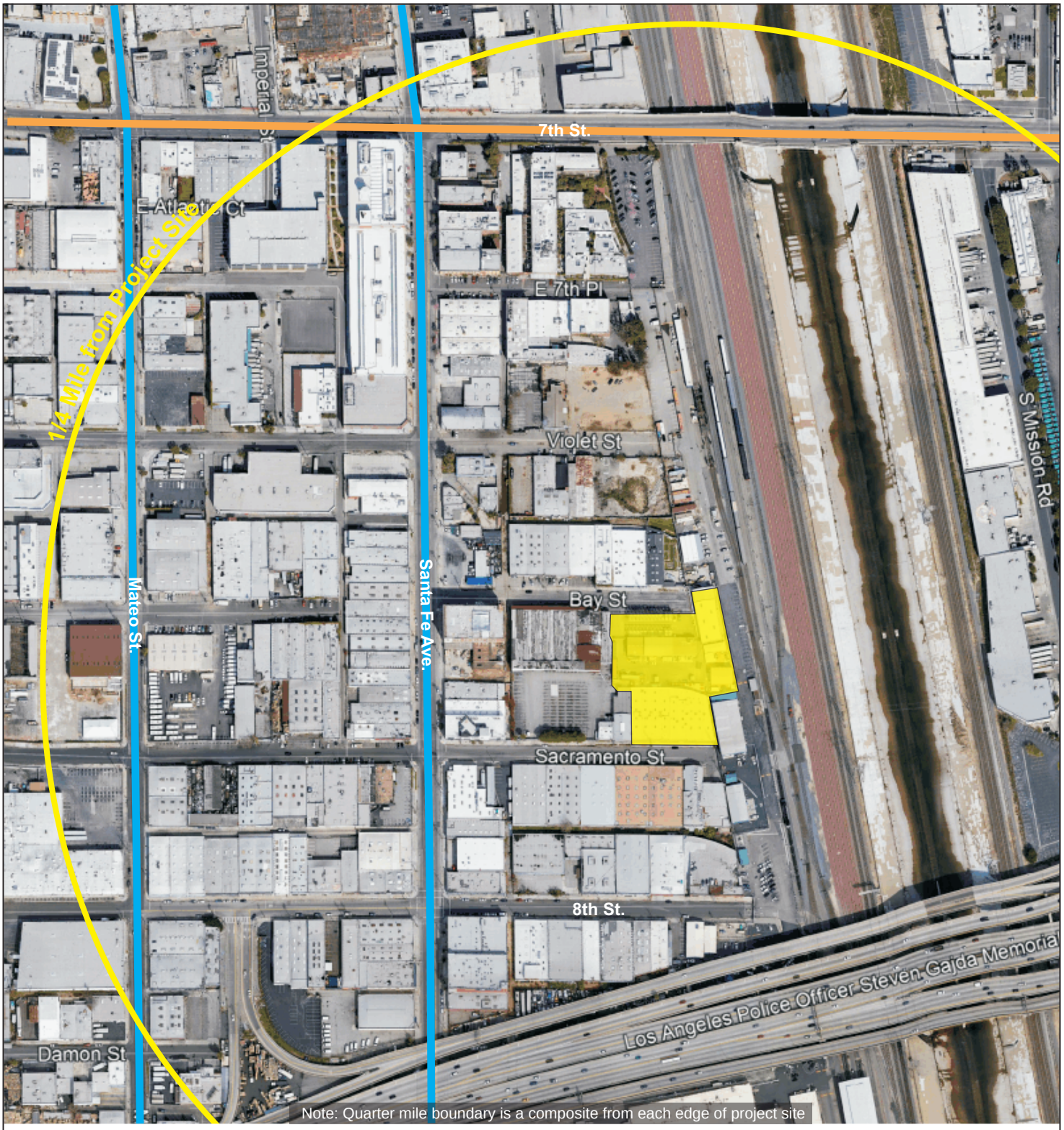
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Figure 1.1
Street Classifications

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Legend

- Project Site
- 1/4 Mile from Project Site (Study Area)
- Transit Enhanced Network
- Neighborhood Enhanced Network
- Bicycle Enhanced Network
- Bicycle Lane Network
- Pedestrian Enhanced District

N

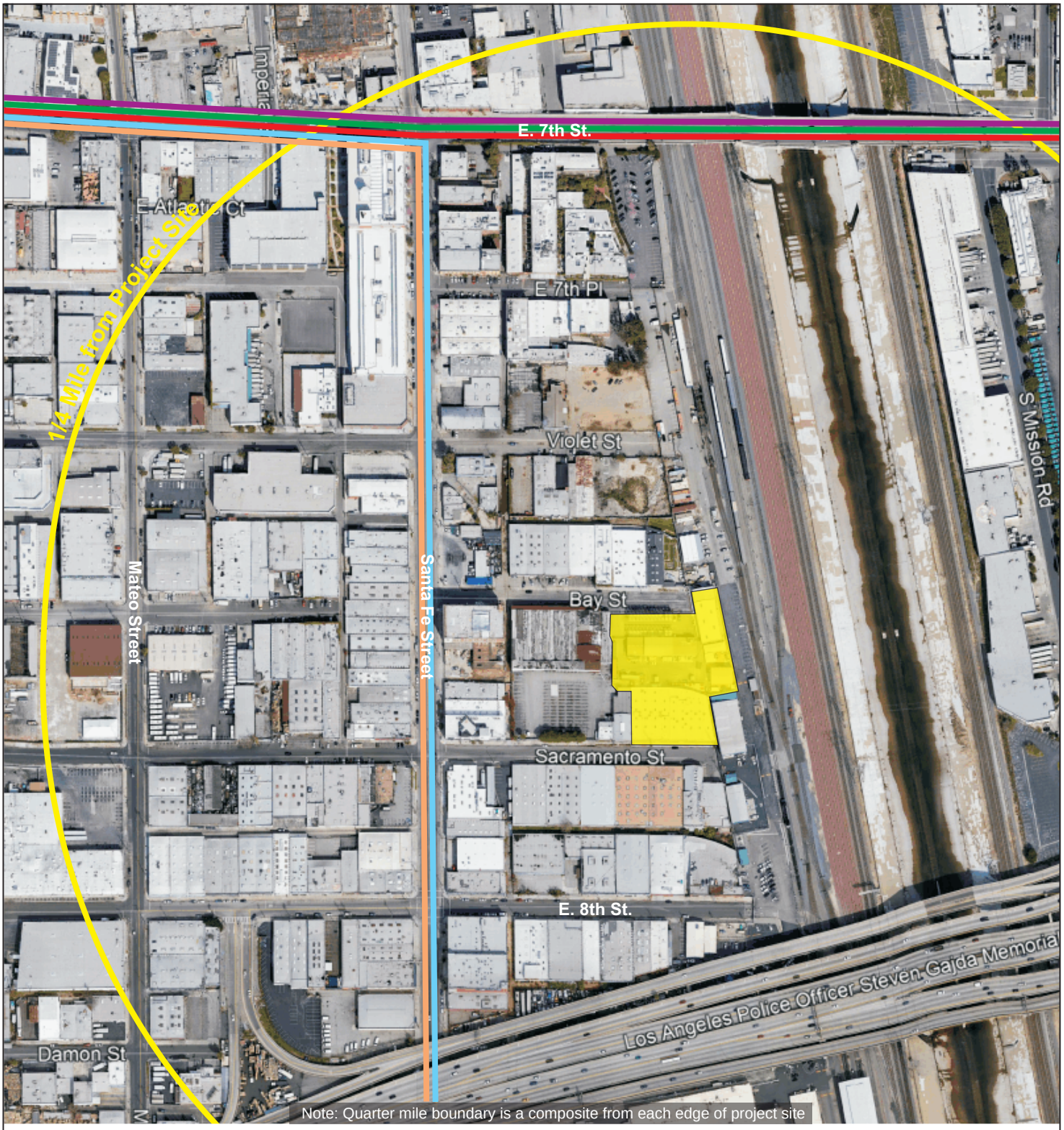
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Figure 1.2
Street Designations

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Legend

Project Site

1/4 Mile from Project Site (Study Area)

Transit Service

M720
M760
M18
M60
M62

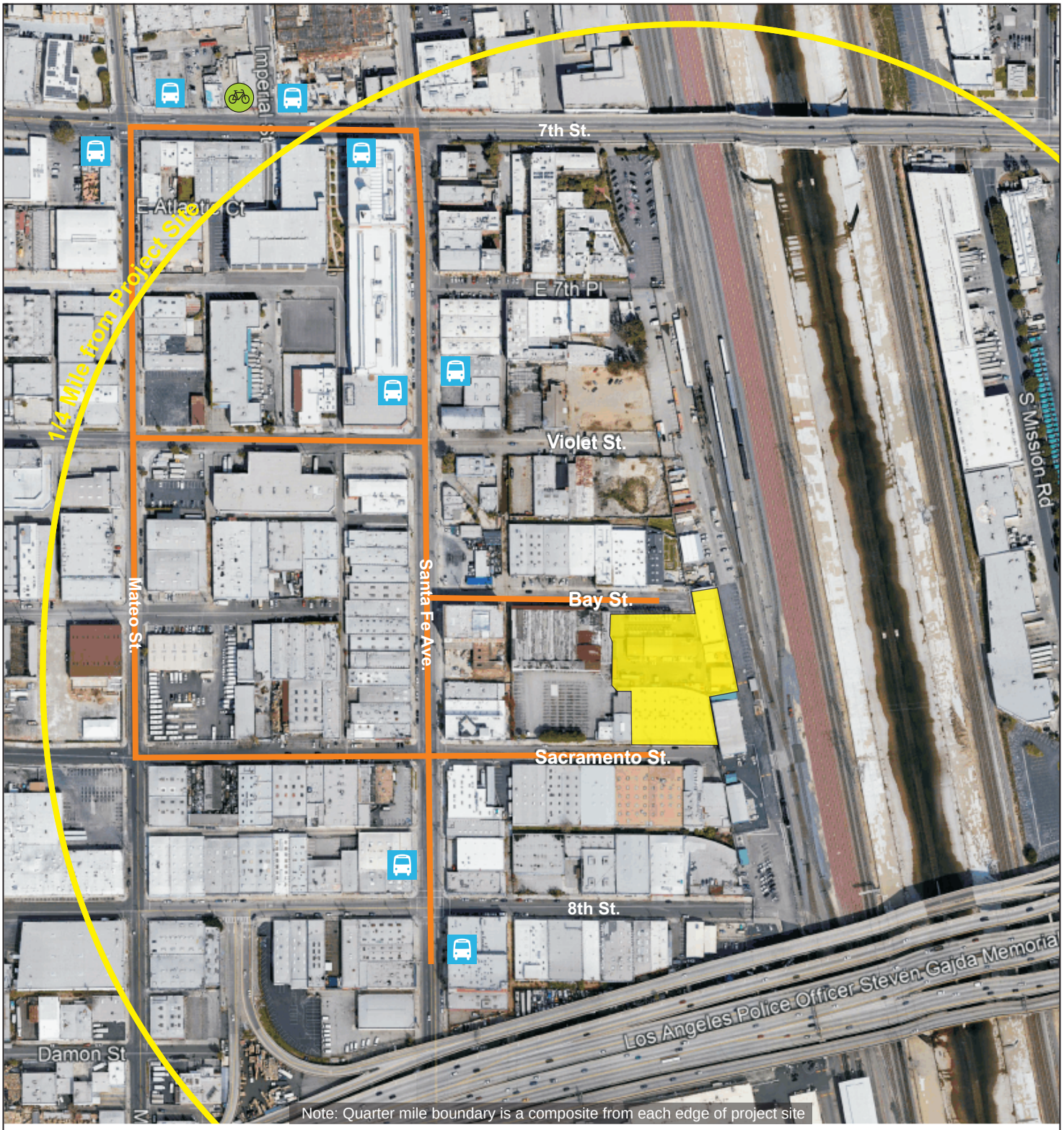
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Figure 1.3
Existing Transit Routes

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Legend

- Project Site
- 1/4 Mile from Project Site (Study Area)
- Pedestrian travel paths to transit
- Transit Stop
- Bike Share Station

N

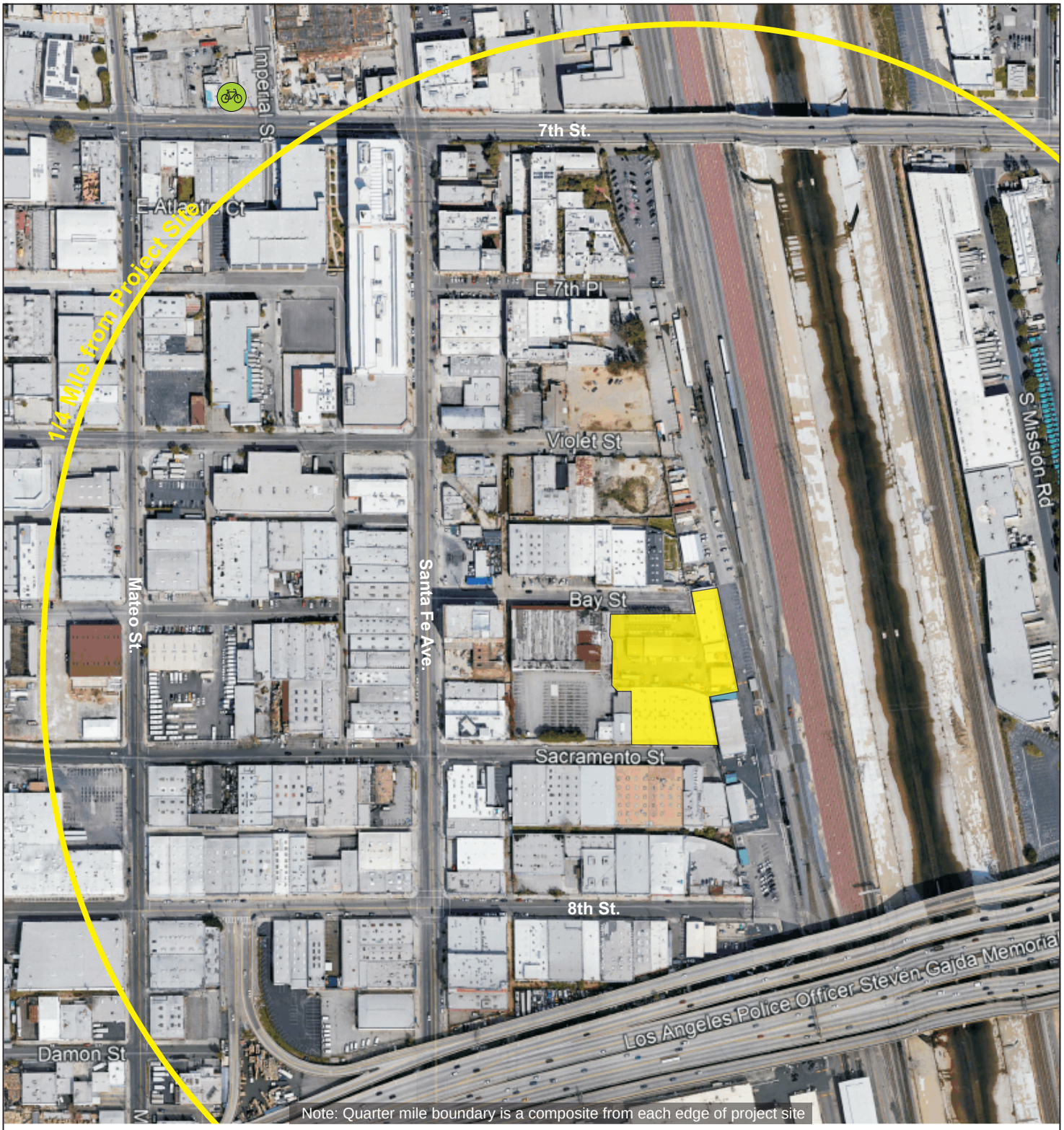
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Figure 1.4
Key Pedestrian Destinations

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Legend

- Project Site
- 1/4 Mile from Project Site (Study Area)
- Existing Bicycle Lane (No bicycle lanes within 1/4 mile of project site)
- Metro Bike Share Station

N

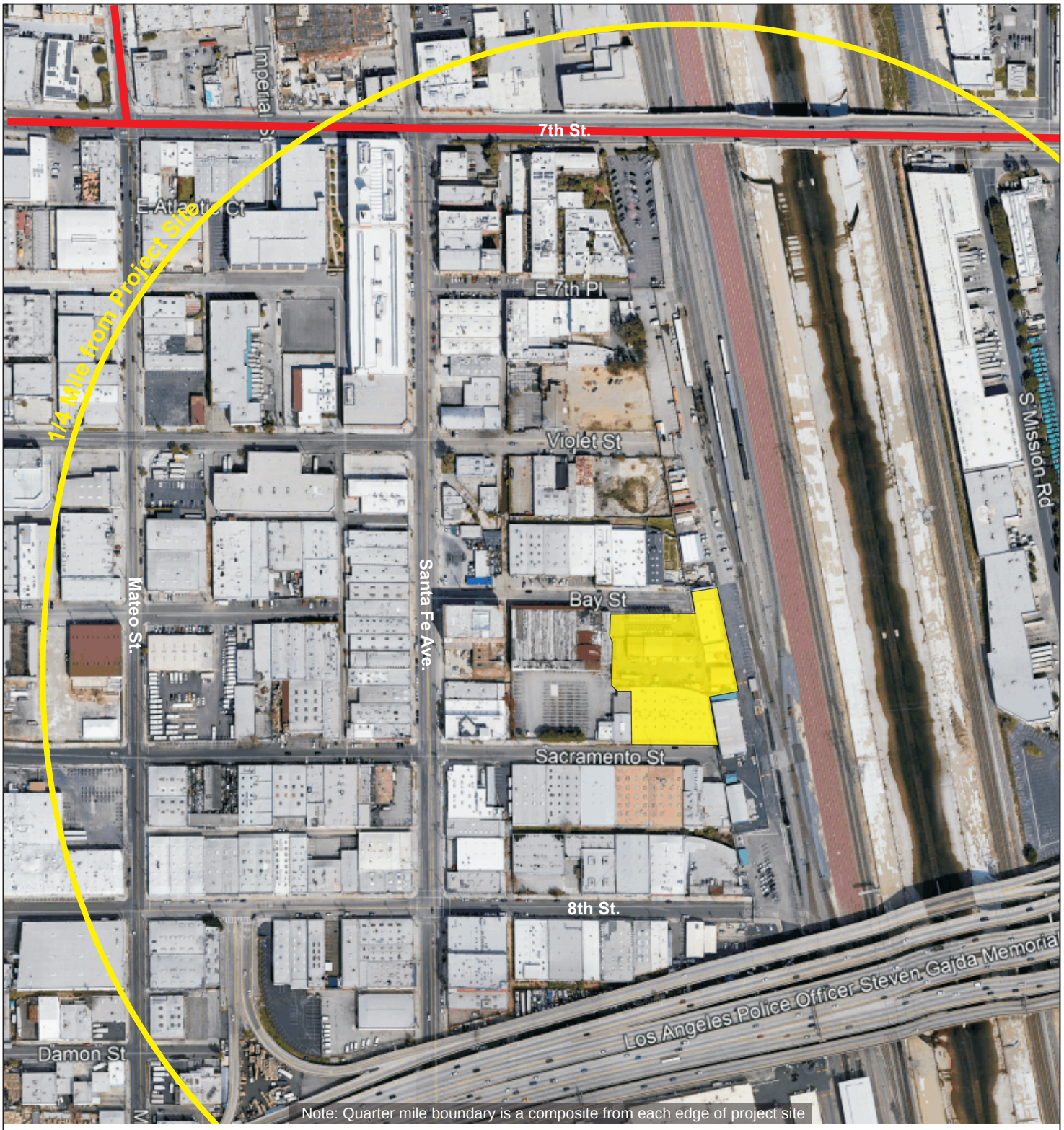
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Figure 1.5
Existing Bicycle Facilities

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Legend

- Project Site
- Tier 2 Bicycle Lane (Mobility Plan 2035)
- 1/4 Mile from Project Site (Study Area)

N

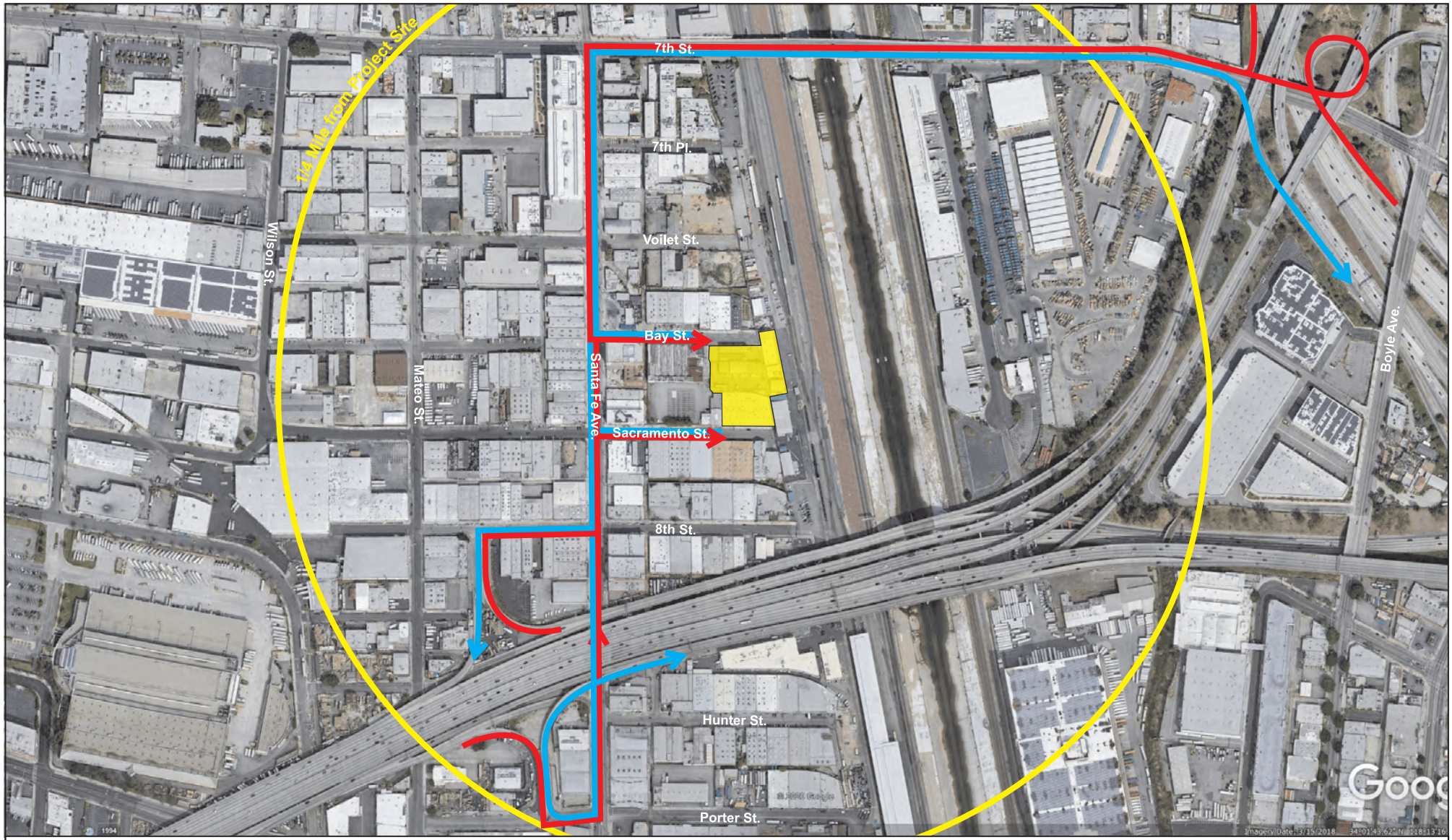
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Figure 1.6
Designated Bicycle Facilities

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Legend

- Project Site
- 1/4 Mile from Project Site (Study Area)
- Routes to Freeway On-Ramp
- Routes from Freeway Off-Ramp

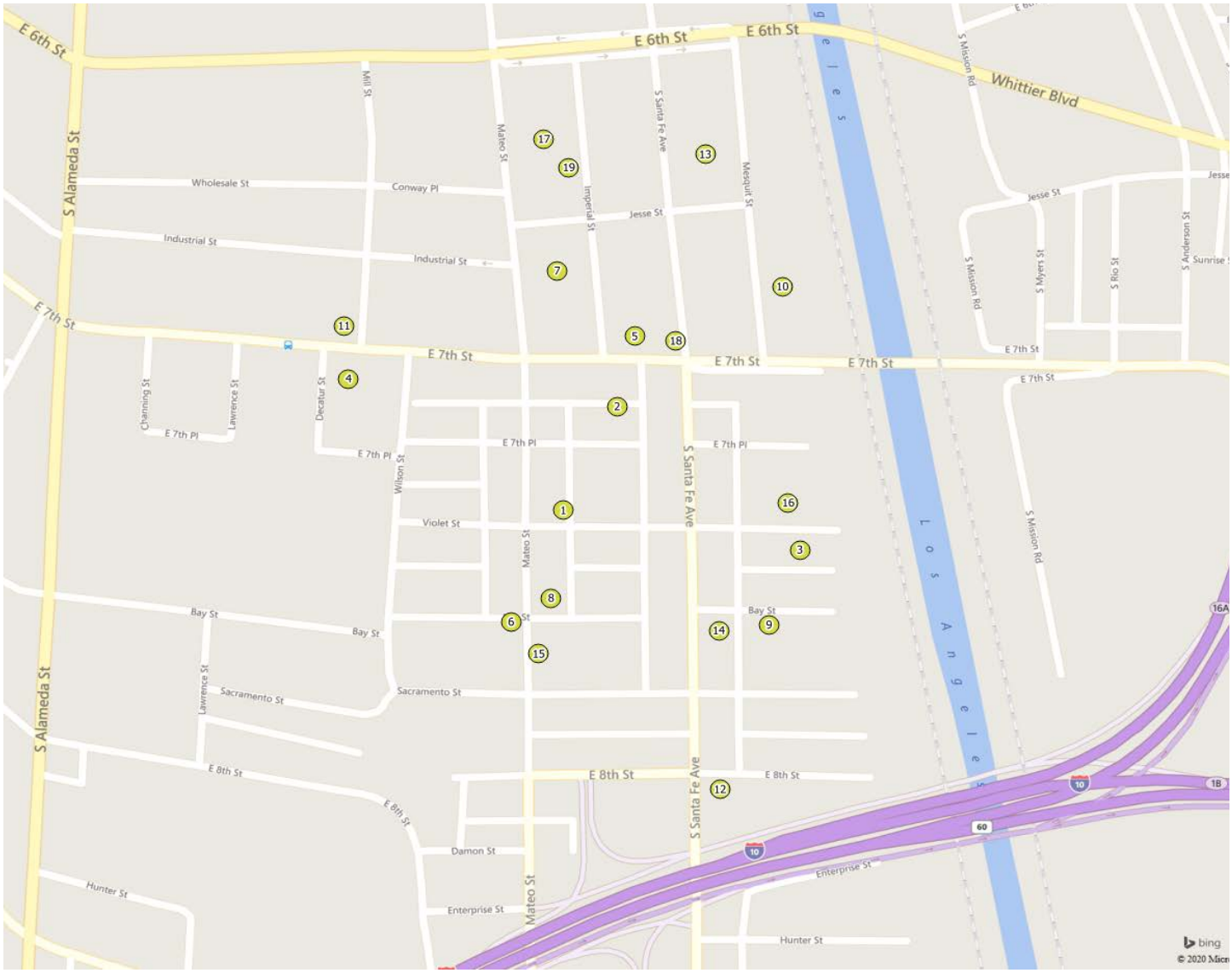
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Figure 1.7
Freeway Ramps in Vicinity of Proposed Project

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N

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Figure 1.8
Location of Related Projects

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2159 Bay Street Project

Table 1.1 - Roadway Characteristics

Street	Segment	Direction of Flow	Number of Lanes[1,2]	Peak Period Tow-Away Lane	Bus Only Lane	Bicycle Lane
Mateo	7th to Damon	Northbound	1	No	No	No
		Southbound	1	No	No	No
Santa Fe	7th to Porter	Nothbound	2	No	No	No
		Southbound	2	No	No	No
7th	Imperial to Myers	Eastbound	2	No	No	No
		Westbound	2	No	No	No
Violet	Wilson to BNSF Railway	Eastbound	1	No	No	No
		Westbound	1	No	No	No
Bay	Santa Fe to BNSF Railway	Eastbound	1	No	No	No
		Westbound	1	No	No	No
Sacramento	Wilson to BNSF Railway	Eastbound	1	No	No	No
		Westbound	1	No	No	No
8th	Mateo to BNSF Railway	Eastbound	1	No	No	No
		Westbound	1	No	No	No

Notes:
1. Indicates number of lanes at mid-block.

Table 1.2 Existing Public Transit Services

Provider, Routes and Service Area	Street	Service Type	Hours of Operation	Average Headway (minutes)			
				AM Peak Hour		PM Peak Hour	
				NB/EB	SB/WB	NB/EB	SB/WB
Metro Bus Service							
720 - Santa Monica - Commerce	7th	Rapid	6:15 am - 1:45 am (EB) 4:10 am - 12:10 am (WB)	20	9	7	12
760 - Lynwood - Downtown Los Angeles	Santa Fe - 7th	Rapid	5:25 am - 8:50 pm (NB) 5:10 am - 8:20 pm (SB)	12	15	12	12
18 -Wilshire Center - Montebello	7th	Local	4:15 am - 3:15 am (EB) 4:00 am - 2:30 am (WB)	12	10	8	7
60 - Compton - Downtown Los Angeles	Santa Fe - 7th	Local	5:20 am - 11:35 pm (NB) 4:15 am - 9:20 pm (SB)	8	12	7	6
62 - Downtown Los Angeles - Hawaiian Gardens	7th	Local	5:00 am - 10:25 pm (EB) 5:20 am - 12:10 am (WB)	30	20	30	20

Table 1.3 Related Project List

Project ID	Project Name	Location/Address	Project Description	Daily Trips	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
1	Mixed Use Project	826 S Mateo St	90 DU Live/Work Condos 11,000 sf Retail 5,600 sf Restaurant	1,267	11	34	45	62	39	101
2	Ford Factory	2030 E 7th St	243,583 sf Office 40,000 sf Retail	2,306	274	34	308	69	249	318
3	Mixed-Use	2130 E Violet St	94,000 sf Office 7,450 sf Retail	1,351	137	30	167	39	122	161
4	Mixed-Use Project	1800 E 7th St.	122 DU Apartments 13,600 sf Office	816	26	45	71	45	37	82
5	AMP Lofts	2051 E 7th St.	320 DU Apartments 15,000 sf Retail 5,000 sf Restaurant	2,310	17	127	144	145	64	209
6	Industrial Park	1005 S Mateo St	94,800 s.f Industrial Park	426	40	9	49	10	39	49
7	Mixed-Used	676 S Mateo Street	185 DU Apartments 27,000 sf Commercial	1,990	50	95	145	106	51	157
8	Mixed-Used	1000 S Mateo Street	113 DU Apartments 134,000 sf Commercial	2,238	153	83	236	90	131	221
9	2110 Bay Development	2110 Bay Street	110 DU Apartments 113,00 sf General Office 43,700 sf Shopping Center	2,394	180	63	243	89	192	281
10	670 Mesquit Project	670 Mesquit	944,100 sf Office 308 DU Apartments 236 Rooms Hotel 79,200 sf Retail 89,600 sf Restaurant 62,200 sf Gym 93,600 sf Event Space 56,900 sf Grocery	19,216	1,058	334	1,392	661	1,025	1,686
11	1745 E 7th St	1745 E 7th St	57 DU Apartments 6,000 sf Commercial	635	10	25	35	34	23	57
12	1200 S Santa Fe Ave	1200 S Santa Fe Ave	53 DU Apartments 13,000 sf Retail	907	12	27	39	44	37	81
13	640 S Santa Fe Ave	640 S Santa Fe Ave	91,185 sf General Office 9,430 sf Retail 6,550 sf Restaurant	1,330	90	8	98	43	114	157
14	Soho House	1000 S Santa Fe Ave	10,065 sf Restaurant 14,193 sf Retail 6,793 sf Health Club	966	36	38	74	49	20	69

Table 1.3 Related Project List

Project ID	Project Name	Location/Address	Project Description		Daily Trips	AM Peak Hour			PM Peak Hour		
15	Mixed-Use	1024 S Mateo	104 DU	Apartments	2,238	153	83	236	90	131	221
			101,983 sf	Office							
			16,279 sf	Restaurant							
			5,830 sf	Retail							
			5,519 sf	Arts & Production							
16	Mixed-Use	2143 E Violet	347 DU	Apartments	4,714	206	129	335	182	208	390
			21,858 sf	High-Turnover Restaurant							
			187,374 sf	Office							
17	634 Mateo	634 S Mateo St.	499 Seats	Restaurant	94	0	0	0	27	-12	15
18		2053 E 7th St.	53,400 sf	Hotel	476	19	15	34	23	17	40
19	641 Imperial	641 Imperial St	140 DU	Apartments	1,093	34	60	94	61	48	109
			14,700 sf	Office							
		Total			**46,767**	**2,506**	**1,239**	**3,745**	**1,869**	**2,535**	**4,404**

2. CEQA Analysis of Transportation Impacts

Introduction

This chapter documents the analysis of CEQA transportation impacts. It addresses the four thresholds defined in the TAG:

Threshold T-1:	Conflicting With Plans, Programs, Ordinances, or Policies
Threshold T-2.1:	Causing Substantial Vehicle Miles Travelled
Threshold T-2.2:	Substantially Inducing Additional Automobile Travel
Threshold T-3:	Substantially Increasing Hazards Due to A Geometric Design Feature or Incompatible Use

2.1 Conflicting With Plans, Programs, Ordinances, or Policies (Threshold T-1)

This section evaluates the consistency of the Proposed Project with plan, programs, ordinances, and policies.

Screening Criteria

The Transportation Assessment Guidelines (TAG) require for any project requiring a discretionary action, an affirmative answer to any of the following screening questions triggers to trigger a need to assess whether the project would negatively affect existing pedestrian, bicycle, or transit facilities.

- *Would the project generate a net increase of 250 or more daily vehicle trips?*

  Yes, the project's net trip generation calculated using the LADOT's VMT Calculator is shown in Section 2.2. The project results in a net increase of 2,119 daily trips, and therefore generates more than 250 daily trips.

- *Is the project proposing to, or required to make any voluntary or required modifications to the public right-of-way (i.e. street dedications, reconfiguration of curb line etc.?*

  Yes. The Project proposes a right-of-way dedication and provision of easements.

- *Is the project on a lot that is ½ acre or more in total gross area, or is the project's frontage along an Avenue or Boulevard (as designated in the City's General Plan), 250 linear feet or more, or is the project's building frontage encompassing an entire block along an Avenue or Boulevard (as designated in the City's General Plan)?*

Yes, the Project lot is approximately 1.7 acres in total gross area. The Project has no frontage on an Avenue or Boulevard, and does not encompass an entire block.

As the Proposed Project meets all these criteria, further analysis is therefore necessary.

Evaluation

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.

TAG Table 2.1-2 Questions to Determine Project Applicability to Plans, Policies and Programs.

Consistency with City documents that establish the regulatory framework as described in Table 2.1-1 of the TAG was evaluated using Table 2.1-2 of the TAG which identifies questions to determine project applicability to Plan, Policies and Programs.

This evaluation is shown in Table 2.1 below, which identifies the guiding questions; the respective relevant plans, polices, and programs; the supporting or complementary City plans, policies and programs; and the response. The response identifies the applicability, with explanation, and if applicable evaluates if the Project is consistent with or in conflict with the plans, policies or programs.

The evaluation in Table 2.1 shows that the Project is not in conflict with any of the applicable plans, programs or policies identified in the Table.

The only plan that is listed in Table 2.1-1 of the TAG and applicable to the Project, but not evaluated in Table 2.1, is the Central City North Community Plan, discussed below.

Review of Consistency with Current Central City North Community Plan

The Central City North Community Plan was adopted in 2000 and amended in 2016 as part of the Mobility Plan 2035 Update. While an updated Community Plan is currently under development, the plan from 2016 is currently in effect and forms the basis for this review of conflicts relating to the transportation system.

The Central City North Community Plan (CCNCP) is one of 35 in the City of Los Angeles that establishes the policies and programs that inform the framework for local land use, circulation, and service systems within the selected community plan area. Per the City's new TAG, a review

Table 2.1 Evaluation of TAG Table 2.1-1: Questions to Determining Project Applicability to Plans, Policies, and Programs

#	Guiding Questions	Relevant Plans, Policies, and Programs	Supporting or Complementary City Plans, Policies, and Programs	Response
EXISTING PLAN APPLICABILITY				
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? (screening question)	LAMC Section 12.37		No. Not applicable. The Project Site is adjacent to Bay Street and Sacramento Street, both of which are identified as Collectors under the Mobility Plan 2035. (See Figure 1. 1).
2	Is project site along any network identified in the City's Mobility Plan?	MP 2.3 through 2.7		No. Not applicable. Bay Street and Sacramento Street adjacent to the Project Site are not part of any networks identified in the City's Mobility Plan 2035. (See Figure 1.2).
3	Are dedications or improvements needed to serve long-term mobility needs identified in the Mobility Plan 2035?	MP–Street Classifications; MP–Street Designations and Standard Roadway Dimensions	MP–2.17 Street Widenings	Yes. Applicable. On Bay Street, per the Mobility Plan 2035, the required dimensions are a 33' half right-of-way width, a 20' half roadway, and a 13' sidewalk. The existing dimensions for Bay Street adjacent to the Project are a 30' half right-of-way width and a 30'half roadway width with no sidewalk. For the west portion of Bay Street, the Project would decrease the half roadway width by 10' from 30' to 20', which would meet the 20'required width. However, as part of the project entitlement application, the project is seeking a Waiver of Dedication or Improvement ("WDI") pursuant to LAMC Section 12.37.I to waive the requirement for the additional 3' of dedication to comply with the proposed modified street standards of the pending DTLA 2040 community plan.

				The Project would then provide a new 10' sidewalk in lieu of the 13' otherwise required by the Mobility Plan 2035. On the east portion of Bay Street, the Project proposes a 31.75' half roadway width that would increase the half roadway width from 30' to 31.75', which would exceed the required width. The increase in the roadway width is to accommodate a fire truck turnaround and a passenger drop-off zone. Therefore, on Bay Street the Proposed Project would be in compliance with the Mobility Plan 2035, with an approved WDI waiver for a modified 30' half ROW in lieu of a 33' half ROW. On Sacramento Street, per the Mobility Plan 2035, the required dimensions are a 33' half right-of-way width, a 20' half roadway, and a 13' sidewalk. The existing dimensions for Sacramento Street are a 30' half right-of-way width, 20' roadway width, and a 10' sidewalk. On the west portion of Sacramento Street, the Project would retain the 20' half roadway width and meet the requirement. However, as part of the project entitlement application, the project is seeking a Waiver of Dedication or Improvement ("WDI") pursuant to LAMC Section 12.37.I to waive the requirement for the additional 3' of dedication to comply with the proposed modified street standards of the pending DTLA 2040 community plan. The existing sidewalk would remain at 10' with no further widening required. On the east portion of Sacramento Street, The Project would increase the half roadway width from 20' to 30' exceeding the required roadway width by 10 feet. The proposed increase in the roadway width is to accommodate a fire truck turnaround and passenger drop-off zone. The Project would provide a 0' sidewalk and would not meet the required sidewalk width. However, the adjacent pedestrian plaza would provide an effective sidewalk width of more than the required 13' (see Figure 1.4 – Project Site Plan). The existing 10' sidewalk to the west would connect to the pedestrian

				plaza providing continuity of pedestrian circulation to the Project. Also, the existing sidewalk does not continue east of the Project Site as Sacramento Street is a dead-end street because of the railroad tracks. There is therefore no need for pedestrians to walk east of the Project Site. Therefore, on Sacramento Street the Proposed Project would be in compliance with the Mobility Plan 2035 assuming approval of the WDI, except for a short stretch of sidewalk on Sacramento Street (although with the adjacent pedestrian plaza the effective sidewalk width would be greater than the 13' requirement).
4	Does the project require placement of transit furniture in accordance with City's Coordinated Street Furniture and Bus Bench Program?			No. Not applicable. The Proposed Project does not require placement of transit furniture in accordance with the City's Coordinated Street Furniture and Bus Bench Program. There are no bus stops or bus benches on Bay Street or Sacramento Street adjacent to the Project Site. Furthermore, the Proposed Project would not create a conflict with this program and because sidewalks are not being reduced in width would not preclude the implementation of any potential measures in the program.
5	Is project site in an identified Transit Oriented Community (TOC)?	MP–TEN; MP–PED; MP–BEN; TOC Guidelines		Yes. But not applicable. The Project Site is located in a Tier 3 TOC Affordable Housing Incentive Area. However, the Proposed Project is not a residential project, and therefore the TOC Affordable Housing Incentive Program is not applicable.
6	Is project site on a roadway identified in City's High Injury Network?	Vision Zero	Mobility Plan 2035	No. Not applicable. Both Bay Street and Sacramento Street adjacent to the Project Site are not identified in City's High Injury Network.
7	Does project propose repurposing existing curb space? (Bike corral, car-sharing, parklet, electric	MP–2.1 Adaptive Reuse of Streets; MP–2.10 Loading Areas; MP–3.5 Multi-Modal	MP–2.3 Pedestrian Infrastructure; MP–2.4 Neighborhood	Yes. Applicable. There is currently no curb on Bay Street adjacent to the Project Site. There are no existing curb spaces being used for bike corral, car-sharing, parklet, electric vehicle charging, loading zone, curb extension, etc.

	vehicle charging, loading zone, curb extension, etc.)	Features; MP–3.8 Bicycle Parking; MP–4.13 Parking and Land Use Management; MP–5.4 Clean Fuels and Vehicles	Enhanced Network; MP–3.2 People with Disabilities; MP–4.1 New Technologies; MP–5.1 Sustainable Transportation; MP–5.5 Green Streets	However, the Project proposes adding passenger loading zones on both Bay Street and Sacramento Street. *Mobility Plan 2035* considers ways to balance the needs of various users and trip purposes through a multimodal transportation network that includes features such as loading areas, electric vehicle charging areas, and bike sharing. The Project relates to the following policies regarding adjacent curb space in *Mobility Plan 2035*: <u>2.1 Adaptive Reuse of Streets:</u> This policy states: "Design, plan and operate streets to serve multiple purposes and provide flexibility in design to adapt to future demands". The Project would retain the current functionality of the street as a Collector Street. It would add a sidewalk and a passenger loading zone to Bay Street and a passenger loading zone to Sacramento Street. The Project would be consistent with Policy 2.1. <u>2.3 Pedestrian Infrastructure:</u> This policy states: "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". The Project would add a sidewalk to Bay Street where none exists today. It would retain the existing sidewalk on Sacramento Street except for the eastern portion of the Project site where the existing sidewalk would connect to an on-site pedestrian paseo between Bay Street and Sacramento Street. The pedestrian paseo would be anchored by common open space, street

				trees, seating areas, and low scale structures to promote an active pedestrian experience on the ground floor. The Project would be consistent with Policy 2.3. <u>2.4 Neighborhood Enhanced Network:</u> This policy states: "Provide a slow speed network of locally serving streets". The Project is located on Bay Street and Sacramento Street which are both Collector Streets and for the block on which the Project is located serve only adjacent properties. There is no through traffic on the street as the Project is located at the terminus of both dead-end streets. Due to their location, these streets are slow speed streets and local serving. The Project would not change these characteristics and the streets would remain consistent with Policy 2.4. <u>2.10 Loading Areas:</u> This policy states: "Facilitate the provision of on and off-street loading areas". The Project will provide on-street passenger loading zones on Bay Street and Sacramento Street and will provide truck loading on site and off-street. The Project would be consistent with Policy 2.10. <u>3.2 People with Disabilities:</u> This policy states: "Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way". The Project will design sidewalks and passenger loading areas to LADOT and ADA standards. The Project would be consistent with Policy 3.2.

				3.5 Multi-Modal Features: This policy states: "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. There is no transit service on Bay Street or Sacramento Street. The nearest transit service is on Santa Fe Avenue. The Project will add new a sidewalk on Bay Street adjacent to the Project, and a new traffic signal with crosswalks at Bay St & Santa Fe Ave, which will facilitate pedestrian access to transit service on Santa Fe Avenue, 3.8 Bicycle Parking: This policy states: "Provide bicyclists with convenient, secure and well-maintained bicycle parking facilities". The Project will provide on-site bicycle parking per the LAMC, and bicycle lockers and showers would be provided at the ground level. The Project would be consistent with Policy 3.8. 4.13 Parking and Land Use Management: The objective of this policy is to balance parking supply with other transportation and land use objectives. The policy states that an oversupply of parking can undermine broader regional goals of creating vibrant public spaces and a robust multi-modal transportation system, an abundance of free parking incentivizes automobile trips and makes alternative modes of transportation less attractive, and that large parking

				lots consume land that could be used for other valuable uses and discourage walking by increasing the distance between services and facilities. The Project does not conflict with the portion of MP 4.13 that discourages utilizing land for parking that could have been used for other valuable uses since all parking will be integrated into the project and not located in a large lot. Moreover, employees and visitors will have to pay for parking; therefore, the Project does not conflict with the policy regarding the abundance of free parking. While the Project would include parking in excess of the LAMC minimum requirements, it would include features to encourage walking and bicycling, and would implement a transportation demand management (TDM) plan to promote multi-modal transportation. Furthermore, the Project would be consistent with the applicable goals and objectives of the SCAG 2016-2040 RTP/SCS (SCAG, April 2016) to locate jobs and housing in infill locations served by public transportation and facilitating active transportation and TDM. Therefore, the Project would not undermine broader regional goals of creating vibrant public spaces and a robust multi-modal transportation system. Under CEQA, a project is considered consistent with an applicable plan if it is consistent with the overall intent of the plan and would not preclude the attainment of its primary goals. A project does not need to be in perfect conformity with each and every policy. Therefore, even though the Project's parking may exceed the LAMC's minimum requirements, the Project is consistent with the overall intent of Policy 4.13 and the Mobility Plan. Moreover, any inconsistency with an applicable policy, plan, or regulation is only a significant impact under CEQA if the policy, plan, or regulation adopted for the purpose of avoiding or mitigating an environmental

				effect. The above policy is intended to implement broader regional goals, not to mitigation an environmental effect. Therefore, even if the Project's amount of parking was conservatively considered to be inconsistent with Policy 4.13, such inconsistency would not be considered to be a significant impact under CEQA. <u>5.1 Sustainable Transportation:</u> This policy states: "Encourage the development of a sustainable transportation system that promotes environmental and public health". As discussed above for Policies 2.3 and 3.8, the Project would provide new and improved sidewalks, a pedestrian paseo to provide access between Bay Street and Sacramento Street, and bicycle parking and facilities at the ground level. In addition, the Project Site's proximity to various public transit options and nearby commercial and offices uses would also promote walkability and alternative modes of transportation. <u>5.4 Clean Fuels and Vehicles:</u> This policy states: "Continue to encourage the adoption of low and zero emission fuel sources, new mobility technologies, and supporting infrastructure". As required by the City of Los Angeles, 30 percent of the Project's parking spaces would be capable of supporting future electric vehicle supply equipment, and 10 percent of spaces would have electric vehicle EV charging stations. <u>5.5 Green Streets:</u>

				This policy states: "Maximize opportunities to capture and infiltrate stormwater within the City's public right-of-ways". The Project would implement a Stormwater Pollution Prevention Plan (SWPPP) during construction as required under the National Pollutant Discharge Elimination System (NPDES) General Construction Permit. The Project would implement best management practices (BMPs), including erosion control, sediment control, non-stormwater management, and materials management measures, to minimize the discharge of pollutants in stormwater runoff. In addition, during operation, the Project would implement Low Impact Development (LID) strategies, including either infiltration, stormwater capture and, or High Efficiency Biofiltration/Bioretention Systems in accordance with the current City of Los Angeles LID Ordinance requirements. Furthermore, to avoid increasing the runoff flow from the Project Site to the Sacramento Street drain, the Project would provide an on-site stormwater runoff detention system. Thus, the Project would maximize opportunities to capture and infiltrate stormwater within the City's public right-of-ways.
8	Does project propose narrowing or shifting existing sidewalk placement?	MP 2.3 Pedestrian Infrastructure; MP 3.1–Access for All; MP–PED; MP –ENG 19; MP 2.17 Street Widenings	Healthy LA; Vision Zero; Sustainability Plan	Yes. Applicable. On the east portion of Sacramento Street, the Project would reduce the existing 10' sidewalk to 0'. However, the adjacent pedestrian plaza would provide an effective sidewalk width of more than the required 13' (see Figure 1.4 – Project Site Plan). Also, the sidewalk does not continue east of the Project Site as Sacramento Street is a dead-end street because of the railroad tracks. There is therefore no need for pedestrians to walk east of the Project Site. The Project is therefore considered to be consistent with Mobility Plan 2035 pending approval of the WDI request.

				There is currently no sidewalk on Bay Street adjacent to the Project site. The Project will install new sidewalks around the perimeter of the Project site and include pedestrian paseos such that the Project would be supportive of and not preclude or conflict with *Mobility Plan 2035* policies such as: 2.3 Pedestrian Infrastructure: See response to #7. 3.1 Access for All: This policy states: "Recognize all modes of travel, including pedestrian, bicycle, transit, and vehicular modes - including goods movement - as integral components of the City's transportation system. The Project responds to these criteria and is consistent with Policy 3.1. MP PED: Pedestrian Enhanced Districts (PED) identify areas where pedestrian improvements on streets could be prioritized to provide better walking conditions to major destinations within communities such as schools and parks. The Project is not located along or in the close vicinity of a Pedestrian Enhanced Network. MP ENG.19: The First Mile/Last Mile Transit Connectivity Program considers the installation of pedestrian and bicycle connectivity improvements at every major Metro transit station by providing enhanced sidewalk amenities such as landscaping, shading, lighting, directional signage,

				shelters, curb extensions and midblock crosswalks where feasible, ADA ramps, lead pedestrian interval signal phases, secure bike parking, etc. The Project would contribute by providing enhancements such as bike parking and the addition of new sidewalks with landscaping, lighting, and signage. MP 2.17 Street Widenings: See response to #3.
9	Does project propose paving, narrowing, shifting or removing an existing parkway?	MP–5.5 Green Streets; Sustainability Plan		No. Not applicable. There are no existing parkways on Bay Street and Sacramento Street adjacent to the Project Site.
10	Does project propose modifying, removing or otherwise affect existing bicycle infrastructure? (ex: driveway proposed along street with bicycle facility)	MP–BEN; MP–4.15 Public Hearing Process	Vision Zero	No. Not applicable. There are no bicycle lanes or other bicycle infrastructure along Bay Street and Sacramento Street adjacent to the Project Site.
11	Is project site adjacent to an alley? If yes, will project make use of, modify, or restrict alley access?	MP–3.9 Increased Network Access; MP–ENG.9; MP–PL.1; MP–PL.13; MP–PS.3		No. Not applicable. The Project Site is not adjacent to an alley.
12	Does project create a cul-de-sac or is project site located adjacent to existing cul-de-sac? If yes, is cul-de-sac consistent with design goal in Mobility Plan 2035 (maintain through bicycle and pedestrian access)?	MP–3.10 Cul-de-sacs		Yes. Project is adjacent to the end of dead end street on both Bay Street and Sacramento Street. This policy states: "Discourage the use of cul-de-sacs that do not provide access for active transportation options. This policy is not applicable to the Project. The Project does not create a cul-de-sac on either street.

				Immediately east of the Project Site are railroad tracks and the LA River. Therefore, there are no current pedestrian or bicycle connections nor the opportunity for any future connections.
ACCESS: DRIVEWAYS AND LOADING				
13	Does project site introduce a new driveway or loading access along an arterial (Avenue or Boulevard)?	MP–PL.1; MP–PK.10, CDG 4.1.02	Vision Zero	No. Not applicable. Both Bay Street and Sacramento Street, on which the Project's three driveways, will be located are identified as Collectors under the Mobility Plan 2035.
14	If yes to 13, Is a non-arterial frontage or alley access available to serve the driveway or loading access needs?	MP–PL.1; MPP 321	Vision Zero	Not applicable. See response to Question 13.
15	Does project site include a corner lot? (avoid driveways too close to intersections)	CDG 4.1.01		No. Not applicable. The Project Site is not located on a corner lot. It is located at the east end of Bay Street and Sacramento Street which both terminate at the Project Site.
16	Does project propose driveway width in excess of City standard?	MPP Sec. 321	Vision Zero, Sustainability plan, MP–PED, MP–BEN CDG 4.1.04	No. Not applicable. The LADOT Manual of Policies and Procedures Section 321 Driveway Design recommends a two-way driveway width of 30' and one-way driveway width of 16' for commercial developments and allows for driveway widths of greater than 30' for multiple entry lane driveways. The Project will provide one two-way driveway and one-one-way driveway on Bay Street. The Project main two-way driveway on Bay Street (which will access the subterranean parking) will provide 1 lane in each direction and a reversible middle lane. This Driveway as a multiple entry lane driveway would be 40' wide, as allowed by the guidelines for multiple lane driveways. The one-way driveway on Bay Street (which will access the surface parking) would provide one inbound lane

				and would be 18 feet wide but would not be inconsistent with standards, which state that single lane driveways wider than 16 feet are appropriate to accommodate large commercial vehicles. This driveway would serve the on-site loading docks. The two-way driveway on Sacramento Street would not exceed the required width. Driveways are therefore consistent with MMP Sec 321.
17	Does project propose more driveways than required by City maximum standard?	MPP Sec No. 321 Driveway Design	Vision Zero, MP, Healthy LA	No. Not applicable. The LADOT Manual of Policies and Procedures Section 321, Driveway Design, does not have any maximum number of driveway requirements for Projects with non-arterial frontages.
18	Are loading zones proposed as a part of the project?	MP–2.10 Loading Areas; MP–PK.1; MP–PK.7; MP–PK.8; MPP 321		No. Not applicable. No. On-Street loading is not proposed as part of the project. Loading will only occur on-site.
19	Does project include "drop-off" zones or areas? If yes, are such areas located to the side or rear of the building?	MP–2.10 Loading Areas		Yes. Applicable. The Project includes drop-off zones on both Bay Street and Sacramento Street. These zones are located directly adjacent to the building entrances. The Project is consistent with Policy 2-10.
20	Does project propose modifying, limiting/restricting, or removing public access to a public right-of-way (e.g., vacating public right-of-way?)	MP–2.3 Pedestrian Infrastructure; MP–3.9 Increased Network Access		No. Not applicable. The Project does not propose modifying, limiting/restricting, or removing public access to a public right-of-way.

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LAMC = Los Angeles Municipal Code
MP = Mobility Plan

CDG = Citywide Design Guidelines
MPP = LADOT Manual of Policies and Procedures
TEN = Transit Enhanced Network
BEN = Bicycle Enhanced Network
TOC = Transit Oriented Communities Affordable Housing Incentive Guidelines

of the CCNCP was conducted to evaluate whether the project conflicts with or precludes the implementation of the community plan framework.

The CCNCP contains transportation-related objectives, policies, and programs in Chapter III, Land Use Plan Policies and Programs. The following objectives, policies, and programs are relevant to the Project:

Policy 2-2.2 and Policy 2-3.1 New development needs to add to and enhance the existing pedestrian street activity (III-6).

- The Project Site is currently developed with offices, creative offices, and light industrial uses. Under existing conditions, no sidewalk exists adjacent to the Project Site on Bay Street, and limited ornamental landscaping surrounds the site. The Project would increase the footprint on the Project Site by developing approximately 217,189 square feet of creative office space and 5,000 square feet of new retail and restaurant space. As such, the proposed uses would complement the recent development trends in the Arts District and would increase the number of onsite employees and visitors. The Project would enhance pedestrian activity within and around the Project Site by providing new sidewalks, street trees, active ground floor commercial space with storefront glazing, and a lobby entrance for the office/creative office tenants along a pedestrian paseo. The paseo would allow pedestrians to access Bay Street and Sacramento Street through the Project Site and would also include landscaped planters and various gathering areas. In addition, as the Arts District is transitioning into a mixed-use area, development of the Project would further enhance pedestrian connections in the area and within the public realm that are linked to nearby residential and commercial developments in the vicinity. The Project Site's proximity to various public transit options and nearby commercial and offices uses would also promote walkability.

Policy 2-2.3 and Policy 2-3.4 Require that the first floor street frontage of structures, including mixed use projects and parking structures located in pedestrian oriented districts, incorporate commercial uses (III-6).

- The Project would provide active retail, restaurant, and office uses on the first floor street frontages to promote pedestrian activity.

A Transportation Improvement and Mitigation Plan (TIMP), was prepared for the CCNCP through an analysis of the land use impacts on transportation. The TIMP establishes a program of specific measures which are recommended to be undertaken during the life of the Community Plan. The TIMP provides an implementation program for the circulation needs of the Plan area. The following TIMP programs were reviewed to determine Project consistency with the CCNCP:

Street Reclassifications: The TIMP proposes implementation of a new street classification, local industrial, in the Central City North area where the land use generates heavy truck traffic

but the functional operation is that of a local street (III-17). Not applicable. The existing and proposed land uses do not generate heavy truck traffic on this block of Bay Street or Sacramento Street.

Transportation Demand Management (TDM) Program: The TIMP identifies TDM programs and other improvements to enhance safety and mobility in the Central City North area, such as encouraging the formation of Transportation Management Associations (TMA's) and the continued implementation of the Citywide TDM Ordinance (III-20). The following policies are relevant to the Project:

- Policy 12-1.1 encourages non-residential development to provide employee incentives for utilizing alternatives to the automobile (III-21)
    - The Project will develop a TDM plan during construction, and the final TDM plan will be approved by LADOT prior to the City's issuance of the certificate of occupancy for the Project. The following TDM strategies are applicable as mitigation for the office component:

Parking	- Parking Cash-Out (75% employees assumed eligible)
Education & Encouragement	- Promotions and Marketing
Commute Trip Reductions	- Ride-share program
Shared Mobility	- Provide car-share spaces. - Provide bike share spaces
Bicycle Infrastructure	- Implement / improve on street bicycle facility (through $100,000 contribution to Bicycle Trust Fund) - Provide bicycle parking per LAMC - Include secure bike parking and showers.
Neighborhood Enhancement	- Pedestrian network improvements.

- Policy 12-1.3 requires that proposals for major new non-residential development projects include submission of a TDM Plan to the City (III-21)
    - As described for Policy 12-1.1, the Project will develop a TDM plan

- Policy 12-1.4 states that TDM measures in Central City North should be consistent with adopted City policy outlined in the TIMP. One of the TDM strategies recommended for the Central City North Community plan area aims to limit vehicle trip generation for new development by requiring new commercial and industrial development projects to limit peak period vehicle trips to 85 percent of that forecasted for the project (i.e., a 15 percent reduction as compared to trip generation rates used to determine project traffic impacts) or to achieve a 1.5 peak period Average Vehicle ridership among employees (III-22, 23).

- The VMT analysis indicates that the trip reduction mitigation program would reduce vehicle trips by 19%, which exceeds the 15% standard identified above.

The CCNCP also provides for various modes of non-motorized transportation/circulation such as walking and bicycle riding by establishing policies and standards to facilitate the development of a bicycle route system which is intended to compliment other transportation modes. The following policies are relevant to the Project:

Policy 13.1.4 encourages the provision of changing rooms, showers, and bicycle storage at new and existing and non-residential developments and public places (III-25).

- The Project would provide a total of 71 bicycle parking spaces (25 short-term, 46 long-term) in accordance with LAMC requirements. The Project would also provide bicycle lockers and showers onsite.

Relevant policies for individual projects in Chapter V, Urban Design, were also reviewed to assess the Project's consistency with the CCNCP.

A. Commercial – 1. Site Planning: Structures shall be oriented toward the main commercial street where a parcel is located and shall avoid pedestrian/vehicular conflicts… (V-1).

- The Project would be consistent with this design policy by locating parking to the rear of structures and in subterranean levels; maximizing retail and commercial service uses along frontages of commercial developments; providing front pedestrian entrances for businesses fronting the street; providing site plans that include ancillary structures, service areas, pedestrian walkways, vehicular paths, loading areas, drop-off, and landscaped areas. As such, the Project would orient structures to avoid pedestrian/vehicular conflicts.

Cumulative Impacts

As discussed in this Transportation Assessment, Project impacts related to VMT would be less than significant with mitigation (i.e., implementation of the TDM program). Similar to the Project, any related projects that result in a significant VMT impact would be required to mitigate such impacts through a TDM program to reduce VMT. If there was a cumulative impact as a result of the related projects having significant and unavoidable VMT impacts, the Project's contribution would not be cumulatively considerable.

