Appendix G

Transportation

Appendix G.1

Memorandum of Understanding

LADOT

Transportation Assessment Memorandum of Understanding (MOU)

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

I. PROJECT INFORMATION

Project Name: 8th Grand and Hope

Project Address: 754 S. Hope Street & 735 S. Grand Avenue, Los Angeles, CA 90017

Project Description: See Attachment A

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

II. TRIP GENERATION

Geographic Distribution: N 28.00 % S 22.00 % E 16.00 % W 34.00 %

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

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

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

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

	IN	OUT	TOTAL
AM Trips	20	108	128
PM Trips	97	53	150

III. STUDY AREA AND ASSUMPTIONS

Project Buildout Year: 2025 Ambient Growth Rate: 0.2 % Per Yr.

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

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

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

1 Hope Street & 7th Street
3 Grand Avenue & 7th Street
2 Hope Street & 8th Street
4 Grand Avenue & 8th Street

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

IV. ACCESS ASSESSMENT

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

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

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

V. CONTACT INFORMATION

	CONSULTANT	DEVELOPER
Name:	The Mobility Group	Stuart Morkun
Address:	18301 Von Karman, Suite 490, Irvine, CA 92612	725 S. Figueroa St., Suite 1080, Los Angeles, CA 90017
Phone Number:	949.474.1591	213.321.3493
E-Mail:	mbates@mobilitygrp.com	smorkun@mfamerica.com

Approved by: x Saeed Keraychchian 11/18/19 x peter ... 12/4/19

Consultant's Representative — Date — LADOT Representative — *Date

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

8th Grand Hope Project – Fact Sheet (The Mobility Group) 11/20/19

Daily Trips	Existing:	0
	Project:	2,099
	Net Increase:	2,099
Project Description	# DU:	580
	SF:	7,499
	# Acres:	0.8
Street Frontage	Street Name:	8th Street
	Street Class:	Modified Avenue II
	Linear Length :	337 feet
	Street Name:	Hope Street
	Street Class:	Avenue II
	Linear Length :	115 feet
	Street Name:	Grand Avenue
	Street Class:	Modified Avenue II
	Linear Length :	100 feet
Discretionary Action	Yes	
Trip Generation (from original MOU)	See Table	
Trip Distribution (from original MOU)	North:	28%
	South:	22%
	East:	16%
	West:	34%
¼ Mile Radius (for 3.2.4 Inventory)	See Figure	
High Injury Network (adjacent to project)	8th Street (also on 7th Street & 9th Street within 1 block, Figueroa Street within 2 block) See Figure	
Existing Bicycle Facilities (adjacent to project)	Grand Avenue (also on 7th Street & Olive Street within 1 block) See Figure	

Analysis Intersections	1. Hope Street & 7th Street 2. Hope Street & 8th Street 3. Grand Avenue & 7th Street 4. Grand Avenue & 8th Street
Additional Intersections (≥100 Trips)	None (See Figure)
Traffic Counts	5/16/2018
Related Projects	See Map / List

LADOT Transportation Assessment Guidelines

TMG 9-12-19

VMT Analysis

YES

If YES to ANY of the following:

Net increase of 250 or more daily trips	Yes
Any voluntary or required modifications to public right-of-way (dedications, changes to curb line).	___
On lot 0.5 acre or more (total gross area), or, 250 linear feet or more of project frontage on Avenue or Boulevard or, project's building frontage encompasses entire block on Avenue or Boulevard (classification in General Plan)	Yes

Note: Increase in trips can include credit for existing qualified uses.

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

YES

If YES to ALL of the following:

Net increase of 250 or more daily trips	Yes
50 DU's/guest rooms or combination	Yes
50,000 sq, ft, non residential	
On lot 0.5 acre or more (total gross area), or, 250 linear feet or more of project frontage on Avenue or Boulevard or, project's building frontage encompasses entire block on Avenue or Boulevard (classification in General Plan)	Yes

Non-CEQA - Project Access, Safety & Circulation Evaluation

YES

If YES to ALL of the following:

Involves discretionary action with DCP	Yes
Net increase of 250 or more daily trips	Yes

Non-CEQA - Project Construction **YES**

If YES to ANY of the following:

Construction activities within right-of-way on Avenue or Boulevard, requiring temporary lane, alley, or street closures for more than one day (including day and evening hours, and overnight closures if on residential street).	Yes
Construction activities within right-of-way on Collector or Local street requiring temporary lane, alley, or street closures for more than seven days (including day and evening hours, and overnight closures if on residential street).	No
In-street construction activities result in loss of regular vehicle, bicycle or pedestrian access, including loss of 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
In-street construction result in loss of regular ADA pedestrian access to existing transit station, stop or facility (e.g. layover zone) during revenue hours.	No
In-street construction result in temporary loss for more than one day of an existing bus stop or rerouting of a bus route that serves the project site	No

Attachment A

Project Description & Site Plan

8th Grand and Hope - Project Description

The Project Site is located on 8th Street between Grand Avenue and Hope Street. It is a narrow constrained site extending the full width of the block.

The Project Site is currently occupied by surface parking and a small parking garage. The Proposed Project will comprise 580 residential dwelling units, 7,499 sq. ft. of fast casual restaurant uses. A total of 563 on-site parking spaces will be provided in three subterranean and five above ground parking levels. Attended/valet parking will be operated on all parking levels.

Access to the Project Site will be provided by three driveways, one on Grand Avenue, one on 8th Street, and one on Hope Street. All driveways will provide for ingress and egress. The Grand Avenue and 8th Street driveways will provide access to the above grade parking levels, and the Hope Street driveway will provide access to the subterranean parking levels. Commercial loading will occur on the Project Site.

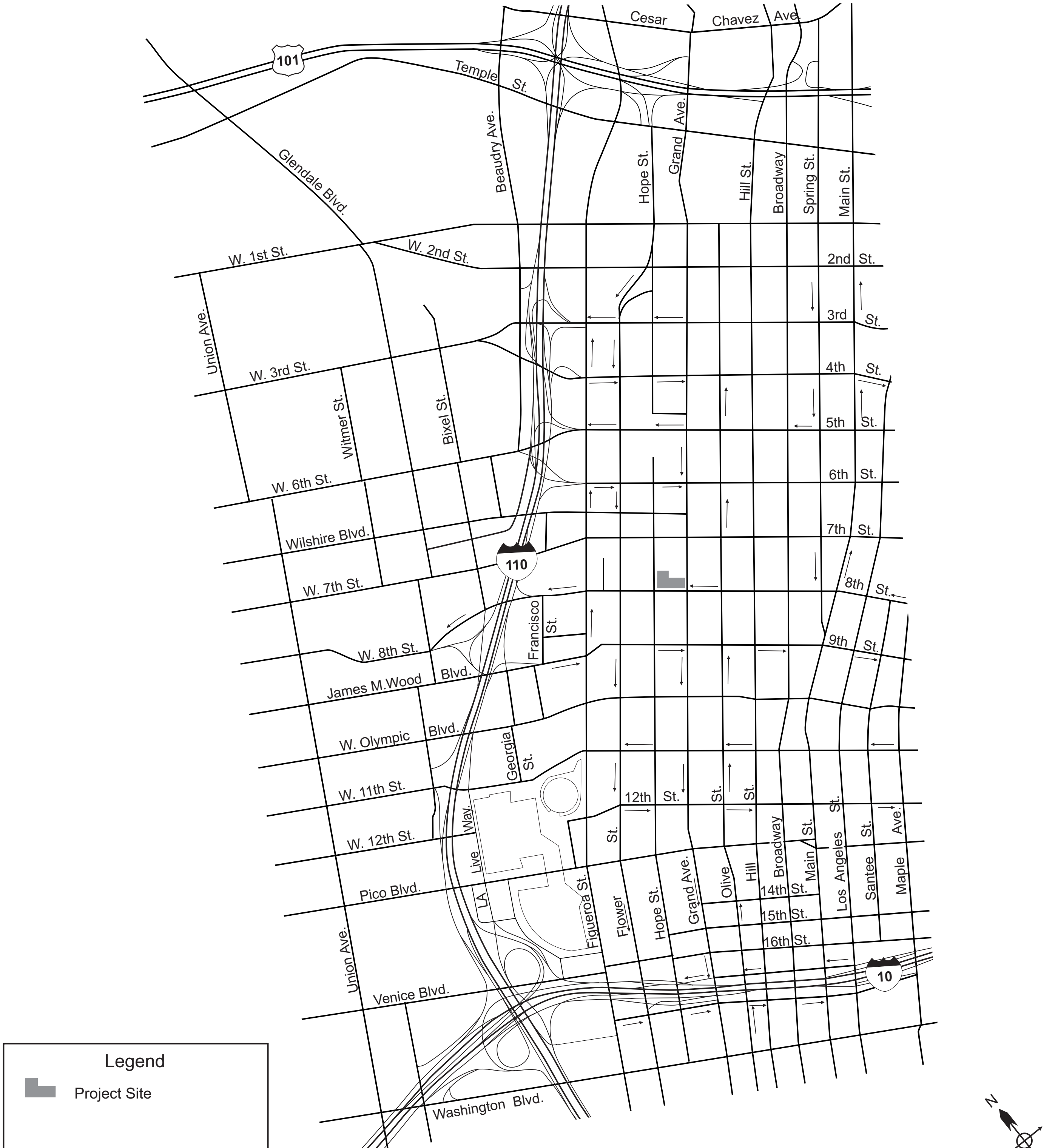


Figure 1.1
Project Location

8th Grand Hope Project

The **Mobility** Group
Transportation Strategies & Solutions

Source: Gensler 11/11/2019

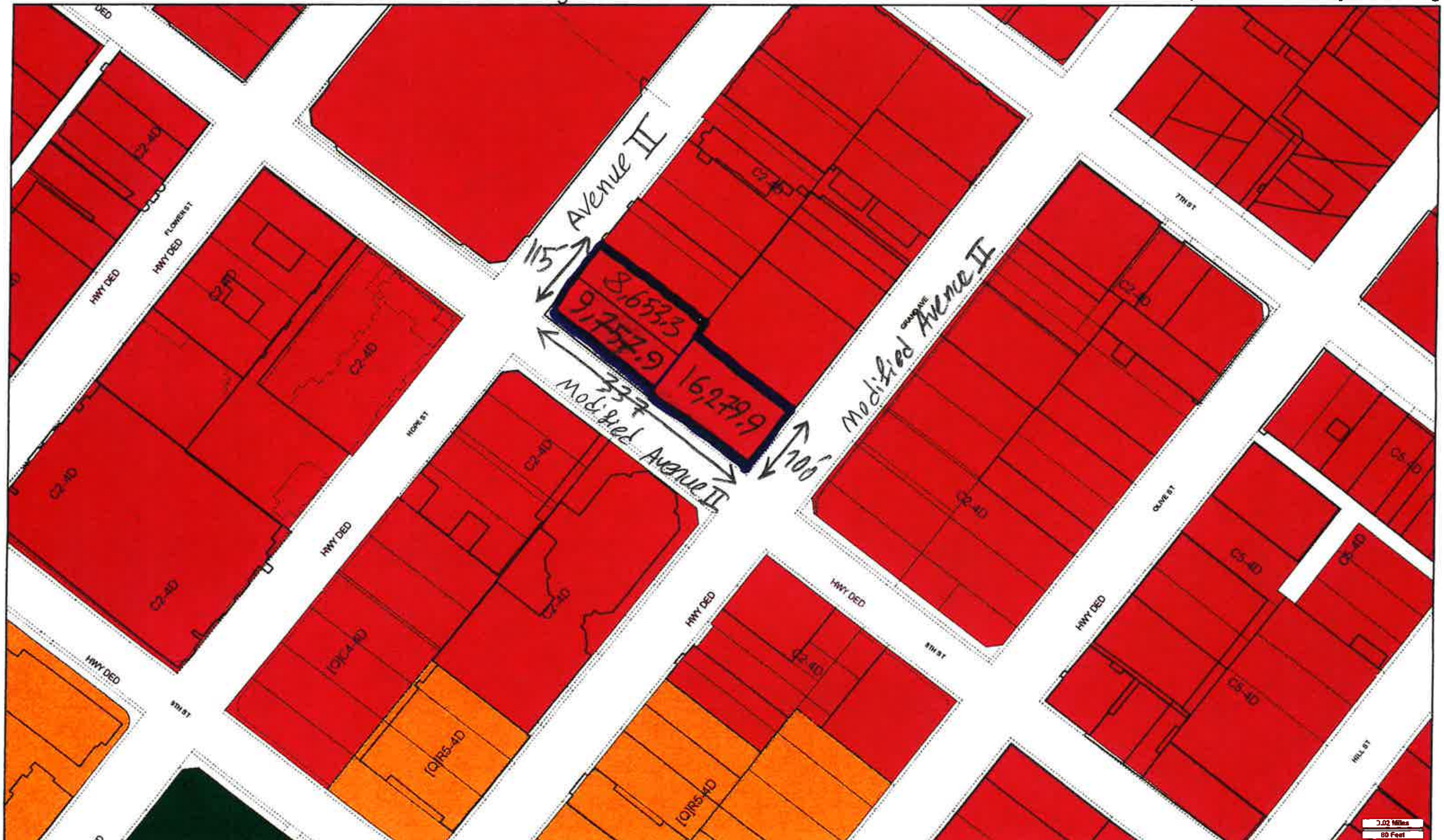
11/20/19

Figure A.2
Project Site Plan

8th Grand Hope Project

The Mobility Group
Transportation Strategies & Solutions

ZIMAS PUBLIC | Generalized Zoning | 11/06/2019 | City of Los Angeles Department of City Planning



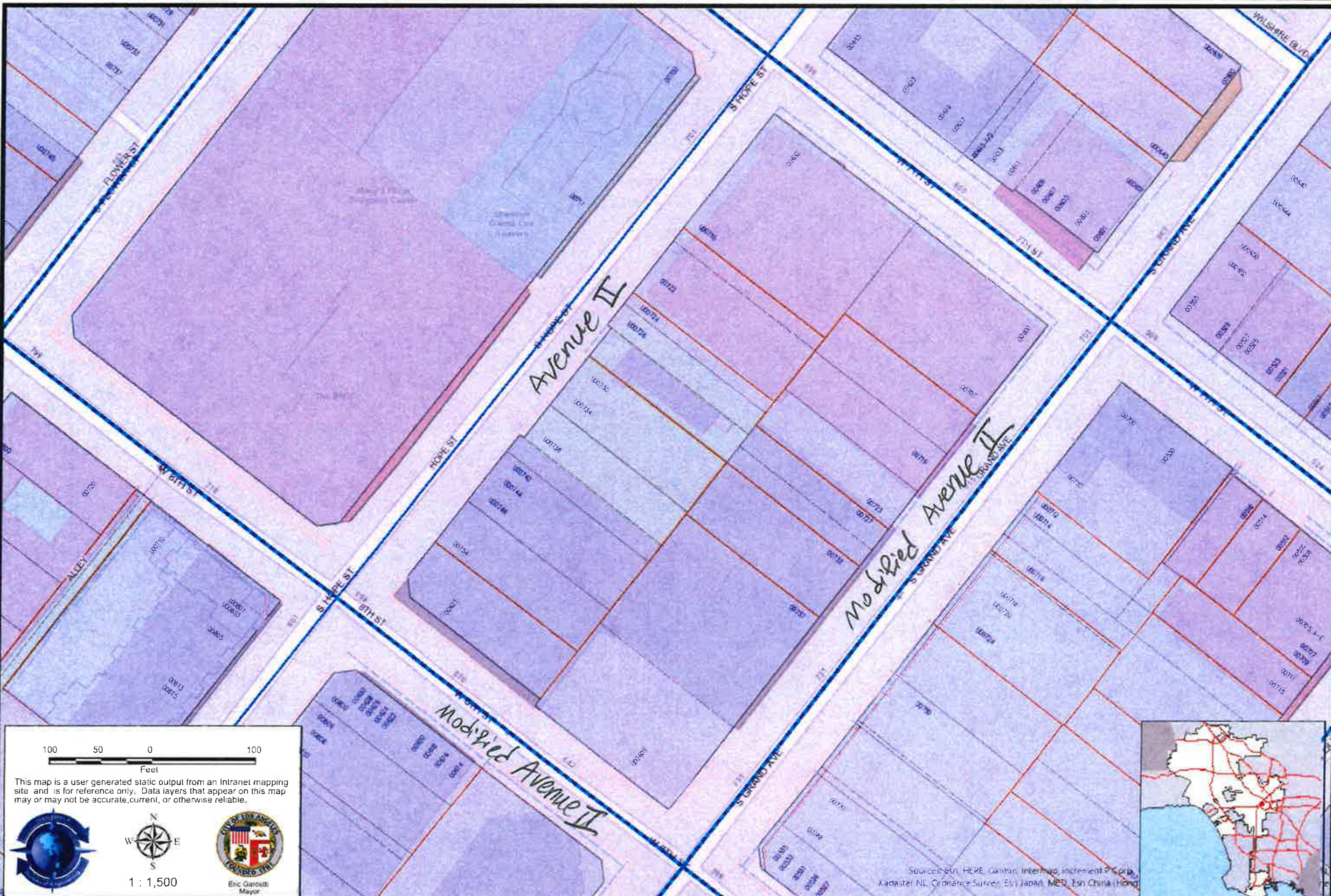
Address: 609 W 8TH ST
APN: 5144011016
PIN #: 129A209 194

Tract: TR 7904
Block: None
Lot: LT A
Arb: 1

Zoning: C2-4D
General Plan: Regional Center Commercial

Total Area = 34691.1 SF ≃ 0.8 Acre

NavigateLA Map



Attachment B

Trip Generation Estimates

Table B.2 **8th Hope Grand Project - Trip Generation Estimates** 6/12/2019

Daily

Land Use Assumptions		Source [1] & Code	Quantity	Units	Daily			
						Trip Rate		Total Trips
Proposed Uses								
Apartments [2,3]		ITE 222	580	DU		2.07		1,201
(Reduction for transit trips) -	0%							0
(Reduction for walk/bike trips) -	0%							0
Net Apartments								1,201
Retail [2,4]		ITE 820	0	SF		37.75		0
(Reduction for internal trips) -	5%							0
(Reduction for transit trips) -	15%							0
(Reduction for walk/bike trips) -	5%							0
(Reduction for pass-by trips) -	50%							0
Net Retail								0
Fast Casual Restaurant [2,5]		ITE 930	7,499	SF		315.17		2,363
(Reduction for internal trips) -	5%							-118
(Reduction for transit trips) -	15%							-337
(Reduction for walk/bike trips) -	5%							-112
(Reduction for pass-by trips) -	50%							-898
Net Fast Casual Restaurant								898
Charter Elementary School [6]		ITE 537	0	Stud		2.00		0
(Reduction for transit/walk/bike trips)	60%							0
Net Elementary School								0
Total Proposed								2,099
Total Net								2,099

Table B.2 **8th Hope Grand Project - Trip Generation Estimates** 6/12/2019

AM Peak

Land Use Assumptions		Source [1] & Code	Quantity	Units	AM Peak Hour Trip Rate In	Trip Rate Out	Trip Rate Total	Total Trips In	Total Trips Out	Total Trips Total
Proposed Uses										
Apartments [2,3]		ITE 222	580	DU	0.03	0.18	0.21	17	105	122
(Reduction for transit trips) -	0%							0	0	0
(Reduction for walk/bike trips) -	0%							0	0	0
Net Apartments								17	105	122
Retail [2,4]		ITE 820	0	SF	0.58	0.36	0.94	0	0	0
(Reduction for internal trips) -	5%							0	0	0
(Reduction for transit trips) -	15%							0	0	0
(Reduction for walk/bike trips) -	5%							0	0	0
(Reduction for pass-by trips) -	50%							0	0	0
Net Retail								0	0	0
Fast Casual Restaurant [2,5]		ITE 930	7,499	SF	1.39	0.68	2.07	10	6	16
(Reduction for internal trips) -	5%							-1	0	-1
(Reduction for transit trips) -	15%							-1	-1	-2
(Reduction for walk/bike trips) -	5%							-1	0	-1
(Reduction for pass-by trips) -	50%							-4	-2	-6
Net Fast Casual Restaurant								3	3	6
Charter Elementary School [6]		ITE 537	0	Stud	0.57	0.53	1.10	0	0	0
(Reduction for transit/walk/bike trips)	60%							0	0	0
Net Elementary School								0	0	0
Total Proposed								20	108	128
Total Net								20	108	128

Table B.2 **8th Hope Grand Project - Trip Generation Estimates** 6/12/2019

PM Peak

Land Use Assumptions		Source [1] & Code	Quantity	Units	PM Peak Hour Trip Rate In	Trip Rate Out	Trip Rate Total	Total Trips In	Total Trips Out	Total Trips Total
Proposed Uses										
Apartments [2,3]		ITE 222	580	DU	0.13	0.06	0.19	75	35	110
(Reduction for transit trips) -	0%							0	0	0
	0%							0	0	0
Net Apartments								75	35	110
Retail [2,4]		ITE 820	0	SF	1.83	1.98	3.81	0	0	0
(Reduction for internal trips) -	5%							0	0	0
(Reduction for transit trips) -	15%							0	0	0
(Reduction for walk/bike trips) -	5%							0	0	0
(Reduction for pass-by trips) -	50%							0	0	0
Net Retail								0	0	0
Fast Casual Restaurant [2,5]		ITE 930	7,499	SF	7.77	6.36	14.13	58	48	106
(Reduction for internal trips) -	5%							-3	-2	-5
(Reduction for transit trips) -	15%							-8	-7	-15
(Reduction for walk/bike trips) -	5%							-3	-2	-5
(Reduction for pass-by trips) -	50%							-22	-19	-41
Net Fast Casual Restaurant								22	18	40
Charter Elementary School [6]		ITE 520	0	Stud	0.05	0.10	0.15	0	0	0
(Reduction for transit/walk/bike trips)	60%							0	0	0
Net Elementary School								0	0	0
Total Proposed								97	53	150
Total Net								97	53	150

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 Traffic Study Policies and Procedures (August 2014) and in agreement with LADOT staff.
3. Apartments analyzed as ITE 222 - Multifamily Housing (High-Rise). Used trip rates for Dense Multi-Use Urban.
4. Retail analyzed as ITE 820 - Shopping Center. Used trip rates for General Urban/Suburban.
5. Restaurant analyzed as ITE 930 - Fast Casual Restaurant. Used trip rates for General Urban/Suburban.
6. Elementary School analyzed as ITE 537 - Charter Elementary School. Used trip rates for General Urban/Suburban. ITE trip rate increased by 8% to represent 100% auto (based on data from Metro Charter School.

Note: Trip totals may differ marginally due to rounding.

Attachment C

Trip Distribution

8th Grand and Hope – 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 users, and the characteristics of the street system in the area of the Project. The following distribution was assumed:

- 28% of the trips towards the north
- 22% of the trips towards the south
- 16% of the trips towards the east
- 34% of the trips towards the west

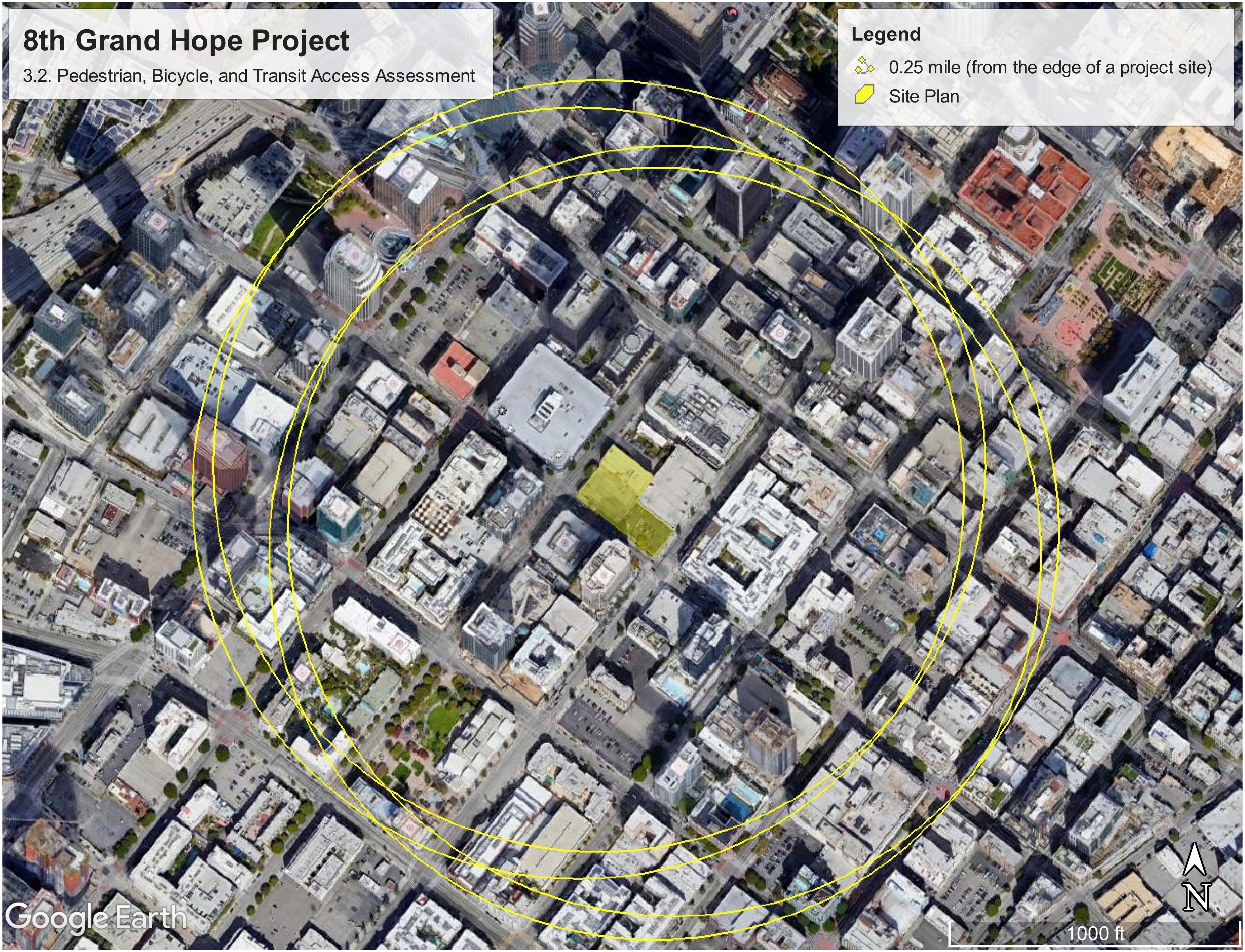
Attachment D

3.2. Pedestrian, Bicycle, and Transit Access Assessment

8th Grand and Hope – Street Inventory

The attached Figure shows quarter mile radius from Project Site for street inventory.

An initial review indicates the inventory will need to address up to approximately 32 intersections, 6 mid-block crosswalks, and up to approximately 100 block faces.


8th Grand Hope Project
3.2. Pedestrian, Bicycle, and Transit Access Assessment
Legend
0.25 mile (from the edge of a project site)
Site Plan
Google Earth
N
1000 ft

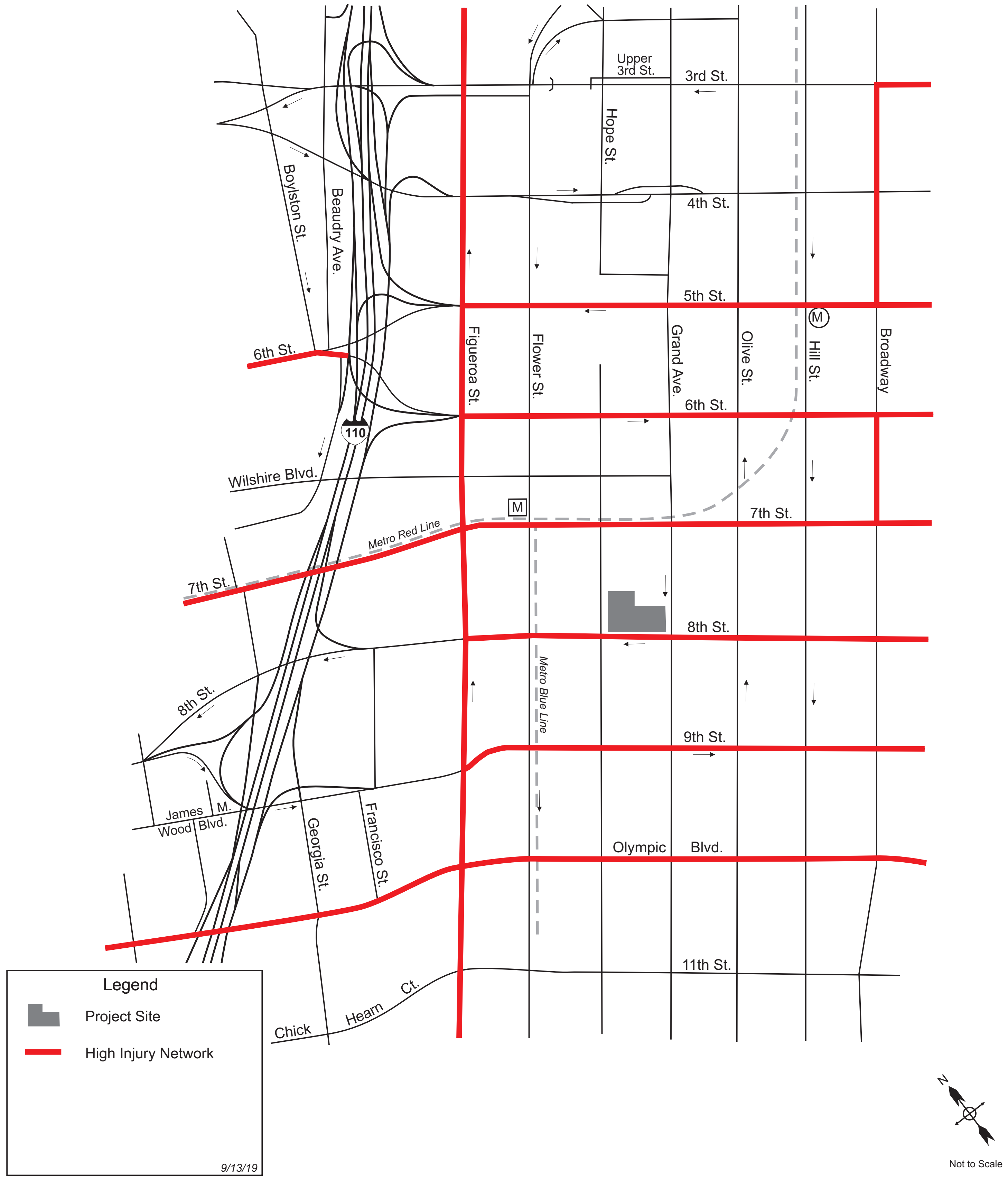


Figure 2.7
High Injury Network

8th Grand Hope Project

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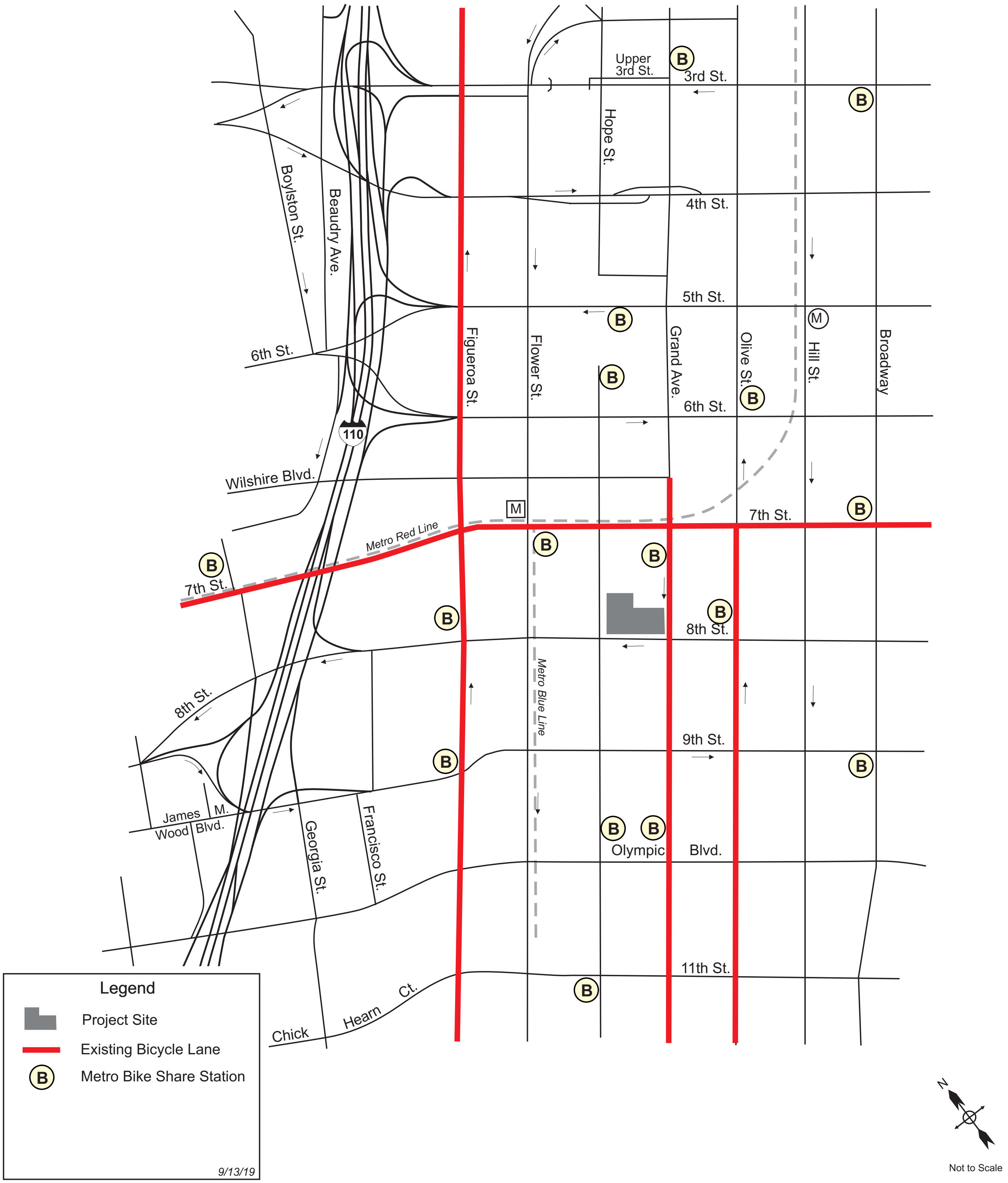

Figure 2.6
Existing Bicycle Facilities

8th Grand Hope Project

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Attachment E

3.3. Project Access, Safety and Circulation Evaluation

Study Intersections

8th Grand Hope Project – Study Intersections

After a review of the project location, surrounding street network and location of signalized intersections, the following study intersections (site adjacent) are proposed for the impact analysis:

1. Hope Street & 7th Street
2. Hope Street & 8th Street
3. Grand Avenue & 7th Street
4. Grand Avenue & 8th Street

There are no other intersections with ≥ 100 peak hour project trips.

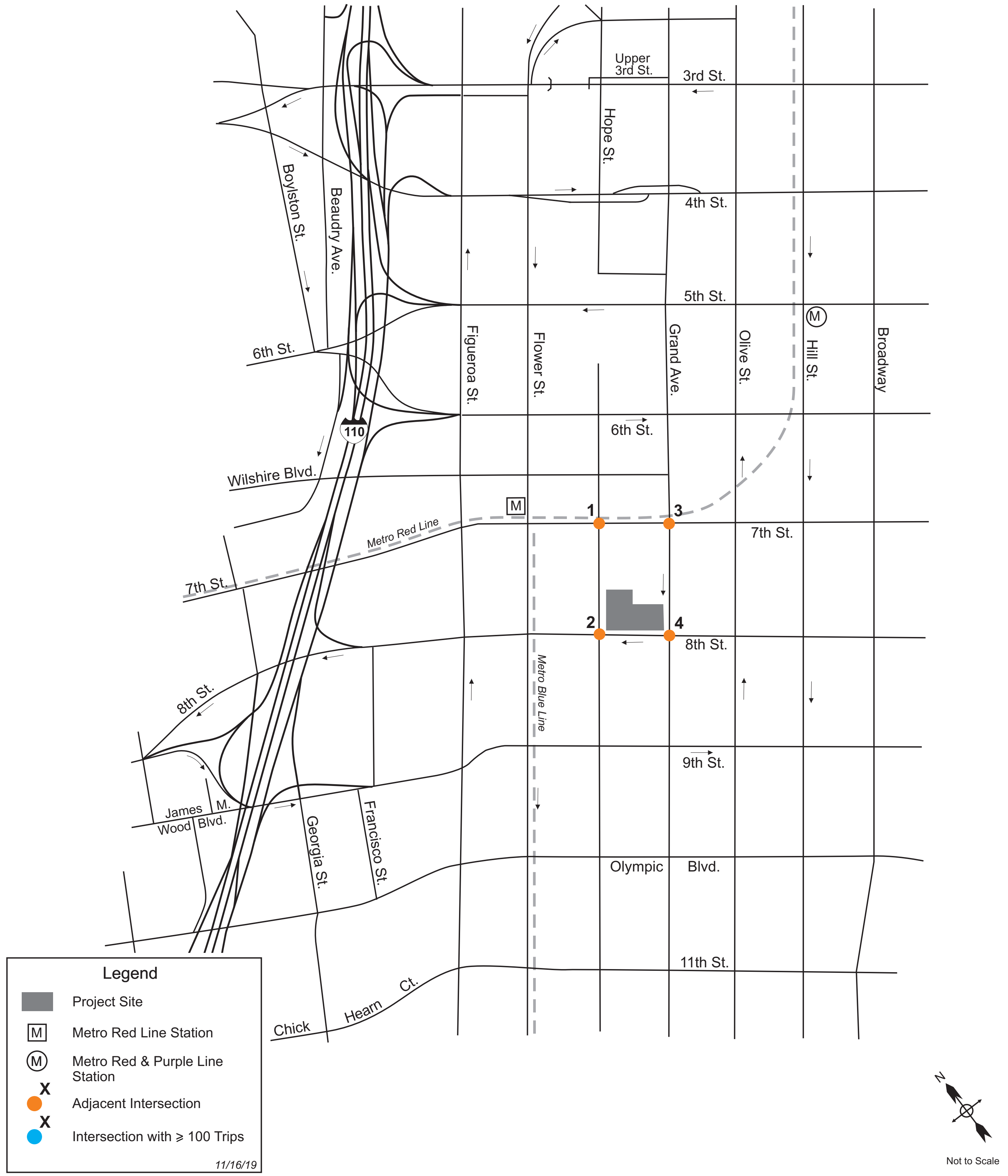

Figure E.1
Study Intersections

8th Grand Hope Project

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Related Projects

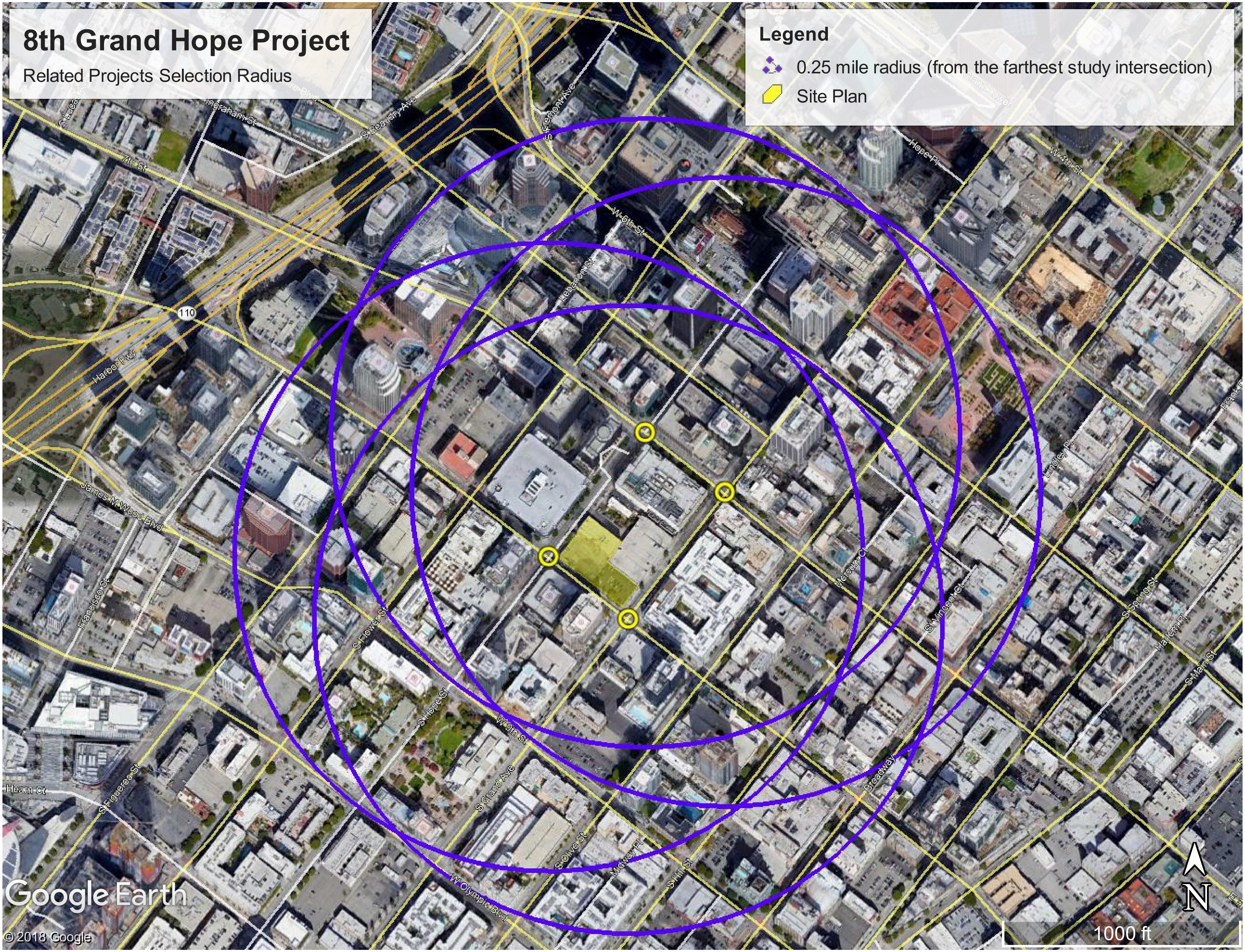
8th Grand Hope - Related Projects

The latest LADOT transportation assessment guidelines dated November 2019 states the following regarding inclusion of related projects:

The transportation assessment must consider related projects. For related development projects, this should include the associated trip generation for known development projects within one-quarter mile (1,320) radius of the farthest outlying study intersections.

According to above criteria selection radii were drawn from the farthest study intersections.

Subsequently, the related project list for the MOU approved on July 30, 2019 was adjusted to only include projects within the selection radii.



8th Grand Hope Project
Related Projects Selection Radius
Legend
0.25 mile radius (from the farthest study intersection)
Site Plan
Google Earth
© 2018 Google
1000 ft
N

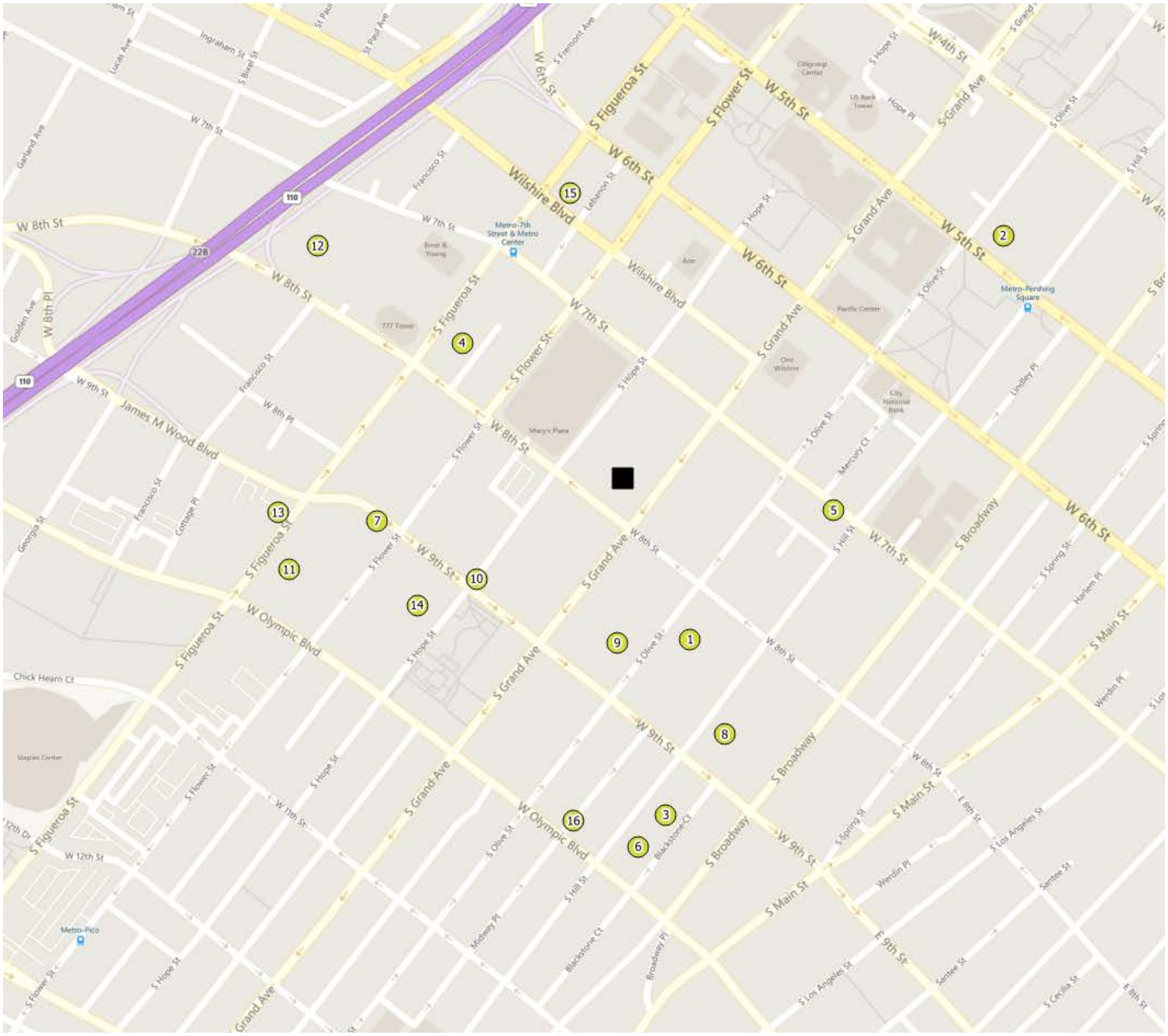


Figure D.1
Location of Related Projects

8th Grand Hope Project

The **Mobility** Group
Transportation Strategies & Solutions

Table D.1 8th Grand Hope Project - Related Project List

11/15/2019

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	820 S Olive St. 825 S Hill St.	589 4,500	DU sf	Apartments Retail	3,309	63	202	265	195	106	301
2	Park/Fifth Project	427 W 5th	615 16,968	DU sf	Apartments Commericial	3,167	43	115	158	165	98	263
3	Hill Mixed	920 S Hill	239 4 5,671	DU DU sf	Apartments Condominium Commercial	1,504	23	86	109	88	51	139
4	8th & Figueroa MU	744 S Figueroa St	438 3,750 3,750	DU sf sf	Apartments Commercial/Retail Restaurant	2,644	37	146	183	158	86	244
5	Foreman and Clark Building	400,402 W 7th St. 701, 715 S. Hill St	165 11,902 14,032	DU sf sf	Apartments Bar Restaurant	2,792	18	57	75	132	127	259
6	Hill Mixed	940 S Hill	232 14,000	D.U sf	Apartments Retail	1,881	20	80	100	115	53	168
7	Apex Phase II	700 W 9th St.	341 11,687	DU sf	Condominiums Retail	1,365	20	77	97	72	48	120
8	Alexan South Broadway	850 S Hill St.	305 3,500 3,499	DU sf sf	Apartments Restaurant Retail	1,998	29	108	137	117	67	184
9	845 S Olive & 842 Grand MU	845 S Olive	208 810 1,620	DU sf sf	Apartments Retail Other	1,305	25	76	101	77	42	119
10	888 S Hope St	888 S Hope St	526	DU	Apartments	3,498	54	214	268	212	114	326
11	Variety Arts Project	940 S Figueroa St	1,942 10,056 5,119	Seats sf sf	Theater Restaurant Bar	2,237	5	4	9	99	35	134
12	Mixed-Use	945 W 8th St	781 6,700	DU sf	Condominiums Retail	2,869	63	146	209	144	91	235
13	Figueroa Centre	911 S Figueroa St.	200 220 29,080 20,000 15,000 200 48,000	DU Rooms sf sf sf Stud sf	Condominiums Hotel Retail Restaurant Office Private School Meeting Rooms	4,457	370	116	486	168	368	536
14	949 S Hope St MU	949 S Hope St	236 10,010	DU sf	Apartment Restaurant	947	8	46	54	52	8	60

Table D.1 8th Grand Hope Project - Related Project List

11/15/2019

Project ID	Project Name	Location/Address	Project Description		Daily Trips	AM Peak Hour			PM Peak Hour		
15	Drugstore	835 W Wilshire Blvd.	11,345 sf	Drugstore	1,022	21	12	33	48	49	97
16	Mixed-Use	321 W Olympic Blvd.	263 DU 14,500 sf	Apartments Commercial	2,368	36	112	148	132	85	217
		Total			**37,363**	**835**	**1,597**	**2,432**	**1,974**	**1,428**	**3,402**

Appendix G.2

Transportation Assessment

8th Grand & Hope Project

Transportation Assessment

May 2020
Revised December 2020

Prepared for

Mitsui Fudosan America, Inc.

Prepared by

The **Mobility** Group

8th Grand & Hope Project

Transportation Assessment

Table of Contents

Appendices

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Introduction & Report Contents

This report documents a Transportation Assessment conducted for the 8th, Grand & Hope Project (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

[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.

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 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).

[3] State of California, Governor's Office of Planning & Research, *Proposed Updates to the CEQA Guidelines*, *Final*, November 2017.

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

0. Project Description

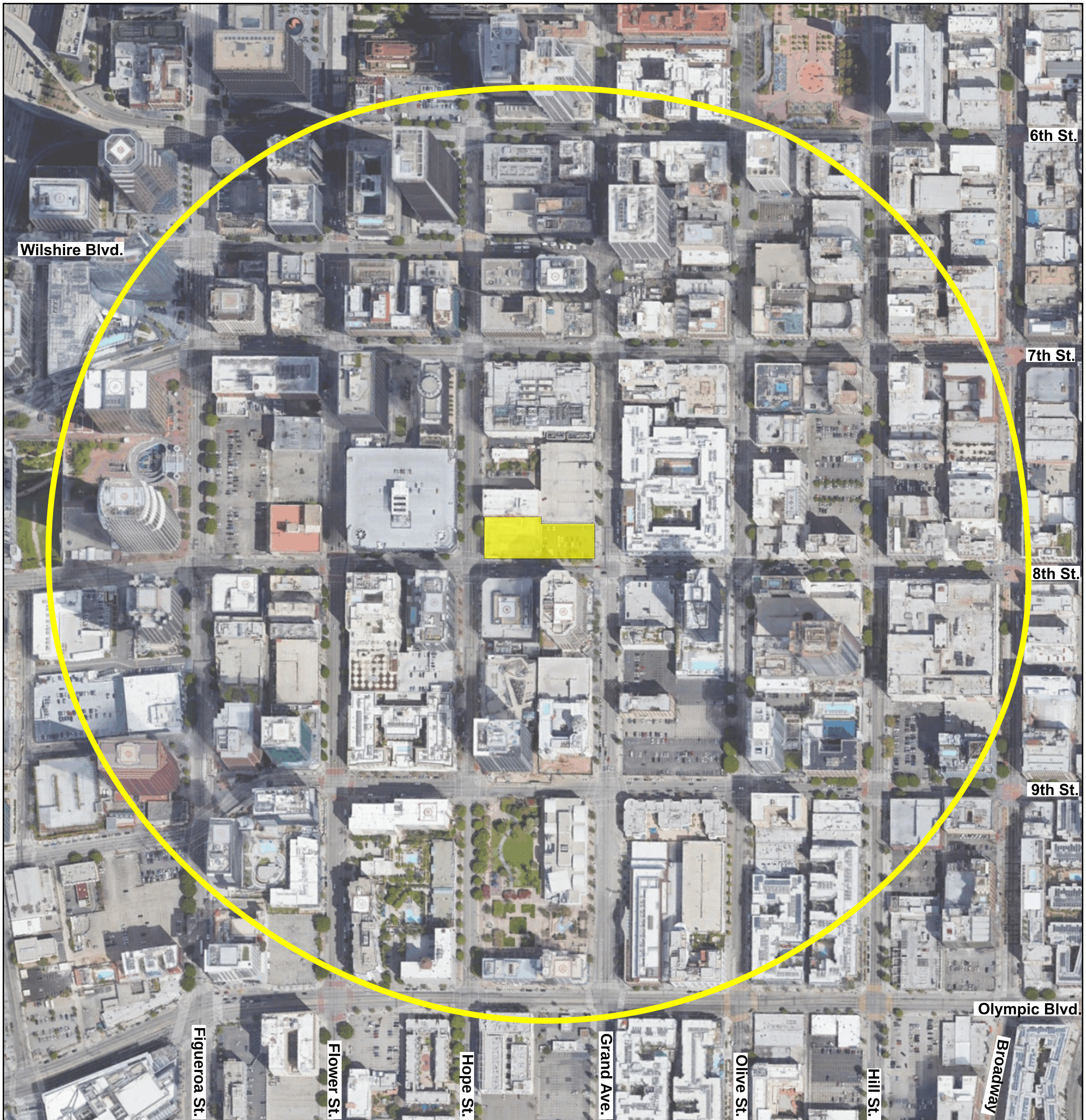
The 8th, Grand and Hope Project (Project) is located on the north side of 8th Street between Hope Street and Grand Avenue in downtown Los Angeles (Project Site). The Project address is 754 S. Hope Street & 735 S. Grand Avenue. The Project extends along the north side of 8th Street from Hope Street in the west to Grand Avenue in the east. The project location is shown in Figure 0.1.

The Project Case Number is: ENV-2017-506-EIR.
The Assessor Parcel numbers are: 5144-011-009 and 5144-011-016.
The Proposed Project is in Council District 14.

The Project is comprised of 580 residential units and up to 7,499 sq. ft. of ground floor commercial/retail/restaurant uses. Figure 0.2 shows the conceptual site plan, including driveways, loading/unloading areas, and any highway dedications.

Vehicular access for residents would be provided by two-way driveways on Hope Street and Grand Avenue. The Grand Avenue driveway would provide one inbound lane and one outbound lane, and would provide access to the above-ground parking. The Hope Street driveway would provide two inbound lanes and one outbound lane. One of the inbound lanes and the one outbound lane would service the subterranean parking, and one inbound lane would be for service vehicles only. Service, delivery, and trash collection vehicles would access the Project Site from Hope Street and exit via Grand Avenue. There would be an on-site porte-cochere for pick-up and drop off, located in the center of the Project Site as shown in Figure 0.2. Visitors, taxis and rideshare vehicles would enter the site from either Grand Avenue or Hope Street for internal drop-offs and pick-ups, and would exit at Grand Avenue. Figure 0.3 shows study intersections and the distance of Project driveways from adjacent intersections.

The Project would provide a total of 636 on-site parking spaces, including 602 spaces for the residential units in the Project and 34 covenanted spaces (per the Central City Parking Exception District no vehicle parking is required for retail uses totaling less than 7,500 square feet). A total of 195 spaces would be located in below grade levels accessed only from Hope Street. A total of 441 spaces would be located above grade and accessed from both Grand Avenue and 8th Street. The Project would also provide 23 short term and 220 long term bicycle parking spaces for the residential uses, and 4 short term and 4 long term bicycle parking spaces for the retail uses, for a total of 251 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)

N

Not to Scale
1/23/20

Figure 0.1
Project Site and Study Area

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions

12/01/20

Figure 0.2
Project Site Plan

8th Grand & Hope Project

The Mobility Group
Transportation Strategies & Solutions

Legend

Study Intersection

Not to Scale
11/18/20

Figure 0.3
Study Intersections and Project Driveways

8th Grand & Hope Project

The Mobility Group
Transportation Strategies & Solutions

1. Project Context

This chapter provide 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 bounded by 8th Street to the south, Grand Avenue to the east, Hope Street to the west, and existing properties to the north. Regional access to the Project Site is provided primarily by the Harbor Freeway (SR-110), which is located four blocks west of the Site. The Project Site is served by a comprehensive grid system of downtown surface streets, with multiple access points to the SR-110 freeway. The key surface streets serving the immediate area of the Project (within two blocks) are 6th Street, 7th Street, 8th Street, 9th Street and Olympic Boulevard in the east-west direction and Figueroa Street, Flower Street, Hope Street, Grand Avenue, Olive Street and Hill Street in the north-south direction. Figure 1.1 shows the street classifications and 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 Project including number of lanes, direction of flow, peak period tow-away lanes, and bike lanes.

