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

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

6831 W Hawthorn Ave
DOT Case No. CEN20-49736

Date: September 2, 2020

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 LOCATED AT 6831 WEST HAWTHORN AVENUE (PAR-2020-2184-TOC)**

The Department of Transportation (DOT) has reviewed the transportation assessment prepared by Gibson Transportation Consulting, Inc. (GTC), dated July 2020, for the proposed mixed-use development located at 6831 West Hawthorn Avenue in the Hollywood Community Plan Area. In compliance with Senate Bill (SB) 743 and the California Environmental Quality Act (CEQA), a vehicle miles traveled (VMT) analysis is required to identify the project's ability to promote the reduction of green-house gas emissions, the access to diverse land uses, and the development of multi-modal networks. The significance of a project's impact in this regard is measured against the VMT thresholds established in DOT's Transportation Assessment Guidelines (TAG), as described below.

DISCUSSION AND FINDINGS

A. Project Description

The project proposes to construct a new eight-story building comprising of 123 multi-family residential units, 14 affordable housing units, and 1,207 square feet (sf) of ground floor restaurant/café space. The project will be replacing an existing surface parking lot that provides approximately 85 spaces with access on Hawthorn Avenue and the alley to the north. The project will provide 150 vehicular parking spaces and 106 bicycle parking spaces (11 short-term and 95 long-term) located at-grade and in two subterranean levels. The bicycle parking is being provided per LAMC as a project design feature. All passenger and commercial loading activities would occur on-site. Vehicular access to the Project Site would be provided via one driveway along Hawthorn Avenue and another on the alley along the northern boundary of the Project Site as illustrated in **Attachment A**. The project is expected to be completed by 2024.

B. 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 in the July 2020 assessment identified the number of project trips expected to be added to nearby freeway off-ramps serving the project site. It was determined that project traffic at any freeway off-ramp will not exceed 25 peak hour trips. Therefore, a freeway ramp analysis is not required.

C. CEQA Screening Threshold

Prior to accounting for trip reductions resulting from the application of Transportation Demand Management (TDM) Strategies, a trip generation analysis was conducted to determine if the project would exceed the net 250 daily vehicle trips screening threshold. Using the City of Los Angeles VMT Calculator Version 1.3 tool, which draws upon trip rate estimates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition as well as applying trip generation adjustments when applicable, based on sociodemographic data and the built environment factors of the project's surroundings, it was determined that the project **does** exceed the net 250 daily vehicle trips threshold.

Additionally, the analysis included further discussion of the transportation impact thresholds:

T-1 Conflicting with plans, programs, ordinances, or policies
T-2.1 Causing substantial vehicle miles traveled
T-3 Substantially increasing hazards due to a geometric design feature or incompatible use.

The assessment determined that the project would **not** have a significant transportation impact under Thresholds T-1 and T-3. A project's impacts per Threshold T-2.1 is determined by using the VMT calculator and is discussed further below. A copy of the VMT Calculator summary report is provided as **Attachment B** to this report.

D. Transportation Impacts

On July 30, 2019, pursuant to SB 743 and the recent changes to Section 15064.03 of the State's CEQA Guidelines, the City of Los Angeles adopted VMT as criteria in determining transportation impacts under CEQA. The new DOT TAG provide instructions on preparing transportation assessments for land use proposals and defines the significant impact thresholds.

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

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

As cited in the VMT Analysis report, prepared by GTC, the project will provide the TDM strategy of bicycle parking per LAMC as a project design feature. The proposed project is projected to have a Household VMT per capita of 4.7 and a Work VMT per employee of 0. Therefore, it is concluded that implementation of the Project would result in no significant VMT impact. A copy of the VMT Calculator summary report is provided as **Attachment B**.

E. Access and Circulation

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

review a project's site access, circulation, and operational plan to determine if any access enhancements, transit amenities, intersection improvements, traffic signal upgrades, neighborhood traffic calming, or other improvements are needed. In accordance with this authority, the project has completed a circulation analysis using a "level of service" screening methodology that indicates that the trips generated by the proposed development will not likely result in adverse circulation conditions at several locations. Vehicular access to the Project Site would be provided via one driveway along Hawthorn Avenue and another on the alley along the northern boundary of the Project Site. DOT has reviewed this analysis and determined that it adequately discloses operational concerns. A copy of the circulation analysis table that summarizes these potential deficiencies is provided as **Attachment C** to this report.