Impacts to pedestrian and bicycle facilities as well as rights-of-way are largely project-specific. As discussed in this Transportation Assessment, Project impacts would be less than significant. Similar to the Project, related projects would be required to provide bicycle parking in accordance with the LAMC, and related project access locations would be required to conform to City standards and would be designed to provide adequate sight distance, sidewalks, and/or pedestrian movement controls that would meet the City's requirements to protect

pedestrian safety. Therefore, the Project and related projects would not result in a significant cumulative impact with respect to pedestrian and bicycle facilities.

With respect to transit, as discussed above, the Project would not conflict with the Mobility Plan's policies encouraging the use of public transit. Given the available capacity of transit serving the Project Site and vicinity, and improvements to transit service funded by the Measure R sales tax increase, the Project and related projects would not result in a significant cumulative impact with respect to transit.

Thus, Project impacts with regard to conflicts with programs, plans, ordinances, or policies addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities would not be cumulatively considerable, and cumulative impacts would be less than significant.

2.2 Causing Substantial Vehicle Miles Travelled (Threshold T-2.1)

Introduction

This is an analysis of vehicle-miles traveled (VMT) for the 2159 Bay Street Project using the City of Los Angeles VMT Calculator Version 1.3. The analysis shows that with applying the VMT impact criteria established by LADOT, the Proposed Project would have a significant Work VMT per Capita impact. As there are no residential uses in the Project, it would not have a significant Household VMT per Capita impact. With mitigation measures the Work VMT per capita would not exceed the threshold for significance and there would be no significant VMT impact.

Background to VMT Analysis

State of California Senate Bill 743[8], requires the Governor's Office of Planning and Research to change the California Environmental Quality Act (CEQA) guidelines regarding transportation impact analysis. Under SB 743, the focus of transportation analysis will shift from driver delay – typically measured by traffic level of service (LOS) – to a new measurement that better addresses the state's goals on reduction of greenhouse gas emissions (GHG), creation of multimodal transportation and promotion of mixed-use developments. Since 2014, the Governor's Office of Planning and Research has been developing guidelines and has recommended that vehicle-miles traveled (VMT) replace LOS as the primary measure of transportation impacts. Fully implemented guidelines were originally scheduled to be in place by January 1, 2016. However, an extension has allowed cities more time to establish an analysis methodology. The City of Los Angeles has updated its travel demand model, and has developed and calibrated to local conditions an impact evaluation methodology and transportation impact

[8] SB 743(Steinberg, 2013).

thresholds based on VMT. This is called the VMT Calculator. The City of Los Angeles has adopted the new CEQA methodology and thresholds as of July 30, 2019.

VMT Analysis

VMT Screening

In accordance with LADOT, an initial assessment of the development project is conducted to determine if a VMT transportation assessment is required. A Development Project is defined as any proposed land use project that changes the use within an existing structure, creates an addition to an existing structure, or new construction, which includes any occupied floor area.

With respect to VMT, if a Project requires a discretionary action and the answer to the following questions is affirmative, then a VMT analysis is required.

- *T-2.1.1 Would the land use project generate a net increase of 250 or more daily vehicle trips.*

  Yes. See discussion below.

- *T-2.2.2 Would the project generate a net increase in daily VMT.*

  Yes. See discussion below.

For the purpose of screening for daily vehicle trips, a proposed project's daily vehicle trips should be estimated using the VMT Calculator tool or the most recent edition of the ITE Trip Generation Manual. TDM strategies should not be considered for the purpose of screening. If existing land uses are present on the project site or there were previously terminated land uses that meet the criteria for trip credits, the daily vehicle trips generated by the existing or qualified terminated land uses can be estimated using the VMT Calculator tool and subtracted from the Project's daily vehicle trips to determine the increase in daily vehicle trips.

As calculated in the LADOT Calculator, the Project Site currently contains 23,106 sq. ft. of general office and 16,222 sq. ft. of light industrial use, and generates 309 daily vehicle trips. The Proposed Project of 217,189 sq. ft. of office uses and 5,000 square feet of retail commercial, would generate 2,428 daily vehicle trips. The Project is expected to generate a net increase of 2,119 daily trips and thus a project VMT analysis is required. The summary results of the project screening are provided in Table 2.2 below. The VMT Calculator results for project trips are shown on Appendix A.

Table 2.2 Trip Generation – Project Screening

	Land Use	*Scale*	*Daily Trips*
Proposed	General Office	217,189 sf	
	Retail – Quality Restaurant	2,500 sf	
	Retail – High Turnover Sit-Down Restaurant	2,500 sf	
	Sub-total[1]		2,428
Existing	Office	23,106 sf	
	Light Industrial	16,222 sf	
	Sub-total		309
Net Difference [Proposed – Existing]			2,119
Analysis Required (Net Difference > 250)			Yes

VMT Thresholds

The LADOT VMT Calculator analyses in terms of Household VMT per Capita, and Work VMT per Employee. LADOT has identified thresholds for significant VMT impacts by sub-area of the city. For this area of the City the following thresholds have been identified:

Household VMT per Capita: 6.0
Work VMT per Employee: 7.6

VMT with Project

The VMT results are summarized in Table 2.3. The results show that with the Project, the Household VMT per Capita would be 0 compared to the threshold of 6.0, and the Work VMT per Capita would be 9.1 compared to the threshold of 7.6. Therefore, it is concluded that the Project would cause significant VMT impacts for Work VMT. With the proposed mitigation program, the Project Work VMT would be 7.5, which would not exceed the threshold and there would be no significant VMT impacts.

Appendix A provides the analysis results shown in the LADOT Calculator. The detailed application of the VMT calculator is described below.

Table 2.3 Summary of VMT Results

Category	*Household*			*Work*		
Scenario	*Household VMT Threshold*	*Household VMT Per Capita*	*Significant Impact?*	*Work VMT Threshold*	*Work VMT per Employee*	*Significant Impact?*
VMT With Proposed Project	6.0	0.0	No	7.6	9.1	Yes
VMT With Proposed Project and Mitigation	6.0	0.0	No	7.6	7.5	No

Notes: 1. VMT calculations excludes the 5,000 sq. ft. of retail/restaurant space as local serving retail, per LADOT guidelines.

Application of the LADOT VMT Calculator

Input on Project Land Use Information

This part of the VMT Calculator includes entering the Project location address by its latitude and longitude (to identify the specific location of the Project for the correct application of the VMT Calculator localized data), and the type and quantity of proposed land uses.

Table 2.4 shows the land use quantities in the Project description for the Project that were entered into the Calculator.

According to Section 2.2.2[9] (Screening Criteria) of the new LADOT Transportation Assessment Guidelines, a portion of, or entirety of a project that contains small-scale or local serving retail land uses are assumed to have less than significant VMT impacts and can be excluded from the VMT analysis if less than 50,000 sq. ft. Local serving retail land uses include restaurants. Therefore, the Project's retail commercial land uses were input to the VMT Calculator as required, but do not contribute to work VMT against the threshold.

[9] Los Angeles Department of Transportation (LADOT) Transportation Assessment Guidelines, July 2019.

Table 2.4 Project Land Uses

Land Use	*Quantity*
Existing Land Uses	
Office	23,106 sf
Light Industrial	16,222 sf
Proposed Land Uses	
Office	217,189 DU
Retail – Quality Restaurant	5,000 SF
Retail – High Turnover Restaurant	

Input on Project Design Features and Mitigation Measures

The Calculator provides for inputs relating to trip reduction measures (TDM strategies), either as project design features or as project mitigations. The following trip reducing mitigations are necessary and were included in the analysis. These are described in more detail in Chapter 4.

Parking - Parking Cash-Out (75% employees assumed eligible)

Education & Encouragement - Promotions and Marketing (100% employees and eligible)

Commute Trip Reductions - Ride-share program (100% employees eligible)

Shared Mobility
- Provide car-share spaces.
- Provide bike share spaces

Bicycle Infrastructure
- Implement / improve on street bicycle facility (through $100,000 contribution to Bicycle Trust Fund)
- Provide bicycle parking per LAMC
- Include secure bike parking and showers.

Neighborhood Enhancement - Pedestrian network improvements.

Cumulative Impacts

The Project falls under the VMT impact threshold and so aligns with the long term VMT and greenhouse gas emissions goals of SCAG's RTP/SCS. There would therefore be no cumulative impacts.

2.3 Substantially Inducing Additional Automobile Travel (Threshold T-2.2)

This threshold addresses transportation improvement projects to assess if the project induces substantial additional vehicle miles travelled. As the Proposed Project is a development project and not a transportation project, this threshold is not applicable to this study.

2.4 Substantially Increasing Hazards Due to A Geometric Design Feature or Incompatible Use (Threshold T-3)

As required in the LADOT Transportation Assessment Guidelines, this section addresses the potential increase of hazards due to a geometric design feature and generally relate to the design of access points to and from a project site, and may include safety, operational or capacity impacts.

Proposed Project Driveways

The Proposed Project would provide three driveways, two on Bay Street and one on Sacramento Street, as shown in Figure 0.5. The main driveway on Bay Street would be two-way and access the subterranean parking. A second one-way inbound driveway on Bay Street would access the surface parking. A driveway on Sacramento Street would be two-way and would also access the surface parking.

Threshold T-3: Would the project substantially increase hazards due to a geometric design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?

Impact Analysis

The driveways will all be perpendicular to the street, with no sharp curves, or visibility issues. Landscape design will also ensure there will be no impediments to visibility of and by vehicles, bicycles and pedestrians.

The Project Site is essentially flat. There are no slopes, curves, landscaping or other barriers that would impede visibility or that could result in vehicle/pedestrian, vehicle/bicycle, or vehicle/vehicle impacts.

LADOT Driveway Design Guidelines (Manual of Policies and Procedures Section 321) recommended driveway widths for commercial projects are 16 feet and 30 feet for one-way and two-way driveways (or wider for multiple entry lane driveways), respectively. The main driveway on Bay Street will be two-way and will access the parking garage. This driveway is

proposed to have one lane in each direction in addition to a reversible middle lane, and is proposed to be 40 feet wide. The inbound one-way driveway on Bay Street will access the surface parking and is proposed to be 18 feet wide. The two-way driveway on Sacramento Street will access the surface parking and is proposed to be 24 feet wide. It would provide access to the surface parking level and the on-site loading zone and would provide one lane in each direction. It would not meet the recommended 30' width. The design is constrained by an existing electrical power pole. The driveway would also be very close to the dead-end of Sacramento Street to the east, so traffic would only use this driveway from the west, and there would be no traffic passing the driveway. For these reasons the failure to meet the recommended 30-foot width does not create a significant impact under this threshold.

Parking entry control and security gate on the main driveway on Bay Street would be located approximately 25 feet from the property line. LADOT guidelines require the entry gate at this location to be 60' feet from the property line (accessing 605 parking spaces). The proposed design for this driveway includes a center reversible, lane so at peak times there would be two inbound lanes which would provide a total reservoir distance of 50 feet. The Project Site is located at the end of the dead-end Bay Street so the only traffic on Bay Street is local traffic and there is no vehicular traffic passing this driveway. There are no parking controls anticipated for the surface parking driveways on Bay Street and Sacramento Street, although there would be security gates approximately 40 feet from the property line.

The Project is located adjacent to dead-ends on Bay Street and Sacramento Street. To the east of the dead-ends are the BNSF railway tracks and there are no existing pedestrian or bicycle connections nor the opportunity for any future connections. Therefore, there is minimal pedestrian activity around the Project Site.

The Proposed Project would not make any changes to the roadway system that would impact the High Injury Network or Safe Routes to School (there are no safe routes to school adjacent to the Proposed Project).

Cumulative Impacts

The planned project at 2110 Bay Street is adjacent to and to the west of the Proposed Project. That project would also have access driveways on both Bay Street and Sacramento Street. Both streets are dead end streets providing access only to adjacent uses and with no through traffic. The Proposed Project access would not conflict with access for the 2110 Bay Street Project, so there would be no cumulative impacts regarding substantially increasing hazards due to geometric design features or incompatible use.

2.5 Freeway Safety Analysis

2.5.1 Introduction

In this section the need to conduct a freeway safety analysis is assessed. The City of Los Angeles has recently released an Interim Guidance for Freeway Safety Analysis[10]. This responds to Caltrans' recent requests that environmental analyses for certain new land use development projects includes freeway off-ramp safety considerations – specifically to evaluate a development project's effects on vehicle queueing on off-ramps. In the absence of published guidelines by Caltrans, the City of Los Angeles has developed the Interim Guidance to conduct a freeway safety analysis to determine if a project may potentially result in off-ramp queueing and differential travel speeds that could constitute a potential safety impact under CEQA. The Interim Guidance is included in Appendix E[11].

2.5.2 Screening

Per LADOT's Interim Guidance for on Freeway Safety Analysis, the first step is to identify the number of Project trips added to freeway off-ramps to determine the need for a freeway safety analysis. This check is as follows:

> *Identify the number of Project trips expected to be added to nearby freeway off ramps serving the site. If the Project adds 25 or more trips to any off ramp in either the morning or afternoon peak hour, then that ramp should be studied for potential queueing impacts following the identified steps in the guidelines. If the project is not expected to generate more than 25 or more peak hour trips at any freeway off-ramps, then a freeway ramp analysis is not required.*

Table 2.5 shows the number of Project trips in the AM and PM peak hour that would be added to freeway off-ramps in the vicinity of the Project.

[10] LADOT Transportation Assessments – Interim Guidance for Freeway Safety Analysis, LADOT, May 1 2020
[11] The City notes that new Caltrans Transportation Study Guidelines are expected to be released late this year to meet the State's deadline of July 1, 2020, which requires all California agencies to comply with SB 743. Caltrans has announced that its new guidelines will include a State highway System safety analysis section. Therefore, the City's interim guidance is expected to be revisited once Caltrans releases the State guidelines to determine if changes are necessary.

Table 2.5 Project Added Volumes to Off-Ramps

#	Off-Ramp Location	Project Added Volume	
		AM Peak Hour	PM Peak Hour
1	US-101 SB Off-Ramp at 7th Street	12	4
2	I-5 NB Off-Ramp at 7th Street	6	2
3	I-10 WB Off-Ramp at Santa Fe Avenue	23	8
4	I-10- EB Off-Ramp at Santa Fe Avenue	17	9

As shown in Table 2.5, the Project would add less than 25 trips to all the freeway off-ramps in both peak hours. Therefore, per LADOT's Interim Guidance, it is concluded that a freeway off-ramp safety analysis is not required.

Under the Interim Guidance, a project would not have the potential to result in significant freeway safety unless it adds 25 or more trips to any off ramp in either the morning or afternoon peak hour. As the Project trips would not exceed this screening threshold at any area off ramps, the Project's impacts to freeway safety would be less than significant and the Project would not make a considerable contribution to cumulative freeway safety impacts.

3. Non-CEQA Transportation Analysis

3.1 Introduction

This chapter of the Transportation Assessment Study addresses the requirements for Non-CEQA Transportation Analysis described in the LADOT Transportation Assessment Guidelines (TAG). The evaluations follow procedures identified in the MOU approved by LADOT November 21, 2019. It addresses the following four analyses per the TAG:

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

3.2. Pedestrian, Bicycle, and Transit Access Assessment

This section of the chapter evaluates potential project effects on pedestrian, bicycle, and transit facilities in the vicinity of the Proposed Project. The evaluation will determine whether the Proposed Project will cause any physical deficiencies (through the removal, modification, or degradation of facilities) or demand-based deficiencies (adding pedestrian or bicycle demand to inadequate facilities).

3.2.1 Screening

The Transportation Assessment Guidelines require an affirmative answer to <u>all</u> of the following screening questions triggers a need to assess whether the project would negatively affect existing pedestrian, bicycle, or transit facilities.

- *Would the project generate a net increase of 250 or more daily vehicle trips?*

  Yes, the project's net trip generation calculated using the LADOT's VMT Calculator is previously shown Section 2.2. The project results in a net increase of 2,119 daily trips, and therefore generates more than 250 daily trips.

- *Does the land use project include construction, or addition of:*
  50 dwelling units or guest rooms or combination thereof, or
  50,000 square feet of non-residential space?

  Yes, the Project includes the construction of 217,189 sq. ft. of creative office, 5000 sq. ft. of commercial space.

- *Is the project on a lot that is ½ acre or more in total gross area, or is the project's frontage along an Avenue or Boulevard (as designated in the City's General Plan), 250 linear feet or more, or is the project's building frontage encompassing an entire block along an Avenue or Boulevard (as designated in the City's General Plan)?*

  Yes, the Project lot is approximately 1.7 acres in total gross area.

As the Proposed Project meets all these criteria, further analysis is therefore necessary.

3.2.2 Facilities Inventory

The previously shown Figure 0.1 identifies the Project Site and the quarter mile (1,320 ft.) boundary study area around it. Upon review and consultation with LADOT it was determined that none of the streets south of the I-10 freeway and east of the LA River are part of the street and pedestrian network serving the Project Site. Figure 0.2 shows the study area focused on the street and pedestrian networks serving the Project Site. Furthermore, as shown in Figure 0.3, within the study area with LADOT's approval some streets were excluded since they are not essential to the vehicular and pedestrian network serving the Project Site.

For the study area an inventory of existing pedestrian, bicycle, and transit facilities that could be affected by Project traffic or users travelling between the Project and key destinations was conducted.

Figure 3.1 identifies key pedestrian destinations within the study area. Bus stops are located on Santa Fe Avenue and 7th Street within the Study Area. The closest bike share station is located at the corner of Imperial Street and 7th Street.

Figure 3.2 shows the existing transit routes within the study area.

Figures 3.3 and 3.4 show existing bicycle facilities and designated bicycle facilities per the Mobility Plan 2035, respectively. As shown, there are no current bicycle facilities within the Study Area. 7th Street is designated with Tier 2 bicycle lanes, which are yet to be implemented.

Figure 3.5 identifies Pedestrian Facilities / Amenities within the study area. Approximate sidewalk widths are shown for each block. Sidewalk widths sometimes vary within each block, so the approximate width shown is generally at mid-block and represents the most common width within that block. Crosswalks both at the intersections and at mid-block, and different crosswalk types (traditional parallel, continental, and yellow school crossing) are identified with different colors. Additionally locations of bus benches are identified. Also, locations where street trees and/or sidewalks are not present are identified.

Figure 3.6 shows the locations where signalized pedestrian crossings are provided. Pedestrian signals are differentiated as either having a pedestrian push button or not having one.

Figure 3.7 identifies the location, number, and type of pedestrian curb access ramps provided at the intersections.

3.2.3 Evaluation

Evaluation criteria for the assessment of pedestrian, bicycle, and transit facilities fall under two broad categories: (1) removal or degradation of facilities, and (2) intensification of use. In Table 3.1 specific actions identified in the Transportation Assessment Guidelines under each category are examined to assess project's effect on pedestrian, bicycle, and transit facilities. The responses provided below reflect conditions upon completion of the Proposed Project.

Table 3.1 Application of Evaluation Criteria

#	Criteria	Evaluation
Removal or Degradation of Facilities		
1	Does the Project result in removal or degradation of existing sidewalks, crosswalks, pedestrian refuge islands, and/or curb extensions / bulbouts?	No. The project would not remove any existing sidewalks, crosswalks, pedestrian refuge islands, and/or curb extensions / bulb-outs.
2	Does the Project result in removal or degradation of existing bikeways and/or supporting facilities (e.g., bikeshare stations, on-street bike racks/parking, bike corrals, etc.)	No. There are no bikeways and/or supporting facilities adjacent to the Project Site.
3	Does the Project result in removal or degradation of existing transit and/or local circulator facilities including stop, bench, shelter, concrete pad, bus lane, or other amenities?	No. There are no existing transit and/or local circulator facilities including stop, bench, shelter, concrete pad, bus lane, or other amenities adjacent to the Project Site.
4	Does the Project result in removal of other existing transportation system elements supporting sustainable mobility?	No. There are no other existing transportation system elements supporting sustainable mobility adjacent to the Project Site.

#	Criteria	Evaluation
5	Does the Project result in increasing the street crossing distance for pedestrians; increase in number of travel/turning lanes; increase in turning radius or turning speeds?	Yes. On the east portion of Bay Street and Sacramento Street half roadway widths on the Project Side are being increased to accommodate fire truck turnaround radius. However, these would occur at the end of the dead-end street so would not affect pedestrian circulation crossing the street.
6	Does the Project result in removal, degradation, or narrowing of an existing sidewalk, path, crossing, or pedestrian access way?	No. As previously detailed in Table 2.1 there are no existing sidewalks on Bay Street and the Project would provide a 13' sidewalk in compliance with the Mobility Plan 2035. On Sacramento Street there is currently a 10' sidewalk. On the west portion of the street the Project would increase the sidewalk width from 10' to 13' thereby meeting the Mobility Plan 2035 requirement. On the east portion of the Sacramento Street increasing the roadway width to accommodate fire truck turnaround and the passenger drop-off zone results in a 3' sidewalk. However, the adjacent pedestrian plaza would provide an effective sidewalk width of more than the required 13'. Also, the sidewalk does not continue east of the Project Site as Sacramento Street is a dead-end street because of the railroad tracks. Therefore, there is no need for pedestrians to walk east of the Project Site.
7	Does the Project result in removal or narrowing of existing sidewalk-street buffering elements (e.g., curb extension, parkway, planting strip, street trees, etc.)?	No. Currently there are no sidewalks or sidewalk-street buffering elements on Bay Street adjacent to the Project Site. The Project will provide a new sidewalk per the Mobility Plan 2035 requirements that will include street trees. On Sacramento Street 2 trees will be removed and 5 new trees will be planted.
Intensification of Use		
1	Does the Project increase pedestrian or vehicle volumes, and thereby increase the need or attraction to cross a street at unmarked pedestrian crossings or unsignalized or uncontrolled	Yes. The Project will increase the need to cross Santa Fe Avenue at Bay Street and Sacramento Streets. A Bus Stop is located on the west side of Santa Fe Avenue near the intersection with Violet Street. However, pedestrian crosswalks are not currently provided at Sacramento, Bay, or Violet

#	Criteria	Evaluation
	intersections where a crossing is not available without significant rerouting.	Streets. The nearest signalized pedestrian crossing to this bus stop is provided at the intersection of Santa Fe Avenue and 7th Street. This would entail that pedestrians walk northbound past the bus stop before crossing the street at the intersection and then travelling southbound to reach the bus stop.
2	Does the Project result in new pedestrian demand between project site entries/exits and major destinations or transit stops expected to serve the development where there are missing pedestrian facilities (e.g., gaps in the sidewalk network) or substandard pedestrian facilities (e.g., narrow or uneven sidewalks, no crosswalks at intersections or mid-block, no marked crossing, or push button crossing rather than actuated, etc.)?	Yes. The closest transit stops to the Project Site are located on Santa Fe Avenue near intersections with Violet Street and 8th Street. On Bay Street the Project is providing a new sidewalk adjacent to the Project Site and there is currently an existing side-walk close to the Santa Fe Avenue on the south side of the street. However, a sidewalk gap would exist between the new sidewalk adjacent to the Project Site and the existing sidewalk close to Santa Fe Avenue. It is expected this gap will be completed by the planned adjacent development project. There are no pedestrian crossings across Santa Fe Avenue at Violet Street, Bay Street, or Sacramento Streets. Therefore, pedestrians wanting to access the bus stop near the intersection of Santa Fe Avenue and Violet Street located on the west side of the Street need to cross the street at the intersection of Santa Fe Avenue and 7th Street. This would entail going further away from their destination before getting any closer. However, signalized pedestrian crossing is provided at the intersection of Santa Fe Avenue and 8th Street for the bus stops located near this intersection.
3	Increase transit demand at bus stops that lack marked crossings, with insufficient sidewalks, or are in isolated, unshaded, or unlit areas?	No. There are two bus stops on Santa Fe Avenue near the intersection with Violet Street, one on each side of the Street. 12 feet sidewalks are provided for each stop and street lights are provided within 50 ft. of each stop. As noted earlier there are no pedestrian crossings across Santa Fe Avenue at Violet, Bay, or Sacramento Streets. There are also two bus stops located on Santa Fe Avenue near the intersection with 8th Street on each side of the street. 12 feet sidewalks are provided for each stop and street lights are provided within 50 ft. of each stop.

#	Criteria	Evaluation
		Signalized pedestrian crossing to these bus stops are provided at the intersection.

High-Injury Network

The City of Los Angeles Department of Transportation is implementing a program called Vision Zero. Vision Zero Los Angeles represents a citywide effort to eliminate traffic deaths in the City of Los Angeles by 2025. Vision Zero has two goals: a 20% reduction in traffic deaths by 2017 and zero traffic deaths by 2025. In order to achieve these goals, LADOT identified a network of streets, called the High Injury Network (HIN), which has a higher incidence of severe and fatal collisions. The HIN is comprised of 386 corridors that represent 6% of Los Angeles' street miles. Sixty-five percent of all deaths and severe injuries involving people walking and biking occur on these 6% of streets.

As shown in Figure 3.8 the Proposed Project is not located on the High Injury Network (HIN). There are currently no specific Vision Zero Corridor Plans for streets in the vicinity of the Proposed Project.

3.2.4 Evaluation Summary and Recommended Actions

Summary

The Proposed Project is located in the Arts District, which is an area with many local streets without sidewalks, and with some streets that are uncurbed where vehicles and pedestrians share the "roadway space". The arterial streets generally have developed pedestrian facilities, including sidewalks and crosswalks. The closest intersections to the Project Site are intersections of Santa Fe Avenue with Bay Street and Sacramento Street. ADA access ramps are provided at both of these intersections; however, at the intersection of Santa Fe Avenue and Bay Street tactile warning strips are not provided. Pedestrian crosswalks across Santa Fe Avenue are not provided at these two intersections. The nearest signalized pedestrian crossings are provided at the intersection of Santa Fe Avenue and 8th Street south of the Project Site, and Intersection of Santa Fe Avenue and 7th Street north of the Project Site.

The nearest bus stops to the Project Site are located on Santa Fe Avenue close to the intersections with Violet Street and 8th Street. These bus stops lack bus benches, but sidewalks and lighting are provided adjacent to them.

The Proposed Project will provide new sidewalks per Mobility Plan 2035 requirements on Bay Street and Sacramento Street. On Sacramento Street the sidewalk adjacent to the Site will be improved to current standards, except on the east portion where the sidewalk will be narrower to accommodate wider than required half roadway width. The wider than required half-roadway width is necessary to accommodate fire truck turnaround radius, and the adjacent pedestrian plaza on the Project Site will provide an adequate effective sidewalk width. Additionally, Bay Street and Sacramento Streets adjacent to the Project Site will meet City standards for right-of-way and roadway widths, except the east portion of these streets where some standards will be met and exceeded.

In conclusion, the Proposed Project would not cause any physical deficiencies or demand-based deficiencies on pedestrian, bicycle or transit facilities in the vicinity of the Project.

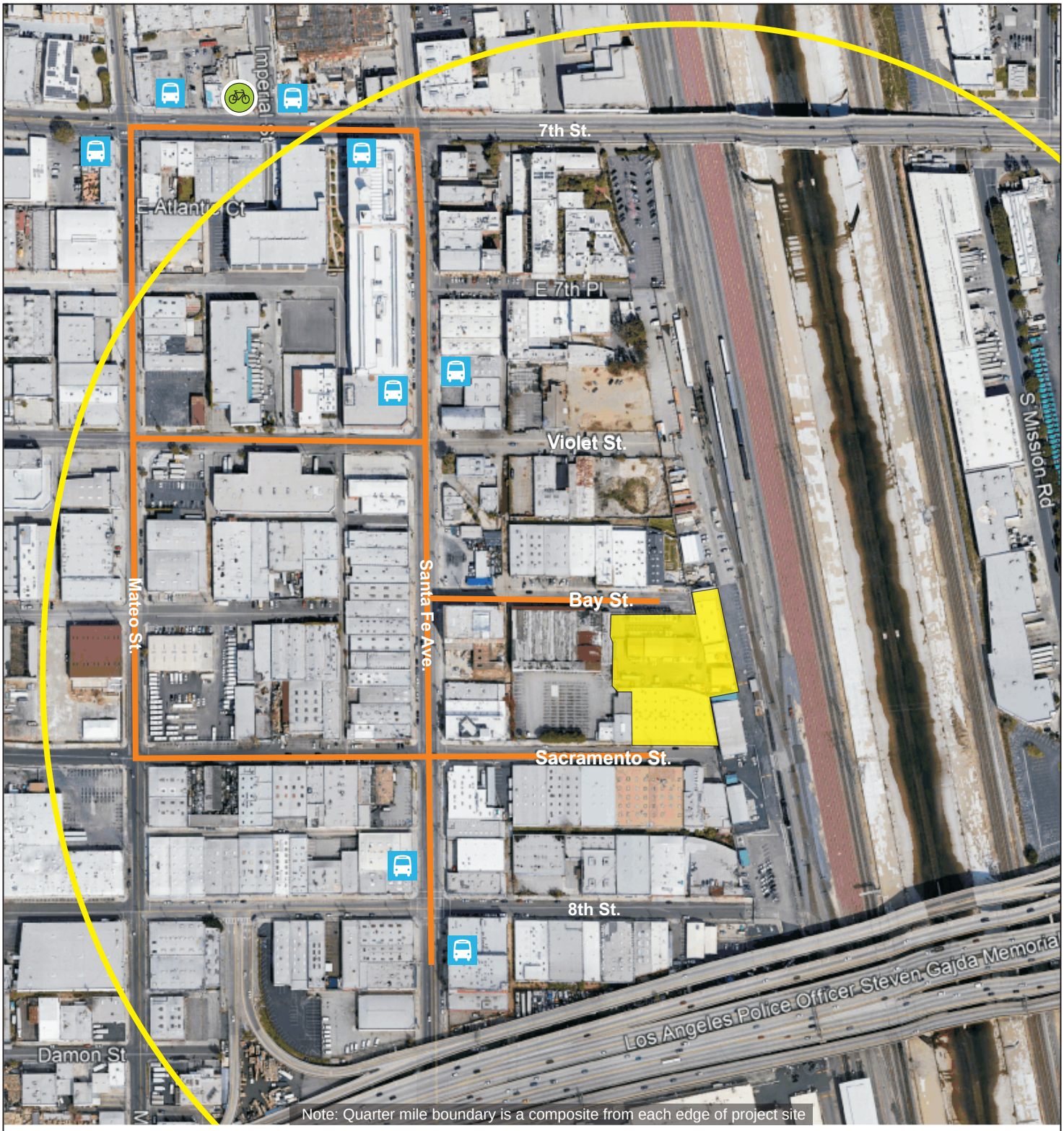
Proposed Actions

Notwithstanding the above conclusion, the Project proposes two improvement actions, given the likely increase in pedestrian traffic to Santa Fe Avenue and the bus stops on that street.

(1) Install tactile warning strips on the north east and south-east street corners of the intersection of Santa Fe Avenue and Bay Street.

(2) Consider installing some form of signalized pedestrian crosswalk on Santa Fe Avenue at Bay Street, possibly in conjunction with a new traffic signal at the intersection (see Section 3.3.7 for further discussion of a potential traffic signal).

No further actions are deemed necessary or proposed.



Legend

- Project Site
- 1/4 Mile from Project Site (Study Area)
- Pedestrian travel paths to transit
- Transit Stop
- Bike Share Station

N

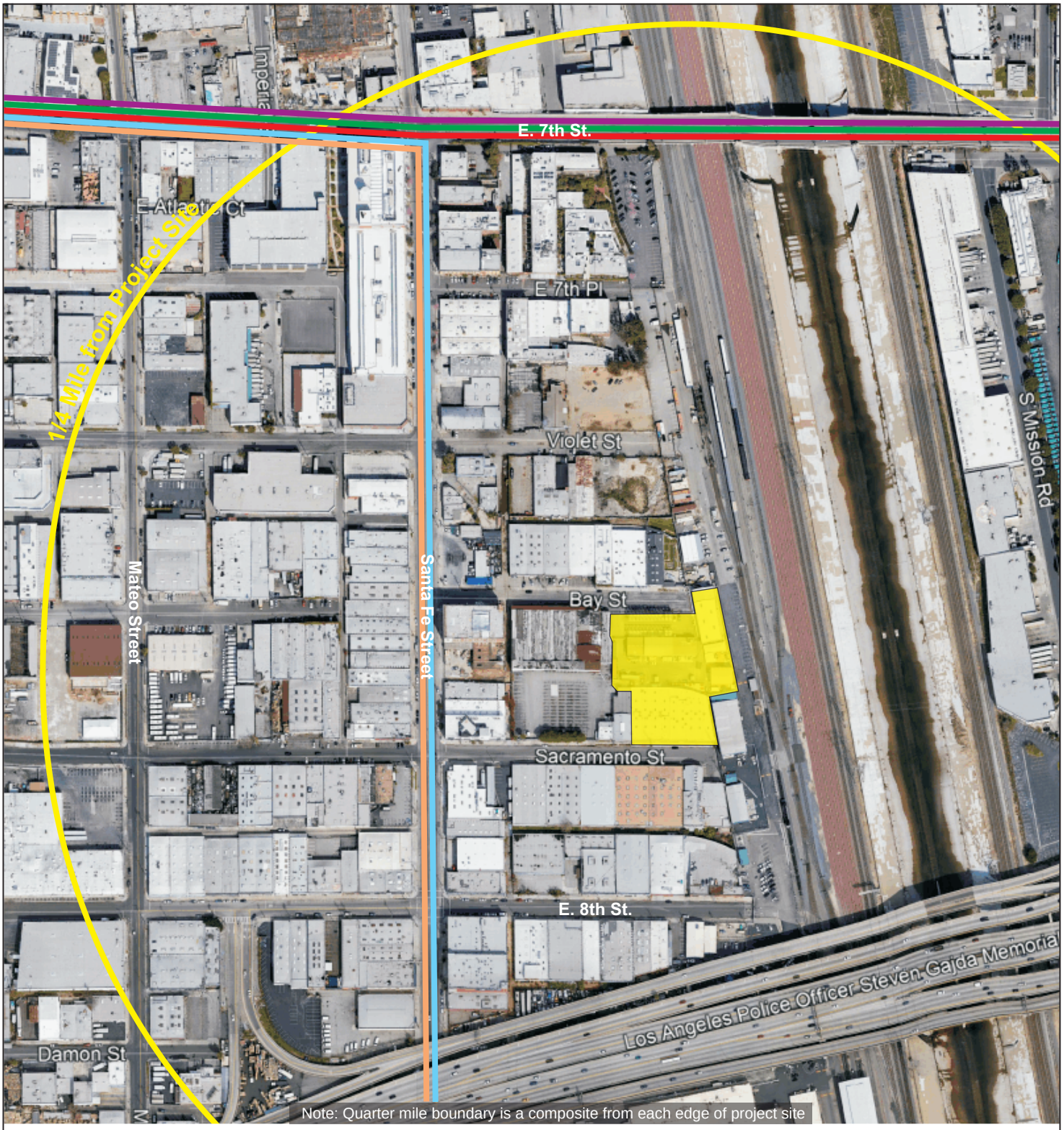
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4/7/20

Figure 3.1
Key Pedestrian Destinations

2159 Bay Street

The **Mobility** Group
Transportation Strategies & Solutions



Legend

Project Site

1/4 Mile from Project Site (Study Area)

Transit Service

M720
M760
M18
M60
M62

N

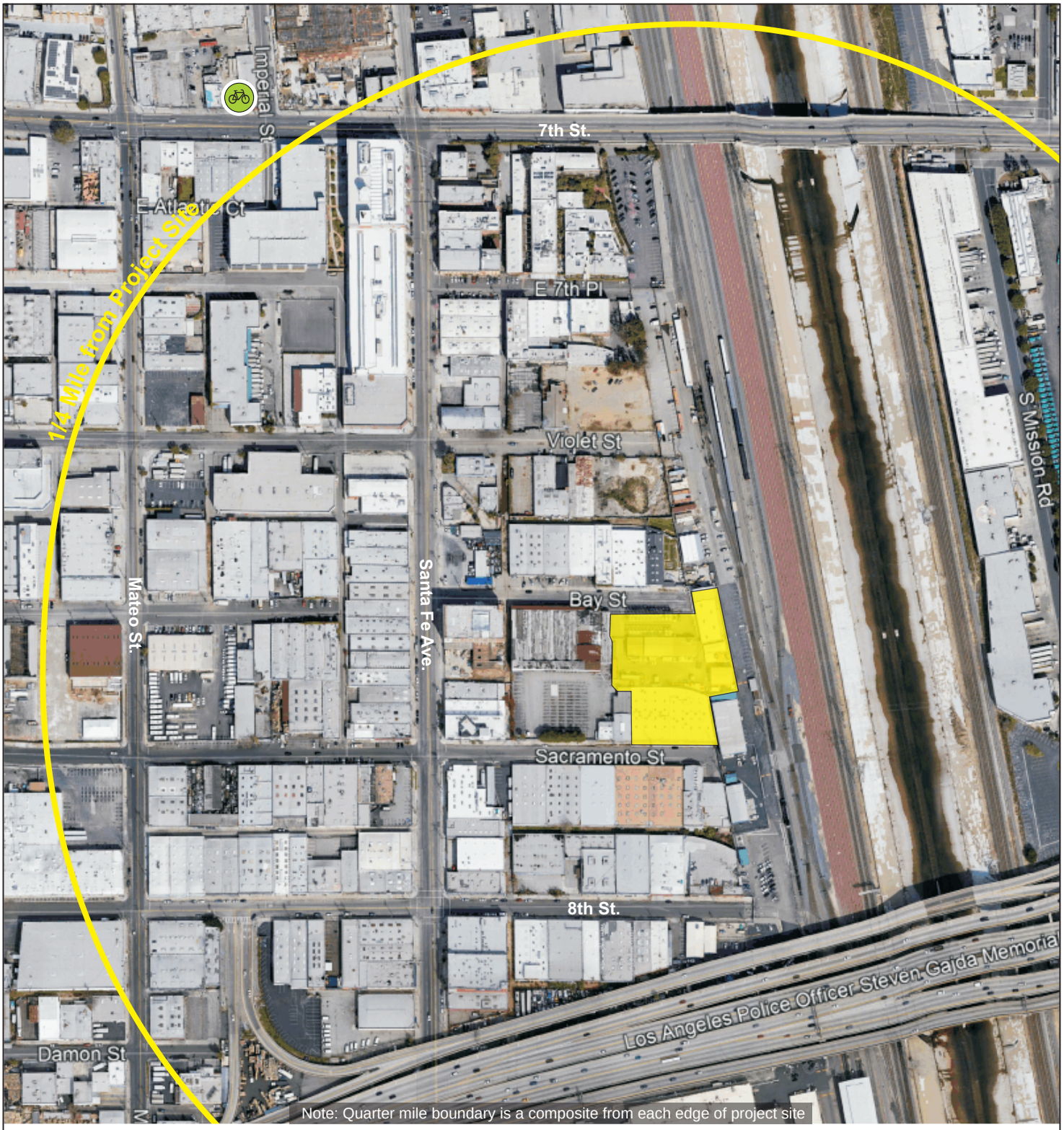
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2/6/20

Figure 3.2
Existing Transit Routes

2159 Bay Street

The **Mobility** Group
Transportation Strategies & Solutions



Legend

- Project Site
- 1/4 Mile from Project Site (Study Area)
- Existing Bicycle Lane (No bicycle lanes within 1/4 mile of project site)
- Metro Bike Share Station

N

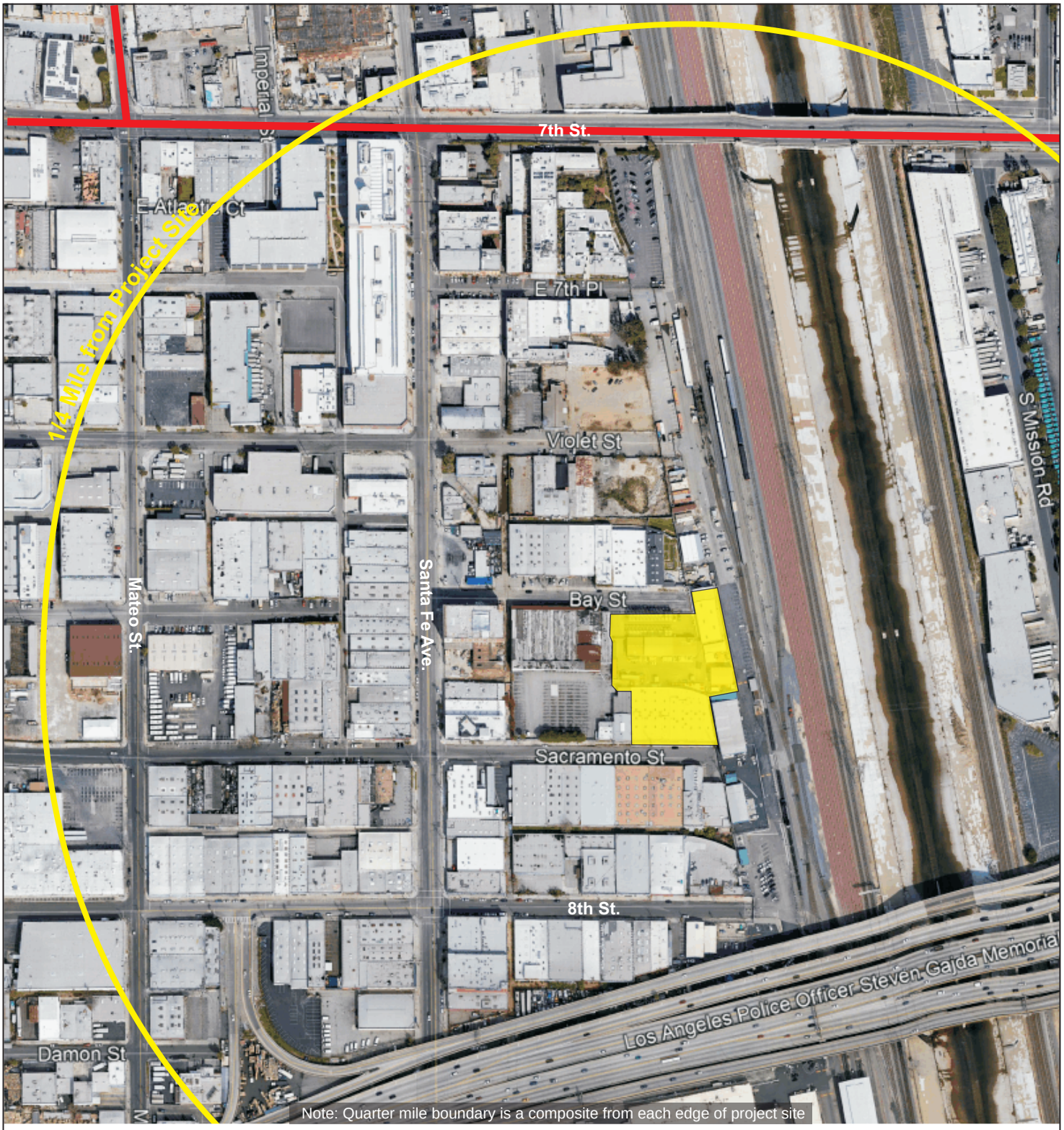
Not to Scale

4/7/20

Figure 3.3
Existing Bicycle Facilities

2159 Bay Street

The **Mobility** Group
Transportation Strategies & Solutions



Legend

- Project Site
- Tier 2 Bicycle Lane (Mobility Plan 2035)
- 1/4 Mile from Project Site (Study Area)

N

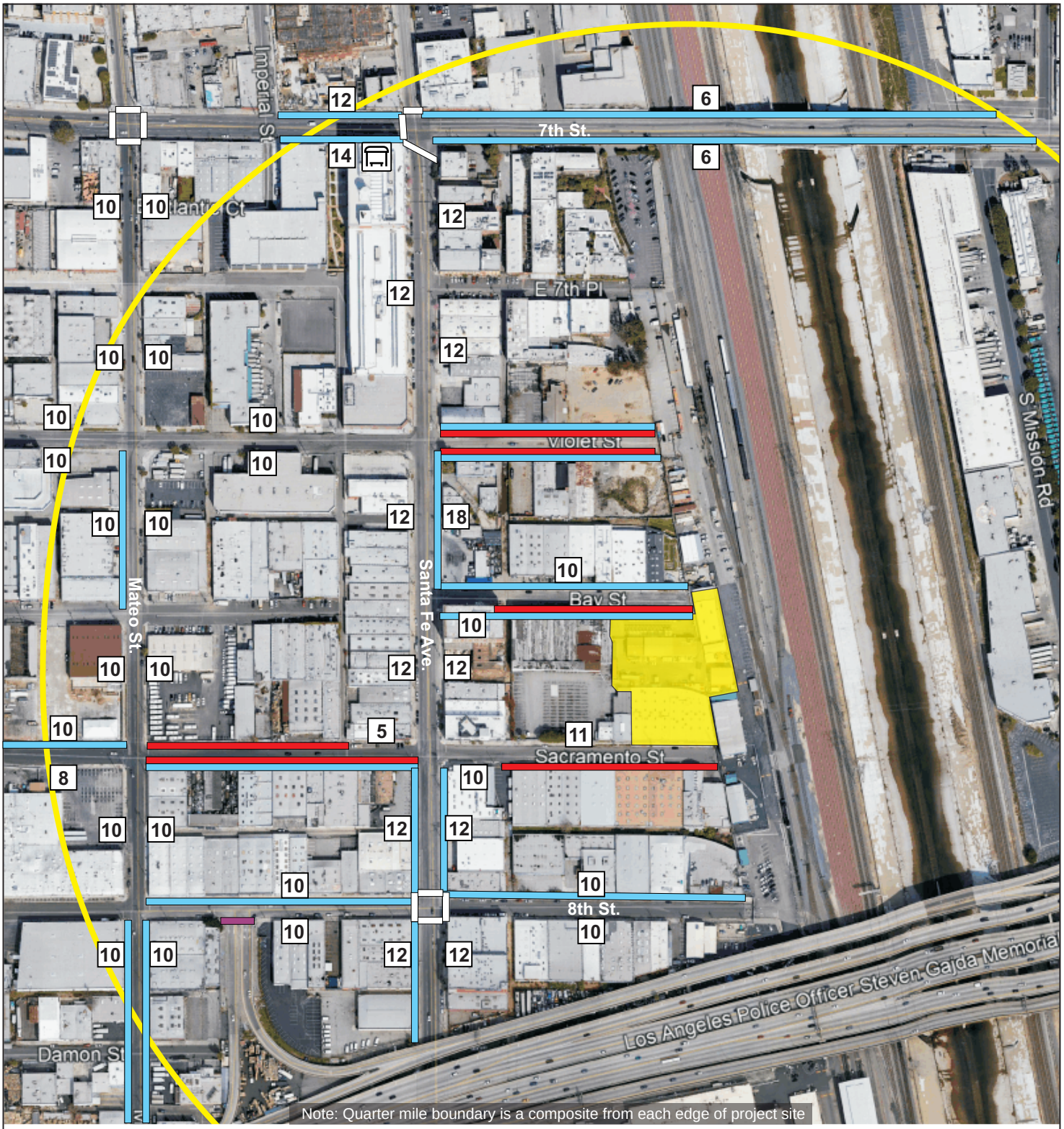
Not to Scale

2/6/20

Figure 3.4
Designated Bicycle Facilities

2159 Bay Street

The **Mobility** Group
Transportation Strategies & Solutions



Legend

- Project Site
- 1/4 Mile from Project Site (Study Area)
- No Street Trees (otherwise trees on block face)
- X Sidewalk Widths (feet)
- Bus Bench
- Traditional Crosswalk
- Yellow Crosswalk
- Continental Crosswalk
- No Sidewalk (otherwise on block face)

N

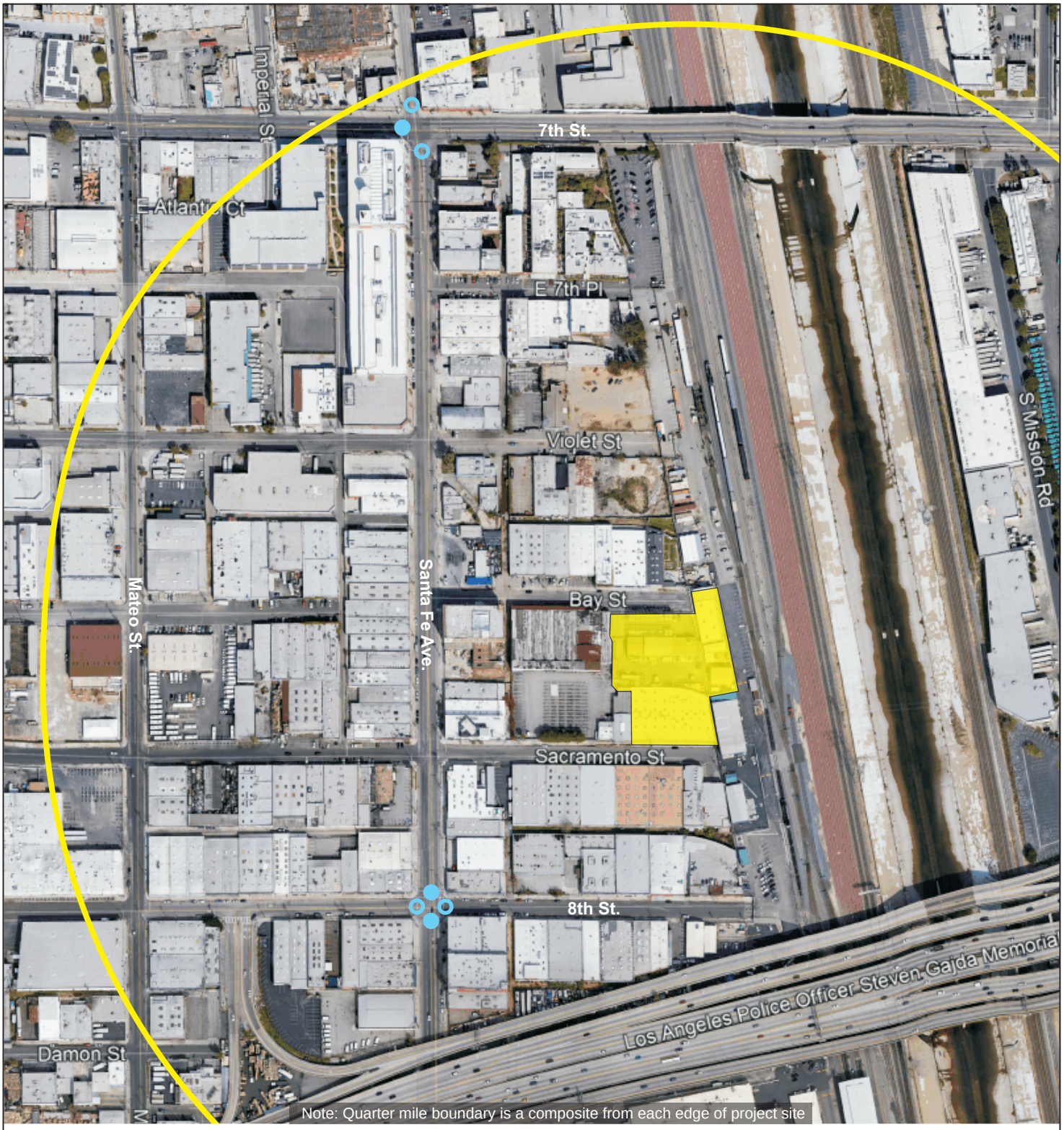
Not to Scale

4/7/20

Figure 3.5
Pedestrian Facilities / Amenities

2159 Bay Street

The **Mobility** Group
Transportation Strategies & Solutions



Legend

- Project Site
- 1/4 Mile from Project Site (Study Area)
- Circle represents crosswalk for that approach
- Pedestrian Signal without Push Button
- Pedestrian Signal with Push Button

N

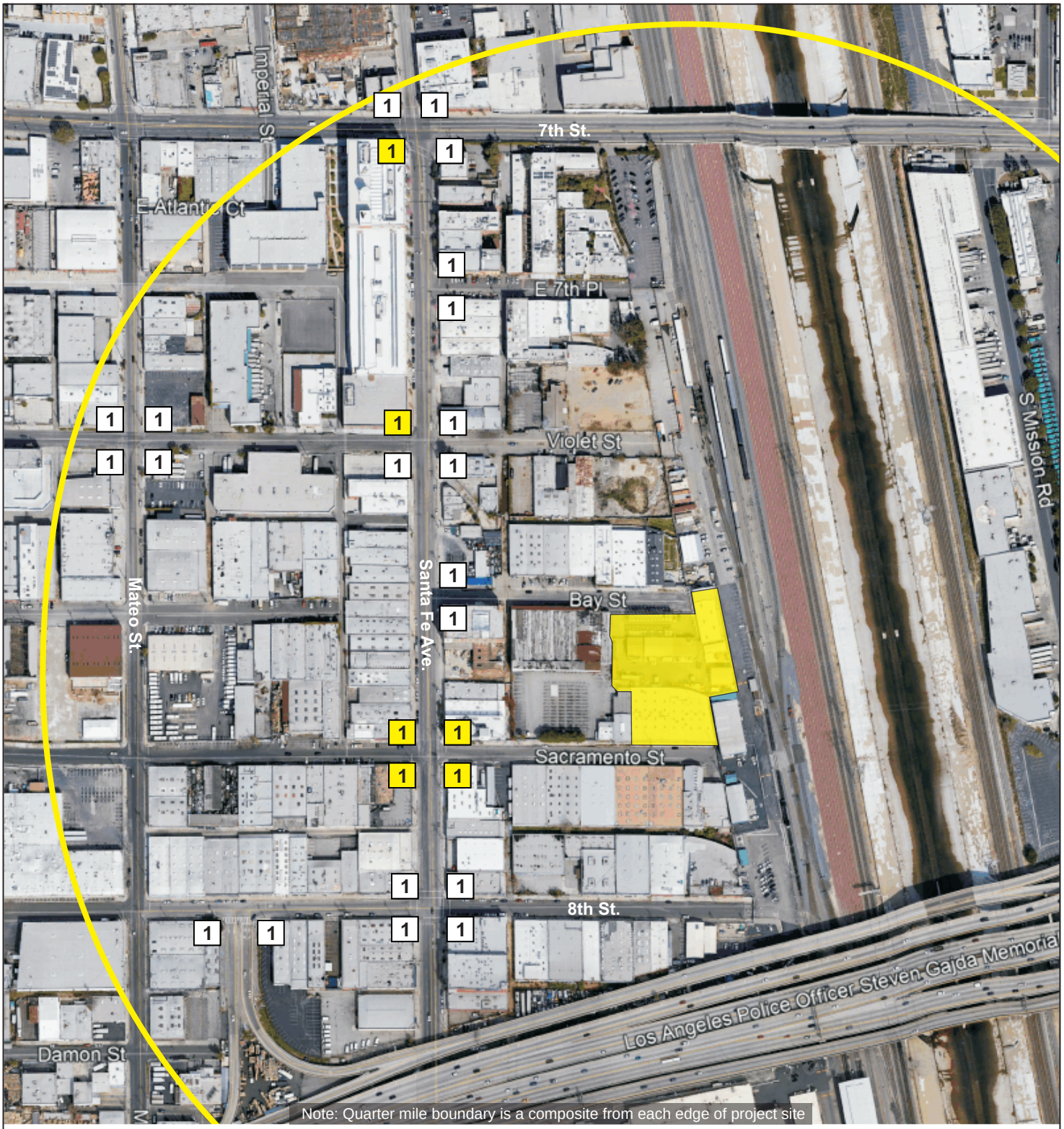
Not to Scale

2/6/20

Figure 3.6
Pedestrian Signals

2159 Bay Street

The **Mobility** Group
Transportation Strategies & Solutions



Legend

- Project Site
- 1/4 Mile from Project Site (Study Area)
- X — Curb Access Ramps (1 or 2) without Tactile Warning Strips
- X — Curb Access Ramps (1 or 2) with Tactile Warning Strips

N

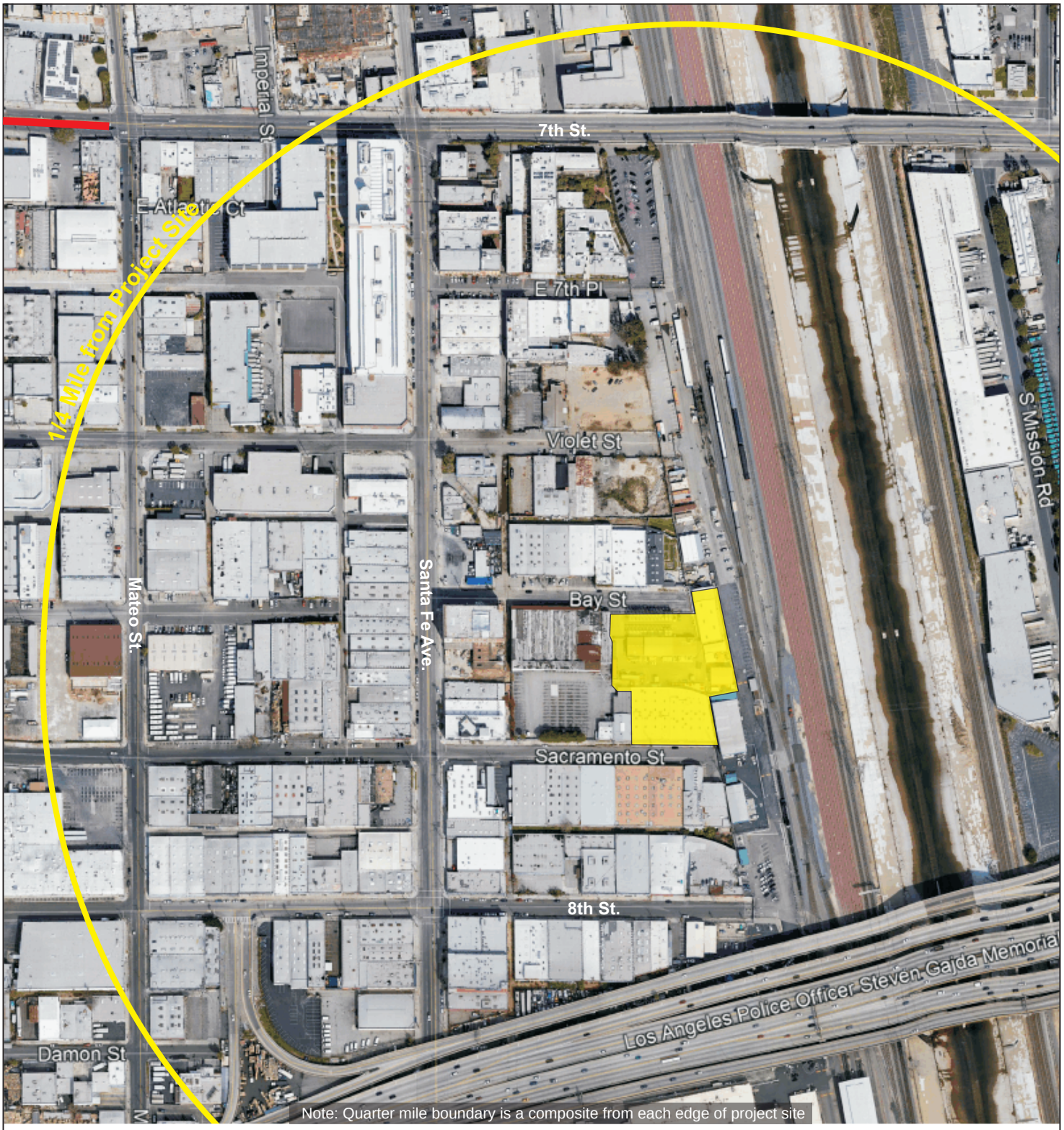
Not to Scale

2/6/20

Figure 3.7
Pedestrian Features

2159 Bay Street

The **Mobility** Group
Transportation Strategies & Solutions



Legend

Project Site

1/4 Mile from Project Site (Study Area)

High Injury Network

N

Not to Scale

1/21/20

Figure 3.8
High Injury Network

2159 Bay Street

The **Mobility** Group
Transportation Strategies & Solutions

3.3. Project Access, Safety and Circulation Evaluation

3.3.1 Introduction

In this section potential safety, operational, and capacity constraints related to access to and from the Project Site are assessed. Constraints may arise from vehicular/vehicular, vehicular/ bicycle, or vehicular / pedestrian interactions in addition to operational delays.

3.3.2 Screening Criteria

Per the TAG, an affirmative answer to all of the following screening questions triggers a need to assess whether the Project would negatively affect Project access and circulation.

- *Does the land use project involve a discretionary action that would be under review by the Department of City Planning?*

  Yes.