All study intersections in the area of the Project are signalized and 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 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 Site is well served by transit. It is located in downtown Los Angeles, which is the hub of the regional transit system in the Los Angeles area. The Project Site is two blocks from the 7th Street / Metro Center Station at Figueroa Street & 7th Street, which serves the Metro Red/Purple, Blue and Expo Lines. The Study Area as shown in Figure 0.1 (within one quarter mile of the Project) is currently served by a total of seven local and inter-city transit operators. Metro also operates four rail lines, six Rapid bus lines, three Express lines and twenty-eight Local lines in the Project Area. Additional transit lines include nine LADOT Commuter Express lines, five LADOT Dash bus lines, eight Foothill Transit bus lines, two Orange County Transportation Authority bus lines, one Santa Monica Big Blue Bus line and one Torrance Bus line operating in the Project

Area. Figure 1.3 shows transit routes in the vicinity of the Project Site. Table 1.2 lists the individual bus and rail lines serving the Project Area, and indicates the frequency of service (headways) during the AM and PM peak periods.

1.3 Key Pedestrian Destinations

Figure 1.4 shows key pedestrian destinations within a quarter mile (1,320 feet) of the Project Site. As would be expected in a central downtown locations there are many transit stops. There are also uses such as schools/colleges, government offices, medical clinics and places of worship in the Study Area.

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.

The bicycle lanes/routes currently in the Project area are listed below and shown in Figure 1.5:

- Figueroa Street—Tier I bike lane
- Grand Avenue, south of Wilshire Boulevard—Tier 1 bike lane
- Olive Street, south of 7th Street—Tier 1 bike lane
- 7th Street—Tier 1 bike lane

The Mobility Plan 2035 identifies designated bicycle facilities planned for implementation over the longer term. For the area of the Project, these are shown in Figure 1.6, and in addition to the existing facilities listed above comprise the following:

- Flower Street—Tier 3 bike lane
- Broadway—Tier 3 bike lane

Metro Bike Share Facilities

There are nine existing Metro Bike Share stations in the in the Study Area at the following approximate locations, as shown in Figure 1.5:

- Olive Street & 8th Street
- Hope Street & 6th Street
- 7th Street and Grand Avenue
- 7th Street and Flower Street
- 8th Street and Olive
- 8th Street and Figueroa Street
- 9th Street and Figueroa
- Grand Avenue and Olympic Boulevard
- Hope Street and Olympic Boulevard

Pedestrian Facilities

The Project Site is located in an area with well-developed pedestrian facilities, including sidewalks on all streets and crosswalks at all intersections. There is currently a seventeen foot sidewalk on Grand Avenue adjacent to the Project Site, a twelve-foot sidewalk on 8th Street and a twelve-foot sidewalk on Hope Street, adjacent to the Project Site. There are signalized pedestrian crossings at the four closest intersections to the Project Site—at Grand Avenue & 8th Street, Grand Avenue & 7th Street, Hope Street & 8th Street, and at Hope Street & 7th Street.

According to Walkscore.com[5], the Project Site has a walkability score of 97 (out of 100)—which is described as a "Walker's Paradise" where 'daily errands do not require a car'. (Walkscore also allocates a transit score of 100—'riders paradise, world class public transportation,' and a bike score of 81—very bikeable, flat as pancake, excellent bike lanes') to the Project Site.

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.

1.5 Freeway Access

There are numerous freeway off and on-ramps along the Harbor Freeway accessing the downtown area. The closest ramps are on 8th Street 0.36 miles from the Project Site. Also, close to the Project Site are ramps at 6th Street 0.4 miles from the Project Site and at 9th Street 0.45 miles from the 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[7]. This list was verified and approved by the department of City Planning and LADOT. Further discussion is provided in Section 3.3.4.

[6] Transportation Assessment Guidelines, LADOT, July 2019

[7] MOU Approved by LADOT December 4, 2019.

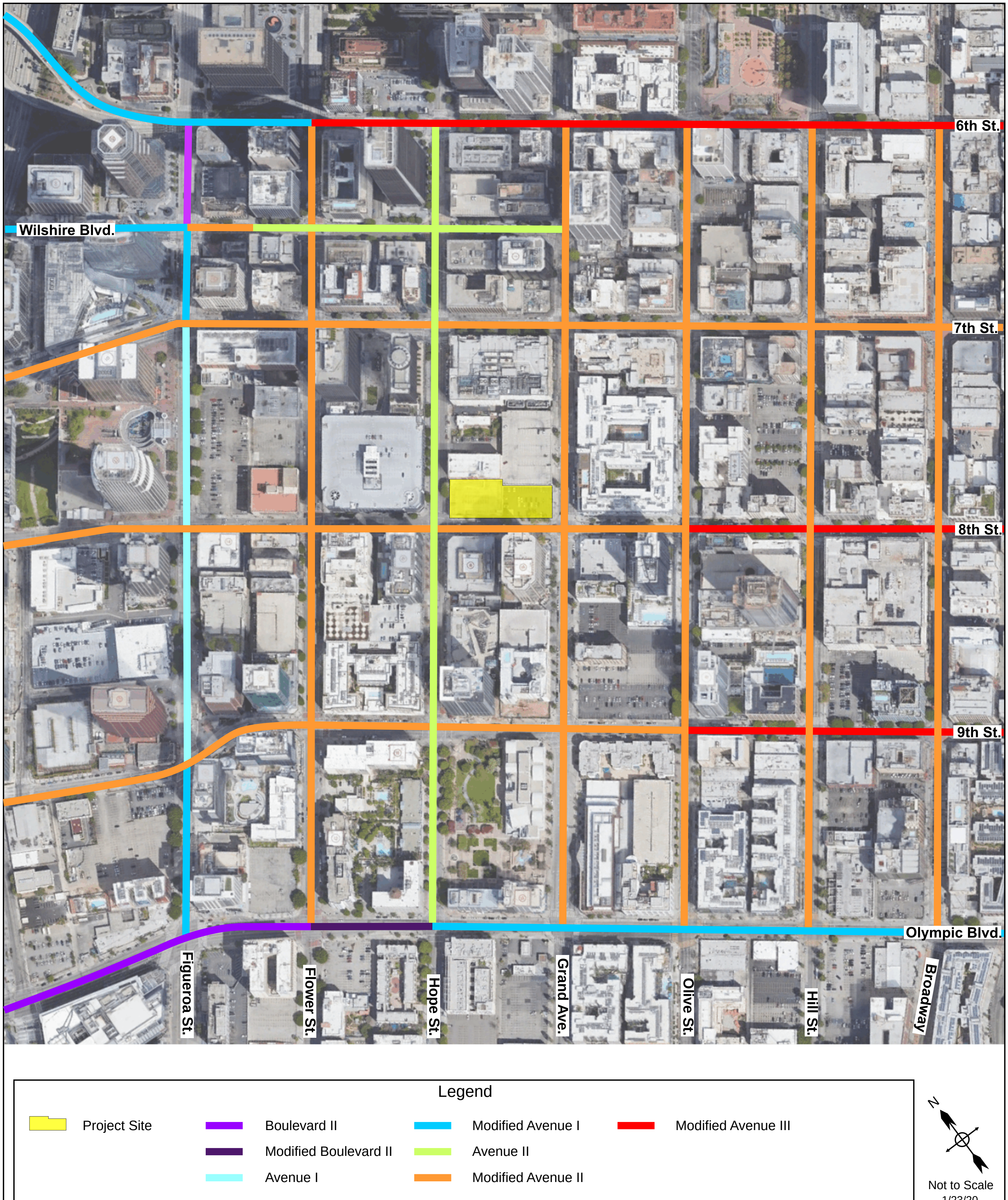
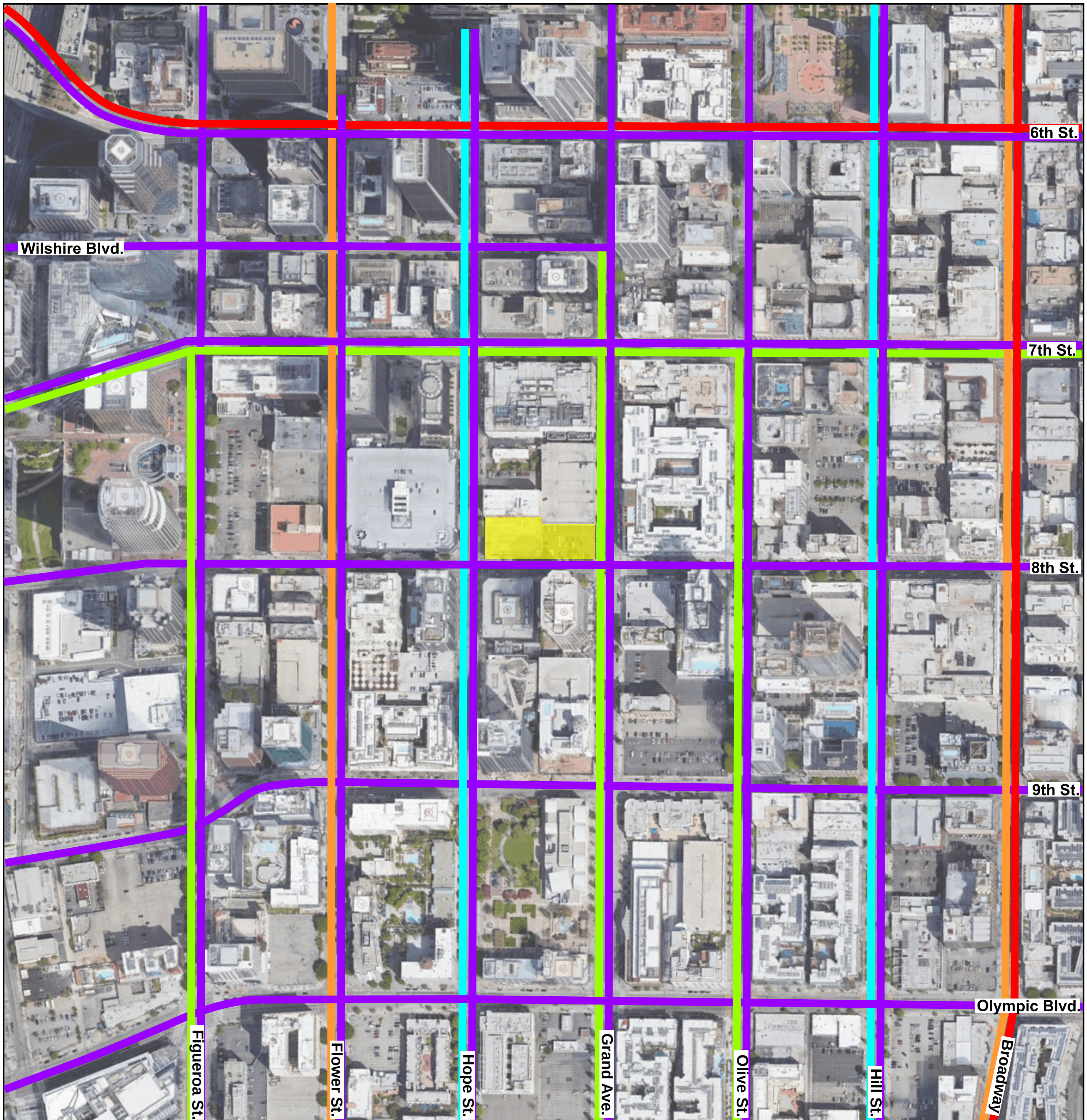


Figure 1.1
Street Classifications

8th Grand & Hope Project

The Mobility Group
Transportation Strategies & Solutions



Legend

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

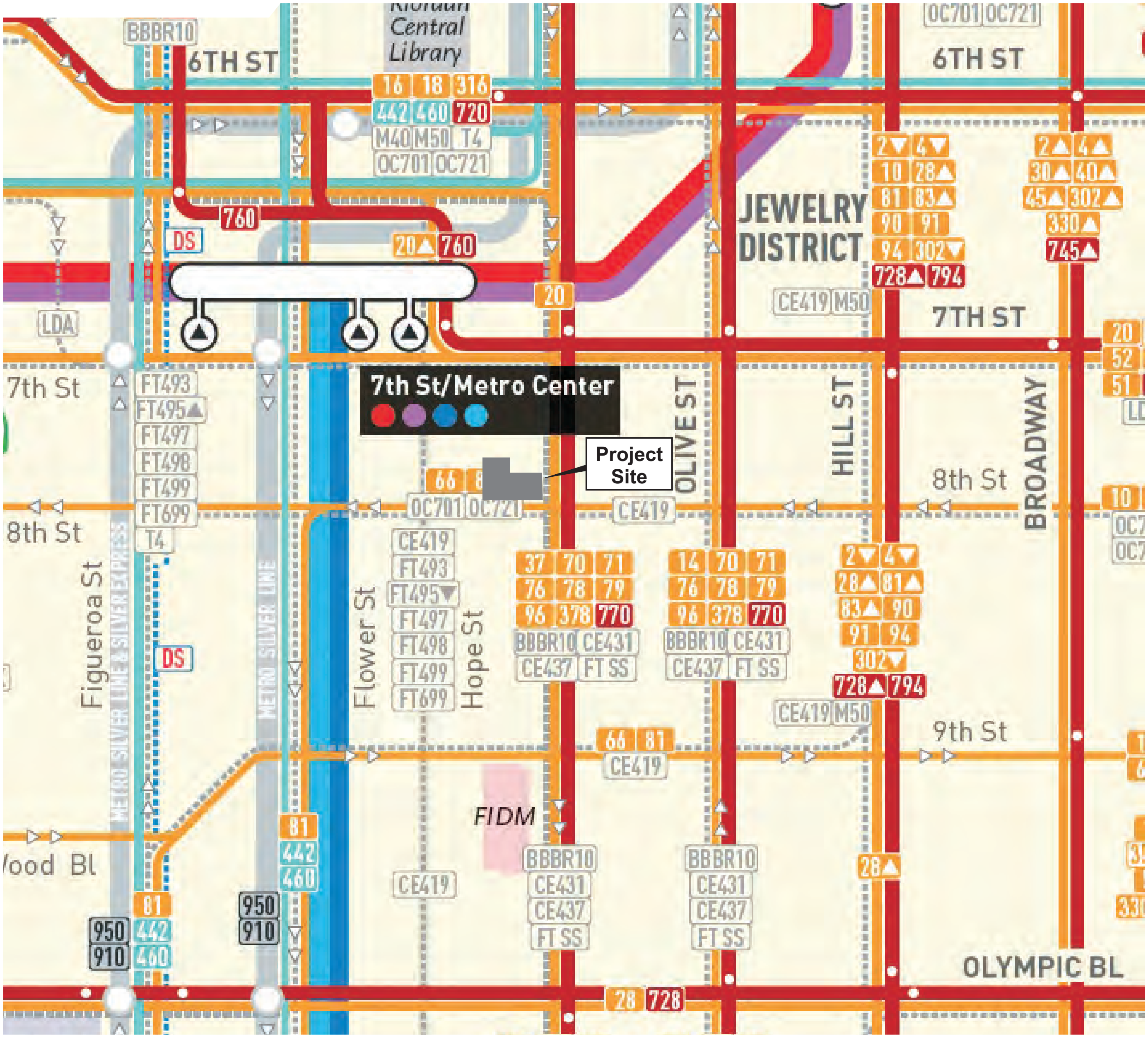
N

Not to Scale
1/23/20

Figure 1.2
Street Designations

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions

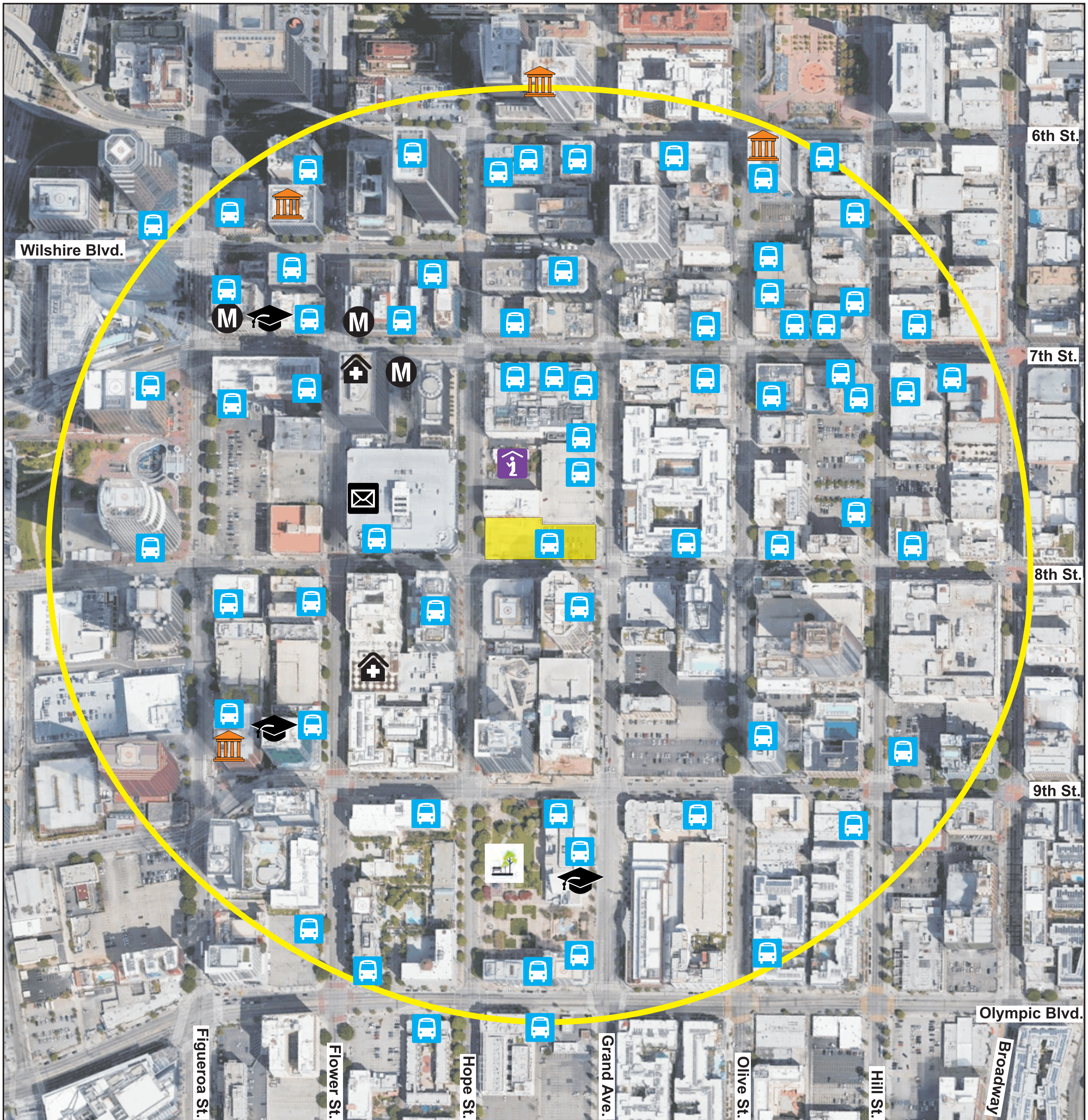


1/21/20

Figure 1.3
Existing Transit Routes

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions



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

Legend

- Project Site
- 1/4 Mile from Project Site (Study Area)
- Transit Stop
- School/University
- Government Office
- Place of Worship
- Park / Playground
- Post Office
- Medical Clinic
- 7th Street Metro Station (Rail Station)

N

Not to Scale
01/07/20

Figure 1.4
Key Pedestrian Destinations

8th Grand & Hope Project

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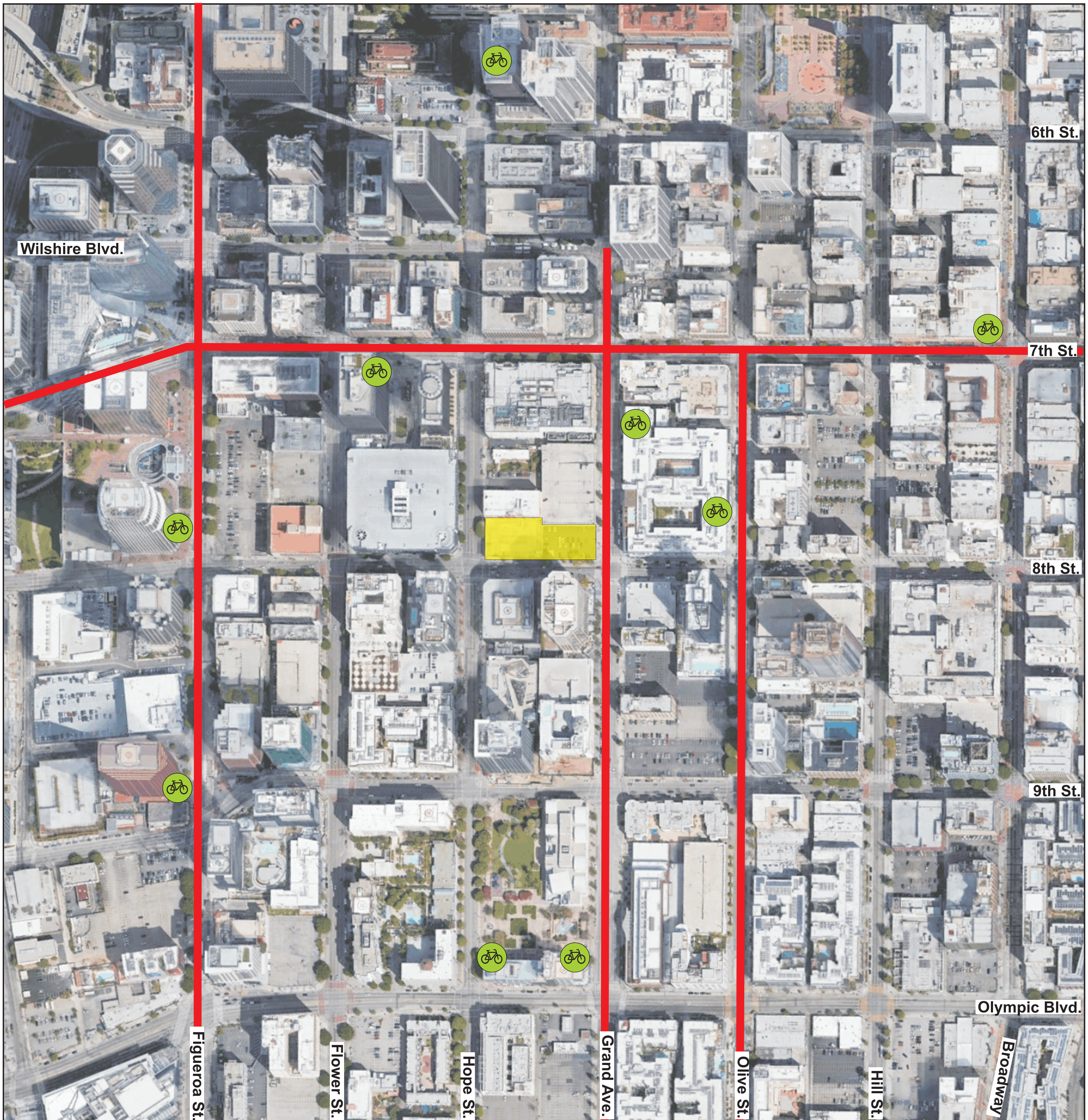


Legend

Project Site

Existing Bicycle Lane

Metro Bike Share Station

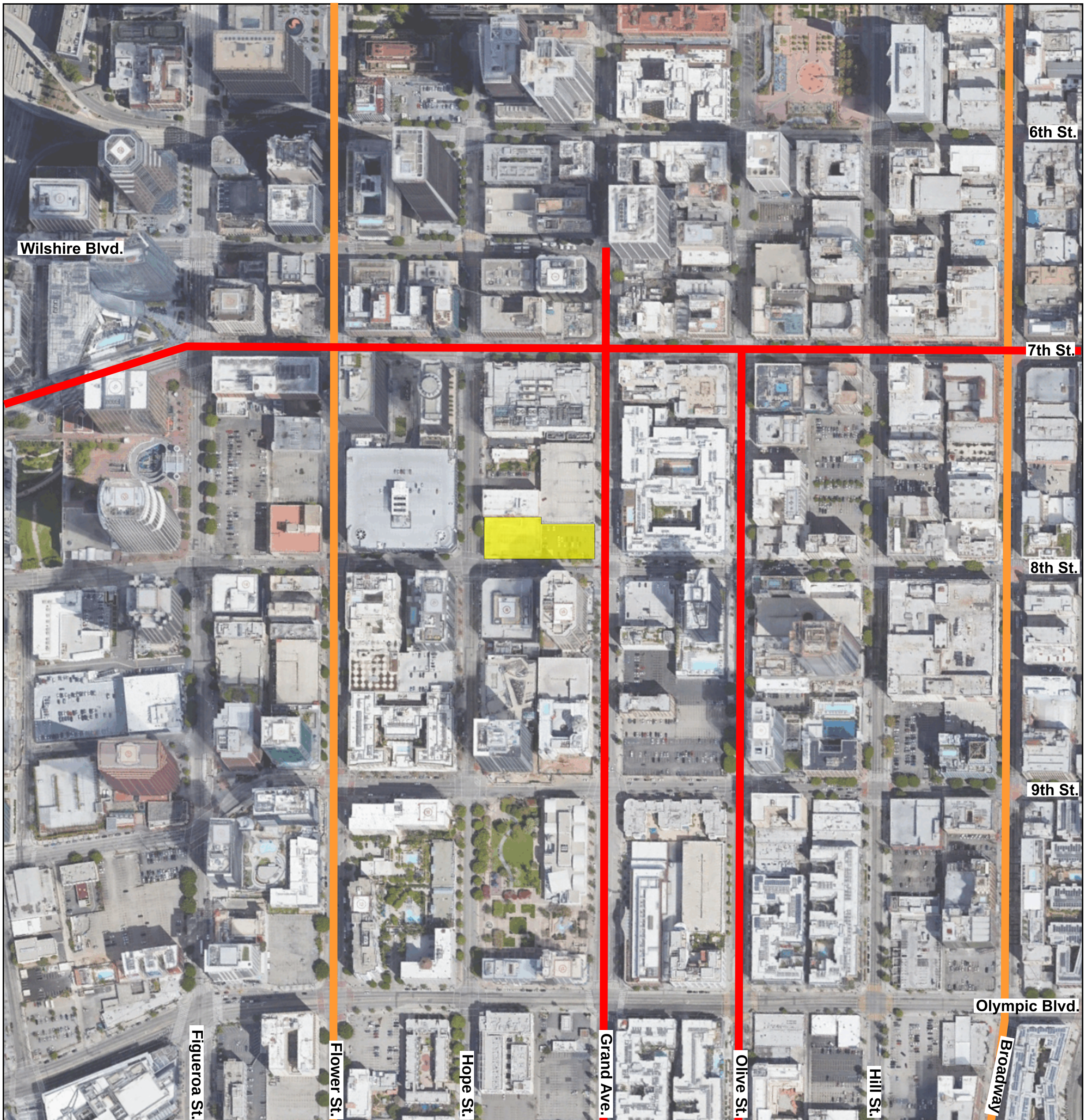
N

Not to Scale
01/04/20

Figure 1.5
Existing Bicycle Facilities

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions



Legend

- Project Site
- Existing Bicycle Lane
- Tier 3 Bicycle Lane (Mobility Plan 2035)

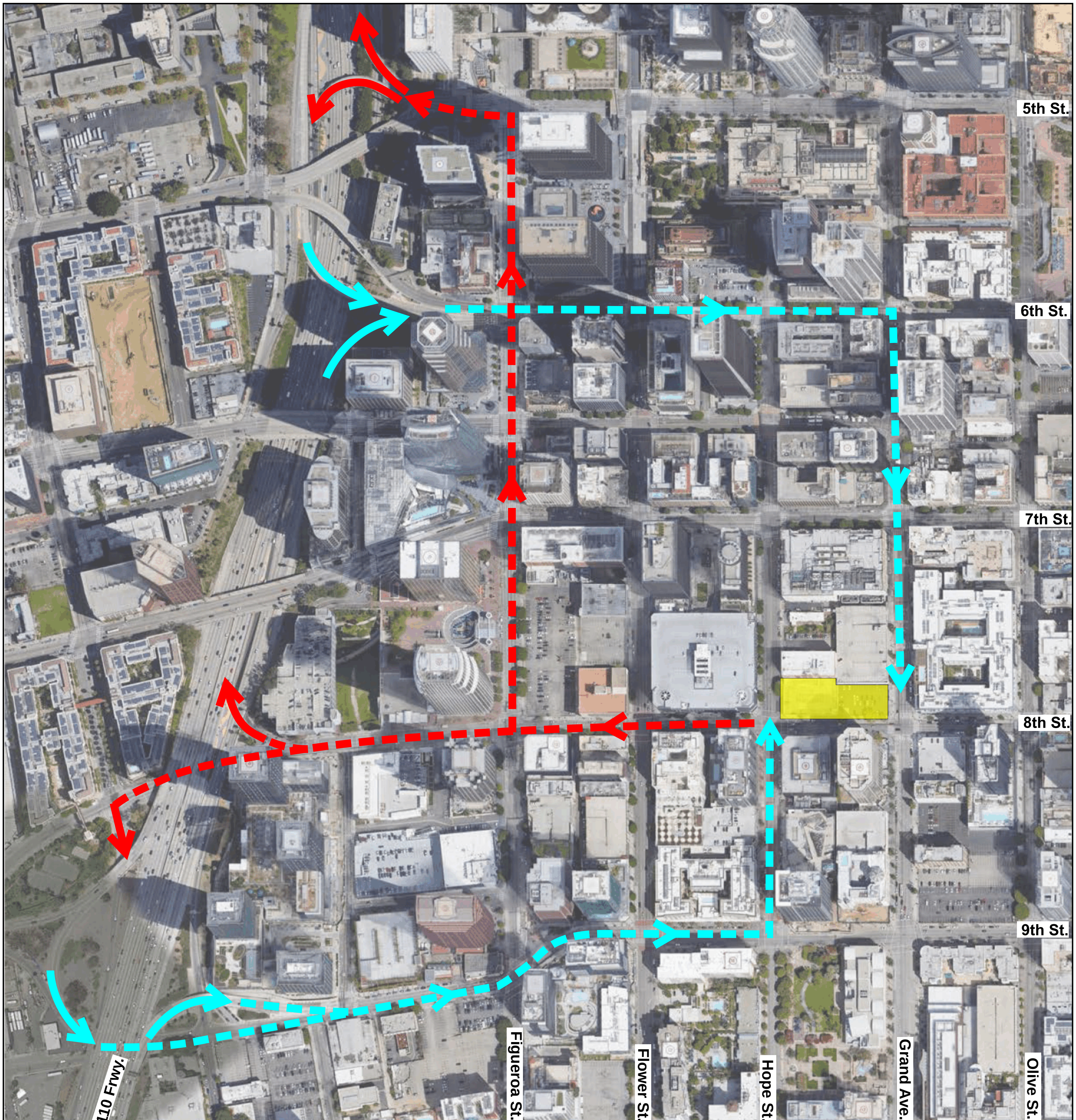
N

Not to Scale
1/23/20

Figure 1.6
Designated Bicycle Facilities

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions



Legend

Project Site	
Freeway On-Ramp (Outbound)	Route to Freeway Ramp (Outbound)
Freeway Off-Ramp (Inbound)	Route from Freeway Ramp (Inbound)

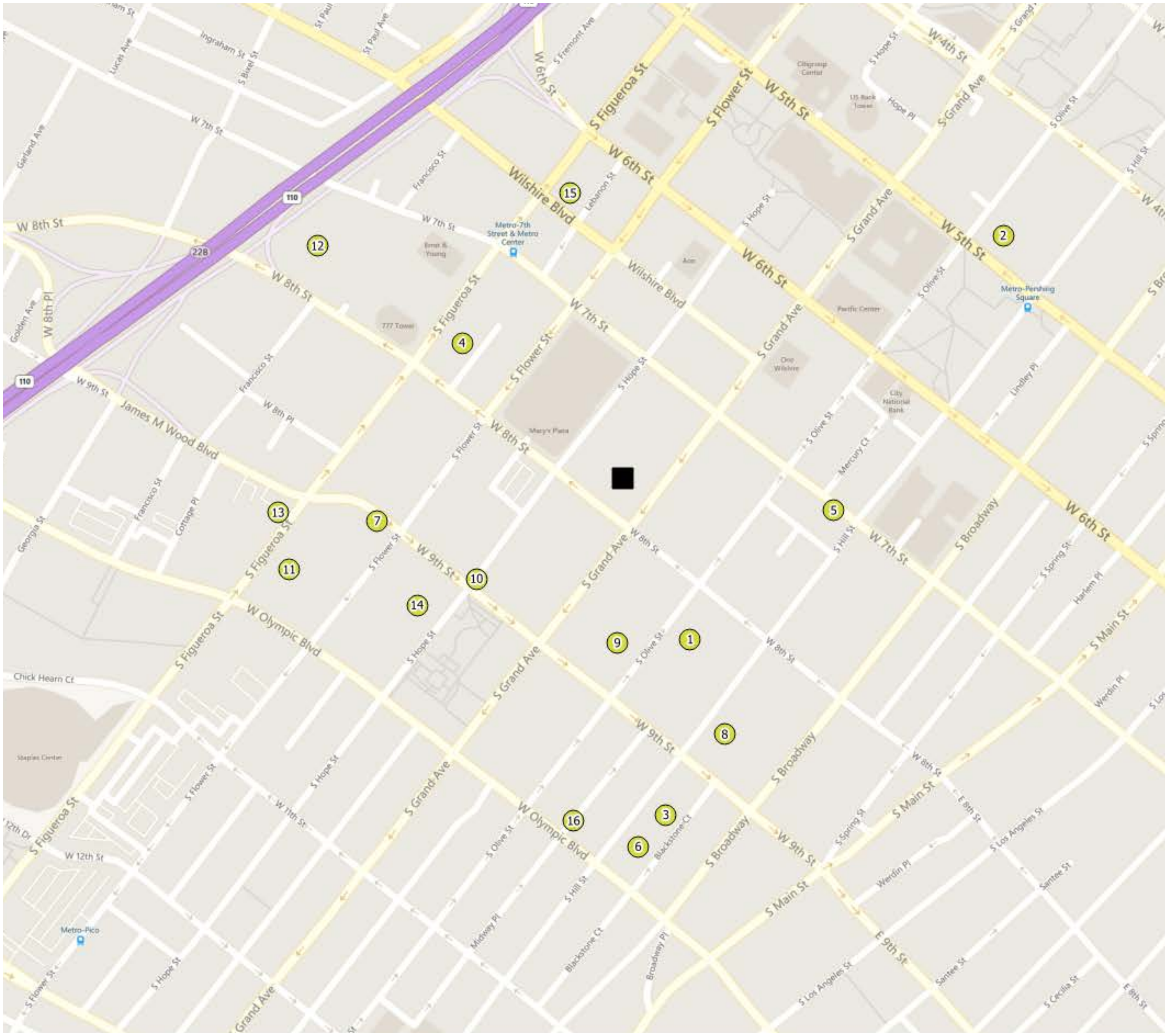
N

Not to Scale
1/23/20

Figure 1.7
Freeway Ramps in Vicinity of Proposed Project

8th Grand & Hope Project

The Mobility Group
Transportation Strategies & Solutions



■ Project Site

N

Not to Scale

Figure 1.8
Location of Related Projects

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions

Table 1.1 - Roadway Characteristics **12/18/2019**

Street	Segment	Direction of Flow	Number of Lanes[1,2]	Peak Period Tow-Away Lane	Bus Only Lane	Bicycle Lane
Figueroa	6th to Wilshire	Northbound	5 (6)	Yes	Yes	Yes
	Wilshire to 7th	Northbound	5	No	Yes	Yes
	7th to 8th	Northbound	4	No	Yes	Yes
	8th to 9th	Northbound	3 (4)	Yes	Yes	Yes
Flower	6th to 7th	Southbound	4	No	No	No
	7th to 8th	Southbound	4 (5)	Yes	No	No
	8th to Olympic	Southbound	4	No	No	No
Hope	6th to Olympic	Northbound	2	No	No	No
		Southbound	2	No	No	No
Grand	6th to Wilshire	Southbound	3 (4)	Yes	No	No
	Wilshire to 7th	Southbound	4	No	No	Yes
	7th to 8th	Southbound	3	No	No	Yes
	8th to 9th	Southbound	3 (4)	Yes	No	Yes
	9th to Olympic	Southbound	4	No	No	Yes
Olive	6th to 7th	Northbound	4	No	No	No
	7th to Olympic	Northbound	3	No	No	Yes
Hill	7th to 9th	Northbound	2	No	No	No
		Southbound	2	No	No	No
Broadway	7th to 9th	Northbound	2	No	No	No (Sharrow)
		Southbound	1	No	No	No (Sharrow)
6th	Flower to Hope	Eastbound	4	No	No	No
	Hope to Grand	Eastbound	5	No	No	No
	Grand to Olive	Eastbound	3 (4)	Yes	No	No
Wilshire	Figueroa to Grand	Eastbound	2	No	No	No
		Westbound	2	No	No	No
7th	Fransisco to Grand	Eastbound	1	No	No	Yes
		Westbound	2	No	No	Yes
	Grand to Broadway	Eastbound	1	No	No	Yes
		Westbound	1	No	No	Yes
8th	Fransico to Hope	Westbound	4	No	No	No
	Hope to Hill	Westbound	3	No	No	No
	Hill to Broadway	Westbound	3 (4)	Yes	No	No
9th	Figueroa to Grand	Eastbound	4	No	No	No
	Grand to Broadway	Eastbound	3	No	No	No
Olympic	Flower to Hope	Eastbound	2	No	No	No
		Westbound	2	No	No	No
	Hope to Grand	Eastbound	2	No	No	No
		Westbound	3	No	No	No
	Grand to Olive	Eastbound	2	No	No	No
		Westbound	2	No	No	No

Notes:

1. Indicates number of lanes at mid-block.

2. Number in parenthesis indicates the number of lanes with peak period parking restriction.

Table 1.2 Transit Service Characteristics 12/19/2019

Route	Description	Approximate Headway (minutes)	
		AM Peak	PM Peak
<u>Metro Rail Lines</u>			
Blue Line	Long Beach Transit Mall - 7th Street / Metro Center	6	6
Red/Purple Line	Downtown Los Angeles - North Hollywood	5	5
Expo Line	Downtown Los Angeles - Santa Monica	12	12
Silver Line	San Pedro - El Monte	4	5
<u>Metro Express Bus Line</u>			
442	Downtown Los Angeles - Hawthorne	60	60
460	Downtown Los Angeles - Anaheim	24	30
487 / 489	Downtown Los Angeles - El Monte	20	20
<u>Metro Rapid</u>			
760	Lynwood - Downtown Los Angels	15	15
770	Los Angeles - El Monte	15	15
<u>Metro Local</u>			
20	Santa Monica - Los Angeles	11	12
37	Los Angeles - Downtown Los Angeles	15	15
51/52/352	Compton - Wilshire Center	6	5
60	Compton - Downtown Los Angeles	9	6
66	Downtown Los Angeles - Montebello	8	7
70	Los Angeles - El Monte	15	15
71	Los Angeles - Cal State LA Station	20	30
76	Downtown Los Angeles - El Monte	15	15
78/79/378	Downtown Los Angeles - Arcadia	12	10
81	Downtown Los Angeles - Eagle Rock	9	12
96	Downtown Los Angeles - Burbank		
<u>LADOT - DASH</u>			
Dash B	Chinatown - Financial District	8	8
Dash E	City West - Fashion District	5	5
Dash F	Fashion District - Exposition Parkm USC	10	10

Table 1.2 Transit Service Characteristics

12/19/2019

Route	Description	Approximate Headway (minutes)	
		AM Peak	PM Peak
Orange County Transportation Authority			
OC 701	Huntington Beach - Los Angeles	60	60
OC 721	Fullerton - Los Angeles	60	60
Foothill Transit			
FT 493	Downtown Los Angeles - Diamond Bar	12	12
FT 495	Downtown Los Angeles - Industry Park & Ride	30	20
FT 496	Downtown Los Angeles - Azusa , West Covina	30	30
FT 497	Downtown Los Angeles - Chino Park & Ride, Industry Park & Ride	15	12
FT 498	Downtown Los Angeles - Azusa , West Covina	10	8
FT 499	Downtown Los Angeles - San Dimas Park & Ride	12	15
FT 699	Downtown Los Angeles - Montclair, Fairplex Park & Ride	NA	9
FT SS	Silver Streak - Montclai tp Los Angeles	15	15
Commuter Express			
CE 409	Downtown Los Angeles - Foothill & Glonoaks	20	15
CE 419	Downtown Los Angeles - Chatsworth	20	20
CE 431	Downtown Los Angeles - Westwood	30	30
CE 437	Downtown Los Angeles - Culver City	30	30
CE 438	Downtown Los Angeles - Redondo Beach	12	10
CE 448	Downtown Los Angeles - Rancho Palos Verdes	30	30
CE 534	Downtown Los Angeles - West Los Angeles	60	30
Big Blue Bus			
R10	Downtown Santa Monica to Downtown Los Angeles	20	20

Table 1.3 8th Grand & Hope Project - Related Project List

11/15/2019

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	820 S Olive St. 825 S Hill St.	589 DU 4,500 sf	Apartments Retail	3,309	63	202	265	195	106	301
2	Park/Fifth Project	427 W 5th	615 DU 16,968 sf	Apartments Commericial	3,167	43	115	158	165	98	263
3	Hill Mixed	920 S Hill	239 DU 4 DU 5,671 sf	Apartments Condominium Commercial	1,504	23	86	109	88	51	139
4	8th & Figueroa MU	744 S Figueroa St	438 DU 3,750 sf 3,750 sf	Apartments Commercial/Retail Restaurant	2,644	37	146	183	158	86	244
5	Foreman and Clark Building	400,402 W 7th St. 701, 715 S. Hill St	165 DU 11,902 sf 14,032 sf	Apartments Bar Restaurant	2,792	18	57	75	132	127	259
6	Hill Mixed	940 S Hill	232 D.U 14,000 sf	Apartments Retail	1,881	20	80	100	115	53	168
7	Apex Phase II	700 W 9th St.	341 DU 11,687 sf	Condominiums Retail	1,365	20	77	97	72	48	120
8	Alexan South Broadway	850 S Hill St.	305 DU 3,500 sf 3,499 sf	Apartments Restaurant Retail	1,998	29	108	137	117	67	184
9	845 S Olive & 842 Grand MU	845 S Olive	208 DU 810 sf 1,620 sf	Apartments Retail Other	1,305	25	76	101	77	42	119
10	888 S Hope St	888 S Hope St	526 DU	Apartments	3,498	54	214	268	212	114	326
11	Variety Arts Project	940 S Figueroa St	1,942 Seats 10,056 sf 5,119 sf	Theater Restaurant Bar	2,237	5	4	9	99	35	134
12	Mixed-Use	945 W 8th St	781 DU 6,700 sf	Condominiums Retail	2,869	63	146	209	144	91	235
13	Figueroa Centre	911 S Figueroa St.	200 DU 220 Rooms 29,080 sf 20,000 sf 15,000 sf 200 Stud 48,000 sf	Condominiums Hotel Retail Restaurant Office Private School Meeting Rooms	4,457	370	116	486	168	368	536
14	949 S Hope St MU	949 S Hope St	236 DU 10,010 sf	Apartment Restaurant	947	8	46	54	52	8	60

Table 1.3 8th Grand & Hope Project - Related Project List

11/15/2019

Project ID	Project Name	Location/Address	Project Description		Daily Trips	AM Peak Hour			PM Peak Hour		
15	Drugstore	835 W Wilshire Blvd.	11,345 sf	Drugstore	1,022	21	12	33	48	49	97
16	Mixed-Use	321 W Olympic Blvd.	263 DU 14,500 sf	Apartments Commercial	2,368	36	112	148	132	85	217
		Total			**37,363**	**835**	**1,597**	**2,432**	**1,974**	**1,428**	**3,402**

2. CEQA Analysis of Transportation Impacts

Introduction

This chapter documents the analysis of CEQA transportation impacts. It addresses the four thresholds defined in the Transportation Assessment Guidelines (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 Project with plan, programs, ordinances, and policies related to the circulation system.

Screening Criteria

For any project requiring a discretionary action, the TAG provides that an affirmative answer to any of the following screening questions triggers a need to assess whether the project would negatively affect existing pedestrian, bicycle, or transit facilities. The following are the screening questions and responses to those questions:

- *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 vehicle miles traveled (VMT) Calculator is shown in Section 2.2. The Project results in a net increase of 1,500 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 is required to make required modifications to the public right-of-way.

- *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 Site is approximately 0.8 acres in total gross area. Additionally, the Project Site has approximately 340 feet of frontage along the 8th Street, which is designated as a Modified Avenue II under City's General Plan.

As the 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.

The Project was evaluated against the City documents listed in Table 2.1.1 of the TAG. This evaluation is described below. Table 2.1.2 of the TAG identifies questions to assist in the evaluation. These questions were all reviewed and the responses for the Project are included in Table 2.1 of this report.

1. City of Los Angeles General Plan Framework Element, Transportation Element, and Mobility Plan 2035

The City of Los Angeles General Plan Framework Element (Framework Element) sets forth general guidance regarding land use issues for the entire City of Los Angeles (City) and defines citywide policies regarding land use. The goals, objectives, policies, and related implementation programs of the Framework Element's Transportation Chapter are set forth in the Transportation Element of the General Plan (Transportation Element) adopted by the City in September 1999.

In August 2015, the City Council initially adopted Mobility Plan 2035 (Mobility Plan), which is an update to the Transportation Element. The City Council has adopted several amendments to the Mobility Plan since its adoption, including the most recent amendment on September 7, 2016.[8] The Mobility Plan incorporates "complete streets" principles and lays the policy foundation for how the City's residents interact with their streets. The Mobility Plan includes five main goals that define the City's high-level mobility priorities:

(1) Safety First;
(2) World Class Infrastructure;

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[8] Los Angeles Department of City Planning, Mobility Plan 2035: An Element of the General Plan, approved by City Planning Commission on June 23, 2016 and adopted by City Council on September 7, 2016.

(3) Access for All Angelenos;
(4) Collaboration, Communication, and Informed Choices; and
(5) Clean Environments and Healthy Communities.

Each of the goals contains objectives and policies to support the achievement of those goals. Accordingly, the goals of the Transportation Chapter of the Framework Element are now implemented through the Mobility Plan.

Street classifications are designated in the Transportation Element. The Mobility Plan has modified the street standards contained in the Transportation Element in an effort to create a better balance between traffic flow and other important street functions, including transit routes and stops, pedestrian environments, bicycle routes, building design and site access, etc. Roadways are defined as follows in the Mobility Plan:

- <u>Freeways</u>—High-volume, high-speed roadways with limited access provided by interchanges that carry regional traffic through and do not provide local access to adjacent land uses.
- <u>Arterial Streets</u>—Major streets that serve through traffic and provide access to major commercial activity centers. Arterials are divided into two categories:
  - <u>Boulevards represent the widest streets that typically provide regional</u> access to major destinations and include two categories:
    - <u>Boulevard I</u> provide up to four travel lanes in each direction with a target operating speed of 40 miles per hour (mph).
    - <u>Boulevard II</u> provide up to three travel lanes in each direction with a target operating speed of 35 mph.
  - <u>Avenues pass through both residential and commercial areas and include three categories:</u>
    - <u>Avenue I</u> provide up to two travel lanes in each direction with a target operating speed of 35 mph.
    - <u>Avenue II</u> provide up to two travel lanes in each direction with a target operating speed of 30 mph.
    - <u>Avenue III</u> provide up to two travel lanes in each direction with a target operating speed of 25 mph.
- <u>Collector Streets</u>—Generally located in residential neighborhoods and provide access to and from arterial streets for local traffic and are not intended for cut-through traffic. Collector Streets provide one travel lane in each direction with a target operating speed of 25 mph.
- <u>Local Streets</u>—Intended to accommodate lower volumes of vehicle traffic and provide parking on both sides of the street. Local Streets provide one travel lane in each direction with a target operating speed of 15 to 20 mph. Local streets can be:
  - Continuous local streets that connect to other streets at both ends, and/or
  - Non-Continuous local streets that lead to a dead-end.

The Mobility Plan also includes the Transit Enhanced Network, Pedestrian Enhanced Districts, and the Bicycle Enhanced Network. The Transit Enhanced Network is a network of streets prioritized for transit with the accompanying objective of ensuring 90 percent of households have access within one mile of the network by 2035. The Mobility Plan proposes to design and implement by 2035 Pedestrian Enhanced Districts within the City's diverse neighborhoods and regional centers around schools, parks, community and regional gathering destinations, and employment centers with a prioritization of census tracts designated as disadvantaged communities and the highest concentration of pedestrian fatalities and severe injuries. The Bicycle Enhanced Network is comprised of protected bicycle lanes and bicycle paths to provide bikeways for a variety of users with the goal of providing a low-stress network and higher level of comfort than traditional striped bicycle lanes.

Threshold : ***Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?***

The Project Site is specifically bounded by two parking structures to the north, 8th Street to the south, Grand Avenue to the east, and Hope Street to the west. Based on the Mobility Plan, 8th Street, Grand Avenue, and Hope Street are designated as Avenue II roadways.

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

While this is a citywide policy, the Project would support its implementation. Specifically, one of the primary objectives of the Project is to create a street-level identity for the Project Site and improve the pedestrian experience through the introduction of active street adjacent uses. Streetscape amenities provided by the Project would include a row of street trees along 8th Street, Hope Street, and Grand Avenue as well as pedestrian-scale lighting fixtures and elements. Vehicular access to the Project Site for residents would be provided on Hope Street and Grand Avenue. Service, delivery, and trash collecting vehicles would access the Project Site from Hope Street and would exit on Grand Avenue. An on-site porte-cochere would be located in the center of the site for pick-up and drop-off, as shown in Figure 0.2. Visitors, taxis, and rideshare vehicles would access the site from either Hope Street or Grand Avenue to the porte-cochere and exit the site via Grand Avenue. As such, vehicular loading and drop-off would occur within the building's parking structure. Therefore, the Project would not conflict with Mobility Plan Policy 2.3.

Mobility Plan Policy 2.4 Neighborhood Enhanced Network—Provide a slow speed network of locally serving streets.

While this is a citywide policy, the Project would not conflict with its implementation. Hope Street is designated as a Neighborhood Enhanced Network by the Mobility Plan.[9] The Project would not modify Hope Street. Therefore, the Project would not conflict with Mobility Plan Policy 2.4.

Mobility Plan Policy 2.5 Transit Network—Improve the performance and reliability of existing and future bus service.

While this is a citywide policy, the Project would not conflict with its implementation. The Project Site is not immediately adjacent to any Transit Enhanced Streets.[10] Furthermore, in 2008, Los Angeles County voters approved Measure R, a half-cent sales tax increase to finance new transportation projects and accelerate projects already in progress and an additional half-cent sales tax increase to fund transportation projects through Measure M in 2016. As such, the Project's net increase in transit trips would be partially offset by improvements to transit service in the Study Area. There is also substantial existing transit capacity in the Study Area comprising both rail and bus lines, and seven local and regional transit operators (see Section 1.2 of this report). Accordingly, the Project would not cause the capacity of the transit system to be substantially exceeded and the Project would not conflict with Mobility Plan Policy 2.5.

Mobility Plan Policy 2.6 Bicycle Networks—Provide safe, convenient, and comfortable local and regional bicycling facilities for people of all types and abilities.

While this is a citywide policy, the Project would support its implementation. The existing bicycle system in the Study Area consists of a limited coverage of bicycle lanes (Class II) and bicycle routes (Class III). There are currently Tier 1 protected bike lanes on Figueroa Street, 7th Street, Grand Avenue, and Olive Street as part of the Bicycle Enhance Network (a network of protected bicycle lanes and bicycle paths that provide a higher level of comfort for a variety of users).[11] In addition, as part of the Bicycle Lane Network (a network of arterial roadways that will receive striping treatments to prioritize bicyclists), Tier 3 Bicycle Lanes are proposed on Flower Street and Broadway. Furthermore, Project visitors, patrons, and employees arriving by bicycle would have the same access opportunities as pedestrian visitors. Bicycle parking requirements per LAMC Section 12.21.A.16 include short-term and long-term parking. The Project would comply with the LAMC and would provide 26 short-term and 224 long-term bicycle parking spaces Short-term bicycle parking would be available on the ground floor, and long-term bicycle parking would be enclosed from inclement

9 LADOT Livable Streets, Maps, Neighborhoods, Networks, and Zones, Mobility Plan 2035: Neighborhood Enhanced Network, https://ladotlivablestreets.org/overall-map/maps, accessed December 5, 2019.

10 LADOT Livable Streets, Maps, Neighborhoods, Networks, and Zones, Mobility Plan 2035: Transit Enhanced Network, https://ladotlivablestreets.org/overall-map/maps, accessed December 5, 2019.

11 LADOT Livable Streets, Maps, Neighborhoods, Networks, and Zones, Mobility Plan 2035: Bicycle Path Network and Bicycle Network, https://ladotlivablestreets.org/overall-map/maps, accessed December 5, 2019.

weather and secured from the general public. Therefore, the Project would not conflict with Mobility Plan Policy 2.6.

Mobility Plan Policy 2.7 Vehicle Network—Provide vehicular access to the regional freeway system.

This is a citywide policy that does not apply to the Project because no changes related to vehicular access to the regional freeway system are proposed as part of the Project. Primary regional access to the Project Site is provided by State Route 110 (SR-110 or Harbor Freeway), which runs north-south approximately 0.3 mile west of the Project Site. Major arterials providing regional access to the Project vicinity include Grand Avenue, Figueroa Street, and Olympic Boulevard. Therefore, the Project would not conflict with Mobility Plan Policy 2.7.

Mobility Plan Policy 2.17 Street Widenings.

This citywide policy states that " . .*the overall implications (costs, character, safety, infrastructure, environment) of widening a street should be considered before requiring the widening* . . ". It further states that ". . *there are situations where widening the roadway width to the standard dimension could change the character of the street in an undesirable way, prove unnecessarily expensive relative to the resulting benefits, or result in other adverse changes. The Planning Director will resolve any ambiguity with respect to whether any particular street shall be widened"*.

The street standards required in the Mobility Plan 2035 and the Downtown Street Standards are detailed in Table 2.1. Item 1. The Project will be in compliance with the street standards for Grand Avenue and Hope Street. On 8th Street, the Project is proposing to not widen the street by 10' to required standards, and requests a 2' waiver of dedication and improvements on the west side of 8th Street and a 10' waiver of dedication and improvements on the east side of 8th Street, to maintain the 23' half-roadway and provide for the 12' required sidewalk. LADOT has determined[12] that the required street widening would not be necessary as the required street widening will not enhance the existing circulation system and there will be no loss in the standard sidewalk width, and has recommended waiving the widening.

For 8th Street, the Project would not be in compliance with the requirements of the Mobility Plan 2035 and the Downtown Street Standards, as it would seek a waiver of dedication and improvements of 2' on the west side and 10' on the east side of 8th Street. The Project's request for a waiver of dedication and improvements, would however be consistent with Mobility Plan 2035 Policy 2.17.

[12] LADOT email, February 11, 2020. See Appendix D.

2. Los Angeles General Plan Health and Wellness Element—Plan for a Healthy Los Angeles

The Plan for a Healthy Los Angeles is the Health and Wellness Element of the General Plan. Adopted in March 2015, the Plan for a Healthy Los Angeles provides high-level policy vision, along with measurable objectives and implementation programs, to elevate health as a priority for the City's future growth and development. The Plan for a Healthy Los Angeles accomplishes two policy objectives: (1) elevates existing health-oriented policies in the General Plan; and, where policy gaps exist, (2) creates new policies to reinforce the City's goal of creating healthy, vibrant communities. While the Plan for a Healthy Los Angeles identifies seven primary goals and provides new policies and programs that serve as the implementation blueprint for creating healthier neighborhoods, the goals that consider the effects of transportation include the following:

A City Built for Health: Use design, construction, and public services to promote the physical, mental, and social well-being of its residents and make it easier for people to shop, buy fresh produce, visit a doctor, have meaningful social interactions, breathe cleaner air, and live and age in their community, across income levels and physical abilities;

- An Environment Where Life Thrives: Provide a healthy environment, where residents are less susceptible to health concerns related to poor air quality and increased exposure to environmental hazards and toxins.

The Plan for a Healthy Los Angeles envisions a healthy Los Angeles to be one that includes a balanced, multi-modal, and sustainable transportation system that offers safe and efficient options for all users.

Threshold : ***Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?***

The Project is also located in an area well-served by a variety of public transit options. The Project Site is transit accessible and is close to many bus transit lines, rail lines, and local shuttle service. Specifically, the Project Site is located approximately two blocks away from the Los Angeles County Metropolitan Transportation Authority's (Metro's) 7th/Metro Center Metro Rail station, which contains the Metro Red, Purple, Blue, and Expo Lines and is considered a hub of the regional rail network, connecting passengers to Pasadena, East Los Angeles, Long Beach, Culver City, Santa Monica, Hollywood, Korea Town, and North Hollywood. Metro also operates six Rapid bus lines, three Express lines and 28 Local lines in the Project area. Additional transit lines include nine LADOT Commuter Express lines, five LADOT DASH bus lines, eight Foothill Transit bus lines, two Orange County Transportation Authority bus lines, one Santa Monica Big Blue Bus line, and one Torrance Bus line. These bus lines connect passengers to the Project Site from various locations across the City and throughout Los Angeles County. Additionally, the Project Site is within walking distance of thousands of jobs in the Downtown area.

Furthermore, the Project would provide 251 bicycle parking spaces for the proposed residential and commercial uses. The mixed-use nature of the Project and resulting reduction in vehicle miles traveled, as well as the proposed trees and landscaping, would also help to reduce negative health impacts associated with the Project Site's proximity to freeways. Other elements aimed at reducing health-related impacts, such as environmentally-friendly paints and recycled finish materials, would also be incorporated into the Project.