PROJECT REQUIREMENTS

A. Non-CEQA Related Requirements and Considerations

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

1. Parking Requirements

   The project will provide 150 vehicular parking spaces and 106 bicycle parking spaces (11 short-term and 95 long-term) located at-grade and in two subterranean levels. The applicant should check with the Departments of Building and Safety and City Planning on the number of Code-required parking spaces required for this project.

2. Highway Dedication and Street Widening Requirements

   Per the new Mobility Element of the General Plan, **Hawthorn Avenue**, a Local Street, would require an 18-foot half-width roadway within a 30-foot half-width right-of-way, **Orange Drive**, a Collector Street, would require an 20-foot half-width roadway within a 33-foot half-width right-of-way, and **Highland Avenue**, an Avenue I, would require an 35-foot half-width roadway within a 50-foot half-width right-of-way. The applicant should check with the Bureau of Engineering's Land Development Group to determine if there are any other applicable highway dedication, street widening and/or sidewalk requirements for this project.

3. Project Access and Circulation

   The conceptual site plan for the project (see **Attachment A**) is acceptable to DOT. Vehicular access to the Project Site would be provided via one driveway along Hawthorn Avenue and another on the alley along the northern boundary of the Project Site. Review of this study does not constitute approval of the dimensions for any new proposed driveway. Review and approval of the driveways should be coordinated with DOT's Citywide Planning Coordination Section (201 North Figueroa Street, 5th Floor, Room 550, at 213-482-7024). In order to minimize and prevent last minute building design changes, the applicant should contact DOT for driveway width and internal circulation requirements prior to the commencement of building or parking layout design. Driveway placement and design shall be approved by the Department of City Planning (City Planning) in consultation with DOT, prior to issuance of a Letter of Determination by City Planning.

4. Worksite Traffic Control Requirements

   DOT recommends that a construction work site traffic control plan be submitted to

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

5. 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 Kevin Arucan of my staff at (213) 972-4970.

Attachments

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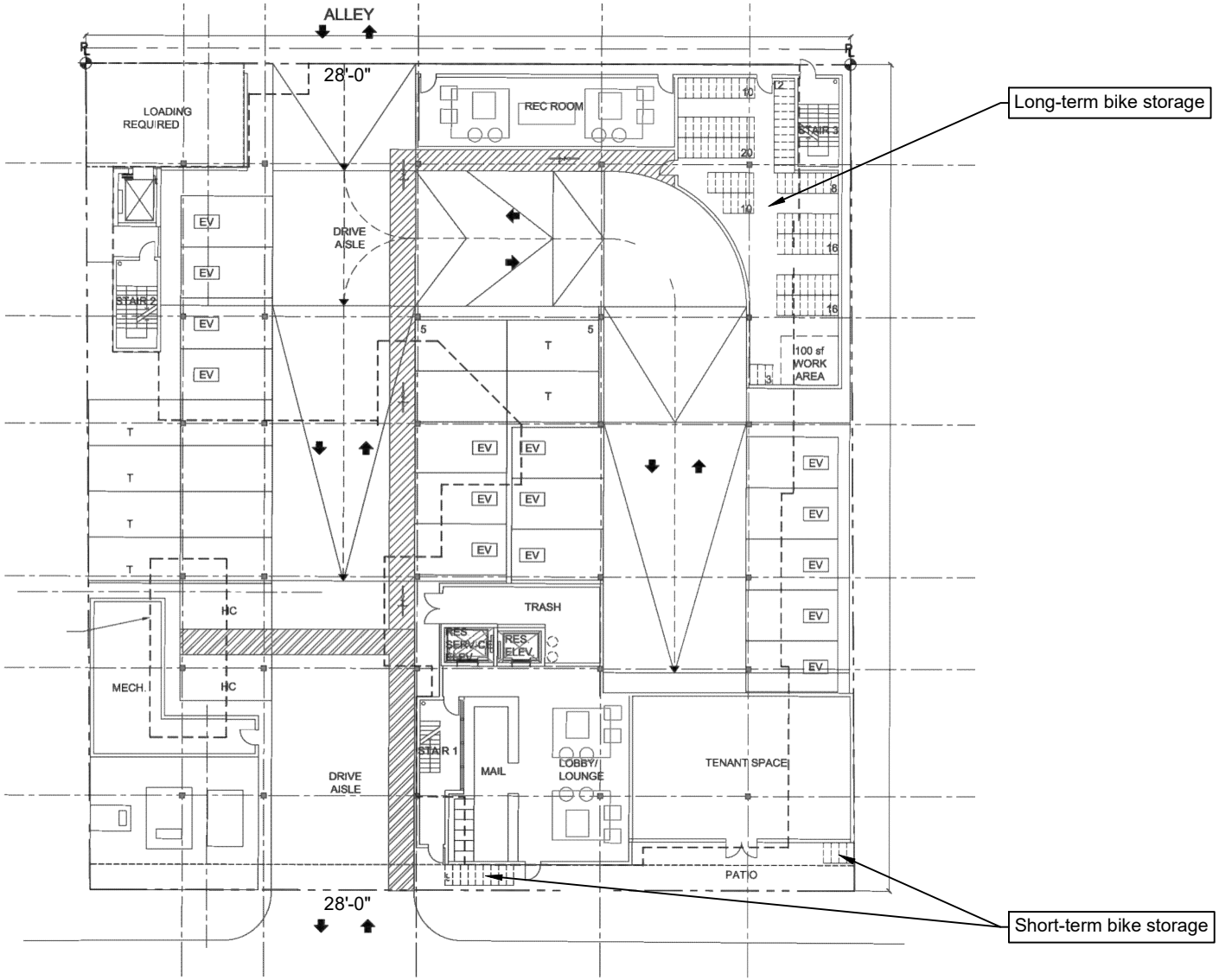
c: Craig Bullock, Council District 13
Matthew Masuda, Central District, BOE
Bhuvan Bajaj, Hollywood-Wilshire District, LADOT
Taimour Tanavoli, Case Management Office, DOT
Casey Le & Jonathon Chambers, Gibson Transportation Consulting, Inc.