- *Would the land use project generate a net increase of 250 or more daily vehicle trips?*

  Yes, the Project's net trip generation calculated using the LADOT's VMT Calculator is previously shown in Section 2.2. The Project results in a net increase of 2,119 daily trips, and therefore generates more than 250 daily trips.

As the Project meets all these criteria, further analysis is therefore necessary.

3.3.3 Methodology

This section describes the methodologies used to perform the evaluation.

Analysis Hours

The analysis addresses the AM peak hour and the PM peak hour.

Project Trip Generation

The trip generation estimates for the Project are shown in Table 3.2. Trip generation estimates are based on trip rates found in *ITE Trip Generation 10th Edition* (Institute of Transportation Engineers, 2017) and adjustment factors considered appropriate to the type and location of the Project which were developed in conjunction with, and with the approval of LADOT. The trip generation estimates were approved by LADOT in the MOU of November 21, 2019[12].

[12] The Project Description was subsequently amended to reduce/eliminate some commercial uses and increase office space. Trip generation in Table 3.2 is lower than in the MOU, so the MOU is conservative.

Table 3.2 Trip Generation Estimates - Proposed Project

Daily

Land Use Assumptions		Source [1] & Code	Quantity	Units	Daily			
						Trip Rate		Total Trips
Existing Uses								
Creative Office [2]		ITE 710	23,106	SF		9.74		-225
(Reduction for transit trips) -	10%							23
(Reduction for walk/bike trips) -	5%							11
Net Creative Office								-191
Light Industrial [2]		ITE 110	16,222	SF		4.96		-80
(Reduction for transit trips) -	10%							8
(Reduction for walk/bike trips) -	5%							4
Net Light Industrial								-68
Total Existing								-259
Proposed Uses								
Creative Office [2,3]		ITE 710	217,189	SF		10.36		2,251
(Reduction for transit trips) -	10%							-225
(Reduction for walk/bike trips) -	5%							-113
Net Creative Office								1,913
Quality Restaurant [2]		ITE 931	2,500	SF		83.84		210
(Reduction for internal trips) -	10%							-21
(Reduction for transit trips) -	10%							-19
(Reduction for walk/bike trips) -	5%							-9
(Reduction for pass-by trips) -	10%							-16
Net Quality Restaurant								145
Fast Casual Restaurant [2]		ITE 930	2,500	SF		315.17		788
(Reduction for internal trips) -	10%							-79
(Reduction for transit trips) -	10%							-71
(Reduction for walk/bike trips) -	5%							-35
(Reduction for pass-by trips) -	20%							-121
Net Fast Casual Restaurant								482
Total Proposed								2,540
Total Net								2,281

Table 3.2 Trip Generation Estimates - Proposed Project

AM Peak

Land Use Assumptions		Source [1] & Code	Quantity	Units	AM Peak Hour					
					Trip Rate			Total Trips		
					In	Out	Total	In	Out	Total
Existing Uses										
Creative Office [2]		ITE 710	23,106	SF	1.00	0.16	1.16	-23	-4	-27
(Reduction for transit trips) -	10%							2	1	3
(Reduction for walk/bike trips) -	5%							1	0	1
Net Creative Office								-20	-3	-23
Light Industrial [2]		ITE 110	16,222	SF	0.62	0.08	0.70	-10	-1	-11
(Reduction for transit trips) -	10%							1	0	1
(Reduction for walk/bike trips) -	5%							1	0	1
Net Light Industrial								-8	-1	-9
Total Existing								-28	-4	-32
Proposed Uses										
Creative Office [2,3]		ITE 710	217,189	SF	0.92	0.14	1.06	199	32	231
(Reduction for transit trips) -	10%							-20	-3	-23
(Reduction for walk/bike trips) -	5%							-10	-2	-12
Net Creative Office								169	27	196
Quality Restaurant [2]		ITE 931	2,500	SF	0.40	0.33	0.73	1	1	2
(Reduction for internal trips) -	10%							0	0	0
(Reduction for transit trips) -	10%							0	0	0
(Reduction for walk/bike trips) -	5%							0	0	0
(Reduction for pass-by trips) -	10%							0	0	0
Net Quality Restaurant								1	1	2
Fast Casual Restaurant [2]		ITE 930	2,500	SF	1.39	0.68	2.07	3	2	5
(Reduction for internal trips) -	10%							0	-1	-1
(Reduction for transit trips) -	10%							0	0	0
(Reduction for walk/bike trips) -	5%							0	0	0
(Reduction for pass-by trips) -	20%							-1	0	-1
Net Fast Casual Restaurant								2	1	3
Total Proposed								172	29	201
Total Net								144	25	169

Table 3.2 Trip Generation Estimates - Proposed Project

PM Peak

Land Use Assumptions		Source [1] & Code	Quantity	Units	PM Peak Hour					
					Trip Rate			Total Trips		
					In	Out	Total	In	Out	Total
Existing Uses										
Creative Office [2]		ITE 710	23,106	SF	0.18	0.97	1.15	-4	-23	-27
(Reduction for transit trips) -	10%							0	3	3
(Reduction for walk/bike trips) -	5%							0	1	1
Net Creative Office								-4	-19	-23
Light Industrial [2]		ITE 110	16,222	SF	0.08	0.55	0.63	-1	-9	-10
(Reduction for transit trips) -	10%							0	1	1
(Reduction for walk/bike trips) -	5%							0	1	1
Net Light Industrial								-1	-7	-8
Total Existing								-5	-26	-31
Proposed Uses										
Creative Office [2,3]		ITE 710	217,189	SF	0.17	0.93	1.10	38	200	238
(Reduction for transit trips) -	10%							-4	-20	-24
(Reduction for walk/bike trips) -	5%							-2	-10	-12
Net Creative Office								32	170	202
Quality Restaurant [2]		ITE 931	2,500	SF	5.23	2.57	7.80	13	7	20
(Reduction for internal trips) -	10%							-1	-1	-2
(Reduction for transit trips) -	10%							-1	-1	-2
(Reduction for walk/bike trips) -	5%							-1	0	-1
(Reduction for pass-by trips) -	10%							-1	-1	-2
Net Quality Restaurant								9	4	13
Fast Casual Restaurant [2]		ITE 930	2,500	SF	7.77	6.36	14.13	19	16	35
(Reduction for internal trips) -	10%							-2	-2	-4
(Reduction for transit trips) -	10%							-2	-1	-3
(Reduction for walk/bike trips) -	5%							-1	-1	-2
(Reduction for pass-by trips) -	20%							-3	-2	-5
Net Fast Casual Restaurant								11	10	21
Total Proposed								52	184	236
Total Net								47	158	205

Notes:

1. ITE Trip Rates from Trip Generation, 10th Edition, Institute of Transportation Engineers, Washington, DC, 2017, except otherwise noted.
2. Trip rate reductions were applied per LADOT's *Transportation Assessment Guidelines,* July 2019.
   Following ITE Categories used:
   ITE 110 - General Light Industrial - Used trip rates for General Urban/Suburban.
   ITE 710 - General Office Building - Used trip rates for existing use (smaller land use quantity) and equation for proposed use (larger land use quantity) for General Urban/Suburban.
   ITE 931 - Quality Restaurant - Used trip rates for General Urban/Suburban.
   ITE 930 - Fast Casual Restaurant - Used trip rates for General Urban/Suburban.
3. Trip rates in the table are derived from the trip generation estimates using equation, Ln(T)=0.97 Ln(x) +2.50 (daily), T= 0.94(x) + 26.49 (AM), Ln(T) = 0.95 Ln(x) + 0.36 (PM)

Note: Trip totals may differ marginally due to rounding.

The Project would generate 2,281 daily vehicle trips[13], 169 AM peak hour trips (144 in and 25 out), and 205 PM peak hour trips (47 in and 158 out).

Project Trip Distribution

The likely distribution of Project trips was identified based on the type of land uses in the Project, the likely origins and destinations of project tenants, and the characteristics of the street system in the area of the project. The following distribution was assumed:

- 30% of the trips towards the north
- 15% of the trips towards the south
- 20% of the trips towards the east
- 35% of the trips towards the west

Study Intersections

The two (unsignalized) intersections at the corners of the block of the Project Site were included in the analysis.

3. Santa Fe Avenue & Bay Street (unsignalised)
4. Santa Fe Avenue & Sacramento Street (unsignalised)

In addition, the following intersections were required for analysis since 100 or more Project peak hour trips[14] would pass through them:

1. Santa Fe Avenue & 7th Street (signalised)
2. Santa Fe Avenue & Violet Street (unsignalised)
5. Santa Fe Avenue & 8th Street (signalised)

Figure 3.9 shows the current lane configurations at the five study intersections. Figures 3.10 and 3.11 show the Project Only traffic volumes at the five study intersections during the AM and PM peak hours, respectively.

Level of Service and Queuing Methodology

LOS is a qualitative measure used to describe the condition of traffic flow, ranging from excellent conditions at LOS A to overloaded conditions at LOS F, with each level defined by a range of delays. The LOS methodology for signalized intersections and unsignalized intersections, are described below.

[13] Trip Generation calculated per Trip Generation, 10th Edition, Institute of Transportation Engineers, Washington, DC, 2017.
[14] Per LADOT Transportation Analysis Guidelines.

Signalized Intersections

The analysis of signalized intersections utilizes the operational analysis procedure as outlined in the Highway Capacity Manual (HCM 6). This method defines LOS in terms of delay, or more specifically, average controlled delay per vehicle. The relationship between delay and LOS for signalized intersections is shown in Table 3.3. The analysis used cycle length and signal phasing data that were obtained from the City's signal timing plans.

Table 3.3 Level of Service Definitions for Signalized Intersections

Level of Service	*Description of Traffic Conditions*	*Controlled Delay (sec/veh)*
A	Insignificant delay: no approach phase is fully utilized and no vehicle waits longer than one red indication.	≤ 10
B	Minimal delay: an occasional approach phase is fully utilized. Drivers begin to feel restricted.	> 10 - 20
C	Acceptable delays: major approach phase may become fully utilized. Most drivers feel somewhat restricted.	> 20 - 35
D	Tolerable delays: drivers may wait through more than one red indication. Queues may develop but dissipate rapidly, without excessive delays.	> 35 – 55
E	Significant delays: volumes approaching capacity. Vehicles may wait through several cycles and long vehicle queues form upstream.	> 55 - 80
F	Excessive delays: represents conditions at capacity, with extremely long delays. Queues may block upstream intersections.	> 80

Source: Highway Capacity Manual, Transportation Research Board, 2016.

Unsignalized Intersections

Unsignalized intersections, including two-way and all-way stop controlled intersections were analyzed using the HCM 6 unsignalized intersection analysis methodology. The LOS for a two-way stop controlled intersection is determined by the control delay and is defined for each minor movement. Table 3.4 shows the relationship between delay and LOS for unsignalized intersection analysis.

Table 3.4 Level of Service Definitions for Unsignalized Intersections

Level of Service	*Description of Traffic Conditions*	*Controlled Delay (sec/veh)*
A	No delay for stop-controlled approaches.	≤ 10
B	Operations with minor delays.	> 10 - 15
C	Operations with moderate delays.	> 15 - 25
D	Operations with some delays.	> 25 - 35
E	Operations with high delays and long queues.	> 35 - 50
F	Operations with extreme congestion, with very high delays and long queues unacceptable to most drivers.	> 50

Source: Highway Capacity Manual, Transportation Research Board, 2016

Queuing

Queue analysis was conducted using procedures in the Highway Capacity Manual. Queues were estimated for intersection approaches and the 95th percentile queue length reported in feet per lane.

3.3.4 Traffic Forecasts

Existing Traffic Volumes

Recent traffic counts were used for all of the analyzed intersections. AM and PM peak period traffic counts were conducted in 2015-2019[15]. As required by LADOT, counts were collected during the hours of 7:00 – 10:00 AM for the morning peak period and 3:00 – 6:00 PM for the PM peak period, and were conducted when schools were in session and outside of holiday periods. The 2015-2019 counts were factored upward by 1% a year to reflect 2020 conditions.

Traffic Growth

Future traffic forecasts were estimated by forecasting two separate components of traffic growth in the Study Area. The first component is the ambient growth that represents a general growth

[15] The counts for some study intersections were conducted in September 2015 before the demolition of the Sixth Street Bridge to obtain counts that are representative of normal traffic conditions with the bridge in place. This approach was approved by LADOT and is consistent with other recent studies conducted or being conducted in the same area as the Project.

in traffic volumes due to minor new developments in the Project Area, and regional growth and development outside the Study Area. A growth rate of 0.2 percent per year was applied for this ambient traffic growth based on historical trends and in conjunction with LADOT[16]. The existing traffic counts were therefore adjusted upward by a total of 0.2 percent a year for six years to represent the ambient growth to the Project completion year.

The second component of future growth relates to specific development projects located in the Study Area. These developments are projects located within an approximately 0.25-mile (1,320-foot) radius from the intersections furthest from the Project (per LADOT Transportation Assessment Guidelines), and that are currently under construction, have received formal approval, or are under formal planning consideration and potentially could be in place by the year 2025 when the Project will be completed, and that could add traffic growth to the roadways in the Study Area. The following section of this chapter describes the process of estimating traffic from these related projects.

Related Projects

A list of proposed development projects that could affect traffic conditions in the Project Area by adding traffic volumes to Study Area intersections was prepared based on information obtained from LADOT, Department of City Planning, other studies and reports, and field verification and field observations. A total of 19 potential development projects were identified, the locations of which were shown previously in Figure 1.8 and listed in Table 1.3. This list was verified and approved by the Department of City Planning and LADOT.

Trip generation estimates for the related projects were prepared, and are also shown in Table 1.3. These were generally taken from the lists provided by the City, and from environmental and/or traffic studies prepared for the individual projects. Where the information was not available from previous reports, the trip generation was estimated using standard trip rates. These estimates are considered conservative in that they do not account for trip interaction between projects, and they do not in every case account for the possible use of non-auto modes such as transit, walk and bicycling.

Similarly, trip distribution estimates were also taken from the environmental/traffic studies conducted for the individual projects where available or were estimated based on an understanding of the type of the project, its location, the geographic distribution of population and employment from which project trips may be drawn, and the surrounding roadway and circulation system. It should be noted that because of the large geographic distribution of these projects, that not all of the related project trips would travel through the Study Area and traverse the study intersections.

[16] The CMP provides growth factors based on regional modeling. For the Central Los Angeles area the CMP estimates an average ambient growth factor of approximately 0.2% per year between the years of 2018 and 2025 (Exhibit D-1 of the CMP).

Future Traffic Forecasts for 2025 With Project Condition

The trip estimates shown in Table 1.3 for the related projects were then added to the roadway network and combined with existing volumes and ambient traffic growth (described earlier) to provide forecasts of future baseline traffic conditions in the Study Area in 2025, for both the AM and PM peak periods, representing the Future Without Project conditions. Subsequently, Project only traffic was added to the baseline conditions in 2025 to arrive at the Future with the Project traffic volumes.

Figures 3.12 and 3.13 show the Future with Project Traffic volumes for the study intersections during the AM and PM peak hours, respectively.

3.3.5 Operational Evaluation

This report section addresses the requirements of the TAG regarding an operational evaluation of the Project.

Signalized Intersections Level of Service (LOS)

Future with Project Conditions (FWP)

The Level of Service results for the two studied signalized intersections under Future with Project Conditions during both AM and PM hour are shown in Table 3.5. As shown in the table during the AM peak hour both of the studied intersections would operate at LOS F. During the PM peak hour, the Santa Fe & 7th Street intersection would operate at LOS F and the Santa Fe & 8th Street intersection would operate at LOS E.

In order to assess whether the Project would cause the intersections to operate at LOS E or LOS F, an operational analysis of the Future Without Project conditions was also performed.

Future Without Project Conditions (FWOP)

Table 3.6 and Table 3.7 show the LOS comparison of Future Without Project (FWOP) and Future With Project (FWP) conditions during the AM peak hour and PM peak hour, respectively.

As shown in Table 3.6, during the AM peak hour the Santa Fe & 7th Street intersection would operate at LOS F in both the Future Without Project conditions and Future With Project conditions. At the Santa Fe & 8th Street intersection the Project would cause a change from LOS E in the Future Without Project conditions to LOS F in the Future With Project conditions. The Project would add only small increases in vehicle delay.

As shown in Table 3.7, during the PM peak hour both intersections would operate at the same LOS in both the Future Without Project conditions and Future With Project conditions, again

with only small increases in vehicle delay. The Project would not cause a change in level of service.

Table 3.5 Future with Project - Intersection Level of Service (Signalized)

No.	Intersection	Future with Project			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1	Santa Fe Avenue & 7th Street	146.8	F	178.9	F
5	Santa Fe Avenue & 8th Street	89.6	F	59.6	E

Table 3.6 Intersection LOS Comparison – (Future Without and With Project) AM Peak Hour

No.	Intersection	Future with Project			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1	Santa Fe Avenue & 7th Street	138.3	F	146.8	F
5	Santa Fe Avenue & 8th Street	77.9	E	89.6	F

Table 3.7 Intersection LOS Comparison – (Future Without and With Project) PM Peak Hour

No.	Intersection	Future with Project			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1	Santa Fe Avenue & 7th Street	166.3	F	178.9	F
5	Santa Fe Avenue & 8th Street	57.3	E	59.6	E

Signalized Intersections Queuing Analysis

Future With Project Conditions (FWP)

The results of the queuing analysis at the study intersections for the AM and PM peak hours are shown in Table 3.8 and Table 3.9, respectively. The analysis addresses each approach by movement (left turn, through, and right turn) as appropriate. The existing storage length for each movement is expressed per lane, and is either the approximate length available for a turn-lane or the distance to the upstream intersection for through lanes. The storage length that would be required with the Project is calculated as the 95th percentile queuing length per lane each particular movement. If the storage required is less than or equal to the existing storage then it can be concluded that storage capacity is not exceeded.

As shown, in Table 3.8, during the AM peak hour queuing storage capacity would not be exceeded for all movements at all intersections, except the following:

- Santa Fe Avenue & 8th Street
  Eastbound Left/Thru

As shown in Table 3.9, during the PM peak hour queuing storage capacity would not be exceeded for all movements at all intersections, except the following:

- Santa Fe Avenue & 7th Street
  Eastbound Thru/Right
  Northbound Left

- Santa Fe Avenue & 8th Street
  Eastbound Left/Thru
  Eastbound Right

In order to assess whether the Project would cause queue lengths to exceed the existing storage capacity, a queuing analysis of Future Without Project conditions was also performed.

Future Without Project Conditions (FWOP)

For those intersections where the queue lengths with the Project would exceed the existing storage length, Tables 3.10 and 3.11 show a comparison of queuing results under Future Without Project (FWOP) and Future With Project (FWP) conditions during the AM and PM peak hours, respectively.

As shown in the tables, for all movements where queue lengths would exceed storage capacity under Future with Project Conditions the queue lengths would also exceed storage capacity under Future Without Project conditions, except for the Eastbound Left/Thru movement at the intersection of Santa Fe Avenue & 8th Street during the PM peak hour, where the Project would

Table 3.8 Future with Project - Intersection Queuing (Signalized) - AM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)[1,2]	Provided Storage	Storage Exceeded?
1	Santa Fe Avenue & 7th Street	Eastbound Left	23	130	No
		Eastbound Thru/right	187	600	No
		Westbound Left	640 [3]	1,043	No
		Westbound Thru/right	511 [3]	1,390	No
		Northbound Left	183 [3]	210	No
		Northbound Thru	560 [3]	590	No
		Northbound Right	66	590	No
		Southbound Left/Thru/Right	422 [3]	1,271	No
5	Santa Fe Avenue & 8th Street	Eastbound Left/Thru	445 [3]	350	Yes
		Eastbound Right	86	183	No
		Westbound Left/Thru/Right	22	650	No
		Northbound Left/Thru/Right	656 [3]	933	No
		Southbound Left/Thru/Right	140	300	No

Notes:

1. The queue lengths shown are the queue for each lane within each movement.
2. Queue lengths less than 25 ft (1 vehicle) are shown as 25 ft.
3. 95th percentile volume exceeds capacity, per Synchro, queue may be longer.

Table 3.9 Future with Project - Intersection Queuing (Signalized) - PM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)[1,2]	Provided Storage	Storage Exceeded?
1	Santa Fe Avenue & 7th Street	Eastbound Left	56	130	No
		Eastbound Thru/Right	616 [3]	600	Yes
		Westbound Left	498 [3]	1,043	No
		Westbound Thru/Right	173	1,390	No
		Northbound Left	257 [3]	210	Yes
		Northbound Thru	404	590	No
		Northbound Right	113	590	No
		Southbound Left/Thru/Right	637 [3]	1,271	No
5	Santa Fe Avenue & 8th Street	Eastbound Left/Thru	361 [3]	350	Yes
		Eastbound Right	326 [3]	183	Yes
		Westbound Left/Thru/Right	32	650	No
		Northbound Left/Thru/Right	573 [3]	933	No
		Southbound Left/Thru/Right	152	300	No

Notes:

1. The queue lengths shown are the queue for each lane within each movement.
2. Queue lengths less than 25 ft (1 vehicle) are shown as 25 ft.
3. 95th percentile volume exceeds capacity, per Synchro, queue may be longer.

cause the queue length to exceed the storage capacity, although the increase would be approximately 12 ft. or less than one car length.

As evident in the tables, the queue length increases as a result of the Project would generally be less than one car length (25 feet), except for one location – Santa Fe Avenue & 8th Street eastbound left/thru movement in the AM peak hour where the queue increase would be 34 ft. or less than two cars lengths.

Table 3.10 Intersection Queuing Comparison - AM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)[1,2]		Provided Storage	Storage Exceeded?	
			Future Without Project	Future With Project		Future Without Project	Future With Project
5	Santa Fe Ave & 8th Street	Eastbound Left/Thru	411[3]	445[3]	350	Yes	Yes

Notes: 1. The queue lengths shown are the queue per lane within each movement.
2. Queue lengths less than 25 ft (1 vehicle) are shown as 25 ft.
3. 95th percentile volume exceeds capacity, per Synchro, queue may be longer.

Table 3.11 Intersection Queuing Comparison - PM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)[1,2]		Provided Storage	Storage Exceeded?	
			Future Without Project	Future With Project		Future Without Project	Future With Project
1	Santa Fe Ave & 7th Street	Eastbound Thru/Right	616[3]	616[3]	600	Yes	Yes
		Northbound Left	241[3]	257[3]	210	Yes	Yes
5	Santa Fe Ave & 8th Street	Eastbound Left/Thru	349[3]	361[3]	350	No	Yes
		Eastbound Right	314[3]	326[3]	183	Yes	Yes

Notes: 1. The queue lengths shown are the queue per lane within each movement.
2. Queue lengths less than 25 ft (1 vehicle) are shown as 25 ft.
3. 95th percentile volume exceeds capacity, per Synchro, queue may be longer.

Unsignalized Intersections Level of Service (LOS)

Future With Project Conditions (FWP)

The Level of Service results for the three studied unsignalized intersections under Future with Project Conditions during both AM and PM hour are shown in Table 3.12. The LOS is calculated for the movements from the minor streets and left turns from the major street (movements potentially encountering delay). As shown in the table during both the AM and PM peak hours the studied movements for the minor street approaches (eastbound and westbound) would operate at LOS F at all three intersections. The movements on Santa Fe Avenue would operate between LOS A and LOS C at all three intersections.

In order to assess whether the Project would cause the minor approaches to operate at LOS F, an operational analysis of the Future Without Project conditions was performed.

Future Without Project Conditions (FWOP)

Table 3.13 and Table 3.14 show the LOS comparison of Future Without Project and Future With Project conditions during the AM peak hour and PM peak hour respectively. As shown in Table 3.13 during the AM peak hour the minor street movements would operate at LOS F under both Future Without Project and Future With Project conditions so the Project would not cause the LOS F conditions. Delays on Santa Fe Avenue would increase only slightly due to the Project.

As shown in Table 3.14 during the PM peak hour the minor street movements would operate at LOS F under both Future Without Project and Future With Project conditions so the Project would not cause the LOS F conditions, except for the eastbound approach at the intersection of Santa Fe Avenue & Sacramento Street.

At the intersection of Santa Fe Avenue & Sacramento St, the Project would cause the eastbound approach to increase from LOS D to LOS F. Delays on Santa Fe Avenue would increase only slightly due to the Project.

Unsignalized Intersections Queuing

Future with Project Conditions (FWP)

The results of the queuing analysis at the study intersections for the AM and PM peak hours are shown in Table 3.15 and Table 3.16, respectively. As shown, in Table 3.15, during the AM peak hour queues would not exceed storage capacity for all movements at all intersections, except the following:

- Santa Fe Avenue & Violet Street
  Westbound Left/Thru/Right

Table 3.12 Future with Project - Intersection Level of Service (Unsignalized)

No.	Intersection	Future with Project			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
2	Santa Fe Avenue & Violet Street				
	Eastbound Left/Thru/Right	Over Flow[1]	F	Over Flow	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	1.9	A	11.6	B
	Southbound Left/Thru	10.3	B	14.6	B
3	Santa Fe Avenue & Bay Street				
	Westbound Left	Over Flow	F	Over Flow	F
	Westbound Right	15.6	C	18.3	C
	Southbound Left/Thru	14.2	B	11.8	B
4	Santa Fe Avenue & Sacramento Street				
	Eastbound Left/Thru/Right	Over Flow	F	121.9	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	1.7	A	12.8	B
	Southbound Left/Thru	6.2	A	12.0	B

Notes:

1. Indicates calculated delay greater than 300 seconds.

Table 3.13 Intersection LOS Comparison (Unsignalized) - AM Peak Hour

No.	Intersection	AM Peak Hour			
		Future without Project		Future with Project	
		Delay	LOS	Delay	LOS
2	Santa Fe Avenue & Violet Street				
	Eastbound Left/Thru/Right	Over Flow[1]	F	Over Flow	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	1.8	A	1.9	A
	Southbound Left/Thru	9.7	A	10.3	B
3	Santa Fe Avenue & Bay Street				
	Westbound Left	124.7	F	Over Flow	F
	Westbound Right	14.6	B	15.6	C
	Southbound Left/Thru	12.3	B	14.2	B
4	Santa Fe Avenue & Sacramento Street				
	Eastbound Left/Thru/Right	69.4	F	Over Flow	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	1.6	A	1.7	A
	Southbound Left/Thru	5.5	A	6.2	A

Notes:

1. Indicates calculated delay greater than 300 seconds.

Table 3.14 Intersection LOS Comparison (Unsignalized) - PM Peak Hour

No.	Intersection	PM Peak Hour			
		Future without Project		Future with Project	
		Delay	LOS	Delay	LOS
2	Santa Fe Avenue & Violet Street				
	Eastbound Left/Thru/Right	Over Flow[1]	F	Over Flow	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	11.4	B	11.6	B
	Southbound Left/Thru	13.7	B	14.6	B
3	Santa Fe Avenue & Bay Street				
	Westbound Left	98.0	F	Over Flow	F
	Westbound Right	14.9	B	18.3	C
	Southbound Left/Thru	11.3	B	11.8	B
4	Santa Fe Avenue & Sacramento Street				
	Eastbound Left/Thru/Right	31.7	D	121.9	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	12.3	B	12.8	B
	Southbound Left/Thru	11.9	B	12.0	B

Notes:

1. Indicates calculated delay greater than 300 seconds.

Table 3.15 Future with Project - Intersection Queuing (Unsignalized) - AM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)[1,2]	Provided Storage	Storage Exceeded?
2	Santa Fe Avenue & Violet Street	Eastbound Left/Thru/Right	145	617	No
		Westbound Left/Thru/Right	Over Flow[3]	494	Yes
		Northbound Left/Thru	25	310	No
		Southbound Left/Thru	40	315	No
3	Santa Fe Avenue & Bay Street	Westbound Left	100	471	No
		Westbound Right	25	140	No
		Southbound Left/Thru	25	310	No
4	Santa Fe Avenue & Sacramento Street	Eastbound Left/Thru/Right	112	620	No
		Westbound Left/Thru/Right	Over Flow	468	Yes
		Northbound Left/Thru	25	290	No
		Southbound Left/Thru	25	315	No

Notes:

1. The queue lengths shown are the queue for each lane within each movement.
2. Queue lengths less than 25 ft (1 vehicle) are shown as 25 ft.
3. Volume greater than capacity, queue is indeterminate per Synchro.

Table 3.16 Future with Project - Intersection Queuing (Unsignalized) - PM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)[1,2]	Provided Storage	Storage Exceeded?
2	Santa Fe Avenue & Violet Street	Eastbound Left/Thru/Right	363	617	No
		Westbound Left/Thru/Right	1,305	494	Yes
		Northbound Left/Thru	25	310	No
		Southbound Left/Thru	25	315	No
3	Santa Fe Avenue & Bay Street	Westbound Left	235	471	No
		Westbound Right	45	140	No
		Southbound Left/Thru	25	310	No
4	Santa Fe Avenue & Sacramento Street	Eastbound Left/Thru/Right	80	620	No
		Westbound Left/Thru/Right	655	468	Yes
		Northbound Left/Thru	25	290	No
		Southbound Left/Thru	25	315	No

Notes:

1. The queue lengths shown are the queue for each lane within each movement.

2. Queue lengths less than 25 ft (1 vehicle) are shown as 25 ft.

- Santa Fe Avenue & Sacramento Street
  Westbound Left/Thru/Right

As shown, in Table 3.16, during the PM peak hour queues would not exceed storage capacities for all movements at all intersections, except the following:

- Santa Fe Avenue & Violet Street
  Westbound Left/Thru/Right

- Santa Fe Avenue & Sacramento Street
  Westbound Left/Thru/Right

In order to assess whether the Project would cause queue lengths to exceed the existing storage capacity, a queuing analysis of Future Without Project conditions was performed.

Future Without Project Conditions (FWOP)

For those movements where the queue lengths with the Project would exceed the existing storage length, Tables 3.17 and 3.18 show a comparison of queuing results under Future Without Project (FWOP) and Future With Project (FWP) conditions during the AM and PM peak hours, respectively. As shown in the tables, at all locations where queues would exceed storage capacity under Future With Project Conditions, they would also exceed capacity would under Future Without Project conditions. The Project would therefore not cause queuing storage capacities to be exceeded.

Table 3.17 Intersection Queuing Comparison (Unsignalized) – AM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)[1,2]		Provided Storage	Storage Exceeded?	
			FWOP	FWP		FWOP	FWP
2	Santa Fe Avenue & Violet Street	Westbound Left/Thru/Right	Over Flow[3]	Over Flow	494	Yes	Yes
4	Santa Fe Avenue & Sacramento St.	Westbound Left/Thru/Right	Over Flow	Over Flow	620	Yes	Yes

Notes: 1. The queue lengths shown are the queue per lane within each movement.
2. Queue lengths less than 25 ft. (1 vehicle) are shown as 25 ft.
3. Volume greater than capacity, queue indeterminate per Synchro.

Table 3.18 Intersection Queuing Comparison (Unsignalized) - PM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)[1,2]		Provided Storage	Storage Exceeded?	
			FWOP	FWP		FWOP	FWP
2	Santa Fe Avenue & Violet Street	Westbound Left/Thru/Right	1,285	1,305	494	Yes	Yes
4	Santa Fe Avenue & Sacramento Street	Westbound Left/Thru/Right	580	655	500	Yes	Yes

Notes: 1. The queue lengths shown are the queue per lane within each movement.
2. Queue lengths less than 25 ft (1 vehicle) are shown as 25 ft.

3.3.6 Project Access

Vehicular Access

Vehicle access into the Project Site would be provided by a total of three driveways (as shown in Figure 0.4): a 2-way driveway on Bay Street to access the garage level (a three-lane driveway with one lane in, one lane out and one reversible lane that would run inbound in the AM peak period and outbound in the PM peak period); an ingress only driveway on Bay Street to the surface parking; and a two-way driveway on Sacramento Street to the surface parking. These driveways are discussed in Table 2.1 in Chapter 2.1, and in Chapter 2.4.

The driveways will be perpendicular to the street. As the Project Site is located at the dead-end of Bay Street and Sacramento Street there will be no other traffic passing these driveways. With the driveways being located on Bay Street and Sacramento Street, there would not be any conflict with bicycle facilities or transit, neither of which occur on these two streets.

Pedestrian and Bicycle Access

The site plan is designed to facilitate convenient and safe pedestrian access and circulation. Pedestrian access will be provided from Bay Street and Sacramento Street with direct access from the sidewalks to the Project commercial uses. The Project will add a sidewalk on Bay Street and improve the sidewalk on Sacramento Street. A pedestrian paseo will be provided along the right side of the building between Bay Street and Sacramento Street to enhance pedestrian circulation. The Project will improve the pedestrian realm on Bay Street and Sacramento Street with enhanced sidewalk materials. Landscaping will be designed to provide safe and adequate pedestrian and vehicle visibility, and all designs will be prepared according

to City standards. Design of the pedestrian realm will ensure no hazardous conditions are created.

Bicycle access to the site will be facilitated by the bicycle lane on Santa Fe Avenue being implemented with the Arts District Pedestrian and Bicycle Safety Program. On-site bicycle parking will be provided according to the City of Los Angeles Municipal code. Bicycle lockers and showers will be provided with access via the pedestrian paseo.

Passenger Loading

Passenger loading areas are proposed on Bay Street and Sacramento Street directly adjacent to the Project Site, as shown in Figure 0.4. These zones will not interfere with other roadway traffic as the Project is located at the dead-end of Bay Street and Sacramento Street so there will be no other traffic passing these zones. Adequate turning radii would be provided for vehicles to access these zones. Passenger loading could also occur within the surface parking level.

Truck Loading

All truck loading would occur on site in the surface level of parking, with access from both Bay Street and Sacramento Street.

3.3.7 Evaluation Summary

Signalized Intersections

The operational evaluation has shown that while the studied intersections would operate at LOS E or LOS F in the Future With Project condition, they would operate at the same level of service in the Future Without Project conditions, except at the intersection of Santa Fe & 8th in the AM peak hour.

At the intersection of Santa Fe & 8th, the level of service would increase from LOS E to LOS F due to the Project.

The Project would however result in only small increases in vehicle delays on Santa Fe Avenue at the studied signalized intersections.

The evaluation also showed that for movements at the signalized intersections, the queue lengths would generally not exceed current storage capacities except for one movement in the AM peak hour and four movements in the PM peak hour. However, queues for these movements would also exceed capacity under Future Without Project conditions, except for the eastbound left/through move on 8th Street at the Santa Fe & 8th St intersection.

The Project would therefore not cause queue lengths to exceed storage capacities, except at one location. At the intersection of Santa Fe Avenue & 8th Street in the PM peak hour, the Project would cause the queue length to exceed storage capacity for the eastbound left/thru movement, although the increase in the queue length would be only about 12 ft. or less than one car length.

For the other intersection movements, the queue lengths would increase by less than one car length due to the Project, except at the intersection of Santa Fe & 8th in the AM peak hour where the queue length would increase by about 34' or less than two car lengths due to the Project.

Unsignalized Intersections

At three analyzed unsignalized intersections along Santa Fe Avenue, the minor street movements on Violet Street, Bay Street, and Sacramento Street would operate at LOS F with the Project, in both the AM and PM peak hours.

In the AM peak hour these movements would also operate at LOS F in the Future Without Project Condition. In the PM peak hour they would also operate at LOS F in the Future Without project conditions, except for the eastbound approach of the Santa Fe & Sacramento intersection.

The eastbound approach of the Santa Fe & Sacramento intersection would change from LOS D to LOS F due to the Project.

The evaluation also showed that at unsignalized intersections the queues would generally not exceed the storage capacities except for two movements – westbound Violet Street and westbound Sacramento Street in both peak hours. At these locations the queues would also exceed storage capacities in the Future Without Project conditions. The Project would therefore not cause queues to exceed the storage capacities.

Proposed Corrective Actions

The evaluation identified two locations where the Project would cause a change in level of service or the queue storage capacity to be exceeded. These are:

Santa Fe Ave & 8th St (Signalized)	AM peak hour - LOS E to LOS F change PM peak hour - queue storage capacity exceeded
Santa Fe Ave & Sacramento St (Unsignalized)	PM peak hour – LOS D to LOS F change

It also identified the westbound left approach on Bay Street and the westbound approach on Sacramento Street at Santa Fa Avenue would operate at LOS F with the Project, although they would also operate at LOS F without the Project.

A number of potential corrective actions were evaluated, including (1) trip reduction measures; (2) geometric improvements; (3) potential signalization.

Trip Reduction Measures

The VMT analysis in Chapter 2.2 of this report identified a number of trip reduction measures to reduce VMT to a level where there would be no significant VMT impacts. The trip reduction effect of these measures was applied to the analysis of the above two intersections, but it would not eliminate the operational changes caused by the Project at the two locations.

Geometric Improvement Measures

In this area of the Arts District, streets are limited in roadway width and right-of-way. Geometric improvements were evaluated. At the intersection of Santa Fe Avenue & 8th Street they are not feasible as there is no roadway or right-of-way space available to make any changes to the existing geometrics. At the intersection of Santa Fe Avenue & Bay Street they are not feasible as there is no roadway or right-of-way space available to make any changes to the existing geometrics (a two lane westbound approach including a de facto right turn lane has already been assumed in the analysis of all conditions). At the intersection of Santa Fe Avenue and Sacramento Street, while there is space to add eastbound and westbound right turn lanes, they could not be implemented without removing on-street parking and were found to be infeasible for that reason.

Potential Signalization

In order to investigate the feasibility of new traffic signals at the intersections of Santa Fe Avenue & Bay Street and at Santa Fe Avenue & Sacramento Street, a peak hour traffic signal warrant analysis was performed for both locations. The Signal Warrant Analyses are attached as Appendix D. This analysis showed that a new signal would not be warranted at either location in the AM peak hour, but would be warranted at both locations in the PM peak hour. Signalization would also be warranted at Santa Fe Avenue & Sacramento Street in the Future Without Project conditions, so the Project would not cause the need for a new traffic signal at that location. At the Santa Fe Avenue & Bay Street intersection, signalization would not be warranted in the Future Without Project Conditions, so the Project would cause the need for signalization at this location.

The Project therefore proposes to install a new traffic signal at the intersection of Santa Fa Avenue & Bay Street (the Project's main access is on Bay Street). This would also provide for signalized crosswalks on Santa Fe Avenue at this location to facilitate pedestrian movements.
.

3.4. Project Construction

3.4.1 Introduction

This section addresses construction activities associated with the Project, to assess if the Project could negatively affect existing pedestrian, bicycle, transit, or vehicle circulation.

3.4.2 Screening

Per LADOT's Transportation Assessment Guidelines an affirmative answer to any of the following screening questions requires further evaluation of Project construction on existing pedestrian, bicycle, transit, or vehicle circulation:

- *Would a project that requires construction activities to take place within the right-of-way of a Boulevard or Avenue (as designated in the Mobility Plan 2035) which would necessitate temporary lane, alley, or street closures for more than one day (including day and evening hours, and overnight closures if on a residential street?)*

  No, the Project would require construction activities on Bay Street and Sacramento Street which are both classified as Collector Streets under the City's Mobility Plan 2035.

- *Would a project require construction activities to take place within the right-of-way of a Collector or Local Street (as designated in the Mobility Plan 2035) which would necessitate temporary lane, alley, or street closures for more than seven days (including day and evening hours, and including overnight closures if on a residential street)?*

  Yes, the Project would require construction activities on Bay Street and Sacramento Street which are both classified as Collector Streets under the City's Mobility Plan 2035, and would require temporary closing part of these streets. No alleys would need to be closed.

- *Would in-street construction activities result in the loss of regular vehicle, bicycle, or pedestrian access, including loss of existing bicycle parking to an existing land use for more than one day, including day and evening hours and overnight closures if access is lost to residential units?*

  No. The Project Site is located at the dead end of Bay Street and Sacramento Street. There are no existing land uses, and no vehicle, pedestrian or bicycle circulation, past or beyond the Project Site.

- *Would in-street construction activities result in the loss of regular ADA pedestrian access to an existing transit station, stop, or facility (e.g., layover zone) during revenue hours?*

No. See answer to above.

- *Would in-street construction activities result in the temporary loss for more than one day of an existing bus stop or rerouting of a bus route that serves the project site?*

  No. There is no transit service on either Bay Street or Sacramento Street.

3.4.3 Existing Physical Setting

The Project Site is located between Bay Street and Sacramento Street. These adjacent streets are classified as Collector Streets. The Project Site is located at the dead end of Bay Street and Sacramento Street. On Bay Street there is no sidewalk adjacent to the site, and on-street parking occurs. On the north side of Bay Street there is a sidewalk and on-street parking. On Sacramento Street, there is an existing sidewalk and on-street parking adjacent to the site. On the south side of Sacramento Street there is no sidewalk and on-street parking occurs. There are no bike facilities or transit service on Bay Street and Sacramento Street, to the Project Site. Chapter 1 provides a detailed description of the transportation facilities within a quarter mile of the Project Site.

3.4.4 Project Construction Activity

Construction would occur for a period of approximately 30 months.

It is expected that construction activities will necessitate the closure of the existing parking lane on the south side of Bay Street and the existing sidewalk and the parking lane on the north side of Sacramento Street adjacent to the Project site, for the duration of the construction period. It is anticipated that the Project would close one traffic lane on the south side of Bay Street and one lane and the sidewalk on the north side of Sacramento Street adjacent to the Project Site for the duration of the construction.

There is no existing sidewalk on Bay Street adjacent to the Project Site and also there is no pedestrian activity east of the Project Site, because both Bay Street and Sacramento Street terminate at the Project Site. Because both Bay Street and Sacramento Street end at the Project Site they only carry traffic to adjacent land uses. When project construction requires these lane closures, provision will be made on these streets to allow local traffic accessing street parking to turn around.

It is therefore expected that the above lane closures during Project construction would not impact vehicle or pedestrian traffic and would not be expected to cause substantive negative traffic effects.

There are currently six on-street parking spaces on Bay Street and six on-street parking on Sacramento Street adjacent to the Project site. These would be removed during construction. The six spaces on Bay Street would not be replaced after construction as they would be replaced

by garage driveways and a drop-off/pick-up zone for the project. As those spaces are currently adjacent to the Project site and typically would be used by the existing land uses on the Project site, future demand would be accommodated in the Project garage. On Sacramento Street, six spaces would be temporarily removed during construction, and three could be replaced after construction (three would be removed permanently to be replaced by the Project driveway). The temporary loss of a very small number of spaces during construction would not constitute a substantive negative effect as on-street parking exists throughout the area in the vicinity of the Project.

Project construction would not close, or block access to any properties in the vicinity of the Project Site. There would therefore be no substantive negative effects on access to other properties

Truck Access

During construction, the Project proposes truck access to/from the Project Site on both Bay Street and Sacramento Street. Flagmen would control truck traffic at the intersections of Santa Fe Avenue with Bay Street and Sacramento Street, as necessary to minimize conflicts with other vehicles and pedestrians.

General

The Project would not change, close or restrict vehicular, pedestrian, or bicycle access to adjacent land uses.

Proposed Haul Route

The proposed haul route would be inbound via westbound I-10 to the 8th Street off-ramp, east on 8th Street, north on Santa Fe Avenue to either Bay Street or Sacramento Street. The outbound route would be similar, via Santa Fe Avenue southbound, Porter Street westbound, and the eastbound on-ramp to I-10.

3.4.5 Evaluation

Temporary Transportation Constraints

Temporary closure of the adjacent sidewalks and lanes adjacent to the Project would occur for a period of approximately 30 months. The adjacent streets of Bay Street and Sacramento Street are classified as Collector Streets, and both are dead-end streets that terminate at the Project Site.

The Project would prepare a Worksite Traffic Control Plan to be approved by LADOT. With these provisions, the closures would not create any safety hazards or issues.

There are no emergency services (fire stations, hospitals, etc.) adjacent to the Project Site and the temporary lane closures would not degrade the circulation of emergency vehicles in the area.

Temporary Loss of Access

The Project would not affect pedestrian, bicycle, or vehicle activity to adjacent parcels or parcels fronting the construction area. Existing access to uses on the opposite sides of Bay Street and Sacramento Street would be fully maintained during the construction impacts, so the Project would not cause any impacts to those parcels.

Project construction would not affect pedestrian, bicycle, or vehicular access to facilities within a quarter mile of the Project Site, and would not affect access/circulation to and land uses in the area of the Project.

Temporary Loss of Bus Stops or Rerouting of Bus Lines

There are no bus stops or bus routes on Bay Street or Sacramento Street. The Project would not cause the temporary loss of any bus stops or rerouting of bus lines.

Conclusions

All of the effects identified above would be temporary for the duration of the construction period. The above evaluation has shown that construction of the Project would not cause substantial negative effects on pedestrian, bicycle, transit, or vehicle circulation in the area of the Project, and would not limit or degrade access to adjacent properties.

3.4.6 Corrective Actions

Corrective actions during Project construction are identified in the LADOT Transportation Assessment Guidelines. Notwithstanding the above conclusions that Project construction would not cause any substantial negative effects, in order to facilitate the efficient and safe operations of circulation during the construction period the Project would implement the following corrective actions.

A Construction Traffic Management Plan (CTMP) will be prepared for approval by the City prior to the issuance of any construction permits, to define overall transportation management procedures during construction. A Worksite Traffic Control Plan (WTCP) will also be prepared by the Applicant, and will identify sidewalk or lane closures, all traffic control measures, signs, delineators, and work instructions to be implemented by the construction contractor through the duration of demolition and construction activity. The WTCP would minimize the potential conflicts between construction activities, street traffic, bicyclists and pedestrians. Both plans will be reviewed and approved by LADOT prior to commencement of construction.

3.5. Residential Street Cut-Through Analysis

3.5.1 Introduction

In this section need to conduct a Local Residential Street Cut-Through Analysis is assessed. A residential cut-through analysis determines if potential increases in average daily traffic volumes on local streets near the Project due to a Project's cut-through trips would result in adverse effects on the character and function of those Local Streets. Cut-through trips travel along Local Streets classified under City's General Plan, with residential land-use frontage, as an alternative to higher classification segments (e.g., Collector, Avenue, or Boulevard) to reach destinations outside the neighborhood in which the local street is located.

3.5.2 Screening

Per LADOT's Transportation Assessment Guidelines an affirmative answer to all of the following screening questions assists in the determination of the need for a residential cut-through analysis:

- *Would the project generate a net increase of 250 or more daily vehicle trips?*

  Yes, the project's net trip generation calculated using the LADOT's VMT Calculator is previously shown in Section 2.2. The project results in a net increase of 2,060 daily trips, and therefore generates more than 250 daily trips.

- *Does the land use project include a discretionary action that would under review by the Department of City Planning?*

  Yes.

In addition, for development projects, when for a residential street segment analysis to be conducted, all the following conditions must be present:

- *(1) The project is located along a currently congested Boulevard or Avenue (LOS E or F at intersections) and adds trips that may lead to trip diversion to parallel routes along residential Local Streets.*

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

- *(3) Nearby local residential street(s) (defined as Local streets as designated in the City's General Plan passing through a residential neighborhood) provide motorists with a viable alternative route. A viable alternative route is defined as one which is parallel and reasonably adjacent to the primary route as to make it attractive as an alternative*

to the primary route. LADOT has discretion to define which routes are viable alternative routes, based on, but not limited to, features such as geography and presence of existing traffic control devices, etc.

The Project Site is located in the Arts District. With respect to Condition #1, there are no Local Residential Streets adjacent or near the Project Site. Further the roadways in the immediate vicinity of Project Site are classified as Collector, Avenue II, or Avenue III under the City's General Plan. The LOS analysis in Section 3.3 shows that intersections along Santa Fe Avenue are congested, but there are no parallel routes along residential Local Streets for the traffic to be diverted to. Condition #1 is therefore not met.

With respect to Condition #2, the Project adds a moderate amount of trips to Santa Fe Avenue, which is classified as an Avenue II under the City's General Plan. The LOS analysis previously shown in Section 3.3 indicates that intersections in the vicinity of the Project Site along Santa Fe Avenue are congested. However, as there are no alternative routes to access the Project Site. Condition #2 is therefore not met.

With respect to Condition #3, there are no nearby local residential streets (per the Mobility Plan 2035), and no nearby residential neighborhoods. Condition #3 is therefore not met.

Therefore, as none of the three condition are met, a Residential Street Cut-Through Analysis is not necessary.

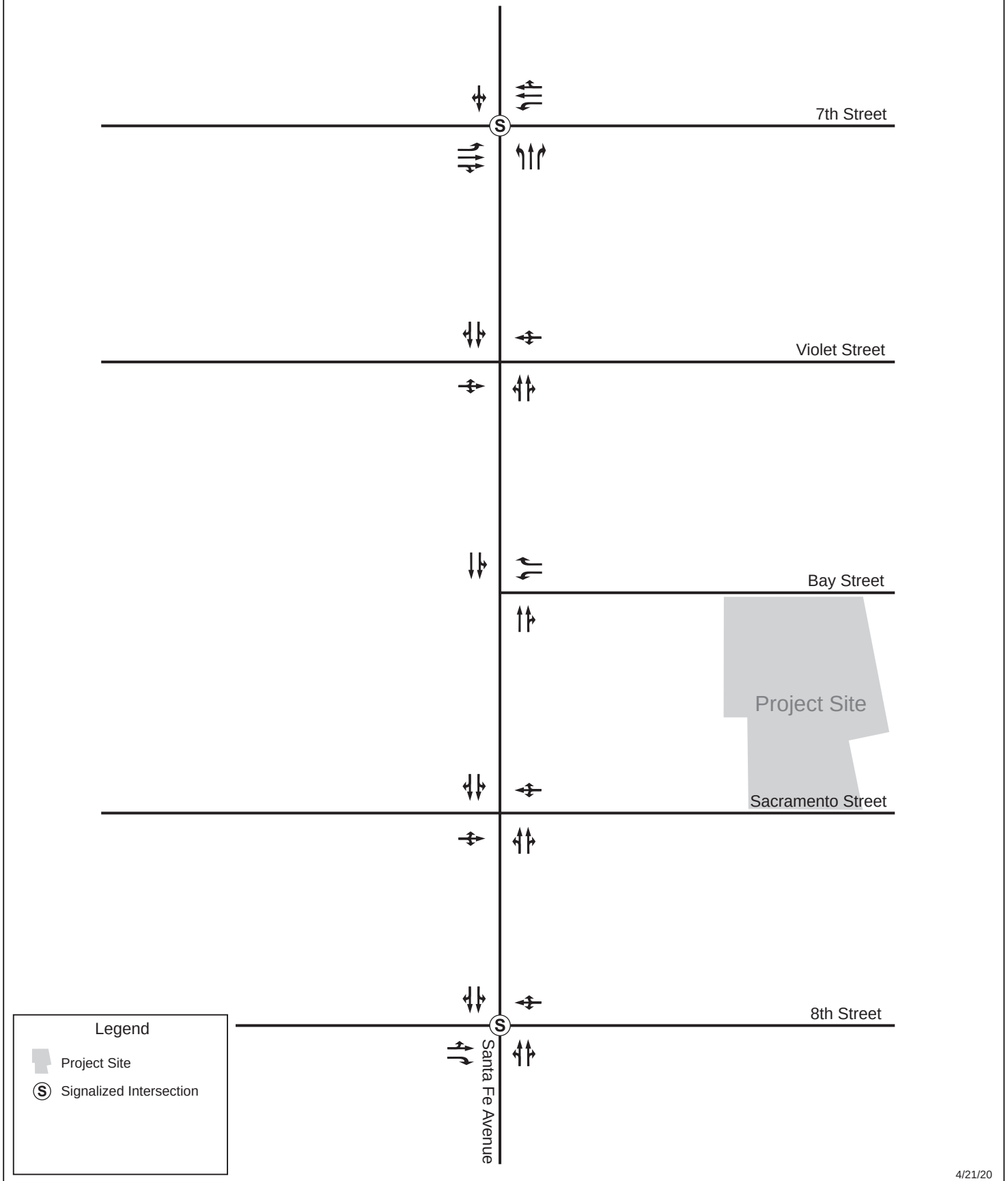


Figure 3.9
Configuration of Analyzed Intersections

2159 Bay Street

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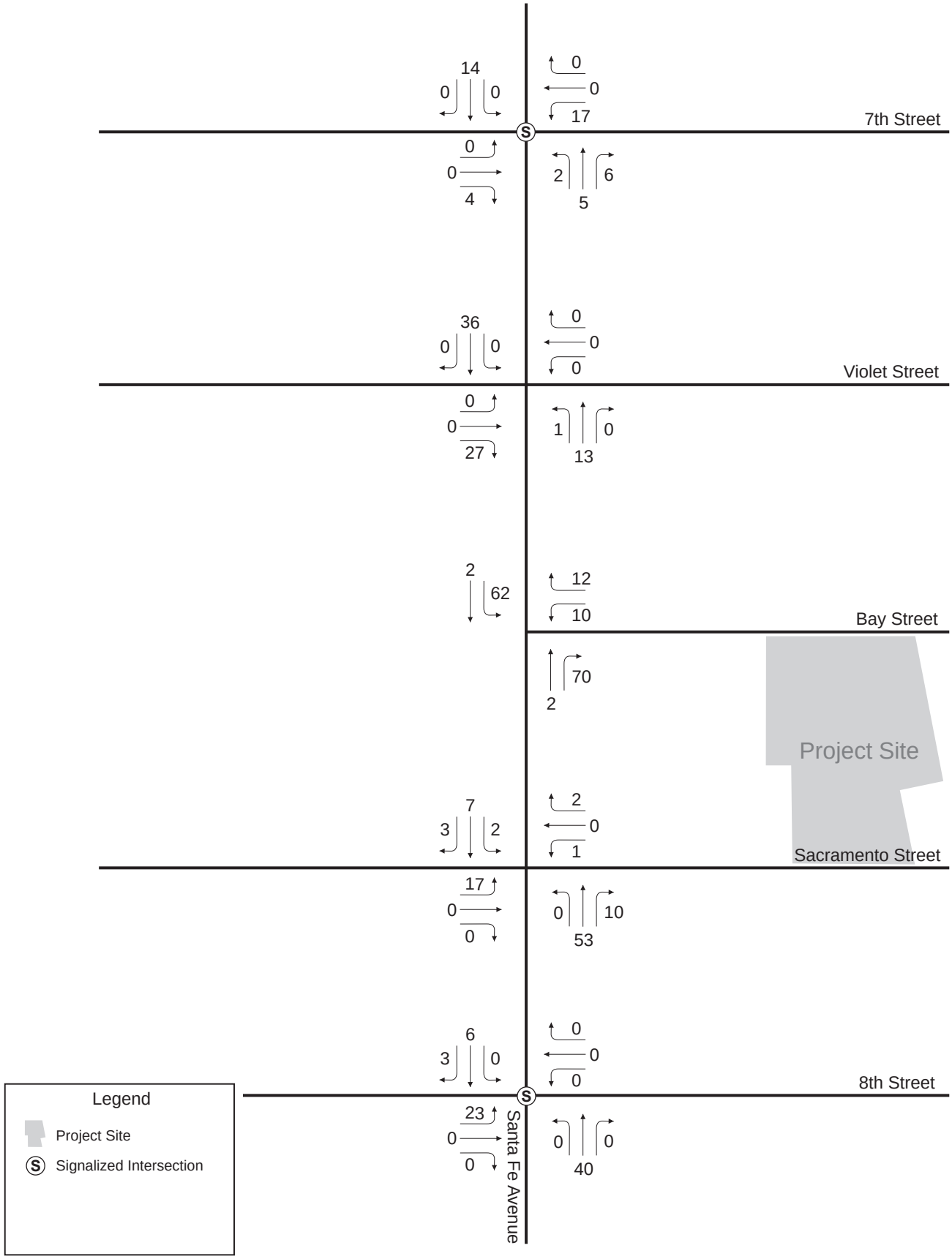


Figure 3.10
Project Only Traffic Volumes - AM Peak Hour

2159 Bay Street

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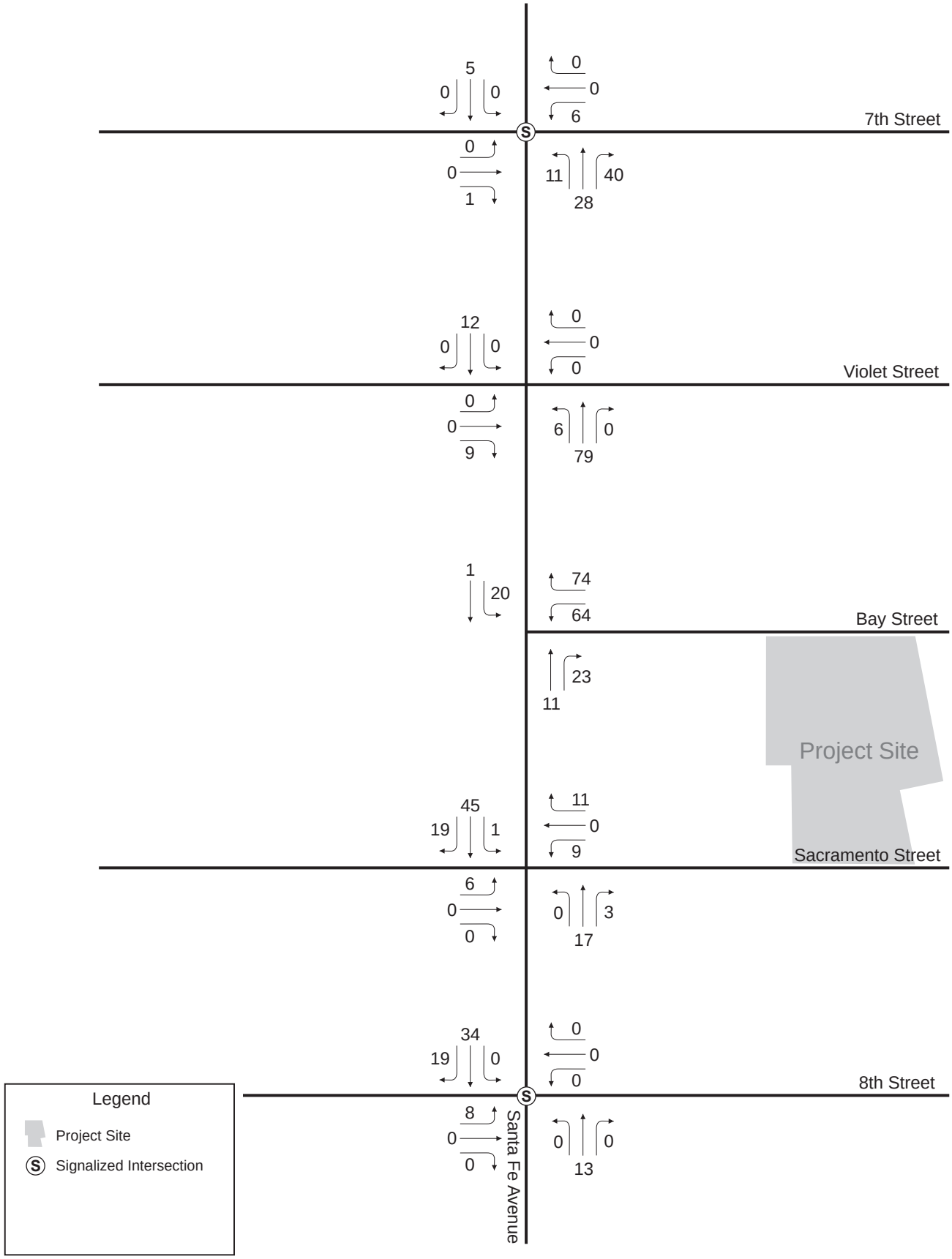


Figure 3.11
Project Only Traffic Volumes - PM Peak Hour

2159 Bay Street

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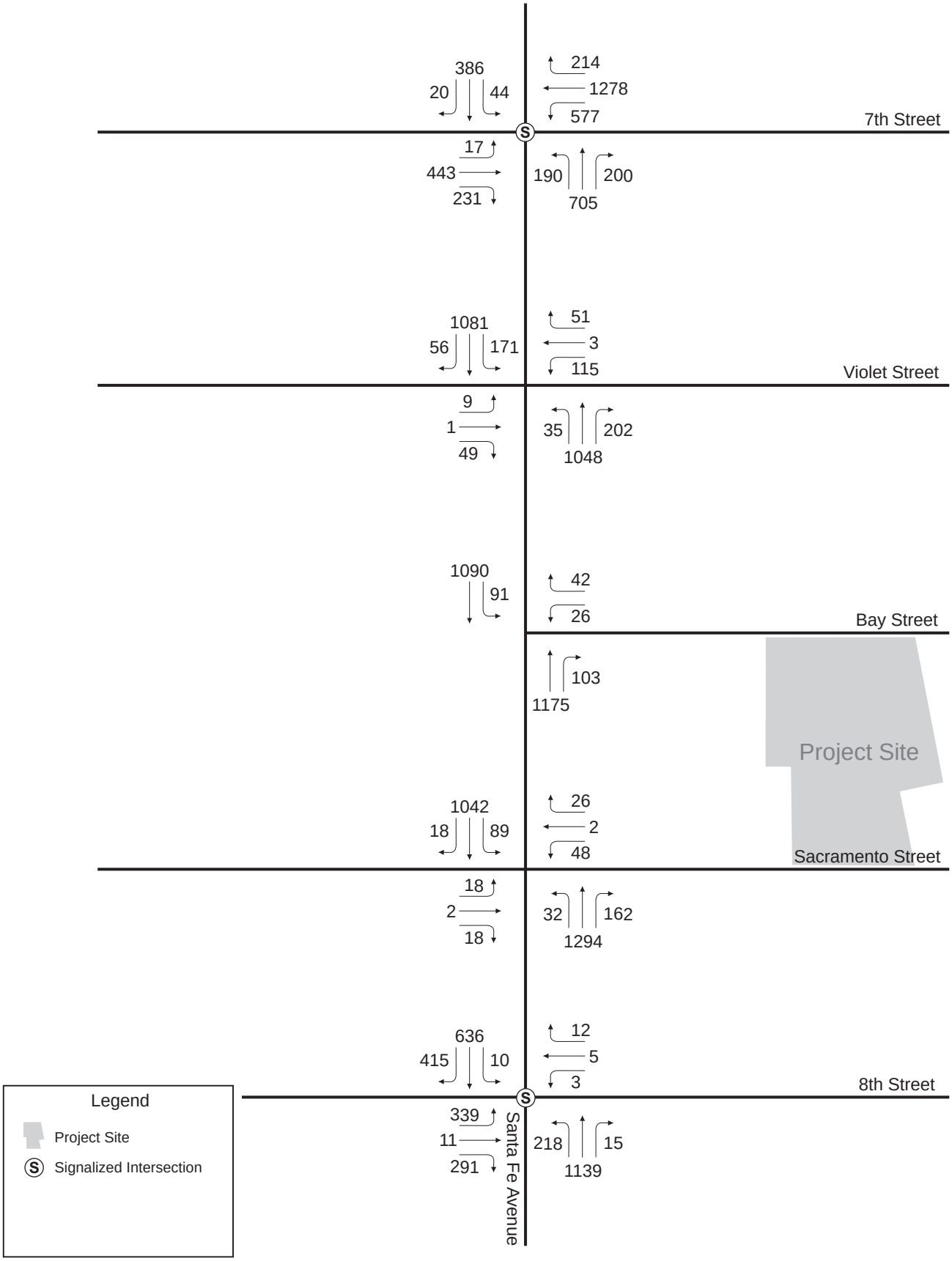


Figure 3.12
Future With Project Traffic Volumes - AM Peak Hour

2159 Bay Street

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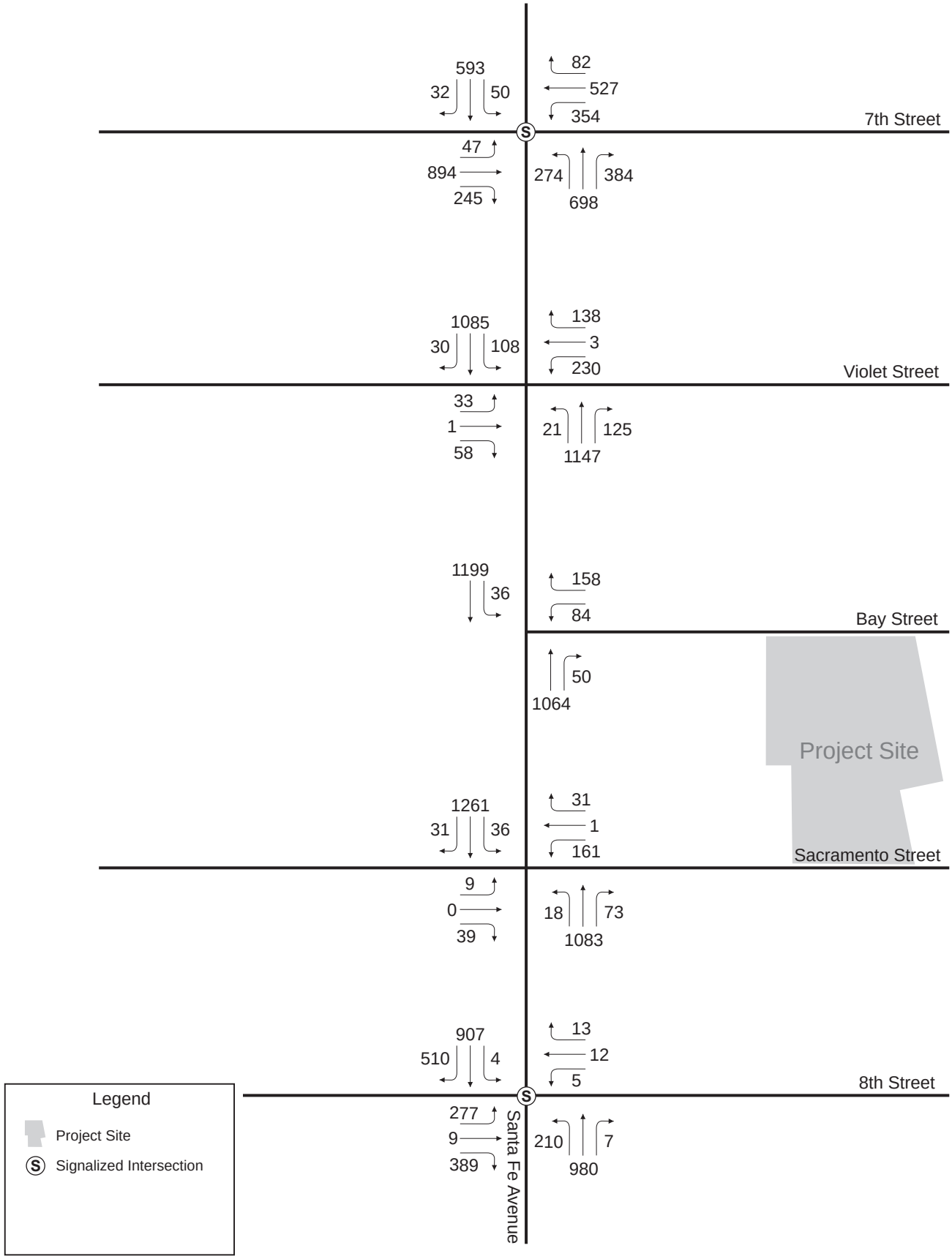


Figure 3.13
Future With Project Traffic Volumes - PM Peak Hour

2159 Bay Street

The **Mobility** Group
Transportation Strategies & Solutions

4. Transportation Mitigation Measures and Corrective Actions

This chapter identifies mitigation measures that may be necessary to address any VMT impacts, as well as corrective actions that may be necessary to address potential operational, capacity, and safety constraints arising from the Proposed Project.