Additionally, the Project would incorporate elements that would promote individual and community safety. The Project would include numerous operational design features to enhance safety within, and immediately surrounding, the Project Site, including a 24-hour/seven-day security plan; sufficient lighting of buildings and walkways as well as parking areas, elevators, and lobbies; and entrances, spaces around buildings, and pedestrian walkways that are designed to be open and visible from surrounding sites. Therefore, the Project would not conflict with the applicable goals and objectives set forth in the Health and Wellness Element.

3. Central City Community Plan

The Project Site is located within the Central City Community Plan area. Last updated in 2003, the Central City Community Plan is one of 35 community and district plans established for different areas of the City to implement the policies of the Framework Element. The Central City Community Plan identifies and provides for economic opportunities and for the maintenance of significant environmental resources within the community. It also seeks to enhance the distinctive community identity and recognize and promote the unique character of neighborhoods within the Central City Community Plan.

The Central City Community Plan sets forth planning goals and objectives to maintain the community's distinctive character by:

- Creating residential neighborhoods; while providing a variety of housing opportunities with compatible new housing;
- Improving the function, design and economic vitality of the commercial districts;
- Preserving and enhancing the positive characteristics of existing uses which provide the foundation for community identity, such as scale, height, bulk, setbacks and appearance;
- Maximizing the development opportunities of the future rail transit systems while minimizing adverse impacts; and
- Planning the remaining commercial and industrial development opportunity sites for needed job producing uses that improve the economic and physical condition of the Central City Community.

- Objective 11-7: To provide sufficient parking to satisfy short-term retail/business users and visitors but still find ways to encourage long-term office commuters to use alternate modes of access.

The Community Plan's land use designation for the Project Site is Regional Center Commercial.

The City of Los Angeles Department of City Planning is currently updating the Central City North Community Plan and the Central City Community Plan, whose areas together make up Downtown Los Angeles (sometimes known as DTLA), in a combined planning process referred to as the DTLA 2040 Plan. The purpose of the DTLA 2040 Plan is to develop and implement a future vision for Downtown Los Angeles that supports and sustains ongoing revitalization while thoughtfully accommodating projected future growth.[13] Specifically, the following core principles represent the long-term priorities for the DTLA 2040 Plan:[14]

- Accommodate anticipated growth through 2040 in an inclusive, equitable, sustainable, and healthy manner while supporting and sustaining Downtown's ongoing revitalization
- Reinforce Downtown's jobs orientation
- Grow and support the residential base
- Strengthen neighborhood character
- Promote a transit, bicycle, and pedestrian friendly environment
- Create linkages between districts
- Create a World-Class Streets and Public Realm

According to the DTLA 2040 Plan Draft, the Project Site would be located within the Transit Core,[15] which would allow a maximum floor area ratio (FAR) of between 10:1 and 13:1, with general uses that include multi-family residential, regional retail and services, office, hotel, and entertainment uses.[16] The DTLA 2040 Plan Draft describes the Transit Core area as follows:[17]

Transit Core areas are dense centers of activity built around regional transit hubs that provide easy access for pedestrians, transit users, and cyclists to a variety of experiences and

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13 City of Los Angeles, Downtown Los Angeles Community Plan Update, DTLA 2040, www.dtla2040.org, accessed December 5, 2019.

14 City of Los Angeles, Downtown Los Angeles Community Plan Update, DTLA 2040, www.dtla2040.org, accessed December 5, 2019.

15 City of Los Angeles, DTLA 2040 Draft Downtown Community Plan Land Use Designation Map, https://ladcp.maps.arcgis.com/apps/MapJournal/index.html?appid=2a05d2914ad94727a6f6c7ef2d3fc5ed, accessed December 5, 2019.

16 City of Los Angeles, Downtown Community Plan Update, June 2019 Draft.

17 City of Los Angeles, Downtown Community Plan Update, June 2019 Draft.

activities. These places provide a high-energy urban experience, with towers activated by ground-floor retail that engages and invites pedestrians. Buildings have high-quality design and provide visual interest. Enhanced streetscapes, paseos, and alleys create a seamless network of walkable paths that balance the high-intensity built environment. A diverse mix of office, residential, retail, cultural, and entertainment uses makes these places centers of activity around the clock.

The DTLA 2040 Plan will inform property owners of allowable development options, densities, and intensities, outline strategies for how to accommodate planned growth, and bring the Central City Community Plan up-to-date as an improved planning tool. The DTLA 2040 Plan process began in 2014, and a public scoping meeting was held in February 2017 to collect comments from agencies and the public. In July 2019, City Planning shared key portions of the preliminary DTLA2040 Plan document, including the goals, policies, programs, the Land Use Map, and the Community Benefits Program Summary. In October 2019, City Planning released the proposed zones and zoning map and announced a series of open houses in November. In the coming months, City Planning will be soliciting feedback on and further refining the draft components. City Planning anticipates that it will circulate the Plan's Draft Environmental Impact Report in 2020. A public comment period and a public hearing will follow.

Threshold : ***Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?***

The Project would be consistent with the applicable objectives and policies that support the goals of the Central City Community Plan related to transportation and circulation.

Objective 11-4: To take advantage of the district's easy access to two mass transit rail lines, the freeway system, and major boulevards that connect Downtown to the region.

The Project is located in an area well-served by a variety of public transit options and is close to many bus transit lines, rail lines, and local shuttle services. Specifically, the Project Site is located approximately two blocks away from the Los Angeles County Metropolitan Transportation Authority's (Metro's) 7th/Metro Center Metro Rail station, which contains the Metro Red, Purple, Blue, and Expo Lines and is considered a hub of the regional rail network, connecting passengers to Pasadena, East Los Angeles, Long Beach, Culver City, Santa Monica, Hollywood, Korea Town, and North Hollywood. Metro also operates six Rapid bus lines, three Express lines and 28 Local lines in the Project area. Additional transit lines include nine LADOT Commuter Express lines, five LADOT DASH bus lines, eight Foothill Transit bus lines, two Orange County Transportation Authority bus lines, one Santa Monica Big Blue Bus line, and one Torrance Bus line. These bus lines connect passengers to the Project Site from various locations across the City and throughout Los Angeles County.

Additionally, the Project Site is within walking distance of thousands of jobs in the Downtown area. Therefore, the Project would be consistent with this objective.

Objective 11-6: To accommodate pedestrian open space and usage in Central City.

Policy 11-6.1: Preserve and enhance Central City's primary pedestrian-oriented streets and sidewalks and create a framework for the provision of additional pedestrian friendly streets and sidewalks which complement the unique qualities and character of the communities in Central City.

To maintain and promote a safe environment, the Project would incorporate elements that would promote individual and community safety. The Project would include a closed circuit security camera system, lighting of building entries and walkways to provide for pedestrian orientation, and sufficient lighting of parking areas, elevators, and lobbies to maximize visibility and reduce areas of concealment. Furthermore, the Project would be designed with entrances/exits, open spaces around buildings, and pedestrian walkways that are open and in view of surrounding sites.

The Project would include street improvements to comply with the requirements of Mobility Plan 2035, with the exception of seeking a waiver of dedication of 2' on the west side and 10' on the east side of 8th Street. The Project would provide required easements and would provide sidewalk widths to meet City standards. The rights-of-way would also be improved with street trees and street furniture to provide a comfortable pedestrian space. Therefore, the Project would provide opportunities to improve Downtown's pedestrian environment, recognizing the various alternative modes of transportation available in the immediate vicinity of the Project Site. As such, the Project would be consistent with this policy.

Objective 11-7: To provide sufficient parking to satisfy short-term retail/business users and visitors but still find ways to encourage long-term office commuters to use alternate modes of access.

Parking would be provided on-site in accordance with LAMC requirements and the City's Bicycle Parking Ordinance. The Project would provide 602 vehicle parking spaces designated for the residential units and 34 covenanted vehicle parking spaces for an adjacent building located at 611 W. 6th Street per covenanted and recorded parking agreements (PKG-4743, PKG-5261, PKG-5248). Furthermore, the Project would provide bicycle parking in accordance with the LAMC and would be located in an area well-served by public transit, which would potentially reduce parking demand. Therefore, the Project would be consistent with this objective.

4. Specific Plans

Based on the City of Los Angeles Zone Information and Map Access System, the Project Site is not located within a Specific Plan Area.

5. LAMC Section 12.21.A.16 (Bicycle Parking)

LAMC Section 12.21.A.16 provides bicycle parking facility requirements for short-term, and long-term bicycle parking. Furthermore, LAMC Section 12.21 A.16. provides design standards requirements in regard of dimensions, siting requirements, lighting, and signage.

The required bicycle parking spaces for residential buildings with more than 200 dwelling units is 1 space per 40 units for short-term bicycle parking, and 1 space per 4 units long-term bicycle parking.

The required bicycle parking spaces for retail and restaurant uses is 1 space per 2,000 sq. ft. for both short-term and long-term bicycle parking, with a minimum of two short-term and two long-term bicycle parking spaces.

Where there is a combination of uses on a lot, the number of bicycle parking spaces required is the sum of the requirements of the various uses. The exceptions provided in Section 12.21 A.4.(j) for automobile parking also apply to bicycle parking.

When the application of these regulations results in the requirement of a fractional bicycle space, any fraction up to and including one-half may be disregarded, and any fraction over one-half shall be construed as requiring one bicycle parking space.

Threshold : ***Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?***

Per LAMC Section 12.21 A.16 the bicycle parking requirements for the Project are:

Residential	Short Term	23
	Long Term	220
	Total	243
Retail/Restaurant	Short Term	4
	Long Term	4
	Total	8
Total	Short Term	27
	Long Term	224
	Total	251

The Project would provide 27 short-term and 224 long-term bicycle parking spaces for a total of 251 parking spaces, and, therefore, would comply with the LAMC requirements.

6. LAMC Section 12.26J (TDM Ordinance)

This ordinance section covers Traffic Demand Management (TDM) and Trip Reduction Measures and refers to the alteration of travel behavior through programs of incentives, services, and policies. This includes the use of alternatives to single-occupant vehicles such as public transit, cycling, walking, carpooling/vanpooling and changes in work schedule resulting in reduction or elimination (in the case of telecommuting or compressed work weeks) of peak period trips.

This ordinance applies only to the construction of new non-residential gross floor area, and to developments in excess of 25,000 square feet of commercial area. It sets forth requirements for various types of trip reduction measures for developments in excess of 25,000 square feet, 50,000 square feet, and 100,000 square feet.

Threshold : ***Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?***

The Project is a mixed-use residential project with 580 units, with 7,499 square feet of commercial (retail/restaurant space). The Project is therefore not subject to LAMC Section 12.26J (TDM Ordinance), and would not be in conflict with it.

7. LAMC Section 12.37 (Waivers of Dedications and Improvement)

This section of the LAMC requires, for lots abutting a major or seconded highway or collector street, dedication and improvement of one-half of the street which is located on the same side of the street as the project, to meet the full width standards for the roadway. The dedication and improvement standards are based on The Mobility Plan 2035 and the Adopted Downtown Street Standards. Right-of-way and road dimensions discussed below are half widths for the same side as the Project Site. The requirements for the Project are identified below.

Grand Avenue

Per the Mobility Plan 2035 Grand Avenue is a Modified Avenue II and per the Adopted Downtown Street Standards is a Modified 1-Way Major Class II. The Mobility Plan 2035 with the Adopted Downtown Street Standards requires 45 feet right-of-way width, 28 feet roadway width, 17 feet sidewalk width, and 7 feet average sidewalk easement.

Hope Street

Per the Mobility Plan 2035 Hope Street is an Avenue II and per the Adopted Downtown Street Standards is a Modified 2-Way Secondary. The Mobility Plan 2035 with the Adopted Downtown Street Standards requires 43 feet right-of-Way width, 28 feet roadway width, and 15 feet sidewalk width, and 3’ easement.

8th Street

Per the Mobility Plan 2035 8th Street is a Modified Avenue II and per the Adopted Downtown Street Standards is a Modified 1-Way Secondary. The Mobility Plan with the Adopted Downtown Street Standards requires 45 feet right-of-way width, 33 feet roadway width, and 12 feet sidewalk width, and a 5 feet easement.

Threshold : ***Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?***

In addition to the following discussion, consistency is also discussed in Table 2.1 and Figure 2.1.

Grand Avenue

The Project currently meets the 45 feet right-of-way width, 28 feet roadway width, and 17 feet sidewalk width requirements. The Project would provide the required 7' average sidewalk easement, and would be in compliance with the Mobility Plan 2035 and Adopted Downtown Street Standards.

Hope Street

The Project currently meets the 28 feet roadway width, and would dedicate 3 feet to meet the required 43 feet right-of-way and 15 feet sidewalk widths, and would be in compliance with the Mobility Plan 2035 and Adopted Downtown Street Standards.

8th Street

The Project currently meets the required 12' sidewalk width. The current half roadway width is 23' compared to the requirement of 33, and the half right-of-way width 35' compared to the requirement of 45'. The Project would provide the required 5' easement for a 17' sidewalk, but will seek a waiver from the 2' and 10' right-of-way dedication for street widening. The half roadway width would remain 23' rather than the required 33', and the half right-of-way width would be 35'. The requested variance would ensure a wider sidewalk, and would maintain the consistency of the roadway curb line and the number of traffic lanes with the block to the east.

With the exception of the waiver being requested for the 2' and 10' right-of way dedication requirement on 8th Street, the Project would be in compliance with the intent of Mobility Plan 2035 and the Downtown Street Standards street dimensions.

8. Vision Zero Action Plan

LADOT is implementing a program called Vision Zero Los Angeles as a citywide effort to eliminate traffic deaths in the City by 2025. Vision Zero Los Angeles has two goals: a 20-percent 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, which has a higher incidence of severe and fatal collisions. The High Injury Network is comprised of 386 corridors that represent 6 percent of the City's street miles. Approximately 65 percent of all deaths and severe injuries involving people walking and biking occur on these 6 percent of streets. LADOT has identified 8th Street, adjacent to the southern boundary of the Project Site, as a High Injury Network (between Figueroa Street and San Pedro Street). In addition, the following nearby streets within the Study Area have been identified: 7th Street (between Vermont Avenue and Mateo Street); 9th Street (between Figueroa Street and Gladys Avenue); Figueroa Street (between Adams Boulevard and 1st Street); Spring Street (between 1st Street and 9th Street).[18]

Threshold : ***Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?***

As noted above, 8th Street has been identified as a High Injury Network. While no Vision Zero Los Angeles Safety Improvements are currently planned near the Project Site,[19] Project improvements to the pedestrian environment would not preclude future improvements by the City. Therefore, the Project would not conflict with Vision Zero Los Angeles.

9. Vision Zero Corridor Plans

In order to realize the goals and objectives of the Vision Zero Program, LADOT has initiated a number of projects along various street corridors. These projects generally involve improvements to the streets, bicycle facilities, and pedestrian facilities such as installation or upgrading of crosswalks, traffic signals, and bicycle lanes to prevent deaths and severe injuries.

Threshold : ***Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?***

Upon review of current or planned Vision Zero Corridor Plans, it was determined that none of the projects affect any streets adjacent to the Project. However, the Project would not prevent

[18] LADOT Livable Streets, Maps, Neighborhoods, Networks, and Zones, High Injury Networks, https://ladotlivablestreets.org/overall-map/maps, accessed December 5, 2019.

[19] City of Los Angeles, Vision Zero Safety Improvements, http://ladot.maps.arcgis.com/apps/View/index.html?appid=77df605a3eb142c7a0abc1c65bcf4861, accessed August 22, 2019.

the City from implementing a Vision Zero Corridor Plan along streets adjacent to the Project Site in the future. Therefore, the Project would not be in conflict with Vision Zero Corridor Plans.

10. Pedestrian Safety Action Plan (Pending)

Not yet available.

11. Streetscape Plans

The City of Los Angeles Streetscape Plan provides guidelines and standards for both public and private development projects in various areas within the City. The intent of the Streetscape Plan is to provide standards and direction for improvements to the public right-of way that create a pedestrian-friendly environment and enhance the identity of the area. The general objective of a Streetscape plan is to promote a long-term, coordinated program of public and private investment in the pedestrian environment, which includes sidewalks and streets that will enhance the area's role as the focus of community activity. Design considerations for this space include streetscape elements such as landscape, street lighting, public art, street furniture, infrastructure, and signage elements. The Streetscape Plan does not supersede established standards by other City departments.[20] Streetscape Plan areas identified by the City include: Broadway, Canoga Park Commercial Corridor, Century Boulevard, Crenshaw Boulevard, Downtown Canoga Park, Encino, Exposition Corridor/Livable Boulevards, Livable Boulevards, Los Angeles Sports and Entertainment District, Pacoima, Panorama City Center, Reseda Central Business District, Sherman Oaks, Studio City/Cahuenga Pass, Sun Valley, Tarzana, Van Nuys Central Business District, Woodland Hills.

Threshold : ***Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?***

Based on the City of Los Angeles Zone Information and Map Access System, the Project Site is not located within a Streetscape Plan Area.

12. Citywide Design Guidelines

The Citywide Design Guidelines serve to implement the Framework Element's urban design principles and are intended to be used by City of Los Angeles Department of City Planning staff, developers, architects, engineers, and community members in evaluating project applications, along with relevant policies from the Framework Element and Community

[20] City of Los Angeles, Los Angeles GeoHub, Streetscape, http://geohub.lacity.org/datasets/71e6d9ce5a4446f0bbf4c648c5e3e2ca_0/data?geometry=-118.461%2C34.009%2C-118.134%2C34.059&selectedAttribute=NAME, accessed January 20, 2020.

Plans. The Citywide Design Guidelines were updated in October 2019 and include guidelines pertaining to pedestrian-first design which serves to reduce VMT.

Threshold : ***Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?***

Citywide Design Guideline 2 recommends incorporating vehicular access such that it does not discourage and/or inhibit the pedestrian experience.[21] Specifically, Guideline 2 calls for prioritizing pedestrian access first and automobile access second; orienting parking and driveways toward the rear or side of buildings and away from the public right of way; and on corner lots, orienting parking as far from the corner as possible. The Project would prioritize pedestrian access by providing multiple pedestrian access points on Grand Avenue and 8th Street. Similar to existing conditions, the Project would also include driveways for vehicular access on Hope Street and Grand Avenue. The Project would eliminate one existing driveway on Grand Avenue. The Project would also maintain continuity of the existing sidewalks and provide average sidewalk easements, further improving the pedestrian experience. Therefore, the Project would not conflict with Citywide Design Guideline 2.

13. Walkability Checklist

The City of Los Angeles Walkability Checklist Guidance for Entitlement Review (Walkability Checklist) is part of a proactive implementation program for the urban design principles contained in the Urban Form and Neighborhood Design Chapter of the Framework Element. Department of City Planning (DCP) staff use the Walkability Checklist in evaluating a project’s entitlement applications and in making findings of conformance with the policies and objectives of the General Plan and the local community plan. The Walkability Checklist is also intended to be used by architects, engineers, and all community members to create enhanced pedestrian movement, and access, comfort, and safety, thereby contributing to improving the walkability of the City. The City Planning Commission adopted the Walkability Checklist in 2007 and directed that it be applied to all projects seeking discretionary approval for new construction. The final Walkability Checklist was completed in November 2008.[22]

In the field of urban design, walkability is the measure of the overall walking conditions in an area. Different factors have been identified with regard to enhancing walkability in the private versus public realms. Specific factors influencing walkability within the private realm (private areas of projects) include building orientation, building frontages, signage and

[21] Table 2.1-2 of the Transportation Assessment Guidelines specifically references Citywide Design Guidelines 4.1.01 and 4.1.02. However, the Citywide Design Guidelines were updated in October 2019 and these designations no longer apply. Guidelines 4.1.01 and 4.1.02 are now incorporated into Guideline 2.

[22] City of Los Angeles Department of City Planning, Walkability Checklist Guidance for Entitlement Review, November 2008.

lighting, on-site landscaping, and off-street parking and driveways. Contributors influencing walkability within the public realm include sidewalks, crosswalks/street crossings, on-street parking, and utilities. Street connectivity, access to transit, aesthetics, landscaping, and street furniture are additional components that are discussed in the Walkability Checklist as they also influence the pedestrian experience.

As with the design principles included in the Urban Form and Neighborhood Design Chapter of the Framework Element, the guidelines provided in the Walkability Checklist are not appropriate for every project. The primary goal is to consider the applicable guidelines in the design of a project, thereby improving pedestrian access, comfort, and safety in the public realm.

Threshold : ***Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?***

The Walkability Checklist consists of a list of design elements intended to improve the pedestrian environment, protect neighborhood character, and promote high quality urban form. As stated within the Walkability Checklist, while each of the implementation strategies should be considered for a project, not all will be appropriate for every project, and each project will involve a unique approach. The Walkability Checklist is tailored primarily for the new construction of residential and commercial mixed-use projects. The Walkability Checklist addresses the following topics, each of which is discussed further below, as applicable: sidewalks; crosswalks/street crossings; on-street parking; utilities; building orientation; off-street parking and driveways; on-site landscaping; building façade; and building signage and lighting. The Project would incorporate, where applicable, many of the implementation strategies presented in the Walkability Checklist and would implement a number of relevant design elements in order to foster a vibrant and visually appealing pedestrian environment.

Sidewalks

The primary objectives defined for sidewalks address facilitating pedestrian movement and enriching the quality of the public realm by providing appropriate connections and street furnishings in the public right-of-way. The sidewalks that serve as routes to the Project Site provide proper connectivity and adequate widths for a comfortable and safe pedestrian environment. The applicable recommended implementation strategies that would be incorporated into the Project include: (1) creating a buffer between pedestrians and moving vehicles by the use of landscaping; (2) providing adequate sidewalk widths; and (3) incorporating closely planted shade-producing street trees. The Project would not conflict with design strategies identified in the Walkability Checklist related to sidewalks.

Crosswalks/Street Crossings

The Walkability Checklist strategies regarding crosswalks and street crossings do not apply to the Project. All of the signalized intersections in the Project area provide pedestrian phasing, crosswalk striping, and Americans with Disabilities Act wheelchair ramps. Thus, no modification to crosswalks or street crossings would be included as part of the Project.

On-Street Parking

The Walkability Checklist strategies regarding on-street parking do not apply to the Project, as sufficient off-street parking would be provided that would meet the applicable parking requirements of the LAMC. Therefore, the Project would not conflict with design strategies identified in the Walkability Checklist related to on-street parking.

Building Orientation

Within the Walkability Checklist, building orientation addresses the relationship between building and street as a means of improving neighborhood character and the pedestrian environment. Recommended implementation strategies from the Walkability Checklist that would be incorporated into the Project include: (1) grade level entrances from the public right-of-way for pedestrians; (2) primary entrances for pedestrians that are easily accessible from transit stops; (3) primary entrances to buildings that are visible from the street and sidewalk; (4) at least one entrance from the public way at retail establishments with doors unlocked during regular business hours; (6) complying with Americans with Disabilities Act (ADA) guidelines at primary pedestrian entrances; (9) direct access to building entrances from sidewalks and streets; (10) locating buildings at the front property line or at the required setback to create a strong street wall; and (11) architectural features to provide continuity at the street where openings occur due to driveways or other breaks in the sidewalk and building wall. Therefore, the Project would not conflict with design strategies identified in the Walkability Checklist related to building orientation.

Off-Street Parking and Driveways

In terms of off-street parking and driveways, the primary objective of the Walkability Checklist is to ensure pedestrian safety. Strategies that would be incorporated into the Project to ensure pedestrian safety include: (1) maintaining continuity of the sidewalk; (3) creating access to parking from a side street, where possible; (4) accommodating vehicle access to and from the Project Site with as few driveways as possible by reducing the existing curb cuts on the Site from four to two; (5) limiting the width of the two access driveways to the minimum width required; (6) incorporating architectural features on parking structure façades that respond to the neighborhood context and that contribute to "placemaking"; (7) mitigating the impact of parking visible to the street with the use of planting and landscape walls tall enough to screen headlights; (8) illuminating all parking areas and pedestrian walkways; and (9) using architectural features to provide continuity at the street where openings occur due to driveways or other breaks in the sidewalk and building wall. Therefore, the Project would not conflict with design strategies identified in the Walkability Checklist related to off-street parking and driveways.

As such, and based on the implementation of the strategies listed above, the Project would not conflict with relevant aspects of the Walkability Checklist.

14. Urban Mobility in a Digital Age - LADOT Transportation Technology Strategy

Urban Mobility in a Digital Age is a transportation technology strategy designed to build on the success and innovation of the City of Los Angeles and LADOT as a regulator and transportation service provider in a complex and evolving ecosystem of public and private services. It focuses on building a solid data foundation, leveraging technology and design for a better customer experience, creating partnerships for more complimentary shared services, establishing feedback loops for services and infrastructure, and preparing for an automated future. The technology strategy is focused on the following 5 areas.

1. Build a Solid Data Foundation

The technology strategy identifies smart city technology that provides managers with "situational awareness" as a priority investment for LADOT. Managing the existing infrastructure through understanding the underlying data will result in significant cost savings. To accomplish this, policy recommendations include defining what can be shared, adopting privacy principles, and establishing design guidelines for digital infrastructure are set forth. The technology strategy recommends short, medium, and long-term actions including inventory of available data, making data easier to use with data dictionaries, and leveraging data to manage a more flexible transportation system to realize the objectives of the aforementioned goals.

2. Leverage Technology and Design for a Better Transportation Experience

This looks at how LADOT might leverage technology to improve the daily commute for Angeles for a healthier, happier city. LADOT looks to leverage new tools to encourage shift towards more efficient shared modes of transportation. To accomplish this goal, policy recommendations including creating ATSAC 3.0, requiring corridor and designs that serve multiple modes, eliminating parking minimums, rethinking parking garages, and stop widening roads. The transportation technology strategy recommends short, medium, and long-term actions including coding the curb to optimize access, integrating real-time data and tech into urban design and planning processes, creating a unified wayfinding program, expanding ExpressPark citywide, and creating a universal fare system.

3. Create Partnerships for More Shared Services

Shared mobility can improve the efficiency of Los Angeles roadways by increasing the capacity of vehicles, reducing vehicle miles traveled, and providing more choices/options that are scalable to shifting needs. To accomplish shared mobility goals the technology strategy identifies policies including updating regulations to include new transportation modes and adopting new transportation demand management ordinance for new developments. Short, medium, and long-term recommended actions include developing shared mobility action plan, providing shared mobility platforms for City employees, and implementing mobility as a service.

4. Establish Feedback Loops for Services and Infrastructure

Cities are complex systems designed to support daily lives of people. LADOT understands that there must a continuous process of self-evaluation to ensure that needs of stakeholders are being met effectively. To achieve this, the technology strategy recommends becoming a more responsive provider through feedback and measuring impact in conjunction with establishing a project evaluation standard as two policy goals. Creating a user experience working group, streamlining LADOT online content, and developing a methodology to move towards Infrastructure as a Service are among the short, medium, and long-term actions recommended.

5. Prepare For An Automated Future

The spread of Automated Vehicles (AV) will lead to reduced number of accidents along with helping to meet goals of reduced emissions, improved mobility, and reduced congestion. LADOT will consider introduction of this technology by promoting shared mobility and offering connected infrastructure to support these services. Otherwise, automated vehicles will replace existing vehicles one-for-one. Policy recommendations include calling for mobility innovation in California and launching a taskforce on data monetization strategies. Short, medium, and long-term actions recommended include investing in lane markings that enhance effectiveness of lane departure and warning systems, developing an AV road network along transit and enhanced vehicle networks, and converting the public transit vehicle feet to fully autonomous.

Threshold : ***Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?***

The document recommends policies, strategies and actions that are aimed at enhancing LADOT's transportation technologies to meet the City's priorities including reduced traffic congestion, greenhouse emissions, and traffic accidents. This is a governmental strategy with governmental policies and actions that will be primarily implemented by agencies at an areawide or citywide level rather than individual development projects. However, the Project does not preclude LADOT or other agencies from adopting or implementing any of the described policies or actions in the future. Therefore, the Project would not be in conflict with LADOT's Transportation Technology Strategy—Urban Mobility in a Digital Age.

15. Mobility Hubs—A Reader's Guide

Mobility Hubs provide a focal point in the transportation network that integrates different modes of transportation, multi-modal supportive infrastructure, and place-making strategies to create activity centers that maximize first-mile last mile connectivity. Based on their size and the number of amenities they provide Mobility Hubs are divided into three categories of Neighborhood, Central, and Regional with neighborhood being the smallest with the least number of amenities and Regional being the largest with the most number of amenities. The First Last Mile Strategic Plan is a joint effort between the Los Angeles County Transportation Authority (Metro) and Southern California Association of Governments (SCAG) to improve transit use experience to/from the station. The Mobility Hub program is an extension of the Mobility Plan 2035 of the Los Angeles Department of City Planning in coordination with the LADOT and the Los Angeles County Metropolitan Transportation Authority.

The Reader Guide is meant to provide inspiration and guidance to property owners among others for enhancing project developments in proximity to existing or new transit stations with amenities, activities and programs to support multi-modal connectivity and access. The following seven topic areas describe the essence of the Reader's Guide.

<u>Bicycle Connections</u>

Adoption of bicycling as an alternative to private vehicles is an environmentally sustainable way to access other transit services thereby enhancing first-last mile connectivity. To this end the Reader's Guide recommends providing bike sharing, bike parking, and other bicycling supportive facilities at the Mobility Hubs.

<u>Vehicle Connections</u>

The Reader's Guide recommends inclusion of ride share pick up/drop-off areas at the mobility hubs as an effective way to enhance firs-last mile connectivity. Car share programs at mobility hubs allows users to complete daily trips without relying on private vehicles thereby help alleviating congestion and parking challenges. Lastly, adding electric vehicle infrastructure to Mobility Hubs could expedite the adoption of elective vehicles and help mitigate negative impacts associated with greenhouse emissions.

Bus Infrastructure

Bus infrastructure at Mobility Hubs will enhance first-last mile connectivity by improving transit access for the users. Bus infrastructure includes bus loading/unloading zones that create safe areas for transit ridership, bus layover zones that contribute to efficient bus service and reduce congestion, and bus shelters.

Information/Signage

Enhancing the user experience by providing branding and information for ease of way finding is a core objective of the Mobility Hubs. The User's Guide recommends providing clear wayfinding signage, real-time information, and WI-FI/Smartphone connectivity as effective ways of enhancing user experience.

Support Services

Support Services should be incorporated, especially in the Central and Regional Mobility Hubs. These support services include trained individuals known as ambassadors who are knowledgeable of the local area and its services, amenities, and mobility options. Other support services include waiting areas, enhanced safety and security, and implementing a sustainable approach by minimizing the environmental footprint of the hub.

Active Uses

The Reader's Guide recommends that Mobility Hubs should incorporate active uses including retail, public space, and connection to other active uses to make transit system more attractive to potential uses.

Pedestrian Connections

The Reader's Guide recommends that pedestrian connections from the surrounding to the Mobility Hub and within the Mobility Hub itself be enhanced to promote the use of transit.

Threshold : ***Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?***

The Mobility Hub program is aimed at enhancing the first-last mile connectivity to transit, and many of the elements are typically implemented at the agency level. However, the Project is located within a quarter mile of many transit routes and bus stops, only two blocks from the 7th Street/Metro Center Station subway station (Red, Purple, Blue, and Expo lines), and one block from Metro's bike share station at Grand Avenue and 7th Street. The Project will provide bicycle parking incompliance with LAMC requirements. Therefore Project residents will have multiple options to not use a car for their trips, including walking, bicycling and taking transit, with convenient access to all modes. The Project would not be in conflict with the goals and objectives of the Mobility Hubs Reader's Guide.

16. LADOT Manual of Policies and Procedures (Design Standards)

The Manual of Policies and Procedures (Design Standards) identifies design standards and procedures for various roadway and traffic control elements, including street signs, parking restrictions, traffic signals, street improvements, roadway striping and channelization, and driveway design.

Threshold : ***Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?***

The Project does not propose any modifications to the roadways adjacent to the Project Site. Project driveways would be designed to LADOT standards and approved by LADOT. Any other roadway or sidewalk improvements that may be determined to be necessary would be designed to LADOT standards and approved by LADOT. The Project would not be in conflict with these standards. Consistency with Driveway Standards (Section 321, Driveway Design, of LADOT's Manual of Policies and Procedures) is addressed in Table 2.1 under Items 16 & 17.

Other Guidelines:

Transit Oriented Communities Affordable Housing Incentive Program Guidelines (TOC Guidelines)

The Transit Oriented Community (TOC) Guidelines provide the eligibility standards, incentives, and other necessary components of the TOC program. While the Project Site is located in a Tier 4 Transit Oriented Community per the City Planning ZIMAS system, the Project is not seeking incentives under the TOC program. Therefore, the TOC Guidelines do not apply to the Project.

Downtown Design Guide: Urban Design Standards and Guidelines

On April 24, 2009, the Los Angeles City Council approved a General Plan Amendment to the Central City Community Plan to revise Chapter V of the Central City Community Plan text to incorporate the Downtown Design Guidelines. The Downtown Design Guide was created to implement common design objectives that maintain neighborhood form and character while promoting design excellence, creative infill development solutions, and sustainable development practices and innovations. As such, the Downtown Design Guide encourages the development of an increasingly livable and sustainable Downtown community. The Downtown Design Guide focuses on the relationship of buildings to the street, including sidewalk treatment, character of the building as it adjoins the sidewalk, and connections to transit. The successful treatment of these key features, coupled with particular attention to the details of a project within the first 30-40 vertical feet, forms the basis for providing high quality development at a human scale.[23] The updated Downtown Design Guide was adopted by the City Planning Commission in June 2017 as an official guide for development within the Downtown area. However, pursuant to LAMC Section 17.15-C,1, the Project will be reviewed per the 2009 Downtown Design Guide.[24]

Threshold : ***Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?***

As set forth in the Downtown Design Guide, projects should enable people to move around easily on foot, by bicycle, transit, and automobile. Projects should also accommodate cars when necessary and allow people to live easily without one.

The Project would ensure a safe and comfortable pedestrian environment by providing improved and widened sidewalks with street trees and street furniture to improve pedestrian travel and public use. Improvements in the right-of-way would include special concrete paving patterns at driveway aprons (where cars and pedestrians cross paths) and at building entries and decorative bicycle racks near the commercial/retail/restaurant space and residential lobby. In addition, the Project's ground floor uses would feature extensive windows and continuous balconies to activate the street and sidewalk and introduce a human-scale element and visual interest to pedestrians, visitors, and occupants.

As discussed above, the Project would be located in proximity to bicycle routes and would provide convenient access to multi-modal transportation opportunities for pedestrians and bicyclists. The existing bicycle system in the Study Area consists of a limited coverage of bicycle lanes (Class II) and bicycle routes (Class III). There are currently Tier 1 protected bike lanes on Figueroa Street, 7th Street, Grand Avenue, and Olive Street as part of the Bicycle Enhanced Network (a network of protected bicycle lanes and bicycle paths that provide a higher level of comfort for a variety of users). In addition, as part of the Bicycle Lane Network (a network of arterial roadways that will receive striping treatments to prioritize bicyclists), Tier 3 Bicycle Lanes are proposed on Flower Street and Broadway. Furthermore, Project visitors, patrons, and employees arriving by bicycle would have the

[23] *City of Los Angeles Downtown Design Guide, June 2009.*

[24] *LAMC Section 17.15-C,1 states that: "The approval or conditional approval of a vesting tentative map shall confer a vested right to proceed with development in substantial compliance with the ordinances, policies and standards in effect on the date the application is deemed complete, and with the conditions of approval imposed and specifically enumerated by the Advisory Agency, including the submittal of a detailed grading plan under an approved grading permit prior to recordation of the final map. Such rights shall not include exemptions from subsequent changes in the Building and Safety and Fire regulations contained in Chapters V and IX of the Los Angeles Municipal Code and policies and standards relating thereto."*

same access opportunities as pedestrian visitors. The Project would comply with the LAMC and Bicycle Parking Ordinance requirements and would provide 27 short-term and 224 long-term bicycle parking spaces. Short-term bicycle parking would be available on the ground floor and within the below-grade parking, while long-term bicycle parking would be enclosed from inclement weather and secured from the general public. Both short-term and long-term bicycle parking could be accessed by the tower elevators, without needing to cross automobile parking areas.

The Project would be located approximately two blocks away from the Metro 7th Street/Metro Center Station (approximately 1,050 ft. walking distance from the Project entrance to the Metro Station Portal on 7th Street), which contains the Metro Red, Purple, Blue, and Expo lines, and is considered a hub of the regional rail network. Numerous bus lines, including local, express and rapid lines, also run in the vicinity. The availability and accessibility of public transit in the Project area is documented by the Project Site's location within a Transit Priority Area (TPA) and SCAG-designated HQTA.

The Downtown Design Guide encourages variations in setbacks along street frontages and dictates that retail streets in the Financial Core include setbacks of 0 to 3 feet. The portions of Hope Street and Grand Avenue adjacent to the Project Site are identified as retail streets in the Financial Core and would meet the setback guidelines.

In accordance with the Downtown Design Guide, except for the minimum ground-level frontage required for access to parking and loading, no parking or loading would be visible on the ground floor of any building façade that faces a street. The parking podium would be integrated into the design of the building façade so that it would be screened with opaque material to minimize its appearance from the street.

Consistency with roadways, driveways curb cuts is addressed earlier with respect to Mobility Plan 2035 Policies, and in Table 2.1 below.

Therefore, based on the above, the Project would not conflict with the Downtown Design Guide with respect design principles addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Table 2.1 Questions to Determine Project Applicability to Plans, Policies and Programs (From LADOT TAG Table 2.1-2)

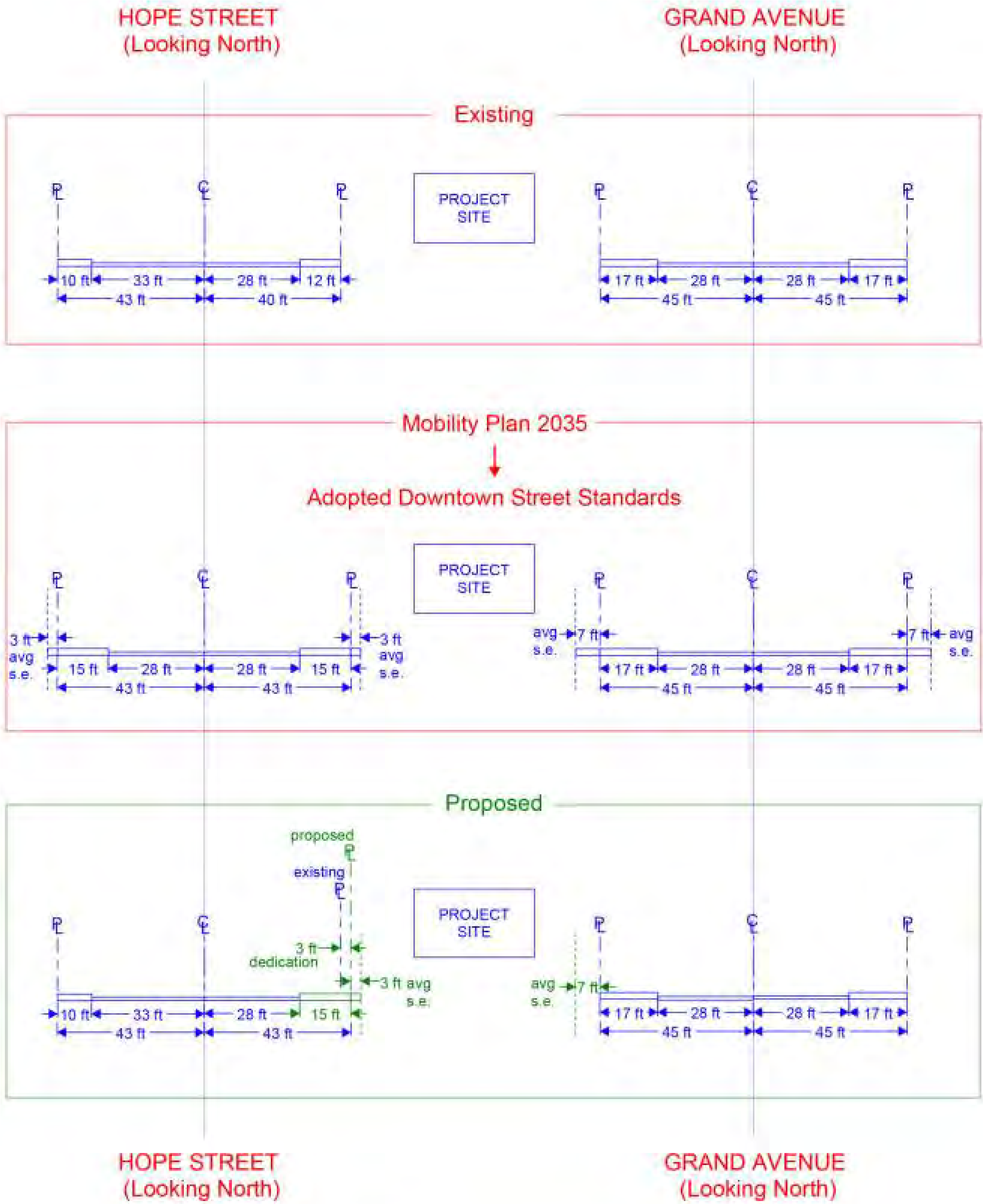
#	Guiding Questions	Response
Existing Plan Applicability		
1	Does the project include additions or new construction along a street designated as a Boulevard I, and II, and/or Avenue I, II, or III on property zoned for R3 or less restrictive zone? (screening question)	Yes. For the following discussion, see also Figure 2.1. Per the Mobility Plan 2035 Grand Avenue is a Modified Avenue II and per the Adopted Downtown Street Standards is a Modified 1-Way Major Class II. The required dimensions are a 45’ right-of-way half width, a 28’ half width roadway, a 17’ sidewalk, and a 7’ easement. The Project currently meets the right-of-way, roadway and sidewalk standards and proposes no changes. The Project will provide an average 7’ easement to meet the requirements. Per the Mobility Plan 2035 Hope Street is an Avenue II and per the Adopted Downtown Street Standards is a Modified 2-Way Secondary. The required dimensions are a 43’ right-of-way half width, a 28’ half width roadway, and a 15’ sidewalk. The current half right-of-way width is 40’ which does not meet the standard.. The current half roadway width is 28’ so the Project meets the roadway standard The Project will dedicate 3’ of right of way to enable a 15’ sidewalk and 43’ half right-of-way, so the Project will be in full compliance with the requirements for Hope Street. Per the Mobility Plan 2035 8th Street is a Modified Avenue II and per the Adopted Downtown Street Standards is a Modified 1-Way Secondary. The required dimensions are a 45’ right-of-way half width and a 33’ half width roadway, a 12’ sidewalk, and a 5’ easement. Currently the half right-of-way is 35’, the half roadway width is 23’ and the sidewalk is 12’. The Project proposes to provide a 5’ easement for a total 17’ sidewalk, but will seek a waiver from the 2’ and 10’ dedication requirement for street widening. The half right-of-way width

#	Guiding Questions	Response
		would remain 35' and the roadway width would remain 23'. The effective sidewalk width will be increased from 12' to 17' to meet the standard (including 5' easement). The property is zoned C2-4D which permits R3 uses. The Project would be in compliance with the Mobility Plan 2035 and Downtown Street Standards street dimensions, except for the waiver being requested for the 2' and 10' dedication on 8th Street.
2	Is project site along any network identified in the City's Mobility Plan?	Yes. In the Mobility Plan 2035 Hope street is identified as on the Neighborhood Enhanced Network and a Pedestrian Enhanced District. Grand Avenue is identified on the Bicycle Enhanced Network as a Tier 1 protected bicycle lane and as on a Pedestrian Enhanced District. 8th Street is identified on a Pedestrian Enhanced District.
3	Are dedications or improvements needed to serve long-term mobility needs identified in the Mobility Plan 2035?	Yes. See Question 1.
4	Does the project require placement of transit furniture in accordance with City's Coordinated Street Furniture and Bus Bench Program?	No. The Project does not require placement of transit furniture in accordance with the City's Coordinated Street Furniture and Bus Bench Program. There is an existing Metro bus stop on 8th Street west of Grand Avenue which will be replaced if necessary. The 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)?	Yes. The Project is in a Tier 4 TOC Area. However it is not a Transit Oriented Community Project.
6	Is project site on a roadway identified in City's High Injury Network?	Yes. LADOT has identified 8th Street, adjacent to the southern boundary of the Project Site, on the High Injury Network (between Figueroa Street and

#	Guiding Questions	Response
		San Pedro Street). While no Vision Zero Safety Improvements are currently planned adjacent to the Project Site, the Project would not preclude future improvements by the City.
7	Does project propose repurposing existing curb space? (Bike corral, car-sharing, parklet, electric vehicle charging, loading zone, curb extension, etc.	No. The Project Site will be accessed through a total of two driveways, one each on Grand Avenueand Hope Street. These driveways will replace existing driveways at approximately the same locations thereby not causing any changes to the existing curb space. Additionally, no other repurposing of existing curb space for use as bike corral, car-sharing, electric vehicle charging, etc. is proposed.
8	Does project propose narrowing or shifting existing sidewalk placement?	No. The Project does not propose narrowing or shifting existing sidewalk placement.
9	Does project propose paving, narrowing, shifting or removing an existing parkway?	No. There are no existing parkways on Grand Avenue, 8th Street, or Hope Street.
10	Does project propose modifying, removing or otherwise affect existing bicycle infrastructure? (ex: driveway proposed along street with bicycle facility)	No. The existing bike lane on Grand Avenue stops short of the intersection of Grand Avenue with 8th Street at the point where the right-turn lane begins. The existing driveway on Grand Avenue is at the north edge of the Project Site and is located on the portion of Grand Avenue without the bike lane. As the new driveway will replace the existing driveway in approximately the same location, no change will occur to the bicycle infrastructure.
11	Is project site adjacent to an alley? If yes, will project make use of, modify, or restrict alley access?	No, 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)?	No. The Project will neither create a cul-de-sac nor is the project located adjacent to an existing cul-de-sac.

#	Guiding Questions	Response
	Access: Driveways and Loading	
13	Does project site introduce a new driveway or loading access along an arterial (Avenue or Boulevard)?	No. The Project will have two driveways which will replace existing driveways on Grand Avenue and Hope Street in approximately the same locations, and will remove the existing driveway on 8th Street. The Project loading area will be located on-site and accessed via the Project driveways.
14	If yes to 13, Is a non-arterial frontage or alley access available to serve the driveway or loading access needs?	N/A. See response to Question 13.
15	Does project site include a corner lot? (avoid driveways too close to intersections)	Yes. The Project includes corner lots at Grand Avenue and 8th Street & Hope Street and 8th Street. Per the LADOT Manual of Policies and Procedures Section 321 Driveway Design, driveways on arterial highways serving lots with frontages greater than 250 feet should not be placed within 150 feet of the adjacent street. The Project Site has frontages of 100 ft. and 115 ft. on Grand Avenue and Hope Street, respectively, so these provisions of Section 321 do not apply. However, the driveways on Hope Street and Grand Avenue will be located at the northern edge of the Project Site at the maximum distance possible from the intersections.
16	Does project propose driveway width in excess of City standard?	No. The LADOT Manual of Policies and Procedures Section 321 Driveway Design recommends a two-way driveway width of 30 ft. for multi-family residential developments with more than 25 parking spaces. Both Project driveways will be two-way. The driveway on Grand Avenue t will be two lane (one in and one out) and will be 30' wide. The driveway on Hope Street will be three lanes (one in and one out for parking, and one in for service vehicles), and will, be 36' wide. Section 321 provides for driveway widths of greater than 30' for multiple entry lane driveways.
17	Does project propose more driveways than required by City	No. The LADOT Manual of Policies and Procedures Section 321 Driveway Design, identifies

#	Guiding Questions	Response
	maximum standard?	a maximum of one driveway allowed along arterial frontages less than 200 ft. The Project Site has arterial frontages less than 200 ft. on Grand Avenue and Hope Street and is providing one driveway on each street. Similarly, Section 321 identifies a maximum of two driveways for arterial frontages between 200 and 400 feet. The Project Site has an arterial frontage of 337 ft. along 8th Street and is providing no driveways on this street. The Project is therefore in compliance with the standards.
18	Are loading zones proposed as a part of the project?	No. On-Street loading is not proposed at 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?	No. The project does not include on-street drop-off zones. Drop-off will occur internal to the Project Site.
20	Does project propose modifying, limiting/restricting, or removing public access to a public right-of-way (e.g., vacating public right-of-way?)	No. The Project does not propose modifying, limiting/restricting, or removing public access to a public right-of-way.



avg s.e. = average sidewalk easement

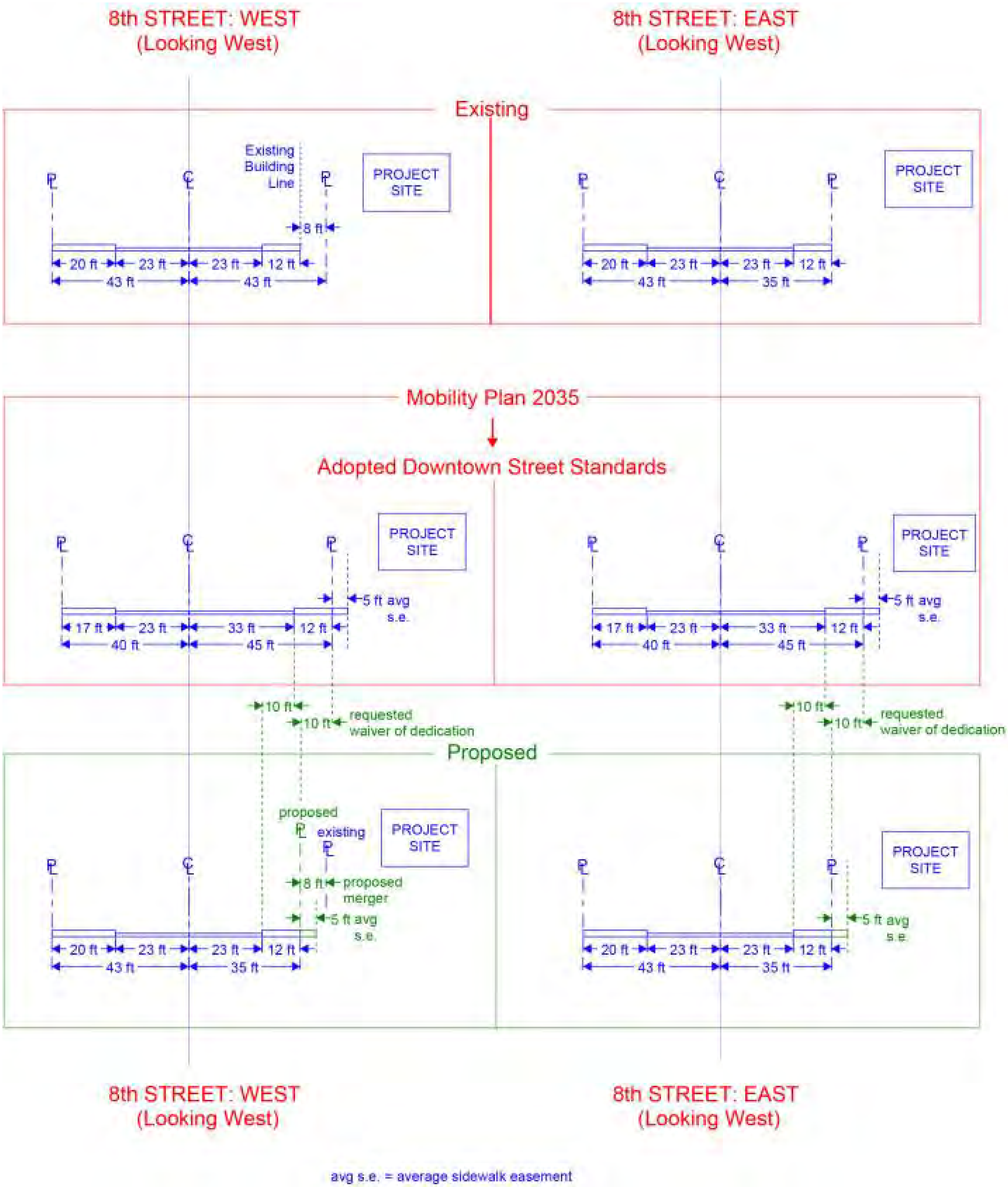
Source: KPFF

1/21/20

Figure 2.1a
Roadway Parameters

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions



Source: KPFF

1/21/20

Figure 2.1b
Roadway Parameters

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions

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

Introduction

This is an analysis of VMT for the Project using the City of Los Angeles VMT Calculator. The analysis shows that with applying the VMT impact criteria established by LADOT, the Project would not have a significant Household VMT per Capita impact, and would not have a significant Work VMT per Capita impact. Project design features and mitigation measures are not necessary as the VMT values fall below the thresholds for significance without them.

Background to VMT Analysis

State of California Senate Bill 743[25], 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 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 has updated its travel demand model, and has developed and calibrated to local conditions an impact evaluation methodology and transportation impact thresholds based on VMT. This is called the VMT Calculator. The City has adopted the new CEQA methodology and thresholds as of July 30, 2019.

VMT Analysis

<u>VMT Screening</u>

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 is "no" to either of the following questions, then a VMT analysis is not required.

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

[25] SB 743(Steinberg, 2013).

Yes. See discussion below.

- *T-2,1-2 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.

The Project Site is currently a parking lot and a parking garage, so for purposes of analysis does not generate any existing trips. The Project would generate 1,500 daily trips, per the Calculator. In accordance with these provisions, the Project is expected to generate a net increase of 1,500 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	Multi-Family	580 DU	
	Retail	7,499 sf	
	Sub-total[1]		1,500
Existing	Parking		0
	Sub-total		0
Net Difference [Proposed – Existing]			1,500
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 3.4 compared to the threshold of 6.0, and the Work VMT per Capita would be 0.0 compared to the threshold of 7.6. Therefore, it is concluded that the Project would not cause significant VMT impacts for both Household VMT and Work VMT. Appendix A provides the analysis results shown in the LADOT Calculator. The detailed application of the VMT calculator is described below.

The VMT analysis was applied to the Project description. As the Project would not cause any significant impacts, no trip reducing Project design features or mitigation measures are necessary or were included in the analysis.

Table 2.3 Summary of VMT Results

Category	*Household*			*Work*		
Scenario	*Household VMT Threshold*	*Household VMT Per Capita*	*Impact*	*Work VMT Threshold*	*Work VMT per Employee*	*Impact*
VMT With Project	6.0	3.4	No	7.6	0.0	No

Notes: 1. VMT calculations excludes 7,499 sq. ft. of retail commercial 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.

Table 2.5 shows how the land use information was entered into the Calculator.

Table 2.4. Project Land Uses

Land Use	*Quantity*
<u>Existing Land Uses</u> None (Parking)	 N/A
<u>Proposed Land Uses</u> Multi-Family Retail Commercial	 580 DU 7,499 SF

Table 2.5 Project Land Uses as Entered into VMT Calculator

Land Use	*Quantity*
Housing (Multi-Family) Retail Commercial	580 DU 7,499 SF

According to Section 2.2.2[26] (Screening Criteria) of the TAG, 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.

<u>Input on Project Design Features and Mitigation Measures</u>

The Calculator provides for inputs relating to trip reduction measures (TDM strategies), either as Project design features or as Project mitigation measures. As the Project would not cause any significant impacts, no trip reducing Project design features or mitigation measures are necessary or were included in the analysis.

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 Project is a development project and not a transportation project, this threshold is not applicable to this study.

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

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

As required in the TAG, 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 the Project Site, and may include safety, operational or capacity impacts.

Project Driveways

The Project would provide two driveways, one on Grand Avenue and one on Hope Street as shown in Figure 0.2. These would be two way driveways and would replace existing driveways to current parking facilities on the Project Site in approximately the same locations.

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 Project site plan is shown in Figure 0.2. The driveways will all be perpendicular to the street, with no sharp curves, and will be designed according to LADOT driveway design guidelines with adequate driveway widths and turning radii. Landscape design will also ensure there will be no impediments to visibility of and by vehicles, bicycles and pedestrians.

The Project Site is flat and slopes slightly towards the south edge on 8th Street. The Project Site is rectangular in shape. It is typical of most sites in the downtown, and 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.

All driveways will be two-way. LADOT Driveway Design Guidelines (Manual of Policies and Procedures Section 321)[27] recommends 30 foot wide driveways for multi-family residential projects with more than 25 parking spaces, and also states that wider driveways may be appropriate to accommodate multiple entry lanes. The Grand Avenue driveway will provide access to 441 above-grade parking spaces. The Grand Avenue driveway will provide one inbound lane and one outbound lane and will be 30' wide. The Hope Street driveway will provide two inbound lanes (one for service vehicles) and one outbound lane. It will provide access to 195 below ground parking spaces, and is proposed to be 36' wide.

The amount of pedestrian activity at these locations is typical of locations in the central downtown area.

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27 Manual of Policies and Procedures, Section 321, Driveway Design, LADOT.

The Grand Avenue and Hope Street driveways would be located at the north end of the Project Site, at the maximum possible distance from the intersections with 8th Street. The driveway on Grand Avenue will be located just to the south of the striped bicycle lane—where it temporarily ends to transition into a right turn lane for vehicles. This driveway will be located in approximately the same position as the existing driveway and will not change the existing driveway conditions.

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

Project entry gates will be located at or beyond the required distance from the property line for adequate entry queuing. LADOT guidelines require the entry gate on Hope Street to be 40’ feet from the property line (accessing 195 parking spaces) and the Project proposes 40’ so will be in compliance. The Grand Avenue driveway will serve the 441 parking spaces above grade. LADOT guidelines require a 60’ distance from the property line to the gate, which the Project will comply with.