Source: Nadel Special Project Architects. April, 2020.

PROJECT SITE PLAN

FIGURE 1

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

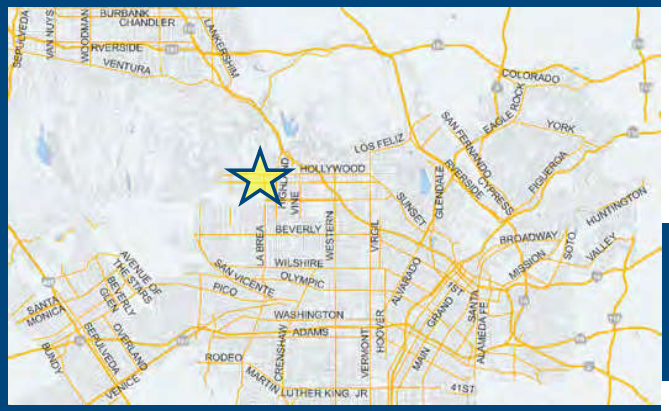
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 6831 Hawthorn Ave Mixed-Use

Scenario:

Address: 34.100652, -118.339721



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

○ Yes ○ No

Existing Land Use

Land Use Type	Value	Unit
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	1.207	ksf
Housing | Multi-Family	123	DU
Housing | Affordable Housing - Family	14	DU
Retail | High-Turnover Sit-Down Restaurant	1.207	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	559 Daily Vehicle Trips
0 Daily VMT	3,593 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	559 Net Daily Trips
The net increase in daily VMT ≤ 0	3,593 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	1.207 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

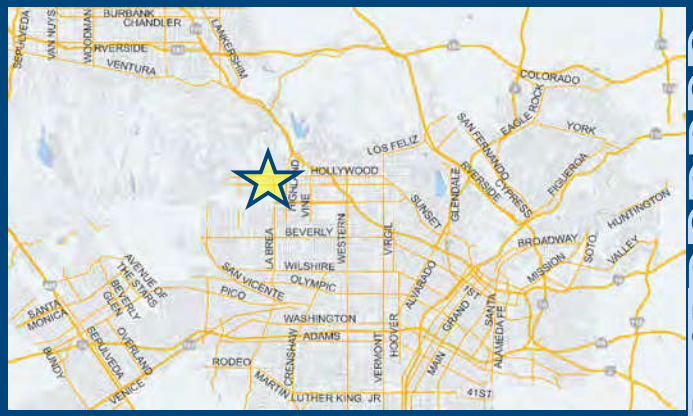
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 6831 Hawthorn Ave Mixed-Use