CEQA Analysis of Transportation Impacts

The analysis in Chapter 2 identified that the Proposed Project would be consistent with applicable current plans, programs, ordinances and polices, with two exceptions. The sidewalk width of 3 ft. for part of the Project Site on Sacramento Street would not meet the City standard of 13 ft. This is not considered a significant impact because the adjacent pedestrian plaza would provide an effective sidewalk width of more than 13 ft. at this location, and because the Project Site is at the end of a dead-end street there would be no pedestrian flow/circulation past the Project.

The analysis also identified that the Project would cause a significant VMT impact for Work VMT per employee (VMT of 9.1 versus threshold of 7.6).

The Project would implement the following mitigation measures, as identified in the LADOT VMT Calculator:

Parking	- *Parking Cash-Out (75% employees assumed eligible)* This measure requires employers to offer employees the opportunity to "cash-out" the monthly value of their free or subsidized parking space. The VMT analysis assumes 75% of the employees would be eligible.
Education & Encouragement	- *Promotions and Marketing (100% employees and eligible)* This measure will involve the use of marketing, educational and promotional tools and materials (such as posters, info boards, or a website with information) to educate and inform travelers about site-specific transportation options and the effects of their travel choices.
Commute Trip Reductions	- *Ride-share program (100% employees eligible)* This measure would provide a rideshare program to include ride-share matching services, designating preferred parking for ride-share participants, adequate passenger loading/unloading and

	waiting areas for ride-share vehicles, and providing a website or message board to connect riders and coordinate rides.
Shared Mobility	- *Provide car-share spaces.* This measure would provide 5 off-street parking spaces in the Project garage for car-share use.
	- *Provide bike share spaces* This measure would provide 10 on-site bike share spaces to allow people to have on-demand access to a bicycle, as needed.
Bicycle Infrastructure	- *Implement / improve on street bicycle facility (through $100,000 contribution to Bicycle Trust Fund)* This measure would provide funding for LADOT to implement improvements for bike networks/facilities in the area of the Project.
	- *Provide bicycle parking per LAMC* This measure will provide short and long-term bicycle parking per the requirements of the LAMC.
	- *Include secure bike parking and showers.* This measure will provide short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at the Project.
Neighborhood Enhancement	- *Pedestrian network improvements.* This measure will enhance pedestrian circulation by providing an on-site pedestrian paseo connecting Bay Street and Sacramento Street.

With these measures the Work VMT per employee would be 7.5 and as the threshold would not be exceed there would be no significant VMT impacts.

The Project driveway on Sacramento Street would be 24 ft. rather than the required 30' standard. The width is constrained by an existing power pole in the sidewalk. This is not considered to be a significant impact because the Project Site is at the end of a dead-end street and there would be no vehicular flow/circulation past the Project. Hence, the analysis in Chapter 2 concluded that the Proposed Project would not substantially increase hazards due to a geometric design feature or incompatible use.

No mitigation measures beyond those identified for the VMT analysis are therefore necessary.

Non-CEQA Transportation Analysis –
Pedestrian, Bicycle, and Transit Access Assessment

This assessment identified that the closest intersections to the Project Site are the intersections of Santa Fe Avenue with Bay Street and Sacramento Street. ADA access ramps are provided at both of these intersections, however, at the intersection of Santa Fe Avenue and Bay Street tactile warning strips are not provided. Pedestrian crosswalks across Santa Fe Avenue are not provided at these two intersections. The nearest signalized pedestrian crossings are provided at the intersection of Santa Fe Avenue and 8th Street south of the Project Site, and Intersection of Santa Fe Avenue and 7th Street north of the Project Site.

The Project proposed the following corrective actions.

Install tactile warning strips at the intersection of Santa Fe Avenue & Bay Street.

Install a new controlled crosswalk on Santa Fe Avenue at Bay Street in conjunction with a new traffic signal.

No further corrective actions are deemed necessary or proposed.

Non-CEQA Transportation Analysis –
Project Access, Safety and Circulation Evaluation

Signalized Intersections

The operational evaluation has shown that while the studied intersections would operate at LOS E or LOS F in the Future With Project condition, they would operate at the same level of service in the Future Without Project conditions, except at the intersection of Santa Fe & 8th in the AM peak hour.

At the intersection of Santa Fe & 8th, the level of service would increase from LOS E to LOS F due to the Project.

The Project would however result in only small increases in vehicle delays on Santa Fe Avenue at the studied signalized intersections.

The evaluation also showed that at the signalized intersections, the queue lengths would not generally exceed current storage capacities except for one movement in the AM peak hour and four movements in the PM peak hour. However, queues for these movements would also exceed capacity under Future Without Project conditions, except for one location. At the intersection of Santa Fe & 8th Street, the Project would cause the queue for the eastbound left/through move on 8th Street to exceed the storage capacity, although the increase in queue length would be only about 12 ft. or less than one car length.

The Project proposes trip reduction measures as specified in Chapter 2.2 to reduce trips and VMT. No other corrective actions are proposed at this intersection as none were found to be feasible.

Unsignalized Intersections

At three analyzed unsignalized intersections, along Santa Fe Avenue, the minor street movements on Violet Street, Bay Street, and Sacramento Street would operate at LOS F with the Project, in both the AM and PM peak hours. In the AM peak hour these movements would also operate at LOS F in the Future Without Project Condition. In the PM peak hour they would also operate at LOS F in the Future Without project conditions, except for the eastbound approach of the Santa Fe & Sacramento intersection.

The eastbound approach of the Santa Fe & Sacramento intersection would change from LOS D to LOS F due to the Project.

The evaluation also showed that at unsignalized intersections the queues would generally not exceed the storage capacities except for two movements – westbound Violet Street and westbound Sacramento Street in both peak hours. At these locations the queues would also exceed storage capacities in the Future Without Project conditions, so would not be caused by the Project.

A signal warrant analysis concluded that the Project would cause the peak hour warrant for signalization to be met at Santa Fe & Bay Street, but would not cause the need at Santa Fe Avenue & Sacramento Street.

The Project proposes to install a new traffic signal at the intersection of Santa Fa Avenue & Bay Street (the Project's main access is on Bay Street). This would also provide for signalized crosswalks on Santa Fe Avenue at this location to facilitate pedestrian movements.

The satisfaction of LADOT's criteria for installing a traffic signal is not the same as a significance threshold for determining significant impacts. Further, the satisfaction of a traffic signal warrant does not itself require the installation of a signal. If the traffic volumes at an unsignalized intersection should surpass the established thresholds to warrant a traffic signal, LADOT will ultimately determine if a signal is feasible and if it should be installed, after a consideration of other factors relative to safety, traffic flow, signal spacing and coordination, and roadway geometrics (including: eight hour, four hour, and one hour traffic volumes, pedestrian volumes, accident records, existence of suitable gaps for turning traffic, traffic signal coordination issues, and providing the safe and orderly movement of vehicles for all movements through the intersection).

It is noted that another development project is planning on implementing a new traffic signal at the intersection of Santa Fe Avenue & Violet Street.

Non-CEQA Transportation Analysis – Project Construction

All of the effects identified above would be temporary for the duration of the construction period. The above evaluation has shown that construction of the Project would not cause substantial negative effects on pedestrian, bicycle, transit, or vehicle circulation in the area of the Project, and would not limit or degrade access to adjacent properties.

That notwithstanding, a Construction Traffic Management Plan (CTMP) and a Worksite Traffic Control Plan (WTCP) will be prepared for approval by the City prior to the issuance of any construction permits. These will specify the details of any sidewalk or lane closures. The Worksite Traffic Control Plan will be developed by the Applicant, and will identify all traffic control measures, signs, delineators, and work instructions to be implemented by the construction contractor through the duration of demolition and construction activity. The Worksite Traffic Control Plan would minimize the potential conflicts between construction activities, street traffic, bicyclists and pedestrians. The plan will be reviewed and approved by LADOT prior to commencement of construction.

Non-CEQA Transportation Analysis - Residential Street Cut-Through Analysis

The evaluation in Chapter 3 concluded that this analysis was not necessary. No corrective actions or measures are therefore necessary.

Appendix A

VMT Analysis
LADOT Calculator Worksheets

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

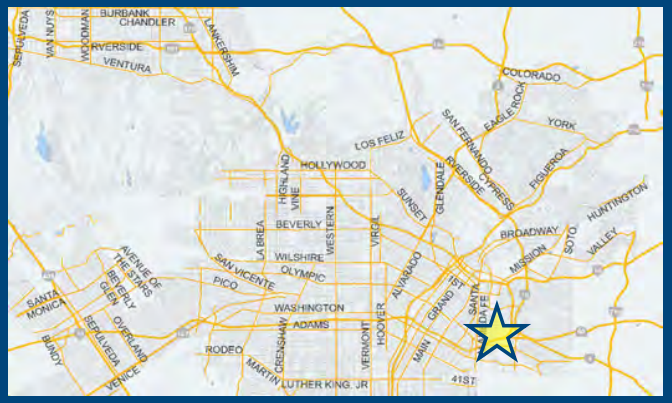
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 2159 Bay Street

Scenario: Run 1

Address: 2159 E BAY 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	16.222	ksf
Office | General Office	23.106	ksf
Industrial | Light Industrial	16.222	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 | Quality Restaurant	2.5	ksf
Retail | High-Turnover Sit-Down Restaurant	2.5	ksf
Retail | Quality Restaurant	2.5	ksf
Office | General Office	217.189	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
309 Daily Vehicle Trips	2,428 Daily Vehicle Trips
2,351 Daily VMT	18,490 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	2,119 Net Daily Trips
The net increase in daily VMT ≤ 0	16,139 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	5.000 ksf

The proposed project is required to perform VMT analysis.

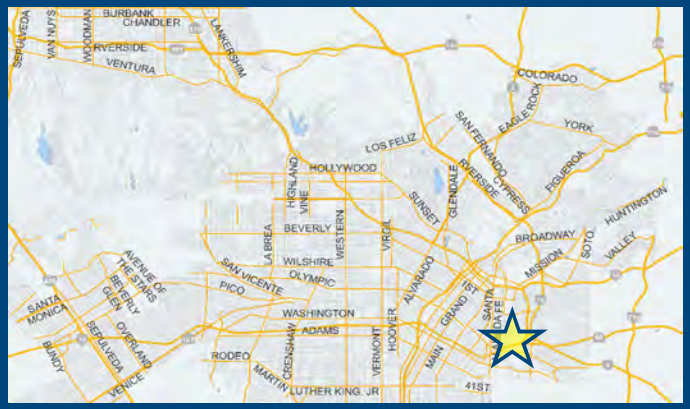
Measuring the Miles

6/28/2020

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 2159 Bay Street
Scenario: Run 1
Address: 2159 E BAY ST, 90021



Proposed Project Land Use Type	Value	Unit
Retail | High-Turnover Sit-Down Restaurant	2.5	ksf
Retail | Quality Restaurant	2.5	ksf
Office | General Office	217.189	ksf

TDM Strategies

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

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

A Parking

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

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

Parking Cash-Out ☐ Proposed Prj ☑ Mitigation
75 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
2,365 Daily Vehicle Trips	**2,110** Daily Vehicle Trips
18,006 Daily VMT	**15,973** Daily VMT
0.0 Household VMT per Capita	**0.0** Household VMT per Capita
9.1 Work VMT per Employee	**7.5** Work VMT per Employee

Significant VMT Impact?

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

Measuring the Miles

6/28/2020

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: June 28, 2020
Project Name: 2159 Bay Street
Project Scenario: Run 1
Project Address: 2159 E BAY ST, 90021

Version 1.3

Project Information			
Land Use Type		**Value**	**Units**
Housing	*Single Family*	*0*	*DU*
	Multi Family	*0*	*DU*
	Townhouse	*0*	*DU*
	Hotel	*0*	*Rooms*
	Motel	*0*	*Rooms*
Affordable Housing	*Family*	*0*	*DU*
	Senior	*0*	*DU*
	Special Needs	*0*	*DU*
	Permanent Supportive	*0*	*DU*
Retail	*General Retail*	*0.000*	*ksf*
	Furniture Store	*0.000*	*ksf*
	Pharmacy/Drugstore	*0.000*	*ksf*
	Supermarket	*0.000*	*ksf*
	Bank	*0.000*	*ksf*
	Health Club	*0.000*	*ksf*
	High-Turnover Sit-Down Restaurant	2.500	ksf
	Fast-Food Restaurant	*0.000*	*ksf*
	Quality Restaurant	2.500	ksf
	Auto Repair	*0.000*	*ksf*
	Home Improvement	*0.000*	*ksf*
	Free-Standing Discount	*0.000*	*ksf*
	Movie Theater	*0*	*Seats*
Office	General Office	217.189	ksf
	Medical Office	*0.000*	*ksf*
Industrial	*Light Industrial*	*0.000*	*ksf*
	Manufacturing	*0.000*	*ksf*
	Warehousing/Self-Storage	*0.000*	*ksf*
School	*University*	*0*	*Students*
	High School	*0*	*Students*
	Middle School	*0*	*Students*
	Elementary	*0*	*Students*
	Private School (K-12)	*0*	*Students*
Other		*0*	*Trips*

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: June 28, 2020
Project Name: 2159 Bay Street
Project Scenario: Run 1
Project Address: 2159 E BAY ST, 90021

Version 1.3

Analysis Results			
Total Employees: 889 Total Population: 0			
Proposed Project		***With Mitigation***	
2,365	**Daily Vehicle Trips**	**2,110**	**Daily Vehicle Trips**
18,006	**Daily VMT**	**15,973**	**Daily VMT**
0	**Household VMT per Capita**	**0**	**Household VMT per Capita**
9.1	**Work VMT per Employee**	**7.5**	**Work VMT per Employee**
Significant VMT Impact?			
APC: Central			
Impact Threshold: 15% Below APC Average Household = 6.0 Work = 7.6			
Proposed Project		***With Mitigation***	
VMT Threshold	**Impact**	**VMT Threshold**	**Impact**
Household > 6.0 Work > 7.6	No Yes	Household > 6.0 Work > 7.6	No No

TDM Strategy Inputs

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

(cont. on following page)

TDM Strategy Inputs, Cont.

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

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Commute Trip Reductions	*Required commute trip reduction program*	*Employees participating (%)*	*0%*	*0%*
	Alternative Work Schedules and Telecommute	*Employees participating (%)*	*0%*	*0%*
		Type of program	*0*	*0*
	Employer sponsored vanpool or shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees eligible (%)	*0%*	*0%*
		Employer size (small, medium, large)	*0*	*0*
	Ride-share program	Employees eligible (%)	*0%*	100%
Shared Mobility	Car share	Car share project setting (Urban, Suburban, All Other)	*0*	Urban + Comprehensive Transit
	Bike share	Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)	*0*	Yes
	School carpool program	*Level of implementation (Low, Medium, High)*	*0*	*0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Bicycle Infrastructure	Implement/Improve on-street bicycle facility	Provide bicycle facility along site (Yes/No)	*0*	Yes
	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*	Yes
Neighborhood Enhancement	*Traffic calming improvements*	*Streets with traffic calming improvements (%)*	*0%*	*0%*
		Intersections with traffic calming improvements (%)	*0%*	*0%*
	Pedestrian network improvements	Included (within project and connecting off-site/within project only)	within project and connecting off-site	within project and connecting off-site

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: June 28, 2020
Project Name: 2159 Bay Street
Project Scenario: Run 1
Project Address: 2159 E BAY ST, 90021

Version 1.3

TDM Adjustments by Trip Purpose & Strategy

Place type: Suburban Center

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Parking cash-out	*0%*	*0%*	*0%*	3%	*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%*	4%	*0%*	4%	*0%*	4%	*0%*	4%	*0%*	4%	*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%*	10%	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
Shared Mobility	Car-share	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	
	School carpool program	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Suburban Center

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Bicycle Infrastructure	Implement/ Improve on-street bicycle facility	*0.0%*	0.6%	*0.0%*	0.6%	*0.0%*	0.6%	*0.0%*	0.6%	*0.0%*	0.6%	*0.0%*	0.6%	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%*	0.6%	*0.0%*	0.6%	*0.0%*	0.6%	*0.0%*	0.6%	*0.0%*	0.6%	*0.0%*	0.6%	
Neighborhood Enhancement	Traffic calming improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Neighborhood Enhancement sections 1 - 2
	Pedestrian network improvements	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*3%*	*8%*	*3%*	*20%*	*3%*	*8%*	*3%*	*8%*	*3%*	*8%*	*3%*	*5%*
MAX. TDM EFFECT	*3%*	*8%*	*3%*	*20%*	*3%*	*8%*	*3%*	*8%*	*3%*	*8%*	*3%*	*8%*

= Minimum (X%, 1-[(1-A)*(1-B)…])
where X%=

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

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: June 28, 2020
Project Name: 2159 Bay Street
Project Scenario: Run 1
Project Address: 2159 E BAY ST, 90021

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	0	0.0%	0	7.5	0	0
Home Based Other Production	0	0.0%	0	5.4	0	0
Non-Home Based Other Production	400	-3.5%	386	8.0	3,200	3,088
Home-Based Work Attraction	1,274	-22.1%	993	8.4	10,702	8,341
Home-Based Other Attraction	836	-20.7%	663	6.4	5,350	4,243
Non-Home Based Other Attraction	400	-3.5%	386	7.3	2,920	2,818

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	-2.6%	0	0	-8.4%	0	0
Home Based Other Production	-2.6%	0	0	-8.4%	0	0
Non-Home Based Other Production	-2.6%	376	3,007	-8.4%	354	2,830
Home-Based Work Attraction	-2.6%	967	8,123	-20.0%	794	6,673
Home-Based Other Attraction	-2.6%	646	4,132	-8.4%	608	3,888
Non-Home Based Other Attraction	-2.6%	376	2,744	-8.4%	354	2,582

MXD VMT Methodology Per Capita & Per Employee

Total Population: 0
Total Employees: 889
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**0**	**0**
Total Home Based Work Attraction VMT	**8,123**	**6,673**
Total Home Based VMT Per Capita	**0.0**	**0.0**
Total Work Based VMT Per Employee	**9.1**	**7.5**

Appendix B

Traffic Counts

City Of Los Angeles
Department Of Transportation
MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Santa Fe Avenue

East/West Bay Street

Day: Tuesday **Date:** June 6, 2017 **Weather:** CLEAR

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

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

	N/B	S/B	E/B	W/B
DUAL-WHEELED	285	354	0	14
BIKES	14	19	0	4
BUSES	93	88	0	3

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	159	8.00	181	9.00	0	7.00	11	9.45
PM PK 15 MIN	154	5.30	176	3.30	0	3.00	17	4.30
AM PK HOUR	586	7.15	684	7.45	0	7.00	32	9.00
PM PK HOUR	556	5.00	628	3.15	0	3.00	40	4.30

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	560	21	581
8-9	0	540	19	559
9-10	0	467	45	512
3-4	0	458	9	467
4-5	0	512	10	522
5-6	0	545	11	556
TOTAL	0	3082	115	3197

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	9	653	0	662
8-9	28	633	0	661
9-10	41	584	0	625
3-4	10	614	0	624
4-5	13	548	0	561
5-6	8	543	0	551
TOTAL	109	3575	0	3684

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1243	1	0	0	0
1220	0	0	0	0
1137	0	0	0	0
1091	1	0	0	0
1083	2	0	3	0
1107	0	0	0	0
6881	4	0	3	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
3-4	0	0	0	0
4-5	0	0	0	0
5-6	0	0	0	0
TOTAL	0	0	0	0

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	3	0	1	4
8-9	16	0	11	27
9-10	12	0	20	32
3-4	13	0	5	18
4-5	17	0	15	32
5-6	12	0	17	29
TOTAL	73	0	69	142

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
4	0	0	2	0
27	0	0	3	0
32	0	0	12	0
18	0	0	8	0
32	0	0	18	0
29	0	0	10	0
142	0	0	53	0

(Rev Oct 06)

City Of Los Angeles
Department Of Transportation
MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Santa Fe Avenue

East/West Sacramento Street

Day: Tuesday **Date:** January 23, 2018 **Weather:** CLEAR

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

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

	N/B	S/B	E/B	W/B
DUAL-WHEELED	296	314	27	12
BIKES	23	15	6	3
BUSES	103	84	0	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	177	8.15	189	7.30	12	9.15	10	8.30
PM PK 15 MIN	154	5.45	168	4.30	13	4.15	14	4.00
AM PK HOUR	691	8.00	692	8.15	35	8.45	31	8.15
PM PK HOUR	559	5.00	624	3.00	41	4.15	48	3.30

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	13	549	20	582
8-9	25	642	24	691
9-10	22	487	36	545
3-4	12	424	11	447
4-5	12	468	9	489
5-6	18	531	10	559
TOTAL	102	3101	110	3313

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	15	624	5	644
8-9	15	634	8	657
9-10	37	582	24	643
3-4	6	602	16	624
4-5	8	549	18	575
5-6	6	581	12	599
TOTAL	87	3572	83	3742

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1226	0	0	0	0
1348	2	0	1	0
1188	2	0	1	0
1071	1	0	3	0
1064	0	0	1	0
1158	1	0	1	0
7055	6	0	7	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	2	0	8	10
8-9	0	1	17	18
9-10	7	3	22	32
3-4	5	1	24	30
4-5	10	2	28	40
5-6	3	0	38	41
TOTAL	27	7	137	171

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	8	2	15	25
8-9	6	1	20	27
9-10	6	3	11	20
3-4	27	1	16	44
4-5	23	0	16	39
5-6	23	1	20	44
TOTAL	93	8	98	199

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
35	3	0	7	0
45	6	0	15	1
52	10	0	8	0
74	10	0	15	0
79	8	0	4	0
85	7	0	9	0
370	44	0	58	1

(Rev Oct 06)

City Of Los Angeles
Department Of Transportation
MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Santa Fe Avenue

East/West Violet Street

Day: Thursday **Date:** November 21, 2019 **Weather:** CLEAR

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

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

	N/B	S/B	E/B	W/B
DUAL-WHEELED	254	302	23	9
BIKES	17	42	0	0
BUSES	82	68	0	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	188	7.00	207	8.45	11	9.30	4	9.15
PM PK 15 MIN	169	5.45	191	5.00	33	5.45	17	5.00
AM PK HOUR	661	8.15	797	8.30	35	8.45	13	9.00
PM PK HOUR	640	5.00	700	4.30	83	5.00	41	5.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	23	613	6	642
8-9	36	605	12	653
9-10	31	524	13	568
3-4	21	441	5	467
4-5	20	587	5	612
5-6	15	621	4	640
TOTAL	146	3391	45	3582

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	7	614	25	646
8-9	10	701	42	753
9-10	13	690	71	774
3-4	5	622	29	656
4-5	6	633	31	670
5-6	8	628	30	666
TOTAL	49	3888	228	4165

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1288	1	0	1	0
1406	3	0	2	2
1342	3	1	5	0
1123	7	0	6	2
1282	3	0	4	2
1306	4	5	1	0
7747	21	6	19	6

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	8	1	17	26
8-9	7	0	16	23
9-10	11	2	21	34
3-4	13	3	26	42
4-5	28	3	34	65
5-6	33	1	49	83
TOTAL	100	10	163	273

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	3	0	2	5
8-9	3	1	2	6
9-10	4	2	7	13
3-4	4	1	10	15
4-5	6	4	14	24
5-6	13	3	25	41
TOTAL	33	11	60	104

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
31	4	5	7	1
29	8	6	23	9
47	11	2	19	5
57	20	6	22	15
89	14	4	28	11
124	5	5	23	16
377	62	28	122	57

(Rev Oct 06)

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Santa Fe Ave

East/West 7th St

Day: Tuesday Date: September 29, 2015 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	315	153	335	503
BIKES	23	20	20	26
BUSES	79	5	132	47

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	149	8.30	75	7.45	135	9.30	482	7.30
PM PK 15 MIN	198	17.45	85	16.45	250	17.45	202	17.30
AM PK HOUR	578	7.45	269	7.30	487	9.00	1690	7.15
PM PK HOUR	689	17.00	318	16.45	851	17.00	730	16.45

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	130	261	108	499
8-9	135	278	154	567
9-10	140	225	114	479
15-16	117	190	133	440
16-17	122	260	144	526
17-18	135	343	211	689
TOTAL	779	1557	864	3200

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	32	174	16	222
8-9	42	180	22	244
9-10	24	96	25	145
15-16	46	225	14	285
16-17	51	229	24	304
17-18	47	230	24	301
TOTAL	242	1134	125	1501

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
721	8	0	10	0
811	22	2	10	0
624	26	0	5	0
725	15	0	12	0
830	29	0	9	0
990	22	3	13	0
4701	122	5	59	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	13	255	85	353
8-9	16	333	69	418
9-10	22	336	129	487
15-16	22	522	154	698
16-17	21	508	125	654
17-18	25	682	144	851
TOTAL	119	2636	706	3461

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	398	1048	213	1659
8-9	335	1035	150	1520
9-10	308	847	112	1267
15-16	203	326	45	574
16-17	223	305	31	559
17-18	236	416	73	725
TOTAL	1703	3977	624	6304

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
2012	4	0	0	0
1938	18	0	0	0
1754	17	0	2	0
1272	8	0	0	0
1213	11	0	0	0
1576	19	2	0	0
9765	77	2	2	0

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South S Santa Fe Ave

East/West 8th St

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

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

School Day: YES District: I/S CODE

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

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	223	7 45	169	7 45	93	7 45	10	7 45
PM PK 15 MIN	205	17 30	197	15 30	127	17 30	17	16 30
AM PK HOUR	821	7 15	624	7 15	330	7 00	30	7 45
PM PK HOUR	759	17 00	684	15 30	450	17 00	49	16 15

NORTHBOUND Approach

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

SOUTHBOUND Approach

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

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

EASTBOUND Approach

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

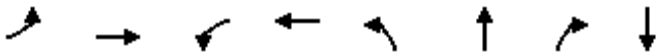
WESTBOUND Approach

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

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

Appendix C

Level of Service Worksheets



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	18	733	627	1622	207	766	217	490
v/c Ratio	0.17	0.76	2.37	0.98	0.74	1.03	0.22	2.05
Control Delay	25.0	25.9	646.2	37.9	37.4	64.2	6.8	506.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.0	25.9	646.2	37.9	37.4	64.2	6.8	506.8
Queue Length 50th (ft)	6	126	~453	336	74	~341	37	~345
Queue Length 95th (ft)	23	187	#640	#511	#183	#560	66	#422
Internal Link Dist (ft)		409		784		646		439
Turn Bay Length (ft)								
Base Capacity (vph)	106	959	265	1651	279	745	972	239
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.76	2.37	0.98	0.74	1.03	0.22	2.05

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	443	231	577	1278	214	190	705	200	44	386	20
Future Volume (veh/h)	17	443	231	577	1278	214	190	705	200	44	386	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	18	482	251	627	1389	233	207	766	217	48	420	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	109	582	301	267	1438	238	236	748	872	56	260	12
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	0.26	0.26	0.26	0.15	0.47	0.47	0.40	0.40	0.40	0.40	0.40	0.40
Unsig. Movement Delay												
Ln Grp Delay, s/veh	35.5	36.4	37.7	647.2	39.0	43.8	60.0	60.1	8.9	257.2	0.0	0.0
Ln Grp LOS	D	D	D	F	D	D	E	F	A	F	A	A
Approach Vol, veh/h		751			2249			1190			490	
Approach Delay, s/veh		37.0			210.3			50.7			257.2	
Approach LOS		D			F			D			F	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6		8
Case No		5.0	2.0	6.3		8.0		4.0
Phs Duration (G+Y+Rc), s		32.5	15.0	22.5		32.5		37.5
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5
Max Green (Gmax), s		28.0	10.5	18.0		28.0		33.0
Max Allow Headway (MAH), s		5.0	3.8	5.5		5.6		5.3
Max Q Clear (g_c+I1), s		30.0	12.5	20.0		30.0		33.7
Green Ext Time (g_e), s		0.0	0.0	0.0		0.0		0.0
Prob of Phs Call (p_c)		1.00	1.00	1.00		1.00		1.00
Prob of Max Out (p_x)		0.00	1.00	1.00		0.00		1.00

Left-Turn Movement Data								
Assigned Mvmt		5	3	7		1		
Mvmt Sat Flow, veh/h		947	1781	311		0		

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1870		2264		651		3051

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1585		1172		31		505

Left Lane Group Data								
Assigned Mvmt	0	5	3	7	0	1	0	0
Lane Assignment		L	L (Prot)	L		L+T+R		

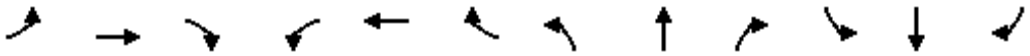
Lanes in Grp	0	1	1	1	0	1	0	0
Grp Vol (v), veh/h	0	207	627	18	0	490	0	0
Grp Sat Flow (s), veh/h/ln	0	947	1781	311	0	682	0	0
Q Serve Time (g_s), s	0.0	0.0	10.5	1.3	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	28.0	10.5	18.0	0.0	28.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	947	0	311	0	582	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	332	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	28.0	0.0	18.0	0.0	28.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	10.3	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	10.3	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	1.00	0.00	0.10	0.00	0.00
Lane Grp Cap (c), veh/h	0	236	267	109	0	329	0	0
V/C Ratio (X)	0.00	0.88	2.35	0.17	0.00	1.49	0.00	0.00
Avail Cap (c_a), veh/h	0	236	267	109	0	329	0	0
Upstream Filter (I)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	26.0	29.7	34.8	0.0	21.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	34.0	617.5	0.7	0.0	235.4	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	60.0	647.2	35.5	0.0	257.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.4	4.3	0.3	0.0	4.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	2.2	45.8	0.0	0.0	21.5	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	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	5.6	50.1	0.3	0.0	25.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.22	1.56	0.02	0.00	1.38	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	90.0	0.0	0.0	40.2	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	0.6	0.0	0.0	0.4	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T				T
Lanes in Grp	0	1	0	1	0	0	0	1
Grp Vol (v), veh/h	0	766	0	378	0	0	0	802
Grp Sat Flow (s), veh/h/ln	0	1870	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	28.0	0.0	14.0	0.0	0.0	0.0	30.4
Cycle Q Clear Time (g_c), s	0.0	28.0	0.0	14.0	0.0	0.0	0.0	30.4
Lane Grp Cap (c), veh/h	0	748	0	457	0	0	0	838
V/C Ratio (X)	0.00	1.02	0.00	0.83	0.00	0.00	0.00	0.96
Avail Cap (c_a), veh/h	0	748	0	457	0	0	0	838
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.0	0.0	24.5	0.0	0.0	0.0	17.8
Incr Delay (d2), s/veh	0.0	39.1	0.0	11.9	0.0	0.0	0.0	21.2
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	60.1	0.0	36.4	0.0	0.0	0.0	39.0
1st-Term Q (Q1), veh/ln	0.0	10.9	0.0	5.5	0.0	0.0	0.0	10.8
2nd-Term Q (Q2), veh/ln	0.0	8.1	0.0	1.5	0.0	0.0	0.0	4.9

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	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	19.1	0.0	7.0	0.0	0.0	0.0	15.7
%ile Storage Ratio (RQ%)	0.00	0.75	0.00	0.40	0.00	0.00	0.00	0.49
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	4.5	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	0.3	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		R		T+R				T+R
Lanes in Grp	0	1	0	1	0	0	0	1
Grp Vol (v), veh/h	0	217	0	355	0	0	0	820
Grp Sat Flow (s), veh/h/ln	0	1585	0	1659	0	0	0	1779
Q Serve Time (g_s), s	0.0	5.0	0.0	14.2	0.0	0.0	0.0	31.7
Cycle Q Clear Time (g_c), s	0.0	5.0	0.0	14.2	0.0	0.0	0.0	31.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	1585.1	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	10.5	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.71	0.00	0.04	0.00	0.28
Lane Grp Cap (c), veh/h	0	872	0	427	0	0	0	839
V/C Ratio (X)	0.00	0.25	0.00	0.83	0.00	0.00	0.00	0.98
Avail Cap (c_a), veh/h	0	872	0	427	0	0	0	839
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.2	0.0	24.6	0.0	0.0	0.0	18.1
Incr Delay (d2), s/veh	0.0	0.7	0.0	13.2	0.0	0.0	0.0	25.7
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	8.9	0.0	37.7	0.0	0.0	0.0	43.8
1st-Term Q (Q1), veh/ln	0.0	1.5	0.0	5.2	0.0	0.0	0.0	11.2
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	1.6	0.0	0.0	0.0	6.0
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	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.6	0.0	6.8	0.0	0.0	0.0	17.2
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.39	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

Intersection Summary	
HCM 6th Ctrl Delay	146.8
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1	49	115	3	51	35	1048	202	171	1081	56
Future Volume (Veh/h)	9	1	49	115	3	51	35	1048	202	171	1081	56
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	1	53	125	3	55	38	1139	220	186	1175	61
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1090			726	
pX, platoon unblocked	0.93	0.93		0.93	0.93	0.93				0.93		
vC, conflicting volume	2280	3012	618	2338	2933	680	1236			1359		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2222	3013	618	2286	2928	496	1236			1229		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	86	88	0	64	89	93			64		
cM capacity (veh/h)	10	7	432	11	8	481	559			521		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	64	183	608	790	774	648
Volume Left	10	125	38	0	186	0
Volume Right	53	55	0	220	0	61
cSH	50	15	559	1700	521	1700
Volume to Capacity	1.27	12.09	0.07	0.46	0.36	0.38
Queue Length 95th (ft)	145	Err	5	0	40	0
Control Delay (s)	347.1	Err	1.9	0.0	10.3	0.0
Lane LOS	F	F	A		B	
Approach Delay (s)	347.1	Err	0.8		5.6	
Approach LOS	F	F				

Intersection Summary				
Average Delay	607.0			
Intersection Capacity Utilization	99.4%	ICU Level of Service	F	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	9.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	42	1175	103	91	1090
Future Vol, veh/h	26	42	1175	103	91	1090
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	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	28	46	1277	112	99	1185

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2124	695	0	0	1389	0
Stage 1	1333	-	-	-	-	-
Stage 2	791	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	43	385	-	-	489	-
Stage 1	211	-	-	-	-	-
Stage 2	407	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 18	385	-	-	489	-
Mov Cap-2 Maneuver	~ 18	-	-	-	-	-
Stage 1	211	-	-	-	-	-
Stage 2	166	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	288.9	0	4.4
HCM LOS	F		

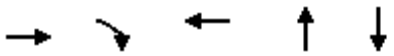
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	18	385	489	-
HCM Lane V/C Ratio	-	-	1.57	0.119	0.202	-
HCM Control Delay (s)	-	-	$ 730.4	15.6	14.2	3.6
HCM Lane LOS	-	-	F	C	B	A
HCM 95th %tile Q(veh)	-	-	4	0.4	0.7	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	2	18	48	2	26	33	1294	162	89	1042	18
Future Volume (Veh/h)	18	2	18	48	2	26	33	1294	162	89	1042	18
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	2	20	52	2	28	36	1407	176	97	1133	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								363				
pX, platoon unblocked	0.77	0.77		0.77	0.77	0.77				0.77		
vC, conflicting volume	2142	2992	576	2348	2914	792	1153			1583		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1882	2990	576	2152	2888	125	1153			1155		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	7	74	96	0	78	96	94			79		
cM capacity (veh/h)	21	8	460	13	9	693	602			461		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	42	82	740	880	664	586
Volume Left	20	52	36	0	97	0
Volume Right	20	28	0	176	0	20
cSH	34	19	602	1700	461	1700
Volume to Capacity	1.23	4.30	0.06	0.52	0.21	0.34
Queue Length 95th (ft)	112	Err	5	0	20	0
Control Delay (s)	411.7	Err	1.7	0.0	6.2	0.0
Lane LOS	F	F	A		A	
Approach Delay (s)	411.7	Err	0.8		3.3	
Approach LOS	F	F				

Intersection Summary				
Average Delay	281.5			
Intersection Capacity Utilization	90.1%	ICU Level of Service		E
Analysis Period (min)	15			

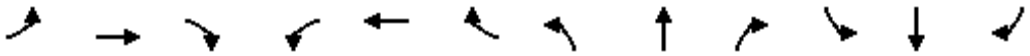


Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	380	316	21	1491	1157
v/c Ratio	1.25	0.54	0.06	1.12	0.52
Control Delay	169.3	9.3	17.6	81.1	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	169.3	9.3	17.6	81.1	5.8
Queue Length 50th (ft)	~272	14	4	~520	98
Queue Length 95th (ft)	#445	86	22	#656	140
Internal Link Dist (ft)	564		680	221	283
Turn Bay Length (ft)					
Base Capacity (vph)	304	580	358	1335	2209
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.25	0.54	0.06	1.12	0.52

Intersection Summary

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	339	11	291	3	5	12	218	1139	15	10	639	415
Future Volume (veh/h)	339	11	291	3	5	12	218	1139	15	10	639	415
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	368	12	316	3	5	13	237	1238	16	11	695	451
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	182	3	361	46	68	110	239	1367	19	47	1352	865
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	0.23	0.23	0.23	0.23	0.23	0.23	0.67	0.67	0.67	0.67	0.67	0.67
Unsig. Movement Delay												
Ln Grp Delay, s/veh	529.5	0.0	54.1	28.0	0.0	0.0	101.3	0.0	18.1	8.8	0.0	9.4
Ln Grp LOS	F	A	D	C	A	A	F	A	B	A	A	A
Approach Vol, veh/h		696			21			1491			1157	
Approach Delay, s/veh		313.6			28.0			48.3			9.1	
Approach LOS		F			C			D			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		8.0		8.0		8.0		7.0
Phs Duration (G+Y+Rc), s		65.0		25.0		65.0		25.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		60.5		20.5		60.5		20.5
Max Allow Headway (MAH), s		5.4		5.6		5.9		4.7
Max Q Clear (g_c+I1), s		17.9		22.5		62.5		22.5
Green Ext Time (g_e), s		11.1		0.0		0.0		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		10		0		270		454

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2012		298		2033		15

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1287		484		29		1585

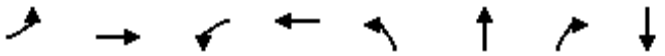
Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment		L+T		L+T+R		L+T		L+T

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	642	0	21	0	541	0	380
Grp Sat Flow (s), veh/h/ln	0	1838	0	782	0	635	0	468
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	44.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	15.4	0.0	20.5	0.0	60.5	0.0	20.5
Perm LT Sat Flow (s_l), veh/h/ln	0	450	0	1069	0	498	0	1417
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	468
Perm LT Eff Green (g_p), s	0.0	60.5	0.0	20.5	0.0	60.5	0.0	20.5
Perm LT Serve Time (g_u), s	0.0	23.0	0.0	0.0	0.0	44.6	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	44.6	0.0	0.0
Time to First Blk (g_f), s	0.0	40.7	0.0	9.5	0.0	0.6	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	15.4	0.0	0.9	0.0	0.6	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.02	0.00	0.14	0.00	0.44	0.00	0.97
Lane Grp Cap (c), veh/h	0	1276	0	224	0	485	0	185
V/C Ratio (X)	0.00	0.50	0.00	0.09	0.00	1.12	0.00	2.05
Avail Cap (c_a), veh/h	0	1276	0	224	0	485	0	185
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	7.4	0.0	27.8	0.0	24.4	0.0	39.1
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.2	0.0	76.9	0.0	490.4
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	8.8	0.0	28.0	0.0	101.3	0.0	529.5
1st-Term Q (Q1), veh/ln	0.0	5.2	0.0	0.3	0.0	10.7	0.0	4.1
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	10.3	0.0	25.3
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	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.7	0.0	0.4	0.0	21.1	0.0	29.4
%ile Storage Ratio (RQ%)	0.00	0.47	0.00	0.01	0.00	2.05	0.00	1.24
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	14.2	0.0	48.6
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	0.3	0.0	0.5
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	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	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	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		R
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	515	0	0	0	950	0	316
Grp Sat Flow (s), veh/h/ln	0	1470	0	0	0	1697	0	1585
Q Serve Time (g_s), s	0.0	15.9	0.0	0.0	0.0	37.5	0.0	17.3
Cycle Q Clear Time (g_c), s	0.0	15.9	0.0	0.0	0.0	37.5	0.0	17.3
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	0.88	0.00	0.62	0.00	0.02	0.00	1.00
Lane Grp Cap (c), veh/h	0	988	0	0	0	1141	0	361
V/C Ratio (X)	0.00	0.52	0.00	0.00	0.00	0.83	0.00	0.88
Avail Cap (c_a), veh/h	0	988	0	0	0	1141	0	361
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	7.4	0.0	0.0	0.0	11.0	0.0	33.5
Incr Delay (d2), s/veh	0.0	2.0	0.0	0.0	0.0	7.2	0.0	20.6
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	9.4	0.0	0.0	0.0	18.1	0.0	54.1
1st-Term Q (Q1), veh/ln	0.0	4.2	0.0	0.0	0.0	11.4	0.0	6.5
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	2.3	0.0	2.1
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	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.7	0.0	0.0	0.0	13.7	0.0	8.5
%ile Storage Ratio (RQ%)	0.00	0.40	0.00	0.00	0.00	1.33	0.00	0.36
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	89.6
HCM 6th LOS	F



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	51	1238	385	662	298	759	417	734
v/c Ratio	0.26	1.34	1.70	0.43	1.27	0.88	0.41	1.82
Control Delay	30.8	191.2	362.9	17.9	167.3	31.8	8.4	401.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.8	191.2	362.9	17.9	167.3	31.8	8.4	401.3
Queue Length 50th (ft)	23	~484	~325	127	~221	382	102	~644
Queue Length 95th (ft)	56	#616	#498	173	m#257	m404	m113	#637
Internal Link Dist (ft)		409		784		646		439
Turn Bay Length (ft)								
Base Capacity (vph)	194	921	226	1535	235	859	1011	403
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	1.34	1.70	0.43	1.27	0.88	0.41	1.82

Intersection Summary

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

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	894	245	354	527	82	274	698	384	50	593	32
Future Volume (veh/h)	47	894	245	354	527	82	274	698	384	50	593	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	972	266	385	573	89	298	759	417	54	645	35
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	282	720	196	228	1353	210	188	862	933	51	351	18
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Prop Arrive On Green	0.26	0.26	0.26	0.13	0.44	0.44	0.31	0.31	0.31	0.46	0.46	0.46
Unsig. Movement Delay												
Ln Grp Delay, s/veh	26.6	203.0	206.4	368.7	17.8	17.8	325.7	41.2	15.3	367.4	0.0	0.0
Ln Grp LOS	C	F	F	F	B	B	F	D	B	F	A	A
Approach Vol, veh/h		1289			1047			1474			734	
Approach Delay, s/veh		197.7			146.8			91.4			367.4	
Approach LOS		F			F			F			F	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6		8
Case No		5.0	2.0	6.3		8.0		4.0
Phs Duration (G+Y+Rc), s		46.0	16.0	28.0		46.0		44.0
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5
Max Green (Gmax), s		41.5	11.5	23.5		41.5		39.5
Max Allow Headway (MAH), s		5.1	3.8	5.3		5.6		5.3
Max Q Clear (g_c+I1), s		43.5	13.5	25.5		43.5		13.6
Green Ext Time (g_e), s		0.0	0.0	0.0		0.0		4.4
Prob of Phs Call (p_c)		1.00	1.00	1.00		1.00		1.00
Prob of Max Out (p_x)		0.00	1.00	1.00		0.00		0.02

Left-Turn Movement Data								
Assigned Mvmt		5	3	7		1		
Mvmt Sat Flow, veh/h		760	1781	773		19		

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1870		2759		761		3084

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1585		752		39		478

Left Lane Group Data								
Assigned Mvmt	0	5	3	7	0	1	0	0
Lane Assignment		L	L (Prot)	L		L+T+R		

Lanes in Grp	0	1	1	1	0	1	0	0
Grp Vol (v), veh/h	0	298	385	51	0	734	0	0
Grp Sat Flow (s), veh/h/ln	0	760	1781	773	0	819	0	0
Q Serve Time (g_s), s	0.0	0.0	11.5	4.7	0.0	6.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	41.5	11.5	4.7	0.0	41.5	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	760	0	773	0	484	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	235	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	41.5	0.0	23.5	0.0	41.5	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	23.5	0.0	6.8	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	4.7	0.0	6.8	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	12.7	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	12.7	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	1.00	0.00	0.07	0.00	0.00
Lane Grp Cap (c), veh/h	0	188	228	282	0	420	0	0
V/C Ratio (X)	0.00	1.58	1.69	0.18	0.00	1.75	0.00	0.00
Avail Cap (c_a), veh/h	0	188	228	282	0	420	0	0
Upstream Filter (I)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	39.9	39.3	26.3	0.0	22.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	285.8	329.4	0.3	0.0	345.2	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	325.7	368.7	26.6	0.0	367.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.3	4.9	0.9	0.0	5.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	15.0	20.8	0.0	0.0	40.3	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	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	19.3	25.8	0.9	0.0	46.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.76	0.80	0.05	0.00	2.48	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	27.4	39.3	0.0	0.0	78.4	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	0.4	0.4	0.0	0.0	0.4	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T				T
Lanes in Grp	0	1	0	1	0	0	0	1
Grp Vol (v), veh/h	0	759	0	625	0	0	0	330
Grp Sat Flow (s), veh/h/ln	0	1870	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	34.7	0.0	23.5	0.0	0.0	0.0	11.5
Cycle Q Clear Time (g_c), s	0.0	34.7	0.0	23.5	0.0	0.0	0.0	11.5
Lane Grp Cap (c), veh/h	0	862	0	464	0	0	0	780
V/C Ratio (X)	0.00	0.88	0.00	1.35	0.00	0.00	0.00	0.42
Avail Cap (c_a), veh/h	0	862	0	464	0	0	0	780
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	28.7	0.0	33.3	0.0	0.0	0.0	17.4
Incr Delay (d2), s/veh	0.0	12.4	0.0	169.8	0.0	0.0	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	41.2	0.0	203.0	0.0	0.0	0.0	17.8
1st-Term Q (Q1), veh/ln	0.0	16.0	0.0	9.8	0.0	0.0	0.0	4.5
2nd-Term Q (Q2), veh/ln	0.0	3.0	0.0	21.9	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%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	19.0	0.0	31.7	0.0	0.0	0.0	4.6
%ile Storage Ratio (RQ%)	0.00	0.74	0.00	1.81	0.00	0.00	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	40.2	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	0.3	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R				T+R
Lanes in Grp	0	1	0	1	0	0	0	1
Grp Vol (v), veh/h	0	417	0	613	0	0	0	332
Grp Sat Flow (s), veh/h/ln	0	1585	0	1735	0	0	0	1784
Q Serve Time (g_s), s	0.0	15.2	0.0	23.5	0.0	0.0	0.0	11.6
Cycle Q Clear Time (g_c), s	0.0	15.2	0.0	23.5	0.0	0.0	0.0	11.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	1585.1	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	11.5	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.43	0.00	0.05	0.00	0.27
Lane Grp Cap (c), veh/h	0	933	0	453	0	0	0	783
V/C Ratio (X)	0.00	0.45	0.00	1.35	0.00	0.00	0.00	0.42
Avail Cap (c_a), veh/h	0	933	0	453	0	0	0	783
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.7	0.0	33.3	0.0	0.0	0.0	17.4
Incr Delay (d2), s/veh	0.0	1.5	0.0	173.2	0.0	0.0	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	15.3	0.0	206.4	0.0	0.0	0.0	17.8
1st-Term Q (Q1), veh/ln	0.0	5.7	0.0	9.6	0.0	0.0	0.0	4.5
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	21.8	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%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.1	0.0	31.3	0.0	0.0	0.0	4.6
%ile Storage Ratio (RQ%)	0.00	0.24	0.00	1.79	0.00	0.00	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	40.1	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	0.3	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	178.9
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	2866.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	1	58	230	3	138	21	1147	125	108	1085	30
Future Vol, veh/h	33	1	58	230	3	138	21	1147	125	108	1085	30
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	36	1	63	250	3	150	23	1247	136	117	1179	33

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2101	2859	606	2185	2807	692	1212	0	0	1383	0	0
Stage 1	1430	1430	-	1361	1361	-	-	-	-	-	-	-
Stage 2	671	1429	-	824	1446	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 30	17	440	~ 25	18	386	571	-	-	491	-	-
Stage 1	141	199	-	~ 156	215	-	-	-	-	-	-	-
Stage 2	412	199	-	333	195	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 2	4	440	~ 6	4	386	571	-	-	491	-	-
Mov Cap-2 Maneuver	~ 2	4	-	~ 6	4	-	-	-	-	-	-	-
Stage 1	115	52	-	~ 127	175	-	-	-	-	-	-	-
Stage 2	201	162	-	~ 73	51	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, $	9975.5	$ 20519	1.1	5.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	571	-	-	5	9	491	-	-
HCM Lane V/C Ratio	0.04	-	-	20	44.807	0.239	-	-
HCM Control Delay (s)	11.6	1	$ 9975.5	$ 20519	14.6	4.5	-	
HCM Lane LOS	B	A	-	F	F	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	14.5	52.2	0.9	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	23.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	84	158	1064	50	36	1199
Future Vol, veh/h	84	158	1064	50	36	1199
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	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	91	172	1157	54	39	1303

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1914	606	0	0	1211	0
Stage 1	1184	-	-	-	-	-
Stage 2	730	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 60	440	-	-	572	-
Stage 1	253	-	-	-	-	-
Stage 2	438	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 45	440	-	-	572	-
Mov Cap-2 Maneuver	~ 45	-	-	-	-	-
Stage 1	253	-	-	-	-	-
Stage 2	330	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	245.3	0	1.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	45	440	572	-
HCM Lane V/C Ratio	-	-	2.029	0.39	0.068	-
HCM Control Delay (s)	-	-	$ 672.4	18.3	11.8	1.4
HCM Lane LOS	-	-	F	C	B	A
HCM 95th %tile Q(veh)	-	-	9.4	1.8	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	271

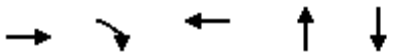
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Vol, veh/h	9	0	39	161	1	31	18	1083	73	36	1261	31
Future Vol, veh/h	9	0	39	161	1	31	18	1083	73	36	1261	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	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	10	0	42	175	1	34	20	1177	79	39	1371	34

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2095	2762	703	2021	2740	628	1405	0	0	1256	0	0
Stage 1	1466	1466	-	1257	1257	-	-	-	-	-	-	-
Stage 2	629	1296	-	764	1483	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	30	19	380	~ 34	20	426	482	-	-	550	-	-
Stage 1	134	191	-	181	241	-	-	-	-	-	-	-
Stage 2	437	231	-	362	187	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	17	11	380	~ 20	12	426	482	-	-	550	-	-
Mov Cap-2 Maneuver	17	11	-	~ 20	12	-	-	-	-	-	-	-
Stage 1	115	128	-	~ 155	207	-	-	-	-	-	-	-
Stage 2	343	198	-	216	126	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	121.9	$ 3800.3	1	2.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	482	-	-	76	24	550	-	-
HCM Lane V/C Ratio	0.041	-	-	0.686	8.741	0.071	-	-
HCM Control Delay (s)	12.8	0.9	-	121.9	$ 3800.3	12	1.9	-
HCM Lane LOS	B	A	-	F	F	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	3.2	26.2	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	311	423	32	1301	1544
v/c Ratio	1.09	0.90	0.09	1.56dl	0.68
Control Delay	114.5	45.0	19.9	67.4	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	114.5	45.0	19.9	67.4	9.4
Queue Length 50th (ft)	~201	149	8	~440	215
Queue Length 95th (ft)	#361	#326	32	#573	m152
Internal Link Dist (ft)	564		680	221	283
Turn Bay Length (ft)					
Base Capacity (vph)	286	471	370	1205	2263
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.09	0.90	0.09	1.08	0.68

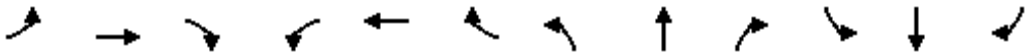
Intersection Summary

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

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

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	277	9	389	5	12	13	210	980	7	4	907	510
Future Volume (veh/h)	277	9	389	5	12	13	210	980	7	4	907	510
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	301	10	423	5	13	14	228	1065	8	4	986	554
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	183	3	343	46	95	74	277	1265	10	41	1489	804
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.68	0.68	0.68	1.00	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	362.1	0.0	162.4	29.1	0.0	0.0	34.0	0.0	17.6	2.4	0.0	3.8
Ln Grp LOS	F	A	F	C	A	A	C	A	B	A	A	A
Approach Vol, veh/h		734			32			1301			1544	
Approach Delay, s/veh		247.0			29.1			21.8			3.0	
Approach LOS		F			C			C			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		8.0		8.0		8.0		7.0
Phs Duration (G+Y+Rc), s		66.0		24.0		66.0		24.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		61.5		19.5		61.5		19.5
Max Allow Headway (MAH), s		5.4		5.6		6.4		4.6
Max Q Clear (g_c+I1), s		2.0		21.5		63.5		21.5
Green Ext Time (g_e), s		19.6		0.0		0.0		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		2		0		307		482

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2179		437		1851		16

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1176		340		14		1585

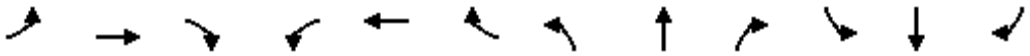
Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment		L+T		L+T+R		L+T		L+T