The Project would be in compliance with LADOT driveway design guidelines for both driveways and would not increase hazards due to a geometric design feature.

<u>Cumulative Impacts</u>

There are no known related projects on the same block facing Grand Avenue or Hope Street. There would therefore be no cumulative access impacts that could increase hazards.

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[28]. This responds to Caltrans’ recent requests that environmental analyses for certain new land use development projects include 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

[28] LADOT Transportation Assessments – Interim Guidance for Freeway Safety Analysis, LADOT, May 1 2020.

in off-ramp queuing and differential travel speeds that could constitute a potential safety impact under CEQA. The Interim Guidance is included in Appendix E[29].

2.5.2 Screening

Per LADOT's Interim Guidance for 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.

Table 2.5 Project Added Volumes to Off-Ramps

#	Off-Ramp Location	Project Added Volume	
		AM Peak Hour	PM Peak Hour
1	I-110 NB Off-Ramp at 6th Street	1	7
2	I-110 SB Off-Ramp at 6th Street	3	16
3	SR-110 NB Off-Ramp at James M Wood Boulevard	1	4
4	I-10 WB Off-Ramp at Los Angeles Street	2	8
5	US-101 NB Off-Ramp at Grand Avenue	1	4

[29] The City notes 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 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.

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.

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 TAG. 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 Project. The evaluation will determine whether the 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 TAG requires an affirmative answer to all of the following screening questions 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 previously shown Section 2.2. The Project results in a net increase of 1,500 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 580 residential dwelling units.

- *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 0.8 acres in total gross area. Additionally, the Project lot has approximately 340 feet of frontage along the 8th Street, which is designated as a Modified Avenue II under City's General Plan.

As the 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. 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. As expected for a central downtown area many transit stops are located within this area. The 7th street Metro subway station is also located within the Study Area. 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.

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. Most all streets have street trees, so Figure 3.5 shows only locations where street streets are not present

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 TAG under each category are examined to assess the Project's effect on pedestrian, bicycle, and transit facilities.

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. The existing bike lane on Grand avenue terminates north of/before the intersection of Grand Avenue and 8th Street at the point where the right-turn lane pocket begins. The existing driveway is located within the portion of Grand Avenue without a bike lane. As the new driveway will replace the existing driveway, no change will occur to the bicycle infrastructure. Additionally, there are no bicycle supporting facilities such as, bikeshare stations, on-street bike racks/parking, and bike corrals 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. The existing bus stop and bus bench on 8th Street adjacent to the Project Site will be retained.
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.
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?	No. The Project will not widen any roadways and will not modify any aspect of the geometric design of adjacent intersections. Therefore, street crossing distance, number of travel lanes, and turning radii / speeds will not be affected at any intersection.

#	Criteria	Evaluation
6	Does the Project result in removal, degradation, or narrowing of an existing sidewalk, path, crossing, or pedestrian access way?	No.
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.)?	Yes. As part of the Project, 7 street trees would be removed, and a row of street trees would be planted along 8th Street, Hope Street, and Grand Avenue. These trees would be selected in coordination with the City of Los Angeles Department of Urban Forestry. Additionally, no curb extensions, parkways, or planting strips exist adjacent to the Project Site.
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 intersections where a crossing is not available without significant rerouting.	No. The Project is located in the downtown central area where all intersections within a quarter mile of the Project provide signalized pedestrian crossings.
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.)?	No. All streets within a quarter mile of the Project Site have sidewalks on each side of the street. Signalized pedestrian crossings are provided at each intersection within the Study Area in addition to some signalized mid-block pedestrian crossings at some locations. There are no missing or substandard pedestrian facilities in the vicinity of the Project.

#	Criteria	Evaluation
3	Does the Project increase transit demand at bus stops that lack marked crossings, with insufficient sidewalks, or are in isolated, unshaded, or unlit areas?	No. The closest bus stop to the Project Site on 8th Street is adjacent to the Project Site and near the near the intersection Grand Avenue and 8th Street. There is a 12 foot sidewalk adjacent to this bus stop and signalized crossing to/from this bus stop is provided at the intersection. The street trees adjacent to this stop provide some level of shading and there is a street light within 50 ft. of this bus stop. The closest bus stop to the Project Site on Hope Street is near to and on the south of the intersection Hope and 8th Streets. There is a 22 ft. sidewalk adjacent to this bus stop and signalized crossing to/from this bus stop is provided at the intersection. The street trees adjacent to this bus stop provide some level of shading and there is a street light within 50 ft. of this bus stop. The closest bus stop to the Project Site on Grand Ave is located between 7th and 8th Street and approximately 250 ft. away from the intersection of Grand Avenue and 8th Street. There is an 18 foot sidewalk adjacent to this bus stop and signalized pedestrian crossing is provided to/from this bus stop through an adjacent mid-block crossing. The street trees adjacent to this bus stop provide some level of shading and there is a street light within 50 ft. of this bus stop.

<u>High-Injury Network</u>

As previously discussed, LADOT is implementing a program called Vision Zero Los Angeles. Vision Zero Los Angeles represents a citywide effort to eliminate traffic deaths in the City by 2025. Vision Zero Los Angeles 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 Project is located on the High Injury Network (HIN). Other streets in the Study Area that are located on the High Injury Network are as follows:

- Figueroa Street
- 6th Street
- 7th Street
- 9th Street
- Olympic Blvd

There are currently no specific Vision Zero Corridor Plans for streets in the vicinity of the Project. However the Project will enhance (widen) the sidewalk on 8th Street with improved landscaping and street furniture.

3.2.4 Evaluation Summary and Recommended Actions

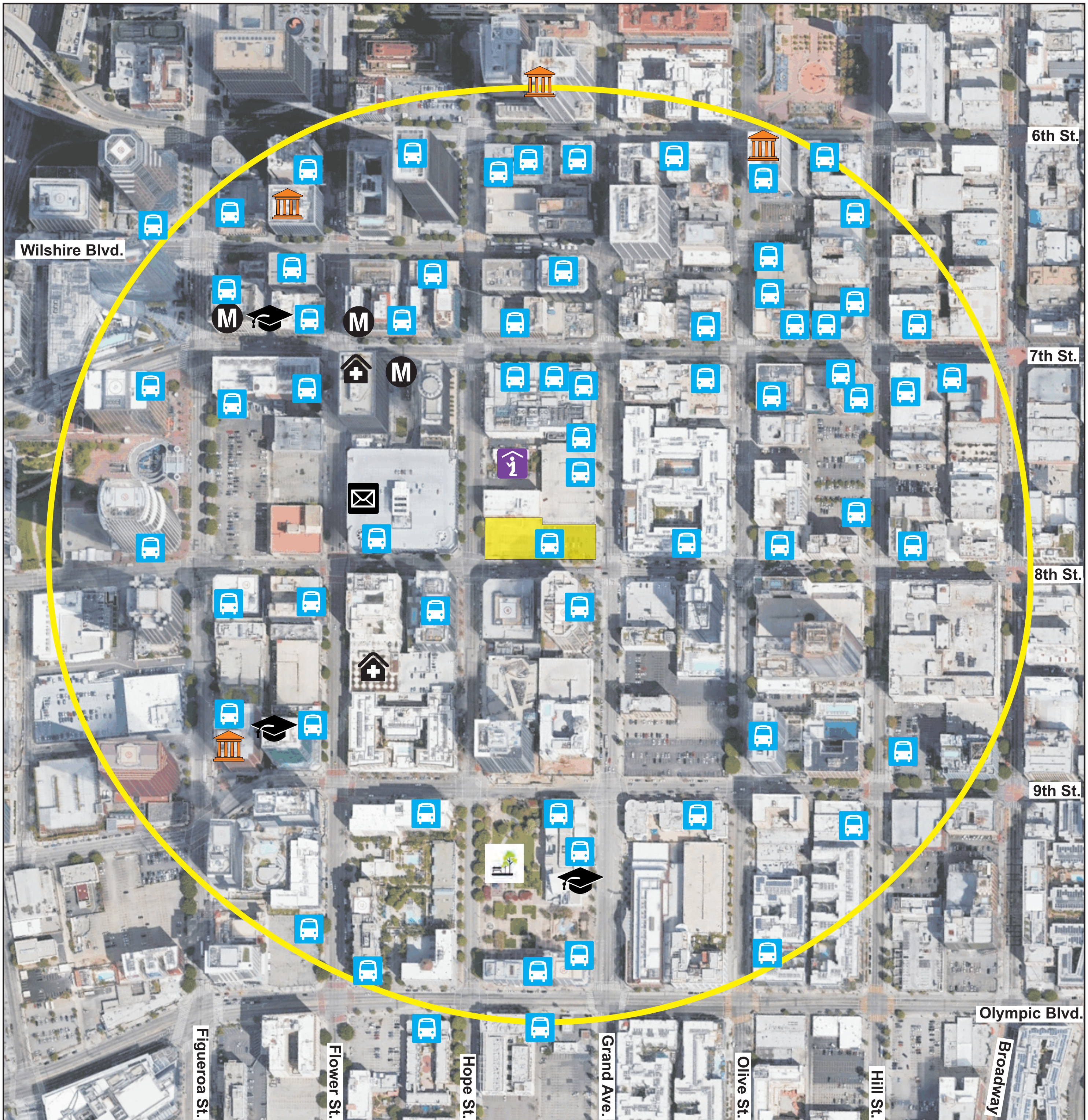
The Project is located in a central downtown Area. Overall, the general quality of these facilities is adequate and no substantial substandard or deficiencies were found in the facilities along pedestrian pathways between the Project and proximate destinations or transit stops. All streets in the Study Area have sidewalks. Signalized pedestrian crossings are provided at intersections within the Study Area in addition to several mid-block signalized pedestrian crossings. The closest mid-block crossing to the Project Site is located on Grand Avenue between 7th and 8th Streets. Many traffic signals have pedestrian push-buttons although some do not. The two intersections adjacent to the Project both have pedestrian push buttons. All intersections in the Study Area provide at least one curb access ramp at each corner. Some intersections have sidewalk tactile warning strips, although the majority do not. The intersections corners immediately adjacent to the Project do not have tactile warning strips.

The Project will fully improve the sidewalks adjacent to the Project Site to current standards. Streets adjacent to the Project Site will meet City standards for right-of-way and roadway widths, except for 8th Street where a 2-foot and a 10-foot waiver of dedication will be requested in order to provide a wider sidewalk – this will not cause a street deficiency as 8th Street will still have the same number of lanes as the block to the east, and LADOT has determined that the required street widening would not be necessary as the required street widening will not enhance the existing circulation system and there will be no loss in the standard sidewalk width, and has recommended waiving the widening[30].

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

The Project proposes to install tactile warning strips on the street corners immediately adjacent to the Project Site (northwest corner of Grand Avenue & 8th Street) and the northeast corner of Hope Street & 8th Street. No further actions are deemed necessary or proposed.

[30] LADOT email, February 11, 2020.



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

Legend

Project Site	1/4 Mile from Project Site (Study Area)	Government Office	Post Office
	Transit Stop	Place of Worship	Medical Clinic
	School/University	Park / Playground	7th Street Metro Station (Rail Station)

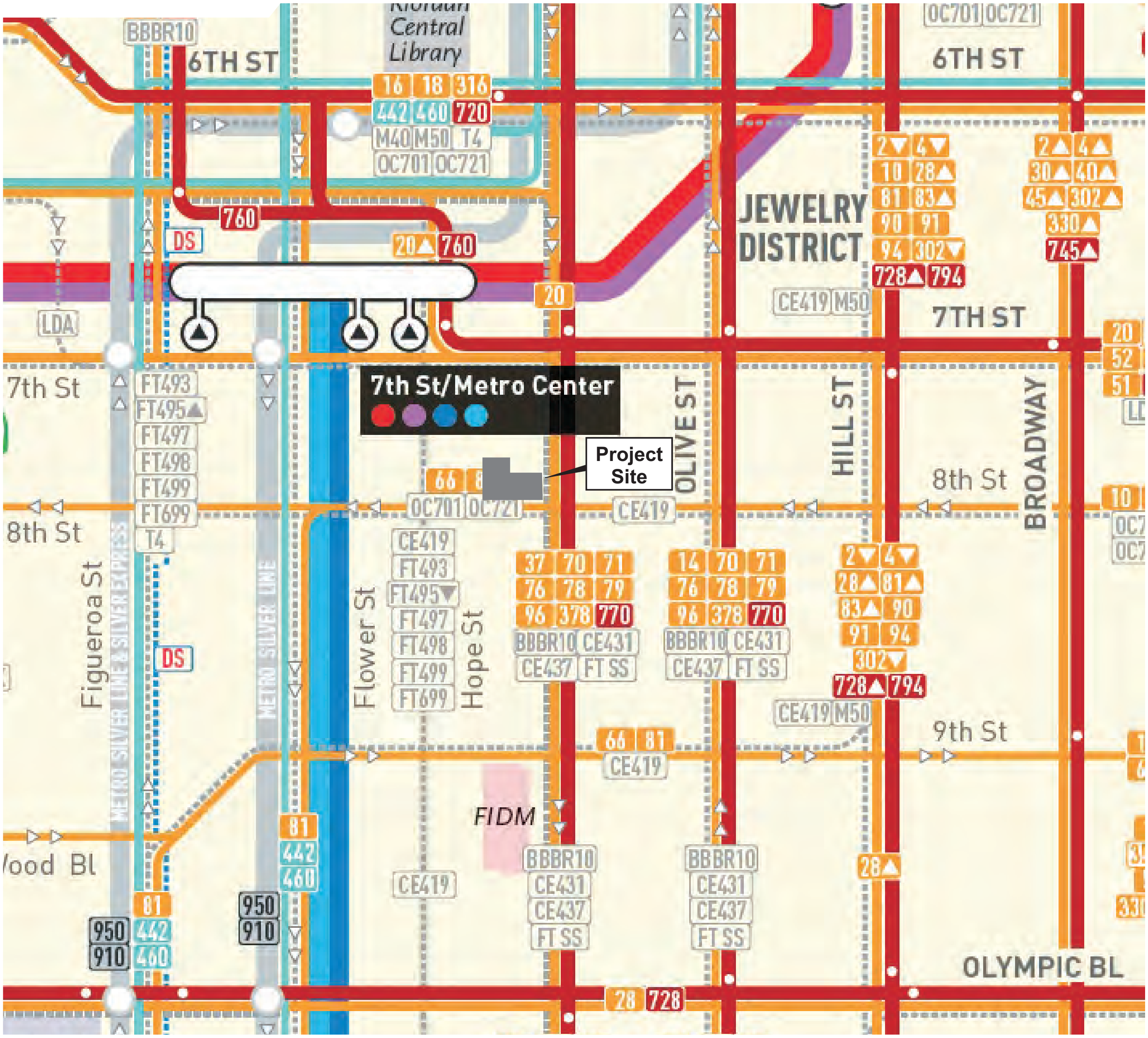
N

Not to Scale
01/07/20

Figure 3.1
Key Pedestrian Destinations

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions



01/02/20

Figure 3.2
Existing Transit Routes

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions

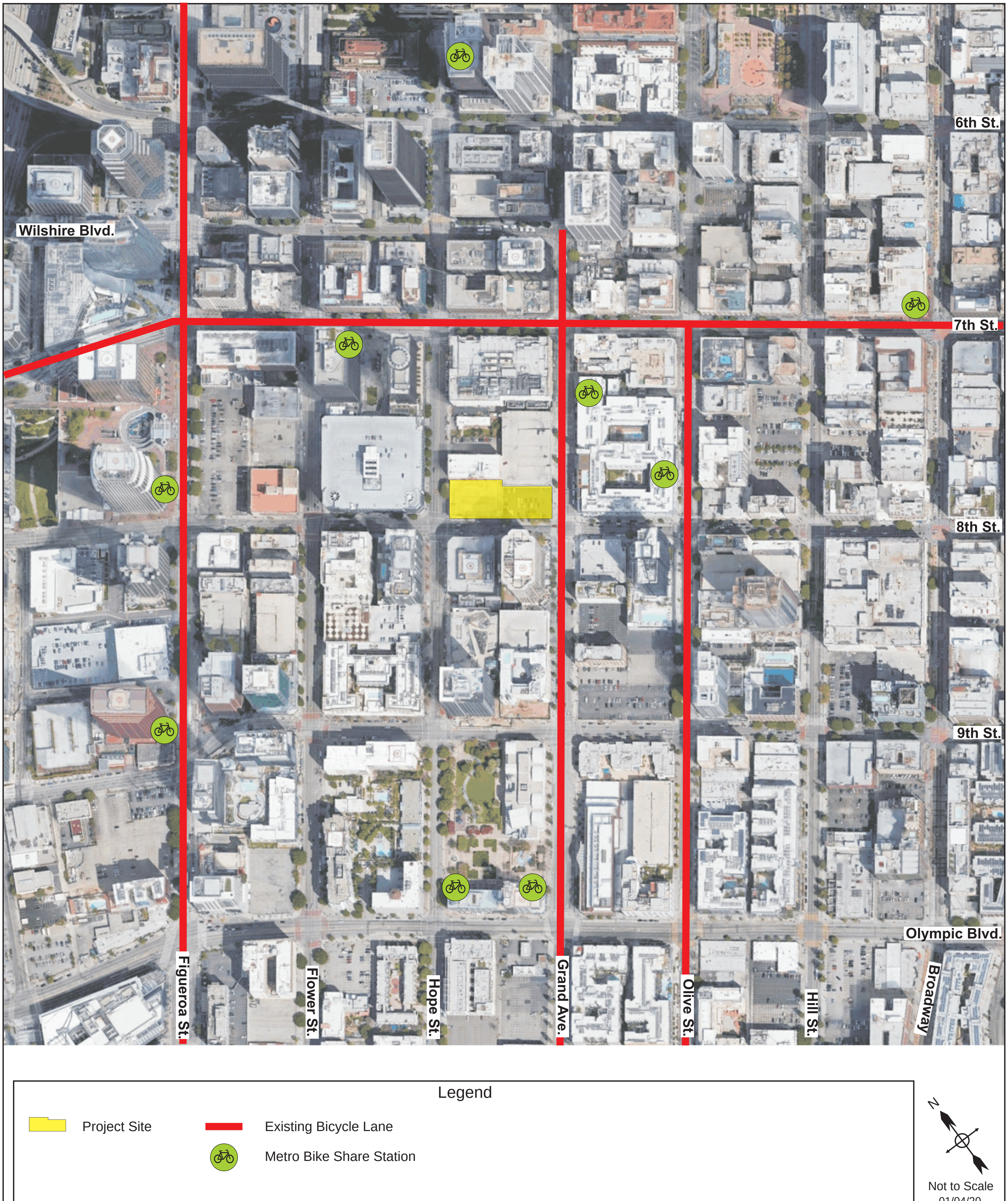
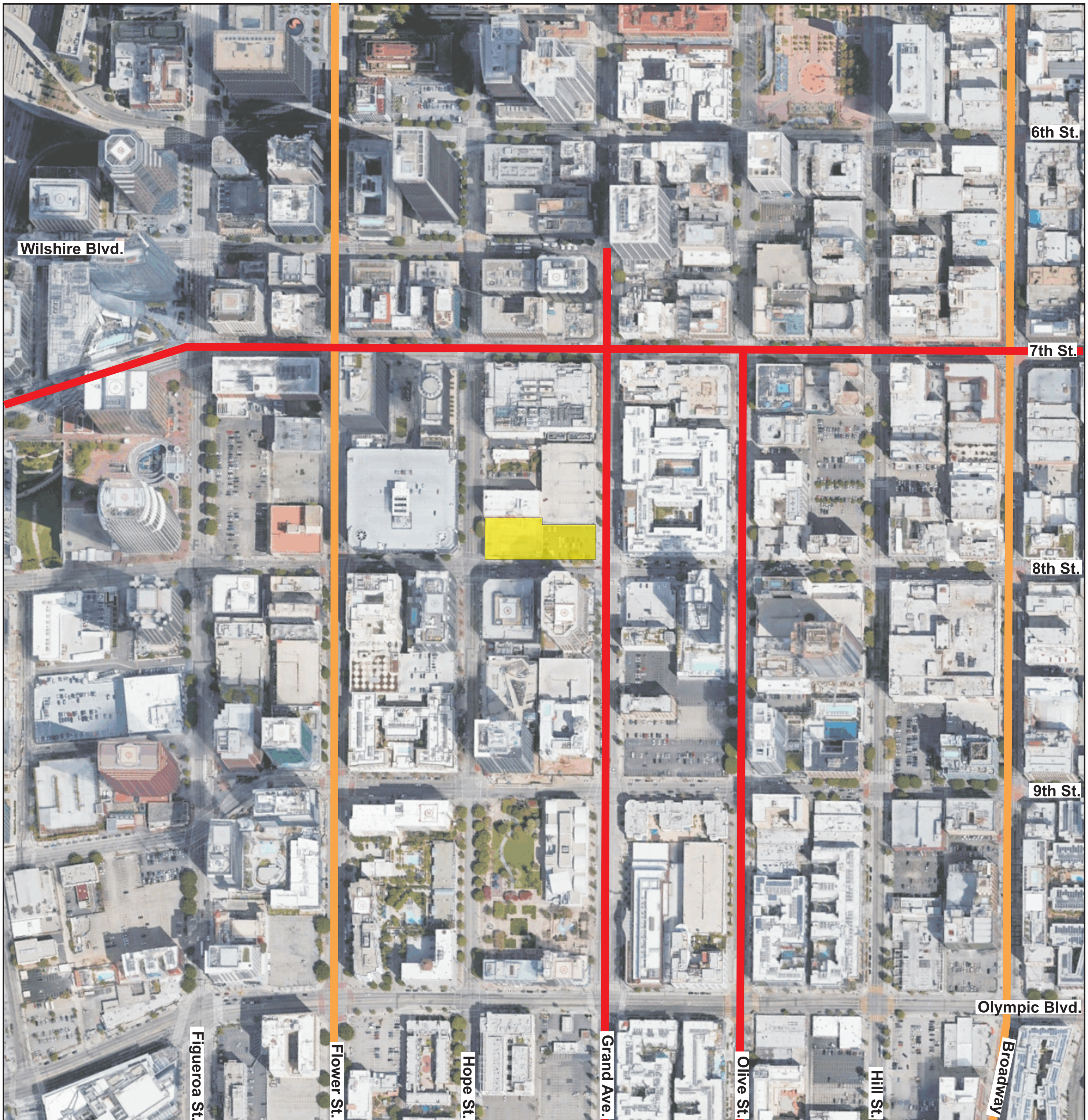


Figure 3.3
Existing Bicycle Facilities

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions



Legend

Project Site

Existing Bicycle Lane

Tier 3 Bicycle Lane
(Mobility Plan 2035)

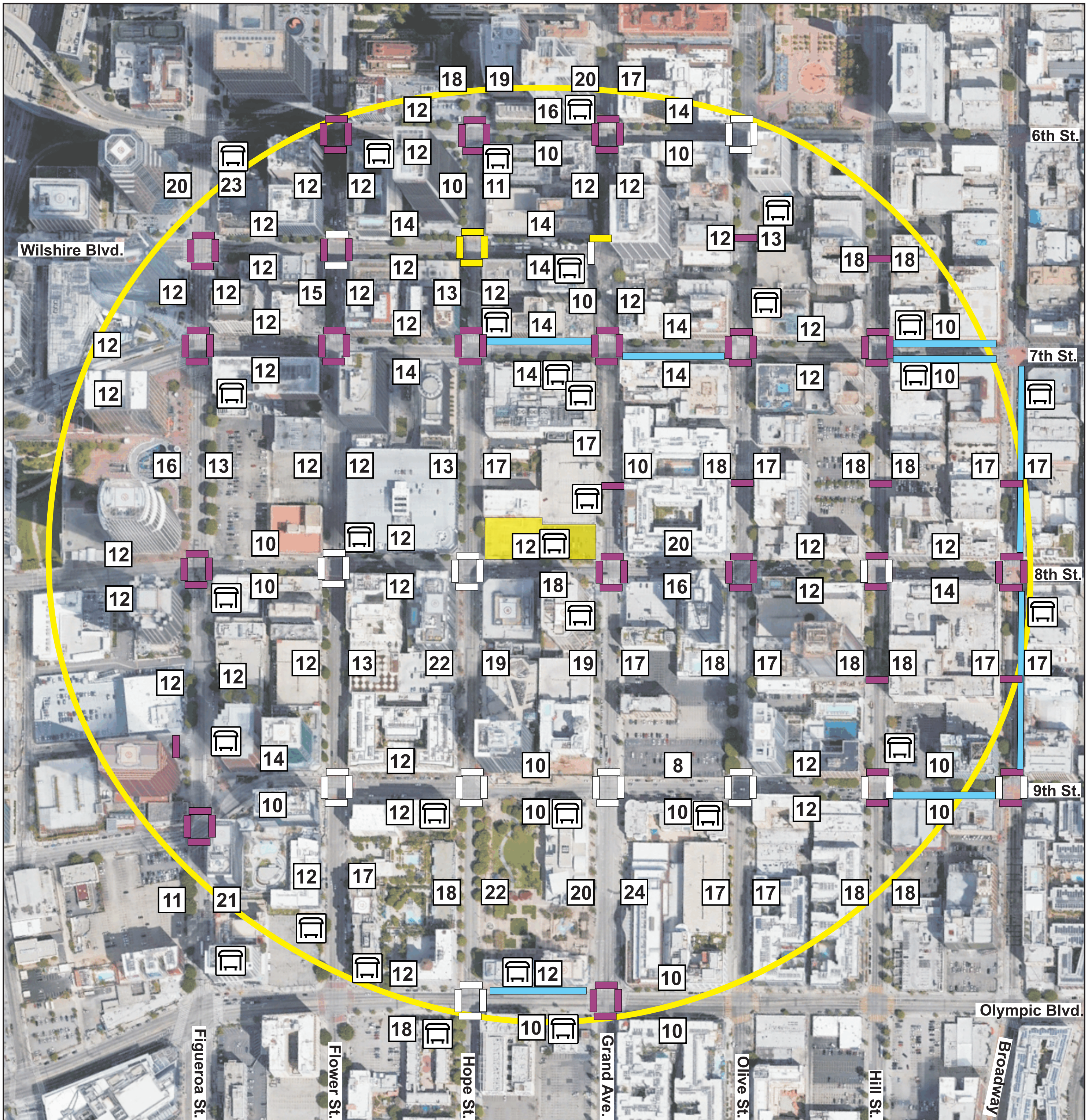
N

Not to Scale
01/07/20

Figure 3.4
Designated Bicycle Facilities

8th Grand & Hope Project

The Mobility Group
Transportation Strategies & Solutions



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

Legend

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

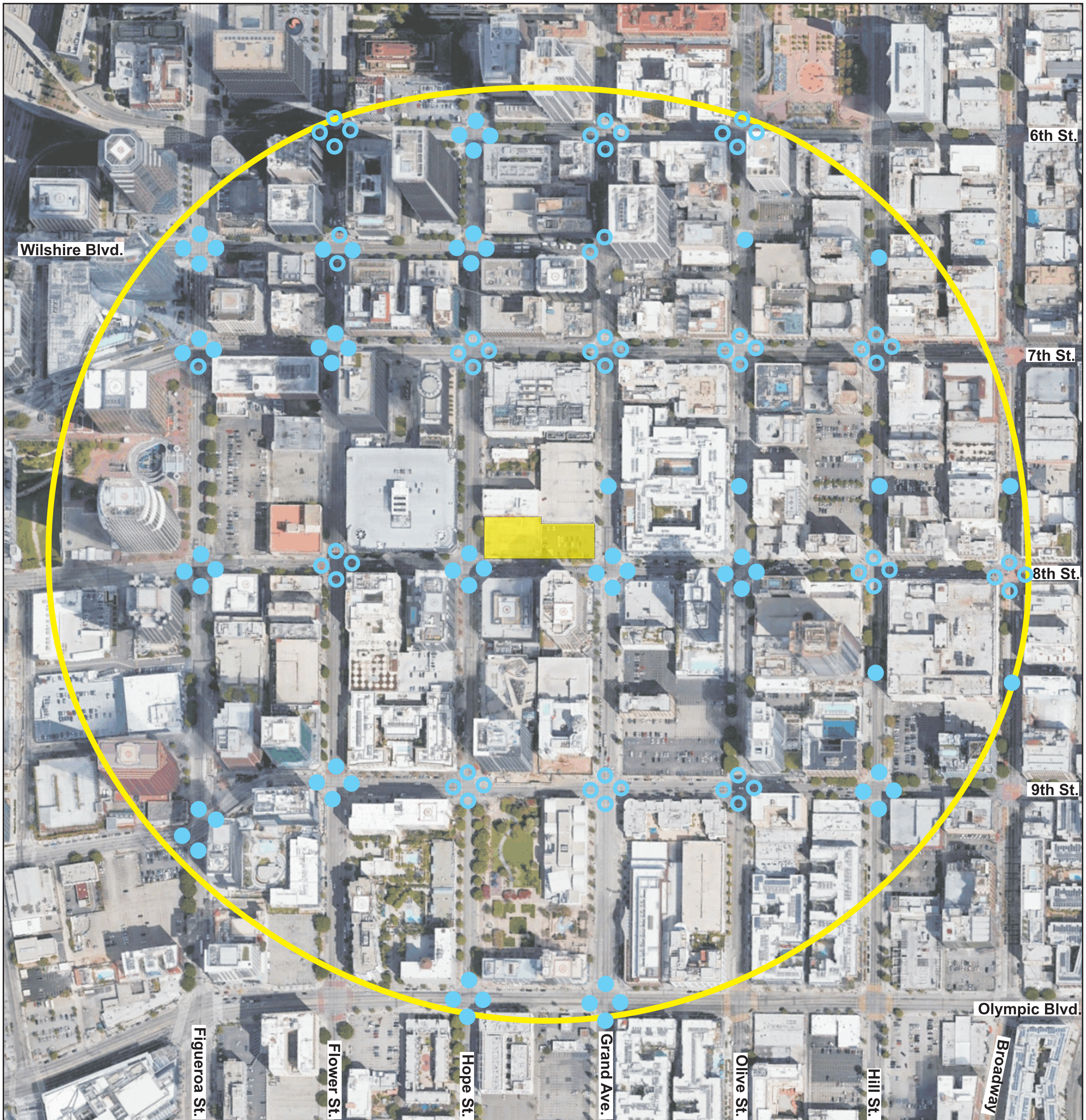
N

Not to Scale
01/22/20

Figure 3.5
Pedestrian Facilities / Amenities

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions



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

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

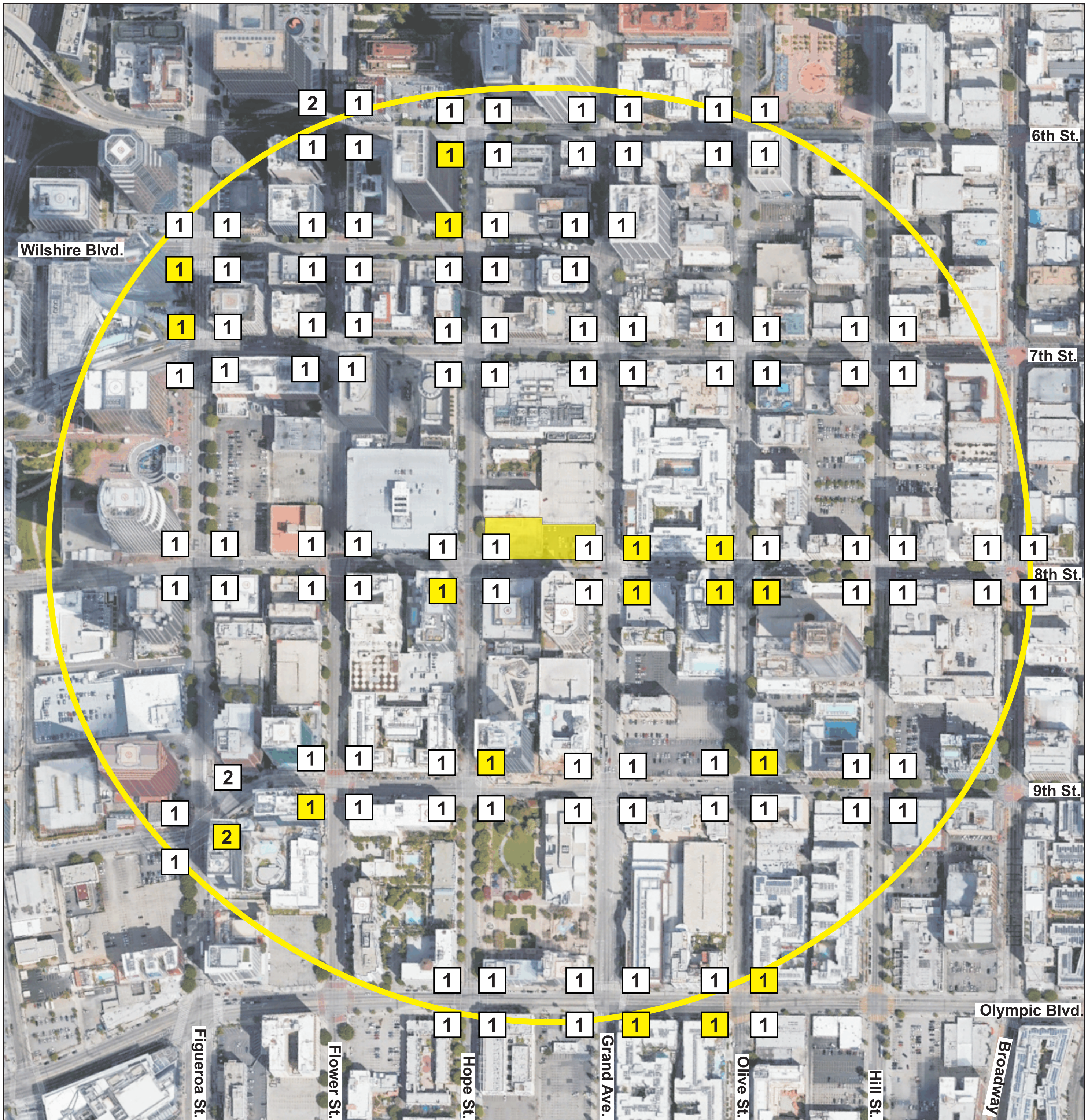
N

Not to Scale
01/04/20

Figure 3.6
Pedestrian Signals

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions



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

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

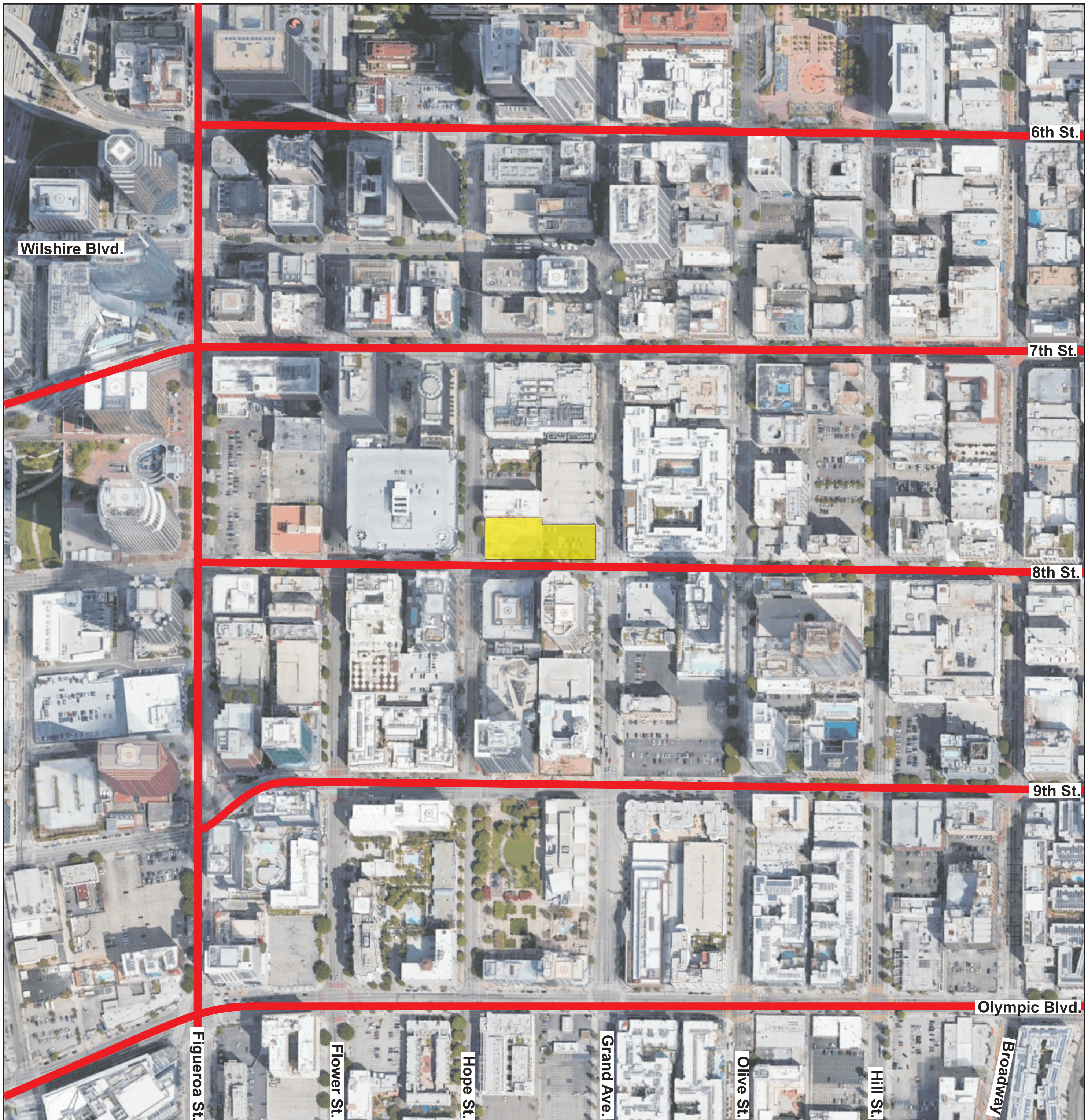
N

Not to Scale
01/04/20

Figure 3.7
Pedestrian Features

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions



Legend

Project Site

High Injury Network

N

Not to Scale
01/04/20

Figure 3.8
High Injury Network

8th Grand & Hope Project

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 1500 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.

<u>Analysis Hours</u>

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

<u>Project Trip Generation</u>

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 December 4, 2019.

Table 3.2 8th Hope Grand Project - Trip Generation Estimates

Daily

Land Use Assumptions		Source [1] & Code	Quantity	Units	Daily			
						Trip Rate		Total Trips
Proposed Uses								
Apartments [2,3]		ITE 222	580	DU		2.07		1,201
(Reduction for transit trips) -	0%							0
(Reduction for walk/bike trips) -	0%							0
Net Apartments								1,201
Retail [2,4]		ITE 820	0	SF		37.75		0
(Reduction for internal trips) -	5%							0
(Reduction for transit trips) -	15%							0
(Reduction for walk/bike trips) -	5%							0
(Reduction for pass-by trips) -	50%							0
Net Retail								0
Fast Casual Restaurant [2,5]		ITE 930	7,499	SF		315.17		2,363
(Reduction for internal trips) -	5%							-118
(Reduction for transit trips) -	15%							-337
(Reduction for walk/bike trips) -	5%							-112
(Reduction for pass-by trips) -	50%							-898
Net Fast Casual Restaurant								898
Total Proposed								2,099
Total Net								2,099

Table 3.2 8th Hope Grand Project - Trip Generation Estimates

AM Peak

Land Use Assumptions		Source [1] & Code	Quantity	Units	AM Peak Hour					
					Trip Rate			Total Trips		
					In	Out	Total	In	Out	Total
Proposed Uses										
Apartments [2,3]		ITE 222	580	DU	0.03	0.18	0.21	17	105	122
(Reduction for transit trips) -	0%							0	0	0
(Reduction for walk/bike trips) -	0%							0	0	0
Net Apartments								17	105	122
Retail [2,4]		ITE 820	0	SF	0.58	0.36	0.94	0	0	0
(Reduction for internal trips) -	5%							0	0	0
(Reduction for transit trips) -	15%							0	0	0
(Reduction for walk/bike trips) -	5%							0	0	0
(Reduction for pass-by trips) -	50%							0	0	0
Net Retail								0	0	0
Fast Casual Restaurant [2,5]		ITE 930	7,499	SF	1.39	0.68	2.07	10	6	16
(Reduction for internal trips) -	5%							-1	0	-1
(Reduction for transit trips) -	15%							-1	-1	-2
(Reduction for walk/bike trips) -	5%							-1	0	-1
(Reduction for pass-by trips) -	50%							-4	-2	-6
Net Fast Casual Restaurant								3	3	6
Total Proposed								20	108	128
Total Net								20	108	128

Table 3.2 8th Hope Grand Project - Trip Generation Estimates

PM Peak

Land Use Assumptions		Source [1] & Code	Quantity	Units	PM Peak Hour					
					Trip Rate			Total Trips		
					In	Out	Total	In	Out	Total
<u>Proposed Uses</u>										
Apartments [2,3]		ITE 222	580	DU	0.13	0.06	0.19	75	35	110
(Reduction for transit trips) -	0%							0	0	0
	0%							0	0	0
Net Apartments								75	35	110
Retail [2,4]		ITE 820	0	SF	1.83	1.98	3.81	0	0	0
(Reduction for internal trips) -	5%							0	0	0
(Reduction for transit trips) -	15%							0	0	0
(Reduction for walk/bike trips) -	5%							0	0	0
(Reduction for pass-by trips) -	50%							0	0	0
Net Retail								0	0	0
Fast Casual Restaurant [2,5]		ITE 930	7,499	SF	7.77	6.36	14.13	58	48	106
(Reduction for internal trips) -	5%							-3	-2	-5
(Reduction for transit trips) -	15%							-8	-7	-15
(Reduction for walk/bike trips) -	5%							-3	-2	-5
(Reduction for pass-by trips) -	50%							-22	-19	-41
Net Fast Casual Restaurant								22	18	40
Total Proposed								97	53	150
Total Net								97	53	150

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) and in agreement with LADOT staff.
3. Apartments analyzed as ITE 222 - Multifamily Housing (High-Rise). Used trip rates for Dense Multi-Use Urban.
4. Retail analyzed as ITE 820 - Shopping Center. Used trip rates for General Urban/Suburban.
5. Restaurant analyzed as ITE 930 - Fast Casual Restaurant. Used trip rates for General Urban/Suburban.

Note: Trip totals may differ marginally due to rounding.

The Project would generate 2,099 daily vehicle trips, 128 AM peak hour trips (20 in and 108 out), and 150 PM peak hour trips (97 in and 53 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:

- 28% of the trips towards the north
- 22% of the trips towards the south
- 16% of the trips towards the east
- 34% of the trips towards the west

Study Intersections

The four (signalized) intersections at corner of the block of the Project Site were included in the analysis.

1. Hope Street & 7th Street
2. Hope Street & 8th Street
3. Grand Avenue & 7th Street
4. Grand Avenue & 8th Street

No other intersections were required to be analyzed as there are no other intersection with more than 100 peak hour trips generated by the Project.

Based on the criteria set forth in the TAG, the two Project Driveways on Grand Avenue and Hope Street were also included in the analysis. These driveways were analyzed as unsignalized intersections.

Figures 3.9 shows the current lane configurations at the four study intersections. Figure 3.10 shows the lane configurations at the driveways of the Project. Figures 3.11 and 3.12 show the Project Only traffic volumes at the four 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.

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 2016 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

In order to identify any potential safety, operational, or capacity constraints, it was necessary to first estimate and then analyze future traffic conditions with the Project. The year selected for this analysis was 2025, which is the expected year of completion of the Project.

Existing Traffic Volumes

Recent traffic counts were used for all of the analyzed intersections. AM and PM peak period traffic counts were conducted in May 2018. 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 2018 counts were factored upward by 1% to reflect 2019 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 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[31]. The existing traffic counts were therefore adjusted upward by a total of 0.2 percent a year for six years (1.2 percent total growth) 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) radius from the Project Site 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.

This approach is consistent with procedures outlined in Section 15130 of the CEQA Guidelines which provide two options for developing future traffic forecasts:

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

<u>Related Projects</u>

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 16 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.

[31] 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).

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.

Future Traffic Forecasts for 2025 With Project Condition

The trip estimates shown in Table 1.3 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 3.13 and 3.14 show the Future with Project Traffic volumes for study intersections for the AM and PM peak hours respectively. Similarly, Figures 3.15 and 3.16 show Future with Project traffic volumes for Project Driveways during the AM and PM peak hour, respectively.

3.3.5 Operational Evaluation

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

Signalized Intersections

Future With Project Conditions

The Level of Service results for the four studied intersections under Future with Project Conditions (FWP) during both AM and PM peak hours are shown in Table 3.5. All four studied intersections are signalized. As shown all studied intersections would operate at a satisfactory Level of Service C or better with the Project.

Table 3.5 Future With Project—Intersection Level of Service

No.	Intersection	Future With Project			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1	Hope Street & 7th Street	12.5	B	12.9	B
2	Hope Street & 8th Street	17.2	B	24.9	C
3	Grand Avenue & 7th Street	18.3	B	21.1	C
4	Grand Avenue & 8th Street	13.2	B	24.9	C

The results of the queuing analysis at the study intersections for the AM and PM peak hours are shown in Table 3.6 and Table 3.7 respectively. The analysis addresses each approach by movement (left turn, through move, 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 the existing storage then it can be concluded that adequate storage is provided.

As shown, in Table 3.6, during the AM peak hour there would be adequate queuing storage for all movements at all intersections, except the following:

- Grand Avenue & 8th Street
  southbound right

As shown in Table 3.7, during the PM peak hour there would be adequate storage for all movements at all intersections all movements except the following:

- Grand Avenue & 7th Street
  westbound through
  southbound left
  southbound through
- Grand Avenue & 8th Street
  westbound left
  southbound 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.

Table 3.6 Future with Project - Intersection Queuing - AM Peak Hour 11/17/2020

No.	Intersection	Movement	Minimum Storage Required (ft.)	Provided Storage	Storage Adequate?
1	Hope Street & 7th Street	EBT	169	305	Yes
		WBT	60	305	Yes
		WBR	25	130	Yes
		NBT	111	550	Yes
		SBT	102	202	Yes
2	Hope Street & 8th Street	WBL	40	90	Yes
		WBT	249	320	Yes
		WBR	37	120	Yes
		NBT	209	565	Yes
		SBT	25	550	Yes
		SBR	26	208	Yes
3	Grand Avenue & 7th Street	EBT	82	305	Yes
		EBR	29	140	Yes
		WBL	59	125	Yes
		WBT	231	304	Yes
		SBL	100	110	Yes
		SBT	161	212	Yes
		SBR	33	154	Yes
4	Grand Avenue & 8th Street	WBL	74	105	Yes
		WBT	176	300	Yes
		SBT	91	560	Yes
		SBR	162	75	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.

Table 3.7 Future with Project - Intersection Queuing - PM Peak Hour 11/17/2020

No.	Intersection	Movement	Minimum Storage Required (ft.)	Provided Storage	Storage Adequate?
1	Hope Street & 7th Street	EBT	215	305	Yes
		WBT	46	305	Yes
		WBR	25	130	Yes
		NBT	100	550	Yes
		SBT	166	202	Yes
2	Hope Street & 8th Street	WBL	42	90	Yes
		WBT	92	320	Yes
		WBR	25	120	Yes
		NBT	187	565	Yes
		SBT	74	550	Yes
		SBR	53	208	Yes
3	Grand Avenue & 7th Street	EBT	118	305	Yes
		EBR	46	140	Yes
		WBL	109	125	Yes
		WBT	309	304	No
		SBL	119	110	No
		SBT	280	212	No
		SBR	29	154	Yes
4	Grand Avenue & 8th Street	WBL	191	105	No
		WBT	228	300	Yes
		SBT	164	560	Yes
		SBR	132	75	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.

Future Without Project Conditions

For those intersections where the queue lengths with the Project would exceed the existing storage length, Tables 3.8 and 3.9 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, all movements with inadequate storage under Future with the Project Conditions would also have inadequate storage under Future Without Project conditions. Therefore, the Project itself would not cause the queue lengths to exceed the existing storage lengths. As can be seen in the tables the Project would not cause increases in queue lengths for two of the five movements analyzed, and would cause minimal increases in queue lengths for the other three movements (a maximum of 28 feet or less than two cars length).

Table 3.8 Intersection Queuing Comparison—AM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)		Provided Storage	Storage Adequate?	
			FWOP	FWP		FWOP	FWP
4	Grand Avenue & 8th Street	Southbound right	134	162	75	No	No

Table 3.9 Intersection Queuing Comparison—PM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)		Provided Storage	Storage Adequate?	
			FWOP	FWP		FWOP	FWP
3	Grand Avenue & 7th Street	Westbound thru	309	309	304	No	No
		Southbound left	119	119	110	No	No
		Southbound thru	271	280	212	No	No
4	Grand Avenue & 8th Street	Westbound left	190	191	105	No	No
		Southbound right	116	132	75	No	No

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.

Project Driveways

Table 3.10 shows the LOS results for the three project driveways. These are unsignalized with only the exit (outbound) driveways stop-sign controlled. Project driveway volumes are shown in Figures 3.15 and 3.16 for the AM and PM peak hours respectively. The LOS is calculated for the controlled minor movements (exit lanes and inbound left turn lanes). Other movements not shown are uncontrolled so are not analyzed. As can be seen in Table 3.10, all three Project driveways would operate at a satisfactory Level of Service C or better.

Table 3.10 Future With Project - Driveway Level of Service

No.	Intersection	Future With Project			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
5	Hope Street & Project Driveway Westbound (Exit) Move Southbound Left (in) Move	10.6 8.8	B A	10.2 8.7	B A
6	Grand Avenue & Project Driveway Eastbound (Exit)	14.6	B	20.8	C

Estimated queue lengths for the AM and PM peak hours are shown in Tables 3.11 and 3.12 respectively. With the low volumes generated by the Project, queue lengths would be minimal (one car or less), and the tables show adequate internal storage capacity would be provided.

It is therefore concluded that Project driveways and internal on-site circulation would operate satisfactorily.

Table 3.11 Future with Project Driveway Queuing—AM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)	Provided Storage	Storage Adequate?
5	Hope Street & Project Driveway	Westbound right	25	40	Yes
6	Grand Avenue & Project Driveway	Eastbound right	25	40	Yes

Table 3.12 Future with Project Driveway Queuing—PM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)	Provided Storage	Storage Adequate?
5	Hope Street & Project Driveway	Westbound right	25	40	Yes
6	Grand Avenue & Project Driveway	Eastbound right	25	40	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.

Passenger Loading

The Project proposes that all passenger loading would occur on-site and has been designed as such. As shown on the site plan shown in Figure 0.2, cars could enter from both Hope Street and Grand Avenue to utilize the on-site drop-off and would exit via Grand Avenue.

It should be noted that the curb lanes adjacent to the Project Site are either largely red curb or accommodate a bus stop, and so would not accommodate passenger loading as currently configured. No changes to these curb designations are proposed by the Project, as adequate on-site passenger loading areas will be provided.

Commercial loading would also occur on-site, with entry from Hope Street and circulation eastbound across the site to exit to Grand Avenue.

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?)*

  Yes, the Project would require construction activities on Grand Avenue and 8th Street which are both classified as a Modified Avenue II, and on Hope Street which is an Avenue II, 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)?*

  No. The Project is not adjacent to any Collector or Local Streets.

- *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. Sidewalk access around the Project Site on Grand Avenue and Hope Street would be maintained during construction. The 8th Street sidewalk adjacent to the Project Site would be closed adjacent to the Project Site, but the Project Site is the only adjacent land use. Access to adjacent land uses would not be affected by Project construction.

- *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?*

Yes. Access to the two existing bus stops on 8th Street west of Grand Avenue would be affected by closure of the sidewalk.

- *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?*

  Yes. Access to the two existing bus stops on 8th Street would be restricted for the duration of the construction activities.

3.4.3 Existing Physical Setting

The adjacent streets are classified as Avenue II and Modified Avenue II. Grand Avenue and 8th Street are one-way streets, Hope Street is a two-way street. There are only three on-street parking spaces adjacent to the Project Site. There is a bike lane on Grand Avenue. Bus routes traverse Grand Avenue, 8th Street, and Hope Street adjacent to the Project Site, and there are two bus stops adjacent 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 36 months.

Grand Avenue

On Grand Avenue, the Project would close the right turn lane and bike lane adjacent to the Project Site for the 36-month duration of the construction period. These closures would occur with k-rail. The configuration of southbound Grand Avenue approaching 8th Street would temporarily change from one right lane, bike lane, and three through lanes, to one shared right/through lane and two through lanes.

The shared right/through lane would also be marked with sharrows, to enable the continuation of the bike route. The sidewalk would be maintained through provision of a covered walkway for pedestrians.

8th Street

On 8th Street, the project would close up to 8’ of the curb lane for the 36-month duration of the construction period. These closures would occur with k-rail. This would need the relocation of the two bus stops west of Grand Avenue, the removal of one on-street parking space, and the closure of the right-turn lane at 8th Street. The configuration of westbound 8th Street approaching Hope Street would temporarily change from one right lane, three through lanes and one left turn lane, to one shared through/right lane, two through lanes and one left turn lane. Due to construction needs it would not be possible to maintain the sidewalk open adjacent to the Project Site between Grand Avenue and Hope Street. A convenient easily accessible alternative pedestrian route would be available on the south side of 8th Street. As the sidewalks on Grand Avenue and 8th Street would remain open, the northwest corner of the 8th & Grand intersection and the northeast corner of the 8th & Hope intersection would remain open for pedestrians with covered protections.

Hope Street

On Hope Street, up to 8' of the curb lane would be closed temporarily on occasion as needed. Closures would occur only during off-peak periods, and would be implemented with traffic cones . There are no bus stops adjacent to the Project Site, but two on-street parking spaces would need to be closed during the closures. The existing configuration of two northbound lanes on Hope Street would be retained at all times. The sidewalk would be maintained through provision of a covered walkway for pedestrians.

Truck Access

During construction, the Project proposes truck ingress to the Project Site from the intersection of Grand Avenue and 8th Street and truck egress via the intersection of Hope Street and 8th Street. Flagmen would control truck traffic 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.

3.4.5 Evaluation

Temporary Transportation Constraints

Temporary closures of two right turn lanes (one on Grand Avenue and one on 8th Street), would occur for a period of 36 months. These streets are classified as Modified Avenue II. 8th Street leads to on-ramps to the SR-110 Freeway. However, the streets are not congested (LOS B and LOS C at adjacent intersections), and with the location of the Project Site in central downtown, there are many alternate routes available in the grid street system.

Given these conditions, the temporary loss of the right turn lanes would not be expected to substantially degrade intersection operations or cause congestion.

The Project would prepare a Construction Traffic Management Plan and Worksite Traffic Control Plan to be approved by LADOT. With these provisions the lane 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 ability of emergency vehicles to use Grand Avenue, 8th Street, or Hope Street.

Temporary Loss of Access

The Grand Avenue bike lane adjacent to the Project Site would be closed for the 36 month construction period. However, the painting of bike sharrows on the adjacent traffic lane would provide continuity of the bike network past the Project Site.

As the sidewalks on Grand Avenue and Hope Street adjacent to the Project Site would remain open during construction, and as the sidewalk on the south side of 8th Street would provide a convenient and easily accessible alternative to the sidewalk being closed on the north side of 8th Street, and as all crosswalks would continue to function at the adjacent intersections, full pedestrian circulation in the area would be maintained, and there would be no degradation of pedestrian accessibility.

The Project would not affect pedestrian, bicycle, or vehicle activity to adjacent parcels or parcels fronting the construction area. Existing access to adjacent and fronting uses 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

The two bus stops on 8th Street just west of Grand Avenue would be closed during the 36 month construction period. One stop serves the Metro 66 Line (which runs weekdays and weekends) and the Antelope Valley Transit 785 Line (runs weekdays only). The other serves the LADOT Commuter Express Lines 431 and 437 (which both run on weekdays only).

For the Metro Line 66 there are alternate stops on 8th Street at Olive Street (one block away) and at Flower Street (two blocks away). For the Antelope Valley Transit Line 785, there is also an alternate stop on 8th Street at Olive Street (one block away). The bus stop for the LADOT Commuter Express Lines 431 and 437 is a drop-off only stop. Alternate stops for both lines are located at Flower Street and at 9th Street & Olive Street (both two blocks away). The bus stop for all these lines could therefore be temporarily conveniently located to within one or two blocks of the affected stop, and there would be no substantial effect on transit riders.

The Project would coordinate with the transit agencies involved to facilitate the temporary location of these bus stops.

All bus lines currently using Grand Avenue, 8th Street, and Hope Street could contribute to use these streets so bus routing would not be affected by Project construction.

Conclusions

All of the effects identifies 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) 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 WTCP 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 WTCP 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.

The Project will coordinate the details of the CTMP and the WTCP with emergency services and affected transit providers including the need to temporarily close or relocate bus stops.

The Project will coordinate with LADOT's Parking Meters Division regarding revenue recovery costs for the temporary removal of parking meter spaces as applicable.

All three streets adjacent to the Project Site are identified as streets of significance within the Regional Connector Transit Corridor Map – Impact Area "N". The Regional Connector is schedule to start revenue service in the third quarter of 2022[32], so it is anticipated that all

[32] *Completing the Regional Connector Project, Item 30,* Metro Board Construction Committee, January 16, 2020.

surface construction activity will be complete by the time the Project started construction in mid 2022. The Project will therefore not need to coordinate with the Major Transit and Transportation Construction Traffic Management Committee (TCTMC) or attend a TCMTC Meeting to explain/discuss the CTMP. These dates will be monitored and if necessary the Project will conduct such coordination and attend the applicable meeting.