Scenario:

Address: 34.100652, -118.339721



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	123	DU
Housing | Affordable Housing - Family	14	DU
Retail | High-Turnover Sit-Down Restaurant	1.207	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
- **B** Transit
- **C** Education & Encouragement
- **D** Commute Trip Reductions
- **E** Shared Mobility
- **F** Bicycle Infrastructure

Implement/Improve On-street Bicycle Facility — Select Proposed Prj or Mitigation to include this strategy

☐ Proposed Prj ☐ Mitigation

Include Bike Parking Per LAMC — Select Proposed Prj or Mitigation to include this strategy

☑ Proposed Prj ☐ Mitigation

Include Secure Bike Parking and Showers — Select Proposed Prj or Mitigation to include this strategy

☐ Proposed Prj ☐ Mitigation

- **G** Neighborhood Enhancement

Analysis Results

Proposed Project	With Mitigation
556 Daily Vehicle Trips	**556** Daily Vehicle Trips
3,571 Daily VMT	**3,571** Daily VMT
4.7 Household VMT per Capita	**4.7** 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

7/14/2020

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: July 14, 2020
Project Name: 6831 Hawthorn Ave Mixed-Use
Project Scenario:
Project Address: 34.100652, -118.339721

Version 1.3

Project Information			
Land Use Type		**Value**	**Units**
Housing	*Single Family*	*0*	*DU*
	Multi Family	123	DU
	Townhouse	*0*	*DU*
	Hotel	*0*	*Rooms*
	Motel	*0*	*Rooms*
Affordable Housing	Family	14	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	1.207	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: July 14, 2020
Project Name: 6831 Hawthorn Ave Mixed-Use
Project Scenario:
Project Address: 34.100652, -118.339721

Version 1.3

Analysis Results			
Total Employees: 5 Total Population: 321			
Proposed Project		***With Mitigation***	
556	**Daily Vehicle Trips**	**556**	**Daily Vehicle Trips**
3,571	**Daily VMT**	**3,571**	**Daily VMT**
4.7	**Household VMT per Capita**	**4.7**	**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 Work > 7.6	No N/A	Household > 6.0 Work > 7.6	No 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)	Yes	Yes
	Include secure bike parking and showers	*Includes indoor bike parking/lockers, showers, & repair station (Yes/No)*	*0*	*0*
Neighborhood Enhancement	*Traffic calming improvements*	*Streets with traffic calming improvements (%)*	*0%*	*0%*
		Intersections with traffic calming improvements (%)	*0%*	*0%*
	Pedestrian network improvements	*Included (within project and connecting off-site/within project only)*	*0*	*0*

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	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
	Include secure bike parking and showers	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	
Neighborhood Enhancement	Traffic calming improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Neighborhood Enhancement
	Pedestrian network improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*
MAX. TDM EFFECT	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*

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

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

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: July 14, 2020
Project Name: 6831 Hawthorn Ave Mixed-Use
Project Scenario:
Project Address: 34.100652, -118.339721

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	122	-27.9%	88	7.5	915	660
Home Based Other Production	338	-48.5%	174	4.9	1,656	853
Non-Home Based Other Production	180	-4.4%	172	7.3	1,314	1,256
Home-Based Work Attraction	7	-85.7%	1	8.7	61	9
Home-Based Other Attraction	212	-68.4%	67	6.3	1,336	422
Non-Home Based Other Attraction	61	-6.6%	57	6.9	421	393

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	-0.6%	87	656	-0.6%	87	656
Home Based Other Production	-0.6%	173	848	-0.6%	173	848
Non-Home Based Other Production	-0.6%	171	1,248	-0.6%	171	1,248
Home-Based Work Attraction	-0.6%	1	9	-0.6%	1	9
Home-Based Other Attraction	-0.6%	67	419	-0.6%	67	419
Non-Home Based Other Attraction	-0.6%	57	391	-0.6%	57	391