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	842	0	32	0	332	0	311
Grp Sat Flow (s), veh/h/ln	0	1866	0	777	0	473	0	498
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	60.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	19.5	0.0	61.5	0.0	19.5
Perm LT Sat Flow (s_l), veh/h/ln	0	534	0	970	0	342	0	1405
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	498
Perm LT Eff Green (g_p), s	0.0	61.5	0.0	19.5	0.0	61.5	0.0	19.5
Perm LT Serve Time (g_u), s	0.0	23.7	0.0	0.0	0.0	61.5	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	60.7	0.0	0.0
Time to First Blk (g_f), s	0.0	49.9	0.0	8.7	0.0	0.8	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	1.3	0.0	0.8	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	0.16	0.00	0.69	0.00	0.97
Lane Grp Cap (c), veh/h	0	1315	0	215	0	391	0	187
V/C Ratio (X)	0.00	0.64	0.00	0.15	0.00	0.85	0.00	1.67
Avail Cap (c_a), veh/h	0	1315	0	215	0	391	0	187
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	0.0	0.0	28.8	0.0	13.9	0.0	39.4
Incr Delay (d2), s/veh	0.0	2.4	0.0	0.3	0.0	20.2	0.0	322.7
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	2.4	0.0	29.1	0.0	34.0	0.0	362.1
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.5	0.0	5.4	0.0	4.1
2nd-Term Q (Q2), veh/ln	0.0	0.9	0.0	0.0	0.0	2.2	0.0	16.7
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	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.9	0.0	0.6	0.0	7.6	0.0	20.8
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.02	0.00	0.74	0.00	0.88
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	31.1
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	0.4
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	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	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	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		R
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	702	0	0	0	969	0	423
Grp Sat Flow (s), veh/h/ln	0	1490	0	0	0	1700	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	37.8	0.0	19.5
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	37.8	0.0	19.5
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	0.79	0.00	0.44	0.00	0.01	0.00	1.00
Lane Grp Cap (c), veh/h	0	1018	0	0	0	1161	0	343
V/C Ratio (X)	0.00	0.69	0.00	0.00	0.00	0.83	0.00	1.23
Avail Cap (c_a), veh/h	0	1018	0	0	0	1161	0	343
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	10.5	0.0	35.3
Incr Delay (d2), s/veh	0.0	3.8	0.0	0.0	0.0	7.1	0.0	127.1
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	3.8	0.0	0.0	0.0	17.6	0.0	162.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	11.3	0.0	7.3
2nd-Term Q (Q2), veh/ln	0.0	1.1	0.0	0.0	0.0	2.3	0.0	12.1
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	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.1	0.0	0.0	0.0	13.6	0.0	19.4
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.00	0.00	1.33	0.00	0.82
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	19.9
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

Intersection Summary	
HCM 6th Ctrl Delay	59.6
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	443	227	560	1278	214	188	700	194	44	372	20
Future Volume (veh/h)	17	443	227	560	1278	214	188	700	194	44	372	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	18	482	247	609	1389	233	204	761	211	48	404	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	109	586	298	267	1438	238	237	748	872	57	260	13
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	0.26	0.26	0.26	0.15	0.47	0.47	0.40	0.40	0.40	0.40	0.40	0.40
Unsig. Movement Delay												
Ln Grp Delay, s/veh	35.5	35.9	37.2	617.2	39.0	43.8	57.0	58.3	8.8	236.0	0.0	0.0
Ln Grp LOS	D	D	D	F	D	D	E	F	A	F	A	A
Approach Vol, veh/h		747			2231			1176			474	
Approach Delay, s/veh		36.5			198.6			49.2			236.0	
Approach LOS		D			F			D			F	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6		8
Case No		5.0	2.0	6.3		8.0		4.0
Phs Duration (G+Y+Rc), s		32.5	15.0	22.5		32.5		37.5
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5
Max Green (Gmax), s		28.0	10.5	18.0		28.0		33.0
Max Allow Headway (MAH), s		5.0	3.8	5.5		5.6		5.3
Max Q Clear (g_c+I1), s		30.0	12.5	20.0		30.0		33.7
Green Ext Time (g_e), s		0.0	0.0	0.0		0.0		0.0
Prob of Phs Call (p_c)		1.00	1.00	1.00		1.00		1.00
Prob of Max Out (p_x)		0.00	1.00	1.00		0.00		1.00

Left-Turn Movement Data								
Assigned Mvmt		5	3	7		1		
Mvmt Sat Flow, veh/h		961	1781	311		0		

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1870		2278		650		3051

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1585		1161		32		505

Left Lane Group Data								
Assigned Mvmt	0	5	3	7	0	1	0	0
Lane Assignment		L	L (Prot)	L		L+T+R		

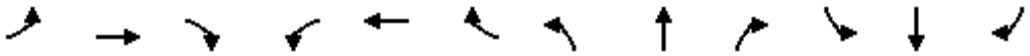
Lanes in Grp	0	1	1	1	0	1	0	0
Grp Vol (v), veh/h	0	204	609	18	0	474	0	0
Grp Sat Flow (s), veh/h/ln	0	961	1781	311	0	682	0	0
Q Serve Time (g_s), s	0.0	0.0	10.5	1.3	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	28.0	10.5	18.0	0.0	28.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	961	0	311	0	588	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	336	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	28.0	0.0	18.0	0.0	28.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	10.3	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	10.3	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	1.00	0.00	0.10	0.00	0.00
Lane Grp Cap (c), veh/h	0	237	267	109	0	329	0	0
V/C Ratio (X)	0.00	0.86	2.28	0.17	0.00	1.44	0.00	0.00
Avail Cap (c_a), veh/h	0	237	267	109	0	329	0	0
Upstream Filter (I)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	25.8	29.7	34.8	0.0	21.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	31.2	587.4	0.7	0.0	214.3	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	57.0	617.2	35.5	0.0	236.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.4	4.3	0.3	0.0	4.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	2.1	43.6	0.0	0.0	19.6	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	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	5.4	47.9	0.3	0.0	23.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.21	1.49	0.02	0.00	1.28	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	85.5	0.0	0.0	36.2	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	0.6	0.0	0.0	0.4	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T				T
Lanes in Grp	0	1	0	1	0	0	0	1
Grp Vol (v), veh/h	0	761	0	375	0	0	0	802
Grp Sat Flow (s), veh/h/ln	0	1870	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	28.0	0.0	13.9	0.0	0.0	0.0	30.4
Cycle Q Clear Time (g_c), s	0.0	28.0	0.0	13.9	0.0	0.0	0.0	30.4
Lane Grp Cap (c), veh/h	0	748	0	457	0	0	0	838
V/C Ratio (X)	0.00	1.02	0.00	0.82	0.00	0.00	0.00	0.96
Avail Cap (c_a), veh/h	0	748	0	457	0	0	0	838
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.0	0.0	24.5	0.0	0.0	0.0	17.8
Incr Delay (d2), s/veh	0.0	37.3	0.0	11.4	0.0	0.0	0.0	21.2
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	58.3	0.0	35.9	0.0	0.0	0.0	39.0
1st-Term Q (Q1), veh/ln	0.0	10.9	0.0	5.5	0.0	0.0	0.0	10.8
2nd-Term Q (Q2), veh/ln	0.0	7.7	0.0	1.5	0.0	0.0	0.0	4.9

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	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	18.7	0.0	6.9	0.0	0.0	0.0	15.7
%ile Storage Ratio (RQ%)	0.00	0.73	0.00	0.40	0.00	0.00	0.00	0.49
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	3.2	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	0.3	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		R		T+R				T+R
Lanes in Grp	0	1	0	1	0	0	0	1
Grp Vol (v), veh/h	0	211	0	354	0	0	0	820
Grp Sat Flow (s), veh/h/ln	0	1585	0	1661	0	0	0	1779
Q Serve Time (g_s), s	0.0	4.8	0.0	14.1	0.0	0.0	0.0	31.7
Cycle Q Clear Time (g_c), s	0.0	4.8	0.0	14.1	0.0	0.0	0.0	31.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	1585.1	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	10.5	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.70	0.00	0.05	0.00	0.28
Lane Grp Cap (c), veh/h	0	872	0	427	0	0	0	839
V/C Ratio (X)	0.00	0.24	0.00	0.83	0.00	0.00	0.00	0.98
Avail Cap (c_a), veh/h	0	872	0	427	0	0	0	839
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.2	0.0	24.5	0.0	0.0	0.0	18.1
Incr Delay (d2), s/veh	0.0	0.7	0.0	12.7	0.0	0.0	0.0	25.7
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	8.8	0.0	37.2	0.0	0.0	0.0	43.8
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	5.2	0.0	0.0	0.0	11.2
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	1.5	0.0	0.0	0.0	6.0
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	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.6	0.0	6.7	0.0	0.0	0.0	17.2
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.38	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

Intersection Summary	
HCM 6th Ctrl Delay	138.3
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1	22	115	3	51	34	1035	202	171	1045	56
Future Volume (Veh/h)	9	1	22	115	3	51	34	1035	202	171	1045	56
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	1	24	125	3	55	37	1125	220	186	1136	61
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1090			726	
pX, platoon unblocked	0.90	0.90		0.90	0.90	0.90				0.90		
vC, conflicting volume	2232	2958	598	2274	2878	672	1197			1345		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2151	2953	598	2197	2865	428	1197			1171		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	14	87	95	0	67	89	94			65		
cM capacity (veh/h)	12	8	445	14	9	521	579			536		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	35	183	600	782	754	629
Volume Left	10	125	37	0	186	0
Volume Right	24	55	0	220	0	61
cSH	34	19	579	1700	536	1700
Volume to Capacity	1.04	9.65	0.06	0.46	0.35	0.37
Queue Length 95th (ft)	93	Err	5	0	39	0
Control Delay (s)	345.5	Err	1.8	0.0	9.7	0.0
Lane LOS	F	F	A		A	
Approach Delay (s)	345.5	Err	0.8		5.3	
Approach LOS	F	F				

Intersection Summary				
Average Delay	620.3			
Intersection Capacity Utilization	98.0%	ICU Level of Service	F	
Analysis Period (min)	15			

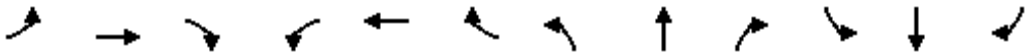
Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	30	1173	33	29	1088
Future Vol, veh/h	16	30	1173	33	29	1088
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	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	17	33	1275	36	32	1183

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1949	656	0	0	1311	0
Stage 1	1293	-	-	-	-	-
Stage 2	656	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	56	408	-	-	524	-
Stage 1	221	-	-	-	-	-
Stage 2	478	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	46	408	-	-	524	-
Mov Cap-2 Maneuver	46	-	-	-	-	-
Stage 1	221	-	-	-	-	-
Stage 2	393	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	52.9	0	1.3
HCM LOS	F		

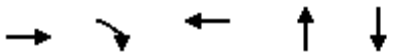
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	46	408	524	-
HCM Lane V/C Ratio	-	-	0.378	0.08	0.06	-
HCM Control Delay (s)	-	-	124.7	14.6	12.3	1
HCM Lane LOS	-	-	F	B	B	A
HCM 95th %tile Q(veh)	-	-	1.3	0.3	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	2	18	47	2	24	33	1241	152	87	1035	15
Future Volume (Veh/h)	1	2	18	47	2	24	33	1241	152	87	1035	15
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	2	20	51	2	26	36	1349	165	95	1125	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								363				
pX, platoon unblocked	0.78	0.78		0.78	0.78	0.78				0.78		
vC, conflicting volume	2096	2909	570	2277	2834	757	1141			1514		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1844	2884	570	2075	2788	131	1141			1099		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	79	96	0	82	96	94			81		
cM capacity (veh/h)	25	9	464	16	11	699	608			493		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	23	79	710	840	658	578
Volume Left	1	51	36	0	95	0
Volume Right	20	26	0	165	0	16
cSH	78	23	608	1700	493	1700
Volume to Capacity	0.29	3.42	0.06	0.49	0.19	0.34
Queue Length 95th (ft)	27	Err	5	0	18	0
Control Delay (s)	69.4	Err	1.6	0.0	5.5	0.0
Lane LOS	F	F	A		A	
Approach Delay (s)	69.4	Err	0.7		2.9	
Approach LOS	F	F				

Intersection Summary				
Average Delay	275.7			
Intersection Capacity Utilization	92.6%	ICU Level of Service	F	
Analysis Period (min)	15			

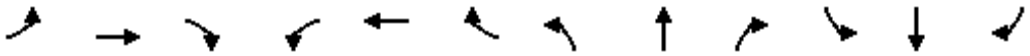


Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	355	316	21	1448	1147
v/c Ratio	1.17	0.54	0.06	1.08	0.52
Control Delay	139.0	9.0	17.5	68.5	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	139.0	9.0	17.5	68.5	5.7
Queue Length 50th (ft)	~242	13	4	~492	96
Queue Length 95th (ft)	#411	84	22	#628	137
Internal Link Dist (ft)	564		680	221	283
Turn Bay Length (ft)					
Base Capacity (vph)	304	582	380	1335	2210
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.17	0.54	0.06	1.08	0.52

Intersection Summary

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	316	11	291	3	5	12	218	1099	15	10	633	412
Future Volume (veh/h)	316	11	291	3	5	12	218	1099	15	10	633	412
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	343	12	316	3	5	13	237	1195	16	11	688	448
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	182	4	361	46	68	110	246	1354	20	47	1351	867
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	0.23	0.23	0.23	0.23	0.23	0.23	0.67	0.67	0.67	0.67	0.67	0.67
Unsig. Movement Delay												
Ln Grp Delay, s/veh	469.5	0.0	54.1	28.0	0.0	0.0	87.6	0.0	17.2	8.7	0.0	9.3
Ln Grp LOS	F	A	D	C	A	A	F	A	B	A	A	A
Approach Vol, veh/h		671			21			1448			1147	
Approach Delay, s/veh		273.9			28.0			42.3			9.0	
Approach LOS		F			C			D			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		8.0		8.0		8.0		7.0
Phs Duration (G+Y+Rc), s		65.0		25.0		65.0		25.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		60.5		20.5		60.5		20.5
Max Allow Headway (MAH), s		5.4		5.6		5.9		4.7
Max Q Clear (g_c+I1), s		17.7		22.5		62.5		22.5
Green Ext Time (g_e), s		10.9		0.0		0.0		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		10		0		280		453

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2009		298		2015		16

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1290		484		29		1585

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment		L+T		L+T+R		L+T		L+T

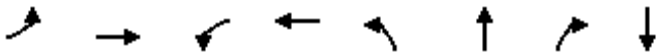
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	637	0	21	0	516	0	355
Grp Sat Flow (s), veh/h/ln	0	1840	0	782	0	627	0	469
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	44.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	15.2	0.0	20.5	0.0	60.5	0.0	20.5
Perm LT Sat Flow (s_l), veh/h/ln	0	469	0	1069	0	503	0	1417
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	469
Perm LT Eff Green (g_p), s	0.0	60.5	0.0	20.5	0.0	60.5	0.0	20.5
Perm LT Serve Time (g_u), s	0.0	24.6	0.0	0.0	0.0	44.8	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	44.8	0.0	0.0
Time to First Blk (g_f), s	0.0	40.7	0.0	9.5	0.0	0.6	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	15.2	0.0	0.9	0.0	0.6	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.02	0.00	0.14	0.00	0.46	0.00	0.97
Lane Grp Cap (c), veh/h	0	1277	0	224	0	480	0	186
V/C Ratio (X)	0.00	0.50	0.00	0.09	0.00	1.08	0.00	1.91
Avail Cap (c_a), veh/h	0	1277	0	224	0	480	0	186
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	7.3	0.0	27.8	0.0	24.4	0.0	39.1
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.2	0.0	63.2	0.0	430.4
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	8.7	0.0	28.0	0.0	87.6	0.0	469.5
1st-Term Q (Q1), veh/ln	0.0	5.1	0.0	0.3	0.0	10.6	0.0	4.1
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	8.4	0.0	22.2
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	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.6	0.0	0.4	0.0	19.0	0.0	26.3
%ile Storage Ratio (RQ%)	0.00	0.47	0.00	0.01	0.00	1.85	0.00	1.11
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	9.2	0.0	42.4
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	0.3	0.0	0.5

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	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	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	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		R
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	510	0	0	0	932	0	316
Grp Sat Flow (s), veh/h/ln	0	1470	0	0	0	1697	0	1585
Q Serve Time (g_s), s	0.0	15.7	0.0	0.0	0.0	35.9	0.0	17.3
Cycle Q Clear Time (g_c), s	0.0	15.7	0.0	0.0	0.0	35.9	0.0	17.3
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	0.88	0.00	0.62	0.00	0.02	0.00	1.00
Lane Grp Cap (c), veh/h	0	988	0	0	0	1141	0	361
V/C Ratio (X)	0.00	0.52	0.00	0.00	0.00	0.82	0.00	0.88
Avail Cap (c_a), veh/h	0	988	0	0	0	1141	0	361
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	7.4	0.0	0.0	0.0	10.7	0.0	33.5
Incr Delay (d2), s/veh	0.0	1.9	0.0	0.0	0.0	6.5	0.0	20.6
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	9.3	0.0	0.0	0.0	17.2	0.0	54.1
1st-Term Q (Q1), veh/ln	0.0	4.1	0.0	0.0	0.0	10.9	0.0	6.5
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	2.1	0.0	2.1
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	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.7	0.0	0.0	0.0	13.0	0.0	8.5
%ile Storage Ratio (RQ%)	0.00	0.39	0.00	0.00	0.00	1.27	0.00	0.36
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	77.9
HCM 6th LOS	E



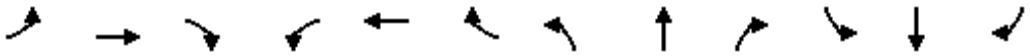
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	51	1237	378	662	286	728	374	728
v/c Ratio	0.26	1.34	1.67	0.43	1.21	0.85	0.37	1.62
Control Delay	30.8	190.8	349.8	17.9	142.6	29.4	7.9	314.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.8	190.8	349.8	17.9	142.6	29.4	7.9	314.6
Queue Length 50th (ft)	23	~483	~317	127	~207	362	89	~609
Queue Length 95th (ft)	56	#616	#489	173	m#241	m385	m98	#829
Internal Link Dist (ft)		409		784		646		439
Turn Bay Length (ft)								
Base Capacity (vph)	194	921	226	1535	237	859	1011	448
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	1.34	1.67	0.43	1.21	0.85	0.37	1.63

Intersection Summary

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

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	894	244	348	527	82	263	670	344	50	588	32
Future Volume (veh/h)	47	894	244	348	527	82	263	670	344	50	588	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	972	265	378	573	89	286	728	374	54	639	35
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	282	721	196	228	1353	210	189	862	933	54	381	20
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Prop Arrive On Green	0.26	0.26	0.26	0.13	0.44	0.44	0.31	0.31	0.31	0.46	0.46	0.46
Unsig. Movement Delay												
Ln Grp Delay, s/veh	26.6	202.5	205.9	355.3	17.8	17.8	297.3	38.0	14.5	303.2	0.0	0.0
Ln Grp LOS	C	F	F	F	B	B	F	D	B	F	A	A
Approach Vol, veh/h		1288			1040			1388			728	
Approach Delay, s/veh		197.2			140.4			85.1			303.2	
Approach LOS		F			F			F			F	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6		8
Case No		5.0	2.0	6.3		8.0		4.0
Phs Duration (G+Y+Rc), s		46.0	16.0	28.0		46.0		44.0
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5
Max Green (Gmax), s		41.5	11.5	23.5		41.5		39.5
Max Allow Headway (MAH), s		5.1	3.8	5.3		5.6		5.3
Max Q Clear (g_c+I1), s		43.5	13.5	25.5		43.5		13.6
Green Ext Time (g_e), s		0.0	0.0	0.0		0.0		4.4
Prob of Phs Call (p_c)		1.00	1.00	1.00		1.00		1.00
Prob of Max Out (p_x)		0.00	1.00	1.00		0.00		0.02

Left-Turn Movement Data								
Assigned Mvmt		5	3	7		1		
Mvmt Sat Flow, veh/h		764	1781	773		24		

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1870		2762		827		3084

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1585		750		43		478

Left Lane Group Data								
Assigned Mvmt	0	5	3	7	0	1	0	0
Lane Assignment		L	L (Prot)	L		L+T+R		

Lanes in Grp	0	1	1	1	0	1	0	0
Grp Vol (v), veh/h	0	286	378	51	0	728	0	0
Grp Sat Flow (s), veh/h/ln	0	764	1781	773	0	894	0	0
Q Serve Time (g_s), s	0.0	0.0	11.5	4.7	0.0	8.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	41.5	11.5	4.7	0.0	41.5	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	764	0	773	0	520	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	236	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	41.5	0.0	23.5	0.0	41.5	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	23.5	0.0	8.8	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	4.7	0.0	8.8	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	12.7	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	12.7	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	1.00	0.00	0.07	0.00	0.00
Lane Grp Cap (c), veh/h	0	189	228	282	0	455	0	0
V/C Ratio (X)	0.00	1.52	1.66	0.18	0.00	1.60	0.00	0.00
Avail Cap (c_a), veh/h	0	189	228	282	0	455	0	0
Upstream Filter (I)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	39.9	39.3	26.3	0.0	23.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	257.4	316.0	0.3	0.0	279.8	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	297.3	355.3	26.6	0.0	303.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.3	4.9	0.9	0.0	6.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	13.5	20.0	0.0	0.0	35.4	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	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	17.8	24.9	0.9	0.0	41.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.70	0.78	0.05	0.00	2.25	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	24.3	37.6	0.0	0.0	68.2	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	0.4	0.4	0.0	0.0	0.4	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T				T
Lanes in Grp	0	1	0	1	0	0	0	1
Grp Vol (v), veh/h	0	728	0	624	0	0	0	330
Grp Sat Flow (s), veh/h/ln	0	1870	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	32.7	0.0	23.5	0.0	0.0	0.0	11.5
Cycle Q Clear Time (g_c), s	0.0	32.7	0.0	23.5	0.0	0.0	0.0	11.5
Lane Grp Cap (c), veh/h	0	862	0	464	0	0	0	780
V/C Ratio (X)	0.00	0.84	0.00	1.35	0.00	0.00	0.00	0.42
Avail Cap (c_a), veh/h	0	862	0	464	0	0	0	780
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	28.1	0.0	33.3	0.0	0.0	0.0	17.4
Incr Delay (d2), s/veh	0.0	9.9	0.0	169.3	0.0	0.0	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	38.0	0.0	202.5	0.0	0.0	0.0	17.8
1st-Term Q (Q1), veh/ln	0.0	15.1	0.0	9.8	0.0	0.0	0.0	4.5
2nd-Term Q (Q2), veh/ln	0.0	2.4	0.0	21.8	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%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	17.5	0.0	31.6	0.0	0.0	0.0	4.6
%ile Storage Ratio (RQ%)	0.00	0.68	0.00	1.81	0.00	0.00	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	40.1	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	0.3	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R				T+R
Lanes in Grp	0	1	0	1	0	0	0	1
Grp Vol (v), veh/h	0	374	0	613	0	0	0	332
Grp Sat Flow (s), veh/h/ln	0	1585	0	1735	0	0	0	1784
Q Serve Time (g_s), s	0.0	13.3	0.0	23.5	0.0	0.0	0.0	11.6
Cycle Q Clear Time (g_c), s	0.0	13.3	0.0	23.5	0.0	0.0	0.0	11.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	1585.1	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	11.5	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.43	0.00	0.05	0.00	0.27
Lane Grp Cap (c), veh/h	0	933	0	453	0	0	0	783
V/C Ratio (X)	0.00	0.40	0.00	1.35	0.00	0.00	0.00	0.42
Avail Cap (c_a), veh/h	0	933	0	453	0	0	0	783
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.3	0.0	33.3	0.0	0.0	0.0	17.4
Incr Delay (d2), s/veh	0.0	1.3	0.0	172.6	0.0	0.0	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	14.5	0.0	205.9	0.0	0.0	0.0	17.8
1st-Term Q (Q1), veh/ln	0.0	5.0	0.0	9.6	0.0	0.0	0.0	4.5
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	21.7	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%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.3	0.0	31.3	0.0	0.0	0.0	4.6
%ile Storage Ratio (RQ%)	0.00	0.21	0.00	1.79	0.00	0.00	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	39.9	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	0.3	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	166.3
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	1554.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	1	49	230	3	138	15	1068	125	108	1073	30
Future Vol, veh/h	33	1	49	230	3	138	15	1068	125	108	1073	30
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	36	1	53	250	3	150	16	1161	136	117	1166	33

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2031	2746	600	2079	2694	649	1199	0	0	1297	0	0
Stage 1	1417	1417	-	1261	1261	-	-	-	-	-	-	-
Stage 2	614	1329	-	818	1433	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 33	20	444	~ 31	21	412	578	-	-	530	-	-
Stage 1	144	201	-	~ 180	240	-	-	-	-	-	-	-
Stage 2	446	222	-	336	198	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 6	6	444	~ 10	6	412	578	-	-	530	-	-
Mov Cap-2 Maneuver	~ 6	6	-	~ 10	6	-	-	-	-	-	-	-
Stage 1	129	67	-	~ 161	215	-	-	-	-	-	-	-
Stage 2	250	199	-	~ 97	66	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 2985.8	$ 11351.2	0.7	4.6
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	578	-	-	14	16	530	-	-
HCM Lane V/C Ratio	0.028	-	-	6.444	25.204	0.221	-	-
HCM Control Delay (s)	11.4	0.6	-	$ 2985.8	$ 11351.2	13.7	3.8	-
HCM Lane LOS	B	A	-	F	F	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	12.3	51.4	0.8	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	84	1053	27	16	1198
Future Vol, veh/h	20	84	1053	27	16	1198
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	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	22	91	1145	29	17	1302

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1845	587	0	0	1174	0
Stage 1	1160	-	-	-	-	-
Stage 2	685	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	66	453	-	-	591	-
Stage 1	260	-	-	-	-	-
Stage 2	462	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	59	453	-	-	591	-
Mov Cap-2 Maneuver	59	-	-	-	-	-
Stage 1	260	-	-	-	-	-
Stage 2	414	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	30.9	0	0.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	59	453	591	-
HCM Lane V/C Ratio	-	-	0.368	0.202	0.029	-
HCM Control Delay (s)	-	-	98	14.9	11.3	0.6
HCM Lane LOS	-	-	F	B	B	A
HCM 95th %tile Q(veh)	-	-	1.4	0.7	0.1	-

Intersection	
Int Delay, s/veh	197

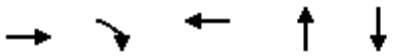
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	39	152	1	20	18	1066	70	35	1216	12
Future Vol, veh/h	3	0	39	152	1	20	18	1066	70	35	1216	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	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	3	0	42	165	1	22	20	1159	76	38	1322	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2025	2680	668	1974	2648	618	1335	0	0	1235	0	0
Stage 1	1405	1405	-	1237	1237	-	-	-	-	-	-	-
Stage 2	620	1275	-	737	1411	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	34	22	401	~ 37	23	432	513	-	-	560	-	-
Stage 1	147	204	-	186	246	-	-	-	-	-	-	-
Stage 2	442	236	-	376	203	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	22	14	401	~ 24	15	432	513	-	-	560	-	-
Mov Cap-2 Maneuver	22	14	-	~ 24	15	-	-	-	-	-	-	-
Stage 1	128	150	-	~ 162	215	-	-	-	-	-	-	-
Stage 2	364	206	-	247	149	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	31.7	$ 2970	0.9	1.8
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	513	-	-	180	27	560	-	-
HCM Lane V/C Ratio	0.038	-	-	0.254	6.965	0.068	-	-
HCM Control Delay (s)	12.3	0.8	-	31.7	$ 2970	11.9	1.5	-
HCM Lane LOS	B	A	-	D	F	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1	23.2	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	302	423	32	1287	1487
v/c Ratio	1.06	0.88	0.09	1.42dl	0.66
Control Delay	105.3	41.4	19.9	58.0	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	105.3	41.4	19.9	58.0	9.0
Queue Length 50th (ft)	~190	141	8	~426	206
Queue Length 95th (ft)	#349	#314	32	#559	m144
Internal Link Dist (ft)	564		680	221	283
Turn Bay Length (ft)					
Base Capacity (vph)	286	480	370	1221	2263
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.06	0.88	0.09	1.05	0.66

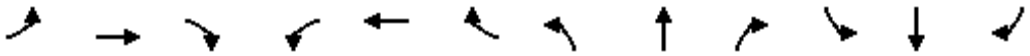
Intersection Summary

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

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

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	269	9	389	5	12	13	210	967	7	4	873	491
Future Volume (veh/h)	269	9	389	5	12	13	210	967	7	4	873	491
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	292	10	423	5	13	14	228	1051	8	4	949	534
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	183	4	343	46	95	74	286	1277	10	41	1484	808
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.68	0.68	0.68	1.00	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	341.1	0.0	162.4	29.1	0.0	0.0	29.8	0.0	16.6	2.2	0.0	3.4
Ln Grp LOS	F	A	F	C	A	A	C	A	B	A	A	A
Approach Vol, veh/h		725			32			1287			1487	
Approach Delay, s/veh		236.8			29.1			20.0			2.7	
Approach LOS		F			C			C			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		8.0		8.0		8.0		7.0
Phs Duration (G+Y+Rc), s		66.0		24.0		66.0		24.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		61.5		19.5		61.5		19.5
Max Allow Headway (MAH), s		5.4		5.6		6.4		4.6
Max Q Clear (g_c+I1), s		2.0		21.5		60.6		21.5
Green Ext Time (g_e), s		18.1		0.0		0.8		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		2		0		321		481

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2172		437		1868		16

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1182		340		14		1585

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment		L+T		L+T+R		L+T		L+T

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	814	0	32	0	340	0	302
Grp Sat Flow (s), veh/h/ln	0	1866	0	777	0	504	0	498
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	57.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	19.5	0.0	58.6	0.0	19.5
Perm LT Sat Flow (s_l), veh/h/ln	0	541	0	970	0	361	0	1405
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	498
Perm LT Eff Green (g_p), s	0.0	61.5	0.0	19.5	0.0	61.5	0.0	19.5
Perm LT Serve Time (g_u), s	0.0	25.6	0.0	0.0	0.0	61.5	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	57.8	0.0	0.0
Time to First Blk (g_f), s	0.0	49.9	0.0	8.7	0.0	0.8	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	1.3	0.0	0.8	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	0.16	0.00	0.67	0.00	0.97
Lane Grp Cap (c), veh/h	0	1315	0	215	0	411	0	187
V/C Ratio (X)	0.00	0.62	0.00	0.15	0.00	0.83	0.00	1.62
Avail Cap (c_a), veh/h	0	1315	0	215	0	411	0	187
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	0.0	0.0	28.8	0.0	12.7	0.0	39.4
Incr Delay (d2), s/veh	0.0	2.2	0.0	0.3	0.0	17.1	0.0	301.7
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	2.2	0.0	29.1	0.0	29.8	0.0	341.1
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.5	0.0	5.0	0.0	4.1
2nd-Term Q (Q2), veh/ln	0.0	0.8	0.0	0.0	0.0	2.0	0.0	15.6
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	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.8	0.0	0.6	0.0	7.0	0.0	19.8
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.02	0.00	0.68	0.00	0.83
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	28.9
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	0.4
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	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	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	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		R
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	673	0	0	0	947	0	423
Grp Sat Flow (s), veh/h/ln	0	1489	0	0	0	1699	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	35.9	0.0	19.5
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	35.9	0.0	19.5
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	0.79	0.00	0.44	0.00	0.01	0.00	1.00
Lane Grp Cap (c), veh/h	0	1018	0	0	0	1161	0	343
V/C Ratio (X)	0.00	0.66	0.00	0.00	0.00	0.82	0.00	1.23
Avail Cap (c_a), veh/h	0	1018	0	0	0	1161	0	343
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	10.2	0.0	35.3
Incr Delay (d2), s/veh	0.0	3.4	0.0	0.0	0.0	6.4	0.0	127.1
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	3.4	0.0	0.0	0.0	16.6	0.0	162.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	10.7	0.0	7.3
2nd-Term Q (Q2), veh/ln	0.0	1.0	0.0	0.0	0.0	2.1	0.0	12.1
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	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.0	0.0	0.0	0.0	12.8	0.0	19.4
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.00	0.00	1.24	0.00	0.82
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	19.9
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

Intersection Summary	
HCM 6th Ctrl Delay	57.3
HCM 6th LOS	E

Appendix D

Signal Warrant Analyses

Warrant 3: Peak Hour

3: Santa Fe Avenue & Bay Street - FWP AM

Intersection Informatior

	Major Street	Minor Street
Street Name	Santa Fe Avenue	Bay Street
Direction	NB/SB	WB
Number of Lane:	2	2
Approch Speed	30	25

Warrant 3 Met? **No**

Details

Low Population? No

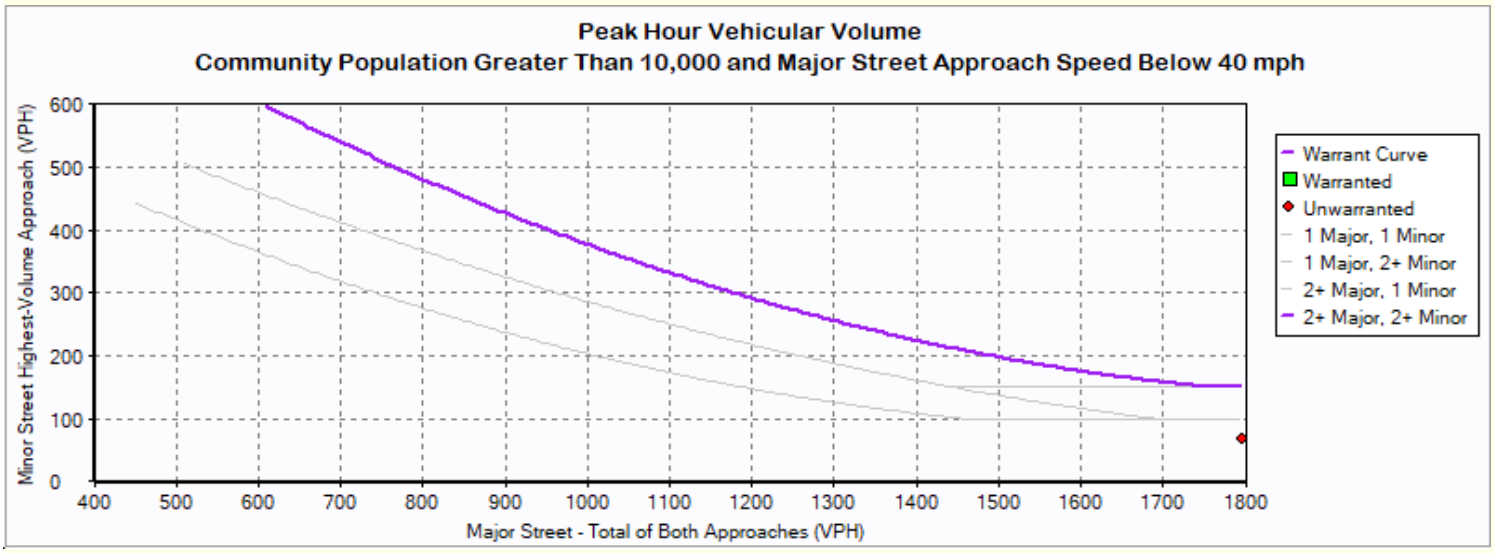
Condition A Met' No

Notes 0 Hours met (1 required)

Condition B Met' No

Notes 0 Hours met (1 required)

Minor Approach Time Delay Condition Met?	Not Met
Minor Approach Volume Condition Met?	Not Met
Total Entering Intersection Volume Condition Met?	Not Met



Warrant 3: Peak Hour

3: Santa Fe Avenue & Bay Street - FWP AM

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
7:45	2,459	68

Warrant 3: Peak Hour

3: Santa Fe Avenue & Bay Street - FWP PM

Intersection Informatior

	Major Street	Minor Street
Street Name	Santa Fe Avenue	Bay Street
Direction	NB/SB	WB
Number of Lane:	2	2
Approch Speed	30	25

Warrant 3 Met? **Yes**

Details

Low Population? No

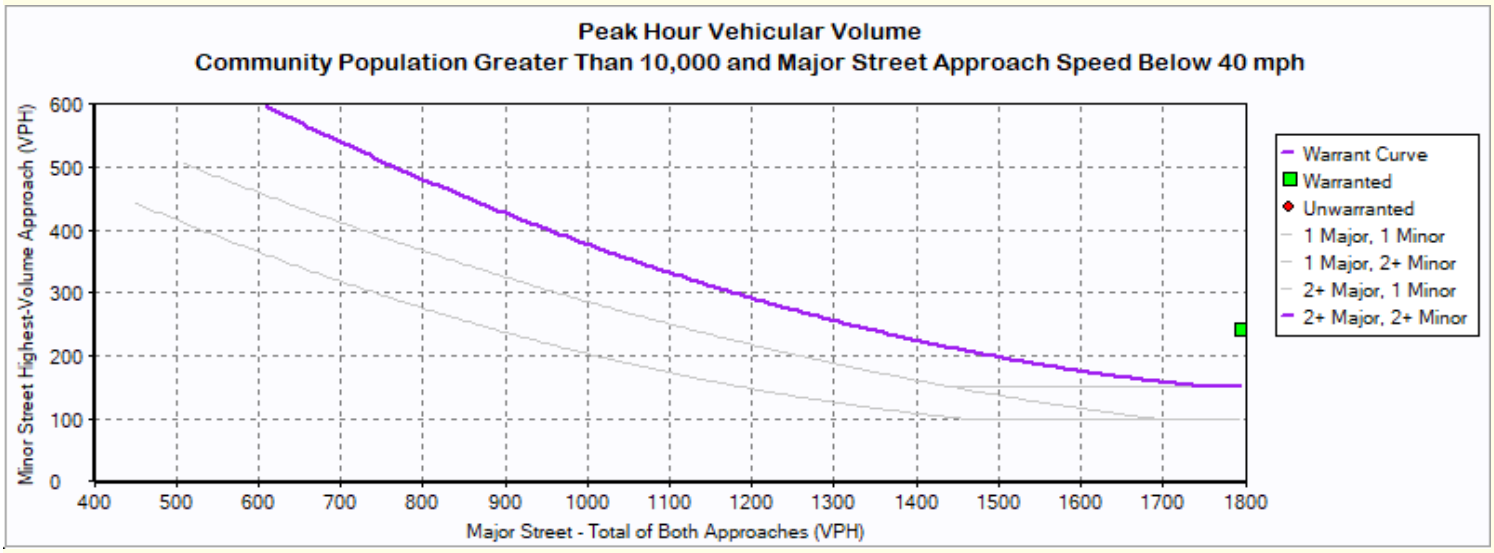
Condition A Met' No

Condition B Met' Yes

Notes 0 Hours met (1 required)

Notes 1 Hours met (1 required)

Minor Approach Time Delay Condition Met?	Not Met
Minor Approach Volume Condition Met?	Met
Total Entering Intersection Volume Condition Met?	Not Met



Warrant 3: Peak Hour

3: Santa Fe Avenue & Bay Street - FWP PM

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
17:00	2,349	242

Warrant 3: Peak Hour

4: Santa Fe Avenue & Sacramento Street - FWP AM

Intersection Informatior

	Major Street	Minor Street
Street Name	Santa Fe Avenue	Sacramento Street
Direction	NB/SB	EB/WB
Number of Lane:	2	1
Approch Speed	30	25

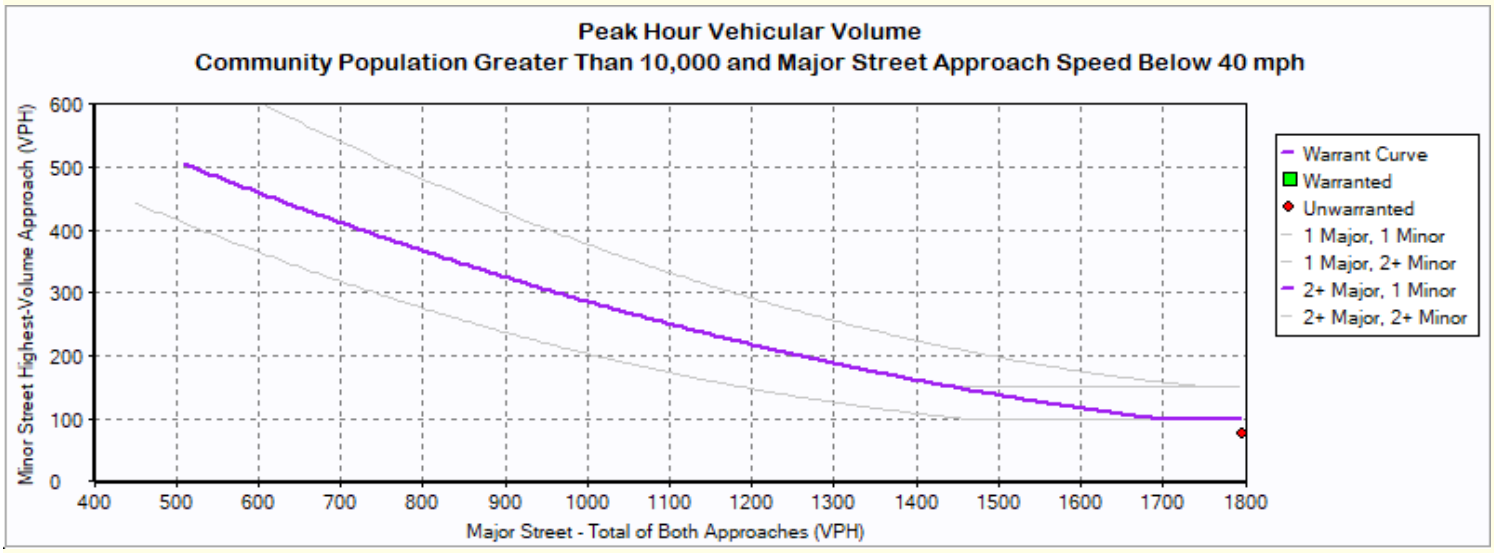
Warrant 3 Met? **No**

Details

Low Population? No

Condition A Met	No	**Condition B Met**	No
Notes	0 Hours met (1 required)	**Notes**	0 Hours met (1 required)

Minor Approach Time Delay Condition Met?	Not Met
Minor Approach Volume Condition Met?	Not Met
Total Entering Intersection Volume Condition Met?	Not Met



Warrant 3: Peak Hour

4: Santa Fe Avenue & Sacramento Street - FWP AM

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
7:45	2,638	76

Warrant 3: Peak Hour

4: Santa Fe Avenue & Sacramento Street - FWP PM

Intersection Informatior

	Major Street	Minor Street
Street Name	Santa Fe Avenue	Sacramento Street
Direction	NB/SB	EB/WB
Number of Lane:	2	1
Approch Speed	30	25

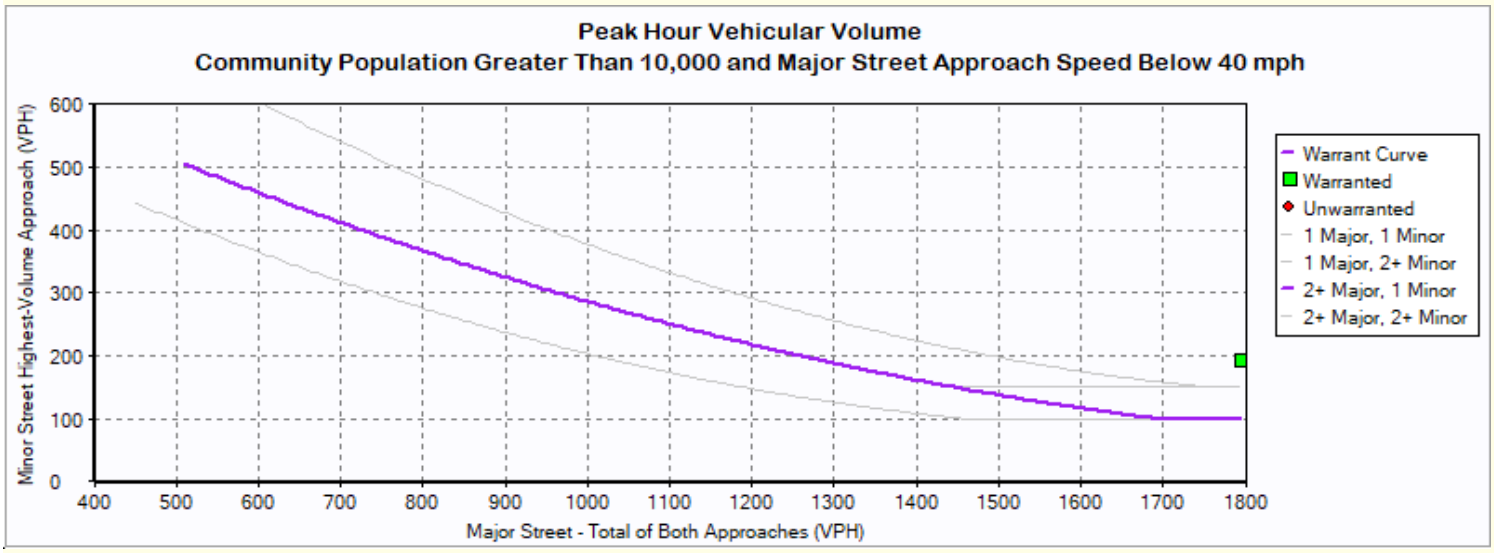
Warrant 3 Met? **Yes**

Details

Low Population? No

Condition A Met	No	**Condition B Met**	Yes
Notes	0 Hours met (1 required)	**Notes**	1 Hours met (1 required)

Minor Approach Time Delay Condition Met?	Not Met
Minor Approach Volume Condition Met?	Met
Total Entering Intersection Volume Condition Met?	Not Met



Warrant 3: Peak Hour

4: Santa Fe Avenue & Sacramento Street - FWP PM

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
17:00	2,502	193

Warrant 3: Peak Hour

3: Santa Fe Avenue & Bay Street - FWOP AM

Intersection Informatior

	Major Street	Minor Street
Street Name	Santa Fe Avenue	Bay Street
Direction	NB/SB	WB
Number of Lane:	2	2
Approch Speed	30	25

Warrant 3 Met? **No**

Details

Low Population? No

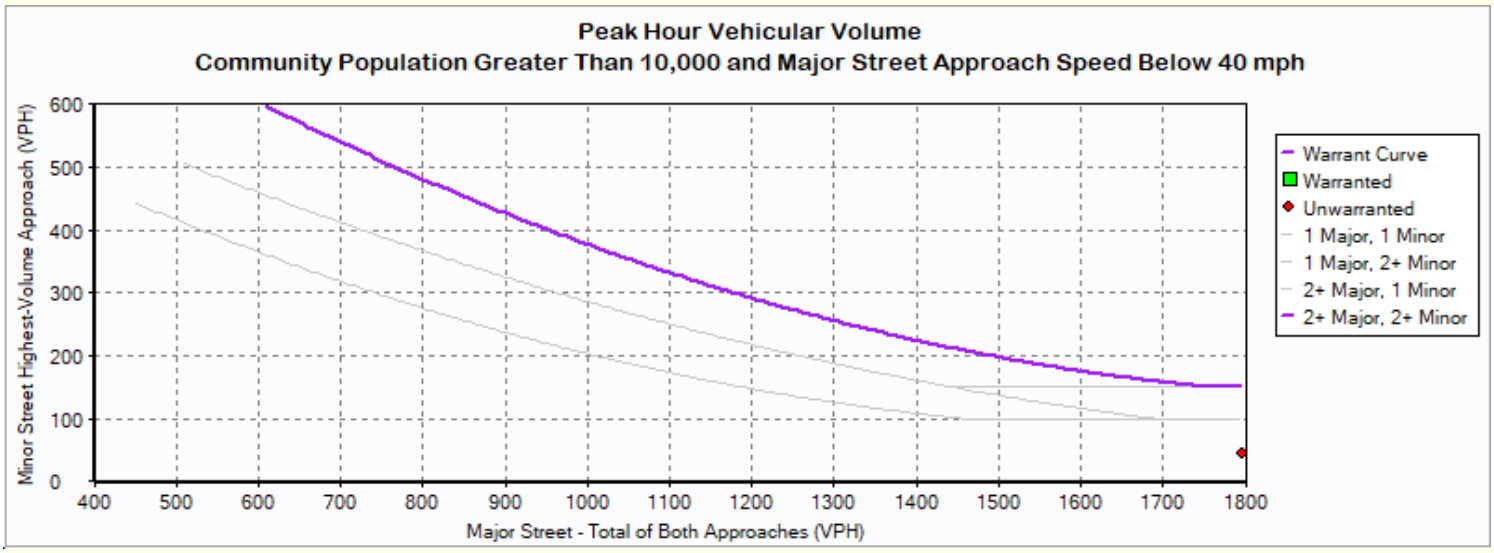
Condition A Met No

Notes 0 Hours met (1 required)

Condition B Met No

Notes 0 Hours met (1 required)

Minor Approach Time Delay Condition Met?	Not Met
Minor Approach Volume Condition Met?	Not Met
Total Entering Intersection Volume Condition Met?	Not Met



Warrant 3: Peak Hour

3: Santa Fe Avenue & Bay Street - FWOP AM

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
7:45	2,323	46

Warrant 3: Peak Hour

3: Santa Fe Avenue & Bay Street - FWOP PM

Intersection Informatior

	Major Street	Minor Street
Street Name	Santa Fe Avenue	Bay Street
Direction	NB/SB	WB
Number of Lane:	2	2
Approch Speed	30	25

Warrant 3 Met? **No**

Details

Low Population? No

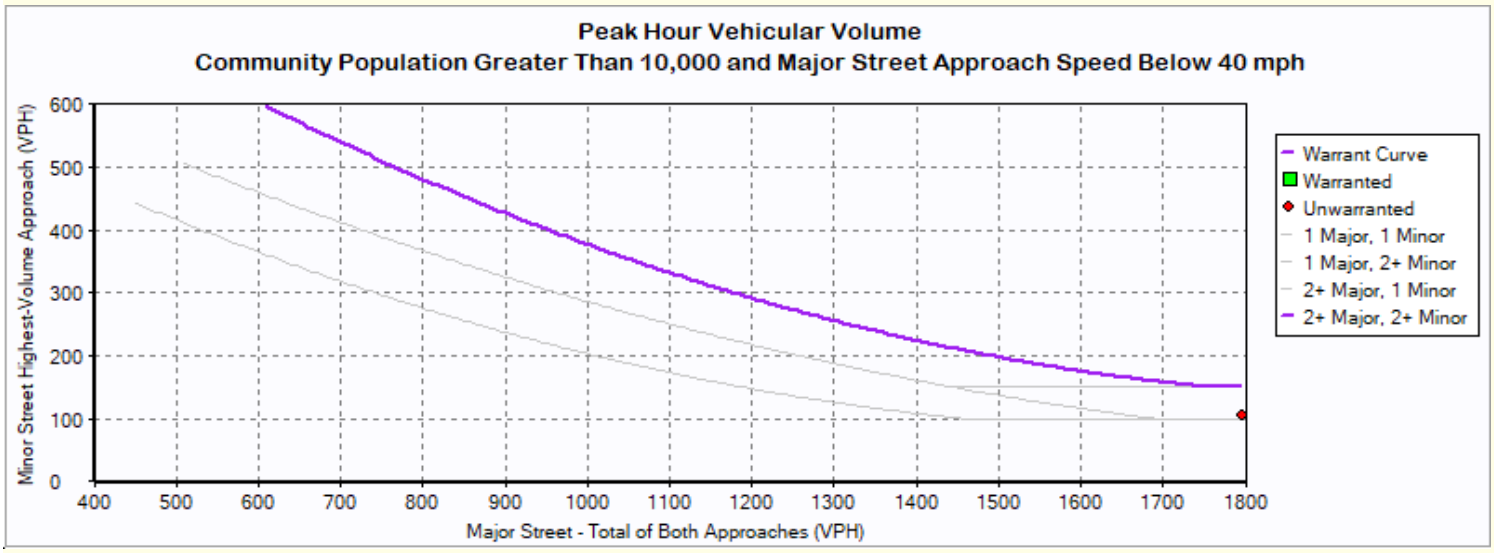
Condition A Met' No

Notes 0 Hours met (1 required)

Condition B Met' No

Notes 0 Hours met (1 required)

Minor Approach Time Delay Condition Met?	Not Met
Minor Approach Volume Condition Met?	Met
Total Entering Intersection Volume Condition Met?	Not Met



Warrant 3: Peak Hour

3: Santa Fe Avenue & Bay Street - FWOP PM

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
17:00	2,294	104

Warrant 3: Peak Hour

4: Santa Fe Avenue & Sacramento Street - FWOP AM

Intersection Informatior

	Major Street	Minor Street
Street Name	Santa Fe Avenue	Sacramento Street
Direction	NB/SB	EB/WB
Number of Lane:	2	1
Approch Speed	30	25

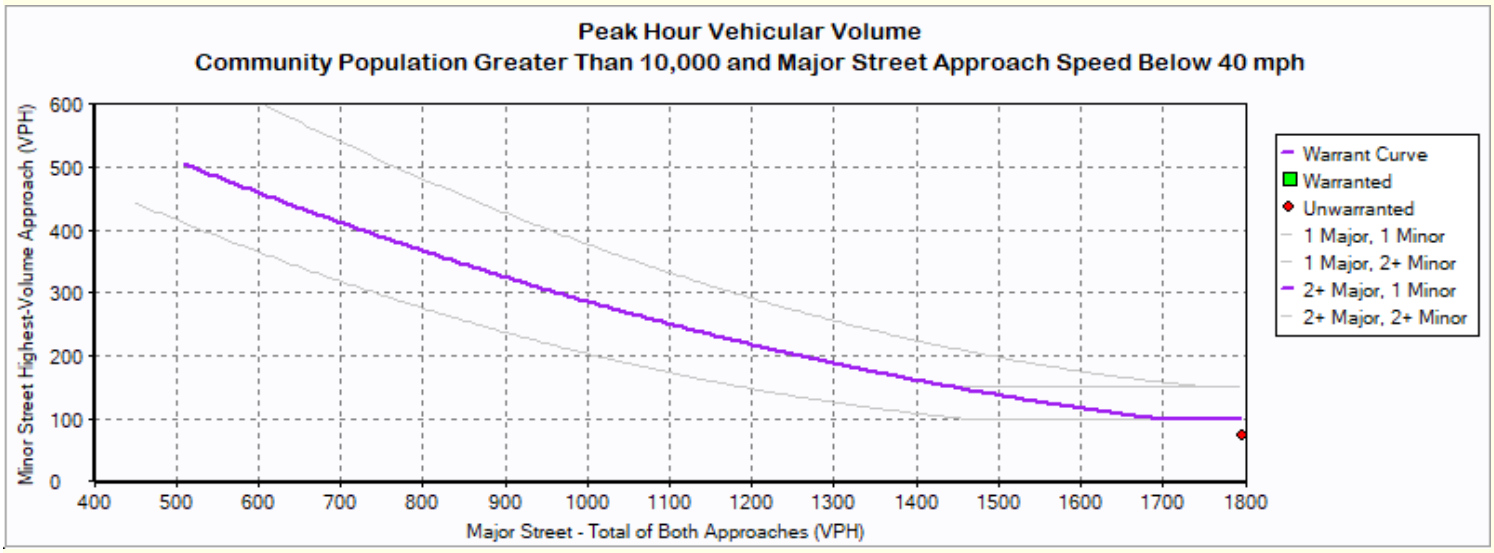
Warrant 3 Met? **No**

Details

Low Population? No

Condition A Met	No	**Condition B Met**	No
Notes	0 Hours met (1 required)	**Notes**	0 Hours met (1 required)

Minor Approach Time Delay Condition Met?	Not Met
Minor Approach Volume Condition Met?	Not Met
Total Entering Intersection Volume Condition Met?	Not Met



Warrant 3: Peak Hour

4: Santa Fe Avenue & Sacramento Street - FWOP AM

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
7:45	2,563	73

Warrant 3: Peak Hour

4: Santa Fe Avenue & Sacramento Street - FWOP PM

Intersection Informatior

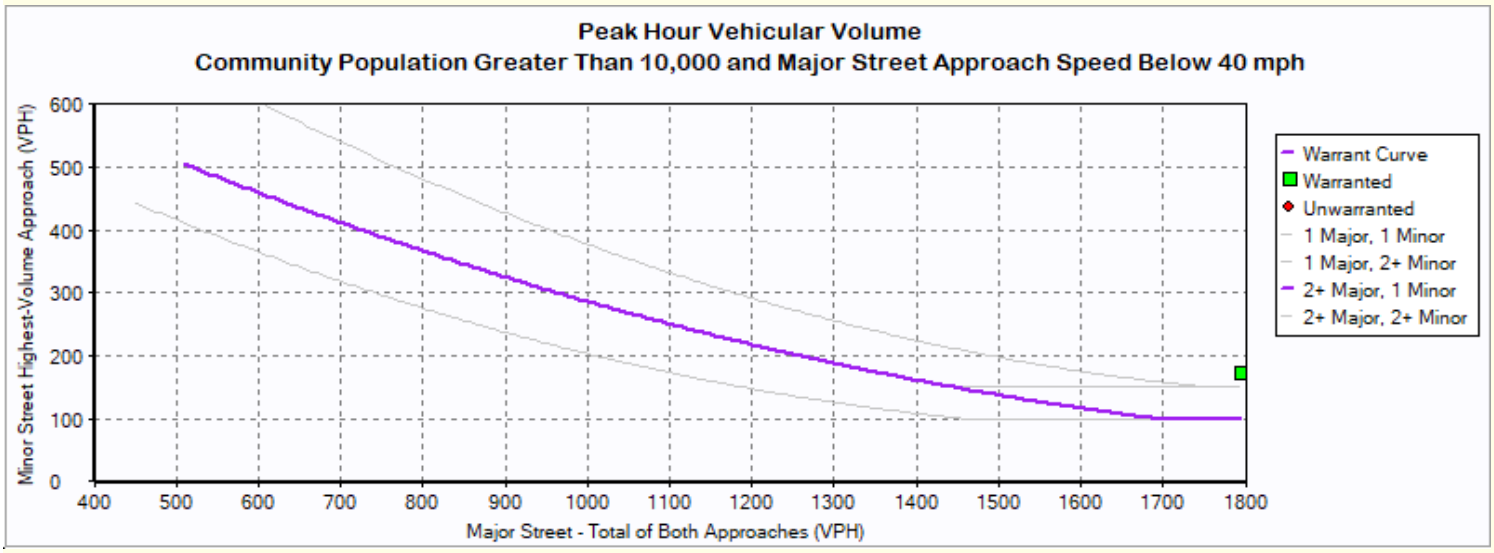
	Major Street	Minor Street
Street Name	Santa Fe Avenue	Sacramento Street
Direction	NB/SB	EB/WB
Number of Lane:	2	1
Approch Speed	30	25

Warrant 3 Met? **Yes**

Details

Low Population?	No		
Condition A Met	No	**Condition B Met**	Yes
Notes	0 Hours met (1 required)	**Notes**	1 Hours met (1 required)

Minor Approach Time Delay Condition Met?	Not Met
Minor Approach Volume Condition Met?	Met
Total Entering Intersection Volume Condition Met?	Not Met



Warrant 3: Peak Hour

4: Santa Fe Avenue & Sacramento Street - FWOP PM

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
17:00	2,417	173

Appendix E

LADOT Transportation Assessments – Interim Guidance for Freeway Safety Analysis, LADOT, May 1 2020

CITY OF LOS ANGELES

CALIFORNIA

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GENERAL MANAGER

ERIC GARCETTI
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DEPARTMENT OF TRANSPORTATION
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May 1, 2020

Transportation Engineering and Planning Consultant Firms

Subject: LADOT Transportation Assessments - Interim Guidance for Freeway Safety Analysis

On July 30, 2019, the City of Los Angeles adopted vehicle miles traveled (VMT) as a criteria in determining transportation impacts under the State's California Environmental Quality Act (CEQA). This was required by Senate Bill (SB) 743 and the adoption of Section 15064.3 to the CEQA Guidelines. SB743 also provided that the change from delay, as described by level of service (LOS), to VMT analysis as the CEQA metric does not relieve a public agency of the requirement to analyze a project's potential significant impacts related to air quality, noise, safety, or any other impact associated with transportation. The purpose of this memorandum is to provide interim guidance on the preparation of freeway safety analysis for land use proposals that are required by LADOT to prepare a Transportation Assessment.

BACKGROUND

This freeway safety analysis interim guidance will help address the recent comment letters sent by Caltrans District 7 to the Department of City Planning on development project environmental documents. In these letters, Caltrans requested that environmental analyses for new land use development projects include freeway off-ramp safety considerations. Specifically, they requested that the City evaluate a development project's effects on vehicle queuing on freeway off-ramps. Such an evaluation would measure a 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.