3.5. Residential Street Cut-Through Analysis

3.5.1 Introduction

In this section, the 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 TAG 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 1500 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*

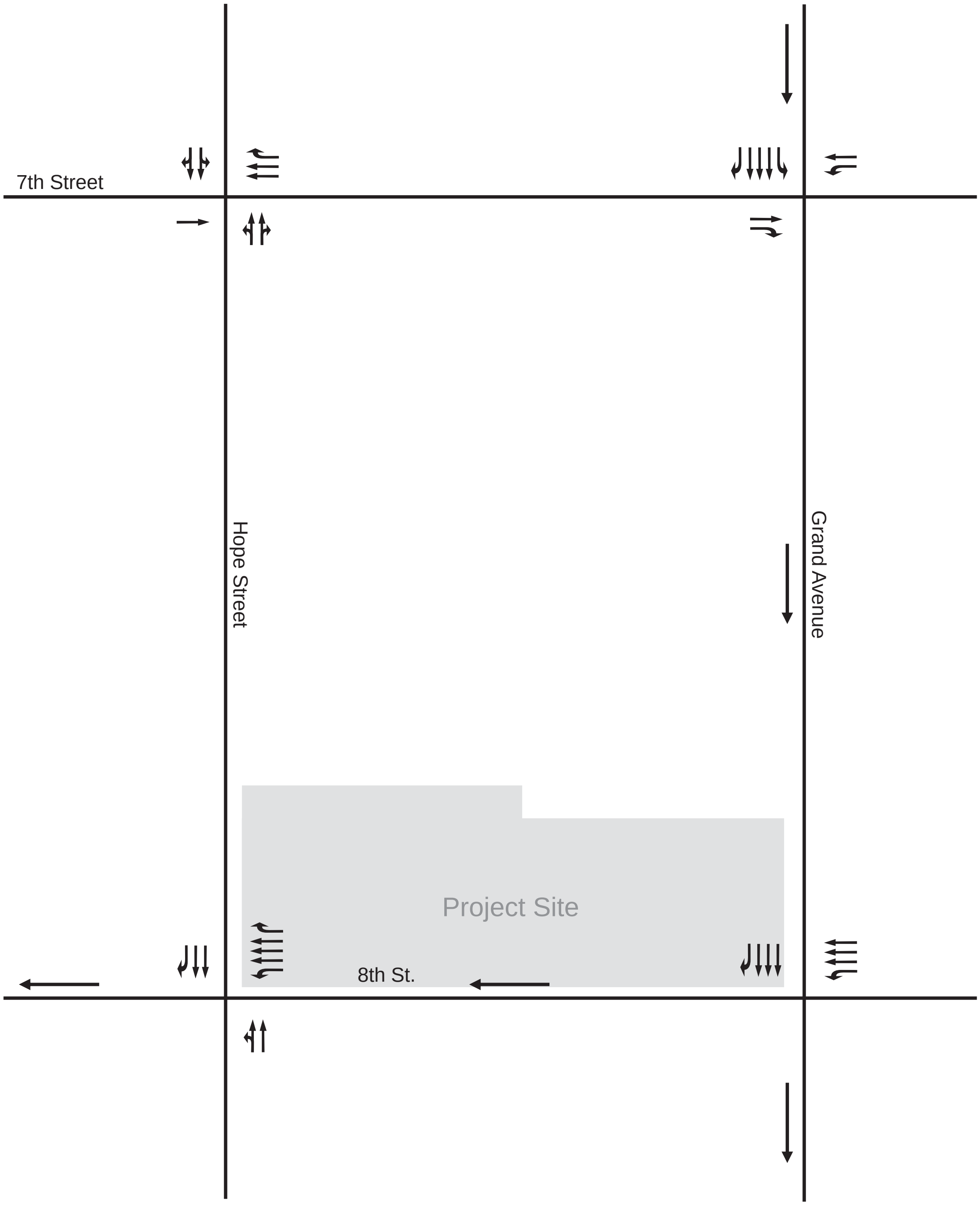
- *(3) Nearby local residential street(s) (defined as Local streets as designated in the City's General Plan passing through a residential neighborhood) provide motorists with a viable alternative route. A viable alternative route is defined as one which is parallel and reasonably adjacent to the primary 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 located in the downtown central business district area. With respect to Condition #1, there are no Local Streets adjacent or near the Project Site. Further the roadways in the immediate vicinity of Project Site are classified as Avenue II or Modified Avenue II under the City's General Plan and are not congested as the LOS analysis in Section 3.3 showed that all study intersections operate at LOS C or better during both AM and PM peak hours. Condition #1 is therefore not met.

With respect to Condition #2, the Project would not add substantial traffic to adjacent streets, the adjacent streets are not congested, and there are no Local Street alternative routes. 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 required.

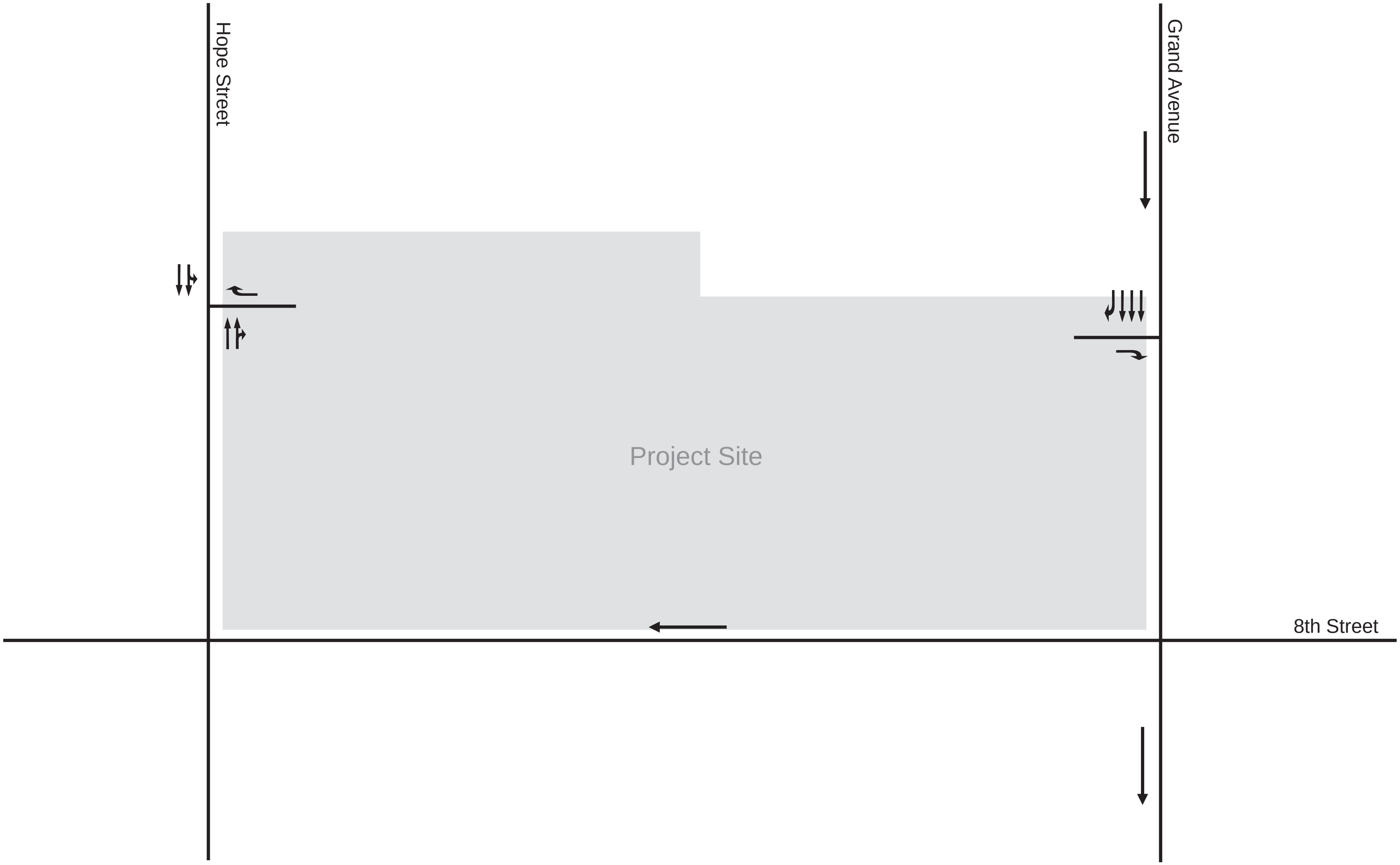


1/21/20

Figure 3.9
Configuration of Analyzed Intersections

8th Grand & Hope Project

The Mobility Group
Transportation Strategies & Solutions

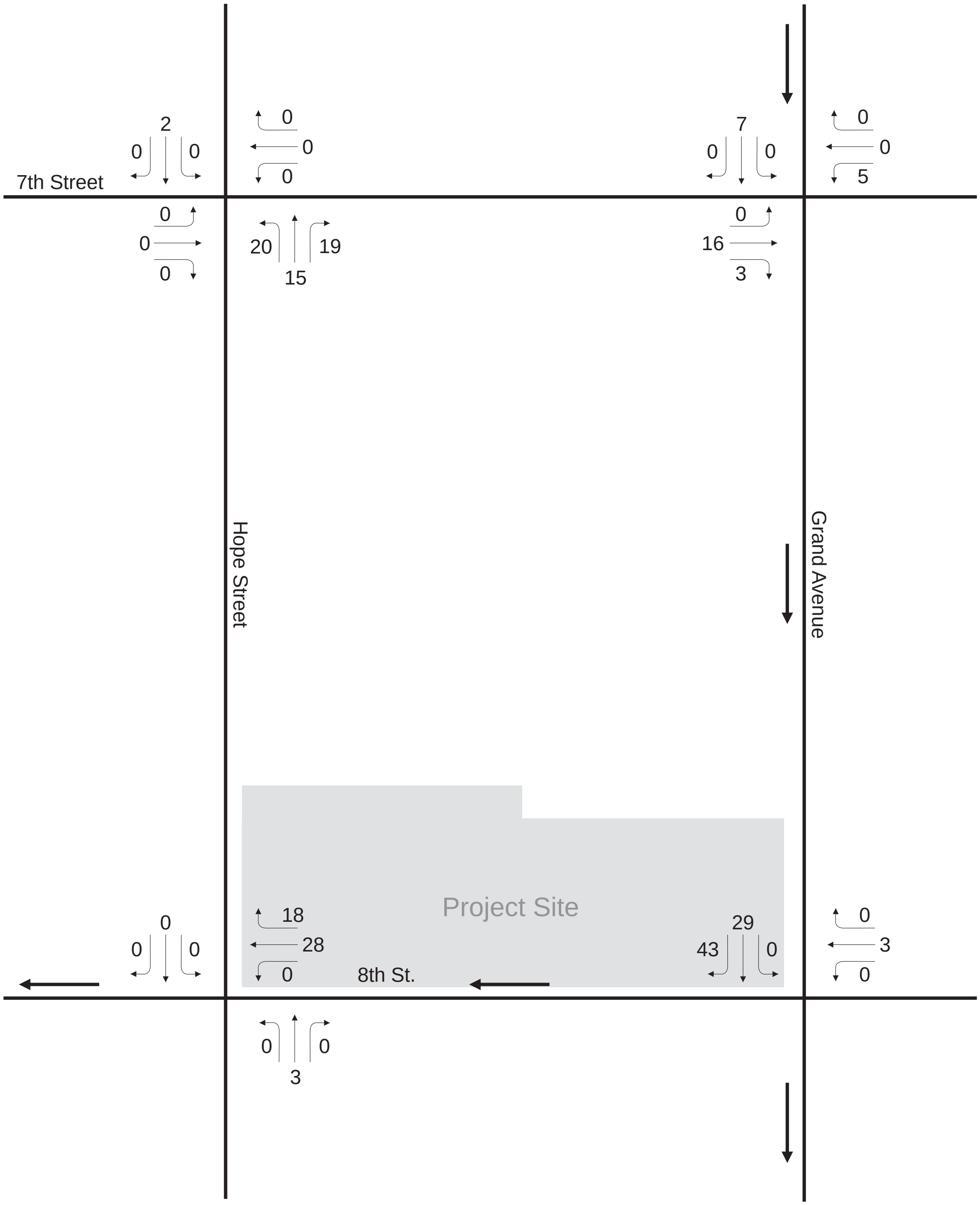


11/18/20

Figure 3.10
Configuration of Driveways

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions

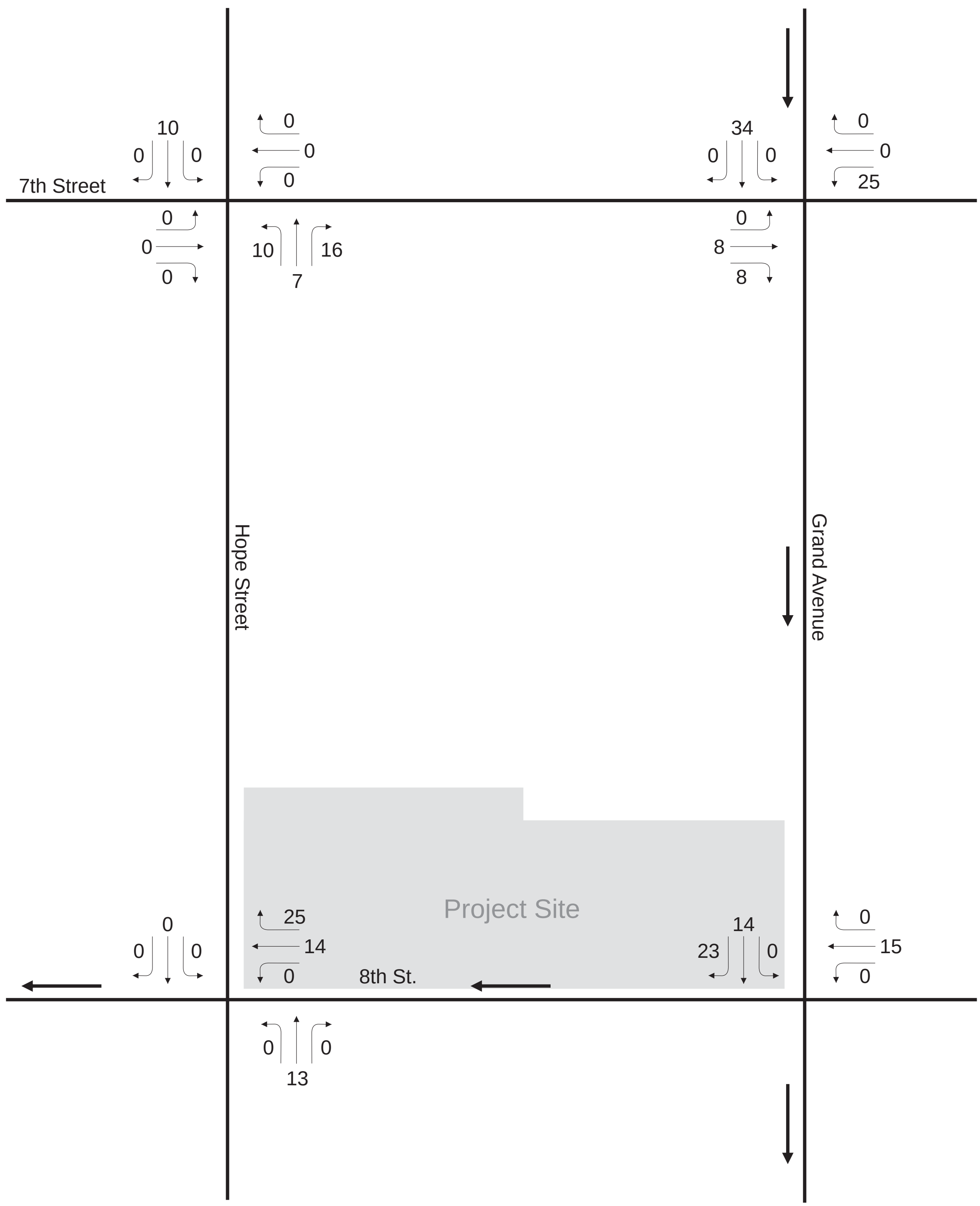


11/18/20

Figure 3.11
Project Only Traffic Volumes - AM Peak Hour

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions

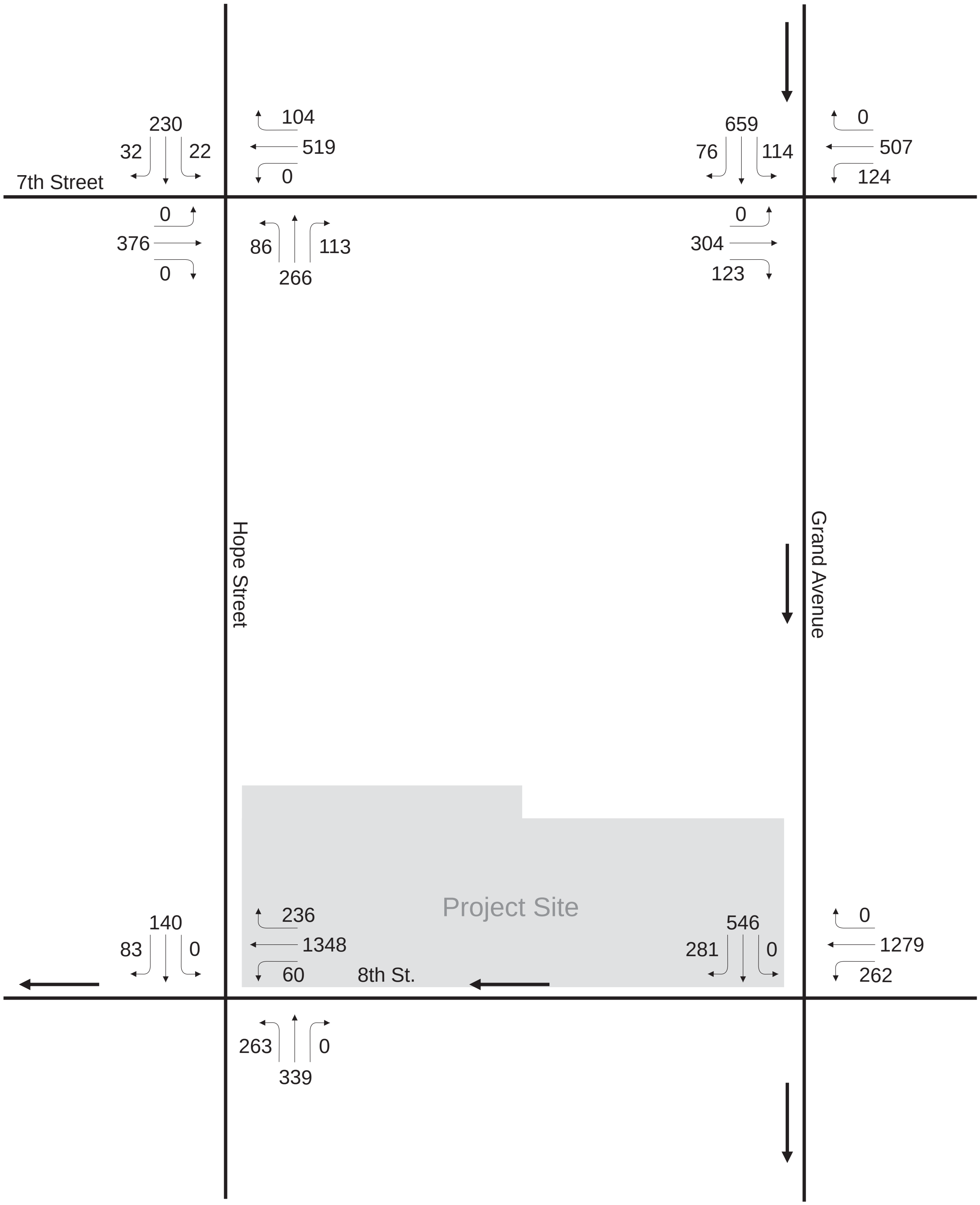


11/18/20

Figure 3.12
Project Only Traffic Volumes - PM Peak Hour

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions

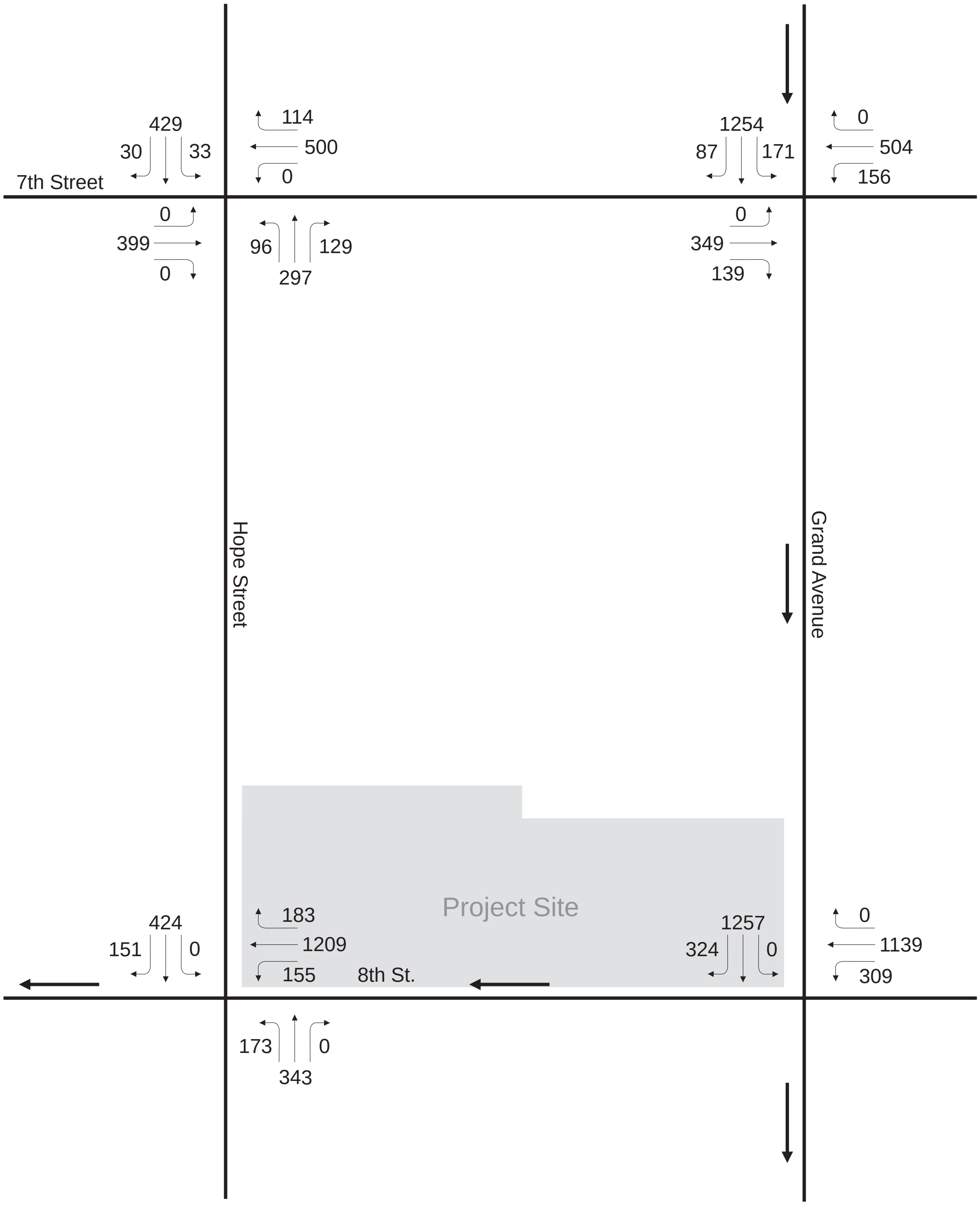


11/18/20

Figure 3.13
Future With Project Traffic Volumes - AM Peak Hour

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions

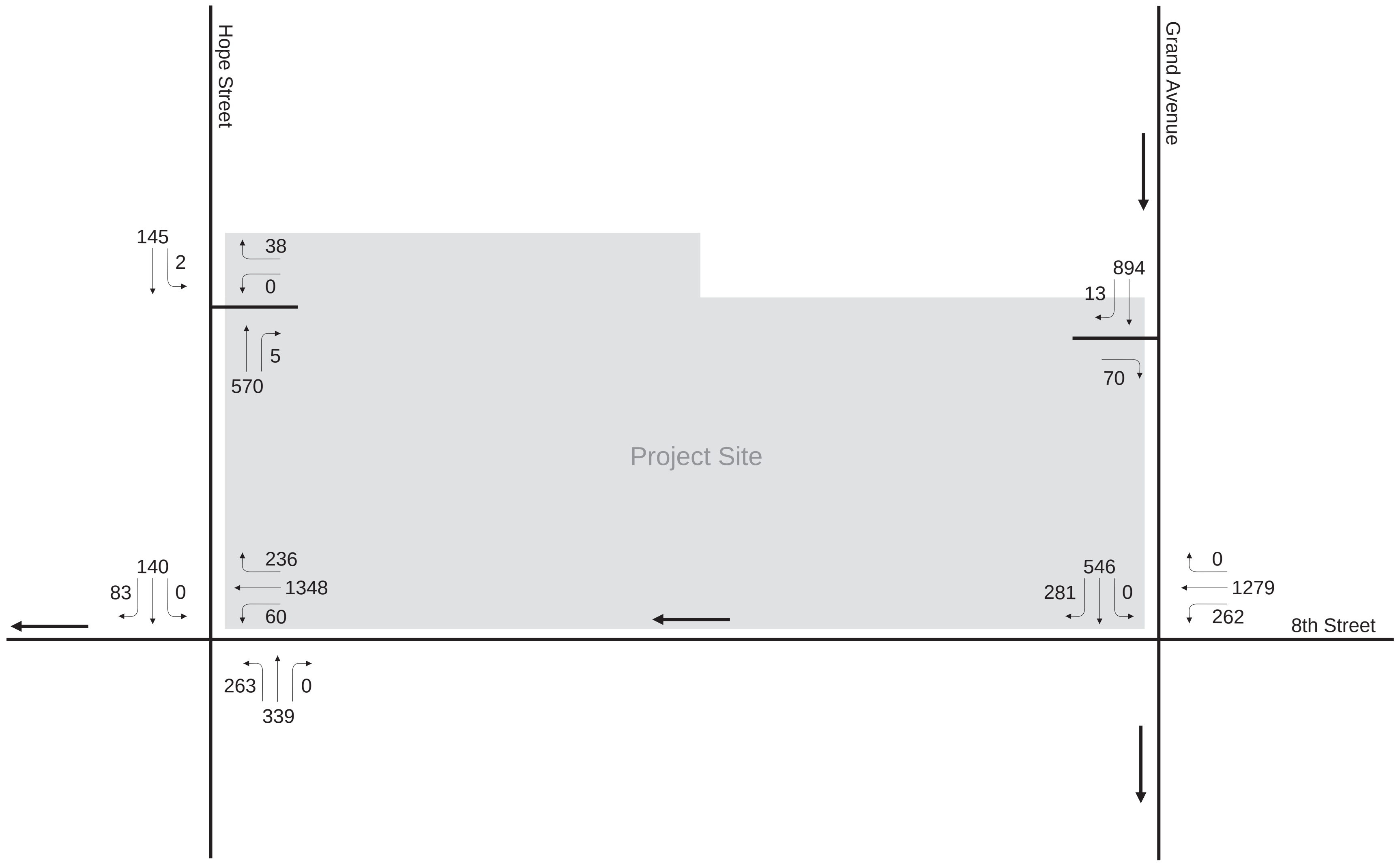


11/18/20

Figure 3.14
Future With Project Traffic Volumes - PM Peak Hour

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions



11/18/20

Figure 3.15
Future With Project Traffic Volumes (Driveways) - AM Peak Hour

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions

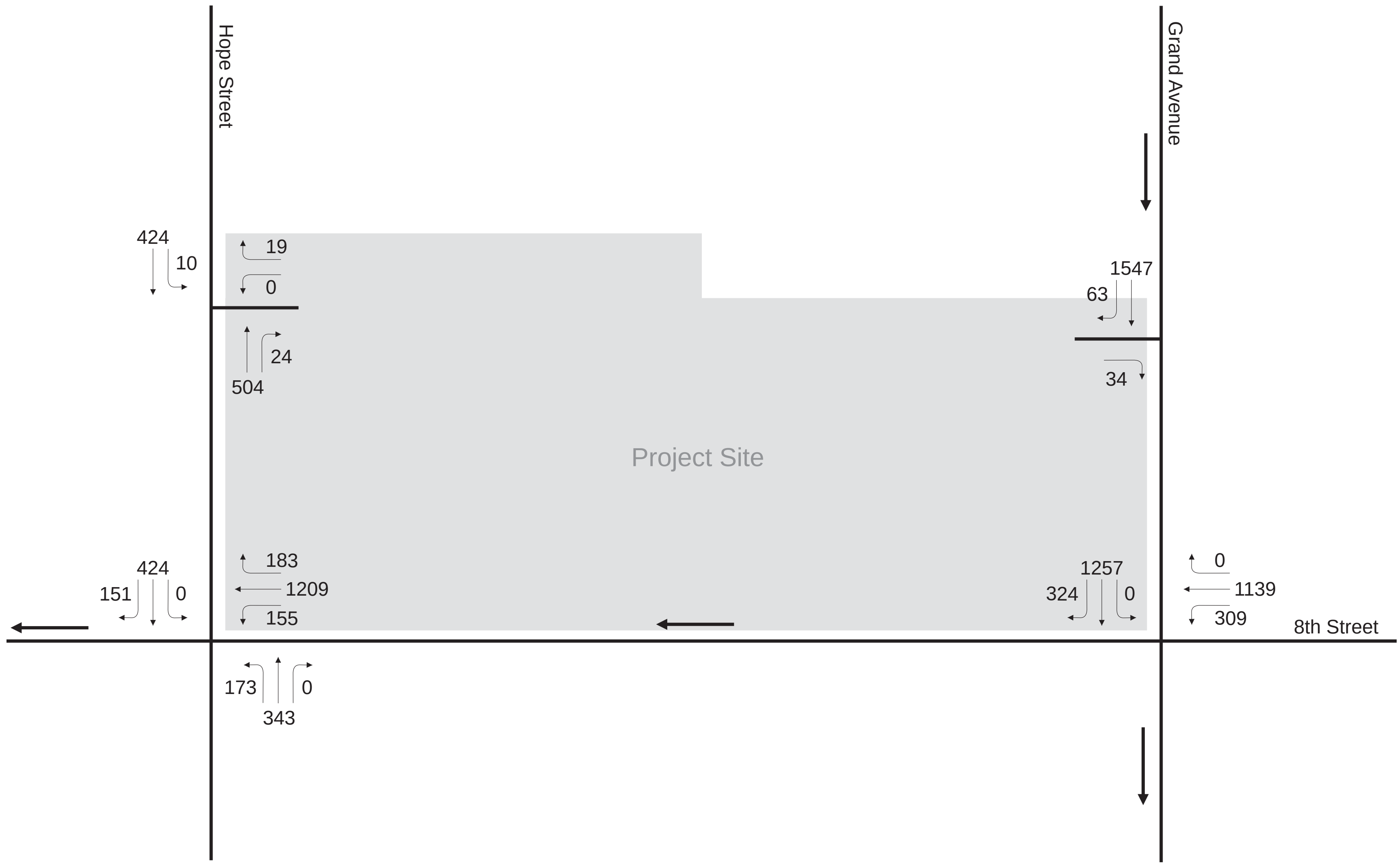


Figure 3.16
Future With Project Traffic Volumes (Driveways) - PM Peak Hour

8th Grand & Hope Project

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 to address any physical or demand-based deficiencies on the pedestrian, bicycle and transit facilities in the vicinity of the Project, and also corrective actions that may be necessary to address potential operational, capacity, and safety constraints arising from the Project.

CEQA Analysis of Transportation Impacts

The analysis in Chapter 2 identified that the Project would be consistent with applicable current plans, programs, ordinances and polices, with approval of the waiver of a 2’ and 10’ dedication on 8th Street.

Chapter 2 also identified that the Project would not cause any significant VMT impacts.

The analysis in Chapter 2 also concluded that the Project would not substantially increase hazards due to a geometric design feature or incompatible use.

It is therefore concluded that no mitigation measures are necessary for the Project.

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

The analysis in Chapter 3 identified that the general quality of these facilities is currently adequate and no particular substandard or deficiencies were found. The evaluation identified no deficiencies in the facilities along pedestrian pathways between the Project and proximate destinations or transit stops, except for the lack of tactile warning strips on sidewalks at a number of intersections in the Study Area.

The Project will fully improve the sidewalks adjacent to the site to current standards, and will not degrade or reduce any existing pedestrian, bicycle, or transit facilities.

The Project proposes to install tactile warning strips on the street corners immediately adjacent to the site (northwest corner of Grand Avenue & 8th Street) and the northeast corner of Hope Street & 8th Street. No further actions are deemed necessary or proposed.

No other corrective actions are deemed necessary or proposed.

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

The analysis in Chapter 3 identified that the Project would not cause any operational problems or issues at signalized intersections, or project driveways. Adequate on-site passenger loading areas would be provided, so no on-site passenger loading problems would be caused by the Project.

Therefore, no corrective actions are deemed necessary or proposed.

Non-CEQA Transportation Analysis—Project Construction

The analysis in Chapter 3 identified that construction impacts would be temporary for the duration of the construction period, and that the evaluation showed 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.

Summary

Based on the analysis presented in this report, and the conclusions identified above, no mitigation measures are necessary, and no corrective actions beyond the tactile warning strips proposed above are deemed necessary for the Project.

Appendix A

VMT Analysis
LADOT Calculator Worksheets

CITY OF LOS ANGELES VMT CALCULATOR Version 1.2

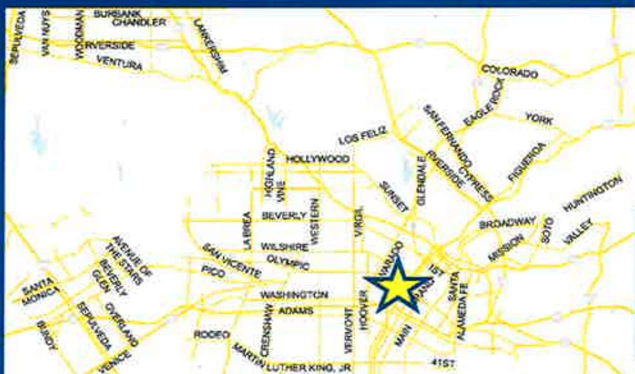
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 8th Grand Hope Project

Scenario: Proposd Project

Address: 754 S HOPE ST, 90017



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

Yes   No

Existing Land Use

Land Use Type	Value	Unit
Housing | Single Family		DU

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

Proposed Project Land Use

Land Use Type	Value	Unit
Retail | High-Turnover Sit-Down Restaurant	7.499	ksf
Housing | Multi-Family	580	DU
Retail | High-Turnover Sit-Down Restaurant	7.499	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
0 Daily Vehicle Trips	1,500 Daily Vehicle Trips
0 Daily VMT	8,617 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	1,500 Net Daily Trips
The net increase in daily VMT ≤ 0	8,617 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	7.499 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

11/18/2019

CITY OF LOS ANGELES VMT CALCULATOR Version 1.2

Project Information

Project: 8th Grand Hope Project

Scenario: Proposd Project

Address: 754 S HOPE ST, 90017

Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	580	DU
Retail | High-Turnover Sit-Down Restaurant	7.499	ksf

TDM Strategies

Select each section to show individual strategies

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

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

A Parking

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

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

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

Price Workplace Parking ☐ Proposed Prj ☐ Mitigation
- 6.00 daily parking charge (dollar)
- 25 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
1,500 Daily Vehicle Trips	**1,500** Daily Vehicle Trips
8,617 Daily VMT	**8,617** Daily VMT
3.4 Household VMT per Capita	**3.4** Household VMT per Capita
N/A Work VMT per Employee	**N/A** 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: N/A Threshold = 7.6 15% Below APC	**Work: N/A** Threshold = 7.6 15% Below APC

Measuring the Miles

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

Project Information

Land Use Type		Value	Units
Housing	Single Family	0	DU
	Multi Family	580	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	7.499	ksf
	Fast-Food Restaurant	0.000	ksf
	Quality Restaurant	0.000	ksf
	Auto Repair	0.000	ksf
	Home Improvement	0.000	ksf
	Free-Standing Discount	0.000	ksf
	Movie Theater	0	Seats
Office	General Office	0.000	ksf
	Medical Office	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: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

Analysis Results			
Total Employees: 30 Total Population: 1,307			
Proposed Project		***With Mitigation***	
1,500	**Daily Vehicle Trips**	**1,500**	**Daily Vehicle Trips**
8,617	**Daily VMT**	**8,617**	**Daily VMT**
3.4	**Household VMT per Capita**	**3.4**	**Household VMT per Capita**
N/A	**Work VMT per Employee**	**N/A**	**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	N/A	Work > 7.6	N/A

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	$0
	Parking cash-out	Employees eligible (%)	0%	0%
	Price workplace parking	Daily parking charge ($)	$0.00	$0.00
		Employees subject to priced parking (%)	0%	0%
	Residential area parking permits	Cost of annual permit ($)	$0	$0

(cont. on following page)

TDM Strategy Inputs, Cont.

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

(cont. on following page)

TDM Strategy Inputs, Cont.

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

(cont. on following page)

TDM Strategy Inputs, Cont.

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

TDM Adjustments by Trip Purpose & Strategy

Place type: Urban

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

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Urban

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

Final Combined & Maximum TDM Effect

	Home Based Work Production		Home Based Work Attraction		Home Based Other Production		Home Based Other Attraction		Non-Home Based Other Production		Non-Home Based Other Attraction	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
MAX. TDM EFFECT	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

= 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: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	785	-49.3%	398	5.7	4,475	2,269
Home Based Other Production	2,103	-74.1%	544	4.1	8,622	2,230
Non-Home Based Other Production	139	-25.2%	104	8.4	1,168	874
Home-Based Work Attraction	43	-74.4%	11	8.2	353	90
Home-Based Other Attraction	699	-74.5%	178	6.7	4,683	1,193
Non-Home Based Other Attraction	350	-24.3%	265	7.4	2,590	1,961

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	0.0%	398	2,269	0.0%	398	2,269
Home Based Other Production	0.0%	544	2,230	0.0%	544	2,230
Non-Home Based Other Production	0.0%	104	874	0.0%	104	874
Home-Based Work Attraction	0.0%	11	90	0.0%	11	90
Home-Based Other Attraction	0.0%	178	1,193	0.0%	178	1,193
Non-Home Based Other Attraction	0.0%	265	1,961	0.0%	265	1,961

MXD VMT Methodology Per Capita & Per Employee

Total Population: 1,307
Total Employees: 30
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**4,499**	**4,499**
Total Home Based Work Attraction VMT	**90**	**90**
Total Home Based VMT Per Capita	**3.4**	**3.4**
Total Work Based VMT Per Employee	**N/A**	**N/A**

Appendix B

Traffic Counts

City Of Los Angeles
Department Of Transportation
MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South Hope Street

East/West 7th Street

Day: Wednesday **Date:** May 16, 2018 **Weather:** CLEAR

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

School Day: YES **District:** Central I/S CODE 8609

	N/B	S/B	E/B	W/B
DUAL-WHEELED	41	31	51	109
BIKES	63	49	273	288
BUSES	3	142	143	261

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	118	8.45	82	9.15	97	8.30	157	9.00
PM PK 15 MIN	128	5.15	127	5.30	117	3.15	150	5.45
AM PK HOUR	421	8.00	303	8.45	349	8.15	582	8.15
PM PK HOUR	474	5.00	464	5.00	404	4.45	554	5.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	50	184	49	283
8-9	64	261	96	421
9-10	63	183	81	327
3-4	68	184	77	329
4-5	66	202	106	374
5-6	84	282	108	474
TOTAL	395	1296	517	2208

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	19	140	21	180
8-9	19	227	30	276
9-10	26	223	52	301
3-4	19	160	18	197
4-5	20	258	28	306
5-6	30	404	30	464
TOTAL	133	1412	179	1724

Hours	**TOTAL** N-S	**XING S/L** Ped	Sch	**XING N/L** Ped	Sch
7-8	463	345	28	462	46
8-9	697	335	18	637	55
9-10	628	349	27	506	54
3-4	526	452	53	433	58
4-5	680	585	82	637	101
5-6	938	537	52	680	88
TOTAL	3932	2603	260	3355	402

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	217	48	265
8-9	2	260	79	341
9-10	2	249	73	324
3-4	5	302	62	369
4-5	6	296	59	361
5-6	4	321	48	373
TOTAL	19	1645	369	2033

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	6	420	93	519
8-9	8	465	96	569
9-10	2	452	100	554
3-4	2	346	75	423
4-5	5	383	87	475
5-6	5	442	107	554
TOTAL	28	2508	558	3094

Hours	**TOTAL** E-W	**XING W/L** Ped	Sch	**XING E/L** Ped	Sch
7-8	784	189	17	108	4
8-9	910	225	6	138	5
9-10	878	185	16	162	11
3-4	792	186	23	137	25
4-5	836	255	49	145	24
5-6	927	193	17	155	12
TOTAL	5127	1233	128	845	81

(Rev Oct 06)

City Of Los Angeles
Department Of Transportation
MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Hope Street

East/West 8th Street

Day: Wednesday **Date:** May 16, 2018 **Weather:** CLEAR

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

School Day: YES **District:** Central I/S CODE 8632

	N/B	S/B	E/B	W/B
DUAL-WHEELED	52	29	0	136
BIKES	67	55	36	119
BUSES	5	90	0	113

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	134	9.00	59	8.15	0	7.00	364	8.45
PM PK 15 MIN	114	5.15	155	5.30	0	3.00	359	5.45
AM PK HOUR	486	8.15	218	8.00	0	7.00	1388	8.00
PM PK HOUR	429	5.00	557	5.00	0	3.00	1224	5.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	137	226	0	363
8-9	150	328	0	478
9-10	155	271	0	426
3-4	131	230	0	361
4-5	136	232	0	368
5-6	111	318	0	429
TOTAL	820	1605	0	2425

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	85	60	145
8-9	0	137	81	218
9-10	0	114	83	197
3-4	0	142	98	240
4-5	0	221	126	347
5-6	0	409	148	557
TOTAL	0	1108	596	1704

	TOTAL	**XING S/L**		**XING N/L**	
Hours	N-S	Ped	Sch	Ped	Sch
7-8	508	122	2	99	1
8-9	696	231	2	121	0
9-10	623	169	0	106	0
3-4	601	258	9	139	0
4-5	715	261	3	160	0
5-6	986	258	3	201	0
TOTAL	4129	1299	19	826	1

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	45	1010	117	1172
8-9	50	1125	213	1388
9-10	48	900	174	1122
3-4	58	875	105	1038
4-5	87	897	97	1081
5-6	118	952	154	1224
TOTAL	406	5759	860	7025

	TOTAL	**XING W/L**		**XING E/L**	
Hours	E-W	Ped	Sch	Ped	Sch
7-8	1172	182	3	69	2
8-9	1388	256	8	105	0
9-10	1122	195	4	83	0
3-4	1038	266	12	85	3
4-5	1081	290	0	102	1
5-6	1224	304	7	91	0
TOTAL	7025	1493	34	535	6

(Rev Oct 06)

City Of Los Angeles
Department Of Transportation
MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Grand Avenue

East/West 7th Street

Day: Wednesday **Date:** May 16, 2018 **Weather:** CLEAR

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

School Day: YES **District:** Central I/S CODE 8620

	N/B	S/B	E/B	W/B
DUAL-WHEELED	0	102	44	75
BIKES	25	61	274	223
BUSES	0	456	192	261

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	0	7.00	195	8.45	101	9.00	156	8.00
PM PK 15 MIN	0	3.00	348	5.30	118	5.45	143	5.15
AM PK HOUR	0	7.00	762	8.45	378	8.15	573	8.00
PM PK HOUR	0	3.00	1313	4.45	435	5.00	540	5.00

NORTHBOUND 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

SOUTHBOUND Approach / **TOTAL** / **XING S/L** / **XING N/L**

Hours	Lt	Th	Rt	Total	N-S	Ped	Sch	Ped	Sch
7-8	92	439	57	588	588	300	15	349	8
8-9	124	552	71	747	747	340	6	403	4
9-10	110	553	81	744	744	316	25	368	7
3-4	121	633	73	827	827	492	44	526	20
4-5	123	884	54	1061	1061	489	41	508	21
5-6	156	1064	85	1305	1305	550	39	577	11
TOTAL	726	4125	421	5272	5272	2487	170	2731	71

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	210	75	285
8-9	0	248	110	358
9-10	0	232	121	353
3-4	0	292	109	401
4-5	0	288	114	402
5-6	0	310	125	435
TOTAL	0	1580	654	2234

WESTBOUND Approach / **TOTAL** / **XING W/L** / **XING E/L**

Hours	Lt	Th	Rt	Total	E-W	Ped	Sch	Ped	Sch
7-8	61	429	0	490	775	109	6	181	5
8-9	98	475	0	573	931	132	5	248	1
9-10	103	426	0	529	882	166	8	250	4
3-4	72	370	0	442	843	180	11	319	7
4-5	77	380	0	457	859	184	9	322	4
5-6	99	441	0	540	975	246	2	413	4
TOTAL	510	2521	0	3031	5265	1017	41	1733	25

(Rev Oct 06)

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Grand Avenue

East/West 8th Street

Day: Wednesday **Date:** May 16, 2018 **Weather:** CLEAR

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

School Day: YES **District:** Central I/S CODE 8643

	N/B	S/B	E/B	W/B
DUAL-WHEELED	0	114	0	149
BIKES	34	136	53	101
BUSES	0	343	0	113

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	0	7.00	171	9.15	0	7.00	326	8.00
PM PK 15 MIN	0	3.00	361	5.15	0	3.00	332	5.45
AM PK HOUR	0	7.00	669	8.45	0	7.00	1270	8.00
PM PK HOUR	0	3.00	1354	5.00	0	3.00	1132	5.00

NORTHBOUND 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

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total	TOTAL N-S	XING S/L Ped	XING S/L Sch	XING N/L Ped	XING N/L Sch
7-8	0	409	146	555	555	93	0	148	0
8-9	0	440	215	655	655	163	0	173	0
9-10	0	436	218	654	654	136	0	145	1
3-4	0	841	231	1072	1072	265	0	214	0
4-5	0	1043	232	1275	1275	209	0	283	1
5-6	0	1112	242	1354	1354	238	0	258	1
TOTAL	0	4281	1284	5565	5565	1104	0	1221	3

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	TOTAL E-W	XING W/L Ped	XING W/L Sch	XING E/L Ped	XING E/L Sch
7-8	101	1018	0	1119	1119	80	0	186	0
8-9	177	1093	0	1270	1270	156	0	188	0
9-10	106	865	0	971	971	115	0	195	0
3-4	154	703	0	857	857	181	0	329	0
4-5	210	743	0	953	953	194	0	263	0
5-6	230	902	0	1132	1132	192	0	254	0
TOTAL	978	5324	0	6302	6302	918	0	1415	0

(Rev Oct 06)

Appendix C

Level of Service Worksheets

Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	409	564	113	505	309
v/c Ratio	0.33	0.24	0.10	0.78	0.43
Control Delay	8.1	5.1	0.9	35.9	28.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	5.1	0.9	35.9	28.7
Queue Length 50th (ft)	88	37	0	86	74
Queue Length 95th (ft)	169	60	6	111	102
Internal Link Dist (ft)	150	376		445	60
Turn Bay Length (ft)					
Base Capacity (vph)	1244	2363	1094	946	1080
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	0.33	0.24	0.10	0.53	0.29

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	376	0	0	519	104	86	266	113	22	230	32
Future Volume (veh/h)	0	376	0	0	519	104	86	266	113	22	230	32
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	0	1870	0	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	409	0	0	564	113	93	289	123	24	250	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, %	0	2	0	0	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	No			No			Yes			Yes		
Cap, veh/h	0	1223	0	0	2324	1036	147	407	188	77	679	94
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.65	0.00	0.00	1.00	1.00	0.49	0.49	0.49	0.25	0.25	0.25
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	7.1	0.0	0.0	0.2	0.2	25.2	0.0	21.9	28.4	0.0	28.7
Ln Grp LOS	A	A	A	A	A	A	C	A	C	C	A	C
Approach Vol, veh/h		409			677			505			309	
Approach Delay, s/veh		7.1			0.2			23.5			28.6	
Approach LOS		A			A			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		7.0		8.0		8.0		8.0
Phs Duration (G+Y+Rc), s		63.4		26.6		63.4		26.6
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		49.5		31.5		49.5		31.5
Max Allow Headway (MAH), s		5.0		5.4		5.2		5.5
Max Q Clear (g_c+I1), s		2.0		13.0		10.7		19.6
Green Ext Time (g_e), s		4.8		1.7		2.8		2.5
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.01		0.00		0.22

Left-Turn Movement Data	1	2	3	4	5	6	7	8
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		0		126		0		377

Through Movement Data	1	2	3	4	5	6	7	8
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3647		2759		1870		1652

Right-Turn Movement Data	1	2	3	4	5	6	7	8
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1585		382		0		764

Left Lane Group Data	1	2	3	4	5	6	7	8
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

Lanes in Grp	0	0	0	1	0	0	0	1
Grp Vol (v), veh/h	0	0	0	159	0	0	0	253
Grp Sat Flow (s), veh/h/ln	0	0	0	1634	0	0	0	1228
Q Serve Time (g_s), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	10.8
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	11.0	0.0	0.0	0.0	17.6
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	989	0	0	0	1112
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	22.1	0.0	0.0	0.0	22.1
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	11.3	0.0	0.0	0.0	15.3
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	10.8
Time to First Blk (g_f), s	0.0	58.9	0.0	9.4	0.0	58.9	0.0	2.4
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	6.3	0.0	0.0	0.0	2.4
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.37
Lane Grp Cap (c), veh/h	0	0	0	448	0	0	0	357
V/C Ratio (X)	0.00	0.00	0.00	0.36	0.00	0.00	0.00	0.71
Avail Cap (c_a), veh/h	0	0	0	619	0	0	0	511
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	28.0	0.0	0.0	0.0	22.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.0	0.0	2.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	28.4	0.0	0.0	0.0	25.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.8	0.0	0.0	0.0	3.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	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	2.8	0.0	0.0	0.0	3.7
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.84	0.00	0.00	0.00	0.21
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	1	0	0
Grp Vol (v), veh/h	0	564	0	0	0	409	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1870	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	8.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	8.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	2324	0	0	0	1223	0	0
V/C Ratio (X)	0.00	0.24	0.00	0.00	0.00	0.33	0.00	0.00
Avail Cap (c_a), veh/h	0	2324	0	0	0	1223	0	0
Upstream Filter (I)	0.00	0.92	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	6.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.2	0.0	0.0	0.0	7.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	3.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.41	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		R		T+R				T+R
Lanes in Grp	0	1	0	1	0	0	0	1
Grp Vol (v), veh/h	0	113	0	150	0	0	0	252
Grp Sat Flow (s), veh/h/ln	0	1585	0	1633	0	0	0	1565
Q Serve Time (g_s), s	0.0	0.0	0.0	6.8	0.0	0.0	0.0	10.9
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	6.8	0.0	0.0	0.0	10.9
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	1.00	0.00	0.23	0.00	0.00	0.00	0.49
Lane Grp Cap (c), veh/h	0	1036	0	402	0	0	0	385
V/C Ratio (X)	0.00	0.11	0.00	0.37	0.00	0.00	0.00	0.65
Avail Cap (c_a), veh/h	0	1036	0	572	0	0	0	548
Upstream Filter (I)	0.00	0.92	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	28.2	0.0	0.0	0.0	20.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.6	0.0	0.0	0.0	1.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.2	0.0	28.7	0.0	0.0	0.0	21.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.6	0.0	0.0	0.0	3.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	2.7	0.0	0.0	0.0	3.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.80	0.00	0.00	0.00	0.18
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intersection Summary								
HCM 6th Ctrl Delay		12.5						
HCM 6th LOS		B						

Lane Group	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	65	1465	257	654	152	90
v/c Ratio	0.06	0.50	0.25	0.76	0.13	0.17
Control Delay	10.3	12.7	2.3	33.2	18.4	12.8
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0
Total Delay	10.3	13.0	2.3	33.2	18.4	12.8
Queue Length 50th (ft)	15	168	0	172	19	15
Queue Length 95th (ft)	40	249	37	209	25	26
Internal Link Dist (ft)		140		119	91	
Turn Bay Length (ft)						
Base Capacity (vph)	1026	2950	1026	1150	1513	687
Starvation Cap Reductn	0	775	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.67	0.25	0.57	0.10	0.13

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	60	1348	236	263	339	0	0	140	83
Future Volume (veh/h)	0	0	0	60	1348	236	263	339	0	0	140	83
Number				5	2	12	3	8	18	7	4	14
Initial Q, veh				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
Parking Bus Adj				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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				65	1465	257	286	368	0	0	152	90
Peak Hour Factor				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	0	0	2	2
Opposing Right Turn Influence				Yes			Yes			No		
Cap, veh/h				1005	2880	894	412	566	0	0	1194	532
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.56	0.56	0.56	0.34	0.34	0.00	0.00	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh				9.0	12.6	11.0	32.4	26.6	0.0	0.0	20.8	21.2
Ln Grp LOS				A	B	B	C	C	A	A	C	C
Approach Vol, veh/h					1787			654			242	
Approach Delay, s/veh					12.3			29.3			20.9	
Approach LOS					B			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Case No		9.0		7.0				8.0
Phs Duration (G+Y+Rc), s		55.3		34.7				34.7
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green (Gmax), s		42.5		38.5				38.5
Max Allow Headway (MAH), s		5.0		4.8				5.5
Max Q Clear (g_c+I1), s		17.8		5.6				26.8
Green Ext Time (g_e), s		13.7		1.3				3.4
Prob of Phs Call (p_c)		1.00		1.00				1.00
Prob of Max Out (p_x)		0.00		0.00				0.34
Left-Turn Movement Data								
Assigned Mvmt		5		7				3
Mvmt Sat Flow, veh/h		1781		0				995
Through Movement Data								
Assigned Mvmt		2		4				8
Mvmt Sat Flow, veh/h		5106		3647				1771
Right-Turn Movement Data								
Assigned Mvmt		12		14				18
Mvmt Sat Flow, veh/h		1585		1585				0
Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	0	0	3
Lane Assignment		L						L+T

Lanes in Grp	0	1	0	0	0	0	0	1
Grp Vol (v), veh/h	0	65	0	0	0	0	0	306
Grp Sat Flow (s), veh/h/ln	0	1781	0	0	0	0	0	1065
Q Serve Time (g_s), s	0.0	1.5	0.0	0.0	0.0	0.0	0.0	22.2
Cycle Q Clear Time (g_c), s	0.0	1.5	0.0	0.0	0.0	0.0	0.0	24.8
Perm LT Sat Flow (s_l), veh/h/ln	0	1781	0	0	0	0	0	1156
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.2
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.6
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.2
Time to First Blk (g_f), s	0.0	0.0	0.0	30.2	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.94
Lane Grp Cap (c), veh/h	0	1005	0	0	0	0	0	435
V/C Ratio (X)	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.70
Avail Cap (c_a), veh/h	0	1005	0	0	0	0	0	542
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.9	0.0	0.0	0.0	0.0	0.0	29.3
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0	0.0	3.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.0	0.0	0.0	0.0	0.0	0.0	32.4
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	0.0	0.0	0.0	0.0	6.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.0	0.0	0.0	0.0	0.0	6.4
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.92
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	0	0	8
Lane Assignment		T		T				T
Lanes in Grp	0	3	0	2	0	0	0	1
Grp Vol (v), veh/h	0	1465	0	152	0	0	0	348
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	0	0	1617
Q Serve Time (g_s), s	0.0	15.8	0.0	2.7	0.0	0.0	0.0	16.4
Cycle Q Clear Time (g_c), s	0.0	15.8	0.0	2.7	0.0	0.0	0.0	16.4
Lane Grp Cap (c), veh/h	0	2880	0	1194	0	0	0	543
V/C Ratio (X)	0.00	0.51	0.00	0.13	0.00	0.00	0.00	0.64
Avail Cap (c_a), veh/h	0	2880	0	1520	0	0	0	692
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	12.0	0.0	20.7	0.0	0.0	0.0	25.3
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	0.0	0.0	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.6	0.0	20.8	0.0	0.0	0.0	26.6
1st-Term Q (Q1), veh/ln	0.0	5.5	0.0	1.1	0.0	0.0	0.0	6.1
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.7	0.0	1.1	0.0	0.0	0.0	6.3
%ile Storage Ratio (RQ%)	0.00	0.95	0.00	0.39	0.00	0.00	0.00	0.91
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	0	0	18
Lane Assignment		R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	257	0	90	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	7.6	0.0	3.6	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	7.6	0.0	3.6	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	894	0	532	0	0	0	0
V/C Ratio (X)	0.00	0.29	0.00	0.17	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	894	0	678	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	10.2	0.0	21.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.1	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	11.0	0.0	21.2	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	1.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	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	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.7	0.0	1.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.45	0.00	0.48	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

Intersection Summary		
HCM 6th Ctrl Delay		17.2
HCM 6th LOS		B

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	330	134	135	551	124	716	83
v/c Ratio	0.26	0.12	0.20	0.44	0.31	0.61	0.19
Control Delay	5.5	3.6	7.4	9.0	29.6	33.0	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.5	3.6	7.4	9.0	29.6	33.0	7.2
Queue Length 50th (ft)	57	15	26	132	58	132	0
Queue Length 95th (ft)	82	29	59	231	100	161	33
Internal Link Dist (ft)	376			84		60	
Turn Bay Length (ft)							
Base Capacity (vph)	1248	1072	675	1248	501	1440	508
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.13	0.20	0.44	0.25	0.50	0.16