MXD VMT Methodology Per Capita & Per Employee

Total Population: 321
Total Employees: 5
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**1,504**	**1,504**
Total Home Based Work Attraction VMT	**9**	**9**
Total Home Based VMT Per Capita	**4.7**	**4.7**
Total Work Based VMT Per Employee	**N/A**	**N/A**

TABLE 7
EXISTING CONDITIONS (YEAR 2020)
INTERSECTION LEVELS OF SERVICE

No	Intersection	Peak Hour	Existing Conditions		Existing with Project Conditions	
			Delay	LOS	Delay	LOS
1. [a]	Highland Avenue & Hollywood Boulevard	AM PM	59.2 62.0	F * F *	58.7 62.7	F * F *
2.	Highland Avenue & Hawthorn Avenue	AM PM	25.4 24.0	C C	27.0 25.2	C C

Notes:

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

TABLE 8
FUTURE CONDITIONS (YEAR 2024)
INTERSECTION LEVELS OF SERVICE

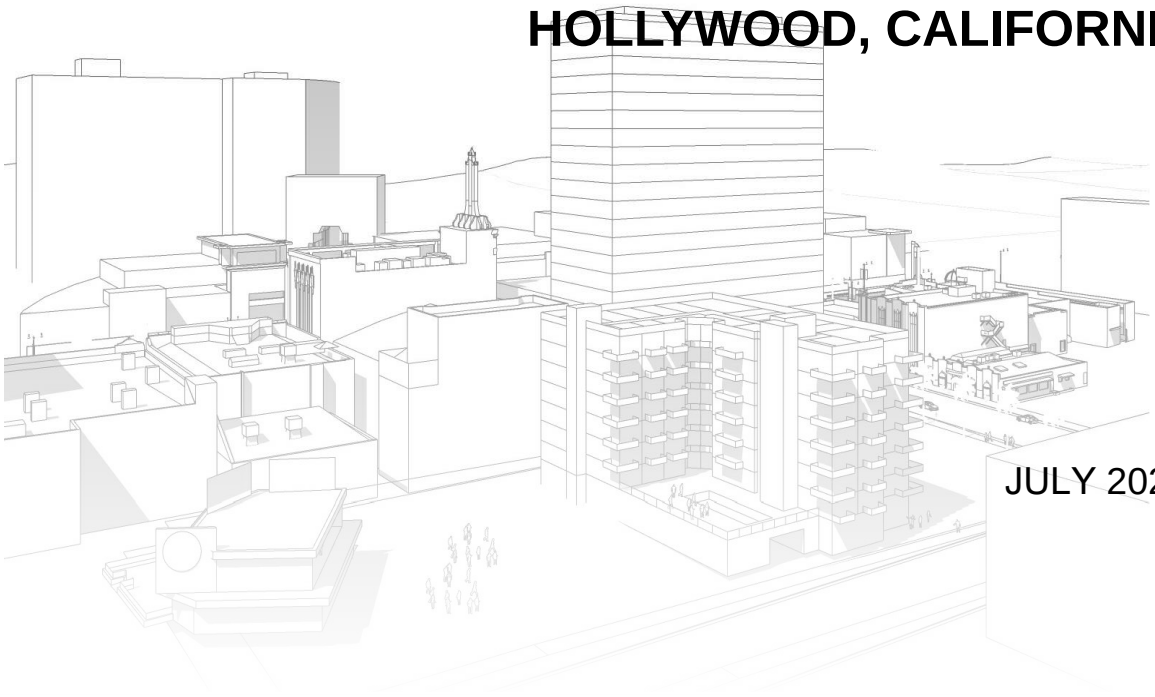
No	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions	
			Delay	LOS	Delay	LOS
1. [a]	Highland Avenue & Hollywood Boulevard	AM PM	86.1 90.0	F * F *	87.5 91.4	F * F *
2.	Highland Avenue & Hawthorn Avenue	AM PM	30.8 30.3	C C	33.8 33.6	C C

Notes:

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

TRANSPORTATION ASSESSMENT FOR THE 6831 HAWTHORN AVENUE MIXED-USE DEVELOPMENT

HOLLYWOOD, CALIFORNIA



JULY 2020

PREPARED FOR

YORKWOOD, LLC

PREPARED BY

Gibson transportation consulting, inc.