In order to respond to these comment letters in absence of published guidelines by Caltrans that evaluate safety concerns on freeways, the City of Los Angeles Department of City Planning, in collaboration with LADOT and the Los Angeles City Attorney's Office, convened a Freeway Analysis Technical Working Group that included transportation engineering, planning, and environmental firms with a long history of preparing transportation analyses in Southern California. The goal of this Working Group was to establish interim guidance on how transportation assessments for land use proposals should review and analyze potential safety impacts on the freeway system. The Working Group, which met weekly throughout the month of April 2020, developed the steps described below to conduct a freeway safety analysis to determine if a project may potentially result in off-ramp queuing and differential travel speeds that could constitute a potential safety impact under CEQA.

The Working Group included staff from LADOT, the Department of City Planning, Los Angeles City Attorney's Office, and the following consultants:

- Cambridge Systematics, Inc.
- Gibson Transportation Consulting, Inc.
- Fehr & Peers
- Hirsch/Green Transportation Consulting, Inc.
- Iteris, Inc.
- Linscott, Law & Greenspan, Engineers
- The Mobility Group
- Overland Traffic Consultants
- Rincon Consultants, Inc.

It should be noted that new Caltrans Transportation Study Guidelines are expected to be released later this year to meet the State's deadline of July 1, 2020, which requires all California agencies to comply with SB743. Caltrans announced that their new guidelines will include a State Highway System safety analysis section. Therefore, the City's interim guidance is expected to be revisited once Caltrans releases the State guidelines to determine if changes are necessary.

FREEWAY SAFETY ANALYSIS STEPS

Effective immediately, land use development projects within the City of Los Angeles that are required to prepare a transportation assessment shall conduct a freeway safety analysis as follows:

1. Identify the number of Project trips expected to be added to nearby freeway off ramps serving the site. If the Project adds 25 or more trips to any off ramp in either the morning or afternoon peak hour, then that ramp should be studied for potential queueing impacts following the steps below. If the project is not expected to generate more than 25 or more peak hour trips at any freeway off-ramps, then a freeway ramp analysis is not required.

2. Using Synchro analysis software, or similar tools, prepare a queuing study for the "Future with Project" conditions for the proposed project build-out year. LADOT's Transportation Assessment Guidelines provide recommended steps to forecast future traffic volumes.

3. To evaluate the adequacy of the existing and future storage lengths, use the 95th percentile queue provided from the Synchro results worksheet, and use 100% of the storage length on each lane of the ramp from the stop line to the gore point. If an Auxiliary Lane exists, add 50% of the length of the auxiliary lane to the ramp storage area.

4. If the Project traffic is expected to cause or add to a queue extending onto the freeway mainline by less than two car lengths, the project would cause a less-than-significant safety impact. If the queue is already extending or projected to extend onto the freeway mainline, and the Project increases the overflow onto the mainline lanes by less than two car lengths, the project would cause a less-than-significant safety impact. If the Project adds two or more car

lengths to the ramp backup that extends to the freeway mainline, then the location must be tested for safety issues which include a test for speed differential between the off-ramp queue and the mainline of the freeway during the particular peak hour.

5. The speed differential would identify the operating speed of the freeway mainline lanes during the peak hour that corresponds to the peak hour during which the ramp is expected to experience project-related queue overflow. Caltrans Performance Measurement System (PeMS) data should be used to identify freeway operating speed(s) during the peak hour being analyzed. If reliable PeMS data are not available at the subject location, other sources of speed data including location-based services data from available sources could be used.

6. If the speed differential between the mainline lane speeds and the ramp traffic is below 30 mph, the project would be considered to cause a less-than-significant safety impact.

7. If the speed differential is 30 mph or more, then there is a potential safety issue. To offset this potential condition, the project should consider the following preferred corrective measures:

    a. Transportation demand management program(s) to reduce the project's trip generation,

    b. Investments to active transportation infrastructure, or transit system amenities (or expansion) to reduce the project's trip generation, and/or

    c. Potential operational change(s) to the ramp terminal operations including, but not limited to, lane reassignment, traffic signalization, signal phasing or timing modifications, etc. This option requires coordination with Caltrans and LADOT to assess feasibility and for approval of the proposed measure(s).

    A physical change to the ramp itself (addition of auxiliary lane, ramp widening, etc.) may be considered. However, this change would have to demonstrate substantial safety benefits, not be a VMT-inducing improvement, and not result in other environmental issues.

8. If the cost of the physical change to the ramp is substantial, then a fair-share contribution to the improvement may be required if necessary requirements are met, including, but not limited to, Caltrans defining the improvement cost, and opening a Project File/Project Account to accept a financial contribution for the improvement. If required, the Applicant would pay the Project's fair-share of the improvement cost, and the fair-share contribution would be deposited in the Project Account to be used for the identified improvement.

We understand that Caltrans' direction on evaluating transportation impacts under CEQA continues to evolve. Relevant State documents are being drafted for release later this year, including a VMT-focused Transportation Impact Study Guide that guides Caltrans comments on land use project EIRs of local agencies, and a Transportation Analysis Framework that addresses how Caltrans evaluates the CEQA impacts of capacity-increasing projects on the State Highway System (SHS). While we look to these guidance documents to inform our methodology of safety impacts on freeway facilities, we release this

interim guidance to inform practitioners on the technical approach, developed by the Working Group that can be applied to project-level Transportation Assessments immediately.

If you have any questions, please email me at tomas.carranza@lacity.org or call me at 213-435-4056.

Sincerely,

Tomas Carranza, PE
Principal Transportation Engineer

c: Kathyrn Phelan / John Fox, City Attorney's Office
Lisa Webber / Arthi Varma / Luci Ibarra, DCP
Rubina Ghazarian / Eddie Guerrero / Jesus Serrano, LADOT

Attachment 1

Freeway Safety Analysis Working Group

Findings

The City of Los Angeles formed a Working Group made up of City staff and transportation engineering and planning consultants to develop a policy to respond to Caltrans' requests that off-ramp safety considerations be included in the environmental analyses for new development projects. While SB 743 calls for the inclusion of safety considerations, Caltrans District 7 verbal and written comments focus on the potential backup of off-ramps onto the mainline freeway lanes as their primary safety concern.

Since Caltrans has not established a methodology or thresholds based on substantial evidence, the Working Group was tasked with developing a freeway safety analysis based on research, local traffic conditions, and best practices. The Working Group met weekly during the month of April 2020 to share research into the number of project trips that should constitute a threshold for triggering an off-ramp investigation, the issue of speed differential and its relationship to freeway safety, the ability to collect reliable mainline freeway speed data, and a study process to identify freeway locations where queuing and speed differential is a concern that should be addressed.

RECOMMENDED POLICY DRAFT

The recommendations by the Working Group, which are summarized in the cover memorandum, were developed based on research, a review of best practices, and an analysis of local data. The first step was to determine when an off-ramp near a proposed project should be studied. The consultants participating in the Working Group researched their previous project transportation assessments to identify the level at which project-related traffic can cause traffic to back up onto the freeway. From these case studies, over 100 off-ramps were evaluated and it was determined that very few of these locations were expected to result in queues extending onto the freeway. So, this is not a common occurrence.

Project trips added to an off-ramp varied between one trip and over 100 trips per hour. Very rarely did an evaluated off-ramp result in a projected back-up onto the mainline.

<u>Screening Threshold</u>

The Working Group recommended a screening threshold of 25 or more project trips during a peak hour assigned to an off-ramp as the threshold for selecting that off-ramp for further study. The consultants on the Working Group cited inconsistencies in the direction given by Caltrans District 7 for different projects. In one case, a large land use proposal near the junction of two major downtown freeways was estimated to generate over 800 trips in each of the peak hours. Caltrans requested the analysis of up to 16 interchange ramps. During the project traffic assignment, the project was expected to generate 25 or more peak hour project trips at only four of the off-ramps. A screening threshold of 25 or more project trips was identified by the Working Group as a reasonable threshold to measure those ramps

where congestion already exists, while eliminating the locations where the addition of fewer project trips is not expected to cause a backup onto the freeway.

Speed Data Source

The Working Group discussed the premise that a queue extending onto the freeway mainlines is a safety concern when the speed on the freeway was high enough to potentially lead to a collision because freeway mainline traffic did not have enough time to stop safely. So the group discussed how to consistently determine the actual operating speed of the mainline of a particular freeway, in the appropriate direction, during the affected peak hour. Two data sources were discussed: Caltrans Performance Measurement System (PeMS) data and big data platforms that aggregate location based services data such as StreetLight Data, NPMRDS, or other available sources.

The group agreed that the needed speed data can be collected from PeMS - a source managed by Caltrans. PeMS data can be obtained in graphic and tabular formats which make it easy to identify the mainline speed at the correct spot on the freeway during the right hour in the appropriate direction. The group determined that for some of the freeways with relatively less traffic (e.g., SR 170), there were freeway segments where the data points were less robust. Freeway segments near Downtown Los Angeles, Hollywood, and the West side did not have this problem.

Speed Differential

The Working Group evaluated the amount of speed differential that could be used to define a safety issue. A freeway mainline operating at slow speeds during the peak hour did not present the safety concerns compared to a mainline operating at higher speeds.

Research revealed hundreds of studies related to speed differential analyses with not much agreement on their effects on safety. However, the research did yield information on the severity of collisions at varying speeds. The two most relevant studies suggested 30 mph as the critical speed differential level that would apply to freeway segments. The Caltrans Design Manual does not provide Decision Sight Distance readings for speeds less than 30 mph, implying that speeds less than 30 mph may not be an issue on freeway segments.

According to the Texas Transportation Institute: “Drivers are usually aware that they are closing in on a slower vehicle; however, if there is a large speed differential (over 25 mph) they often have a very poor perception of just how quickly they are closing in until they get very close to the slower vehicle. Often that can be too late, especially when the faster vehicle is a heavy vehicle that needs more room to brake. The slower vehicles risk getting rear-ended; the faster ones risk being cut off by turning or lane-changing drivers who think they have an adequate gap in traffic but do not.”

Based on this literature research, the Working Group selected 30 mph as the speed differential included in this interim guidance. At less than 30 mph, the stopping sight distance related to driver’s perception and reaction times is much lower, thereby minimizing the potential for a collision.

Appendix M.2

LADOT Transportation Assessment Letter

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

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

2159 E Bay St
DOT Case No. CEN19-49100

Date: October 8, 2020

To: Milena Zasadzien, Senior City Planner
Department of City Planning

From: Wes Pringle, Transportation Engineer
Department of Transportation

Subject: **UPDATED TRANSPORTATION ASSESSMENT FOR THE PROPOSED MIXED-USE OFFICE DEVELOPMENT AT 2159 EAST BAY STREET (CPC-2017-624-VZC-HD-MCUP-ZAA-SPR/ENV-2017-625-EIR /VTT-74928)**

On August 19, 2019, the Los Angeles Department of Transportation (LADOT) issued a traffic assessment report to the Department of City Planning (City Planning) for the 2159 Bay Street development, which was subject of a transportation analysis prepared by The Mobility Group (TMG). However, since the report was released, a supplemental transportation analysis dated July 22, 2020 was prepared and submitted by TMG. The supplemental analyses addresses the freeway off-ramp evaluation and includes a vehicle miles traveled (VMT) analysis pursuant to the City of Los Angeles adoption of VMT as the criteria by which to determine transportation impacts under CEQA Senate Bill (SB) 743 and due to the recent changes to Section 15064.3 of the State's California Environmental Quality Act (CEQA) Guidelines. Please replace the previous LADOT assessment report dated August 19, 2019, in its entirety, with this report, which addresses the totality of the transportation analysis.

The LADOT has reviewed the transportation analysis prepared by TMG, dated July 22, 2020, for the proposed mixed-use office development at 2159 East Bay Street in the Central Area Planning Commission (APC) Area and Central City North Community Plan. In compliance with SB 743 and the CEQA guidelines, a 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 July 2019 Transportation Assessment Guidelines (TAG), as described below.

DISCUSSION AND FINDINGS

A. Project Description

The project proposes to construct the 2159 Bay Street development with 217,189 square feet of creative office and 5,000 square feet of commercial space to replace a 39,328 square-foot industrial and office facility on approximately 1.7 acres in the area bounded by Bay Street to the north, BSNF railroad tracks and the Los Angeles River to the east, Sacramento Street to the south, and private property to the west as illustrated **Attachment A**. Alongside the eastside of the project, a pedestrian paseo will connect Bay Street and Sacramento Street. A passenger loading zone would be located adjacent to building entrances at each end of the pedestrian paseo on Bay Street and on Sacramento Street. The project proposes to provide a total of 711 vehicle parking spaces and 71 bicycle parking spaces. Access to parking will be provided by three driveways: the principal Bay Street two-way driveway to the subterranean garage levels, the Bay Street ingress driveway to the ground floor parking, and the Sacramento two-way driveway to surface parking. The project is expected to be completed by 2025.

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 any freeway off-ramp will not exceed 25 peak hour trips. Therefore, a freeway ramp analysis 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 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 impact 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**.

D. Transportation Impacts

On July 30, 2019, pursuant to SB 743 and the recent changes to Section 15064.3 of the State's CEQA Guidelines, the City of Los Angeles adopted VMT as criteria in determining transportation impacts under CEQA. The new LADOT TAG provide instructions on preparing transportation assessments for land use proposals and defines the significant impact thresholds.

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

- Household VMT per Capita: 6.0
- Work VMT per Employee: 7.6

As cited in the VMT Analysis report, prepared by TMG, the project proposes to incorporate the TDM strategies of including bicycle parking per Los Angeles Municipal Code (LAMC) and pedestrian network improvements as project design features, which is consistent with the current Central City North Community Plan. The proposed project is projected to have a Work VMT per employee of 9.1 and no Household VMT impact. Therefore, it is concluded that implementation of the project would result in a significant Work VMT impact.

To mitigate this impact, the project proposes to implement the TDM strategies of implementing a parking cash-out, ride-share, car share, and bike share programs, promoting and marketing various modes of travel, implementing/improving on-street bicycle facility, and providing secure bike parking and showers. By implementing these strategies, the Work VMT is forecasted to be reduced to 7.5 VMT per employee , which is less than significant. A copy of the VMT Calculator summary report is provided as **Attachment B**.

E. Access and Circulation

During the preparation of the new CEQA guidelines, the State's Office of Planning and Research stressed that lead agencies can continue to apply traditional operational analysis requirements to inform land use decisions provided that such analyses were outside of the CEQA process. The authority for requiring non-CEQA transportation analysis and requiring improvements to address potential circulation deficiencies, lies in the City of Los Angeles' Site Plan Review authority as established in Section 16.05 of the LAMC. Therefore, 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.

As illustrated in **Attachment A**, the project proposes to provide vehicular access via three driveways: the principal Bay Street two-way driveway to the subterranean garage levels, the Bay Street ingress driveway to the ground floor parking, and the Sacramento two-way driveway to surface parking. In accordance with this authority, the project completed a circulation analysis using a "level of service" screening methodology that indicates that the trips generated by the proposed development may experience adverse circulation conditions at Bay Street and Santa Fe Avenue. It should be noted that a new traffic signal at Santa Fe Avenue and Violet Street will be installed by another development project.

LADOT has reviewed this analysis and determined that it adequately discloses operational concerns. A copy of the circulation analysis table that summarizes these potential deficiencies is provided as **Attachment C** to this report.

PROJECT REQUIREMENTS

A. CEQA-Related Requirements

Per the transportation analysis, the applicant will implement the following TDM strategies as project design features:

- Include Bike Parking per LAMC – The project will provide 71 bicycle parking spaces on-site. Providing bicycle parking supports safe and comfortable bicycle travel to the project.

- Pedestrian Network Improvements- Improving the pedestrian network throughout and around the project site encourages people to walk. The project includes a pedestrian paseo connecting Bay Street and Sacramento Street as illustrated in **Attachment A**.

LADOT recommends that the applicant be required to implement the following TDM strategies:

- Parking cash-out – The Project's tenants would comply with the state parking cash-out law, which requires employers who provide subsidized parking to offer employees a cash allowance in lieu of a parking space. The analysis assumed 75% employees would be eligible. The intention of the subsidy is to cover the costs related to the potential alternative forms of transportation for each employee such that no out of pocket expenses are incurred.

- Promotions and marketing - The promotions and marketing strategy educates and informs travelers about site-specific transportation options and the effects of their travel choice.

- Ride-share program – A ride-share program would include ride-share matching services, designating preferred parking for ride-share participants, adequate loading/unloading and waiting areas for ride-share vehicles, and providing a website or message board to connect riders and coordinate rides. Increasing the vehicle occupancy by ride sharing will result in fewer cars driving the same trip.

- Car-share and Bike share – The Project would provide five off-street parking spaces in the garage for car-share use and 10 on-site bike share spaces to allow on-demand access to a bicycle, as needed.

- Implement/Improve On-Street Bicycle Facility – The project will provide a one-time fixed-fee of $100,000 to be deposited into the City's Bicycle Plan Trust Fund to implement bicycle facility improvements within the Arts District area.

- Include secure bike parking and showers –This strategy involves implementation of additional end-of-trip bicycle facilities to support safe and comfortable bicycle travel by providing amenities at the project.

B. Non-CEQA Related Requirements and Considerations

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

1. Corrective Measure

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 Bay Street and Santa Fe Avenue, the transportation analysis included a traffic warrant analysis which concluded that the peak hour volume warrant for a signal based on future projected traffic volumes is satisfied. However, any proposed signal installation is subject to final approval by LADOT.

The applicant should be required to prepare a complete Traffic Signal Warrant Analysis of Bay Street and Santa Fe Avenue for review by LADOT's Central District Office for final determination on the need for traffic signals at this location. The satisfaction of a traffic signal warrant does not itself require the installation of a signal. Other factors relative to safety, traffic flow, signal spacing, coordination, etc. should be considered. If LADOT makes the determination that a traffic signal is warranted and needed at the intersection, then the applicant would be responsible for the full cost to design and install the new signal.

Should LADOT determine that a traffic signal is warranted and needed at Bay Street and Santa Fe Avenue, all improvements, enhancements, and associated traffic signal work within the City of Los Angeles must be **guaranteed** through Bureau of Engineering's (BOE) B-Permit process, prior to the issuance of any building permits and **completed** prior to the issuance of any certificates 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.

Should LADOT determine that a traffic signal is not warranted and needed at Bay Street and Santa Fe Avenue, the applicant should install tactile warning strips on the north east and south-east street corners of the intersection of Bay Street and Santa Fe Avenue.

2. Parking Requirements

The project would provide 711 vehicle and 71 bicycle parking spaces on-site. The applicant should check with the Departments of Building and Safety and City Planning on the number of parking spaces required for this project within the Central City North Community Plan.

3. Highway Dedication and Street Widening Requirements

Per the Mobility Element of the General Plan, **Bay Street** and **Sacramento Street**, both Collector Streets, would require a 20-foot half-width roadway within a 33-foot half-width right-of-way. On the west portion of Bay Street, the project is proposing to construct a new 10-foot sidewalk. On the east portion of Bay Street, the project is proposing to widen the existing half-width roadway of 30 feet to 31.75 feet in order to accommodate a fire truck turnaround and a passenger loading zone. On the west portion of Sacramento Street, the project is proposing to retain the existing 10-foot sidewalk, which would connect to the pedestrian paseo on the east end. On the east portion of Sacramento Street, the project is proposing to widen the existing half-width roadway of 20 feet to 30 feet in order to accommodate a fire truck turnaround and a passenger loading zone. The applicant should check with BOE'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 is acceptable to DOT; however, the review of this study does not constitute approval of the driveway dimensions, access and circulation scheme. As illustrated in **Attachment A**, vehicular access would be provided via three driveways: the principal Bay Street two-way driveway, the Bay Street ingress driveway, and the Sacramento two-way driveway. The principal Bay Street driveway is a multiple entry lane driveway providing one lane in each direction and a reversible middle lane. To accommodate the Bay Street multi-lane driveway, the driveway would require a total width greater than 30 feet wide, which LADOT fully supports. The width of the Sacramento Street driveway is constrained by the existing power pole and would be 24 feet wide. Truck loading and unloading would take place onsite. Passenger loading and unloading would take place at the dead-ends of Bay Street and Sacramento Street adjacent to the project at the pedestrian paseos. Any changes to the project's site access, circulation scheme, or loading/unloading area after issuance of this report would require separate review and approval and should be coordinated as soon as possible with LADOT's Citywide Planning Coordination Section (201 North Figueroa Street, 5th Floor, Room 550, at 213-482-7024). All delivery truck loading and unloading should take place on site with no vehicles having to back into the project via any of the project driveways. 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 http://ladot.lacity.org/businesses/temporary-traffic-control-plans to determine which section to coordinate review of the work site traffic control plan. The plan should show the location of any roadway or sidewalk closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. LADOT also recommends that all construction related truck traffic be restricted to off-peak hours to the extent feasible.

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 expected in 2020 if applicable. The updated ordinance 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 Eileen Hunt of my staff at (213) 972-8481.

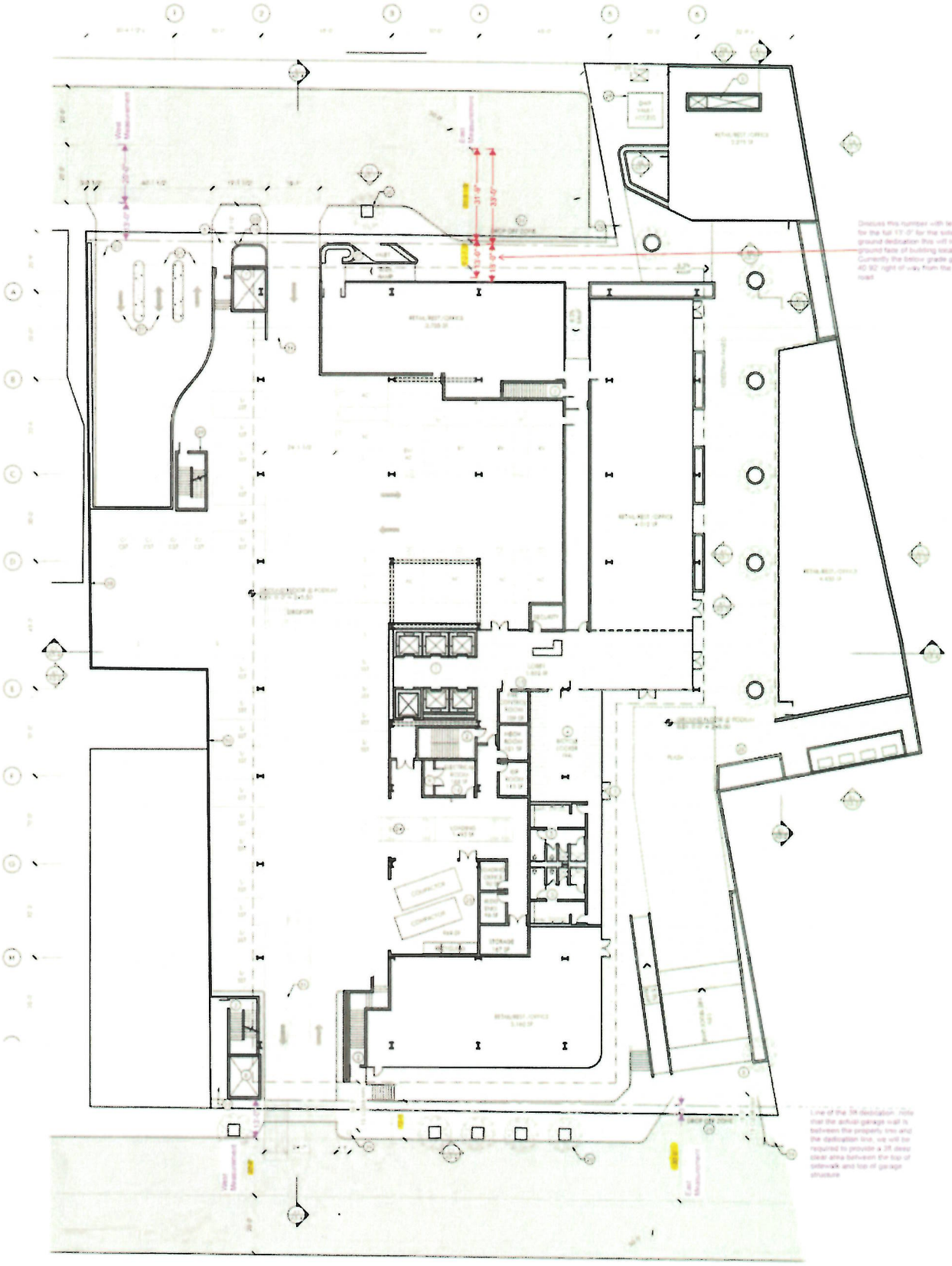
Attachments

K:\Letters\2020\CEN19-49100_2159 Bay St_office mu_vmt update.1.docx

c: Shaylee Papadakis, Council District 14
Robert Kieatinge, City Planning
Matthew Masuda, Central District, BOE
Edward Yu, Central District, LADOT
Taimour Tanavoli, Case Management, LADOT
Amir Ainechi/Michael Bates, TMG

ATTACHMENT A

CEN19-49100_2159 E Bay St



Source: Shimoda Design Group 1/21/20

N

Not to Scale
2/6/20

Figure 0.4
Project Site Plan

2159 Bay Street

The **Mobility** Group
Transportation Strategies & Solutions

ATTACHMENT B
CEN19-49100_2159 E Bay St

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

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

Project Information

Project: 2159 Bay Street
Scenario: Run 1
Address: 2159 E BAY 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	16.222	ksf
Office | General Office	23.106	ksf
Industrial | Light Industrial	16.222	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 | Quality Restaurant	2.5	ksf
Retail | High-Turnover Sit-Down Restaurant	2.5	ksf
Retail | Quality Restaurant	2.5	ksf
Office | General Office	217.189	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
309 Daily Vehicle Trips	2,428 Daily Vehicle Trips
2,351 Daily VMT	18,490 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	2,119 Net Daily Trips
The net increase in daily VMT ≤ 0	16,139 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	5.000 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

6/28/2

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 2159 Bay Street
Scenario: Run 1
Address: 2159 E BAY ST, 90021



Proposed Project Land Use Type	Value	Unit
Retail | High-Turnover Sit-Down Restaurant	2.5	ksf
Retail | Quality Restaurant	2.5	ksf
Office | General Office	217.189	ksf

TDM Strategies

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

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

A Parking

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

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

Parking Cash-Out ☐ Proposed Prj ☑ Mitigation
75 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
2,365 Daily Vehicle Trips	2,110 Daily Vehicle Trips
18,006 Daily VMT	15,973 Daily VMT
0.0 Household VMT per Capita	0.0 Household VMT per Capita
9.1 Work VMT per Employee	7.5 Work VMT per Employee

Significant VMT Impact?

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

Measuring the Miles

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: June 28, 2020
Project Name: 2159 Bay Street
Project Scenario: Run 1
Project Address: 2159 E BAY ST, 90021

Version 1.3

Project Information

Land Use Type		Value	Units
Housing	Single Family	0	DU
	Multi Family	0	DU
	Townhouse	0	DU
	Hotel	0	Rooms
	Motel	0	Rooms
Affordable Housing	Family	0	DU
	Senior	0	DU
	Special Needs	0	DU
	Permanent Supportive	0	DU
Retail	General Retail	0.000	ksf
	Furniture Store	0.000	ksf
	Pharmacy/Drugstore	0.000	ksf
	Supermarket	0.000	ksf
	Bank	0.000	ksf
	Health Club	0.000	ksf
	High-Turnover Sit-Down Restaurant	2.500	ksf
	Fast-Food Restaurant	0.000	ksf
	Quality Restaurant	2.500	ksf
	Auto Repair	0.000	ksf
	Home Improvement	0.000	ksf
	Free-Standing Discount	0.000	ksf
	Movie Theater	0	Seats
Office	General Office	217.189	ksf
	Medical Office	0.000	ksf
Industrial	Light Industrial	0.000	ksf
	Manufacturing	0.000	ksf
	Warehousing/Self-Storage	0.000	ksf
School	University	0	Students
	High School	0	Students
	Middle School	0	Students
	Elementary	0	Students
	Private School (K-12)	0	Students
Other		0	Trips

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: June 28, 2020
Project Name: 2159 Bay Street
Project Scenario: Run 1
Project Address: 2159 E BAY ST, 90021

Version 1.3

Analysis Results			
Total Employees: 889 Total Population: 0			
Proposed Project		***With Mitigation***	
2,365	**Daily Vehicle Trips**	**2,110**	**Daily Vehicle Trips**
18,006	**Daily VMT**	**15,973**	**Daily VMT**
0	**Household VMT per Capita**	**0**	**Household VMT per Capita**
9.1	**Work VMT per Employee**	**7.5**	**Work VMT per Employee**

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

TDM Strategy Inputs

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

(cont. on following page)

TDM Strategy Inputs, Cont.

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

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Commute Trip Reductions	Required commute trip reduction program	Employees participating (%)	0%	0%
	Alternative Work Schedules and Telecommute	Employees participating (%)	0%	0%
		Type of program	0	0
	Employer sponsored vanpool or shuttle	Degree of implementation (low, medium, high)	0	0
		Employees eligible (%)	0%	0%
		Employer size (small, medium, large)	0	0
	Ride-share program	Employees eligible (%)	0%	100%
Shared Mobility	Car share	Car share project setting (Urban, Suburban, All Other)	0	Urban + Comprehensive Transit
	Bike share	Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)	0	Yes
	School carpool program	Level of implementation (Low, Medium, High)	0	0

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Bicycle Infrastructure	Implement/Improve on-street bicycle facility	Provide bicycle facility along site (Yes/No)	0	Yes
	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	Yes
Neighborhood Enhancement	Traffic calming improvements	Streets with traffic calming improvements (%)	0%	0%
		Intersections with traffic calming improvements (%)	0%	0%
	Pedestrian network improvements	Included (within project and connecting off-site/within project only)	within project and connecting off-site	within project and connecting off-site

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: June 28, 2020
Project Name: 2159 Bay Street
Project Scenario: Run 1
Project Address: 2159 E BAY ST, 90021

Version 1.3

TDM Adjustments by Trip Purpose & Strategy

Place type: Suburban Center

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Parking cash-out	0%	0%	0%	**3%**	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%	**4%**	0%	**4%**	0%	**4%**	0%	**4%**	0%	**4%**	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%	**10%**	0%	0%	0%	0%	0%	0%	0%	0%	
Shared Mobility	**Car-share**	0.0%	**0.5%**	0.0%	**0.5%**	0.0%	**0.5%**	0.0%	**0.5%**	0.0%	**0.5%**	0.0%	**0.5%**	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	0.00%	**0.25%**	0.00%	**0.25%**	0.00%	**0.25%**	0.00%	**0.25%**	0.00%	**0.25%**	0.00%	**0.25%**	
	School carpool program	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Suburban Center

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Bicycle Infrastructure	Implement/ Improve on-street bicycle facility	0.0%	0.6%	0.0%	0.6%	0.0%	0.6%	0.0%	0.6%	0.0%	0.6%	0.0%	0.6%	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%	0.6%	0.0%	0.6%	0.0%	0.6%	0.0%	0.6%	0.0%	0.6%	0.0%	0.6%	
Neighborhood Enhancement	Traffic calming improvements	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Neighborhood Enhancement sections 1 - 2
	Pedestrian network improvements	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*3%*	*8%*	*3%*	*20%*	*3%*	*8%*	*3%*	*8%*	*3%*	*8%*	*3%*	*5%*
MAX. TDM EFFECT	*3%*	*8%*	*3%*	*20%*	*3%*	*8%*	*3%*	*8%*	*3%*	*8%*	*3%*	*8%*

= Minimum (X%, 1-[(1-A)*(1-B)…])
where X%=

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

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: June 28, 2020
Project Name: 2159 Bay Street
Project Scenario: Run 1
Project Address: 2159 E BAY ST, 90021

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	0	0.0%	0	7.5	0	0
Home Based Other Production	0	0.0%	0	5.4	0	0
Non-Home Based Other Production	400	-3.5%	386	8.0	3,200	3,088
Home-Based Work Attraction	1,274	-22.1%	993	8.4	10,702	8,341
Home-Based Other Attraction	836	-20.7%	663	6.4	5,350	4,243
Non-Home Based Other Attraction	400	-3.5%	386	7.3	2,920	2,818

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	-2.6%	0	0	-8.4%	0	0
Home Based Other Production	-2.6%	0	0	-8.4%	0	0
Non-Home Based Other Production	-2.6%	376	3,007	-8.4%	354	2,830
Home-Based Work Attraction	-2.6%	967	8,123	-20.0%	794	6,673
Home-Based Other Attraction	-2.6%	646	4,132	-8.4%	608	3,888
Non-Home Based Other Attraction	-2.6%	376	2,744	-8.4%	354	2,582

MXD VMT Methodology Per Capita & Per Employee

Total Population: 0
Total Employees: 889
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**0**	**0**
Total Home Based Work Attraction VMT	**8,123**	**6,673**
Total Home Based VMT Per Capita	**0.0**	**0.0**
Total Work Based VMT Per Employee	**9.1**	**7.5**

Table 3.6 Intersection LOS Comparison – (Future Without and With Project) AM Peak Hour

No.	Intersection	AM Peak Hour			
		Future Without Project		Future With Project	
		Delay	LOS	Delay	LOS
1	Santa Fe Avenue & 7th Street	138.3	F	146.8	F
5	Santa Fe Avenue & 8th Street	77.9	E	89.6	F

Table 3.7 Intersection LOS Comparison – (Future Without and With Project) PM Peak Hour

No.	Intersection	PM Peak Hour			
		Future Without Project		Future With Project	
		Delay	LOS	Delay	LOS
1	Santa Fe Avenue & 7th Street	166.3	F	178.9	F
5	Santa Fe Avenue & 8th Street	57.3	E	59.6	E

Table 3.13 Intersection LOS Comparison (Unsignalized) - AM Peak Hour

No.	Intersection	AM Peak Hour			
		Future without Project		Future with Project	
		Delay	LOS	Delay	LOS
2	Santa Fe Avenue & Violet Street				
	Eastbound Left/Thru/Right	Over Flow[1]	F	Over Flow	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	1.8	A	1.9	A
	Southbound Left/Thru	9.7	A	10.3	B
3	Santa Fe Avenue & Bay Street				
	Westbound Left	124.7	F	Over Flow	F
	Westbound Right	14.6	B	15.6	C
	Southbound Left/Thru	12.3	B	14.2	B
4	Santa Fe Avenue & Sacramento Street				
	Eastbound Left/Thru/Right	69.4	F	Over Flow	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	1.6	A	1.7	A
	Southbound Left/Thru	5.5	A	6.2	A

Table 3.14 Intersection LOS Comparison (Unsignalized) - PM Peak Hour

No.	Intersection	PM Peak Hour			
		Future without Project		Future with Project	
		Delay	LOS	Delay	LOS
2	Santa Fe Avenue & Violet Street				
	Eastbound Left/Thru/Right	Over Flow[1]	F	Over Flow	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	11.4	B	11.6	B
	Southbound Left/Thru	13.7	B	14.6	B
3	Santa Fe Avenue & Bay Street				
	Westbound Left	98.0	F	Over Flow	F
	Westbound Right	14.9	B	18.3	C
	Southbound Left/Thru	11.3	B	11.8	B
4	Santa Fe Avenue & Sacramento Street				
	Eastbound Left/Thru/Right	31.7	D	121.9	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	12.3	B	12.8	B
	Southbound Left/Thru	11.9	B	12.0	B

Note: 1. Indicates calculated delay greater than 300 seconds.

Appendix M.3

Project Driveways Change Memo

The **Mobility** Group
Transportation Strategies & Solutions

Memorandum

To: Wes Pringle, LADOT

From: Mike Bates

Subject: 2159 Bay Street – Project Driveways Change

Date: June 2, 2021

History

The Mobility Group prepared a Transportation Assessment Report for the 2159 Bay Street Project in July 2020, which was approved by LADOT October 8, 2020. The applicant has since revised the site plan, and this memorandum addresses those changes.

Project Change

The project land uses and quantities remain unchanged. The change relate only to the site plan driveways. The previous and current site plans are shown in Figure 0.4 and Figure 0.4 Revised in Attachment 1.

The previous site plan had two driveways on Bay Street – the main driveway to the parking garage and a second driveway to surface parking. The driveway to the parking garage has been moved to Sacramento Street, and the driveway on Bay Street to surface parking remains but has changed from 1-way to 2-way. The previous site plan had one driveway on Sacramento Street to the surface parking, which remains. And the main driveway to garage parking has been relocated to Sacramento Street.

The changes to the driveways are summarized in Table 1, below.

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Suite 490
Irvine, CA 92612
Phone: 949-474-1591
Fax: 949-474-1599

Table 1. Project Driveway Changes

Street	*Driveway*	*Previous Approved*	*Modified Plan*
Bay Street	Garage Driveway	2-way, 3 lanes 40 ft 1.5”	No driveway
	Surface Driveway	1-way in 18 ft 1”	2-way, 2 lanes 30 ft
Sacramento Street	Surface Driveway	2-way, 2 lanes 24 ft 7”	2-way, 2 lanes 24ft. 7”
	Garage Driveway	No driveway	2-way, 3 lanes 41 ft

Summary and Conclusions

The driveway dimensions remain very similar. This memorandum updates relevant parts of the CEQA Evaluation and the Non-CEQA Evaluation. As the project land uses and quantities remain unchanged, the results and conclusions of all CEQA Evaluations including the VMT analysis remain unchanged.

The edits to the CEQA Evaluation to reflect the changes in driveways, are shown in Attachment 2.

The edits to the Non-CEQA Evaluations address Section 3.2 Pedestrian, Bicycle and Transit Assessment, and edits are shown in Attachment 3.

The edits to the Non-CEQA Evaluations also address Section 3.3 Project Access, Safety and Circulation Evaluation, and edits are shown in Attachment 4. The project trip generation and overall trip distribution remain unchanged. As the Project change relates only to the site plan driveways, it only affects the site access by Bay Street and Sacramento Street. This affects only traffic volumes at the two unsignalized intersections of Santa Fe Avenue & Bay Street and Santa Fe Avenue & Sacramento Street. Projected traffic volumes at all other study intersections remain the same. This memorandum therefore updates the analysis of the unsignalized intersections at Santa Fe Avenue & Bay Street and Santa Fe Avenue & Sacramento Street. These updates of the analysis to Section 3.3 Project Access, Safety and Circulation Evaluation – Unsignalized Intersections, are shown in Attachment 4. Otherwise, other report sections remain unchanged.

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The overall conclusions are:

1. The conclusion of the CEQA evaluation remains the same.

2. The results and conclusions for the unsignalized intersection analysis at the intersections of Santa Fe Avenue & Bay Street and Santa Fe Avenue & Sacramento Street change due to the changed volumes. The proposal for a new traffic signal at Santa Fe & Bay Street has been relocated to the intersection of Santa Fe Street & Sacramento Street, to reflect the new main driveway location. Otherwise conclusions in the report remain the same.

The remainder of this memorandum documents in the attachments the edits to the various relevant report sections to reflect the modified site plan.

Changes to Transportation Assessment Report, July 2020, Approved by LADOT

Changes have been made to the following sections/pages of the Transportation Assessment Report.

Chapter 0 - Project Description See Attachment 1

Page 3, second to last para - updated
Figure 0.4 Site Plan - updated
Figure 0.5 Study Intersections and Project Driveways – updated (only driveway distances)

Chapter 2 – CEQA Analysis of Transportation Impacts See Attachment 2

Section 2.1 Conflicting with Plans, Programs, Ordinances, or Policies (Threshold T-1)

Table 2.1 Revised. Items #3, #7 (part), #8 (part), #16, and #19

Section 2.4 Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use (Threshold T-3)

Section replaced. Edit to pages 49-50

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Chapter 3 – Non-CEQA Transportation Analysis

Section 3.2 Pedestrian, Bicycle and Transit Access Assessment See Attachment 3

Table 3.1 - updated. Items #6, #7

Section 3.2.4 Evaluation Summary and Recommended Actions

Second to last para under Proposed Actions - updated. Page 59.

Section 3.3 Project Access, Safety and Circulation Evaluation See Attachment 4

3.3.5 Operational Evaluation – Unsignalized Intersections - updated pages 82-93

Unsignalized Intersection LOS - updated, page 82
Unsignalized Intersection Queueing – updated, page 82
Tables 3-12 to 3-18 - updated
Figures 3.10 to 3.13 - updated.

3.3.6 Project Access - updated, page 90
3.3.7 Evaluation Summary - updated, page 91

Appendix C LOS Worksheets - partial update
Appendix D Traffic Signal Warrants – updated

Chapter 4 – Transportation Mitigation Measures and Corrective Actions

Edits on pages 104, 105,106, and 107. See Attachment 5.

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Contents of Attachments

Attachment 1

Page 3 - Project access description. Revised

Figure 0.4 Site Plan - Original and Revised

Figure 0.5 Driveway Distances - Original and Revised

Attachment 2

Table 2.1 Consistency Evaluation - Revised. Items #3, #7 (part), #8 (part), #16, and #19

Section 2.4 Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use (Threshold T-3) Section revised. Pages 49-50

Attachment 3

Table 3.1 Application of Evaluation Criteria - Revised
Section 3.2.4 Evaluation Summary - Revised

Attachment 4

Section 3.3.5 Operational Evaluation – Unsignalized Intersections - Revised
Section 3.3.6 Project Access - Edited
Section 3.3.7 Evaluation Summary - Edited

Tables 3-12 to 3-18 Unsignalized Intersection LOS and Queuing - updated
Figures 3.10 to 3.13 Traffic Volumes - updated.

Appendix C LOS Worksheets - partial update
Appendix D Traffic Signal Warrants – updated

Attachment 5

Chapter 4 – Transportation Mitigation Measures and Corrective Actions - Updated

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Attachment 1

Chapter 0 - Project Description Edits

0. Project Description

The proposed Project is located at 2159 Bay Street in the Arts District in downtown Los Angeles. The Project Site is bounded by Bay Street to the north, BNSF railroad tracks and the Los Angeles River to the east, Sacramento Street to the south, and private property to the west. The project location is shown in Figure 0.1.

The Project Case Number is: ENV-2017-625-EIR.
The Assessor Parcel numbers are: 5166-001-002 and 5166-005-008, -009, -010, -013.
The Proposed Project is in Council District 14.

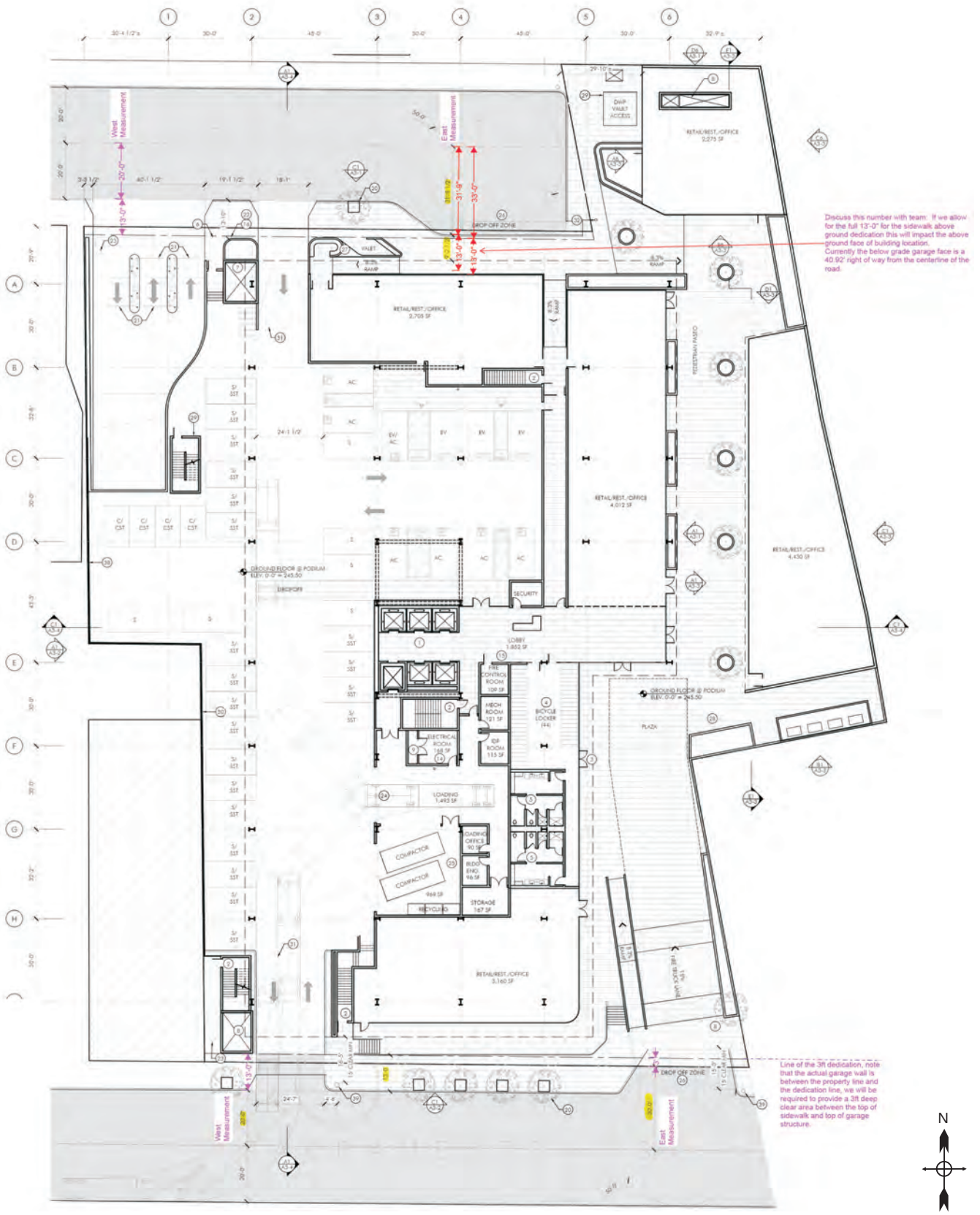
The LADOT Transportation Assessment Guidelines (TAG) require a description of the key transportation facilities within a quarter mile radius of the Project Site. This radius is shown in Figure 0.1.

Upon review and consultation with LADOT it was determined that none of the streets south of the I-10 freeway and east of the LA River are part of the street and pedestrian network serving the Project Site. Figure 0.2 shows that part of the initial study area that encompasses the street and pedestrian networks serving the Project Site. Furthermore, some minor streets are not essential to the vehicular and pedestrian network serving the Project Site, and so with LADOT's approval were excluded from further analysis, as shown in Figure 0.3.

The Project Site is currently developed and utilized as an industrial and office facility totaling approximately 39,328 square feet. The Proposed Project will consist of 217,189 sq. ft. of creative office space, and 5,000 sq. ft. of commercial space (for purposes of preparing a conservative analysis this will be analyzed as restaurant space). Figure 0.4 Revised shows the concept site plan, including driveways, loading/unloading areas, and any highway dedications.

Vehicle access into the Project Site will be provided by a total of three driveways. The principal driveway will be 2-way driveway on ~~Bay~~ Sacramento Street to access the subterranean garage level. This is a proposed three-lane driveway with one lane in, one lane out and one reversible lane that can accommodate the peak period directional flow as appropriate. A ~~second~~ driveway on Bay Street, ~~east of the main driveway~~ will be ~~an ingress only~~a two-way driveway to the surface parking on the ground floor of the building. The third driveway will be a two-way driveway on Sacramento Street to provide ingress and egress for the surface parking. Figure 0.5 Revised shows the study intersections (further discussed in Section 3.3) and the distance of Project driveways from adjacent intersections on Santa Fe Avenue.

The Proposed Project would provide a total of 711 on-site parking spaces. A total of 607 would be located below grade only accessed from Bay Street. A total of 104 would be surface parking



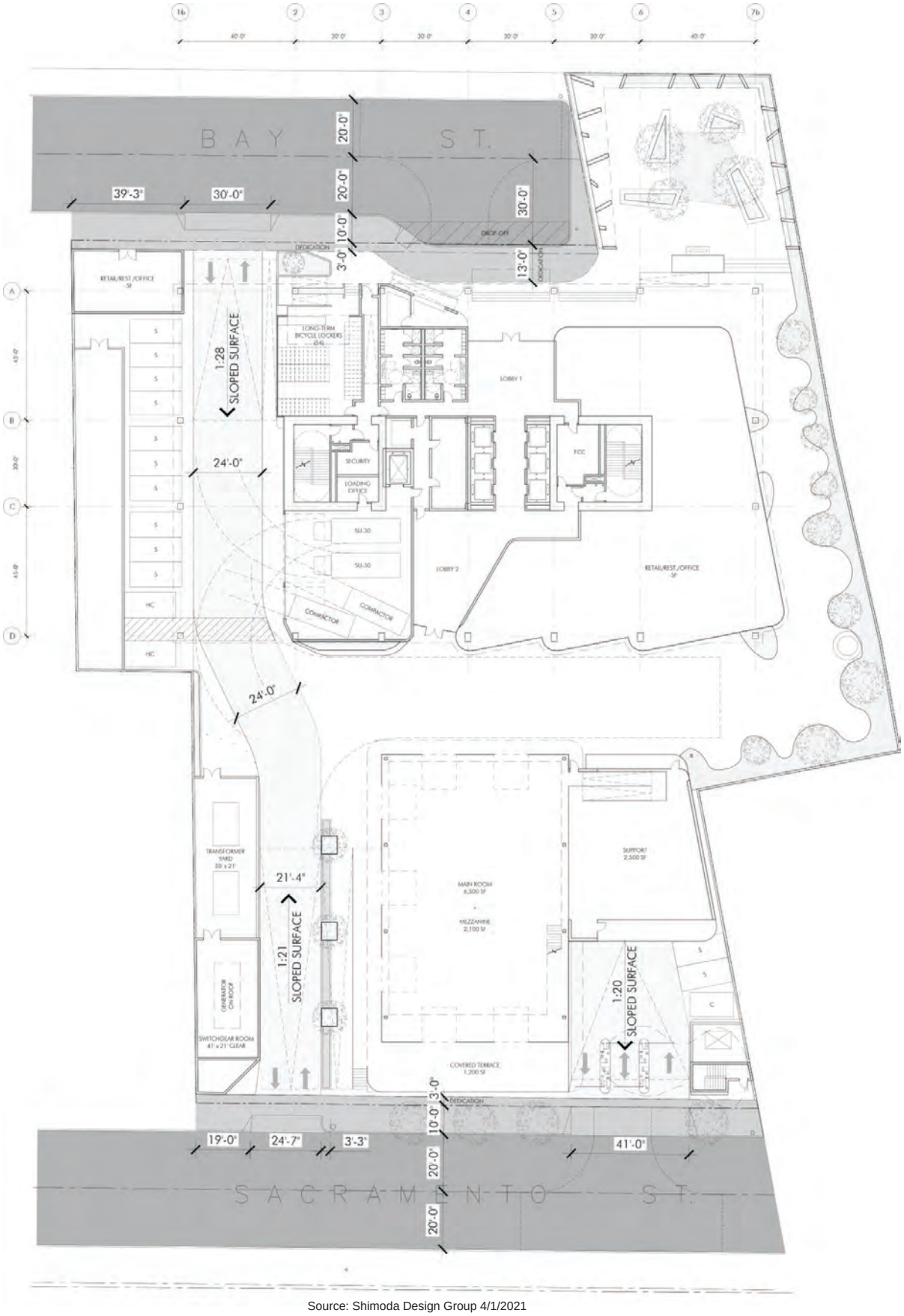
Source: Shimoda Design Group 1/21/20

Not to Scale
2/6/20

Figure 0.4
Project Site Plan

2159 Bay Street

The **Mobility** Group
Transportation Strategies & Solutions



Source: Shimoda Design Group 4/1/2021

N

Not to Scale
4/1/21

Figure 0.4 Rev
Project Site Plan

2159 Bay Street

The **Mobility** Group
Transportation Strategies & Solutions

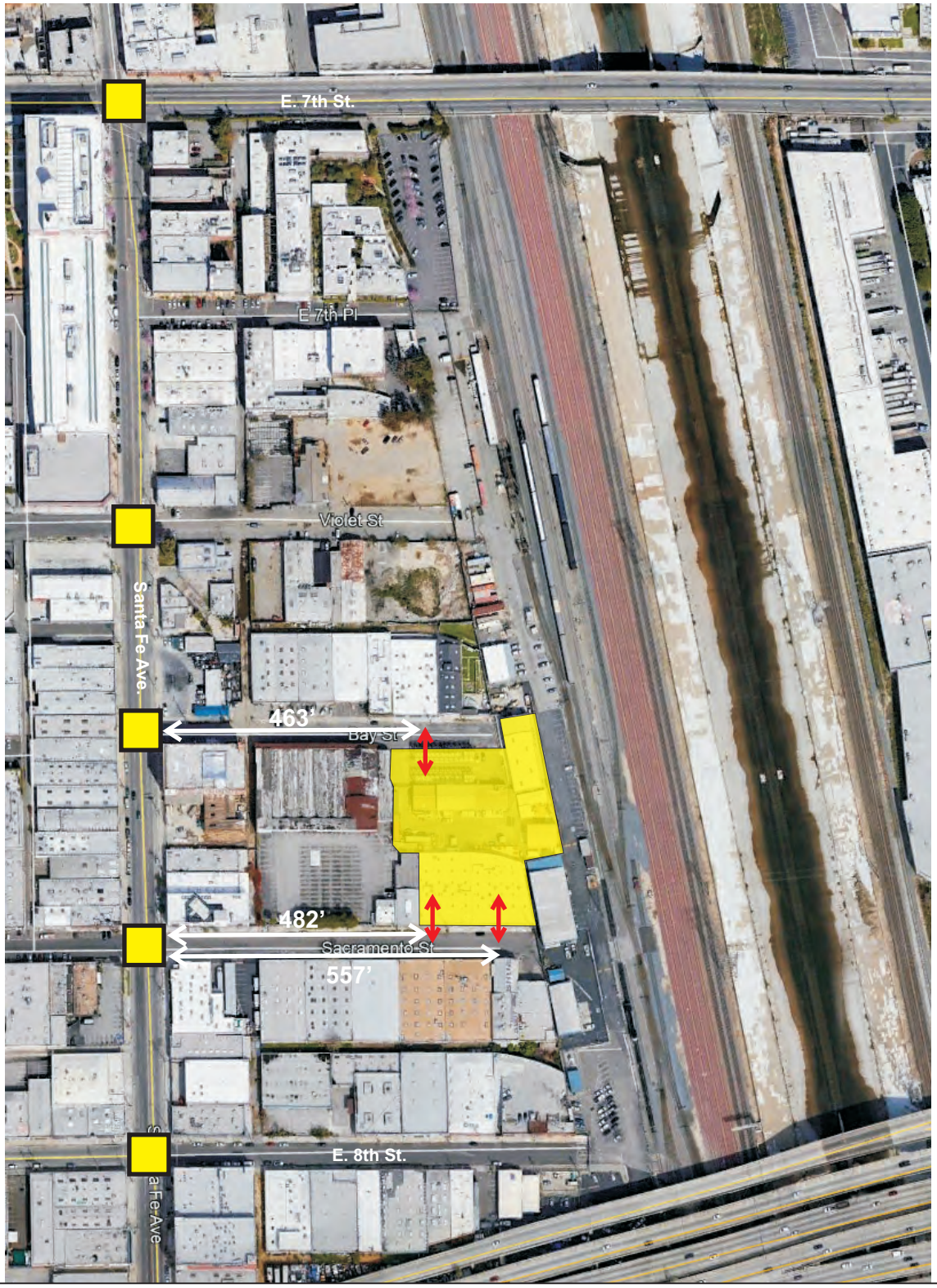


Figure 0.5 Rev
Study Intersections and Project Driveways

2159 Bay Street

The Mobility Group
Transportation Strategies & Solutions

Attachment 2

Chapter 2 - CEQA Analysis

Edits

Table 2.1 Revised Evaluation of TAG Table 2.1-1: Questions to Determining Project Applicability to Plans, Policies, and Programs

#	Guiding Questions	Relevant Plans, Policies, and Programs	Supporting or Complementary City Plans, Policies, and Programs	Response
EXISTING PLAN APPLICABILITY				
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? (screening question)	LAMC Section 12.37		No. Not applicable. The Project Site is adjacent to Bay Street and Sacramento Street, both of which are identified as Collectors under the Mobility Plan 2035. (See Figure 1. 1).
2	Is project site along any network identified in the City's Mobility Plan?	MP 2.3 through 2.7		No. Not applicable. Bay Street and Sacramento Street adjacent to the Project Site are not part of any networks identified in the City's Mobility Plan 2035. (See Figure 1.2).
3	Are dedications or improvements needed to serve long-term mobility needs identified in the Mobility Plan 2035?	MP–Street Classifications; MP–Street Designations and Standard Roadway Dimensions	MP–2.17 Street Widenings	Yes. Applicable. On Bay Street, per the Mobility Plan 2035, the required dimensions are a 33' half right-of-way width, a 20' half roadway, and a 13' sidewalk. The existing dimensions for Bay Street adjacent to the Project are a 30' half right-of-way width and a 30'half roadway width with no sidewalk. For the west portion of Bay Street, the Project would decrease the half roadway width by 10' from 30' to 20', which would meet the 20'required width. The Project would dedicate 3' and provide a 33' half right-of-way width and a 13' sidewalk, to comply with Mobility Plan 2035 requirements. ~~However, as part of the project entitlement application, the project is seeking a Waiver of Dedication or Improvement ("WDI") pursuant~~

				~~to LAMC Section 12.37.I to waive the requirement for the additional 3' of dedication to comply with the proposed modified street standards of the pending DTLA 2040 community plan. The Project would then provide a new 10' sidewalk in lieu of the 13' otherwise required by the Mobility Plan 2035.~~ On the east portion of Bay Street, the Project proposes a ~~31.75'~~30' half roadway width to maintain the existing width and which ~~that would increase the half roadway width from 30' to 31.75', which~~ would exceed the required width. ~~The increase in~~ This section of the roadway width ~~is to~~will accommodate a fire truck turnaround and a passenger drop-off zone. Therefore, on Bay Street the Proposed Project would be in compliance with the Mobility Plan 2035~~, with an approved WDI waiver for a modified 30' half ROW in lieu of a 33' half ROW.~~ On Sacramento Street, per the Mobility Plan 2035, the required dimensions are a 33' half right-of-way width, a 20' half roadway, and a 13' sidewalk. The existing dimensions for Sacramento Street are a 30' half right-of-way width, 20' roadway width, and a 10' sidewalk. ~~On the west portion of Sacramento Street, the~~ The Project would retain the 20' half roadway width and meet the requirement. It would dedicate 3' and provide a half right-of-way width of 33' with a 13' sidewalk and be in compliance with the Mobility Plan 2035. ~~However, as part of the project entitlement application, the project is seeking a Waiver of Dedication or Improvement ("WDI") pursuant to LAMC Section 12.37.I to waive the requirement for the additional 3' of dedication to comply with the proposed modified street standards of the pending DTLA 2040 community plan. The existing sidewalk would remain at 10' with no further widening required.~~ ~~On the east portion of Sacramento Street, The Project would increase the half roadway width from 20' to 30' exceeding the required roadway width by 10 feet. The proposed increase in the roadway width is to~~

				~~accommodate a fire truck turnaround and passenger drop-off zone. The Project would provide a 0' sidewalk and would not meet the required sidewalk width. However, the adjacent pedestrian plaza would provide an effective sidewalk width of more than the required 13' (see Figure 1.4 – Project Site Plan). The existing 10' sidewalk to the west would connect to the pedestrian plaza providing continuity of pedestrian circulation to the Project. Also, the existing sidewalk does not continue east of the Project Site as Sacramento Street is a dead end street because of the railroad tracks. There is therefore no need for pedestrians to walk east of the Project Site.~~ ~~Therefore, on Sacramento Street the Proposed Project would be in compliance with the Mobility Plan 2035 assuming approval of the WDI, except for a short stretch of sidewalk on Sacramento Street (although with the adjacent pedestrian plaza the effective sidewalk width would be greater than the 13' requirement).~~
4	Does the project require placement of transit furniture in accordance with City's Coordinated Street Furniture and Bus Bench Program?			No. Not applicable. The Proposed Project does not require placement of transit furniture in accordance with the City's Coordinated Street Furniture and Bus Bench Program. There are no bus stops or bus benches on Bay Street or Sacramento Street adjacent to the Project Site. Furthermore, the Proposed Project would not create a conflict with this program and because sidewalks are not being reduced in width would not preclude the implementation of any potential measures in the program.
5	Is project site in an identified Transit Oriented Community (TOC)?	MP–TEN; MP–PED; MP–BEN; TOC Guidelines		Yes. But not applicable. The Project Site is located in a Tier 3 TOC Affordable Housing Incentive Area. However, the Proposed Project is not a residential project, and therefore the TOC Affordable Housing Incentive Program is not applicable.
6	Is project site on a roadway identified in City's High Injury Network?	Vision Zero	Mobility Plan 2035	No. Not applicable.