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	304	123	124	507	0	0	0	0	114	659	76
Future Volume (veh/h)	0	304	123	124	507	0	0	0	0	114	659	76
Number	1	6	16	5	2	12				7	4	14
Initial Q, veh	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
Parking Bus Adj	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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	330	134	135	551	0				124	716	83
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Opposing Right Turn Influence	No			Yes						Yes		
Cap, veh/h	0	1307	1108	669	1307	0				358	1027	319
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Prop Arrive On Green	0.00	0.70	0.70	0.70	0.70	0.00				0.20	0.20	0.20
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	5.1	4.5	7.7	6.8	0.0				31.4	34.3	30.7
Ln Grp LOS	A	A	A	A	A	A				C	C	C
Approach Vol, veh/h		464			686						923	
Approach Delay, s/veh		4.9			7.0						33.6	
Approach LOS		A			A						C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Case No		6.0		9.0		7.0		
Phs Duration (G+Y+Rc), s		67.4		22.6		67.4		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green (Gmax), s		55.5		25.5		55.5		
Max Allow Headway (MAH), s		5.2		4.9		4.9		
Max Q Clear (g_c+I1), s		13.4		13.7		7.8		
Green Ext Time (g_e), s		5.1		4.4		2.7		
Prob of Phs Call (p_c)		1.00		1.00		1.00		
Prob of Max Out (p_x)		0.00		0.34		0.00		
Left-Turn Movement Data								
Assigned Mvmt		5		7		1		
Mvmt Sat Flow, veh/h		928		1781		0		
Through Movement Data								
Assigned Mvmt		2		4		6		
Mvmt Sat Flow, veh/h		1870		5106		1870		
Right-Turn Movement Data								
Assigned Mvmt		12		14		16		
Mvmt Sat Flow, veh/h		0		1585		1585		
Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	0
Lane Assignment		L		L				

Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	135	0	124	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	928	0	1781	0	0	0	0
Q Serve Time (g_s), s	0.0	5.6	0.0	5.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.4	0.0	5.4	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	928	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	62.9	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	57.1	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	5.6	0.0	0.0	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	62.9	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	669	0	358	0	0	0	0
V/C Ratio (X)	0.00	0.20	0.00	0.35	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	669	0	505	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.0	0.0	30.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.6	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	7.7	0.0	31.4	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	2.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	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	0.00
%ile Back of Q (50%), veh/ln	0.0	1.1	0.0	2.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.20	0.00	0.72	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

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T		T		T		
Lanes in Grp	0	1	0	3	0	1	0	0
Grp Vol (v), veh/h	0	551	0	716	0	330	0	0
Grp Sat Flow (s), veh/h/ln	0	1870	0	1702	0	1870	0	0
Q Serve Time (g_s), s	0.0	11.3	0.0	11.7	0.0	5.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.3	0.0	11.7	0.0	5.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	1307	0	1027	0	1307	0	0
V/C Ratio (X)	0.00	0.42	0.00	0.70	0.00	0.25	0.00	0.00
Avail Cap (c_a), veh/h	0	1307	0	1447	0	1307	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.95	0.00	0.00
Uniform Delay (d1), s/veh	0.0	5.8	0.0	33.4	0.0	5.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.9	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	6.8	0.0	34.3	0.0	5.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.6	0.0	4.7	0.0	1.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	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	0.00
%ile Back of Q (50%), veh/ln	0.0	4.0	0.0	4.8	0.0	1.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.72	0.00	1.49	0.00	0.14	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	83	0	134	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	4.0	0.0	2.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.0	0.0	2.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	319	0	1108	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.26	0.00	0.12	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	449	0	1108	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.95	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	30.3	0.0	4.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	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	30.7	0.0	4.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.5	0.0	0.7	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	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.5	0.0	0.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.47	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intersection Summary								
HCM 6th Ctrl Delay		18.3						
HCM 6th LOS		B						

Lane Group	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	285	1390	593	305
v/c Ratio	0.26	0.46	0.41	0.66
Control Delay	5.4	9.7	20.5	26.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.4	9.7	20.5	26.2
Queue Length 50th (ft)	29	116	73	102
Queue Length 95th (ft)	74	176	91	162
Internal Link Dist (ft)		90	78	
Turn Bay Length (ft)				
Base Capacity (vph)	1095	2996	1852	593
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.26	0.46	0.32	0.51

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	262	1279	0	0	0	0	0	546	281
Future Volume (veh/h)	0	0	0	262	1279	0	0	0	0	0	546	281
Number				5	2	12				7	4	14
Initial Q, veh				0	0	0				0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00				1.00		1.00
Parking Bus Adj				1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach					No						No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	0				0	1870	1870
Adj Flow Rate, veh/h				285	1390	0				0	593	305
Peak Hour Factor				0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %				2	2	0				0	2	2
Opposing Right Turn Influence				Yes						No		
Cap, veh/h				1190	3116	0				0	1333	414
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Prop Arrive On Green				0.61	0.61	0.00				0.00	0.26	0.26
Unsig. Movement Delay												
Ln Grp Delay, s/veh				6.8	7.8	0.0				0.0	21.9	26.7
Ln Grp LOS				A	A	A				A	C	C
Approach Vol, veh/h					1675						898	
Approach Delay, s/veh					7.6						23.5	
Approach LOS					A						C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Case No		6.0		7.0				
Phs Duration (G+Y+Rc), s		47.2		22.8				
Change Period (Y+Rc), s		4.5		4.5				
Max Green (Gmax), s		35.5		25.5				
Max Allow Headway (MAH), s		5.0		4.8				
Max Q Clear (g_c+l1), s		12.2		14.3				
Green Ext Time (g_e), s		12.3		4.0				
Prob of Phs Call (p_c)		1.00		1.00				
Prob of Max Out (p_x)		0.00		0.34				
Left-Turn Movement Data								
Assigned Mvmt		5		7				
Mvmt Sat Flow, veh/h		1781		0				
Through Movement Data								
Assigned Mvmt		2		4				
Mvmt Sat Flow, veh/h		5274		5274				
Right-Turn Movement Data								
Assigned Mvmt		12		14				
Mvmt Sat Flow, veh/h		0		1585				
Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	0	0	0
Lane Assignment		L						

Lanes in Grp	0	1	0	0	0	0	0	0
Grp Vol (v), veh/h	0	285	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1781	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1781	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	42.7	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	42.7	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	18.3	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1190	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1190	0	0	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	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	6.8	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	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	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.29	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

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	0	0	0
Lane Assignment		T		T				
Lanes in Grp	0	3	0	3	0	0	0	0
Grp Vol (v), veh/h	0	1390	0	593	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	0	0	0
Q Serve Time (g_s), s	0.0	10.2	0.0	6.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.2	0.0	6.8	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	3116	0	1333	0	0	0	0
V/C Ratio (X)	0.00	0.45	0.00	0.44	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	3116	0	1860	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.3	0.0	21.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.2	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	7.8	0.0	21.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.0	0.0	2.6	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	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	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.1	0.0	2.6	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.51	0.00	0.92	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	0	0	0
Lane Assignment				R				
Lanes in Grp	0	0	0	1	0	0	0	0
Grp Vol (v), veh/h	0	0	0	305	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	12.3	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	12.3	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	414	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.74	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	577	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	23.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	3.1	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	26.7	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.4	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	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.66	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
Intersection Summary								
HCM 6th Ctrl Delay		13.2						
HCM 6th LOS		B						

Intersection						
Int Delay, s/veh	0.5					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	38	570	5	2	145
Future Vol, veh/h	0	38	570	5	2	145
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	41	620	5	2	158

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	313	0	0	625	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	0	683	-	-	952	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	683	-	-	952	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	683	952	-
HCM Lane V/C Ratio	-	-	0.06	0.002	-
HCM Control Delay (s)	-	-	10.6	8.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection						
Int Delay, s/veh	1					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	70	0	0	894	13
Future Vol, veh/h	0	70	0	0	894	13
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	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	76	0	0	972	14

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	486		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	7.14		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.92		-	-
Pot Cap-1 Maneuver	0	451		-	-
Stage 1	0	-		-	-
Stage 2	0	-		-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	451		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	14.6	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	451	-	-
HCM Lane V/C Ratio	0.169	-	-
HCM Control Delay (s)	14.6	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.6	-	-

Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	434	543	124	567	535
v/c Ratio	0.38	0.25	0.12	0.85	0.62
Control Delay	11.0	4.9	0.5	31.4	30.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.0	4.9	0.5	31.4	30.1
Queue Length 50th (ft)	113	27	0	83	136
Queue Length 95th (ft)	215	46	3	100	166
Internal Link Dist (ft)	150	376		445	60
Turn Bay Length (ft)					
Base Capacity (vph)	1146	2178	1022	905	1192
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	0.38	0.25	0.12	0.63	0.45

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	399	0	0	500	114	96	297	129	33	429	30
Future Volume (veh/h)	0	399	0	0	500	114	96	297	129	33	429	30
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	0	1870	0	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	434	0	0	543	124	104	323	140	36	466	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	0	0	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	No			No			Yes			Yes		
Cap, veh/h	0	1094	0	0	2079	927	152	476	232	88	961	67
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.58	0.00	0.00	1.00	1.00	0.63	0.63	0.63	0.32	0.32	0.32
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	10.3	0.0	0.0	0.3	0.3	21.6	0.0	14.5	25.3	0.0	25.7
Ln Grp LOS	A	B	A	A	A	A	C	A	B	C	A	C
Approach Vol, veh/h		434			667			567			535	
Approach Delay, s/veh		10.3			0.3			17.9			25.5	
Approach LOS		B			A			B			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		7.0		8.0		8.0		8.0
Phs Duration (G+Y+Rc), s		57.1		32.9		57.1		32.9
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		45.5		35.5		45.5		35.5
Max Allow Headway (MAH), s		5.0		5.3		5.2		5.6
Max Q Clear (g_c+I1), s		2.0		13.4		13.3		25.7
Green Ext Time (g_e), s		4.6		3.4		3.0		2.7
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.02		0.00		0.43
Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		0		136		0		305
Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3647		3049		1870		1510
Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1585		212		0		737
Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

Lanes in Grp	0	0	0	1	0	0	0	1
Grp Vol (v), veh/h	0	0	0	276	0	0	0	269
Grp Sat Flow (s), veh/h/ln	0	0	0	1733	0	0	0	983
Q Serve Time (g_s), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	12.3
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	10.7	0.0	0.0	0.0	23.7
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	944	0	0	0	913
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	28.4	0.0	0.0	0.0	28.4
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	18.2	0.0	0.0	0.0	17.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	12.3
Time to First Blk (g_f), s	0.0	52.6	0.0	10.5	0.0	52.6	0.0	2.9
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	10.5	0.0	0.0	0.0	2.9
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.39
Lane Grp Cap (c), veh/h	0	0	0	591	0	0	0	365
V/C Ratio (X)	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.74
Avail Cap (c_a), veh/h	0	0	0	722	0	0	0	470
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	24.8	0.0	0.0	0.0	17.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.0	0.0	4.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	25.3	0.0	0.0	0.0	21.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.6	0.0	0.0	0.0	3.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	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	4.7	0.0	0.0	0.0	3.9
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.39	0.00	0.00	0.00	0.21
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	1	0	0
Grp Vol (v), veh/h	0	543	0	0	0	434	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1870	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	11.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	11.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	2079	0	0	0	1094	0	0
V/C Ratio (X)	0.00	0.26	0.00	0.00	0.00	0.40	0.00	0.00
Avail Cap (c_a), veh/h	0	2079	0	0	0	1094	0	0
Upstream Filter (I)	0.00	0.86	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	10.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.3	0.0	0.0	0.0	10.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	4.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.58	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		R		T+R				T+R
Lanes in Grp	0	1	0	1	0	0	0	1
Grp Vol (v), veh/h	0	124	0	259	0	0	0	298
Grp Sat Flow (s), veh/h/ln	0	1585	0	1664	0	0	0	1569
Q Serve Time (g_s), s	0.0	0.0	0.0	11.4	0.0	0.0	0.0	10.2
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	11.4	0.0	0.0	0.0	10.2
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	1.00	0.00	0.13	0.00	0.00	0.00	0.47
Lane Grp Cap (c), veh/h	0	927	0	524	0	0	0	494
V/C Ratio (X)	0.00	0.13	0.00	0.49	0.00	0.00	0.00	0.60
Avail Cap (c_a), veh/h	0	927	0	656	0	0	0	619
Upstream Filter (I)	0.00	0.86	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	25.0	0.0	0.0	0.0	13.3
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.7	0.0	0.0	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.3	0.0	25.7	0.0	0.0	0.0	14.5
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.4	0.0	0.0	0.0	2.6
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	4.5	0.0	0.0	0.0	2.7
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.32	0.00	0.00	0.00	0.15
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intersection Summary								
HCM 6th Ctrl Delay		12.9						
HCM 6th LOS		B						

Lane Group	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	168	1314	199	561	461	164
v/c Ratio	0.16	0.44	0.20	0.79	0.41	0.32
Control Delay	5.9	6.1	0.5	36.0	29.0	23.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.9	6.2	0.5	36.0	29.0	23.5
Queue Length 50th (ft)	18	53	0	151	85	48
Queue Length 95th (ft)	42	92	1	187	74	53
Internal Link Dist (ft)		140		119	91	
Turn Bay Length (ft)						
Base Capacity (vph)	1033	2969	1007	1014	1592	723
Starvation Cap Reductn	0	246	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.48	0.20	0.55	0.29	0.23

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	155	1209	183	173	343	0	0	424	151
Future Volume (veh/h)	0	0	0	155	1209	183	173	343	0	0	424	151
Number				5	2	12	3	8	18	7	4	14
Initial Q, veh				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
Parking Bus Adj				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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				168	1314	199	188	373	0	0	461	164
Peak Hour Factor				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	0	0	2	2
Opposing Right Turn Influence				Yes			Yes			No		
Cap, veh/h				927	2656	825	284	666	0	0	1350	602
HCM Platoon Ratio				0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.17	0.17	0.17	0.38	0.38	0.00	0.00	0.38	0.38
Unsig. Movement Delay												
Ln Grp Delay, s/veh				21.3	27.2	22.6	33.4	22.5	0.0	0.0	20.0	19.6
Ln Grp LOS				C	C	C	C	C	A	A	C	B
Approach Vol, veh/h					1681			561			625	
Approach Delay, s/veh					26.1			27.0			19.9	
Approach LOS					C			C			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Case No		9.0		7.0				8.0
Phs Duration (G+Y+Rc), s		51.3		38.7				38.7
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green (Gmax), s		40.5		40.5				40.5
Max Allow Headway (MAH), s		5.0		4.9				5.9
Max Q Clear (g_c+I1), s		23.0		10.3				31.4
Green Ext Time (g_e), s		10.1		3.9				2.7
Prob of Phs Call (p_c)		1.00		1.00				1.00
Prob of Max Out (p_x)		0.00		0.00				0.56
Left-Turn Movement Data								
Assigned Mvmt		5		7				3
Mvmt Sat Flow, veh/h		1781		0				555
Through Movement Data								
Assigned Mvmt		2		4				8
Mvmt Sat Flow, veh/h		5106		3647				1840
Right-Turn Movement Data								
Assigned Mvmt		12		14				18
Mvmt Sat Flow, veh/h		1585		1585				0
Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	0	0	3
Lane Assignment		L						L+T

Lanes in Grp	0	1	0	0	0	0	0	1
Grp Vol (v), veh/h	0	168	0	0	0	0	0	228
Grp Sat Flow (s), veh/h/ln	0	1781	0	0	0	0	0	692
Q Serve Time (g_s), s	0.0	7.3	0.0	0.0	0.0	0.0	0.0	21.1
Cycle Q Clear Time (g_c), s	0.0	7.3	0.0	0.0	0.0	0.0	0.0	29.4
Perm LT Sat Flow (s_l), veh/h/ln	0	1781	0	0	0	0	0	813
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.2
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.9
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.1
Time to First Blk (g_f), s	0.0	0.0	0.0	34.2	0.0	0.0	0.0	0.4
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.82
Lane Grp Cap (c), veh/h	0	927	0	0	0	0	0	336
V/C Ratio (X)	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.68
Avail Cap (c_a), veh/h	0	927	0	0	0	0	0	398
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.9	0.0	0.0	0.0	0.0	0.0	29.8
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	0.0	0.0	3.7
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	21.3	0.0	0.0	0.0	0.0	0.0	33.4
1st-Term Q (Q1), veh/ln	0.0	3.2	0.0	0.0	0.0	0.0	0.0	4.5
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.3	0.0	0.0	0.0	0.0	0.0	4.9
%ile Storage Ratio (RQ%)	0.00	0.54	0.00	0.00	0.00	0.00	0.00	0.70
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	0	0	8
Lane Assignment		T		T				T
Lanes in Grp	0	3	0	2	0	0	0	1
Grp Vol (v), veh/h	0	1314	0	461	0	0	0	333
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	0	0	1617
Q Serve Time (g_s), s	0.0	21.0	0.0	8.3	0.0	0.0	0.0	14.5
Cycle Q Clear Time (g_c), s	0.0	21.0	0.0	8.3	0.0	0.0	0.0	14.5
Lane Grp Cap (c), veh/h	0	2656	0	1350	0	0	0	614
V/C Ratio (X)	0.00	0.49	0.00	0.34	0.00	0.00	0.00	0.54
Avail Cap (c_a), veh/h	0	2656	0	1599	0	0	0	728
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	26.6	0.0	19.9	0.0	0.0	0.0	21.8
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.1	0.0	0.0	0.0	0.7
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	27.2	0.0	20.0	0.0	0.0	0.0	22.5
1st-Term Q (Q1), veh/ln	0.0	9.5	0.0	3.3	0.0	0.0	0.0	5.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	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	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.6	0.0	3.4	0.0	0.0	0.0	5.4
%ile Storage Ratio (RQ%)	0.00	1.61	0.00	1.21	0.00	0.00	0.00	0.78
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	0	0	18
Lane Assignment		R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	199	0	164	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	9.8	0.0	6.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.8	0.0	6.4	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	825	0	602	0	0	0	0
V/C Ratio (X)	0.00	0.24	0.00	0.27	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	825	0	713	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	21.9	0.0	19.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.2	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	22.6	0.0	19.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.0	0.0	2.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	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	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.1	0.0	2.4	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.69	0.00	0.84	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
Intersection Summary								
HCM 6th Ctrl Delay		24.9						
HCM 6th LOS		C						

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	379	151	170	548	186	1363	95
v/c Ratio	0.39	0.18	0.38	0.56	0.28	0.71	0.14
Control Delay	11.2	7.7	16.8	17.9	20.2	25.9	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.2	7.7	16.8	17.9	20.2	25.9	4.5
Queue Length 50th (ft)	87	26	57	208	70	229	0
Queue Length 95th (ft)	118	m46	109	309	119	280	29
Internal Link Dist (ft)	376			84		60	
Turn Bay Length (ft)							
Base Capacity (vph)	970	833	443	970	698	2005	681
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.18	0.38	0.56	0.27	0.68	0.14

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	349	139	156	504	0	0	0	0	171	1254	87
Future Volume (veh/h)	0	349	139	156	504	0	0	0	0	171	1254	87
Number	1	6	16	5	2	12				7	4	14
Initial Q, veh	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
Parking Bus Adj	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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	379	151	170	548	0				186	1363	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Opposing Right Turn Influence	No			Yes						Yes		
Cap, veh/h	0	1034	876	463	1034	0				619	1774	551
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Prop Arrive On Green	0.00	0.55	0.55	0.55	0.55	0.00				0.35	0.35	0.35
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	11.5	10.0	19.8	14.7	0.0				21.7	27.8	20.5
Ln Grp LOS	A	B	B	B	B	A				C	C	C
Approach Vol, veh/h		530			718						1644	
Approach Delay, s/veh		11.1			15.9						26.7	
Approach LOS		B			B						C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Case No		6.0		9.0		7.0		
Phs Duration (G+Y+Rc), s		54.2		35.8		54.2		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green (Gmax), s		45.5		35.5		45.5		
Max Allow Headway (MAH), s		5.3		5.0		4.9		
Max Q Clear (g_c+I1), s		24.4		23.4		12.2		
Green Ext Time (g_e), s		4.7		7.9		3.1		
Prob of Phs Call (p_c)		1.00		1.00		1.00		
Prob of Max Out (p_x)		0.00		0.67		0.00		
Left-Turn Movement Data								
Assigned Mvmt		5		7		1		
Mvmt Sat Flow, veh/h		874		1781		0		
Through Movement Data								
Assigned Mvmt		2		4		6		
Mvmt Sat Flow, veh/h		1870		5106		1870		
Right-Turn Movement Data								
Assigned Mvmt		12		14		16		
Mvmt Sat Flow, veh/h		0		1585		1585		
Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	0
Lane Assignment		L		L				

Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	170	0	186	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	874	0	1781	0	0	0	0
Q Serve Time (g_s), s	0.0	12.2	0.0	6.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	22.4	0.0	6.8	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	874	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	49.7	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	39.5	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	12.2	0.0	0.0	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	49.7	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	463	0	619	0	0	0	0
V/C Ratio (X)	0.00	0.37	0.00	0.30	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	463	0	703	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	17.6	0.0	21.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.2	0.0	0.3	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	19.8	0.0	21.7	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	2.8	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	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	0.00
%ile Back of Q (50%), veh/ln	0.0	2.6	0.0	2.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.47	0.00	0.88	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

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T		T		T		
Lanes in Grp	0	1	0	3	0	1	0	0
Grp Vol (v), veh/h	0	548	0	1363	0	379	0	0
Grp Sat Flow (s), veh/h/ln	0	1870	0	1702	0	1870	0	0
Q Serve Time (g_s), s	0.0	16.7	0.0	21.4	0.0	10.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	16.7	0.0	21.4	0.0	10.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	1034	0	1774	0	1034	0	0
V/C Ratio (X)	0.00	0.53	0.00	0.77	0.00	0.37	0.00	0.00
Avail Cap (c_a), veh/h	0	1034	0	2014	0	1034	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.93	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.7	0.0	26.1	0.0	11.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.9	0.0	1.6	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.7	0.0	27.8	0.0	11.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	6.4	0.0	8.3	0.0	3.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.3	0.0	0.1	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	7.0	0.0	8.6	0.0	4.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.25	0.00	2.66	0.00	0.30	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	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	95	0	151	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	3.7	0.0	4.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.7	0.0	4.2	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	551	0	876	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.17	0.00	0.17	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	625	0	876	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.93	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	20.4	0.0	10.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	20.5	0.0	10.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.4	0.0	1.4	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	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.4	0.0	1.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.43	0.00	0.10	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		21.1
HCM 6th LOS		C

Lane Group	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	336	1238	1366	352
v/c Ratio	0.40	0.51	0.63	0.51
Control Delay	17.1	18.1	18.7	17.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.1	18.1	18.7	17.5
Queue Length 50th (ft)	120	184	106	66
Queue Length 95th (ft)	191	228	164	132
Internal Link Dist (ft)		90	78	
Turn Bay Length (ft)				
Base Capacity (vph)	847	2404	2344	742
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.40	0.51	0.58	0.47

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	309	1139	0	0	0	0	0	1257	324
Future Volume (veh/h)	0	0	0	309	1139	0	0	0	0	0	1257	324
Number				5	2	12				7	4	14
Initial Q, veh				0	0	0				0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00				1.00		1.00
Parking Bus Adj				1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach					No						No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	0				0	1870	1870
Adj Flow Rate, veh/h				336	1238	0				0	1366	352
Peak Hour Factor				0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %				2	2	0				0	2	2
Opposing Right Turn Influence				Yes						No		
Cap, veh/h				988	2602	0				0	1994	619
HCM Platoon Ratio				1.00	1.00	1.00				1.00	0.33	0.33
Prop Arrive On Green				0.51	0.51	0.00				0.00	0.13	0.13
Unsig. Movement Delay												
Ln Grp Delay, s/veh				14.3	14.9	0.0				0.0	34.6	32.9
Ln Grp LOS				B	B	A				A	C	C
Approach Vol, veh/h					1574						1718	
Approach Delay, s/veh					14.8						34.2	
Approach LOS					B						C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Case No		6.0		7.0				
Phs Duration (G+Y+Rc), s		50.4		39.6				
Change Period (Y+Rc), s		4.5		4.5				
Max Green (Gmax), s		39.5		41.5				
Max Allow Headway (MAH), s		4.9		5.0				
Max Q Clear (g_c+I1), s		16.1		25.0				
Green Ext Time (g_e), s		11.1		10.1				
Prob of Phs Call (p_c)		1.00		1.00				
Prob of Max Out (p_x)		0.00		0.55				
Left-Turn Movement Data								
Assigned Mvmt		5		7				
Mvmt Sat Flow, veh/h		1781		0				
Through Movement Data								
Assigned Mvmt		2		4				
Mvmt Sat Flow, veh/h		5274		5274				
Right-Turn Movement Data								
Assigned Mvmt		12		14				
Mvmt Sat Flow, veh/h		0		1585				
Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	0	0	0
Lane Assignment		L						

Lanes in Grp	0	1	0	0	0	0	0	0
Grp Vol (v), veh/h	0	336	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1781	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	10.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.3	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1781	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	45.9	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	45.9	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	10.3	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	35.1	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	988	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	988	0	0	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.3	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	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	14.3	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	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	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.68	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

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	0	0	0
Lane Assignment		T		T				
Lanes in Grp	0	3	0	3	0	0	0	0
Grp Vol (v), veh/h	0	1238	0	1366	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	0	0	0
Q Serve Time (g_s), s	0.0	14.1	0.0	23.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	14.1	0.0	23.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	2602	0	1994	0	0	0	0
V/C Ratio (X)	0.00	0.48	0.00	0.69	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	2602	0	2354	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.3	0.0	33.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.7	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	14.9	0.0	34.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.1	0.0	10.4	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	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	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	5.3	0.0	10.5	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.87	0.00	3.71	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	0	0	0
Lane Assignment				R				
Lanes in Grp	0	0	0	1	0	0	0	0
Grp Vol (v), veh/h	0	0	0	352	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	18.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	18.8	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	619	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.57	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	731	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	32.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	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	32.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	7.9	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	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	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	8.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	2.84	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
Intersection Summary								
HCM 6th Ctrl Delay		24.9						
HCM 6th LOS		C						

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	19	504	24	10	424
Future Vol, veh/h	0	19	504	24	10	424
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	21	548	26	11	461

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	287	0	0	574	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	0	710	-	-	995	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	710	-	-	995	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	710	995	-
HCM Lane V/C Ratio	-	-	0.029	0.011	-
HCM Control Delay (s)	-	-	10.2	8.7	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	34	0	0	1547	63
Future Vol, veh/h	0	34	0	0	1547	63
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	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	37	0	0	1682	68

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	841	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	7.14	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.92	-	-
Pot Cap-1 Maneuver	0	264	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	264	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	20.8	0
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	264	-	-
HCM Lane V/C Ratio	0.14	-	-
HCM Control Delay (s)	20.8	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.5	-	-

Lane Group	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	285	1387	562	259
v/c Ratio	0.25	0.44	0.43	0.61
Control Delay	4.6	8.7	21.8	25.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	4.6	8.7	21.8	25.5
Queue Length 50th (ft)	23	103	73	87
Queue Length 95th (ft)	70	176	87	134
Internal Link Dist (ft)		90	78	
Turn Bay Length (ft)				
Base Capacity (vph)	1142	3122	1852	593
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.44	0.30	0.44

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	262	1276	0	0	0	0	0	517	238
Future Volume (veh/h)	0	0	0	262	1276	0	0	0	0	0	517	238
Number				5	2	12				7	4	14
Initial Q, veh				0	0	0				0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00				1.00		1.00
Parking Bus Adj				1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach					No						No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	0				0	1870	1870
Adj Flow Rate, veh/h				285	1387	0				0	562	259
Peak Hour Factor				0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %				2	2	0				0	2	2
Opposing Right Turn Influence				Yes						No		
Cap, veh/h				1237	3252	0				0	1198	372
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Prop Arrive On Green				0.64	0.64	0.00				0.00	0.23	0.23
Unsig. Movement Delay												
Ln Grp Delay, s/veh				5.9	6.8	0.0				0.0	23.3	26.9
Ln Grp LOS				A	A	A				A	C	C
Approach Vol, veh/h					1672						821	
Approach Delay, s/veh					6.6						24.4	
Approach LOS					A						C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Case No		6.0		7.0				
Phs Duration (G+Y+Rc), s		49.1		20.9				
Change Period (Y+Rc), s		4.5		4.5				
Max Green (Gmax), s		35.5		25.5				
Max Allow Headway (MAH), s		5.0		4.9				
Max Q Clear (g_c+l1), s		11.5		12.5				
Green Ext Time (g_e), s		12.4		4.0				
Prob of Phs Call (p_c)		1.00		1.00				
Prob of Max Out (p_x)		0.00		0.21				
Left-Turn Movement Data								
Assigned Mvmt		5		7				
Mvmt Sat Flow, veh/h		1781		0				
Through Movement Data								
Assigned Mvmt		2		4				
Mvmt Sat Flow, veh/h		5274		5274				
Right-Turn Movement Data								
Assigned Mvmt		12		14				
Mvmt Sat Flow, veh/h		0		1585				
Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	0	0	0
Lane Assignment		L						

Lanes in Grp	0	1	0	0	0	0	0	0
Grp Vol (v), veh/h	0	285	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1781	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1781	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	44.6	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	44.6	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	16.4	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1237	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1237	0	0	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	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	5.9	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	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	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.26	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

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	0	0	0
Lane Assignment		T		T				
Lanes in Grp	0	3	0	3	0	0	0	0
Grp Vol (v), veh/h	0	1387	0	562	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	0	0	0
Q Serve Time (g_s), s	0.0	9.5	0.0	6.6	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.5	0.0	6.6	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	3252	0	1198	0	0	0	0
V/C Ratio (X)	0.00	0.43	0.00	0.47	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	3252	0	1860	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	6.3	0.0	23.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.3	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	6.8	0.0	23.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.7	0.0	2.5	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	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	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.8	0.0	2.6	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.46	0.00	0.90	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	0	0	0
Lane Assignment				R				
Lanes in Grp	0	0	0	1	0	0	0	0
Grp Vol (v), veh/h	0	0	0	259	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	10.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	10.5	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	372	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.70	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	577	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	24.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.4	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	26.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	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	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.40	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

Intersection Summary	
HCM 6th Ctrl Delay	12.5
HCM 6th LOS	B

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	371	142	142	548	186	1326	95
v/c Ratio	0.38	0.17	0.31	0.56	0.28	0.70	0.15
Control Delay	11.3	7.6	15.3	17.7	20.4	25.8	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.3	7.6	15.3	17.7	20.4	25.8	4.5
Queue Length 50th (ft)	112	23	45	208	70	221	0
Queue Length 95th (ft)	111	44	88	309	119	271	29
Internal Link Dist (ft)	376			84		60	
Turn Bay Length (ft)							
Base Capacity (vph)	977	839	454	977	698	2005	681
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.17	0.31	0.56	0.27	0.66	0.14

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	341	131	131	504	0	0	0	0	171	1220	87
Future Volume (veh/h)	0	341	131	131	504	0	0	0	0	171	1220	87
Number	1	6	16	5	2	12				7	4	14
Initial Q, veh	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
Parking Bus Adj	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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	371	142	142	548	0				186	1326	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Opposing Right Turn Influence	No			Yes						Yes		
Cap, veh/h	0	1044	885	478	1044	0				609	1746	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Prop Arrive On Green	0.00	0.56	0.56	0.56	0.56	0.00				0.34	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	11.2	9.7	17.9	14.3	0.0				22.0	27.8	20.9
Ln Grp LOS	A	B	A	B	B	A				C	C	C
Approach Vol, veh/h		513			690						1607	
Approach Delay, s/veh		10.8			15.1						26.7	
Approach LOS		B			B						C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Case No		6.0		9.0		7.0		
Phs Duration (G+Y+Rc), s		54.7		35.3		54.7		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green (Gmax), s		45.5		35.5		45.5		
Max Allow Headway (MAH), s		5.2		5.0		4.9		
Max Q Clear (g_c+l1), s		21.3		22.8		11.8		
Green Ext Time (g_e), s		4.7		8.0		3.0		
Prob of Phs Call (p_c)		1.00		1.00		1.00		
Prob of Max Out (p_x)		0.00		0.63		0.00		
Left-Turn Movement Data								
Assigned Mvmt		5		7		1		
Mvmt Sat Flow, veh/h		887		1781		0		
Through Movement Data								
Assigned Mvmt		2		4		6		
Mvmt Sat Flow, veh/h		1870		5106		1870		
Right-Turn Movement Data								
Assigned Mvmt		12		14		16		
Mvmt Sat Flow, veh/h		0		1585		1585		
Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	0
Lane Assignment		L		L				

Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	142	0	186	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	887	0	1781	0	0	0	0
Q Serve Time (g_s), s	0.0	9.5	0.0	6.9	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	19.3	0.0	6.9	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	887	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	50.2	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	40.4	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	9.5	0.0	0.0	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	50.2	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	478	0	609	0	0	0	0
V/C Ratio (X)	0.00	0.30	0.00	0.31	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	478	0	703	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.3	0.0	21.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.3	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	17.9	0.0	22.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.8	0.0	2.8	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	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	0.00
%ile Back of Q (50%), veh/ln	0.0	2.1	0.0	2.9	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.37	0.00	0.89	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

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T		T		T		
Lanes in Grp	0	1	0	3	0	1	0	0
Grp Vol (v), veh/h	0	548	0	1326	0	371	0	0
Grp Sat Flow (s), veh/h/ln	0	1870	0	1702	0	1870	0	0
Q Serve Time (g_s), s	0.0	16.5	0.0	20.8	0.0	9.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	16.5	0.0	20.8	0.0	9.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	1044	0	1746	0	1044	0	0
V/C Ratio (X)	0.00	0.53	0.00	0.76	0.00	0.36	0.00	0.00
Avail Cap (c_a), veh/h	0	1044	0	2014	0	1044	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.94	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.4	0.0	26.3	0.0	11.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.9	0.0	1.5	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.3	0.0	27.8	0.0	11.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	6.3	0.0	8.1	0.0	3.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.2	0.0	0.1	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	6.9	0.0	8.3	0.0	3.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.23	0.00	2.58	0.00	0.28	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	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	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	95	0	142	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	3.8	0.0	3.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.8	0.0	3.9	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	542	0	885	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.18	0.00	0.16	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	625	0	885	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.94	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	20.7	0.0	9.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	20.9	0.0	9.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.4	0.0	1.3	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	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.4	0.0	1.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.43	0.00	0.10	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intersection Summary								
HCM 6th Ctrl Delay		21.0						
HCM 6th LOS		C						

Lane Group	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	336	1222	1351	327
v/c Ratio	0.39	0.50	0.63	0.48
Control Delay	16.8	17.7	19.0	17.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.8	17.7	19.0	17.1
Queue Length 50th (ft)	117	178	104	60
Queue Length 95th (ft)	190	224	154	116
Internal Link Dist (ft)		90	78	
Turn Bay Length (ft)				
Base Capacity (vph)	857	2434	2344	743
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.39	0.50	0.58	0.44

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	309	1124	0	0	0	0	0	1243	301
Future Volume (veh/h)	0	0	0	309	1124	0	0	0	0	0	1243	301
Number				5	2	12				7	4	14
Initial Q, veh				0	0	0				0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00				1.00		1.00
Parking Bus Adj				1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach					No						No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	0				0	1870	1870
Adj Flow Rate, veh/h				336	1222	0				0	1351	327
Peak Hour Factor				0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %				2	2	0				0	2	2
Opposing Right Turn Influence				Yes						No		
Cap, veh/h				994	2620	0				0	1975	613
HCM Platoon Ratio				1.00	1.00	1.00				1.00	0.33	0.33
Prop Arrive On Green				0.51	0.51	0.00				0.00	0.13	0.13
Unsig. Movement Delay												
Ln Grp Delay, s/veh				14.1	14.6	0.0				0.0	34.6	32.4
Ln Grp LOS				B	B	A				A	C	C
Approach Vol, veh/h					1558						1678	
Approach Delay, s/veh					14.5						34.2	
Approach LOS					B						C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Case No		6.0		7.0				
Phs Duration (G+Y+Rc), s		50.7		39.3				
Change Period (Y+Rc), s		4.5		4.5				
Max Green (Gmax), s		39.5		41.5				
Max Allow Headway (MAH), s		4.9		5.0				
Max Q Clear (g_c+I1), s		15.8		24.8				
Green Ext Time (g_e), s		11.0		10.1				
Prob of Phs Call (p_c)		1.00		1.00				
Prob of Max Out (p_x)		0.00		0.53				
Left-Turn Movement Data								
Assigned Mvmt		5		7				
Mvmt Sat Flow, veh/h		1781		0				
Through Movement Data								
Assigned Mvmt		2		4				
Mvmt Sat Flow, veh/h		5274		5274				
Right-Turn Movement Data								
Assigned Mvmt		12		14				
Mvmt Sat Flow, veh/h		0		1585				
Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	0	0	0
Lane Assignment		L						

Lanes in Grp	0	1	0	0	0	0	0	0
Grp Vol (v), veh/h	0	336	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1781	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	10.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.2	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1781	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	46.2	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	46.2	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	10.2	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	994	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	994	0	0	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.1	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	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	14.1	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	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	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.68	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

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	0	0	0
Lane Assignment		T		T				
Lanes in Grp	0	3	0	3	0	0	0	0
Grp Vol (v), veh/h	0	1222	0	1351	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	0	0	0
Q Serve Time (g_s), s	0.0	13.8	0.0	22.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	13.8	0.0	22.8	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	2620	0	1975	0	0	0	0
V/C Ratio (X)	0.00	0.47	0.00	0.68	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	2620	0	2354	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.0	0.0	34.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.7	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	14.6	0.0	34.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.0	0.0	10.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	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	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	5.1	0.0	10.4	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.85	0.00	3.67	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	0	0	0
Lane Assignment				R				
Lanes in Grp	0	0	0	1	0	0	0	0
Grp Vol (v), veh/h	0	0	0	327	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	17.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	17.4	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	613	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.53	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	731	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	31.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	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	32.4	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	7.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	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	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	2.63	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
Intersection Summary								
HCM 6th Ctrl Delay		24.7						
HCM 6th LOS		C						

Appendix D

LADOT Review of Street Improvements

Michael Bates

From: Wes Pringle <wes.pringle@lacity.org>
Sent: Tuesday, February 11, 2020 4:32 PM
To: Georgic Avanesian; Polonia Majas
Cc: Michael Bates
Subject: 8th, Grand & Hope Mixed-Use Project

DOT has reviewed the required street improvements for the mixed-use project on the north side of 8th Street between Hope Street and Grand Avenue. The project applicant has indicated that a 10 foot roadway widening would be required as part of the project. Currently the curb lane is wide enough to provide an independent westbound right-turn lane, three through lanes, and a left-turn lane. Parking is provided on both sides of the street. The applicant has also stated that they will provide the standard sidewalk and easements to provide a 17 foot sidewalk.

The required street widening will not enhance the existing circulation system and there will be no loss in the standard sidewalk width, therefore DOT recommend waiving the widening.

--

Wes Pringle, P.E.
Transportation EngineerMetro Development Review100 S. Main St, 9th FloorLos Angeles, CA 90012

Los Angeles Department of Transportation
213.972.8482

LADOT

Appendix G.3

LADOT Letter of Approval of Transportation Assessment

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

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

754 S. Hope St, 735 S. Grand Av
DOT Case No. CEN19-49093

Date: January 22, 2021

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

From: Wes Pringle, Transportation Engineer
Department of Transportation

Subject: **TRANSPORTATION ASSESSMENT FOR THE PROPOSED MIXED-USE DEVELOPMENT PROJECT AT 754 SOUTH HOPE AND 735 SOUTH GRAND AVENUE (ENV-2017-506-EIR)**

The LADOT has reviewed the transportation analyses prepared by Mobility Group dated December 2020, for the proposed commercial development at 754 South Hope Street and 735 South Grand Avenue in the Central City community of the City of Los Angeles. 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

1. Project Description
   The Project is proposing to construct 580 residential units and up to 7499 sq. ft. of restaurant uses. Vehicular access for residents would be provided by two-way driveways on Hope Street and Grand Avenue. The Grand Avenue driveway would provide one inbound lane and one outbound lane and would provide access to the above-ground parking. The Hope Street driveway would provide two inbound lanes and one outbound lane. One of the inbound lanes and the one outbound lane would service the subterranean parking, and one inbound lane would be for service vehicles only. Service, delivery, and trash collection vehicles would access the Project Site from Hope Street and exit via Grand Avenue. There would be an onsite porte-cochere for pick-up and drop off, located in the center of the Project Site. Visitors, taxis and rideshare vehicles would enter the site from either Grand Avenue or Hope Street for internal drop-offs and pick-ups and would exit at Grand Avenue. The Project is anticipated to be completed in Year 2025. The conceptual Project Site plan is illustrated in **Attachment A.**

2. Freeway Safety Analysis
   Per the Interim Guidance for Freeway Safety Analysis memorandum issued by DOT 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 included the number of project trips expected to be added to a nearby freeway off-ramp serving the project site. It was determined that project traffic will **not** exceed 25 peak hour trips. Therefore, a freeway ramp analysis was not required.

3. 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-2.2: Substantially Inducing Additional Automobile Travel

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.

4. 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 Area Planning Commission (APC) areas in the City. For the Central APC area, in which the project is located, the following thresholds have been established:

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

The results show that with the Project, the Household VMT per Capita would be 3.4 compared to the threshold of 6.0, and the Work VMT per Capita would be 0.0 compared to the threshold of 7.6. Therefore, it is concluded that the Project would not cause significant VMT impacts for both Household VMT and Work VMT. A copy of the VMT Calculator summary report is provided as **Attachment B.**

5. 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. LADOT has reviewed this analysis and determined that it adequately discloses operational concerns.

PROJECT REQUIREMENTS

A. Non-CEQA Related Requirements and Considerations
To comply with transportation and mobility goals and provisions of adopted City plans and ordinances, the applicant should be required to implement the following:

1. Parking Requirements
The Project would provide a total of 636 on-site parking spaces, including 602 spaces for the residential units in the Project and 34 covenanted spaces (per the Central City Parking Exception District no vehicle parking is required for retail uses totaling less than 7,500 square feet). A total of 195 spaces would be located in below grade levels accessed only from Hope Street. A total of 441 spaces would be located above grade and accessed from both Grand Avenue and 8th Street. The Project would also provide 23 short term and 220 long term bicycle parking spaces for the residential uses, and 4 short term and 4 long term bicycle parking spaces for the retail uses, for a total of 251 spaces. The applicant should check with the Departments of Building and Safety and City Planning on the number of Code-required parking spaces.

2. Highway Dedication and Street Widening Requirements
Per the new Mobility Element of the General Plan, **Hope Street, 8th Street and Grand Avenue** are designated as Avenue II, which would require a 28-foot half-width roadway within a 43-foot half-width right-of-way. For 8th Street, the Project would not be in compliance with the requirements of the Mobility Plan 2035 and the Downtown Street Standards, as it would seek a waiver of dedication and improvements of 2' on the west side and 10' on the east side of 8th Street. LADOT has determined that the required street widening would not be necessary as the required street widening will not enhance the existing circulation system and there will be no loss in the standard sidewalk width and has recommended waiving the widening. The applicant agreed to provide a standard sidewalk as easement to accommodate a 17-foot-wide sidewalk as illustrated in the project site plan (**Attachment A**). 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/merger requirements for this project.

3. Project Access and Circulation
As illustrated in **Attachment A,** previously described under project description, the project is proposing two driveways, one on Hope Street and another on Grand Avenue. Service, delivery, and trash collection vehicles would access the Project Site from Hope Street and exit via Grand Avenue. There would be an onsite porte-cochere for pick-up and drop off, located in the center of the Project. Taxis and rideshare vehicles would enter the site from either Grand Avenue or Hope Street for internal drop-offs and pick-ups and would exit at Grand Avenue.

Review of this study does not constitute approval of the dimensions for any new proposed driveway. Review and approval of the driveway should be coordinated with DOT's Citywide Planning Coordination Section (201 North Figueroa Street, 5th Floor, Room 550, at 213-482-7024). In order to minimize and prevent last minute building design changes, the applicant should contact DOT for driveway width and internal circulation requirements prior to the commencement of building or parking layout design. The applicant should check with City Planning regarding the project's driveway placement and design.

4. Worksite Traffic Control Requirements
LADOT recommends that a construction work site traffic control plan be submitted to LADOT's Citywide Temporary Traffic Control Section or Permit Plan Review Section for review and approval prior to the start of any construction work. Refer to http://ladot.lacity.org/businesses/temporary-traffic-control-plans to determine which section to coordinate review of the work site traffic control plan. The plan should show the location of any roadway or sidewalk closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. LADOT also recommends that all construction related truck traffic be restricted to off-peak hours to the extent feasible.

5. 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.

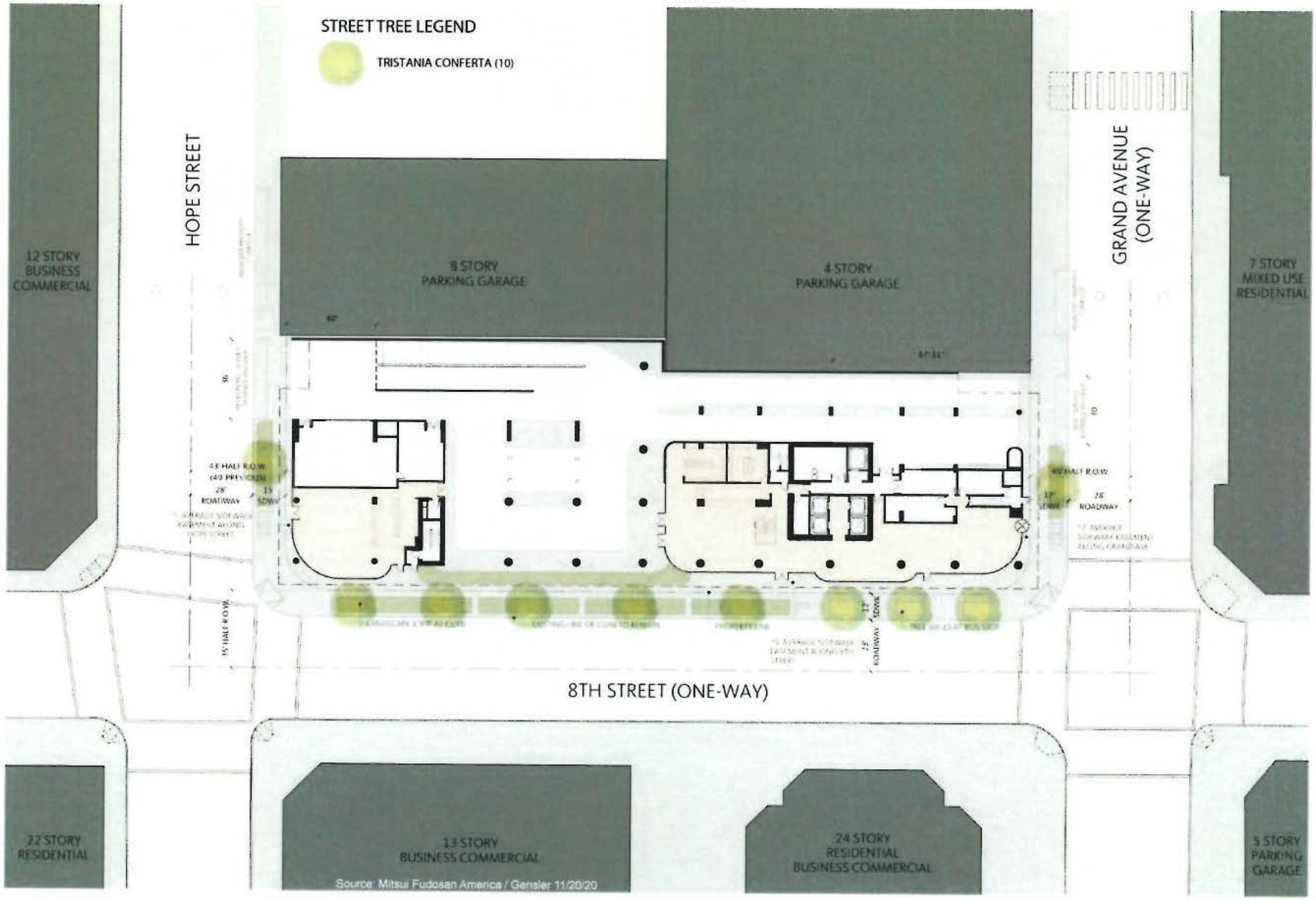
If you have any questions, please contact Russell Hasan of my staff at (213) 972-8406.

Attachments

J:\Letters\2021\CEN19-49093_754 S Hope St_Mixed_Use.docx

c: Shawn Kuk, Council District 14
Matthew Masuda, Central District, BOE
Edward Yu, Central District, LADOT
Taimour Tanavoli, Case Management, LADOT
Michael Bates, The Mobility Group

Attachment A
8th Grand & Hope Project



12/01/20

Figure 0.2
Project Site Plan

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions

Attachment B
8th Grand and Hope Project

CITY OF LOS ANGELES VMT CALCULATOR Version 1.2

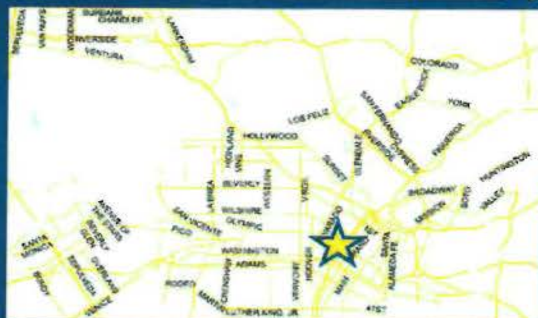
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 8th Grand Hope Project

Scenario: Proposd Project

Address: 754 S HOPE ST. 90017



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

• Yes • No

Existing Land Use

Land Use Type	Value	Unit
Housing | Single Family		DU

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

Proposed Project Land Use

Land Use Type	Value	Unit
Retail | High-Turnover Sit-Down Restaurant	7.499	ksf
Housing | Multi-Family	580	DU
Retail | High-Turnover Sit-Down Restaurant	7.499	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
0 Daily Vehicle Trips	1,500 Daily Vehicle Trips
0 Daily VMT	8,617 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	1,500 Net Daily Trips
The net increase in daily VMT ≤ 0	8,617 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	7.499 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

11/18/2019

Attachment B
8th Grand and Hope Project

CITY OF LOS ANGELES VMT CALCULATOR Version 1.2

Project Information

Project: 8th Grand Hope Project
Scenario: Proposd Project
Address: 754 S HOPE ST, 90017

Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	580	DU
Retail | High-Turnover Sit-Down Restaurant	7.499	ksf

TDM Strategies

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

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

A Parking

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

Unbundle Parking — |Proposed Prj |Mitigation
150 monthly parking cost (dollar) for the project site

Parking Cash-Out — |Proposed Prj |Mitigation
50 percent of employees eligible

Price Workplace Parking — |Proposed Prj |Mitigation
6.00 daily parking charge (dollar)
25 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
1,500 Daily Vehicle Trips	1,500 Daily Vehicle Trips
8,617 Daily VMT	8,617 Daily VMT
3.4 Household VMT per Capita	3.4 Household VMT per Capita
N/A Work VMT per Employee	N/A 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: N/A Threshold = 7.6 15% Below APC	Work: N/A Threshold = 7.6 15% Below APC

Measuring the Miles

Attachment B
8th Grand and Hope Project

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

Project Information

Land Use Type		Value	Units
Housing	Single Family	0	DU
	Multi Family	580	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	7.499	ksf
	Fast-Food Restaurant	0.000	ksf
	Quality Restaurant	0.000	ksf
	Auto Repair	0.000	ksf
	Home Improvement	0.000	ksf
	Free-Standing Discount	0.000	ksf
	Movie Theater	0	Seats
Office	General Office	0.000	ksf
	Medical Office	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

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

Other	*0*	*Trips*

Attachment B
8th Grand and Hope Project

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

Analysis Results

Total Employees: 30
Total Population: 1,307

Proposed Project		With Mitigation	
1,500	Daily Vehicle Trips	1,500	Daily Vehicle Trips
8,617	Daily VMT	8,617	Daily VMT
3.4	Household VMT per Capita	3.4	Household VMT per Capita
N/A	Work VMT per Employee	N/A	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	N/A	Work > 7.6	N/A

Attachment B
8th Grand and Hope Project

CITY OF LOS ANGELES VMT CALCULATOR
Report 2: TDM Inputs

Date: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

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*	*$0*
	Parking cash-out	*Employees eligible (%)*	*0%*	*0%*
	Price workplace parking	*Daily parking charge ($)*	*$0.00*	*$0.00*
		Employees subject to priced parking (%)	*0%*	*0%*
	Residential area parking permits	*Cost of annual permit ($)*	*$0*	*$0*

(cont. on following page)

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

TDM Strategy Inputs, Cont.

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

(cont. on following page)

Attachment B
8th Grand and Hope Project

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

TDM Strategy Inputs, Cont.

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

(cont. on following page)

Attachment B
8th Grand and Hope Project

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

TDM Strategy Inputs, Cont.

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

Attachment B
8th Grand and Hope Project

CITY OF LOS ANGELES VMT CALCULATOR
Report 3: TDM Outputs

Date: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

TDM Adjustments by Trip Purpose & Strategy

Place type: Urban

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

Attachment B
8th Grand and Hope Project

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Urban

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

Final Combined & Maximum TDM Effect

	Home Based Work Production		Home Based Work Attraction		Home Based Other Production		Home Based Other Attraction		Non-Home Based Other Production		Non-Home Based Other Attraction	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
MAX. TDM EFFECT	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

= 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.

Attachment B
8th Grand and Hope Project

CITY OF LOS ANGELES VMT CALCULATOR
Report 4: MXD Methodology

Date: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	785	-49.3%	398	5.7	4,475	2,269
Home Based Other Production	2,103	-74.1%	544	4.1	8,622	2,230
Non-Home Based Other Production	139	-25.2%	104	8.4	1,168	874
Home-Based Work Attraction	43	-74.4%	11	8.2	353	90
Home-Based Other Attraction	699	-74.5%	178	6.7	4,683	1,193
Non-Home Based Other Attraction	350	-24.3%	265	7.4	2,590	1,961

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	0.0%	398	2,269	0.0%	398	2,269
Home Based Other Production	0.0%	544	2,230	0.0%	544	2,230
Non-Home Based Other Production	0.0%	104	874	0.0%	104	874
Home-Based Work Attraction	0.0%	11	90	0.0%	11	90
Home-Based Other Attraction	0.0%	178	1,193	0.0%	178	1,193
Non-Home Based Other Attraction	0.0%	265	1,961	0.0%	265	1,961

MXD VMT Methodology Per Capita & Per Employee

Total Population: 1,307
Total Employees: 30
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	4,499	4,499
Total Home Based Work Attraction VMT	90	90
Total Home Based VMT Per Capita	3.4	3.4
Total Work Based VMT Per Employee	N/A	N/A

Appendix G.4

Copy of Email Correspondence from LADOT (Wes Pringle) to Department of City Planning (Polonia Majas), February 11, 2020

Subject: FW: 8th, Grand & Hope Mixed-Use Project

From: Wes Pringle <wes.pringle@lacity.org>
Sent: Tuesday, February 11, 2020 4:32 PM
To: Georgic Avanesian <georgic.avanesian@lacity.org>; Polonia Majas <polonia.majas@lacity.org>
Cc: Michael Bates <mbates@mobilitygrp.com>
Subject: 8th, Grand & Hope Mixed-Use Project

DOT has reviewed the required street improvements for the mixed-use project on the north side of 8th Street between Hope Street and Grand Avenue. The project applicant has indicated that a 10 foot roadway widening would be required as part of the project. Currently the curb lane is wide enough to provide an independent westbound right-turn lane, three through lanes, and a left-turn lane. Parking is provided on both sides of the street. The applicant has also stated that they will provide the standard sidewalk and easements to provide a 17 foot sidewalk.

The required street widening will not enhance the existing circulation system and there will be no loss in the standard sidewalk width, therefore DOT recommend waiving the widening.

--

Wes Pringle, P.E.
Transportation EngineerMetro Development Review100 S. Main St, 9th FloorLos Angeles, CA 90012

Los Angeles Department of Transportation

213.972.8482

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Appendix G.5

Supplemental Analysis Memorandum

Draft Memorandum

To: Wes Pringle, LADOT

From: Mike Bates

Subject: 8GH Transportation Assessment - Supplemental Analysis

Date: April 25, 2021

Introduction

A Transportation Assessment for the 8th, Grand and Hope Project was prepared by The Mobility Group and submitted to LADOT in December, 2020. LADOT issued an approval letter on January 22, 2021.

Since then, the Applicant has modified the on-site parking configuration. The site plan, driveway locations, and driveway configurations/dimensions remain the same. However, which driveways access which parking levels has changed. Previously, the Grand Avenue driveway accessed the upper parking levels only, and the Hope Street driveway accessed the lower parking levels only. The parking access has been switched such that the Grand Avenue driveway now accesses only the lower parking levels and the Hope Street driveway accesses the upper parking levels. There have been no changes to driveway locations or driveway dimensions, or any other changes.

The purpose of this memorandum to quantify and document potential changes to the results and conclusions presented in Section *3.3.5 Operational Evaluation* of the Transportation Assessment.