TRANSPORTATION ASSESSMENT
FOR THE
6831 HAWTHORN AVENUE
MIXED-USE DEVELOPMENT

HOLLYWOOD, CALIFORNIA

July 2020

Prepared for:

YORKWOOD, LLC

Prepared by:

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Chapter 1
Introduction

This study presents the transportation assessment for the proposed 6831 Hawthorn Avenue Mixed-Used Development (Project) located in the *Hollywood Community Plan* (Los Angeles Department of City Planning [LADCP], 1988) area of the City of Los Angeles (City). The methodology and base assumptions used in the analysis were established pursuant to direction from the Los Angeles Department of Transportation (LADOT).

PROJECT DESCRIPTION

Project Information

Yorkwood, LLC (Applicant) proposes construction of a new eight-story building, with a residential component located on the top seven levels and parking located at-grade and in two subterranean levels. The Applicant proposes 137 multi-family residential units, of which 14 units will be affordable housing, and 1,207 square feet (sf) of ground floor restaurant/café space. The Project will replace an existing surface parking lot that provides approximately 85 spaces with access on Hawthorn Avenue and the alley to the north. The Project is anticipated to be completed and operational in Year 2024.

The Project would provide 150 vehicular parking spaces and 106 bicycle parking spaces located at-grade and in two subterranean levels. Vehicle access to the Project Site would be provided via one driveway along Hawthorn Avenue and another on the alley along the northern boundary of the Project Site. Both driveways are located approximately 250 feet west of Highland Avenue. Pedestrian access to the residential lobby and commercial entrances would also be provided along Hawthorn Avenue, with secondary access along the alley. Access to the bicycle parking would primarily be provided through the vehicular access points. The Project Site plan is shown in Figure 1.

Roadway Dedication Requirements

Mobility Plan 2035: An Element of the General Plan (LADCP, January 2016) (Mobility Plan) designates Hawthorn Avenue as a Local Street with a right-of-way (ROW) width of 60 feet, a paved width of 36 feet (half pavement width of 18 feet), and 12-foot sidewalks. The existing half pavement width and sidewalk width along Hawthorn Avenue is 20 feet and 10 feet, respectively, which meets the City standard of 30 feet half-ROW width. As such, following consultation with the City, the Applicant is not required to provide additional dedication or widening along Hawthorn Avenue. The alley to the north requires a paved width of 20 feet within the 20-foot ROW width. The existing half ROW width along the alley is seven feet; therefore, the Applicant is required to provide a three-foot dedication to meet the long-term goals of the Mobility Plan.

PROJECT LOCATION

As shown in Figure 2, the Project Site is located in Hollywood within City Council District 13 and is comprised of two parcels, which are assigned APN 5548-006-001 and -002 in the Los Angeles County Assessor's records. The Project Site is bordered by an alley to the north, surface parking lots to the east and west, and Hawthorn Avenue to the south.

The Project Site is located approximately 0.70 miles southwest of the Hollywood Freeway (US 101), which provides regional transportation between downtown Los Angeles (approximately 6.0 miles southeast) and the San Fernando Valley (approximately 10.0 miles north). The Project Site is located less than 0.25 miles from the Los Angeles County Metropolitan Transportation Authority (Metro) B Line (formerly Red Line) Hollywood/Highland Station. The Metro B Line subway travels between Union Station in downtown Los Angeles and North Hollywood at 10-minute intervals throughout the day. Additionally, transit bus service is provided throughout the Study Area by Metro and LADOT Downtown Area Shuttle (DASH) service bus lines.