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				Both Bay Street and Sacramento Street adjacent to the Project Site are not identified in City's High Injury Network.
7	Does project propose repurposing existing curb space? (Bike corral, car-sharing, parklet, electric vehicle charging, loading zone, curb extension, etc.)	MP–2.1 Adaptive Reuse of Streets; MP–2.10 Loading Areas; MP–3.5 Multi-Modal Features; MP–3.8 Bicycle Parking; MP–4.13 Parking and Land Use Management; MP–5.4 Clean Fuels and Vehicles	MP–2.3 Pedestrian Infrastructure; MP–2.4 Neighborhood Enhanced Network; MP–3.2 People with Disabilities; MP–4.1 New Technologies; MP–5.1 Sustainable Transportation; MP–5.5 Green Streets	Yes. Applicable. There is currently no curb on Bay Street adjacent to the Project Site. There are no existing curb spaces being used for bike corral, car-sharing, parklet, electric vehicle charging, loading zone, curb extension, etc. However, the Project proposes adding a passenger loading zones on ~~both~~ Bay Street ~~and Sacramento Street~~. *Mobility Plan 2035* considers ways to balance the needs of various users and trip purposes through a multimodal transportation network that includes features such as loading areas, electric vehicle charging areas, and bike sharing. The Project relates to the following policies regarding adjacent curb space in *Mobility Plan 2035*: 2.1 Adaptive Reuse of Streets: This policy states: "Design, plan and operate streets to serve multiple purposes and provide flexibility in design to adapt to future demands". The Project would retain the current functionality of the street as a Collector Street. It would add a sidewalk and a passenger loading zone to Bay Street and a passenger loading zone to Sacramento Street. The Project would be consistent with Policy 2.1. 2.3 Pedestrian Infrastructure: This policy states: "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".

				The Project would add a sidewalk to Bay Street where none exists today. It would retain the existing sidewalk on Sacramento Street except for the eastern portion of the Project site where the existing sidewalk would connect to an on-site pedestrian paseo between Bay Street and Sacramento Street. The pedestrian paseo would be anchored by common open space, street trees, seating areas, and low scale structures to promote an active pedestrian experience on the ground floor. The Project would be consistent with Policy 2.3. 2.4 Neighborhood Enhanced Network: This policy states: "Provide a slow speed network of locally serving streets". The Project is located on Bay Street and Sacramento Street which are both Collector Streets and for the block on which the Project is located serve only adjacent properties. There is no through traffic on the street as the Project is located at the terminus of both dead-end streets. Due to their location, these streets are slow speed streets and local serving. The Project would not change these characteristics and the streets would remain consistent with Policy 2.4. 2.10 Loading Areas: This policy states: "Facilitate the provision of on and off-street loading areas". The Project will provide an on-street passenger loading zones on Bay Street ~~and Sacramento Street~~ and will provide truck loading on site and off-street. The Project would be consistent with Policy 2.10. 3.2 People with Disabilities:

				This policy states: "Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way". The Project will design sidewalks and passenger loading areas to LADOT and ADA standards. The Project would be consistent with Policy 3.2. <u>3.5 Multi-Modal Features:</u> This policy states: "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. There is no transit service on Bay Street or Sacramento Street. The nearest transit service is on Santa Fe Avenue. The Project will add new a sidewalk on Bay Street adjacent to the Project, and a new traffic signal with crosswalks at ~~Bay~~ Sacramento St & Santa Fe Ave, which will facilitate pedestrian access to transit service on Santa Fe Avenue, <u>3.8 Bicycle Parking:</u> This policy states: "Provide bicyclists with convenient, secure and well-maintained bicycle parking facilities". The Project will provide on-site bicycle parking per the LAMC, and bicycle lockers and showers would be provided at the ground level. The Project would be consistent with Policy 3.8. <u>4.13 Parking and Land Use Management:</u>

				The objective of this policy is to balance parking supply with other transportation and land use objectives. The policy states that an oversupply of parking can undermine broader regional goals of creating vibrant public spaces and a robust multi-modal transportation system, an abundance of free parking incentivizes automobile trips and makes alternative modes of transportation less attractive, and that large parking lots consume land that could be used for other valuable uses and discourage walking by increasing the distance between services and facilities. The Project does not conflict with the portion of MP 4.13 that discourages utilizing land for parking that could have been used for other valuable uses since all parking will be integrated into the project and not located in a large lot. Moreover, employees and visitors will have to pay for parking; therefore, the Project does not conflict with the policy regarding the abundance of free parking. While the Project would include parking in excess of the LAMC minimum requirements, it would include features to encourage walking and bicycling, and would implement a transportation demand management (TDM) plan to promote multi-modal transportation. Furthermore, the Project would be consistent with the applicable goals and objectives of the SCAG 2016-2040 RTP/SCS (SCAG, April 2016) to locate jobs and housing in infill locations served by public transportation and facilitating active transportation and TDM. Therefore, the Project would not undermine broader regional goals of creating vibrant public spaces and a robust multi-modal transportation system. Under CEQA, a project is considered consistent with an applicable plan if it is consistent with the overall intent of the plan and would not preclude the attainment of its primary goals. A project does not need to be in perfect conformity with each and every policy. Therefore, even though the Project's parking

				may exceed the LAMC's minimum requirements, the Project is consistent with the overall intent of Policy 4.13 and the Mobility Plan. Moreover, any inconsistency with an applicable policy, plan, or regulation is only a significant impact under CEQA if the policy, plan, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The above policy is intended to implement broader regional goals, not to mitigation an environmental effect. Therefore, even if the Project's amount of parking was conservatively considered to be inconsistent with Policy 4.13, such inconsistency would not be considered to be a significant impact under CEQA. <u>5.1 Sustainable Transportation:</u> This policy states: "Encourage the development of a sustainable transportation system that promotes environmental and public health". As discussed above for Policies 2.3 and 3.8, the Project would provide new and improved sidewalks, a pedestrian paseo to provide access between Bay Street and Sacramento Street, and bicycle parking and facilities at the ground level. In addition, the Project Site's proximity to various public transit options and nearby commercial and offices uses would also promote walkability and alternative modes of transportation. <u>5.4 Clean Fuels and Vehicles:</u> This policy states: "Continue to encourage the adoption of low and zero emission fuel sources, new mobility technologies, and supporting infrastructure".

				As required by the City of Los Angeles, 30 percent of the Project's parking spaces would be capable of supporting future electric vehicle supply equipment, and 10 percent of spaces would have electric vehicle EV charging stations. 5.5 Green Streets: This policy states: "Maximize opportunities to capture and infiltrate stormwater within the City's public right-of-ways". The Project would implement a Stormwater Pollution Prevention Plan (SWPPP) during construction as required under the National Pollutant Discharge Elimination System (NPDES) General Construction Permit. The Project would implement best management practices (BMPs), including erosion control, sediment control, non-stormwater management, and materials management measures, to minimize the discharge of pollutants in stormwater runoff. In addition, during operation, the Project would implement Low Impact Development (LID) strategies, including either infiltration, stormwater capture and, or High Efficiency Biofiltration/Bioretention Systems in accordance with the current City of Los Angeles LID Ordinance requirements. Furthermore, to avoid increasing the runoff flow from the Project Site to the Sacramento Street drain, the Project would provide an on-site stormwater runoff detention system. Thus, the Project would maximize opportunities to capture and infiltrate stormwater within the City's public right-of-ways.
8	Does project propose narrowing or shifting existing sidewalk placement?	MP 2.3 Pedestrian Infrastructure; MP 3.1–Access for All; MP–PED; MP	Healthy LA; Vision Zero; Sustainability Plan	Yes. Applicable. On ~~the east portion of~~ Sacramento Street, the Project would increase the sidewalk width from 10' to 13'. ~~reduce the existing 10' sidewalk to 0'. However, the adjacent pedestrian plaza would provide an effective~~

		–ENG 19; MP 2.17 Street Widenings		~~sidewalk width of more than the required 13' (see Figure 1.4 – Project Site Plan). Also, the sidewalk does not continue east of the Project Site as Sacramento Street is a dead-end street because of the railroad tracks. There is therefore no need for pedestrians to walk east of the Project Site. The Project is therefore considered to be consistent with Mobility Plan 2035 pending approval of the WDI request.~~ There is currently no sidewalk on Bay Street adjacent to the Project site. The Project will install new 13' sidewalk~~s~~ ~~around~~ at the perimeter of the Project site ~~and include pedestrian pasees such that the~~ The Project would be supportive of and not preclude or conflict with *Mobility Plan 2035* policies such as: 2.3 Pedestrian Infrastructure: See response to #7. 3.1 Access for All: This policy states: "Recognize all modes of travel, including pedestrian, bicycle, transit, and vehicular modes - including goods movement - as integral components of the City's transportation system. The Project responds to these criteria and is consistent with Policy 3.1. MP PED: Pedestrian Enhanced Districts (PED) identify areas where pedestrian improvements on streets could be prioritized to provide better walking conditions to major destinations within communities such as schools and

				parks. The Project is not located along or in the close vicinity of a Pedestrian Enhanced Network. MP ENG.19: The First Mile/Last Mile Transit Connectivity Program considers the installation of pedestrian and bicycle connectivity improvements at every major Metro transit station by providing enhanced sidewalk amenities such as landscaping, shading, lighting, directional signage, shelters, curb extensions and midblock crosswalks where feasible, ADA ramps, lead pedestrian interval signal phases, secure bike parking, etc. The Project would contribute by providing enhancements such as bike parking and the addition of new sidewalks with landscaping, lighting, and signage. MP 2.17 Street Widenings: See response to #3.
9	Does project propose paving, narrowing, shifting or removing an existing parkway?	MP–5.5 Green Streets; Sustainability Plan		No. Not applicable. There are no existing parkways on Bay Street and Sacramento Street adjacent to the Project Site.
10	Does project propose modifying, removing or otherwise affect existing bicycle infrastructure? (ex: driveway proposed along street with bicycle facility)	MP–BEN; MP–4.15 Public Hearing Process	Vision Zero	No. Not applicable. There are no bicycle lanes or other bicycle infrastructure along Bay Street and Sacramento Street adjacent to the Project Site.
11	Is project site adjacent to an alley? If yes, will project make use of, modify, or restrict alley access?	MP–3.9 Increased Network Access; MP–ENG.9; MP–PL.1; MP–PL.13; MP–PS.3		No. Not applicable. The Project Site is not adjacent to an alley.

12	Does project create a cul-de-sac or is project site located adjacent to existing cul-de-sac? If yes, is cul-de-sac consistent with design goal in Mobility Plan 2035 (maintain through bicycle and pedestrian access)?	MP–3.10 Cul-de-sacs		Yes. Project is adjacent to the end of dead end street on both Bay Street and Sacramento Street. This policy states: "Discourage the use of cul-de-sacs that do not provide access for active transportation options. This policy is not applicable to the Project. The Project does not create a cul-de-sac on either street. Immediately east of the Project Site are railroad tracks and the LA River. Therefore, there are no current pedestrian or bicycle connections nor the opportunity for any future connections.
ACCESS: DRIVEWAYS AND LOADING				
13	Does project site introduce a new driveway or loading access along an arterial (Avenue or Boulevard)?	MP–PL.1; MP–PK.10, CDG 4.1.02	Vision Zero	No. Not applicable. Both Bay Street and Sacramento Street, on which the Project's three driveways, will be located are identified as Collectors under the Mobility Plan 2035.
14	If yes to 13, Is a non-arterial frontage or alley access available to serve the driveway or loading access needs?	MP–PL.1; MPP 321	Vision Zero	Not applicable. See response to Question 13.
15	Does project site include a corner lot? (avoid driveways too close to intersections)	CDG 4.1.01		No. Not applicable. The Project Site is not located on a corner lot. It is located at the east end of Bay Street and Sacramento Street which both terminate at the Project Site.
16	Does project propose driveway width in excess of City standard?	MPP Sec. 321	Vision Zero, Sustainability plan, MP–PED, MP–BEN CDG 4.1.04	No. Not applicable. The LADOT Manual of Policies and Procedures Section 321 Driveway Design recommends a two-way driveway width of 30' and one-way driveway width of 16' for commercial developments and allows for driveway widths of greater than 30' for multiple entry lane driveways. The Project will provide ~~one~~ a two-way

				driveway ~~and one one-way driveway~~ on Bay Street. ~~The Project main two-way driveway on Bay Street~~which will be 30' wide and comply with standards. The Project will provide a driveway on Sacramento Street (which will access the subterranean parking) will provide 1 lane in each direction and a reversible middle lane. This Driveway as a multiple entry lane driveway would be 41~~0~~' wide, as allowed by the guidelines for multiple lane driveways. The ~~one-way~~second driveway on ~~Bay~~ Sacramento Street (which will access the surface parking) would provide one inbound lane and and one outbound lane and would be 24'7" ~~would be 18 feet~~ wide but would be less than the required 30' width. This driveway location is constrained by a major power pole. It will be a low volume driveway to surface parking and located near the end of dead-end Sacremento Street. It is therefore concluded ti would not be substantially in conflict with driveway standards. ~~not be inconsistent with standards, which state that single lane driveways wider than 16 feet are appropriate to accommodate large commercial vehicles. This driveway would serve the on-site loading docks.~~ ~~The two-way driveway on Sacramento Street would not exceed the required width.~~ Driveways are therefore generally consistent with MMP Sec 321.
17	Does project propose more driveways than required by City maximum standard?	MPP Sec No. 321 Driveway Design	Vision Zero, MP, Healthy LA	No. Not applicable. The LADOT Manual of Policies and Procedures Section 321, Driveway Design, does not have any maximum number of driveway requirements for Projects with non-arterial frontages.
18	Are loading zones proposed as a part of the project?	MP-2.10 Loading Areas; MP-PK.1; MP-PK.7; MP-PK.8; MPP 321		No. Not applicable. No. On-Street loading is not proposed as part of the project. Loading will only occur on-site.

19	Does project include "drop-off" zones or areas? If yes, are such areas located to the side or rear of the building?	MP–2.10 Loading Areas		Yes. Applicable. The Project includes a drop-off zones ~~on both~~ Bay Street ~~and Sacramento Street~~. ~~These~~ This zones ~~are~~ is located directly adjacent to the building entrances. The Project is consistent with Policy 2-10.
20	Does project propose modifying, limiting/restricting, or removing public access to a public right-of-way (e.g., vacating public right-of-way?)	MP–2.3 Pedestrian Infrastructure; MP–3.9 Increased Network Access		No. Not applicable. The Project does not propose modifying, limiting/restricting, or removing public access to a public right-of-way.

LAMC = Los Angeles Municipal Code
MP = Mobility Plan
CDG = Citywide Design Guidelines
MPP = LADOT Manual of Policies and Procedures
TEN = Transit Enhanced Network
BEN = Bicycle Enhanced Network
TOC = Transit Oriented Communities Affordable Housing Incentive Guidelines

2.3 Substantially Inducing Additional Automobile Travel (Threshold T-2.2)

This threshold addresses transportation improvement projects to assess if the project induces substantial additional vehicle miles travelled. As the Proposed Project is a development project and not a transportation project, this threshold is not applicable to this study.

2.4 Substantially Increasing Hazards Due to A Geometric Design Feature or Incompatible Use (Threshold T-3)

As required in the LADOT Transportation Assessment Guidelines, this section addresses the potential increase of hazards due to a geometric design feature and generally relate to the design of access points to and from a project site, and may include safety, operational or capacity impacts.

Proposed Project Driveways

The Proposed Project would provide three driveways, two on ~~Bay~~ Sacramento Street and one on ~~Sacramento~~ Bay Street, as shown in Figure 0.5. The main driveway on ~~Bay~~ Sacramento Street would be two-way and access the subterranean parking. A second ~~one~~two-way ~~inbound~~ driveway on ~~Bay~~ Sacramento Street would access the surface parking. A driveway on ~~Sacramento~~ Bay Street would be two-way and would also access the surface parking.

Threshold T-3: Would the project substantially increase hazards due to a geometric design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?

Impact Analysis

The driveways will all be perpendicular to the street, with no sharp curves, or visibility issues. Landscape design will also ensure there will be no impediments to visibility of and by vehicles, bicycles and pedestrians.

The Project Site is essentially flat. There are no slopes, curves, landscaping or other barriers that would impede visibility or that could result in vehicle/pedestrian, vehicle/bicycle, or vehicle/vehicle impacts.

LADOT Driveway Design Guidelines (Manual of Policies and Procedures Section 321) recommended driveway widths for commercial projects are 16 feet and 30 feet for one-way and two-way driveways (or wider for multiple entry lane driveways), respectively. The main driveway on ~~Bay~~ Sacramento Street will be two-way and will access the parking garage. This

driveway is proposed to have one lane in each direction in addition to a reversible middle lane, and is proposed to be ~~40~~ 41 feet wide. The ~~inbound on~~two~~e~~-way driveway on Bay Street will access the surface parking and is proposed to be ~~18~~ 30 feet wide. The second two-way driveway on Sacramento Street will access the surface parking and is proposed to be 24'7" ~~feet~~ wide. It would provide access to the surface parking level and the on-site loading zone and would provide one lane in each direction. It would not meet the recommended 30' width. The design is constrained by an existing electrical power pole. The driveway would also be very close to the dead-end of Sacramento Street to the east, so traffic would only use this driveway from the west, and there would be no traffic other than project traffic passing the driveway. For these reasons the failure to meet the recommended 30-foot width does not create a significant impact under this threshold.

Parking entry control and security gate on the main driveway on ~~Bay~~ Sacramento Street would be located approximately 25 feet from the property line. LADOT guidelines require the entry gate at this location to be 60' feet from the property line (accessing 605 parking spaces). The proposed design for this driveway includes a center reversible, lane so at peak times there would be two inbound lanes which would provide a total reservoir distance of 50 feet. The Project Site is located at the end of the dead-end ~~Bay~~ Sacramento Street so the only traffic on ~~Bay~~ Sacramento Street at that location is local traffic and there is no vehicular traffic passing this driveway. There are no parking controls anticipated for the surface parking driveways on Bay Street and Sacramento Street, although there would be security gates approximately 40 feet from the property line.

The Project is located adjacent to dead-ends on Bay Street and Sacramento Street. To the east of the dead-ends are the BNSF railway tracks and there are no existing pedestrian or bicycle connections nor the opportunity for any future connections. Therefore, there is minimal pedestrian activity around the Project Site.

The Proposed Project would not make any changes to the roadway system that would impact the High Injury Network or Safe Routes to School (there are no safe routes to school adjacent to the Proposed Project).

Cumulative Impacts

The planned project at 2110 Bay Street is adjacent to and to the west of the Proposed Project. That project would also have access driveways on both Bay Street and Sacramento Street. Both streets are dead end streets providing access only to adjacent uses and with no through traffic. The Proposed Project access would not conflict with access for the 2110 Bay Street Project, so there would be no cumulative impacts regarding substantially increasing hazards due to geometric design features or incompatible use.

Attachment 3

Chapter 3 - Non-CEQA Transportation Analysis
Pedestrian, Bicycle & Transit Access
Edits

Figure 3.7 identifies the location, number, and type of pedestrian curb access ramps provided at the intersections.

3.2.3 Evaluation

Evaluation criteria for the assessment of pedestrian, bicycle, and transit facilities fall under two broad categories: (1) removal or degradation of facilities, and (2) intensification of use. In Table 3.1 specific actions identified in the Transportation Assessment Guidelines under each category are examined to assess project's effect on pedestrian, bicycle, and transit facilities. The responses provided below reflect conditions upon completion of the Proposed Project.

Table 3.1 Application of Evaluation Criteria

#	Criteria	Evaluation
Removal or Degradation of Facilities		
1	Does the Project result in removal or degradation of existing sidewalks, crosswalks, pedestrian refuge islands, and/or curb extensions / bulbouts?	No. The project would not remove any existing sidewalks, crosswalks, pedestrian refuge islands, and/or curb extensions / bulb-outs.
2	Does the Project result in removal or degradation of existing bikeways and/or supporting facilities (e.g., bikeshare stations, on-street bike racks/parking, bike corrals, etc.)	No. There are no bikeways and/or supporting facilities adjacent to the Project Site.
3	Does the Project result in removal or degradation of existing transit and/or local circulator facilities including stop, bench, shelter, concrete pad, bus lane, or other amenities?	No. There are no existing transit and/or local circulator facilities including stop, bench, shelter, concrete pad, bus lane, or other amenities adjacent to the Project Site.
4	Does the Project result in removal of other existing transportation system elements supporting sustainable mobility?	No. There are no other existing transportation system elements supporting sustainable mobility adjacent to the Project Site.

#	Criteria	Evaluation
5	Does the Project result in increasing the street crossing distance for pedestrians; increase in number of travel/turning lanes; increase in turning radius or turning speeds?	Yes. On the east portion of Bay Street and Sacramento Street half roadway widths on the Project Side are being increased to accommodate fire truck turnaround radius. However, these would occur at the end of the dead-end street so would not affect pedestrian circulation crossing the street.
6	Does the Project result in removal, degradation, or narrowing of an existing sidewalk, path, crossing, or pedestrian access way?	No. As previously detailed in Table 2.1 there are no existing sidewalks on Bay Street and the Project would provide a 13' sidewalk in compliance with the Mobility Plan 2035. On Sacramento Street there is currently a 10' sidewalk and the Project would provide a 13' sidewalk. ~~On the west portion of the street the Project would increase the sidewalk width from 10' to 13'~~ thereby meeting the Mobility Plan 2035 requirement. ~~On the east portion of the Sacramento Street increasing the roadway width to accommodate fire truck turnaround and the passenger drop-off zone results in a 3' sidewalk. However, the adjacent pedestrian plaza would provide an effective sidewalk width of more than the required 13'. Also, the sidewalk does not continue east of the Project Site as Sacramento Street is a dead end street because of the railroad tracks. Therefore, there is no need for pedestrians to walk east of the Project Site.~~
7	Does the Project result in removal or narrowing of existing sidewalk-street buffering elements (e.g., curb extension, parkway, planting strip, street trees, etc.)?	No. Currently there are no sidewalks or sidewalk-street buffering elements on Bay Street adjacent to the Project Site. The Project will provide a new sidewalk per the Mobility Plan 2035 requirements that will include street trees. On Sacramento Street 2 trees will be removed and 45 new trees will be planted.
	Intensification of Use	
1	Does the Project increase pedestrian or vehicle volumes, and thereby increase the need or attraction to cross a street at unmarked pedestrian crossings or	Yes. The Project will increase the need to cross Santa Fe Avenue at Bay Street and Sacramento Streets. A Bus Stop is located on the west side of Santa Fe Avenue near the intersection with Violet Street. However, pedestrian crosswalks are not

#	Criteria	Evaluation
	unsignalized or uncontrolled intersections where a crossing is not available without significant rerouting.	currently provided at Sacramento, Bay, or Violet Streets. The nearest signalized pedestrian crossing to this bus stop is provided at the intersection of Santa Fe Avenue and 7th Street. This would entail that pedestrians walk northbound past the bus stop before crossing the street at the intersection and then travelling southbound to reach the bus stop.
2	Does the Project result in new pedestrian demand between project site entries/exits and major destinations or transit stops expected to serve the development where there are missing pedestrian facilities (e.g., gaps in the sidewalk network) or substandard pedestrian facilities (e.g., narrow or uneven sidewalks, no crosswalks at intersections or mid-block, no marked crossing, or push button crossing rather than actuated, etc.)?	Yes. The closest transit stops to the Project Site are located on Santa Fe Avenue near intersections with Violet Street and 8th Street. On Bay Street the Project is providing a new sidewalk adjacent to the Project Site and there is currently an existing side-walk close to the Santa Fe Avenue on the south side of the street. However, a sidewalk gap would exist between the new sidewalk adjacent to the Project Site and the existing sidewalk close to Santa Fe Avenue. It is expected this gap will be completed by the planned adjacent development project. There are no pedestrian crossings across Santa Fe Avenue at Violet Street, Bay Street, or Sacramento Streets. Therefore, pedestrians wanting to access the bus stop near the intersection of Santa Fe Avenue and Violet Street located on the west side of the Street need to cross the street at the intersection of Santa Fe Avenue and 7th Street. This would entail going further away from their destination before getting any closer. However, signalized pedestrian crossing is provided at the intersection of Santa Fe Avenue and 8th Street for the bus stops located near this intersection.
3	Increase transit demand at bus stops that lack marked crossings, with insufficient sidewalks, or are in isolated, unshaded, or unlit areas?	No. There are two bus stops on Santa Fe Avenue near the intersection with Violet Street, one on each side of the Street. 12 feet sidewalks are provided for each stop and street lights are provided within 50 ft. of each stop. As noted earlier there are no pedestrian crossings across Santa Fe Avenue at Violet, Bay, or Sacramento Streets. There are also two bus stops located on Santa Fe Avenue near the intersection with 8th Street on each side of the street. 12 feet sidewalks are provided for each stop and

#	Criteria	Evaluation
		street lights are provided within 50 ft. of each stop. Signalized pedestrian crossing to these bus stops are provided at the intersection.

High-Injury Network

The City of Los Angeles Department of Transportation is implementing a program called Vision Zero. Vision Zero Los Angeles represents a citywide effort to eliminate traffic deaths in the City of Los Angeles by 2025. Vision Zero has two goals: a 20% reduction in traffic deaths by 2017 and zero traffic deaths by 2025. In order to achieve these goals, LADOT identified a network of streets, called the High Injury Network (HIN), which has a higher incidence of severe and fatal collisions. The HIN is comprised of 386 corridors that represent 6% of Los Angeles' street miles. Sixty-five percent of all deaths and severe injuries involving people walking and biking occur on these 6% of streets.

As shown in Figure 3.8 the Proposed Project is not located on the High Injury Network (HIN). There are currently no specific Vision Zero Corridor Plans for streets in the vicinity of the Proposed Project.

3.2.4 Evaluation Summary and Recommended Actions

Summary

The Proposed Project is located in the Arts District, which is an area with many local streets without sidewalks, and with some streets that are uncurbed where vehicles and pedestrians share the "roadway space". The arterial streets generally have developed pedestrian facilities, including sidewalks and crosswalks. The closest intersections to the Project Site are intersections of Santa Fe Avenue with Bay Street and Sacramento Street. ADA access ramps are provided at both of these intersections; however, at the intersection of Santa Fe Avenue and Bay Street tactile warning strips are not provided. Pedestrian crosswalks across Santa Fe Avenue are not provided at these two intersections. The nearest signalized pedestrian crossings are provided at the intersection of Santa Fe Avenue and 8th Street south of the Project Site, and Intersection of Santa Fe Avenue and 7th Street north of the Project Site.

The nearest bus stops to the Project Site are located on Santa Fe Avenue close to the intersections with Violet Street and 8th Street. These bus stops lack bus benches, but sidewalks and lighting are provided adjacent to them.

The Proposed Project will provide new sidewalks per Mobility Plan 2035 requirements on Bay Street and Sacramento Street. ~~On Sacramento Street the sidewalk adjacent to the Site will be improved to current standards, except on the east portion where the sidewalk will be narrower to accommodate wider than required half roadway width. The wider than required half roadway width is necessary to accommodate fire truck turnaround radius, and the adjacent pedestrian plaza on the Project Site will provide an adequate effective sidewalk width.~~ Additionally, Bay Street and Sacramento Streets adjacent to the Project Site will meet City standards for right-of-way and roadway widths, except the east portion of ~~these streets~~Bay Street where some standards will be met and exceeded.

In conclusion, the Proposed Project would not cause any physical deficiencies or demand-based deficiencies on pedestrian, bicycle or transit facilities in the vicinity of the Project.

Proposed Actions

Notwithstanding the above conclusion, the Project proposes two improvement actions, given the likely increase in pedestrian traffic to Santa Fe Avenue and the bus stops on that street.

(1) Install tactile warning strips on the north east and south-east street corners of the intersection of Santa Fe Avenue and Bay Street.

(2) Consider installing some form of signalized pedestrian crosswalk on Santa Fe Avenue at ~~Bay~~ Sacramento Street, possibly in conjunction with a new traffic signal at the intersection (see Section 3.3.7 for further discussion of a potential traffic signal).

No further actions are deemed necessary or proposed.

Attachment 4

Chapter 3 - Non-CEQA Transportation Analysis

Operational Evaluation – Unsignalized Intersections

Edits

Unsignalized Intersections Level of Service (LOS)

Future With Project Conditions (FWP)

The Level of Service results for the three studied unsignalized intersections under Future with Project Conditions during both AM and PM hour are shown in Table 3.12. The LOS is calculated for the movements from the minor streets and left turns from the major street (movements potentially encountering delay). As shown in the table during both the AM and PM peak hours the studied movements for the minor street approaches (eastbound and westbound) would operate at LOS F at all three intersections. The movements on Santa Fe Avenue would operate between LOS A and LOS C at all three intersections.

In order to assess whether the Project would cause the minor approaches to operate at LOS F, an operational analysis of the Future Without Project conditions was performed.

Future Without Project Conditions (FWOP)

Table 3.13 and Table 3.14 show the LOS comparison of Future Without Project and Future With Project conditions during the AM peak hour and PM peak hour respectively. As shown in Table 3.13 during the AM peak hour the minor street movements would operate at LOS F under both Future Without Project and Future With Project conditions so the Project would not cause the LOS F conditions. Delays on Santa Fe Avenue would increase only slightly due to the Project.

As shown in Table 3.14 during the PM peak hour the minor street movements would operate at LOS F under both Future Without Project and Future With Project conditions so the Project would not cause the LOS F conditions, except for the eastbound approach at the intersection of Santa Fe Avenue & Sacramento Street.

At the intersection of Santa Fe Avenue & Sacramento St, the Project would cause the eastbound approach to increase from LOS C~~D~~ to LOS F. Delays on Santa Fe Avenue would increase only slightly due to the Project.

Unsignalized Intersections Queuing

Future with Project Conditions (FWP)

The results of the queuing analysis at the study intersections for the AM and PM peak hours are shown in Table 3.15 and Table 3.16, respectively. As shown, in Table 3.15, during the AM peak hour queues would not exceed storage capacity for all movements at all intersections, except the following:

- Santa Fe Avenue & Violet Street
  Westbound Left/Thru/Right

Table 3.12 Rev Future with Project - Intersection Level of Service (Unsignalized)

No.	Intersection	Future with Project			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
2	Santa Fe Avenue & Violet Street				
	Eastbound Left/Thru/Right	Over Flow[1]	F	Over Flow	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	1.9	A	11.6	B
	Southbound Left/Thru	10.3	B	14.6	B
3	Santa Fe Avenue & Bay Street				
	Westbound Left	151.6	F	123.8	F
	Westbound Right	14.8	B	16.1	C
	Southbound Left/Thru	12.5	B	11.8	B
4	Santa Fe Avenue & Sacramento Street				
	Eastbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	1.6	A	1.1	A
	Southbound Left/Thru	10.6	B	2.6	A

Notes:

1. Indicates calculated delay greater than 300 seconds.

Table 3.13 Rev Intersection LOS Comparison (Unsignalized) - AM Peak Hour

No.	Intersection	AM Peak Hour			
		Future without Project		Future with Project	
		Delay	LOS	Delay	LOS
2	Santa Fe Avenue & Violet Street				
	Eastbound Left/Thru/Right	Over Flow[1]	F	Over Flow	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	1.8	A	1.9	A
	Southbound Left/Thru	9.7	A	10.3	B
3	Santa Fe Avenue & Bay Street				
	Westbound Left	124.7	F	151.6	F
	Westbound Right	14.6	B	14.8	B
	Southbound Left/Thru	12.3	B	12.5	B
4	Santa Fe Avenue & Sacramento Street				
	Eastbound Left/Thru/Right	69.4	F	Over Flow	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	1.6	A	1.6	A
	Southbound Left/Thru	5.5	A	10.6	B

Notes:

1. Indicates calculated delay greater than 300 seconds.

Table 3.14 Rev Intersection LOS Comparison (Unsignalized) - PM Peak Hour

No.	Intersection	PM Peak Hour			
		Future without Project		Future with Project	
		Delay	LOS	Delay	LOS
2	Santa Fe Avenue & Violet Street				
	Eastbound Left/Thru/Right	Over Flow[1]	F	Over Flow	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	11.4	B	11.6	B
	Southbound Left/Thru	13.7	B	14.6	B
3	Santa Fe Avenue & Bay Street				
	Westbound Left	98.0	F	123.8	F
	Westbound Right	14.9	B	16.1	C
	Southbound Left/Thru	11.3	B	11.8	B
4	Santa Fe Avenue & Sacramento Street				
	Eastbound Left/Thru/Right	24.7	C	Over Flow	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	1.1	A	1.1	A
	Southbound Left/Thru	1.6	A	2.6	A

Notes:

1. Indicates calculated delay greater than 300 seconds.

Table 3.15 Rev Future with Project - Intersection Queuing (Unsignalized) - AM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)[1,2]	Provided Storage	Storage Exceeded?
2	Santa Fe Avenue & Violet Street	Eastbound Left/Thru/Right	145	617	No
		Westbound Left/Thru/Right	Over Flow[3]	494	Yes
		Northbound Left/Thru	25	310	No
		Southbound Left/Thru	40	315	No
3	Santa Fe Avenue & Bay Street	Westbound Left	38	471	No
		Westbound Right	25	140	No
		Southbound Left/Thru	25	310	No
4	Santa Fe Avenue & Sacramento Street	Eastbound Left/Thru/Right	Over Flow	620	Yes
		Westbound Left/Thru/Right	Over Flow	468	Yes
		Northbound Left/Thru	25	290	No
		Southbound Left/Thru	39	315	No

Notes:

1. The queue lengths shown are the queue for each lane within each movement.
2. Queue lengths less than 25 ft (1 vehicle) are shown as 25 ft.
3. Volume greater than capacity, queue is indeterminate per Synchro.

Table 3.16 Rev Future with Project - Intersection Queuing (Unsignalized) - PM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)[1,2]	Provided Storage	Storage Exceeded?
2	Santa Fe Avenue & Violet Street	Eastbound Left/Thru/Right	363	617	No
		Westbound Left/Thru/Right	1,305	494	Yes
		Northbound Left/Thru	25	310	No
		Southbound Left/Thru	25	315	No
3	Santa Fe Avenue & Bay Street	Westbound Left	40	471	No
		Westbound Right	25	140	No
		Southbound Left/Thru	25	310	No
4	Santa Fe Avenue & Sacramento Street	Eastbound Left/Thru/Right	Over Flow[3]	620	Yes
		Westbound Left/Thru/Right	Over Flow	468	Yes
		Northbound Left/Thru	25	290	No
		Southbound Left/Thru	25	315	No

Notes:

1. The queue lengths shown are the queue for each lane within each movement.
2. Queue lengths less than 25 ft (1 vehicle) are shown as 25 ft.
3. Volume greater than capacity, queue is indeterminate per Synchro.

- Santa Fe Avenue & Sacramento Street
  Eastbound Left/Thru/Right
  Westbound Left/Thru/Right

As shown, in Table 3.16, during the PM peak hour queues would not exceed storage capacities for all movements at all intersections, except the following:

- Santa Fe Avenue & Violet Street
  Westbound Left/Thru/Right

- Santa Fe Avenue & Sacramento Street
  Eastbound Left/Thru/Right
  Westbound Left/Thru/Right

In order to assess whether the Project would cause queue lengths to exceed the existing storage capacity, a queuing analysis of Future Without Project conditions was performed.

Future Without Project Conditions (FWOP)

For those movements where the queue lengths with the Project would exceed the existing storage length, Tables 3.17 and 3.18 show a comparison of queuing results under Future Without Project (FWOP) and Future With Project (FWP) conditions during the AM and PM peak hours, respectively. As shown in the tables, at all locations where queues would exceed storage capacity under Future With Project Conditions, they would also exceed capacity would under Future Without Project conditions, except the following:

- Santa Fe Avenue & Sacramento Street
  Eastbound Left/Thru/Right

~~. The Project would therefore not cause queuing storage capacities to be exceeded.~~
The Project would therefore cause the eastbound queuing storage capacity to be exceeded at that intersection.

Table 3.17 Rev Intersection Queuing Comparison (Unsignalized) – AM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)[1,2]		Provided Storage	Storage Exceeded?	
			FWOP	FWP		FWOP	FWP
2	Santa Fe Avenue & Violet Street	Westbound Left/Thru/Right	Over Flow[3]	Over Flow	494	Yes	Yes
4	Santa Fe Avenue & Sacramento St.	~~Westbound~~ Eastbound Left/Thru/Right	~~Over Flow~~ 27	Over Flow	620	~~Yes~~No	Yes
		Westbound Left/Thru/Right	Over Flow	Over Flow	468	Yes	Yes

Notes: 1. The queue lengths shown are the queue per lane within each movement.
2. Queue lengths less than 25 ft. (1 vehicle) are shown as 25 ft.
3. Volume greater than capacity, queue indeterminate per Synchro.

Table 3.18 Rev Intersection Queuing Comparison (Unsignalized) - PM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)[1,2]		Provided Storage	Storage Exceeded?	
			FWOP	FWP		FWOP	FWP
2	Santa Fe Avenue & Violet Street	Westbound Left/Thru/Right	1,285	1,305	494	Yes	Yes
4	Santa Fe Avenue & Sacramento Street	Eastbound~~West bound~~ Left/Thru/Right	~~580~~18	Over Flow~~6 55~~	~~500~~620	~~Yes~~No	Yes
		Westbound Left/Thru/Right	Over Flow	Over Flow	468	Yes	Yes

Notes: 1. The queue lengths shown are the queue per lane within each movement.
2. Queue lengths less than 25 ft (1 vehicle) are shown as 25 ft.

3.3.6 Project Access

Vehicular Access

Vehicle access into the Project Site would be provided by a total of three driveways (as shown in Figure 0.4): a 2-way driveway on ~~Bay Street~~Sacramento Street to access the garage level (a three-lane driveway with one lane in, one lane out and one reversible lane that would run inbound in the AM peak period and outbound in the PM peak period); a 2-way ~~street~~ driveway ~~an ingress only driveway~~ on ~~Bay~~ Sacramento Street to the surface parking; and a two-way driveway on ~~Sacramento Street~~Bay Street to the surface parking. These driveways are discussed in Table 2.1 in Chapter 2.1, and in Chapter 2.4.

The driveways will be perpendicular to the street. As the Project Site is located at the dead-end of Bay Street and Sacramento Street there will be no other traffic passing these driveways. With the driveways being located on Bay Street and Sacramento Street, there would not be any conflict with bicycle facilities or transit, neither of which occur on these two streets.

Pedestrian and Bicycle Access

The site plan is designed to facilitate convenient and safe pedestrian access and circulation. Pedestrian access will be provided from Bay Street and Sacramento Street with direct access from the sidewalks to the Project commercial uses. The Project will add a sidewalk on Bay Street and improve the sidewalk on Sacramento Street. ~~A pedestrian paseo will be provided along the right side of the building between Bay Street and Sacramento Street to enhance pedestrian circulation.~~ The Project will improve the pedestrian realm on Bay Street and Sacramento Street with enhanced sidewalk materials. Landscaping will be designed to provide safe and adequate pedestrian and vehicle visibility, and all designs will be prepared according to City standards. Design of the pedestrian realm will ensure no hazardous conditions are created.

Bicycle access to the site will be facilitated by the bicycle lane on Santa Fe Avenue being implemented with the Arts District Pedestrian and Bicycle Safety Program. On-site bicycle parking will be provided according to the City of Los Angeles Municipal code. Bicycle lockers and showers will be provided with access via the pedestrian paseo.

Passenger Loading

A~~P~~passenger loading area is ~~are~~ proposed on Bay Street ~~and Sacramento Street~~ directly adjacent to the Project Site, as shown in Figure 0.4. ~~These~~ This zones will not interfere with other roadway traffic as the Project is located at the dead-end of Bay Street ~~and Sacramento Street~~ so there will be no other traffic passing these zones. An a~~A~~dequate turning radius~~i~~ would be provided for vehicles to access ~~these~~ this zones. Passenger loading could also occur within the surface parking level.

Truck Loading

All truck loading would occur on site in the surface level of parking, with access from both Bay Street and Sacramento Street.

3.3.7 Evaluation Summary

Signalized Intersections

The operational evaluation has shown that while the studied intersections would operate at LOS E or LOS F in the Future With Project condition, they would operate at the same level of service in the Future Without Project conditions, except at the intersection of Santa Fe & 8th in the AM peak hour.

At the intersection of Santa Fe & 8th, the level of service would increase from LOS E to LOS F due to the Project.

The Project would however result in only small increases in vehicle delays on Santa Fe Avenue at the studied signalized intersections.

The evaluation also showed that for movements at the signalized intersections, the queue lengths would generally not exceed current storage capacities except for one movement in the AM peak hour and four movements in the PM peak hour. However, queues for these movements would also exceed capacity under Future Without Project conditions, except for the eastbound left/through move on 8th Street at the Santa Fe & 8th St intersection.

The Project would therefore not cause queue lengths to exceed storage capacities, except at one location. At the intersection of Santa Fe Avenue & 8th Street in the PM peak hour, the Project would cause the queue length to exceed storage capacity for the eastbound left/thru movement, although the increase in the queue length would be only about 12 ft. or less than one car length.

For the other intersection movements, the queue lengths would increase by less than one car length due to the Project, except at the intersection of Santa Fe & 8th in the AM peak hour where the queue length would increase by about 34' or less than two car lengths due to the Project.

Unsignalized Intersections

At three analyzed unsignalized intersections along Santa Fe Avenue, the minor street movements on Violet Street, Bay Street, and Sacramento Street would operate at LOS F with the Project, in both the AM and PM peak hours.

In the AM peak hour these movements would also operate at LOS F in the Future Without Project Condition. In the PM peak hour they would also operate at LOS F in the Future Without

project conditions, except for the eastbound approach of the Santa Fe & Sacramento intersection.

The eastbound approach of the Santa Fe & Sacramento intersection would change from LOS C~~D~~ to LOS F due to the Project.

The evaluation also showed that at unsignalized intersections the queues would generally not exceed the storage capacities except for ~~two~~ three movements – westbound Violet Street, ~~and westbound~~ and eastbound and westbound Sacramento Street in both peak hours. At these locations the queues would also exceed storage capacities in the Future Without Project conditions, except eastbound Sacramento Street where the Project would cause the queue to exceed the storage capacity. ~~The Project would therefore not cause queues to exceed the storage capacities.~~

Proposed Corrective Actions

The evaluation identified two locations where the Project would cause a change in level of service or the queue storage capacity to be exceeded. These are:

Santa Fe Ave & 8th St (Signalized)	AM peak hour - LOS E to LOS F change PM peak hour - queue storage capacity exceeded
Santa Fe Ave & Sacramento St (Unsignalized)	PM peak hour – LOS C~~D~~ to LOS F change AM/PM peak hour – eastbound queue storage capacity exceeded
~~(Unsignalized)~~	

It also identified the westbound left approach on Bay Street and the westbound approach on Sacramento Street at Santa Fa Avenue would operate at LOS F with the Project, although they would also operate at LOS F without the Project.
A number of potential corrective actions were evaluated, including (1) trip reduction measures; (2) geometric improvements; (3) potential signalization.

Trip Reduction Measures

The VMT analysis in Chapter 2.2 of this report identified a number of trip reduction measures to reduce VMT to a level where there would be no significant VMT impacts. The trip reduction effect of these measures was applied to the analysis of the above two intersections, but it would not eliminate the operational changes caused by the Project at the two locations.

Geometric Improvement Measures

In this area of the Arts District, streets are limited in roadway width and right-of-way. Geometric improvements were evaluated. At the intersection of Santa Fe Avenue & 8th Street they are not feasible as there is no roadway or right-of-way space available to make any changes to the existing geometrics. At the intersection of Santa Fe Avenue & Bay Street they are not feasible as there is no roadway or right-of-way space available to make any changes to the existing geometrics (a two lane westbound approach including a de facto right turn lane has already been assumed in the analysis of all conditions). At the intersection of Santa Fe Avenue and Sacramento Street, while there is space to add eastbound and westbound right turn lanes, they could not be implemented without removing on-street parking and were found to be infeasible for that reason.

Potential Signalization

In order to investigate the feasibility of new traffic signals at the intersections of Santa Fe Avenue & Bay Street and at Santa Fe Avenue & Sacramento Street, a peak hour traffic signal warrant analysis was performed for both locations. The Signal Warrant Analyses are attached as Appendix D. This analysis showed that a new signal would not be warranted at either location in the AM peak hour. During the PM peak hour, a new signal would be warranted for the intersection of Santa Fe Avenue and Sacramento Street, but not for the intersection of Santa Fe Avenue and Bay Street.

The Project proposes to install a new traffic signal at the intersection of Santa Fa Avenue & Sacramento Street. This would also provide for signalized crosswalks on Santa Fe Avenue at this location to facilitate pedestrian movements.

~~In order to investigate the feasibility of new traffic signals at the intersections of Santa Fe Avenue & Bay Street and at Santa Fe Avenue & Sacramento Street, a peak hour traffic signal warrant analysis was performed for both locations. The Signal Warrant Analyses are attached as Appendix D. This analysis showed that a new signal would not be warranted at either location in the AM peak hour, but would be warranted at both locations in the PM peak hour. Signalization would also be warranted at Santa Fe Avenue & Sacramento Street in the Future Without Project conditions, so the Project would not cause the need for a new traffic signal at that location. At the Santa Fe Avenue & Bay Street intersection, signalization would not be warranted in the Future Without Project Conditions, so the Project would cause the need for signalization at this location.~~

~~The Project therefore proposes to install a new traffic signal at the intersection of Santa Fa Avenue & Bay Street (the Project's main access is on Bay Street). This would also provide for signalized crosswalks on Santa Fe Avenue at this location to facilitate pedestrian movements.~~

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3.4. Project Construction

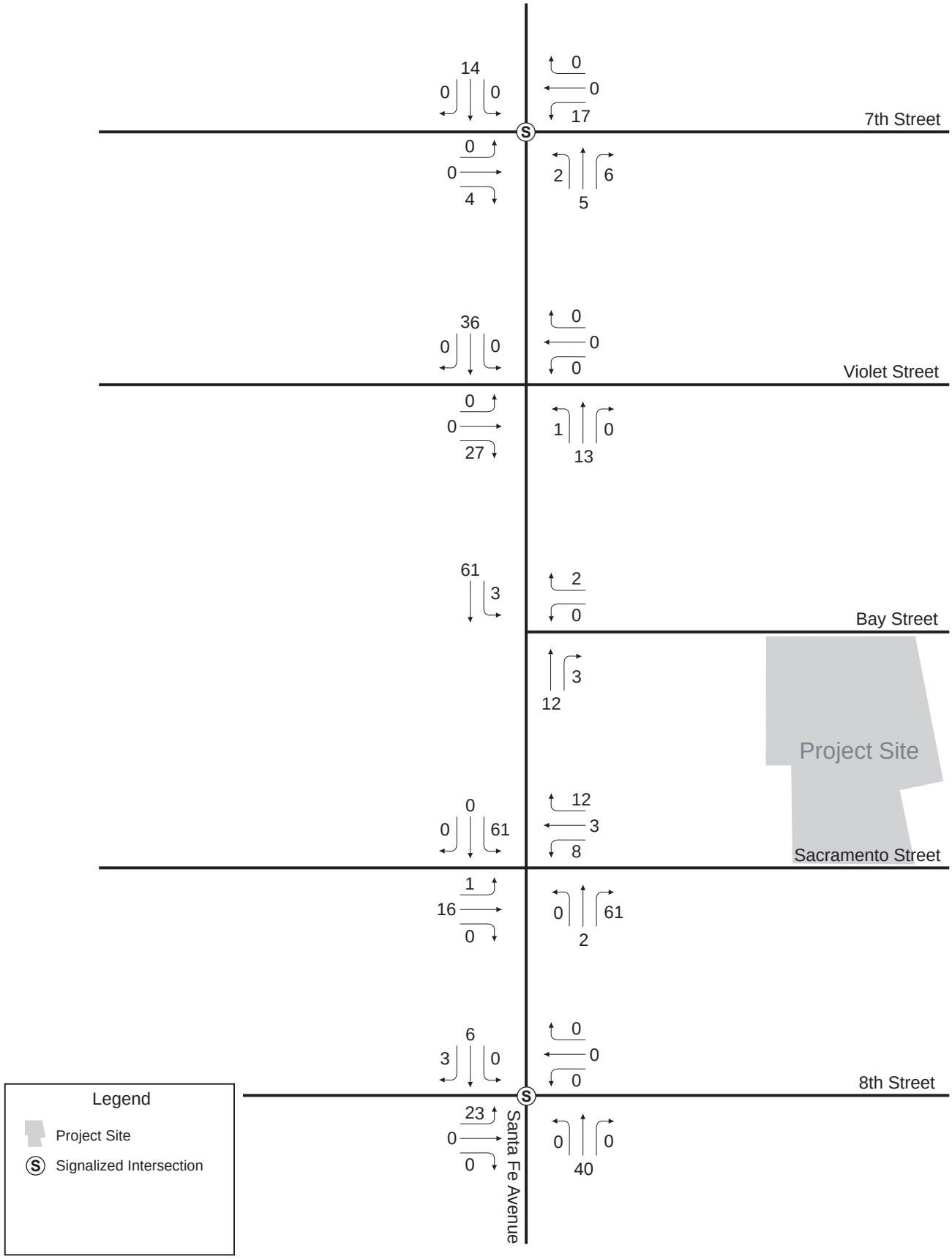


Figure 3.10
Project Only Traffic Volumes - AM Peak Hour

2159 Bay Street

The **Mobility** Group
Transportation Strategies & Solutions

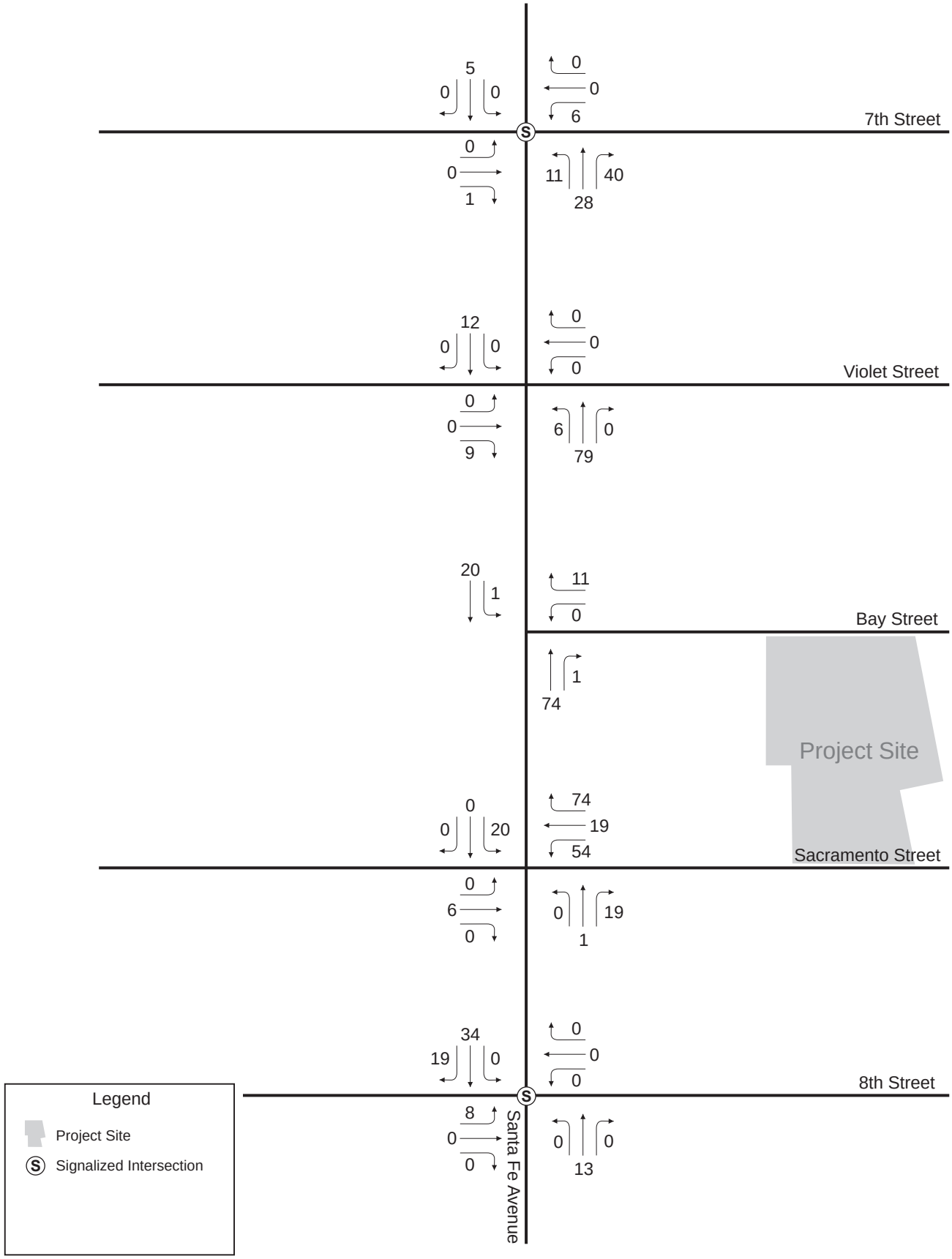


Figure 3.11
Project Only Traffic Volumes - PM Peak Hour

2159 Bay Street

The **Mobility** Group
Transportation Strategies & Solutions

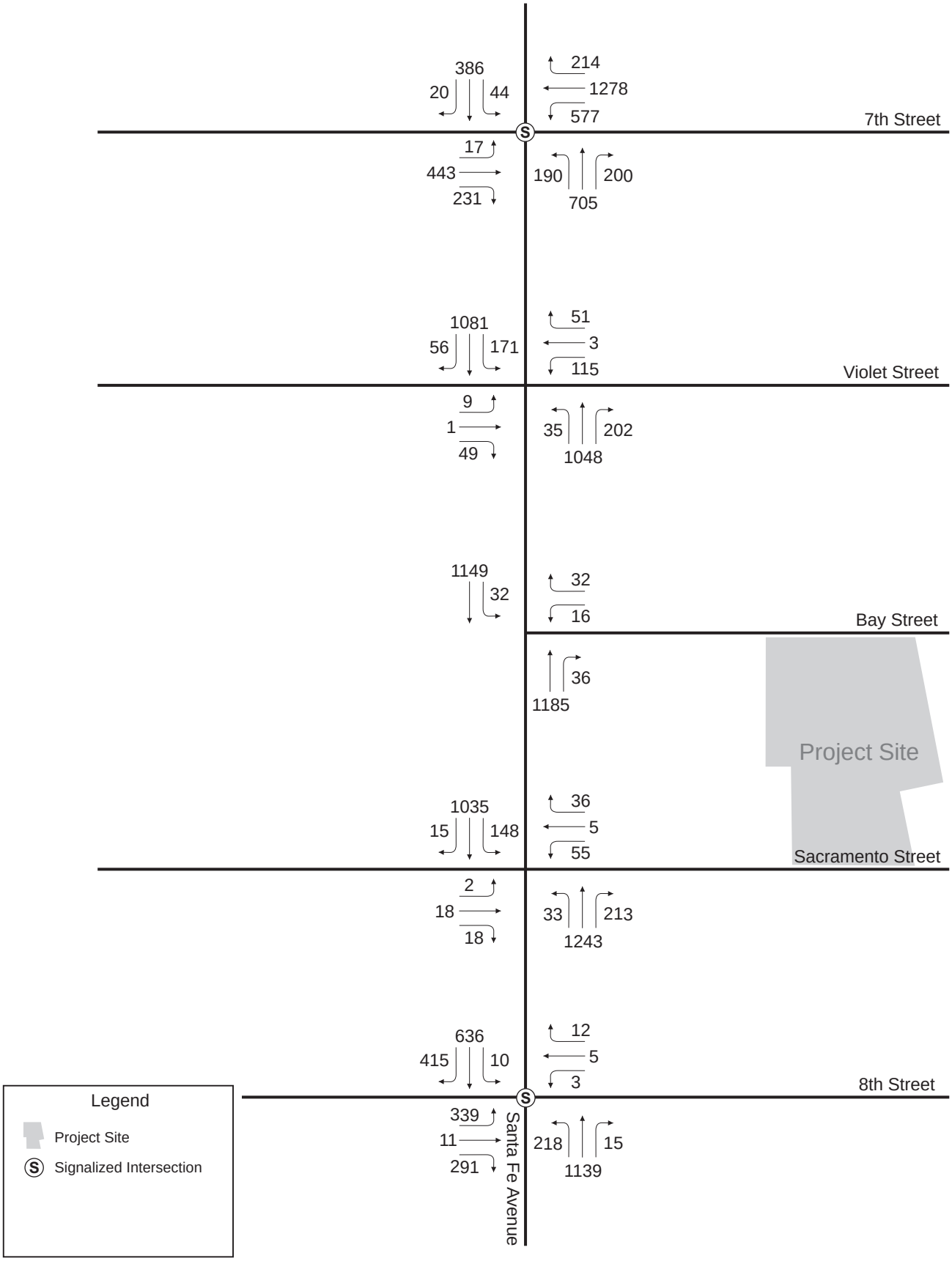


Figure 3.12
Future With Project Traffic Volumes - AM Peak Hour

2159 Bay Street

The **Mobility** Group
Transportation Strategies & Solutions

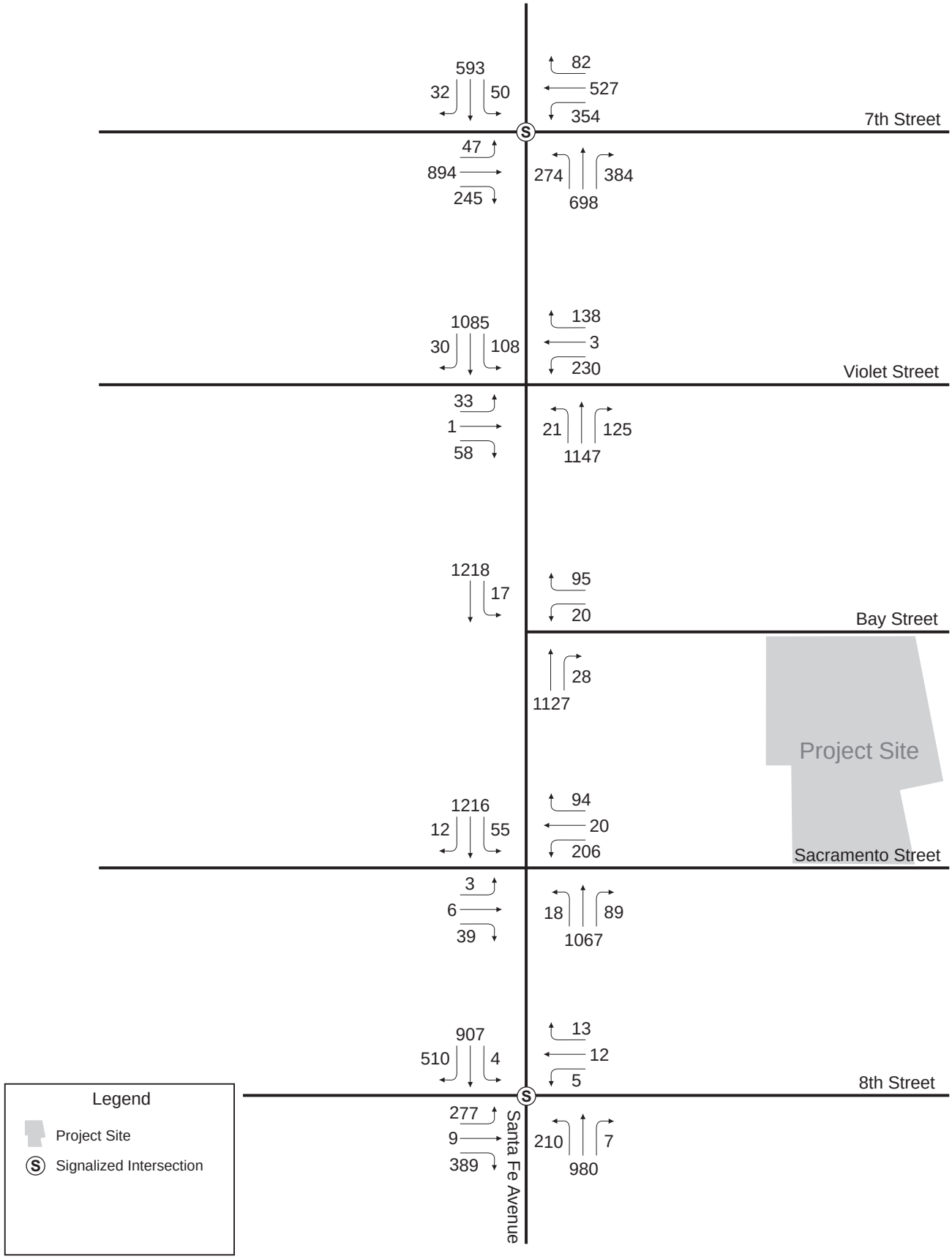


Figure 3.13
Future With Project Traffic Volumes - PM Peak Hour

2159 Bay Street

The **Mobility** Group
Transportation Strategies & Solutions

Appendix C

Level of Service Worksheets

(Partial Revised)