This memorandum, with attachments, demonstrates that there are negligible changes to the analysis and that the conclusions reached regarding the operational evaluation in the Transportation Assessment remain valid for the revised Project site plan.

18301 Von Karman Ave.
Suite 490
Irvine, CA 92612
Phone: 949-474-1591
Fax: 949-474-1599

Analysis and Documentation

Figure 0.2 shows the Project Site Plan in the Transportation Assessment while Figure 0.2 Rev shows the revised Project Site Plan. The driveway on Hope Street will continue to provide one inbound lane for visitor's use and service vehicles. Visitors and service vehicles would still exit the Project Site via the Grand Avenue driveway's outbound lane.

The traffic analysis has been modified to reflect the changes, and to determine the new turning movement volumes at Project driveways and study intersections. Figures 3.11 – 3.16 show the Project only and Future with Project traffic volumes for the study intersections and Project driveways in the Transportation Assessment. Similarly, Figures 3.11 Rev – 3.16 Rev show the revised Project Only and Future with Project traffic volumes for the study intersections and Project driveways. As can be seen from the revised figures, the changes in traffic volumes are extremely small and can be considered negligible.

Signalized Intersections

Table 3.5 shows intersection Levels of Service (LOS) under Future with Project Conditions in the Transportation Assessment. Similarly, Table 3.5 Rev shows intersection LOS under Future with Project Conditions for the revised Project site plan. As shown, there are very minimal changes to the delays, the LOS remains the same at all study intersections, and the conclusions remain the same. LOS worksheets are shown in Attachment A.

Tables 3.6 and 3.7 show intersection queuing for the AM and PM peak hours respectively from the Transportation Assessment. Tables 3.6 Rev and 3.7 Rev show intersection queueing for the revised site plan. Again, there are very minimal changes, and conclusions remain the same.

Given these results, it is concluded that the conclusions in the Transportation Assessment do not change and are still valid.

Project Driveways

Table 3.10 shows Project driveways LOS under Future with Project Conditions in the Transportation Assessment. Similarly, Table 3.10 Rev shows Project driveways LOS under Future with Project Conditions for the proposed changes. As shown, there are minimal changes to delays and the LOS remains the same in all cases. LOS worksheets are shown in Attachment A.

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Tables 3.11 and 3.12 show the project driveway queuing analysis for the AM and PM peak hours respectively in the Transportation Assessment. Tables 3.1 Rev and 3.12 Rev show the updated analysis for the driveway change. The queue lengths remain unchanged and the conclusions in the Transportation Assessment are still valid.

Conclusions

This memorandum, with attachments, demonstrates that the project driveway changes have a negligible effect on the traffic operations analysis in the Transportation Assessment, and that conclusions reached regarding the operational evaluation in the Transportation Assessment remain valid for the revised project site plan.

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The **Mobility** Group
Transportation Strategies & Solutions

Project Site Plan in Transportation Assessment Report

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Fax: 949-474-1599

12/01/20

Figure 0.2
Project Site Plan

8th Grand & Hope Project

The Mobility Group
Transportation Strategies & Solutions

The **Mobility** Group
Transportation Strategies & Solutions

Revised Project Site Plan

18301 Von Karman Ave.
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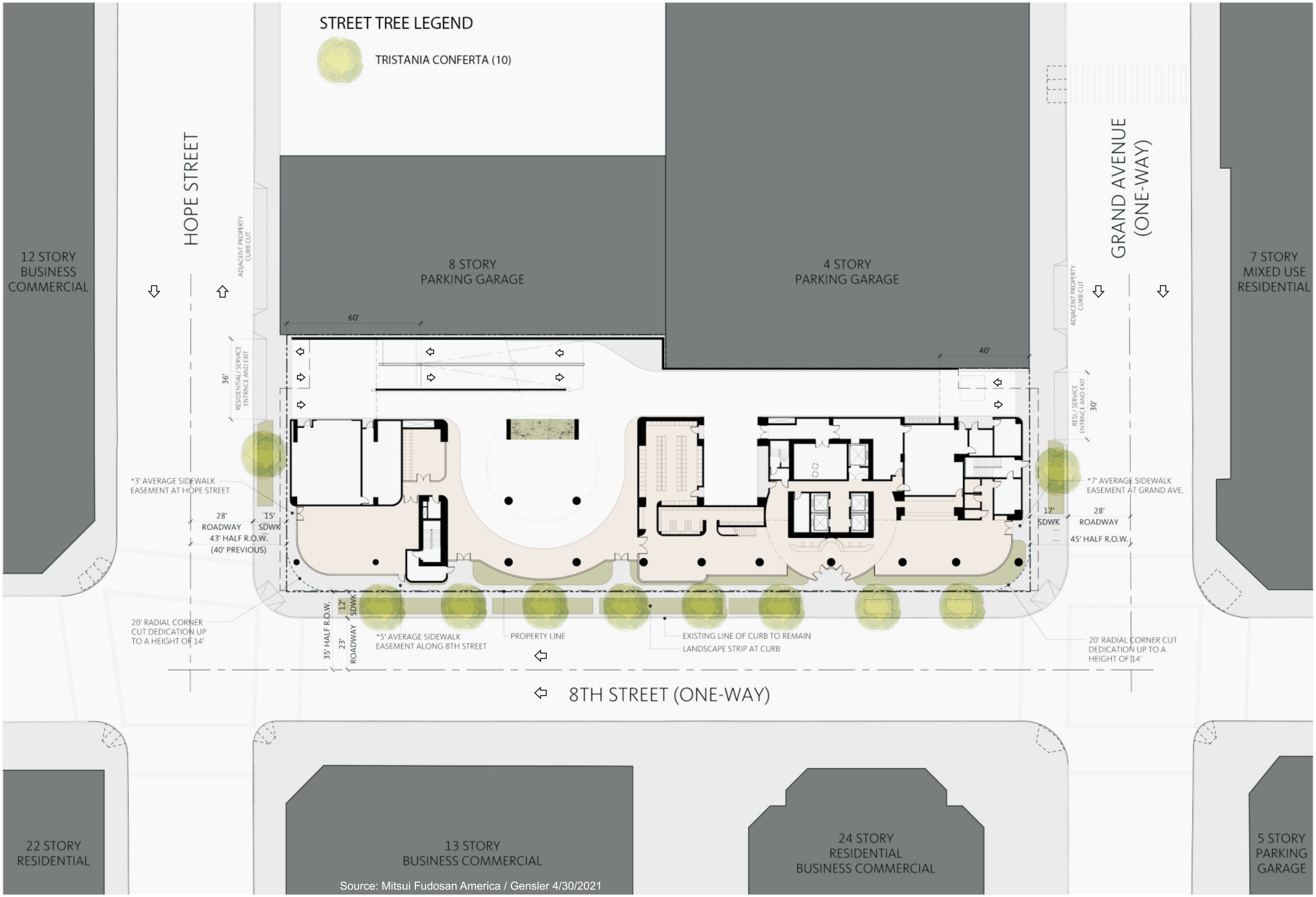
Fax: 949-474-1599



4/26/21

Figure 0.2 Rev
Project Site Plan

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions

The **Mobility** Group
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Traffic Volume Figures – Transportation Assessment Report

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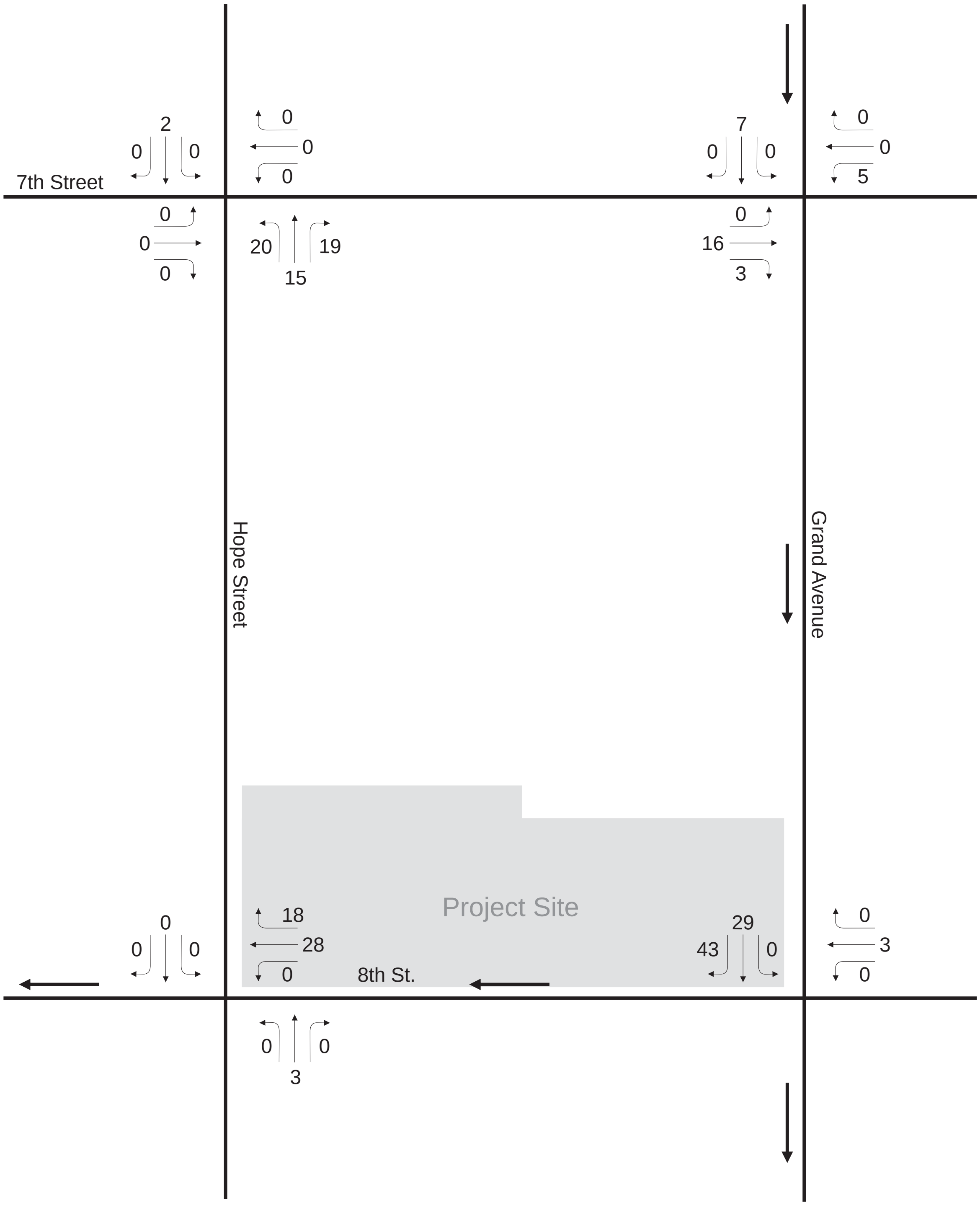
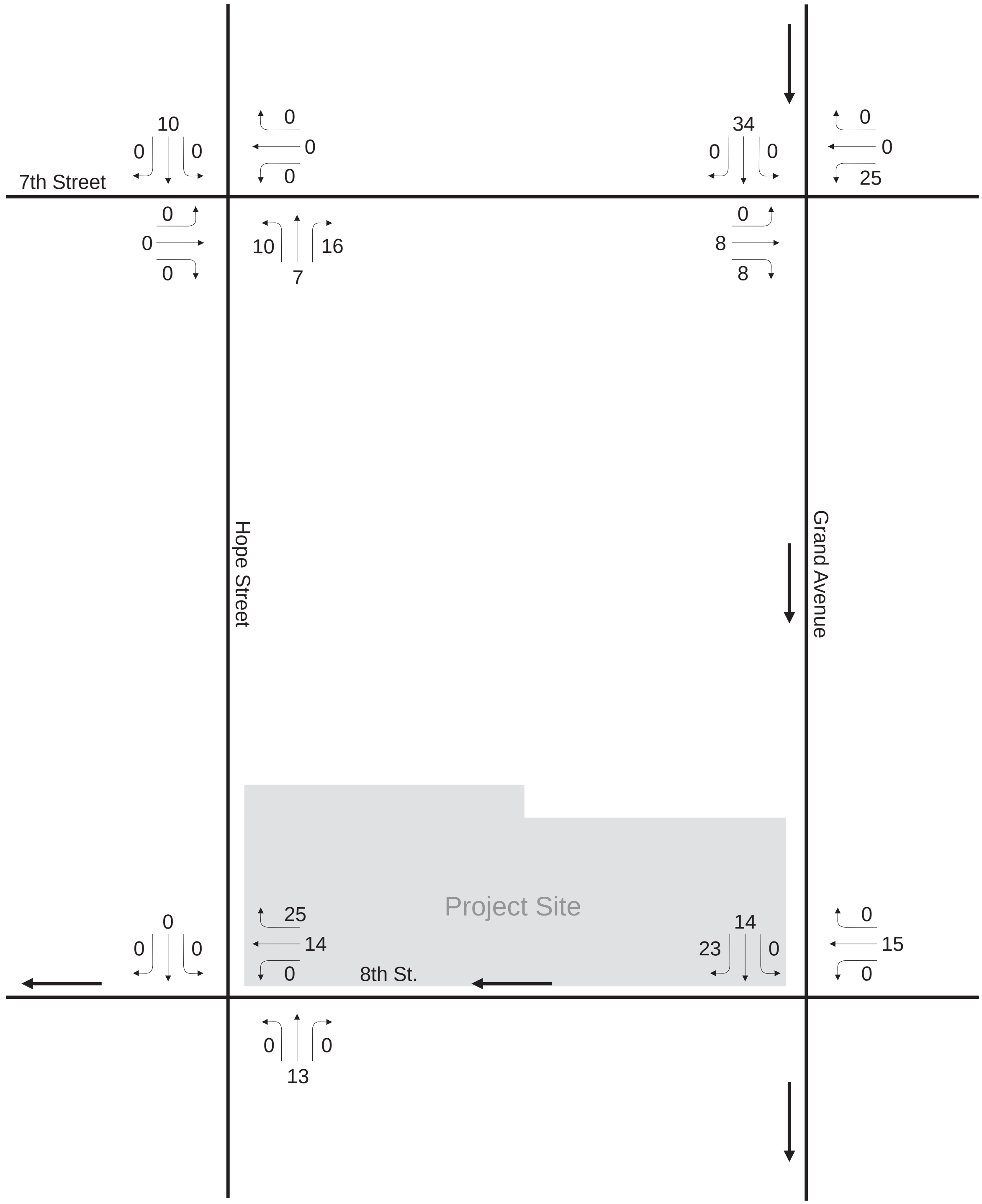


11/18/20

Figure 3.11
Project Only Traffic Volumes - AM Peak Hour

8th Grand & Hope Project

The Mobility Group
Transportation Strategies & Solutions

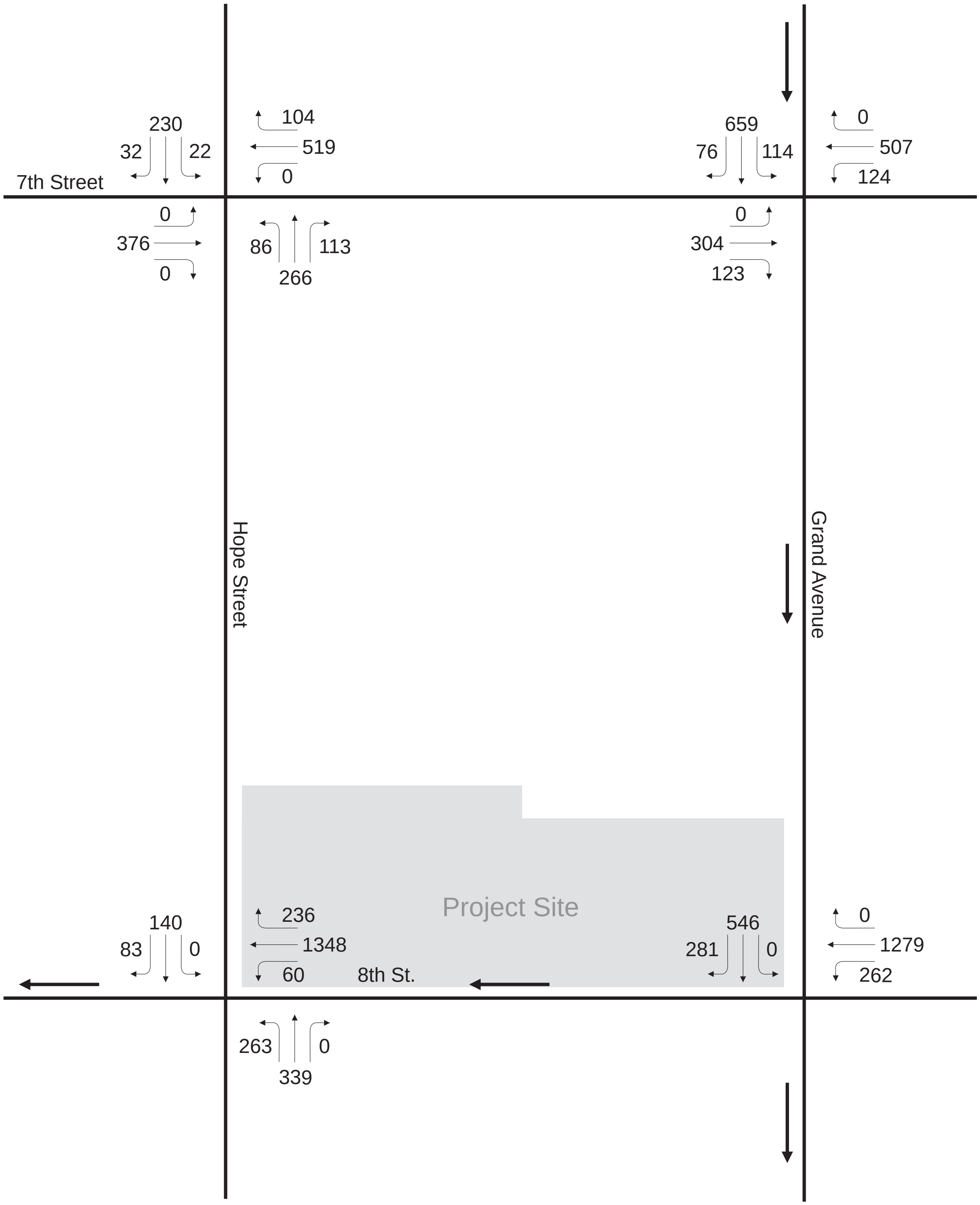


11/18/20

Figure 3.12
Project Only Traffic Volumes - PM Peak Hour

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions

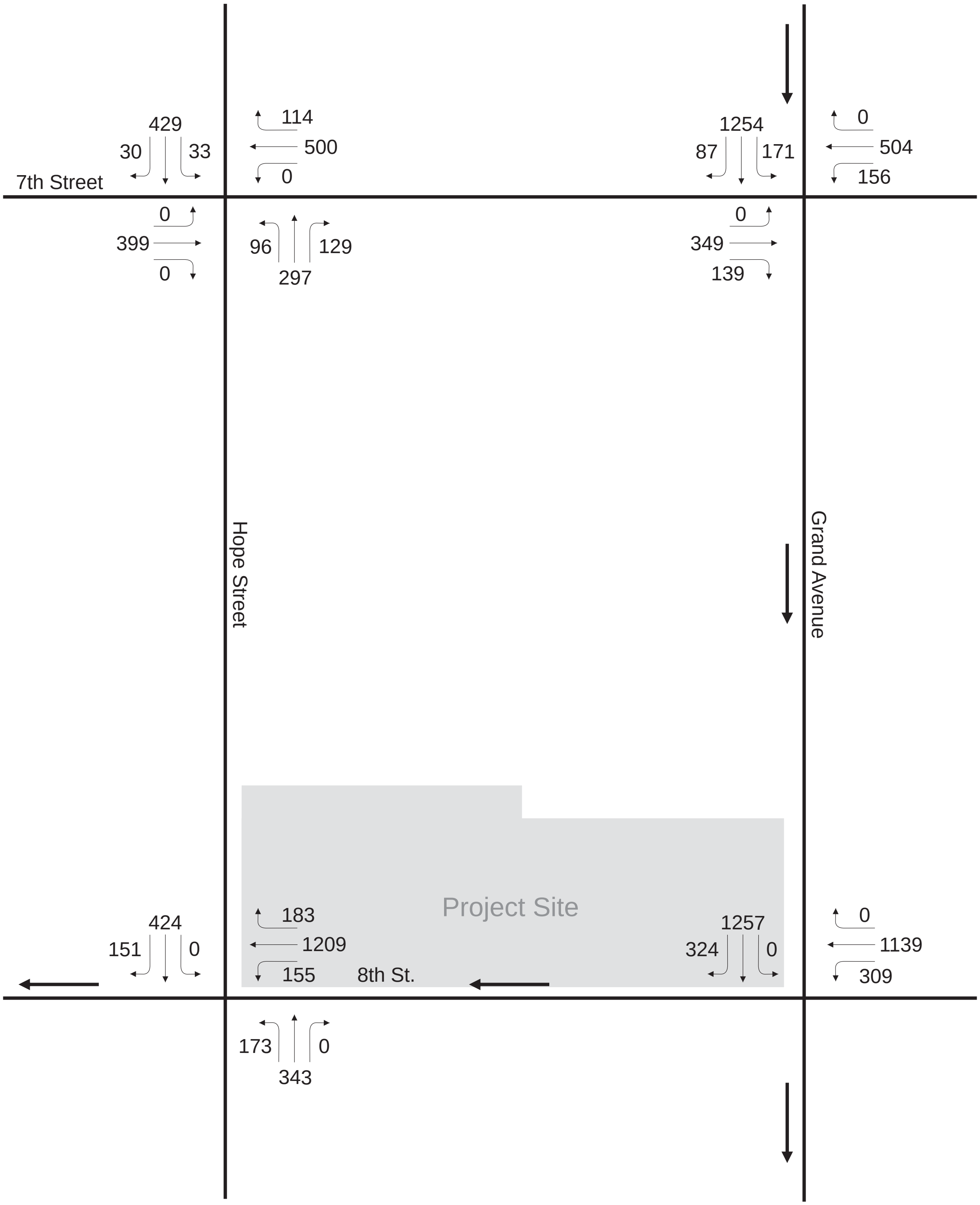


11/18/20

Figure 3.13
Future With Project Traffic Volumes - AM Peak Hour

8th Grand & Hope Project

The Mobility Group
Transportation Strategies & Solutions



11/18/20

Figure 3.14
Future With Project Traffic Volumes - PM Peak Hour

8th Grand & Hope Project

The Mobility Group
Transportation Strategies & Solutions

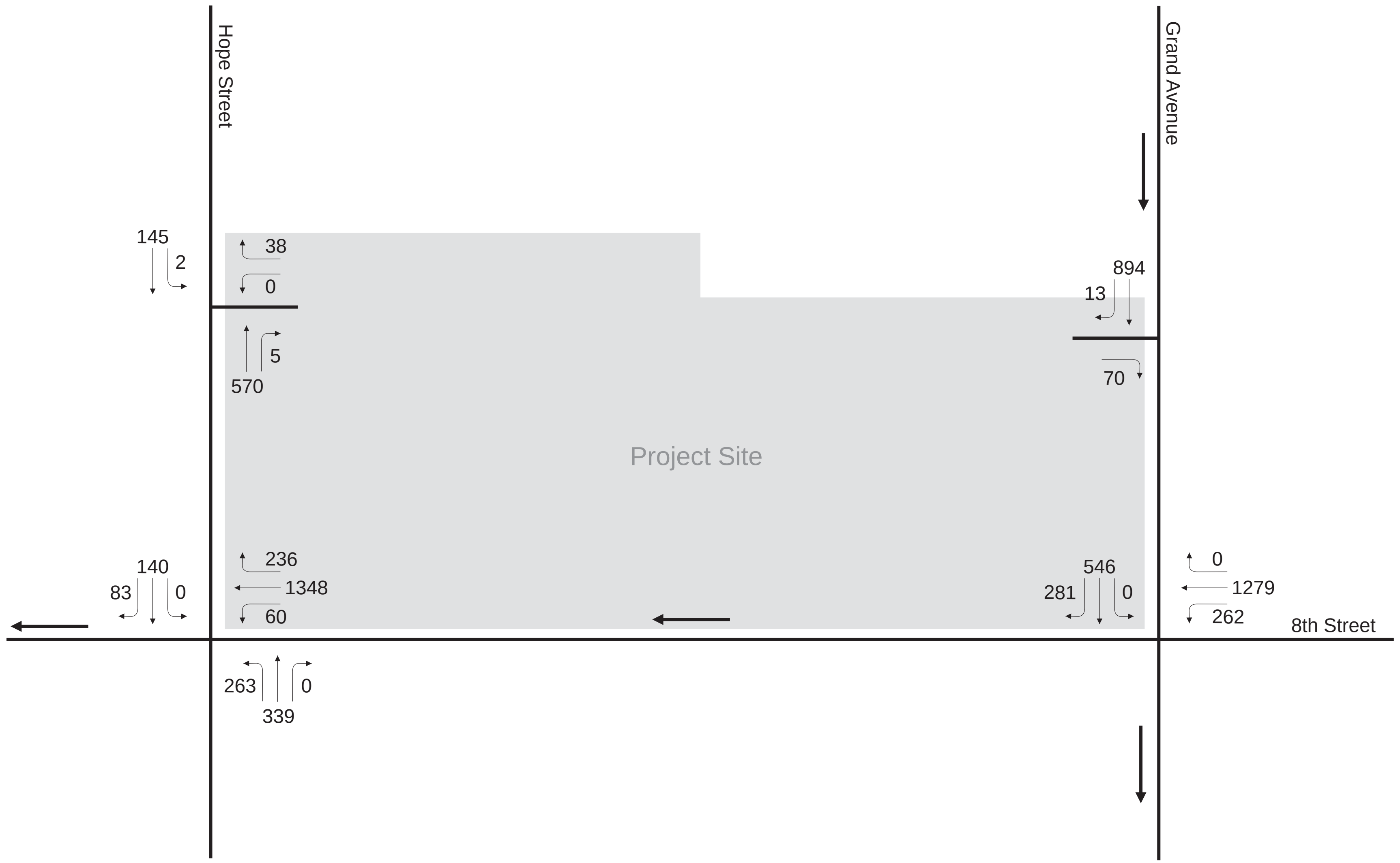
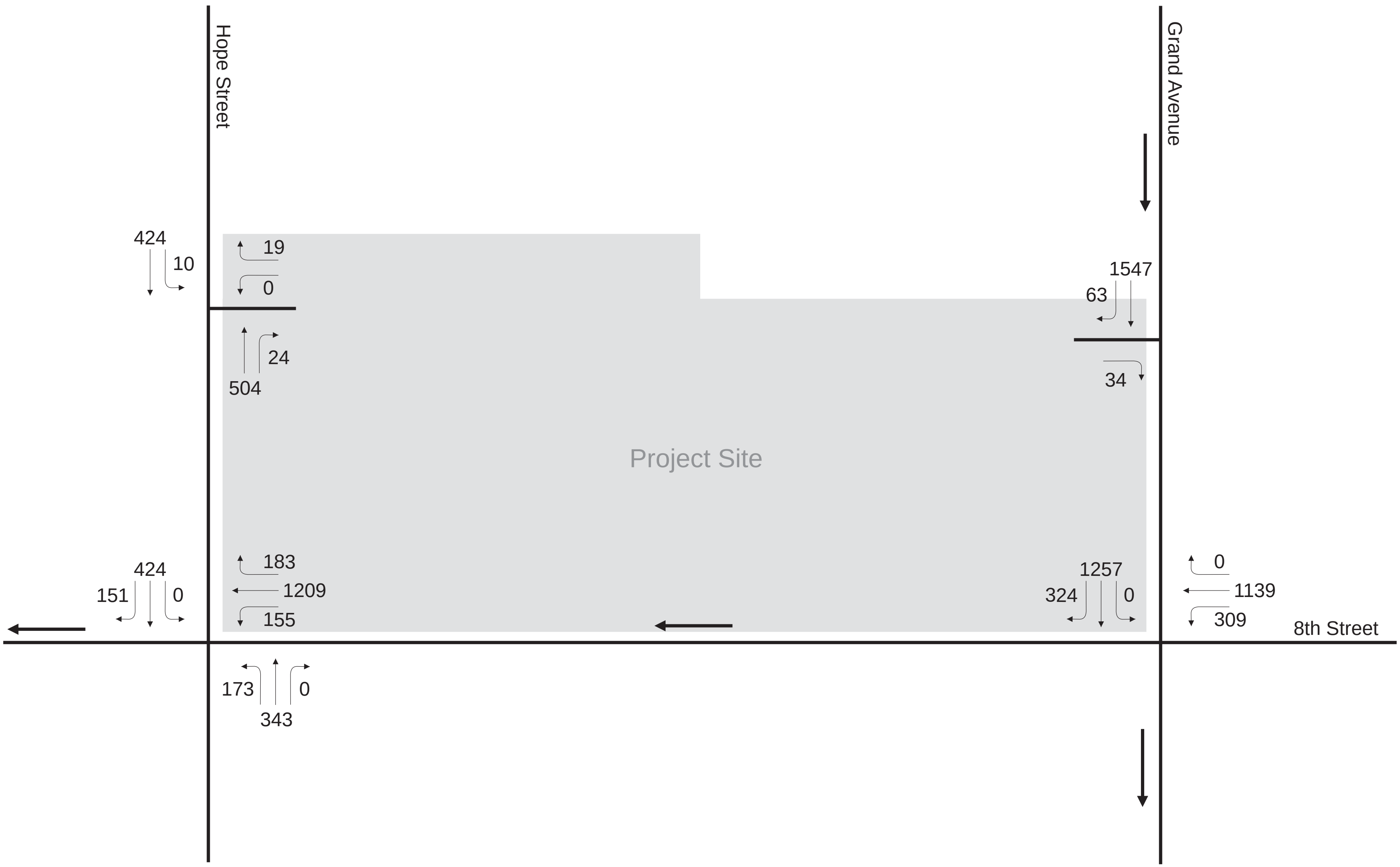


Figure 3.15
Future With Project Traffic Volumes (Driveways) - AM Peak Hour

8th Grand & Hope Project

The Mobility Group
Transportation Strategies & Solutions



11/18/20

Figure 3.16
Future With Project Traffic Volumes (Driveways) - PM Peak Hour

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions

The **Mobility** Group
Transportation Strategies & Solutions

Traffic Volume Figures – Revised Site Plan

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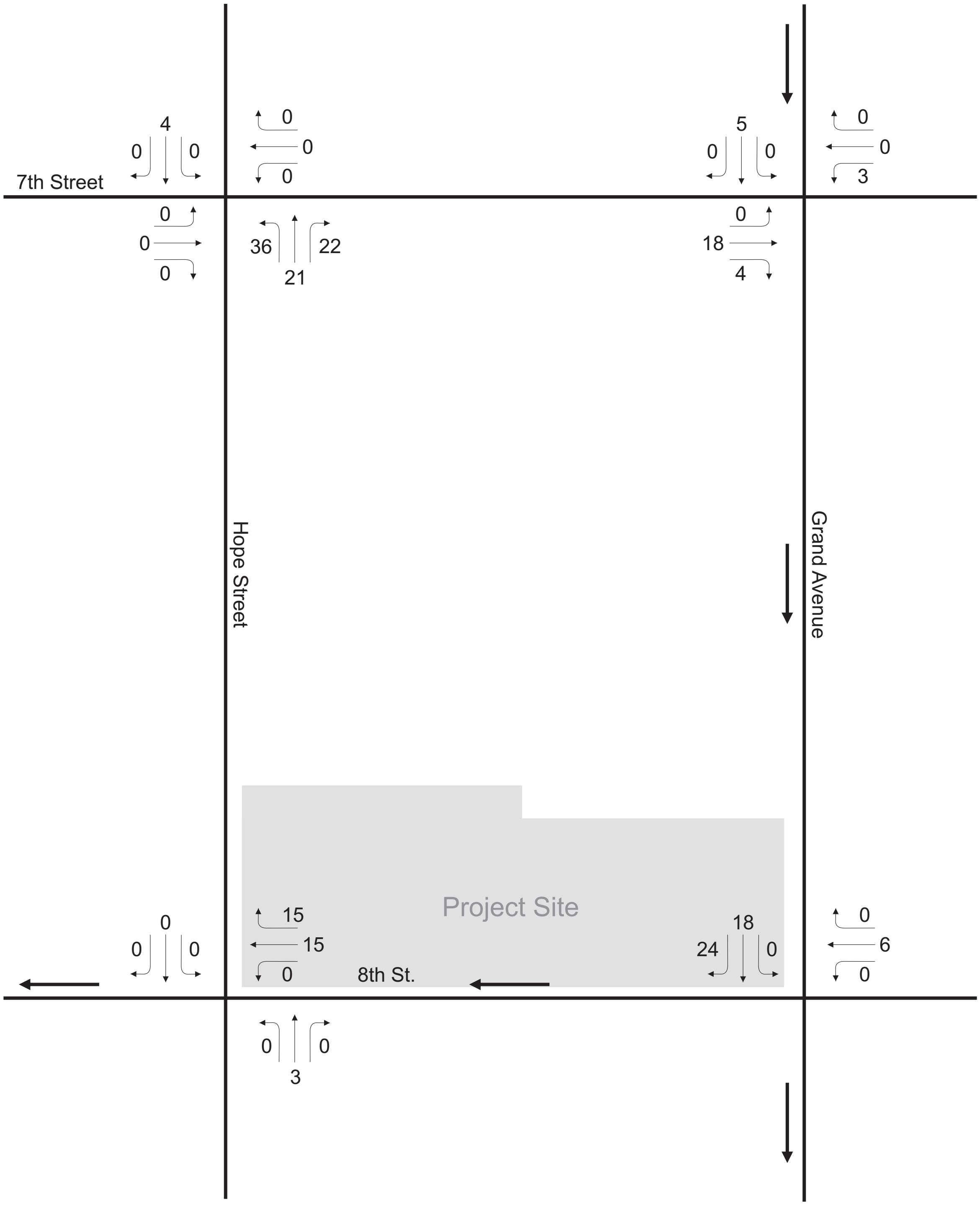

4/23/21

Figure 3.11 Rev
Project Only Traffic Volumes - AM Peak Hour

8th Grand & Hope Project

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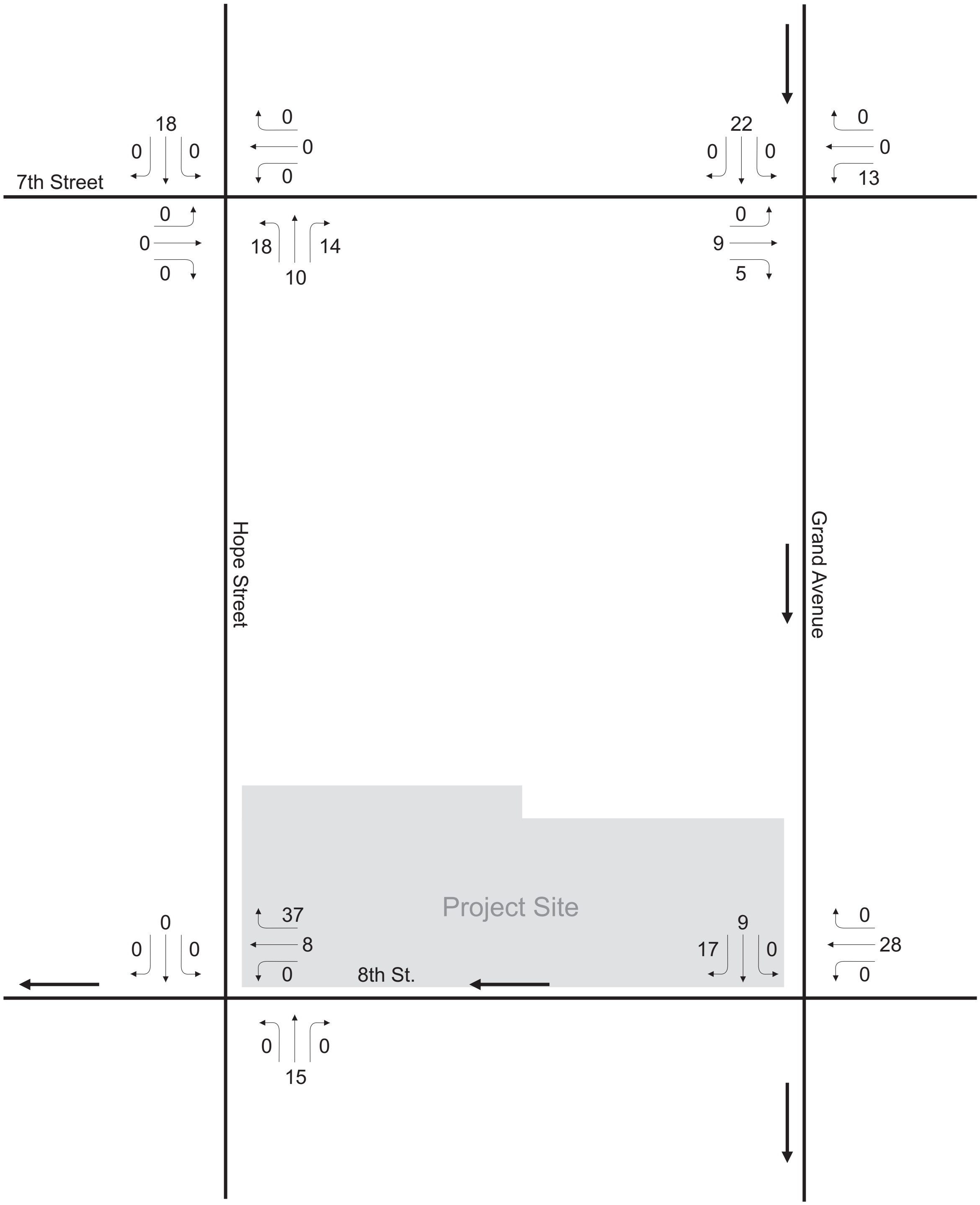

4/23/21

Figure 3.12 Rev
Project Only Traffic Volumes - PM Peak Hour

8th Grand & Hope Project

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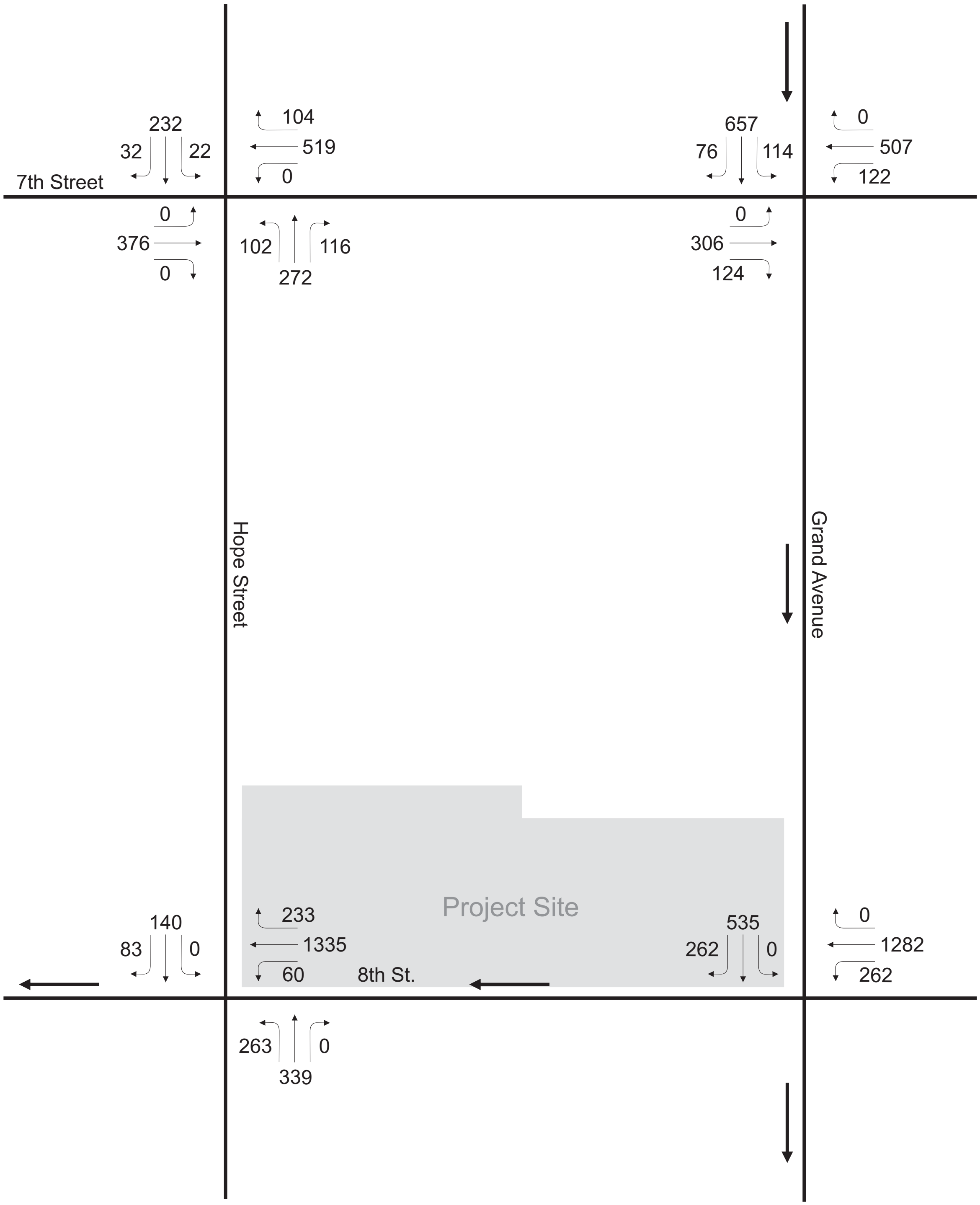

4/23/21

Figure 3.13 Rev
Future With Project Traffic Volumes - AM Peak Hour

8th Grand & Hope Project

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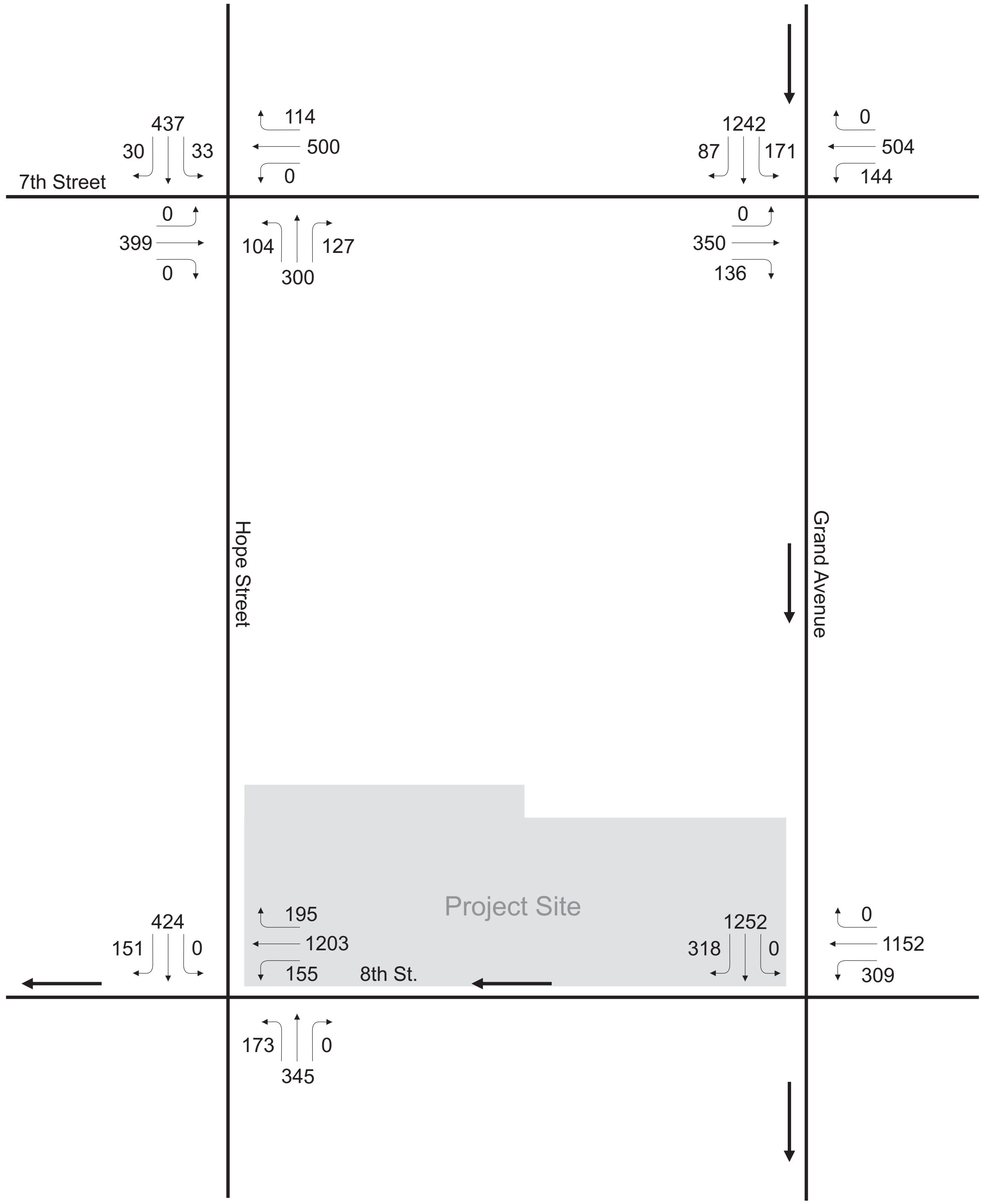

4/23/21

Figure 3.14 Rev
Future With Project Traffic Volumes - PM Peak Hour

8th Grand & Hope Project

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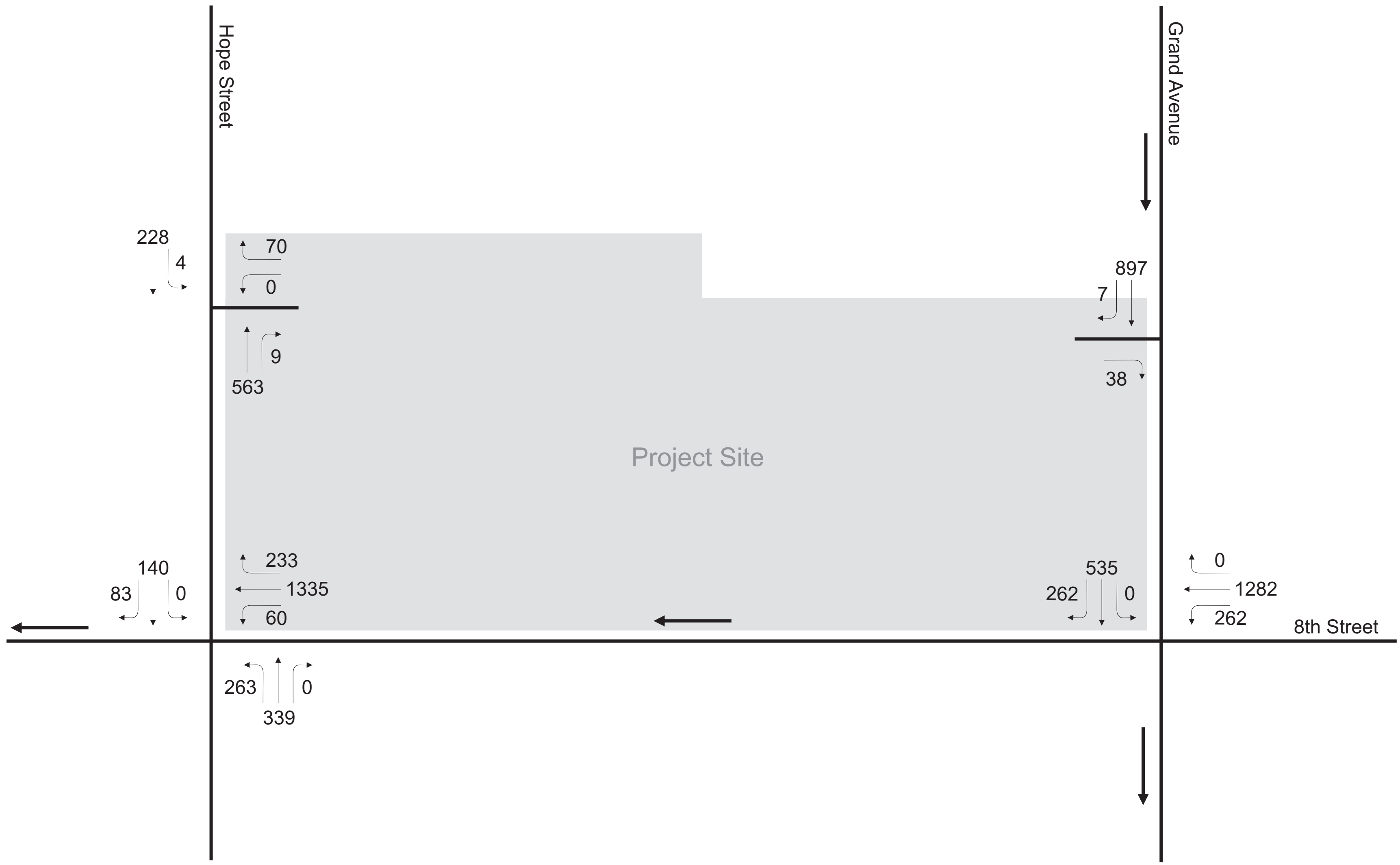

4/23/21

Figure 3.15 Rev
Future With Project Traffic Volumes (Driveways) - AM Peak Hour

8th Grand & Hope Project

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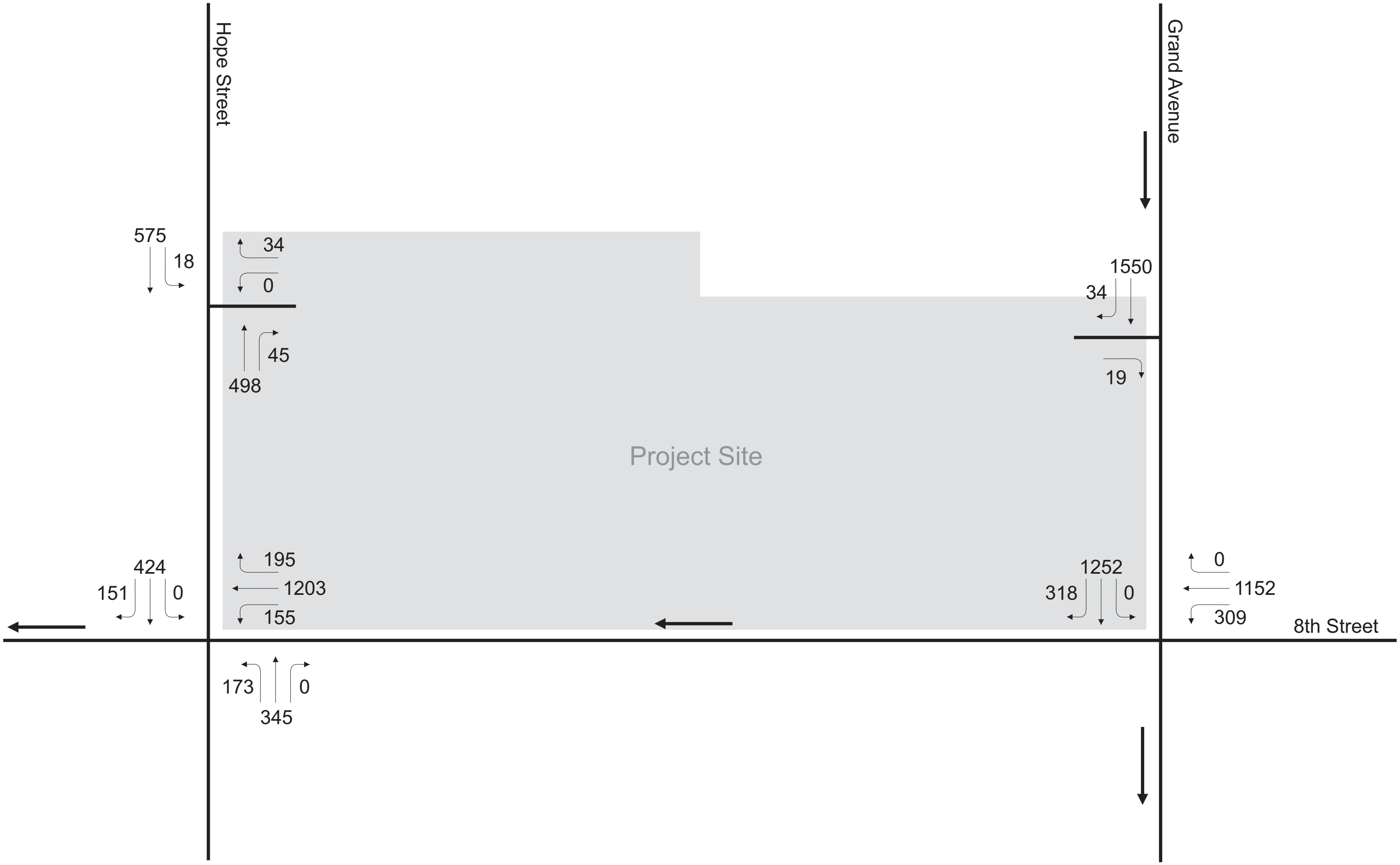

4/23/21

Figure 3.16 Rev
Future With Project Traffic Volumes (Driveways) - PM Peak Hour

8th Grand & Hope Project

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Intersection Level of Service

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Table 3.5 Future With Project—Intersection Level of Service

No.	Intersection	Future With Project			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1	Hope Street & 7th Street	12.5	B	12.9	B
2	Hope Street & 8th Street	17.2	B	24.9	C
3	Grand Avenue & 7th Street	18.3	B	21.1	C
4	Grand Avenue & 8th Street	13.2	B	24.9	C

Table 3.5 Rev Future With Project—Intersection Level of Service

No.	Intersection	Future With Project			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1	Hope Street & 7th Street	12.3	B	12.8	B
2	Hope Street & 8th Street	17.2	B	24.9	C
3	Grand Avenue & 7th Street	18.3	B	21.1	C
4	Grand Avenue & 8th Street	12.8	B	24.8	C

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Intersection Queuing Analysis

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Table 3.6 Future with Project - Intersection Queuing - AM Peak Hour 11/17/20

No.	Intersection	Movement	Minimum Storage Required (ft.)	Provided Storage	Storage Adequate?
1	Hope Street & 7th Street	EBT	169	305	Yes
		WBT	60	305	Yes
		WBR	25	130	Yes
		NBT	111	550	Yes
		SBT	102	202	Yes
2	Hope Street & 8th Street	WBL	40	90	Yes
		WBT	249	320	Yes
		WBR	37	120	Yes
		NBT	209	565	Yes
		SBT	25	550	Yes
		SBR	26	208	Yes
3	Grand Avenue & 7th Street	EBT	82	305	Yes
		EBR	29	140	Yes
		WBL	59	125	Yes
		WBT	231	304	Yes
		SBL	100	110	Yes
		SBT	161	212	Yes
		SBR	33	154	Yes
4	Grand Avenue & 8th Street	WBL	74	105	Yes
		WBT	176	300	Yes
		SBT	91	560	Yes
		SBR	162	75	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.

Table 3.7 Future with Project - Intersection Queuing - PM Peak Hour 11/17/20

No.	Intersection	Movement	Minimum Storage Required (ft.)	Provided Storage	Storage Adequate?
1	Hope Street & 7th Street	EBT	215	305	Yes
		WBT	46	305	Yes
		WBR	25	130	Yes
		NBT	100	550	Yes
		SBT	166	202	Yes
2	Hope Street & 8th Street	WBL	42	90	Yes
		WBT	92	320	Yes
		WBR	25	120	Yes
		NBT	187	565	Yes
		SBT	74	550	Yes
		SBR	53	208	Yes
3	Grand Avenue & 7th Street	EBT	118	305	Yes
		EBR	46	140	Yes
		WBL	109	125	Yes
		WBT	309	304	No
		SBL	119	110	No
		SBT	280	212	No
		SBR	29	154	Yes
4	Grand Avenue & 8th Street	WBL	191	105	No
		WBT	228	300	Yes
		SBT	164	560	Yes
		SBR	132	75	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.

Table 3.6 Rev. **Future with Project - Intersection Queuing - AM Peak Hour** 4/12/21

No.	Intersection	Movement	Minimum Storage Required (ft.)	Provided Storage	Storage Adequate?
1	Hope Street & 7th Street	EBT	179	305	Yes
		WBT	61	305	Yes
		WBR	25	130	Yes
		NBT	86	550	Yes
		SBT	99	202	Yes
2	Hope Street & 8th Street	WBL	40	90	Yes
		WBT	246	320	Yes
		WBR	36	120	Yes
		NBT	209	565	Yes
		SBT	26	550	Yes
		SBR	28	208	Yes
3	Grand Avenue & 7th Street	EBT	81	305	Yes
		EBR	29	140	Yes
		WBL	59	125	Yes
		WBT	231	304	Yes
		SBL	100	110	Yes
		SBT	161	212	Yes
		SBR	33	154	Yes
4	Grand Avenue & 8th Street	WBL	73	105	Yes
		WBT	176	300	Yes
		SBT	90	560	Yes
		SBR	150	75	No

Notes:

1. The queue lengths shown are the queue for each lane.
2. Queue lenghts less than 25 ft (1 vehicle) are shown as 25 ft.

Table 3.7 Rev. Future with Project - Intersection Queuing - PM Peak Hour 4/12/21

No.	Intersection	Movement	Minimum Storage Required (ft.)	Provided Storage	Storage Adequate?
1	Hope Street & 7th Street	EBT	220	305	Yes
		WBT	47	305	Yes
		WBR	25	130	Yes
		NBT	100	550	Yes
		SBT	166	202	Yes
2	Hope Street & 8th Street	WBL	41	90	Yes
		WBT	90	320	Yes
		WBR	25	120	Yes
		NBT	188	565	Yes
		SBT	75	550	Yes
		SBR	54	208	Yes
3	Grand Avenue & 7th Street	EBT	116	305	Yes
		EBR	44	140	Yes
		WBL	99	125	Yes
		WBT	309	304	No
		SBL	119	110	No
		SBT	277	212	No
		SBR	29	154	Yes
4	Grand Avenue & 8th Street	WBL	190	105	No
		WBT	231	300	Yes
		SBT	160	560	Yes
		SBR	128	75	No

Notes:

1. The queue lengths shown are the queue for each lane.
2. Queue lenghts less than 25 ft (1 vehicle) are shown as 25 ft.

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Project Driveway LOS

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Table 3.10 Future With Project - Driveway Level of Service

No.	Intersection	Future With Project			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
5	Hope Street & Project Driveway Westbound (Exit) Move Southbound Left (in) Move	 10.6 8.8	 B A	 10.2 8.7	 B A
6	Grand Avenue & Project Driveway Eastbound (Exit)	14.6	B	20.8	C

Table 3.10 Rev Future With Project - Driveway Level of Service

No.	Intersection	Future With Project			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
5	Hope Street & Project Driveway Westbound (Exit) Move Southbound Left (in) Move	 10.9 8.8	 B A	 10.4 8.7	 B A
6	Grand Avenue & Project Driveway Eastbound (Exit)	13.8	B	19.8	C

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Project Driveway Queue Analysis

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Table 3.11 Future with Project Driveway Queuing—AM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)	Provided Storage	Storage Adequate?
5	Hope Street & Project Driveway	Westbound right	25	40	Yes
6	Grand Avenue & Project Driveway	Eastbound right	25	40	Yes

Table 3.12 Future with Project Driveway Queuing—PM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)	Provided Storage	Storage Adequate?
5	Hope Street & Project Driveway	Westbound right	25	40	Yes
6	Grand Avenue & Project Driveway	Eastbound right	25	40	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.

Table 3.11 Rev. Future with Project Driveway Queuing—AM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)	Provided Storage	Storage Adequate?
5	Hope Street & Project Driveway	Westbound right	25	40	Yes
6	Grand Avenue & Project Driveway	Eastbound right	25	40	Yes

Table 3.12 Rev. Future with Project Driveway Queuing—PM Peak Hour

No.	Intersection	Movement	Minimum Storage Required (ft.)	Provided Storage	Storage Adequate?
5	Hope Street & Project Driveway	Westbound right	25	40	Yes
6	Grand Avenue & Project Driveway	Eastbound right	25	40	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.

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Appendix A

LOS Worksheets

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Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	409	564	113	533	311
v/c Ratio	0.34	0.25	0.11	0.78	0.40
Control Delay	8.9	5.5	0.9	32.8	27.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	8.9	5.5	0.9	32.8	27.1
Queue Length 50th (ft)	94	38	0	86	72
Queue Length 95th (ft)	179	61	6	110	99
Internal Link Dist (ft)	150	376		445	60
Turn Bay Length (ft)					
Base Capacity (vph)	1212	2302	1069	936	1086
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	0.34	0.25	0.11	0.57	0.29

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	376	0	0	519	104	102	272	116	22	232	32
Future Volume (veh/h)	0	376	0	0	519	104	102	272	116	22	232	32
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	0	1870	0	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	409	0	0	564	113	111	296	126	24	252	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, %	0	2	0	0	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	No			No			Yes			Yes		
Cap, veh/h	0	1190	0	0	2261	1008	171	415	194	80	728	100
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.64	0.00	0.00	1.00	1.00	0.53	0.53	0.53	0.26	0.26	0.26
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	7.8	0.0	0.0	0.2	0.2	24.9	0.0	20.0	27.1	0.0	27.4
Ln Grp LOS	A	A	A	A	A	A	C	A	B	C	A	C
Approach Vol, veh/h		409			677			533			311	
Approach Delay, s/veh		7.8			0.2			22.4			27.2	
Approach LOS		A			A			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		7.0		8.0		8.0		8.0
Phs Duration (G+Y+Rc), s		61.8		28.2		61.8		28.2
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		49.5		31.5		49.5		31.5
Max Allow Headway (MAH), s		5.0		5.4		5.2		5.5
Max Q Clear (g_c+I1), s		2.0		13.2		11.2		21.3
Green Ext Time (g_e), s		4.8		1.7		2.8		2.5
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.01		0.00		0.35

Left-Turn Movement Data	1	2	3	4	5	6	7	8
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		0		131		0		434

Through Movement Data	1	2	3	4	5	6	7	8
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3647		2762		1870		1574

Right-Turn Movement Data	1	2	3	4	5	6	7	8
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1585		380		0		735

Left Lane Group Data	1	2	3	4	5	6	7	8
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

Lanes in Grp	0	0	0	1	0	0	0	1
Grp Vol (v), veh/h	0	0	0	160	0	0	0	264
Grp Sat Flow (s), veh/h/ln	0	0	0	1638	0	0	0	1172
Q Serve Time (g_s), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	12.5
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	11.2	0.0	0.0	0.0	19.3
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	980	0	0	0	1109
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	23.7	0.0	0.0	0.0	23.7
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	12.6	0.0	0.0	0.0	17.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	12.5
Time to First Blk (g_f), s	0.0	57.3	0.0	9.7	0.0	57.3	0.0	1.8
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	6.2	0.0	0.0	0.0	1.8
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.42
Lane Grp Cap (c), veh/h	0	0	0	478	0	0	0	366
V/C Ratio (X)	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.72
Avail Cap (c_a), veh/h	0	0	0	620	0	0	0	490
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	26.7	0.0	0.0	0.0	21.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	0.0	0.0	3.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	27.1	0.0	0.0	0.0	24.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.7	0.0	0.0	0.0	3.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	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	2.8	0.0	0.0	0.0	3.9
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.82	0.00	0.00	0.00	0.21
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	1	0	0
Grp Vol (v), veh/h	0	564	0	0	0	409	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1870	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	9.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	9.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	2261	0	0	0	1190	0	0
V/C Ratio (X)	0.00	0.25	0.00	0.00	0.00	0.34	0.00	0.00
Avail Cap (c_a), veh/h	0	2261	0	0	0	1190	0	0
Upstream Filter (I)	0.00	0.92	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	7.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.2	0.0	0.0	0.0	7.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	3.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.44	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		R		T+R				T+R
Lanes in Grp	0	1	0	1	0	0	0	1
Grp Vol (v), veh/h	0	113	0	151	0	0	0	269
Grp Sat Flow (s), veh/h/ln	0	1585	0	1634	0	0	0	1570
Q Serve Time (g_s), s	0.0	0.0	0.0	6.7	0.0	0.0	0.0	11.1
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	6.7	0.0	0.0	0.0	11.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.23	0.00	0.00	0.00	0.47
Lane Grp Cap (c), veh/h	0	1008	0	431	0	0	0	414
V/C Ratio (X)	0.00	0.11	0.00	0.35	0.00	0.00	0.00	0.65
Avail Cap (c_a), veh/h	0	1008	0	572	0	0	0	549
Upstream Filter (I)	0.00	0.92	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	26.9	0.0	0.0	0.0	18.3
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.5	0.0	0.0	0.0	1.7
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	0.2	0.0	27.4	0.0	0.0	0.0	20.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.6	0.0	0.0	0.0	3.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	2.6	0.0	0.0	0.0	3.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.78	0.00	0.00	0.00	0.18
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		12.3
HCM 6th LOS		B

Lane Group	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	65	1451	253	654	152	90
v/c Ratio	0.06	0.49	0.25	0.76	0.13	0.17
Control Delay	10.3	12.7	2.3	33.2	18.5	13.0
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0
Total Delay	10.3	13.0	2.3	33.2	18.5	13.0
Queue Length 50th (ft)	15	167	0	172	19	15
Queue Length 95th (ft)	40	246	36	209	26	28
Internal Link Dist (ft)		140		119	91	
Turn Bay Length (ft)						
Base Capacity (vph)	1026	2950	1025	1150	1513	687
Starvation Cap Reductn	0	778	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.67	0.25	0.57	0.10	0.13

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	60	1335	233	263	339	0	0	140	83
Future Volume (veh/h)	0	0	0	60	1335	233	263	339	0	0	140	83
Number				5	2	12	3	8	18	7	4	14
Initial Q, veh				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
Parking Bus Adj				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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				65	1451	253	286	368	0	0	152	90
Peak Hour Factor				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	0	0	2	2
Opposing Right Turn Influence				Yes			Yes			No		
Cap, veh/h				1005	2880	894	412	566	0	0	1194	532
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.56	0.56	0.56	0.34	0.34	0.00	0.00	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh				9.0	12.6	11.0	32.4	26.6	0.0	0.0	20.8	21.2
Ln Grp LOS				A	B	B	C	C	A	A	C	C
Approach Vol, veh/h					1769			654			242	
Approach Delay, s/veh					12.2			29.3			20.9	
Approach LOS					B			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Case No		9.0		7.0				8.0
Phs Duration (G+Y+Rc), s		55.3		34.7				34.7
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green (Gmax), s		42.5		38.5				38.5
Max Allow Headway (MAH), s		5.0		4.8				5.5
Max Q Clear (g_c+I1), s		17.6		5.6				26.8
Green Ext Time (g_e), s		13.6		1.3				3.4
Prob of Phs Call (p_c)		1.00		1.00				1.00
Prob of Max Out (p_x)		0.00		0.00				0.34
Left-Turn Movement Data								
Assigned Mvmt		5		7				3
Mvmt Sat Flow, veh/h		1781		0				995
Through Movement Data								
Assigned Mvmt		2		4				8
Mvmt Sat Flow, veh/h		5106		3647				1771
Right-Turn Movement Data								
Assigned Mvmt		12		14				18
Mvmt Sat Flow, veh/h		1585		1585				0
Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	0	0	3
Lane Assignment		L						L+T

Lanes in Grp	0	1	0	0	0	0	0	1
Grp Vol (v), veh/h	0	65	0	0	0	0	0	306
Grp Sat Flow (s), veh/h/ln	0	1781	0	0	0	0	0	1065
Q Serve Time (g_s), s	0.0	1.5	0.0	0.0	0.0	0.0	0.0	22.2
Cycle Q Clear Time (g_c), s	0.0	1.5	0.0	0.0	0.0	0.0	0.0	24.8
Perm LT Sat Flow (s_l), veh/h/ln	0	1781	0	0	0	0	0	1156
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.2
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.6
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.2
Time to First Blk (g_f), s	0.0	0.0	0.0	30.2	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.94
Lane Grp Cap (c), veh/h	0	1005	0	0	0	0	0	435
V/C Ratio (X)	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.70
Avail Cap (c_a), veh/h	0	1005	0	0	0	0	0	542
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.9	0.0	0.0	0.0	0.0	0.0	29.3
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0	0.0	3.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.0	0.0	0.0	0.0	0.0	0.0	32.4
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	0.0	0.0	0.0	0.0	6.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.0	0.0	0.0	0.0	0.0	6.4
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.92
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	0	0	8
Lane Assignment		T		T				T
Lanes in Grp	0	3	0	2	0	0	0	1
Grp Vol (v), veh/h	0	1451	0	152	0	0	0	348
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	0	0	1617
Q Serve Time (g_s), s	0.0	15.6	0.0	2.7	0.0	0.0	0.0	16.4
Cycle Q Clear Time (g_c), s	0.0	15.6	0.0	2.7	0.0	0.0	0.0	16.4
Lane Grp Cap (c), veh/h	0	2880	0	1194	0	0	0	543
V/C Ratio (X)	0.00	0.50	0.00	0.13	0.00	0.00	0.00	0.64
Avail Cap (c_a), veh/h	0	2880	0	1520	0	0	0	692
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	11.9	0.0	20.7	0.0	0.0	0.0	25.3
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	0.0	0.0	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.6	0.0	20.8	0.0	0.0	0.0	26.6
1st-Term Q (Q1), veh/ln	0.0	5.4	0.0	1.1	0.0	0.0	0.0	6.1
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.6	0.0	1.1	0.0	0.0	0.0	6.3
%ile Storage Ratio (RQ%)	0.00	0.94	0.00	0.39	0.00	0.00	0.00	0.91
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	0	0	18
Lane Assignment		R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	253	0	90	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	7.5	0.0	3.6	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	7.5	0.0	3.6	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	894	0	532	0	0	0	0
V/C Ratio (X)	0.00	0.28	0.00	0.17	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	894	0	678	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	10.2	0.0	21.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.1	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	11.0	0.0	21.2	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	1.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	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	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.6	0.0	1.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.44	0.00	0.48	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
Intersection Summary								
HCM 6th Ctrl Delay		17.2						
HCM 6th LOS		B						

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	333	135	133	551	124	714	83
v/c Ratio	0.27	0.13	0.20	0.44	0.31	0.61	0.19
Control Delay	5.4	3.5	7.4	9.0	29.6	33.0	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.4	3.5	7.4	9.0	29.6	33.0	7.2
Queue Length 50th (ft)	55	14	26	131	58	132	0
Queue Length 95th (ft)	81	29	59	231	100	161	33
Internal Link Dist (ft)	376			84		60	
Turn Bay Length (ft)							
Base Capacity (vph)	1249	1073	673	1249	501	1440	508
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.13	0.20	0.44	0.25	0.50	0.16

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	306	124	122	507	0	0	0	0	114	657	76
Future Volume (veh/h)	0	306	124	122	507	0	0	0	0	114	657	76
Number	1	6	16	5	2	12				7	4	14
Initial Q, veh	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
Parking Bus Adj	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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	333	135	133	551	0				124	714	83
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Opposing Right Turn Influence	No			Yes						Yes		
Cap, veh/h	0	1308	1108	667	1308	0				358	1025	318
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Prop Arrive On Green	0.00	0.70	0.70	0.70	0.70	0.00				0.20	0.20	0.20
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	5.0	4.5	7.7	6.8	0.0				31.5	34.3	30.8
Ln Grp LOS	A	A	A	A	A	A				C	C	C
Approach Vol, veh/h		468			684						921	
Approach Delay, s/veh		4.9			6.9						33.6	
Approach LOS		A			A						C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Case No		6.0		9.0		7.0		
Phs Duration (G+Y+Rc), s		67.4		22.6		67.4		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green (Gmax), s		55.5		25.5		55.5		
Max Allow Headway (MAH), s		5.2		4.9		4.9		
Max Q Clear (g_c+I1), s		13.4		13.7		7.9		
Green Ext Time (g_e), s		5.1		4.4		2.7		
Prob of Phs Call (p_c)		1.00		1.00		1.00		
Prob of Max Out (p_x)		0.00		0.33		0.00		
Left-Turn Movement Data								
Assigned Mvmt		5		7		1		
Mvmt Sat Flow, veh/h		925		1781		0		
Through Movement Data								
Assigned Mvmt		2		4		6		
Mvmt Sat Flow, veh/h		1870		5106		1870		
Right-Turn Movement Data								
Assigned Mvmt		12		14		16		
Mvmt Sat Flow, veh/h		0		1585		1585		
Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	0
Lane Assignment		L		L				

Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	133	0	124	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	925	0	1781	0	0	0	0
Q Serve Time (g_s), s	0.0	5.5	0.0	5.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.4	0.0	5.4	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	925	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	62.9	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	57.1	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	5.5	0.0	0.0	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	62.9	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	667	0	358	0	0	0	0
V/C Ratio (X)	0.00	0.20	0.00	0.35	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	667	0	505	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.0	0.0	30.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.6	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	7.7	0.0	31.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	2.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	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	0.00
%ile Back of Q (50%), veh/ln	0.0	1.1	0.0	2.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.20	0.00	0.72	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

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T		T		T		
Lanes in Grp	0	1	0	3	0	1	0	0
Grp Vol (v), veh/h	0	551	0	714	0	333	0	0
Grp Sat Flow (s), veh/h/ln	0	1870	0	1702	0	1870	0	0
Q Serve Time (g_s), s	0.0	11.3	0.0	11.7	0.0	5.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.3	0.0	11.7	0.0	5.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	1308	0	1025	0	1308	0	0
V/C Ratio (X)	0.00	0.42	0.00	0.70	0.00	0.25	0.00	0.00
Avail Cap (c_a), veh/h	0	1308	0	1447	0	1308	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.95	0.00	0.00
Uniform Delay (d1), s/veh	0.0	5.8	0.0	33.4	0.0	5.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.9	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	6.8	0.0	34.3	0.0	5.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.6	0.0	4.7	0.0	1.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	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	0.00
%ile Back of Q (50%), veh/ln	0.0	4.0	0.0	4.8	0.0	1.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.71	0.00	1.49	0.00	0.14	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	83	0	135	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	4.0	0.0	2.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.0	0.0	2.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	318	0	1108	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.26	0.00	0.12	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	449	0	1108	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.95	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	30.3	0.0	4.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	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	30.8	0.0	4.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.5	0.0	0.7	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	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.5	0.0	0.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.48	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intersection Summary								
HCM 6th Ctrl Delay		18.3						
HCM 6th LOS		B						

Lane Group	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	285	1393	582	285
v/c Ratio	0.26	0.46	0.42	0.63
Control Delay	5.1	9.3	21.0	25.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.1	9.3	21.0	25.8
Queue Length 50th (ft)	26	109	74	96
Queue Length 95th (ft)	73	176	90	150
Internal Link Dist (ft)		90	78	
Turn Bay Length (ft)				
Base Capacity (vph)	1113	3045	1852	593
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.26	0.46	0.31	0.48

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	262	1282	0	0	0	0	0	535	262
Future Volume (veh/h)	0	0	0	262	1282	0	0	0	0	0	535	262
Number				5	2	12				7	4	14
Initial Q, veh				0	0	0				0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00				1.00		1.00
Parking Bus Adj				1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach					No						No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	0				0	1870	1870
Adj Flow Rate, veh/h				285	1393	0				0	582	285
Peak Hour Factor				0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %				2	2	0				0	2	2
Opposing Right Turn Influence				Yes						No		
Cap, veh/h				1210	3173	0				0	1276	396
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Prop Arrive On Green				0.62	0.62	0.00				0.00	0.25	0.25
Unsig. Movement Delay												
Ln Grp Delay, s/veh				6.4	7.3	0.0				0.0	22.5	26.5
Ln Grp LOS				A	A	A				A	C	C
Approach Vol, veh/h					1678						867	
Approach Delay, s/veh					7.2						23.8	
Approach LOS					A						C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Case No		6.0		7.0				
Phs Duration (G+Y+Rc), s		48.0		22.0				
Change Period (Y+Rc), s		4.5		4.5				
Max Green (Gmax), s		35.5		25.5				
Max Allow Headway (MAH), s		5.0		4.8				
Max Q Clear (g_c+I1), s		11.9		13.5				
Green Ext Time (g_e), s		12.4		4.0				
Prob of Phs Call (p_c)		1.00		1.00				
Prob of Max Out (p_x)		0.00		0.28				
Left-Turn Movement Data								
Assigned Mvmt		5		7				
Mvmt Sat Flow, veh/h		1781		0				
Through Movement Data								
Assigned Mvmt		2		4				
Mvmt Sat Flow, veh/h		5274		5274				
Right-Turn Movement Data								
Assigned Mvmt		12		14				
Mvmt Sat Flow, veh/h		0		1585				
Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	0	0	0
Lane Assignment		L						

Lanes in Grp	0	1	0	0	0	0	0	0
Grp Vol (v), veh/h	0	285	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1781	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1781	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	43.5	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	43.5	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	17.5	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1210	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1210	0	0	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	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	6.4	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	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	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.27	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

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	0	0	0
Lane Assignment		T		T				
Lanes in Grp	0	3	0	3	0	0	0	0
Grp Vol (v), veh/h	0	1393	0	582	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	0	0	0
Q Serve Time (g_s), s	0.0	9.9	0.0	6.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.9	0.0	6.8	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	3173	0	1276	0	0	0	0
V/C Ratio (X)	0.00	0.44	0.00	0.46	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	3173	0	1860	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	6.9	0.0	22.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.3	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	7.3	0.0	22.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.9	0.0	2.6	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	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	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.0	0.0	2.6	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.49	0.00	0.92	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	0	0	0
Lane Assignment				R				
Lanes in Grp	0	0	0	1	0	0	0	0
Grp Vol (v), veh/h	0	0	0	285	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	11.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	11.5	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	396	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.72	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	577	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	24.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.5	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	26.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.3	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	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	4.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.53	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

Intersection Summary	
HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B

Intersection						
Int Delay, s/veh	1					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	70	563	9	4	145
Future Vol, veh/h	0	70	563	9	4	145
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	76	612	10	4	158

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	311	0	0	622	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	0	685	-	-	955	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	685	-	-	955	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	685	955	-
HCM Lane V/C Ratio	-	-	0.111	0.005	-
HCM Control Delay (s)	-	-	10.9	8.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection						
Int Delay, s/veh	0.6					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	38	0	0	897	7
Future Vol, veh/h	0	38	0	0	897	7
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	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	41	0	0	975	8

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	488	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	7.14	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.92	-	-
Pot Cap-1 Maneuver	0	450	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	450	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	13.8	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	450	-	-
HCM Lane V/C Ratio	0.092	-	-
HCM Control Delay (s)	13.8	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-

Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	434	543	124	577	544
v/c Ratio	0.39	0.25	0.12	0.84	0.61
Control Delay	11.6	5.1	0.5	29.6	29.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.6	5.1	0.5	29.6	29.0
Queue Length 50th (ft)	117	28	0	83	136
Queue Length 95th (ft)	220	47	3	100	166
Internal Link Dist (ft)	150	376		445	60
Turn Bay Length (ft)					
Base Capacity (vph)	1127	2141	1006	895	1200
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	0.39	0.25	0.12	0.64	0.45

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	399	0	0	500	114	104	300	127	33	437	30
Future Volume (veh/h)	0	399	0	0	500	114	104	300	127	33	437	30
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	0	1870	0	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	434	0	0	543	124	113	326	138	36	475	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	0	0	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	No			No			Yes			Yes		
Cap, veh/h	0	1075	0	0	2042	911	163	483	230	88	995	68
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.57	0.00	0.00	1.00	1.00	0.65	0.65	0.65	0.33	0.33	0.33
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	10.8	0.0	0.0	0.3	0.3	21.7	0.0	13.5	24.6	0.0	25.0
Ln Grp LOS	A	B	A	A	A	A	C	A	B	C	A	C
Approach Vol, veh/h		434			667			577			544	
Approach Delay, s/veh		10.8			0.3			17.3			24.8	
Approach LOS		B			A			B			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		7.0		8.0		8.0		8.0
Phs Duration (G+Y+Rc), s		56.2		33.8		56.2		33.8
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		45.5		35.5		45.5		35.5
Max Allow Headway (MAH), s		5.0		5.3		5.2		5.6
Max Q Clear (g_c+I1), s		2.0		13.4		13.6		26.7
Green Ext Time (g_e), s		4.6		3.4		3.0		2.6
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.02		0.00		0.54
Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		0		133		0		327
Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3647		3058		1870		1485
Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1585		208		0		708
Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

Lanes in Grp	0	0	0	1	0	0	0	1
Grp Vol (v), veh/h	0	0	0	280	0	0	0	270
Grp Sat Flow (s), veh/h/ln	0	0	0	1735	0	0	0	946
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.3
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	10.7	0.0	0.0	0.0	24.7
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	943	0	0	0	906
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	29.3	0.0	0.0	0.0	29.3
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	19.2	0.0	0.0	0.0	17.9
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.3
Time to First Blk (g_f), s	0.0	51.7	0.0	10.9	0.0	51.7	0.0	2.6
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	10.7	0.0	0.0	0.0	2.6
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.42
Lane Grp Cap (c), veh/h	0	0	0	610	0	0	0	364
V/C Ratio (X)	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.74
Avail Cap (c_a), veh/h	0	0	0	724	0	0	0	453
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	24.1	0.0	0.0	0.0	16.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.0	0.0	5.0
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	24.6	0.0	0.0	0.0	21.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.6	0.0	0.0	0.0	3.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	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	4.7	0.0	0.0	0.0	3.9
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.39	0.00	0.00	0.00	0.22
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	1	0	0
Grp Vol (v), veh/h	0	543	0	0	0	434	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1870	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	11.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	11.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	2042	0	0	0	1075	0	0
V/C Ratio (X)	0.00	0.27	0.00	0.00	0.00	0.40	0.00	0.00
Avail Cap (c_a), veh/h	0	2042	0	0	0	1075	0	0
Upstream Filter (I)	0.00	0.86	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	10.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.3	0.0	0.0	0.0	10.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	4.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	4.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.59	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		R		T+R				T+R
Lanes in Grp	0	1	0	1	0	0	0	1
Grp Vol (v), veh/h	0	124	0	264	0	0	0	307
Grp Sat Flow (s), veh/h/ln	0	1585	0	1665	0	0	0	1575
Q Serve Time (g_s), s	0.0	0.0	0.0	11.4	0.0	0.0	0.0	10.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	11.4	0.0	0.0	0.0	10.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.13	0.00	0.00	0.00	0.45
Lane Grp Cap (c), veh/h	0	911	0	542	0	0	0	512
V/C Ratio (X)	0.00	0.14	0.00	0.49	0.00	0.00	0.00	0.60
Avail Cap (c_a), veh/h	0	911	0	657	0	0	0	621
Upstream Filter (I)	0.00	0.86	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	24.3	0.0	0.0	0.0	12.4
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.7	0.0	0.0	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.3	0.0	25.0	0.0	0.0	0.0	13.5
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.4	0.0	0.0	0.0	2.5
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	4.5	0.0	0.0	0.0	2.6
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	1.32	0.00	0.00	0.00	0.15
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intersection Summary								
HCM 6th Ctrl Delay		12.8						
HCM 6th LOS		B						

Lane Group	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	168	1308	212	563	461	164
v/c Ratio	0.16	0.44	0.21	0.79	0.41	0.32
Control Delay	5.8	6.0	0.5	36.0	29.0	23.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.8	6.1	0.5	36.0	29.0	23.6
Queue Length 50th (ft)	18	52	0	152	85	49
Queue Length 95th (ft)	41	90	1	188	75	54
Internal Link Dist (ft)		140		119	91	
Turn Bay Length (ft)						
Base Capacity (vph)	1033	2968	1012	1016	1592	723
Starvation Cap Reductn	0	252	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.48	0.21	0.55	0.29	0.23

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	155	1203	195	173	345	0	0	424	151
Future Volume (veh/h)	0	0	0	155	1203	195	173	345	0	0	424	151
Number				5	2	12	3	8	18	7	4	14
Initial Q, veh				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
Parking Bus Adj				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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				168	1308	212	188	375	0	0	461	164
Peak Hour Factor				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	0	0	2	2
Opposing Right Turn Influence				Yes			Yes			No		
Cap, veh/h				926	2655	824	283	668	0	0	1351	603
HCM Platoon Ratio				0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.17	0.17	0.17	0.38	0.38	0.00	0.00	0.38	0.38
Unsig. Movement Delay												
Ln Grp Delay, s/veh				21.3	27.2	23.0	33.4	22.5	0.0	0.0	20.0	19.5
Ln Grp LOS				C	C	C	C	C	A	A	C	B
Approach Vol, veh/h					1688			563			625	
Approach Delay, s/veh					26.1			27.0			19.9	
Approach LOS					C			C			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Case No		9.0		7.0				8.0
Phs Duration (G+Y+Rc), s		51.3		38.7				38.7
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green (Gmax), s		40.5		40.5				40.5
Max Allow Headway (MAH), s		5.0		4.9				5.9
Max Q Clear (g_c+I1), s		22.9		10.3				31.5
Green Ext Time (g_e), s		10.2		3.9				2.7
Prob of Phs Call (p_c)		1.00		1.00				1.00
Prob of Max Out (p_x)		0.00		0.00				0.56
Left-Turn Movement Data								
Assigned Mvmt		5		7				3
Mvmt Sat Flow, veh/h		1781		0				554
Through Movement Data								
Assigned Mvmt		2		4				8
Mvmt Sat Flow, veh/h		5106		3647				1842
Right-Turn Movement Data								
Assigned Mvmt		12		14				18
Mvmt Sat Flow, veh/h		1585		1585				0
Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	0	0	3
Lane Assignment		L						L+T

Lanes in Grp	0	1	0	0	0	0	0	1
Grp Vol (v), veh/h	0	168	0	0	0	0	0	229
Grp Sat Flow (s), veh/h/ln	0	1781	0	0	0	0	0	694
Q Serve Time (g_s), s	0.0	7.3	0.0	0.0	0.0	0.0	0.0	21.2
Cycle Q Clear Time (g_c), s	0.0	7.3	0.0	0.0	0.0	0.0	0.0	29.5
Perm LT Sat Flow (s_l), veh/h/ln	0	1781	0	0	0	0	0	813
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.2
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.9
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.2
Time to First Blk (g_f), s	0.0	0.0	0.0	34.2	0.0	0.0	0.0	0.4
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.82
Lane Grp Cap (c), veh/h	0	926	0	0	0	0	0	337
V/C Ratio (X)	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.68
Avail Cap (c_a), veh/h	0	926	0	0	0	0	0	399
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.9	0.0	0.0	0.0	0.0	0.0	29.8
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	0.0	0.0	3.7
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	21.3	0.0	0.0	0.0	0.0	0.0	33.4
1st-Term Q (Q1), veh/ln	0.0	3.2	0.0	0.0	0.0	0.0	0.0	4.5
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.3	0.0	0.0	0.0	0.0	0.0	4.9
%ile Storage Ratio (RQ%)	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.70
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	0	0	8
Lane Assignment		T		T				T
Lanes in Grp	0	3	0	2	0	0	0	1
Grp Vol (v), veh/h	0	1308	0	461	0	0	0	334
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	0	0	1617
Q Serve Time (g_s), s	0.0	20.9	0.0	8.3	0.0	0.0	0.0	14.5
Cycle Q Clear Time (g_c), s	0.0	20.9	0.0	8.3	0.0	0.0	0.0	14.5
Lane Grp Cap (c), veh/h	0	2655	0	1351	0	0	0	615
V/C Ratio (X)	0.00	0.49	0.00	0.34	0.00	0.00	0.00	0.54
Avail Cap (c_a), veh/h	0	2655	0	1599	0	0	0	728
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	26.5	0.0	19.9	0.0	0.0	0.0	21.8
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.1	0.0	0.0	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.2	0.0	20.0	0.0	0.0	0.0	22.5
1st-Term Q (Q1), veh/ln	0.0	9.4	0.0	3.3	0.0	0.0	0.0	5.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	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	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.6	0.0	3.4	0.0	0.0	0.0	5.4
%ile Storage Ratio (RQ%)	0.00	1.60	0.00	1.20	0.00	0.00	0.00	0.78
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	0	0	18
Lane Assignment		R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	212	0	164	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	10.4	0.0	6.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.4	0.0	6.4	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	824	0	603	0	0	0	0
V/C Ratio (X)	0.00	0.26	0.00	0.27	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	824	0	713	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	22.2	0.0	19.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.2	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	23.0	0.0	19.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.3	0.0	2.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	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	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.5	0.0	2.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.75	0.00	0.84	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
Intersection Summary								
HCM 6th Ctrl Delay		24.9						
HCM 6th LOS		C						

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	380	148	157	548	186	1350	95
v/c Ratio	0.39	0.18	0.35	0.56	0.28	0.70	0.14
Control Delay	10.8	7.5	16.2	17.9	20.3	25.8	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.8	7.5	16.2	17.9	20.3	25.8	4.5
Queue Length 50th (ft)	85	26	52	208	70	226	0
Queue Length 95th (ft)	116	m44	99	309	119	277	29
Internal Link Dist (ft)	376			84		60	
Turn Bay Length (ft)							
Base Capacity (vph)	972	835	443	972	698	2005	681
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.18	0.35	0.56	0.27	0.67	0.14

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱	↰	↑					↰	↑↑↑	↱
Traffic Volume (veh/h)	0	350	136	144	504	0	0	0	0	171	1242	87
Future Volume (veh/h)	0	350	136	144	504	0	0	0	0	171	1242	87
Number	1	6	16	5	2	12				7	4	14
Initial Q, veh	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
Parking Bus Adj	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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	380	148	157	548	0				186	1350	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Opposing Right Turn Influence	No			Yes						Yes		
Cap, veh/h	0	1037	879	466	1037	0				615	1764	548
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Prop Arrive On Green	0.00	0.55	0.55	0.55	0.55	0.00				0.35	0.35	0.35
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	11.4	9.9	19.1	14.6	0.0				21.8	27.8	20.7
Ln Grp LOS	A	B	A	B	B	A				C	C	C
Approach Vol, veh/h		528			705						1631	
Approach Delay, s/veh		11.0			15.6						26.7	
Approach LOS		B			B						C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Case No		6.0		9.0		7.0		
Phs Duration (G+Y+Rc), s		54.4		35.6		54.4		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green (Gmax), s		45.5		35.5		45.5		
Max Allow Headway (MAH), s		5.3		5.0		4.9		
Max Q Clear (g_c+I1), s		23.2		23.2		12.2		
Green Ext Time (g_e), s		4.7		7.9		3.0		
Prob of Phs Call (p_c)		1.00		1.00		1.00		
Prob of Max Out (p_x)		0.00		0.65		0.00		
Left-Turn Movement Data								
Assigned Mvmt		5		7		1		
Mvmt Sat Flow, veh/h		875		1781		0		
Through Movement Data								
Assigned Mvmt		2		4		6		
Mvmt Sat Flow, veh/h		1870		5106		1870		
Right-Turn Movement Data								
Assigned Mvmt		12		14		16		
Mvmt Sat Flow, veh/h		0		1585		1585		
Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	0
Lane Assignment		L		L				

Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	157	0	186	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	875	0	1781	0	0	0	0
Q Serve Time (g_s), s	0.0	11.0	0.0	6.9	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	21.2	0.0	6.9	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	875	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	49.9	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	39.7	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	11.0	0.0	0.0	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	49.9	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	466	0	615	0	0	0	0
V/C Ratio (X)	0.00	0.34	0.00	0.30	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	466	0	703	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	17.1	0.0	21.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.0	0.0	0.3	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	19.1	0.0	21.8	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	2.8	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	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	0.00
%ile Back of Q (50%), veh/ln	0.0	2.4	0.0	2.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.43	0.00	0.88	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

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T		T		T		
Lanes in Grp	0	1	0	3	0	1	0	0
Grp Vol (v), veh/h	0	548	0	1350	0	380	0	0
Grp Sat Flow (s), veh/h/ln	0	1870	0	1702	0	1870	0	0
Q Serve Time (g_s), s	0.0	16.6	0.0	21.2	0.0	10.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	16.6	0.0	21.2	0.0	10.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	1037	0	1764	0	1037	0	0
V/C Ratio (X)	0.00	0.53	0.00	0.77	0.00	0.37	0.00	0.00
Avail Cap (c_a), veh/h	0	1037	0	2014	0	1037	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.93	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.6	0.0	26.2	0.0	11.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.9	0.0	1.6	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.6	0.0	27.8	0.0	11.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	6.4	0.0	8.2	0.0	3.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.3	0.0	0.1	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	6.9	0.0	8.5	0.0	4.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.24	0.00	2.64	0.00	0.29	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	95	0	148	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	3.8	0.0	4.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.8	0.0	4.1	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	548	0	879	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.17	0.00	0.17	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	625	0	879	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.93	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	20.5	0.0	9.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	20.7	0.0	9.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.4	0.0	1.3	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	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.4	0.0	1.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.43	0.00	0.10	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	21.1
HCM 6th LOS	C

Lane Group	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	336	1252	1361	346
v/c Ratio	0.40	0.52	0.63	0.50
Control Delay	17.0	18.2	18.4	17.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.0	18.2	18.4	17.1
Queue Length 50th (ft)	119	186	103	63
Queue Length 95th (ft)	190	231	160	128
Internal Link Dist (ft)		90	78	
Turn Bay Length (ft)				
Base Capacity (vph)	848	2406	2344	742
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.40	0.52	0.58	0.47

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	309	1152	0	0	0	0	0	1252	318
Future Volume (veh/h)	0	0	0	309	1152	0	0	0	0	0	1252	318
Number				5	2	12				7	4	14
Initial Q, veh				0	0	0				0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00				1.00		1.00
Parking Bus Adj				1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach					No						No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	0				0	1870	1870
Adj Flow Rate, veh/h				336	1252	0				0	1361	346
Peak Hour Factor				0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %				2	2	0				0	2	2
Opposing Right Turn Influence				Yes						No		
Cap, veh/h				990	2607	0				0	1988	617
HCM Platoon Ratio				1.00	1.00	1.00				1.00	0.33	0.33
Prop Arrive On Green				0.51	0.51	0.00				0.00	0.13	0.13
Unsig. Movement Delay												
Ln Grp Delay, s/veh				14.2	14.9	0.0				0.0	34.6	32.8
Ln Grp LOS				B	B	A				A	C	C
Approach Vol, veh/h					1588						1707	
Approach Delay, s/veh					14.8						34.2	
Approach LOS					B						C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Case No		6.0		7.0				
Phs Duration (G+Y+Rc), s		50.5		39.5				
Change Period (Y+Rc), s		4.5		4.5				
Max Green (Gmax), s		39.5		41.5				
Max Allow Headway (MAH), s		4.9		5.0				
Max Q Clear (g_c+I1), s		16.3		24.9				
Green Ext Time (g_e), s		11.2		10.1				
Prob of Phs Call (p_c)		1.00		1.00				
Prob of Max Out (p_x)		0.00		0.54				
Left-Turn Movement Data								
Assigned Mvmt		5		7				
Mvmt Sat Flow, veh/h		1781		0				
Through Movement Data								
Assigned Mvmt		2		4				
Mvmt Sat Flow, veh/h		5274		5274				
Right-Turn Movement Data								
Assigned Mvmt		12		14				
Mvmt Sat Flow, veh/h		0		1585				
Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	0	0	0
Lane Assignment		L						

Lanes in Grp	0	1	0	0	0	0	0	0
Grp Vol (v), veh/h	0	336	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1781	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	10.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.2	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1781	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	46.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	46.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	10.2	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	35.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	990	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	990	0	0	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.3	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	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	14.2	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	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	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.68	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

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	0	0	0
Lane Assignment		T		T				
Lanes in Grp	0	3	0	3	0	0	0	0
Grp Vol (v), veh/h	0	1252	0	1361	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	0	0	0
Q Serve Time (g_s), s	0.0	14.3	0.0	22.9	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	14.3	0.0	22.9	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	2607	0	1988	0	0	0	0
V/C Ratio (X)	0.00	0.48	0.00	0.68	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	2607	0	2354	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.3	0.0	33.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.7	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	14.9	0.0	34.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.2	0.0	10.4	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	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	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	5.3	0.0	10.5	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.88	0.00	3.70	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	0	0	0
Lane Assignment				R				
Lanes in Grp	0	0	0	1	0	0	0	0
Grp Vol (v), veh/h	0	0	0	346	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	18.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	18.5	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	617	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.56	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	731	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	32.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	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	32.8	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	7.8	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	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	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	7.9	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	2.79	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
Intersection Summary								
HCM 6th Ctrl Delay		24.8						
HCM 6th LOS		C						

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	34	498	45	18	424
Future Vol, veh/h	0	34	498	45	18	424
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	37	541	49	20	461

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	295	0	0	590	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	0	701	-	-	982	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	701	-	-	982	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	701	982	-
HCM Lane V/C Ratio	-	-	0.053	0.02	-
HCM Control Delay (s)	-	-	10.4	8.7	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	19	0	0	1550	34
Future Vol, veh/h	0	19	0	0	1550	34
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	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	21	0	0	1685	37

Major/Minor	Minor2				Major2	
Conflicting Flow All	-	843			-	0
Stage 1	-	-			-	-
Stage 2	-	-			-	-
Critical Hdwy	-	7.14			-	-
Critical Hdwy Stg 1	-	-			-	-
Critical Hdwy Stg 2	-	-			-	-
Follow-up Hdwy	-	3.92			-	-
Pot Cap-1 Maneuver	0	264			-	-
Stage 1	0	-			-	-
Stage 2	0	-			-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	-	264			-	-
Mov Cap-2 Maneuver	-	-			-	-
Stage 1	-	-			-	-
Stage 2	-	-			-	-

Approach	EB	SB
HCM Control Delay, s	19.8	0
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	264	-	-
HCM Lane V/C Ratio	0.078	-	-
HCM Control Delay (s)	19.8	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.3	-	-

Appendix G.6

LADOT Letter of Approval of Supplemental Analysis Memorandum

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

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

754 S. Hope St,735 S. Grand Av
DOT Case No. CEN 19-49093

Date: June 16, 2021

To: Susan Jimenez, Administrative Clerk
Department of City Planning

From: Wes Pringle, Transportation Engineer
Department of Transportation

Subject: **SUPPLEMENTAL TRANSPORTATION ASSESSMENT FOR THE PROPOSED MIXED-USE DEVELOPMENT PROJECT AT 754 SOUTH HOPE AND 735 SOUTH GRAND AVENUE (ENV-2017-506-EIR)"**

On January 22, 2021 the Department of Transportation (DOT) issued a traffic assessment report the Department of City Planning on a proposed mixed-use project located at 754 South Hope Street and 735 South Grand Avenue in the Central City community of the City of Los Angeles. Since then, the applicant has modified the on-site parking configuration. Based on this new configuration, a supplemental analysis, dated April 25, 2021, has been prepared by Mobility Group consultant.

Previously, the Grand Avenue driveway accessed the upper parking levels only, and the Hope Street driveway accessed the lower parking levels only. Now the Grand Avenue driveway will be utilized for **lower-level** and Hope Street driveway for the **upper-level** parking structure. The conceptual Project Site plan is illustrated in **Attachment A**.

DOT concurs with the supplemental analysis that the changes to the trip distribution and potential driveway queueing would result in nominal changes to the findings of the January December 2020 traffic study and would not introduce any significant impacts. Therefore, all of DOT's prior recommendations in the January 22, 2021 letter shall remain in effect. The DOT Letter is provided in **Attachment B**.

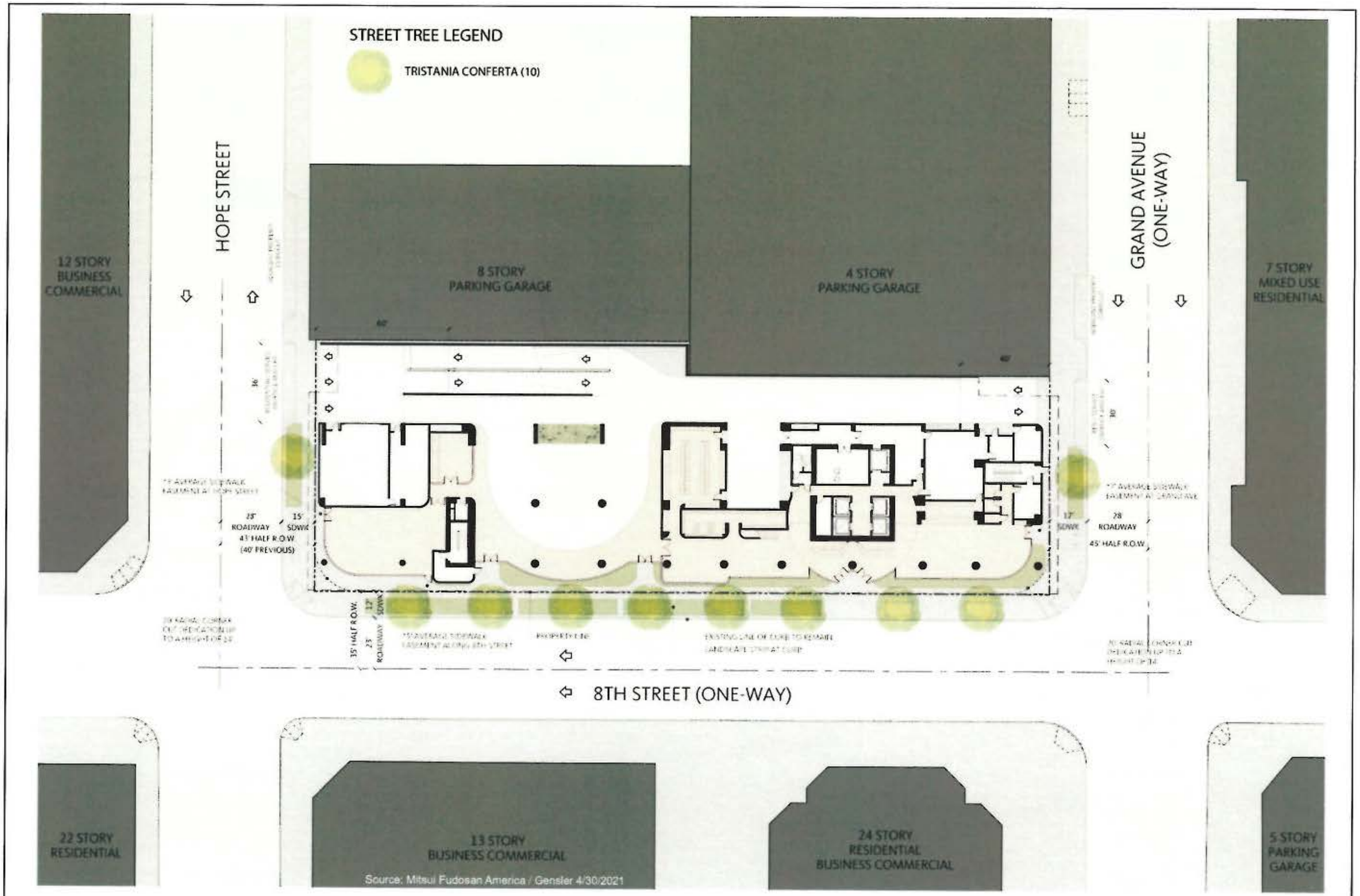
If you have any questions, please contact Mohammad R Hasan at (213) 972-8406.

Attachments

J:\Letters\2021\CEN19-49093_754 S Hope St_Mixed_Use_Supplemental.docx

c: Shawn Kuk, Council District 14
Matthew Masuda, Central District, DOT
Taimour Tanavoli, Case Management, DOT
Edward Yu, Central District
Michael Bates, The Mobility Group

Attachment A



4/26/21

Figure 0.2 Rev
Project Site Plan

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions

Attachment B

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

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

754 S. Hope St, 735 S. Grand Av
DOT Case No. CEN19-49093

Date: January 22, 2021

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

From: Wes Pringle, Transportation Engineer
Department of Transportation

Subject: **TRANSPORTATION ASSESSMENT FOR THE PROPOSED MIXED-USE DEVELOPMENT PROJECT AT 754 SOUTH HOPE AND 735 SOUTH GRAND AVENUE (ENV-2017-506-EIR)**

The LADOT has reviewed the transportation analyses prepared by Mobility Group dated December 2020, for the proposed commercial development at 754 South Hope Street and 735 South Grand Avenue in the Central City community of the City of Los Angeles. 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

1. Project Description
   The Project is proposing to construct 580 residential units and up to 7499 sq. ft. of restaurant uses. Vehicular access for residents would be provided by two-way driveways on Hope Street and Grand Avenue. The Grand Avenue driveway would provide one inbound lane and one outbound lane and would provide access to the above-ground parking. The Hope Street driveway would provide two inbound lanes and one outbound lane. One of the inbound lanes and the one outbound lane would service the subterranean parking, and one inbound lane would be for service vehicles only. Service, delivery, and trash collection vehicles would access the Project Site from Hope Street and exit via Grand Avenue. There would be an onsite porte-cochere for pick-up and drop off, located in the center of the Project Site. Visitors, taxis and rideshare vehicles would enter the site from either Grand Avenue or Hope Street for internal drop-offs and pick-ups and would exit at Grand Avenue. The Project is anticipated to be completed in Year 2025. The conceptual Project Site plan is illustrated in **Attachment A.**

2. Freeway Safety Analysis
   Per the Interim Guidance for Freeway Safety Analysis memorandum issued by DOT 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 included the number of project trips expected to be added to a nearby freeway off-ramp serving the project site. It was determined that project traffic will **not** exceed 25 peak hour trips. Therefore, a freeway ramp analysis was not required.

3. 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-2.2: Substantially Inducing Additional Automobile Travel
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.

4. 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 Area Planning Commission (APC) areas in the City. For the Central APC area, in which the project is located, the following thresholds have been established:

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

The results show that with the Project, the Household VMT per Capita would be 3.4 compared to the threshold of 6.0, and the Work VMT per Capita would be 0.0 compared to the threshold of 7.6. Therefore, it is concluded that the Project would not cause significant VMT impacts for both Household VMT and Work VMT. A copy of the VMT Calculator summary report is provided as **Attachment B.**

5. 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. LADOT has reviewed this analysis and determined that it adequately discloses operational concerns.

PROJECT REQUIREMENTS

A. Non-CEQA Related Requirements and Considerations

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

1. Parking Requirements

   The Project would provide a total of 636 on-site parking spaces, including 602 spaces for the residential units in the Project and 34 covenanted spaces (per the Central City Parking Exception District no vehicle parking is required for retail uses totaling less than 7,500 square feet). A total of 195 spaces would be located in below grade levels accessed only from Hope Street. A total of 441 spaces would be located above grade and accessed from both Grand Avenue and 8th Street. The Project would also provide 23 short term and 220 long term bicycle parking spaces for the residential uses, and 4 short term and 4 long term bicycle parking spaces for the retail uses, for a total of 251 spaces. The applicant should check with the Departments of Building and Safety and City Planning on the number of Code-required parking spaces.

2. Highway Dedication and Street Widening Requirements

   Per the new Mobility Element of the General Plan, **Hope Street, 8th Street and Grand Avenue** are designated as Avenue II, which would require a 28-foot half-width roadway within a 43-foot half-width right-of-way. For 8th Street, the Project would not be in compliance with the requirements of the Mobility Plan 2035 and the Downtown Street Standards, as it would seek a waiver of dedication and improvements of 2' on the west side and 10' on the east side of 8th Street. LADOT has determined that the required street widening would not be necessary as the required street widening will not enhance the existing circulation system and there will be no loss in the standard sidewalk width and has recommended waiving the widening. The applicant agreed to provide a standard sidewalk as easement to accommodate a 17-foot-wide sidewalk as illustrated in the project site plan (**Attachment A**). 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/merger requirements for this project.

3. Project Access and Circulation

   As illustrated in **Attachment A,** previously described under project description, the project is proposing two driveways, one on Hope Street and another on Grand Avenue. Service, delivery, and trash collection vehicles would access the Project Site from Hope Street and exit via Grand Avenue. There would be an onsite porte-cochere for pick-up and drop off, located in the center of the Project. Taxis and rideshare vehicles would enter the site from either Grand Avenue or Hope Street for internal drop-offs and pick-ups and would exit at Grand Avenue.

   Review of this study does not constitute approval of the dimensions for any new proposed driveway. Review and approval of the driveway should be coordinated with DOT's Citywide Planning Coordination Section (201 North Figueroa Street, 5th Floor, Room 550, at 213-482-7024). In order to minimize and prevent last minute building design changes, the applicant should contact DOT for driveway width and internal circulation requirements prior to the commencement of building or parking layout design. The applicant should check with City Planning regarding the project's driveway placement and design.

4. Worksite Traffic Control Requirements
LADOT recommends that a construction work site traffic control plan be submitted to LADOT's Citywide Temporary Traffic Control Section or Permit Plan Review Section for review and approval prior to the start of any construction work. Refer to http://ladot.lacity.org/businesses/temporary-traffic-control-plans to determine which section to coordinate review of the work site traffic control plan. The plan should show the location of any roadway or sidewalk closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. LADOT also recommends that all construction related truck traffic be restricted to off-peak hours to the extent feasible.

5. 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 Russell Hasan of my staff at (213) 972-8406.

Attachments

J:\Letters\2021\CEN19-49093_754 S Hope St_Mixed_Use.docx

c: Shawn Kuk, Council District 14
Matthew Masuda, Central District, BOE
Edward Yu, Central District, LADOT
Taimour Tanavoli, Case Management, LADOT
Michael Bates, The Mobility Group

Attachment B

12/01/20

Figure 0.2
Project Site Plan

8th Grand & Hope Project

The **Mobility** Group
Transportation Strategies & Solutions

Attachment B

CITY OF LOS ANGELES VMT CALCULATOR Version 1.2

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

Project Information

Project: 8th Grand Hope Project
Scenario: Proposd Project
Address: 754 S HOPE ST. 90017

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

• Yes • No

Existing Land Use

Land Use Type	Value	Unit
Housing | Single Family		DU

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

Proposed Project Land Use

Land Use Type	Value	Unit
Retail | High-Turnover Sit-Down Restaurant	7.499	ksf
Housing | Multi-Family	580	DU
Retail | High-Turnover Sit-Down Restaurant	7.499	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
0 Daily Vehicle Trips	1,500 Daily Vehicle Trips
0 Daily VMT	8,617 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	1,500 Net Daily Trips
The net increase in daily VMT ≤ 0	8,617 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	7.499 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

Attachment B

CITY OF LOS ANGELES VMT CALCULATOR Version 1.2

Project Information

Project: 8th Grand Hope Project

Scenario: Proposd Project

Address: 754 S HOPE ST, 90017

Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	580	DU
Retail | High-Turnover Sit-Down Restaurant	7.499	ksf

TDM Strategies

Select each section to show individual strategies

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

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

A Parking

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

Unbundle Parking — Proposed Prj / Mitigation
- 150 monthly parking cost (dollar) for the project site

Parking Cash-Out — Proposed Prj / Mitigation
- 50 percent of employees eligible

Price Workplace Parking — Proposed Prj / Mitigation
- 6.00 daily parking charge (dollar)
- 25 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
1,500 Daily Vehicle Trips	1,500 Daily Vehicle Trips
8,617 Daily VMT	8,617 Daily VMT
3.4 Household VMT per Capita	3.4 Household VMT per Capita
N/A Work VMT per Employee	N/A 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: N/A Threshold = 7.6 15% Below APC	Work: N/A Threshold = 7.6 15% Below APC

Measuring the Miles

11/18/2019

Attachment B

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

Project Information

Land Use Type		Value	Units
Housing	*Single Family*	*0*	*DU*
	Multi Family	**580**	**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	**7.499**	**ksf**
	Fast-Food Restaurant	*0.000*	*ksf*
	Quality Restaurant	*0.000*	*ksf*
	Auto Repair	*0.000*	*ksf*
	Home Improvement	*0.000*	*ksf*
	Free-Standing Discount	*0.000*	*ksf*
	Movie Theater	*0*	*Seats*
Office	*General Office*	*0.000*	*ksf*
	Medical Office	*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*

Attachment B

Other	*0*	*Trips*

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

Analysis Results			
Total Employees: 30 Total Population: 1,307			
Proposed Project		***With Mitigation***	
1,500	**Daily Vehicle Trips**	**1,500**	**Daily Vehicle Trips**
8,617	**Daily VMT**	**8,617**	**Daily VMT**
3.4	**Household VMT per Capita**	**3.4**	**Household VMT per Capita**
N/A	**Work VMT per Employee**	**N/A**	**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	N/A	Work > 7.6	N/A

Attachment B

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

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	$0
	Parking cash-out	Employees eligible (%)	0%	0%
	Price workplace parking	Daily parking charge ($)	$0.00	$0.00
		Employees subject to priced parking (%)	0%	0%
	Residential area parking permits	Cost of annual permit ($)	$0	$0

(cont. on following page)

Attachment B

CITY OF LOS ANGELES VMT CALCULATOR
Report 2: TDM Inputs

Date: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

TDM Strategy Inputs, Cont.

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

(cont. on following page)

Attachment B

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

TDM Strategy Inputs, Cont.

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

(cont. on following page)

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

TDM Strategy Inputs, Cont.

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

Attachment B

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: November 18, 2019
Project Name: 5th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

TDM Adjustments by Trip Purpose & Strategy

Place type: Urban

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Urban

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

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	**Mitigated**	**Proposed**	**Mitigated**	**Proposed**	**Mitigated**	**Proposed**	**Mitigated**	**Proposed**	**Mitigated**	**Proposed**	**Mitigated**
COMBINED TOTAL	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
MAX. TDM EFFECT	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

= 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: November 18, 2019
Project Name: 8th Grand Hope Project
Project Scenario: Proposd Project
Project Address: 754 S HOPE ST, 90017

Version 1.2

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	785	-49.3%	398	5.7	4,475	2,269
Home Based Other Production	2,103	-74.1%	544	4.1	8,622	2,230
Non-Home Based Other Production	139	-25.2%	104	8.4	1,168	874
Home-Based Work Attraction	43	-74.4%	11	8.2	353	90
Home-Based Other Attraction	699	-74.5%	178	6.7	4,683	1,193
Non-Home Based Other Attraction	350	-24.3%	265	7.4	2,590	1,961

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	[illegible]	398	2,269	0.0%	398	2,269
Home Based Other Production	0.0%	544	2,230	0.0%	544	2,230
Non-Home Based Other Production	0.0%	104	874	0.0%	104	874
Home-Based Work Attraction	0.0%	11	90	0.0%	11	90
Home-Based Other Attraction	0.0%	178	1,193	0.0%	178	1,193
Non-Home Based Other Attraction	0.0%	265	1,961	0.0%	265	1,961

MXD VMT Methodology Per Capita & Per Employee

Total Population: 1,307
Total Employees: 30
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	4,499	4,499
Total Home Based Work Attraction VMT	90	90
Total Home Based VMT Per Capita	3.4	3.4
Total Work Based VMT Per Employee	N/A	N/A