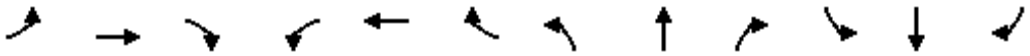
Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	32	1185	36	32	1149
Future Vol, veh/h	16	32	1185	36	32	1149
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	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	17	35	1288	39	35	1249

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2003	664	0	0	1327	0
Stage 1	1308	-	-	-	-	-
Stage 2	695	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	52	403	-	-	516	-
Stage 1	217	-	-	-	-	-
Stage 2	456	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	40	403	-	-	516	-
Mov Cap-2 Maneuver	40	-	-	-	-	-
Stage 1	217	-	-	-	-	-
Stage 2	355	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	60.4	0	1.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	40	403	516	-
HCM Lane V/C Ratio	-	-	0.435	0.086	0.067	-
HCM Control Delay (s)	-	-	151.6	14.8	12.5	1.3
HCM Lane LOS	-	-	F	B	B	A
HCM 95th %tile Q(veh)	-	-	1.5	0.3	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	18	18	55	5	36	33	1243	213	148	1035	15
Future Volume (Veh/h)	2	18	18	55	5	36	33	1243	213	148	1035	15
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	20	20	60	5	39	36	1351	232	161	1125	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								363				
pX, platoon unblocked	0.77	0.77		0.77	0.77	0.77				0.77		
vC, conflicting volume	2244	3110	570	2454	3002	792	1141			1583		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2016	3143	570	2289	3003	125	1141			1155		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	68	0	96	0	20	94	94			65		
cM capacity (veh/h)	6	5	464	0	6	693	608			461		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	42	104	712	908	724	578
Volume Left	2	60	36	0	161	0
Volume Right	20	39	0	232	0	16
cSH	10	0	608	1700	461	1700
Volume to Capacity	4.32	Err	0.06	0.53	0.35	0.34
Queue Length 95th (ft)	Err	Err	5	0	39	0
Control Delay (s)	Err	Err	1.6	0.0	10.6	0.0
Lane LOS	F	F	A		B	
Approach Delay (s)	Err	Err	0.7		5.9	
Approach LOS	F	F				

Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	97.7%	ICU Level of Service	F	
Analysis Period (min)	15			

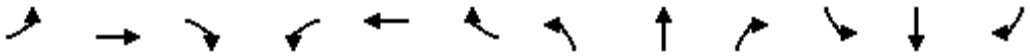
Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	95	1127	28	17	1218
Future Vol, veh/h	20	95	1127	28	17	1218
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	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	22	103	1225	30	18	1324

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1938	628	0	0	1255	0
Stage 1	1240	-	-	-	-	-
Stage 2	698	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	57	426	-	-	550	-
Stage 1	236	-	-	-	-	-
Stage 2	455	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	50	426	-	-	550	-
Mov Cap-2 Maneuver	50	-	-	-	-	-
Stage 1	236	-	-	-	-	-
Stage 2	399	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	34.8	0	0.9
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	50	426	550	-
HCM Lane V/C Ratio	-	-	0.435	0.242	0.034	-
HCM Control Delay (s)	-	-	123.8	16.1	11.8	0.7
HCM Lane LOS	-	-	F	C	B	A
HCM 95th %tile Q(veh)	-	-	1.6	0.9	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	6	39	206	20	94	18	1067	89	55	1216	12
Future Volume (Veh/h)	3	6	39	206	20	94	18	1067	89	55	1216	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	7	42	224	22	102	20	1160	97	60	1322	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								363				
pX, platoon unblocked	0.84	0.84		0.84	0.84	0.84				0.84		
vC, conflicting volume	2182	2746	668	2075	2704	628	1335			1257		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2025	2697	668	1898	2647	175	1335			923		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	55	90	0	0	86	96			90		
cM capacity (veh/h)	0	15	401	19	17	704	513			617		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	52	348	600	677	721	674
Volume Left	3	224	20	0	60	0
Volume Right	42	102	0	97	0	13
cSH	0	26	513	1700	617	1700
Volume to Capacity	Err	13.56	0.04	0.40	0.10	0.40
Queue Length 95th (ft)	Err	Err	3	0	8	0
Control Delay (s)	Err	Err	1.1	0.0	2.6	0.0
Lane LOS	F	F	A		A	
Approach Delay (s)	Err	Err	0.5		1.4	
Approach LOS	F	F				

Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	103.3%	ICU Level of Service	G	
Analysis Period (min)	15			

Appendix D

Signal Warrant Analysis

Revised

Warrant 3: Peak Hour

3: Santa Fe Avenue & Bay Street - FWP AM

Intersection Informatior

	Major Street	Minor Street
Street Name	Santa Fe Avenue	Bay Street
Direction	NB/SB	WB
Number of Lane:	2	2
Approch Speed	30	25

Warrant 3 Met? **No**

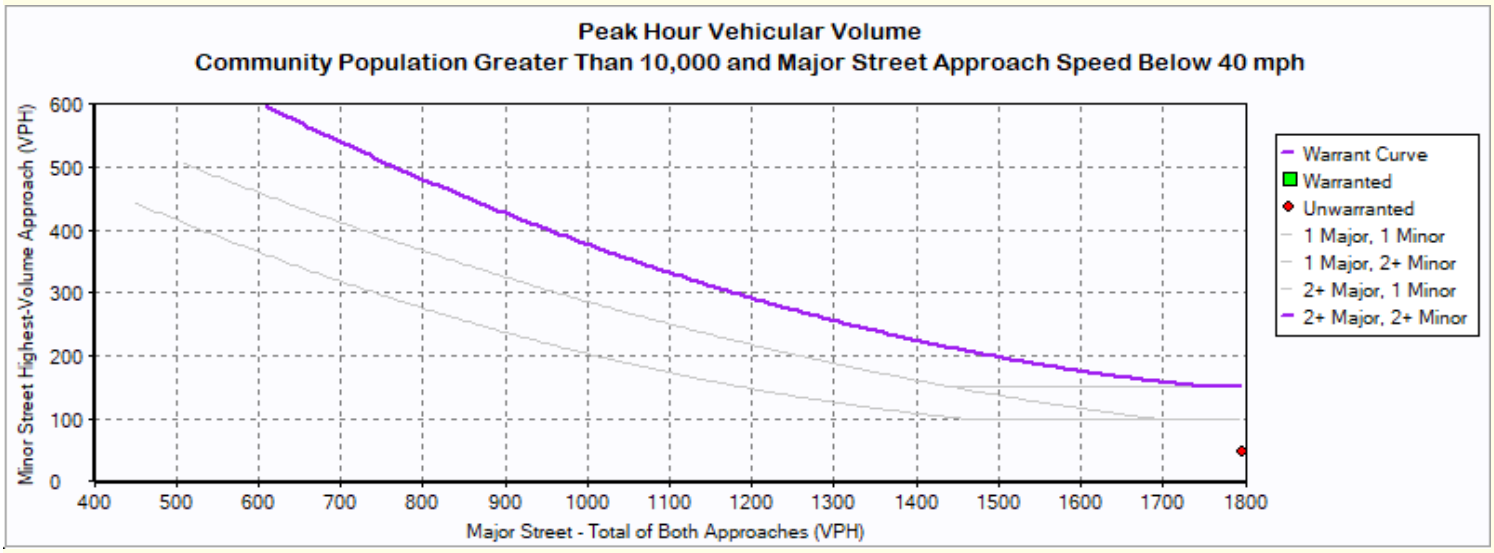
Details

Low Population? No

Condition A Met No **Condition B Met** No

Notes 0 Hours met (1 required) **Notes** 0 Hours met (1 required)

Minor Approach Time Delay Condition Met?	Not Met
Minor Approach Volume Condition Met?	Not Met
Total Entering Intersection Volume Condition Met?	Not Met



Warrant 3: Peak Hour

3: Santa Fe Avenue & Bay Street - FWP AM

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
7:45	2,402	48

Warrant 3: Peak Hour

3: Santa Fe Avenue & Bay Street - FWP PM

Intersection Informatior

	Major Street	Minor Street
Street Name	Santa Fe Avenue	Bay Street
Direction	NB/SB	WB
Number of Lane:	2	2
Approch Speed	30	25

Warrant 3 Met? **No**

Details

Low Population? No

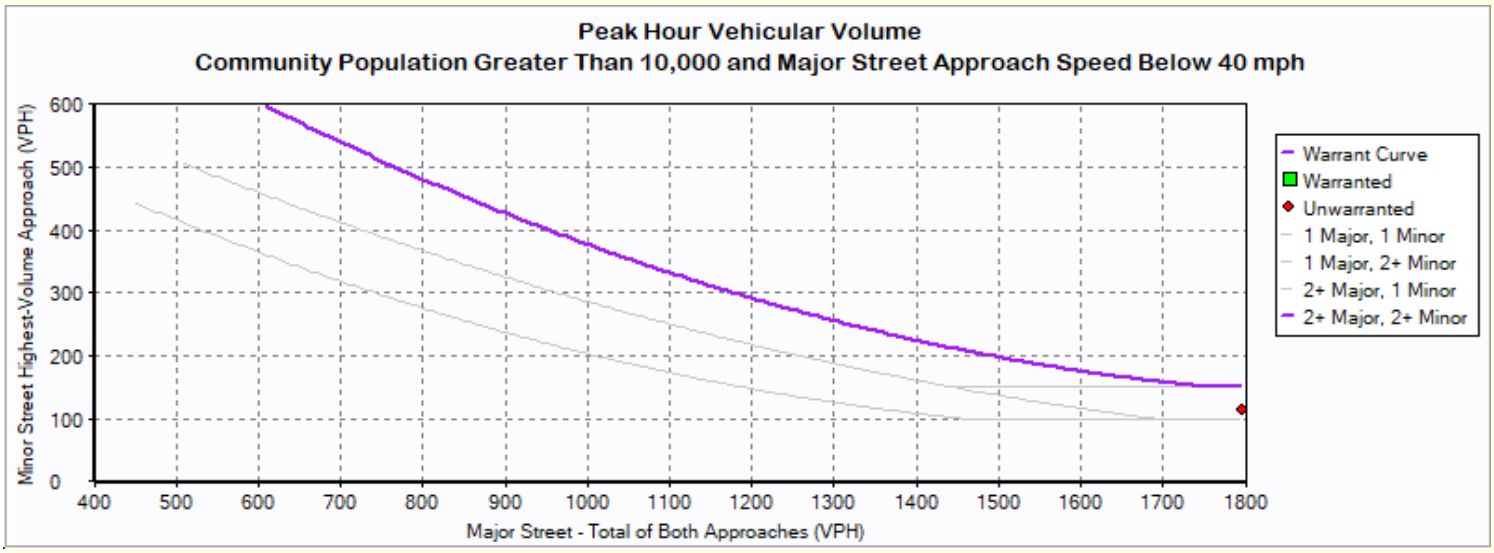
Condition A Met' No

Notes 0 Hours met (1 required)

Condition B Met' No

Notes 0 Hours met (1 required)

Minor Approach Time Delay Condition Met?	Not Met
Minor Approach Volume Condition Met?	Met
Total Entering Intersection Volume Condition Met?	Not Met



Warrant 3: Peak Hour

3: Santa Fe Avenue & Bay Street - FWP PM

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
17:00	2,390	115

Warrant 3: Peak Hour

4: Santa Fe Avenue & Sacramento Street - FWP AM

Intersection Informatior

	Major Street	Minor Street
Street Name	Santa Fe Avenue	Sacramento Street
Direction	NB/SB	EB/WB
Number of Lane:	2	1
Approch Speed	30	25

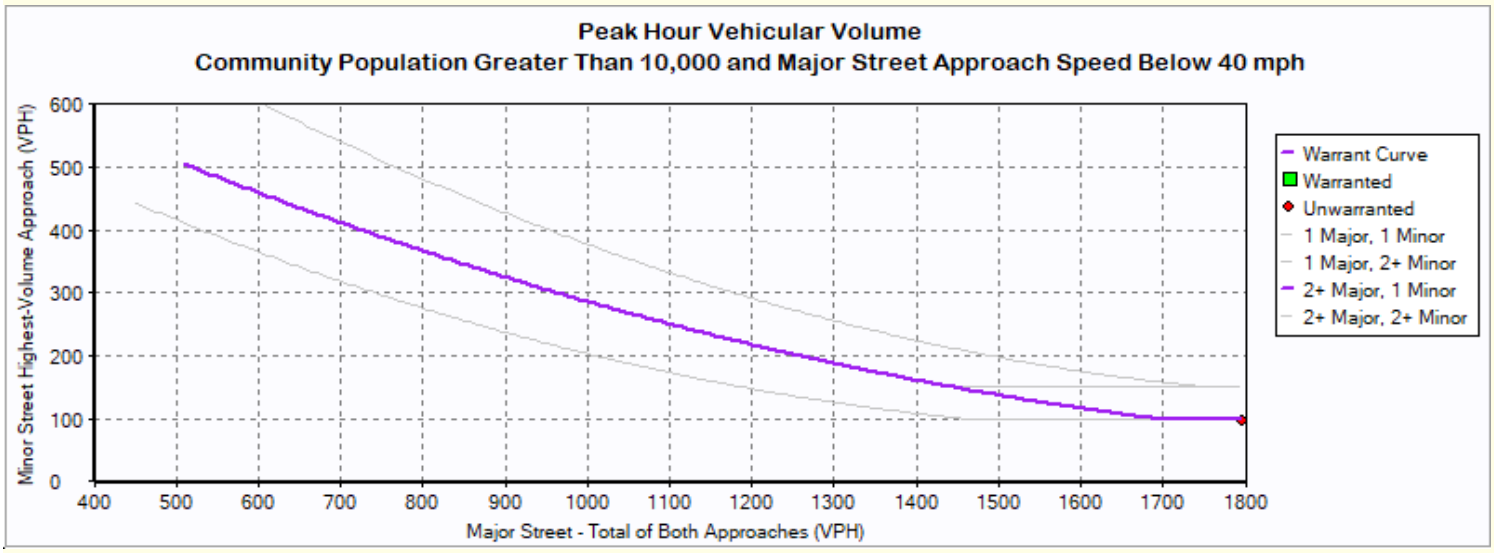
Warrant 3 Met? **No**

Details

Low Population? No

Condition A Met	No	**Condition B Met**	No
Notes	0 Hours met (1 required)	**Notes**	0 Hours met (1 required)

Minor Approach Time Delay Condition Met?	Not Met
Minor Approach Volume Condition Met?	Not Met
Total Entering Intersection Volume Condition Met?	Not Met



Warrant 3: Peak Hour

4: Santa Fe Avenue & Sacramento Street - FWP AM

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
7:45	2,687	96

Warrant 3: Peak Hour

4: Santa Fe Avenue & Sacramento Street - FWP PM

Intersection Informatior

	Major Street	Minor Street
Street Name	Santa Fe Avenue	Sacramento Street
Direction	NB/SB	EB/WB
Number of Lane:	2	1
Approch Speed	30	25

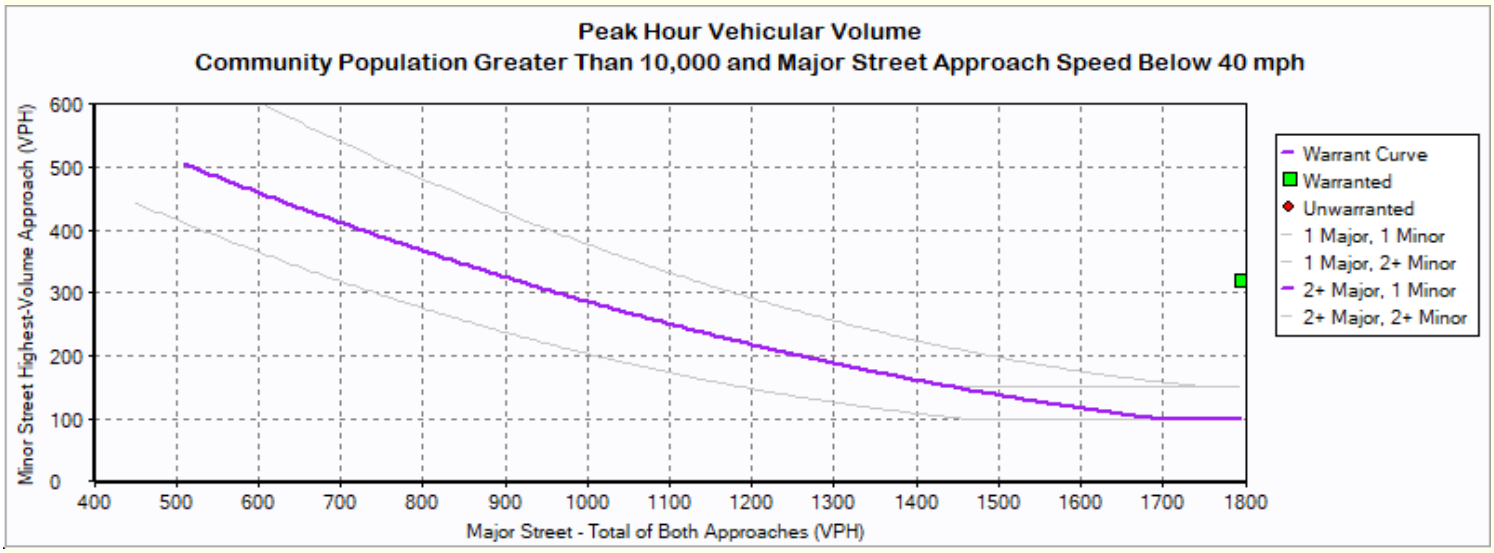
Warrant 3 Met? **Yes**

Details

Low Population? No

Condition A Met	No	**Condition B Met**	Yes
Notes	0 Hours met (1 required)	**Notes**	1 Hours met (1 required)

Minor Approach Time Delay Condition Met?	Not Met
Minor Approach Volume Condition Met?	Met
Total Entering Intersection Volume Condition Met?	Not Met



Warrant 3: Peak Hour

4: Santa Fe Avenue & Sacramento Street - FWP PM

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
17:00	2,457	320

Attachment 5

Chapter 4 - Transportation Mitigation Measures & Corrective Actions Edits

4. Transportation Mitigation Measures and Corrective Actions

This chapter identifies mitigation measures that may be necessary to address any VMT impacts, as well as corrective actions that may be necessary to address potential operational, capacity, and safety constraints arising from the Proposed Project.

CEQA Analysis of Transportation Impacts

The analysis in Chapter 2 identified that the Proposed Project would be consistent with applicable current plans, programs, ordinances and polices~~, with two exceptions. The sidewalk width of 3 ft. for part of the Project Site on Sacramento Street would not meet the City standard of 13 ft. This is not considered a significant impact because the adjacent pedestrian plaza would provide an effective sidewalk width of more than 13 ft. at this location, and because the Project Site is at the end of a dead-end street there would be no pedestrian flow/circulation past the Project.~~

The analysis ~~also~~ identified that the Project would cause a significant VMT impact for Work VMT per employee (VMT of 9.1 versus threshold of 7.6).

The Project would implement the following mitigation measures, as identified in the LADOT VMT Calculator:

Parking	- *Parking Cash-Out (75% employees assumed eligible)* This measure requires employers to offer employees the opportunity to "cash-out" the monthly value of their free or subsidized parking space. The VMT analysis assumes 75% of the employees would be eligible.
Education & Encouragement	- *Promotions and Marketing (100% employees and eligible)* This measure will involve the use of marketing, educational and promotional tools and materials (such as posters, info boards, or a website with information) to educate and inform travelers about site-specific transportation options and the effects of their travel choices.
Commute Trip Reductions	- *Ride-share program (100% employees eligible)* This measure would provide a rideshare program to include ride-share matching services, designating preferred parking for ride-share participants, adequate passenger loading/unloading and

	waiting areas for ride-share vehicles, and providing a website or message board to connect riders and coordinate rides.
Shared Mobility	- *Provide car-share spaces.* This measure would provide 5 off-street parking spaces in the Project garage for car-share use.
	- *Provide bike share spaces* This measure would provide 10 on-site bike share spaces to allow people to have on-demand access to a bicycle, as needed.
Bicycle Infrastructure	- *Implement / improve on street bicycle facility (through $100,000 contribution to Bicycle Trust Fund)* This measure would provide funding for LADOT to implement improvements for bike networks/facilities in the area of the Project.
	- *Provide bicycle parking per LAMC* This measure will provide short and long-term bicycle parking per the requirements of the LAMC.
	- *Include secure bike parking and showers.* This measure will provide short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at the Project.
Neighborhood Enhancement	- *Pedestrian network improvements.* This measure will enhance pedestrian circulation by providing an on-site pedestrian paseo connecting Bay Street and Sacramento Street.

With these measures the Work VMT per employee would be 7.5 and as the threshold would not be exceed there would be no significant VMT impacts.

The Project driveway on Sacramento Street would be 24'7" ~~ft~~. rather than the required 30' standard. The width is constrained by an existing power pole in the sidewalk. This is not considered to be a significant impact because the Project Site is at the end of a dead-end street and there would be no vehicular flow/circulation past the Project. Hence, the analysis in Chapter 2 concluded that the Proposed Project would not substantially increase hazards due to a geometric design feature or incompatible use.

No mitigation measures beyond those identified for the VMT analysis are therefore necessary.

Non-CEQA Transportation Analysis –
Pedestrian, Bicycle, and Transit Access Assessment

This assessment identified that the closest intersections to the Project Site are the intersections of Santa Fe Avenue with Bay Street and Sacramento Street. ADA access ramps are provided at both of these intersections, however, at the intersection of Santa Fe Avenue and Bay Street tactile warning strips are not provided. Pedestrian crosswalks across Santa Fe Avenue are not provided at these two intersections. The nearest signalized pedestrian crossings are provided at the intersection of Santa Fe Avenue and 8th Street south of the Project Site, and Intersection of Santa Fe Avenue and 7th Street north of the Project Site.

The Project proposed the following corrective actions.

Install tactile warning strips at the intersection of Santa Fe Avenue & Bay Street.

Install a new controlled crosswalk on Santa Fe Avenue at ~~Bay~~ Sacramento Street in conjunction with a new traffic signal.

No further corrective actions are deemed necessary or proposed.

Non-CEQA Transportation Analysis –
Project Access, Safety and Circulation Evaluation

Signalized Intersections

The operational evaluation has shown that while the studied intersections would operate at LOS E or LOS F in the Future With Project condition, they would operate at the same level of service in the Future Without Project conditions, except at the intersection of Santa Fe & 8th in the AM peak hour.

At the intersection of Santa Fe & 8th, the level of service would increase from LOS E to LOS F due to the Project.

The Project would however result in only small increases in vehicle delays on Santa Fe Avenue at the studied signalized intersections.

The evaluation also showed that at the signalized intersections, the queue lengths would not generally exceed current storage capacities except for one movement in the AM peak hour and four movements in the PM peak hour. However, queues for these movements would also exceed capacity under Future Without Project conditions, except for one location. At the intersection of Santa Fe & 8th Street, the Project would cause the queue for the eastbound left/through move on 8th Street to exceed the storage capacity, although the increase in queue length would be only about 12 ft. or less than one car length.

The Project proposes trip reduction measures as specified in Chapter 2.2 to reduce trips and VMT. No other corrective actions are proposed at this intersection as none were found to be feasible.

Unsignalized Intersections

At three analyzed unsignalized intersections, along Santa Fe Avenue, the minor street movements on Violet Street, Bay Street, and Sacramento Street would operate at LOS F with the Project, in both the AM and PM peak hours. In the AM peak hour these movements would also operate at LOS F in the Future Without Project Condition, except for the eastbound approach of the Santa Fe & Sacramento intersection. In the PM peak hour they would also operate at LOS F in the Future Without project conditions, except for the eastbound approach of the Santa Fe & Sacramento intersection.

The eastbound approach of the Santa Fe & Sacramento intersection would change from LOS ~~D~~ C to LOS F due to the Project.

The evaluation also showed that at unsignalized intersections the queues would generally not exceed the storage capacities except for ~~two~~ three movements – westbound Violet Street and westbound and eastbound Sacramento Street in both peak hours. At these locations the queues would also exceed storage capacities in the Future Without Project conditions (except for eastbound Sacramento), so would not be caused by the Project.

A signal warrant analysis concluded that the Project would cause the peak hour warrant for signalization to be met at Santa Fe & ~~Bay~~ Sacramento Street, but would not cause the need at Santa Fe Avenue & ~~Sacramento~~ Bay Street.

The Project proposes to install a new traffic signal at the intersection of Santa Fa Avenue & ~~Bay~~ Sacramento Street (the Project's main access is on ~~Bay~~ Sacramento Street). This would also provide for signalized crosswalks on Santa Fe Avenue at this location to facilitate pedestrian movements.

The satisfaction of LADOT's criteria for installing a traffic signal is not the same as a significance threshold for determining significant impacts. Further, the satisfaction of a traffic signal warrant does not itself require the installation of a signal. If the traffic volumes at an unsignalized intersection should surpass the established thresholds to warrant a traffic signal, LADOT will ultimately determine if a signal is feasible and if it should be installed, after a consideration of other factors relative to safety, traffic flow, signal spacing and coordination, and roadway geometrics (including: eight hour, four hour, and one hour traffic volumes, pedestrian volumes, accident records, existence of suitable gaps for turning traffic, traffic signal coordination issues, and providing the safe and orderly movement of vehicles for all movements through the intersection).

It is noted that another development project is planning on implementing a new traffic signal at the intersection of Santa Fe Avenue & Violet Street.

Non-CEQA Transportation Analysis – Project Construction

All of the effects identified above would be temporary for the duration of the construction period. The above evaluation has shown that construction of the Project would not cause substantial negative effects on pedestrian, bicycle, transit, or vehicle circulation in the area of the Project, and would not limit or degrade access to adjacent properties.

That notwithstanding, a Construction Traffic Management Plan (CTMP) and a Worksite Traffic Control Plan (WTCP) will be prepared for approval by the City prior to the issuance of any construction permits. These will specify the details of any sidewalk or lane closures. The Worksite Traffic Control Plan will be developed by the Applicant, and will identify all traffic control measures, signs, delineators, and work instructions to be implemented by the construction contractor through the duration of demolition and construction activity. The Worksite Traffic Control Plan would minimize the potential conflicts between construction activities, street traffic, bicyclists and pedestrians. The plan will be reviewed and approved by LADOT prior to commencement of construction.

Non-CEQA Transportation Analysis - Residential Street Cut-Through Analysis

The evaluation in Chapter 3 concluded that this analysis was not necessary. No corrective actions or measures are therefore necessary.

Appendix M.4

Updated LADOT Transportation Assessment Letter

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

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

2159 E Bay St
DOT Case No. CEN 21-51728

Date: July 7, 2021

To: Susan Jimenez, Administrative Clerk
Department of City Planning

From: Wes Pringle, Transportation Engineer
Department of Transportation

Subject: **UPDATED TRANSPORTATION ASSESSMENT FOR THE PROPOSED MIXED-USE OFFICE DEVELOPMENT AT 2159 EAST BAY STREET (CPC-2017-624-VZC-HD-MCUP-ZAA-SPR)**

On October 8, 2020, the Los Angeles Department of Transportation (LADOT) issued a transportation assessment report to the Department of City Planning for the proposed 2159 Bay Street Development, a mixed-use office project located at 2159 East Bay Street based on the transportation analysis prepared by the Mobility Group, dated July 22, 2020. However, since the report was released, the project site plan has been modified due to changes to the driveway configuration and a revised analysis, dated June 2, 2021, was prepared by the Mobility Group.

Previously, access to the project would be provided via three driveways: two on Bay Street and one on Sacramento Street. The current project continues to provide access via three driveways, but has moved the main parking garage driveway from Bay Street to Sacramento Street. As illustrated in **Attachment 1**, access to the current project would be provided via three driveways: one on Bay Street and two on Sacramento Street. Additionally, the operations of the Bay Street driveway to surface parking will change from one-way to two-way.

Parking	Driveway	Previous Project	Current Project
Garage	Main Driveway	Bay Street (2-way)	Sacramento Street (2-way)
Surface	Driveway 1	Bay Street (1-way/ingress)	Bay Street (2-way)
	Driveway 2	Sacramento Street (2-way)	Sacramento Street (2-way)

The June 2, 2021 analysis also included a Non-CEQA evaluation reflecting the changes in the driveway configuration. Previously, the project proposed a new traffic signal at the intersection of Bay Street and Santa Fe Avenue. Because the volumes of the main driveway shift from Bay Street to Sacramento Street, the project now proposes a new traffic signal at the intersection of Sacramento Street and Santa Fe Street. In Section B. Non-CEQA Related Requirements and Considerations, 1. Corrective Measure of the October 8, 2020 LADOT report, "Bay Street" should now be replaced with "Sacramento Street" and should read as follows:

1. *Corrective Measure*
   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 Sacramento Street and Santa Fe Avenue, the transportation analysis included a traffic warrant analysis which concluded that the peak hour volume warrant for a signal based on future projected traffic volumes is satisfied. However, any proposed signal installation is subject to final approval by LADOT.

   The applicant should be required to prepare a complete Traffic Signal Warrant Analysis of Sacramento Street and Santa Fe Avenue for review by LADOT's Central District Office

for final determination on the need for traffic signals at this location. The satisfaction of a traffic signal warrant does not itself require the installation of a signal. Other factors relative to safety, traffic flow, signal spacing, coordination, etc. should be considered. If LADOT makes the determination that a traffic signal is warranted and needed at the intersection, then the applicant would be responsible for the full cost to design and install the new signal.

Should LADOT determine that a traffic signal is warranted and needed at Sacramento Street and Santa Fe Avenue, all improvements, enhancements, and associated traffic signal work within the City of Los Angeles must be ***guaranteed*** *through Bureau of Engineering's (BOE) B-Permit process, prior to the issuance of any building permits and* ***completed*** *prior to the issuance of any certificates 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.*

Should LADOT determine that a traffic signal is not warranted and needed at Sacramento Street and Santa Fe Avenue, the applicant should install tactile warning strips on the north east and south-east street corners of the intersection of Sacramento Street and Santa Fe Avenue.

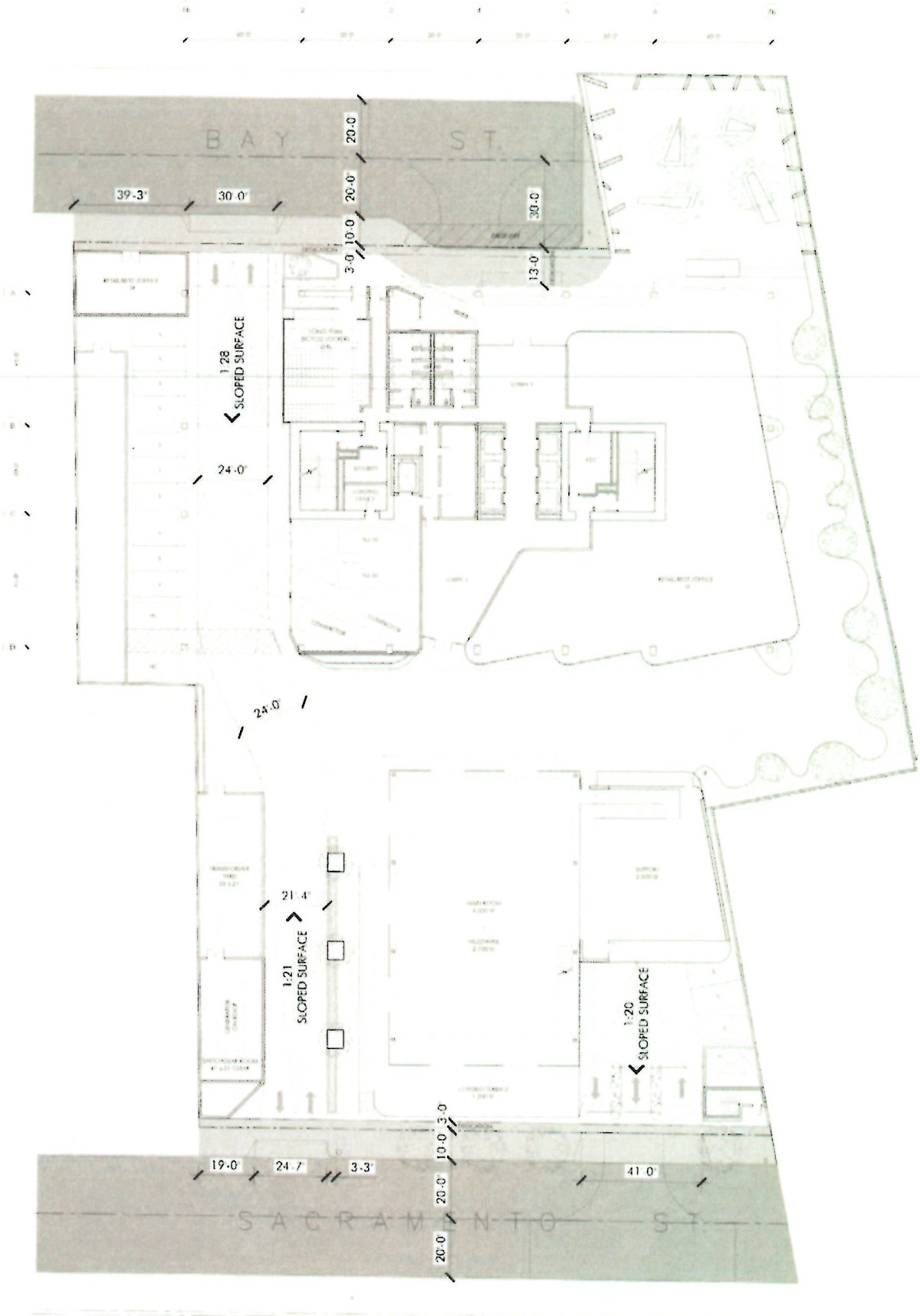
LADOT concurs with the revised analysis that the project's overall trip distribution remain unchanged and that due to the driveway reconfiguration a new traffic signal would be proposed at the intersection of Sacramento Street and Santa Fe Avenue instead of Bay Street and Santa Fe Avenue. Therefore, the October 8, 2020 Section B. Non-CEQA Related Requirements and Considerations, 1. Corrective Measure shall be replaced by the 1. Corrective Measure included in this updated assessment and all other requirements and recommendations that are identified in LADOT's October 8, 2020 letter **(Attachment 2)** shall remain in effect.

If you have any questions, please contact Jimmy Vivar of my staff at (213) 972-4993.

Attachments

K:\Letters\2021\CEN21-51728_2159 Bay St MU_rev proj.docx

c: Emma Howard, Council District 14
Matthew Masuda, Central District, BOE
Tina Huang, Central District, DOT
Taimour Tanavoli, Case Management, DOT
Michael Bates, The Mobility Group



Source: Shimoda Design Group 4/1/2021

N

Not to Scale
4/1/21

Figure 0.4 Rev
Project Site Plan

2159 Bay Street

The **Mobility** Group
Transportation Strategies & Solutions

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

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

2159 E Bay St
DOT Case No. CEN19-49100

Date: October 8, 2020

To: Milena Zasadzien, Senior City Planner
Department of City Planning

From: Wes Pringle, Transportation Engineer
Department of Transportation

Subject: **UPDATED TRANSPORTATION ASSESSMENT FOR THE PROPOSED MIXED-USE OFFICE DEVELOPMENT AT 2159 EAST BAY STREET (CPC-2017-624-VZC-HD-MCUP-ZAA-SPR/ENV-2017-625-EIR /VTT-74928)**

On August 19, 2019, the Los Angeles Department of Transportation (LADOT) issued a traffic assessment report to the Department of City Planning (City Planning) for the 2159 Bay Street development, which was subject of a transportation analysis prepared by The Mobility Group (TMG). However, since the report was released, a supplemental transportation analysis dated July 22, 2020 was prepared and submitted by TMG. The supplemental analyses addresses the freeway off-ramp evaluation and includes a vehicle miles traveled (VMT) analysis pursuant to the City of Los Angeles adoption of VMT as the criteria by which to determine transportation impacts under CEQA Senate Bill (SB) 743 and due to the recent changes to Section 15064.3 of the State's California Environmental Quality Act (CEQA) Guidelines. Please replace the previous LADOT assessment report dated August 19, 2019, in its entirety, with this report, which addresses the totality of the transportation analysis.

The LADOT has reviewed the transportation analysis prepared by TMG, dated July 22, 2020, for the proposed mixed-use office development at 2159 East Bay Street in the Central Area Planning Commission (APC) Area and Central City North Community Plan. In compliance with SB 743 and the CEQA guidelines, a 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 July 2019 Transportation Assessment Guidelines (TAG), as described below.

DISCUSSION AND FINDINGS

A. Project Description

The project proposes to construct the 2159 Bay Street development with 217,189 square feet of creative office and 5,000 square feet of commercial space to replace a 39,328 square-foot industrial and office facility on approximately 1.7 acres in the area bounded by Bay Street to the north, BSNF railroad tracks and the Los Angeles River to the east, Sacramento Street to the south, and private property to the west as illustrated **Attachment A**. Alongside the eastside of the project, a pedestrian paseo will connect Bay Street and Sacramento Street. A passenger loading zone would be located adjacent to building entrances at each end of the pedestrian paseo on Bay Street and on Sacramento Street. The project proposes to provide a total of 711 vehicle parking spaces and 71 bicycle parking spaces. Access to parking will be provided by three driveways: the principal Bay Street two-way driveway to the subterranean garage levels, the Bay Street ingress driveway to the ground floor parking, and the Sacramento two-way driveway to surface parking. The project is expected to be completed by 2025.

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 any freeway off-ramp will not exceed 25 peak hour trips. Therefore, a freeway ramp analysis 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 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 impact 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**.

D. Transportation Impacts

On July 30, 2019, pursuant to SB 743 and the recent changes to Section 15064.3 of the State's CEQA Guidelines, the City of Los Angeles adopted VMT as criteria in determining transportation impacts under CEQA. The new LADOT TAG provide instructions on preparing transportation assessments for land use proposals and defines the significant impact thresholds.

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

- Household VMT per Capita: 6.0
- Work VMT per Employee: 7.6

As cited in the VMT Analysis report, prepared by TMG, the project proposes to incorporate the TDM strategies of including bicycle parking per Los Angeles Municipal Code (LAMC) and pedestrian network improvements as project design features, which is consistent with the current Central City North Community Plan. The proposed project is projected to have a Work VMT per employee of 9.1 and no Household VMT impact. Therefore, it is concluded that implementation of the project would result in a significant Work VMT impact.

To mitigate this impact, the project proposes to implement the TDM strategies of implementing a parking cash-out, ride-share, car share, and bike share programs, promoting and marketing various modes of travel, implementing/improving on-street bicycle facility, and providing secure bike parking and showers. By implementing these strategies, the Work VMT is forecasted to be reduced to 7.5 VMT per employee , which is less than significant. A copy of the VMT Calculator summary report is provided as **Attachment B**.

E. Access and Circulation

During the preparation of the new CEQA guidelines, the State's Office of Planning and Research stressed that lead agencies can continue to apply traditional operational analysis requirements to inform land use decisions provided that such analyses were outside of the CEQA process. The authority for requiring non-CEQA transportation analysis and requiring improvements to address potential circulation deficiencies, lies in the City of Los Angeles' Site Plan Review authority as established in Section 16.05 of the LAMC. Therefore, 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.

As illustrated in **Attachment A**, the project proposes to provide vehicular access via three driveways: the principal Bay Street two-way driveway to the subterranean garage levels, the Bay Street ingress driveway to the ground floor parking, and the Sacramento two-way driveway to surface parking. In accordance with this authority, the project completed a circulation analysis using a "level of service" screening methodology that indicates that the trips generated by the proposed development may experience adverse circulation conditions at Bay Street and Santa Fe Avenue. It should be noted that a new traffic signal at Santa Fe Avenue and Violet Street will be installed by another development project.

LADOT has reviewed this analysis and determined that it adequately discloses operational concerns. A copy of the circulation analysis table that summarizes these potential deficiencies is provided as **Attachment C** to this report.

PROJECT REQUIREMENTS

A. CEQA-Related Requirements

Per the transportation analysis, the applicant will implement the following TDM strategies as project design features:

- Include Bike Parking per LAMC – The project will provide 71 bicycle parking spaces on-site. Providing bicycle parking supports safe and comfortable bicycle travel to the project.

- Pedestrian Network Improvements- Improving the pedestrian network throughout and around the project site encourages people to walk. The project includes a pedestrian paseo connecting Bay Street and Sacramento Street as illustrated in **Attachment A**.

LADOT recommends that the applicant be required to implement the following TDM strategies:

- Parking cash-out – The Project's tenants would comply with the state parking cash-out law, which requires employers who provide subsidized parking to offer employees a cash allowance in lieu of a parking space. The analysis assumed 75% employees would be eligible. The intention of the subsidy is to cover the costs related to the potential alternative forms of transportation for each employee such that no out of pocket expenses are incurred.

- Promotions and marketing - The promotions and marketing strategy educates and informs travelers about site-specific transportation options and the effects of their travel choice.

- Ride-share program – A ride-share program would include ride-share matching services, designating preferred parking for ride-share participants, adequate loading/unloading and waiting areas for ride-share vehicles, and providing a website or message board to connect riders and coordinate rides. Increasing the vehicle occupancy by ride sharing will result in fewer cars driving the same trip.

- Car-share and Bike share – The Project would provide five off-street parking spaces in the garage for car-share use and 10 on-site bike share spaces to allow on-demand access to a bicycle, as needed.

- Implement/Improve On-Street Bicycle Facility – The project will provide a one-time fixed-fee of $100,000 to be deposited into the City's Bicycle Plan Trust Fund to implement bicycle facility improvements within the Arts District area.

- Include secure bike parking and showers –This strategy involves implementation of additional end-of-trip bicycle facilities to support safe and comfortable bicycle travel by providing amenities at the project.

B. Non-CEQA Related Requirements and Considerations

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

1. Corrective Measure

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 Bay Street and Santa Fe Avenue, the transportation analysis included a traffic warrant analysis which concluded that the peak hour volume warrant for a signal based on future projected traffic volumes is satisfied. However, any proposed signal installation is subject to final approval by LADOT.

The applicant should be required to prepare a complete Traffic Signal Warrant Analysis of Bay Street and Santa Fe Avenue for review by LADOT's Central District Office for final determination on the need for traffic signals at this location. The satisfaction of a traffic signal warrant does not itself require the installation of a signal. Other factors relative to safety, traffic flow, signal spacing, coordination, etc. should be considered. If LADOT makes the determination that a traffic signal is warranted and needed at the intersection, then the applicant would be responsible for the full cost to design and install the new signal.

Should LADOT determine that a traffic signal is warranted and needed at Bay Street and Santa Fe Avenue, all improvements, enhancements, and associated traffic signal work within the City of Los Angeles must be **guaranteed** through Bureau of Engineering's (BOE) B-Permit process, prior to the issuance of any building permits and **completed** prior to the issuance of any certificates 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.

Should LADOT determine that a traffic signal is not warranted and needed at Bay Street and Santa Fe Avenue, the applicant should install tactile warning strips on the north east and south-east street corners of the intersection of Bay Street and Santa Fe Avenue.

2. Parking Requirements

The project would provide 711 vehicle and 71 bicycle parking spaces on-site. The applicant should check with the Departments of Building and Safety and City Planning on the number of parking spaces required for this project within the Central City North Community Plan.

3. Highway Dedication and Street Widening Requirements

Per the Mobility Element of the General Plan, **Bay Street** and **Sacramento Street**, both Collector Streets, would require a 20-foot half-width roadway within a 33-foot half-width right-of-way. On the west portion of Bay Street, the project is proposing to construct a new 10-foot sidewalk. On the east portion of Bay Street, the project is proposing to widen the existing half-width roadway of 30 feet to 31.75 feet in order to accommodate a fire truck turnaround and a passenger loading zone. On the west portion of Sacramento Street, the project is proposing to retain the existing 10-foot sidewalk, which would connect to the pedestrian paseo on the east end. On the east portion of Sacramento Street, the project is proposing to widen the existing half-width roadway of 20 feet to 30 feet in order to accommodate a fire truck turnaround and a passenger loading zone. The applicant should check with BOE'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 is acceptable to DOT; however, the review of this study does not constitute approval of the driveway dimensions, access and circulation scheme. As illustrated in **Attachment A**, vehicular access would be provided via three driveways: the principal Bay Street two-way driveway, the Bay Street ingress driveway, and the Sacramento two-way driveway. The principal Bay Street driveway is a multiple entry lane driveway providing one lane in each direction and a reversible middle lane. To accommodate the Bay Street multi-lane driveway, the driveway would require a total width greater than 30 feet wide, which LADOT fully supports. The width of the Sacramento Street driveway is constrained by the existing power pole and would be 24 feet wide. Truck loading and unloading would take place onsite. Passenger loading and unloading would take place at the dead-ends of Bay Street and Sacramento Street adjacent to the project at the pedestrian paseos. Any changes to the project's site access, circulation scheme, or loading/unloading area after issuance of this report would require separate review and approval and should be coordinated as soon as possible with LADOT's Citywide Planning Coordination Section (201 North Figueroa Street, 5th Floor, Room 550, at 213-482-7024). All delivery truck loading and unloading should take place on site with no vehicles having to back into the project via any of the project driveways. 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 http://ladot.lacity.org/businesses/temporary-traffic-control-plans to determine which section to coordinate review of the work site traffic control plan. The plan should show the location of any roadway or sidewalk closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. LADOT also recommends that all construction related truck traffic be restricted to off-peak hours to the extent feasible.

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 expected in 2020 if applicable. The updated ordinance 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 Eileen Hunt of my staff at (213) 972-8481.

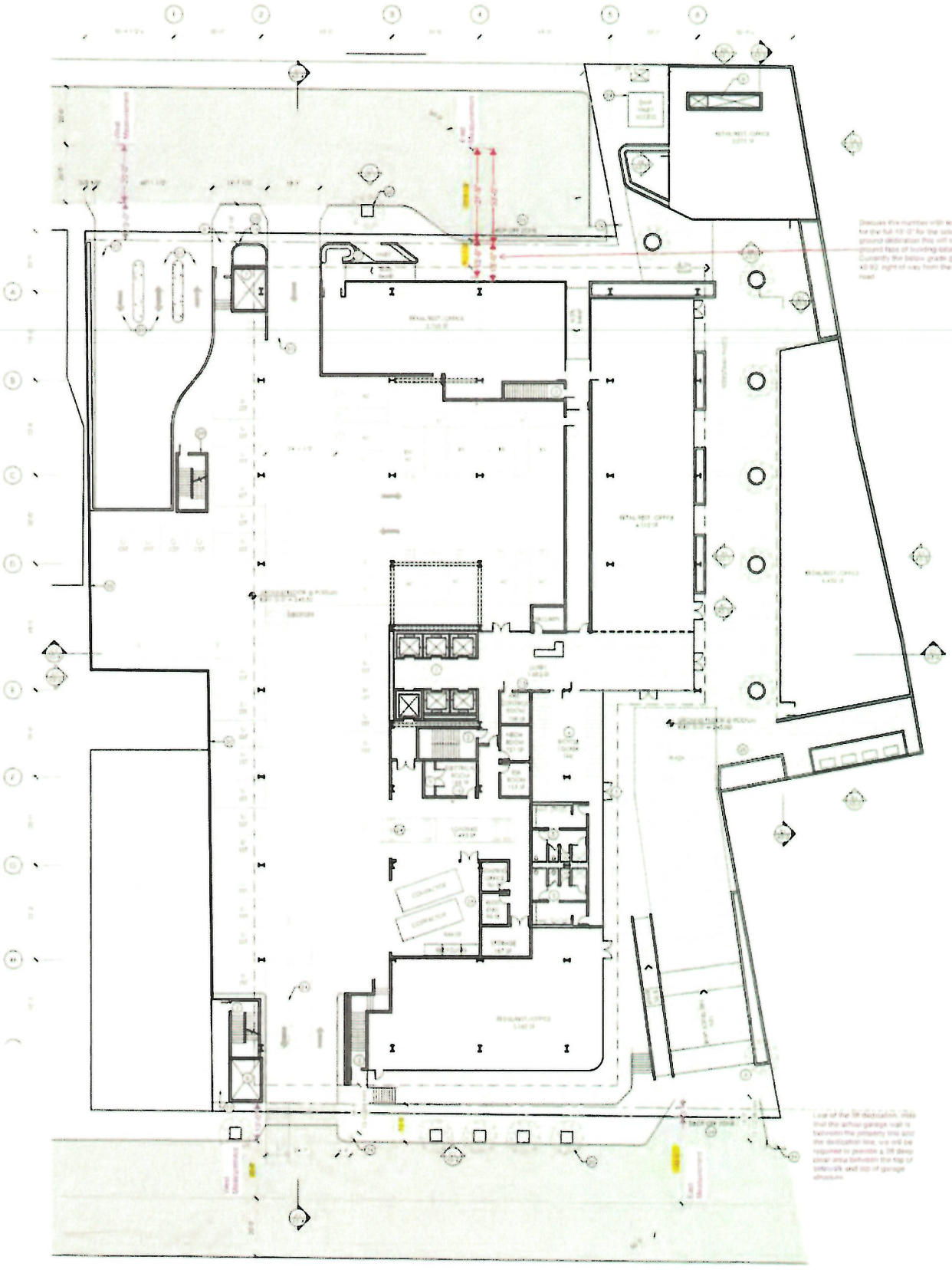
Attachments

K:\Letters\2020\CEN19-49100_2159 Bay St_office mu_vmt update.1.docx

c: Shaylee Papadakis, Council District 14
Robert Kieatinge, City Planning
Matthew Masuda, Central District, BOE
Edward Yu, Central District, LADOT
Taimour Tanavoli, Case Management, LADOT
Amir Ainechi/Michael Bates, TMG

ATTACHMENT A

CEN19-49100_2159 E Bay St



Source: Shimoda Design Group 1/21/20

N

Not to Scale
2/6/20

Figure 0.4
Project Site Plan

2159 Bay Street

The **Mobility** Group
Transportation Strategies & Solutions

ATTACHMENT B
CEN19-49100_2159 E Bay St

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

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

Project Information

Project: 2159 Bay Street
Scenario: Run 1
Address: 2159 E BAY 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	16.222	ksf
Office | General Office	23.106	ksf
Industrial | Light Industrial	16.222	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 | Quality Restaurant	2.5	ksf
Retail | High-Turnover Sit-Down Restaurant	2.5	ksf
Retail | Quality Restaurant	2.5	ksf
Office | General Office	217.189	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
309 Daily Vehicle Trips	2,428 Daily Vehicle Trips
2,351 Daily VMT	18,490 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	2,119 Net Daily Trips
The net increase in daily VMT ≤ 0	16,139 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	5.000 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

6/28/2

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 2159 Bay Street
Scenario: Run 1
Address: 2159 E BAY ST, 90021



Proposed Project Land Use Type	Value	Unit
Retail | High-Turnover Sit-Down Restaurant	2.5	ksf
Retail | Quality Restaurant	2.5	ksf
Office | General Office	217.189	ksf

TDM Strategies

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

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

A Parking

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

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

Parking Cash-Out ☐ Proposed Prj ☑ Mitigation
75 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
2,365 Daily Vehicle Trips	2,110 Daily Vehicle Trips
18,006 Daily VMT	15,973 Daily VMT
0.0 Household VMT per Capita	0.0 Household VMT per Capita
9.1 Work VMT per Employee	7.5 Work VMT per Employee

Significant VMT Impact?

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

Measuring the Miles

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: June 28, 2020
Project Name: 2159 Bay Street
Project Scenario: Run 1
Project Address: 2159 E BAY ST, 90021

Version 1.3

Project Information

Land Use Type		Value	Units
Housing	Single Family	0	DU
	Multi Family	0	DU
	Townhouse	0	DU
	Hotel	0	Rooms
	Motel	0	Rooms
Affordable Housing	Family	0	DU
	Senior	0	DU
	Special Needs	0	DU
	Permanent Supportive	0	DU
Retail	General Retail	0.000	ksf
	Furniture Store	0.000	ksf
	Pharmacy/Drugstore	0.000	ksf
	Supermarket	0.000	ksf
	Bank	0.000	ksf
	Health Club	0.000	ksf
	High-Turnover Sit-Down Restaurant	2.500	ksf
	Fast-Food Restaurant	0.000	ksf
	Quality Restaurant	2.500	ksf
	Auto Repair	0.000	ksf
	Home Improvement	0.000	ksf
	Free-Standing Discount	0.000	ksf
	Movie Theater	0	Seats
Office	General Office	217.189	ksf
	Medical Office	0.000	ksf
Industrial	Light Industrial	0.000	ksf
	Manufacturing	0.000	ksf
	Warehousing/Self-Storage	0.000	ksf
School	University	0	Students
	High School	0	Students
	Middle School	0	Students
	Elementary	0	Students
	Private School (K-12)	0	Students
Other		0	Trips

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: June 28, 2020
Project Name: 2159 Bay Street
Project Scenario: Run 1
Project Address: 2159 E BAY ST, 90021

Version 1.3

Analysis Results			
Total Employees: 889			
Total Population: 0			
Proposed Project		***With Mitigation***	
2,365	**Daily Vehicle Trips**	**2,110**	**Daily Vehicle Trips**
18,006	**Daily VMT**	**15,973**	**Daily VMT**
0	**Household VMT per Capita**	**0**	**Household VMT per Capita**
9.1	**Work VMT per Employee**	**7.5**	**Work VMT per Employee**

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

TDM Strategy Inputs

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

(cont. on following page)

TDM Strategy Inputs, Cont.

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

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Commute Trip Reductions	Required commute trip reduction program	Employees participating (%)	0%	0%
	Alternative Work Schedules and Telecommute	Employees participating (%)	0%	0%
		Type of program	0	0
		Degree of implementation (low, medium, high)	0	0
	Employer sponsored vanpool or shuttle	Employees eligible (%)	0%	0%
		Employer size (small, medium, large)	0	0
	Ride-share program	Employees eligible (%)	0%	100%
Shared Mobility	Car share	Car share project setting (Urban, Suburban, All Other)	0	Urban + Comprehensive Transit
	Bike share	Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)	0	Yes
	School carpool program	Level of implementation (Low, Medium, High)	0	0

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Bicycle Infrastructure	Implement/Improve on-street bicycle facility	Provide bicycle facility along site (Yes/No)	0	Yes
	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	Yes
Neighborhood Enhancement	Traffic calming improvements	Streets with traffic calming improvements (%)	0%	0%
		Intersections with traffic calming improvements (%)	0%	0%
	Pedestrian network improvements	Included (within project and connecting off-site/within project only)	within project and connecting off-site	within project and connecting off-site

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: June 28, 2020
Project Name: 2159 Bay Street
Project Scenario: Run 1
Project Address: 2159 E BAY ST, 90021

Version 1.3

TDM Adjustments by Trip Purpose & Strategy

Place type: Suburban Center

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Parking cash-out	0%	0%	0%	3%	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%	4%	0%	4%	0%	4%	0%	4%	0%	4%	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%	10%	0%	0%	0%	0%	0%	0%	0%	0%	
Shared Mobility	Car-share	0.0%	0.5%	0.0%	0.5%	0.0%	0.5%	0.0%	0.5%	0.0%	0.5%	0.0%	0.5%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	0.00%	0.25%	0.00%	0.25%	0.00%	0.25%	0.00%	0.25%	0.00%	0.25%	0.00%	0.25%	
	School carpool program	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Suburban Center

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Bicycle Infrastructure	Implement/ Improve on-street bicycle facility	0.0%	0.6%	0.0%	0.6%	0.0%	0.6%	0.0%	0.6%	0.0%	0.6%	0.0%	0.6%	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%	0.6%	0.0%	0.6%	0.0%	0.6%	0.0%	0.6%	0.0%	0.6%	0.0%	0.6%	
Neighborhood Enhancement	Traffic calming improvements	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Neighborhood Enhancement sections 1 - 2
	Pedestrian network improvements	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*3%*	*8%*	*3%*	*20%*	*3%*	*8%*	*3%*	*8%*	*3%*	*8%*	*3%*	*5%*
MAX. TDM EFFECT	*3%*	*8%*	*3%*	*20%*	*3%*	*8%*	*3%*	*8%*	*3%*	*8%*	*3%*	*8%*

= Minimum (X%, 1-[(1-A)*(1-B)…])
where X%=

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

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: June 28, 2020
Project Name: 2159 Bay Street
Project Scenario: Run 1
Project Address: 2159 E BAY ST, 90021

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	0	0.0%	0	7.5	0	0
Home Based Other Production	0	0.0%	0	5.4	0	0
Non-Home Based Other Production	400	-3.5%	386	8.0	3,200	3,088
Home-Based Work Attraction	1,274	-22.1%	993	8.4	10,702	8,341
Home-Based Other Attraction	836	-20.7%	663	6.4	5,350	4,243
Non-Home Based Other Attraction	400	-3.5%	386	7.3	2,920	2,818

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	-2.6%	0	0	-8.4%	0	0
Home Based Other Production	-2.6%	0	0	-8.4%	0	0
Non-Home Based Other Production	-2.6%	376	3,007	-8.4%	354	2,830
Home-Based Work Attraction	-2.6%	967	8,123	-20.0%	794	6,673
Home-Based Other Attraction	-2.6%	646	4,132	-8.4%	608	3,888
Non-Home Based Other Attraction	-2.6%	376	2,744	-8.4%	354	2,582

MXD VMT Methodology Per Capita & Per Employee

Total Population: 0
Total Employees: 889
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**0**	**0**
Total Home Based Work Attraction VMT	**8,123**	**6,673**
Total Home Based VMT Per Capita	**0.0**	**0.0**
Total Work Based VMT Per Employee	**9.1**	**7.5**

Table 3.6 Intersection LOS Comparison – (Future Without and With Project) AM Peak Hour

No.	Intersection	AM Peak Hour			
		Future Without Project		Future With Project	
		Delay	LOS	Delay	LOS
1	Santa Fe Avenue & 7th Street	138.3	F	146.8	F
5	Santa Fe Avenue & 8th Street	77.9	E	89.6	F

Table 3.7 Intersection LOS Comparison – (Future Without and With Project) PM Peak Hour

No.	Intersection	PM Peak Hour			
		Future Without Project		Future With Project	
		Delay	LOS	Delay	LOS
1	Santa Fe Avenue & 7th Street	166.3	F	178.9	F
5	Santa Fe Avenue & 8th Street	57.3	E	59.6	E

Table 3.13 Intersection LOS Comparison (Unsignalized) - AM Peak Hour

No.	Intersection	AM Peak Hour			
		Future without Project		Future with Project	
		Delay	LOS	Delay	LOS
2	Santa Fe Avenue & Violet Street				
	Eastbound Left/Thru/Right	Over Flow[1]	F	Over Flow	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	1.8	A	1.9	A
	Southbound Left/Thru	9.7	A	10.3	B
3	Santa Fe Avenue & Bay Street				
	Westbound Left	124.7	F	Over Flow	F
	Westbound Right	14.6	B	15.6	C
	Southbound Left/Thru	12.3	B	14.2	B
4	Santa Fe Avenue & Sacramento Street				
	Eastbound Left/Thru/Right	69.4	F	Over Flow	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	1.6	A	1.7	A
	Southbound Left/Thru	5.5	A	6.2	A

Table 3.14 Intersection LOS Comparison (Unsignalized) - PM Peak Hour

No.	Intersection	PM Peak Hour			
		Future without Project		Future with Project	
		Delay	LOS	Delay	LOS
2	Santa Fe Avenue & Violet Street				
	Eastbound Left/Thru/Right	Over Flow[1]	F	Over Flow	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	11.4	B	11.6	B
	Southbound Left/Thru	13.7	B	14.6	B
3	Santa Fe Avenue & Bay Street				
	Westbound Left	98.0	F	Over Flow	F
	Westbound Right	14.9	B	18.3	C
	Southbound Left/Thru	11.3	B	11.8	B
4	Santa Fe Avenue & Sacramento Street				
	Eastbound Left/Thru/Right	31.7	D	121.9	F
	Westbound Left/Thru/Right	Over Flow	F	Over Flow	F
	Northbound Left/Thru	12.3	B	12.8	B
	Southbound Left/Thru	11.9	B	12.0	B

Note: 1. Indicates calculated delay greater than 300 seconds.