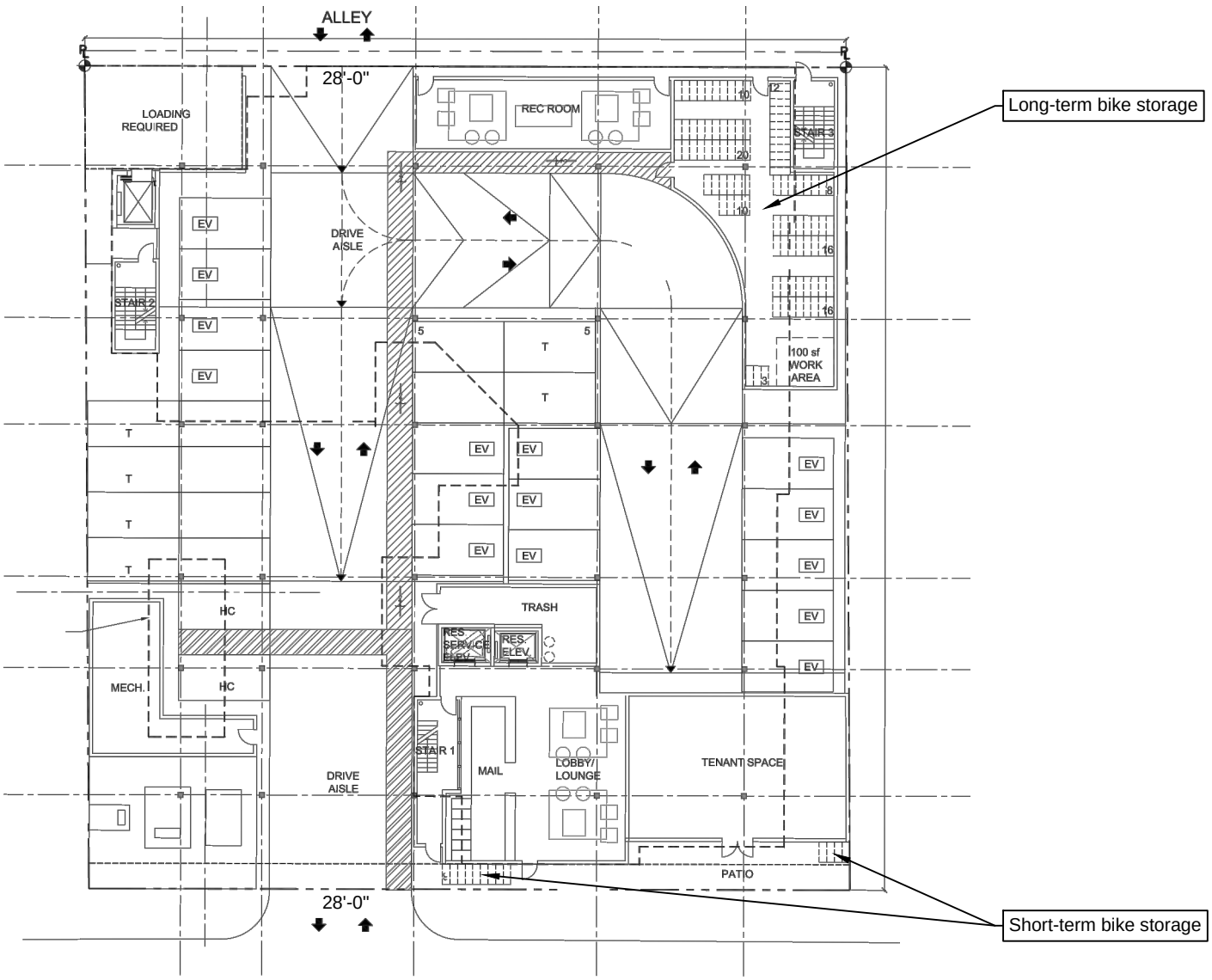
STUDY SCOPE

The scope of analysis for this study was developed in consultation with LADOT and is consistent with *Transportation Assessment Guidelines* (LADOT, July 2020) (the TAG) and in compliance

with the California Environmental Quality Act (CEQA) Guidelines (California Code of Regulations, Title 14, Section 15000 and following). The base assumptions and technical methodologies (i.e., trip generation, study locations, analysis methodology, etc.) were identified as part of the study approach and were outlined in a Memorandum of Understanding (MOU) that was reviewed and approved by LADOT in June 2020 and is provided in Appendix A.

ORGANIZATION OF REPORT

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



Source: Nadel Special Project Architects. April, 2020.

PROJECT SITE PLAN

FIGURE 1

LEGEND

Project Site

N
Not to Scale

PROJECT SITE LOCATION

FIGURE 2

Chapter 2
Project Context

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

The Existing Conditions analysis includes an assessment of the existing transportation infrastructure and conditions of the Study Area including freeway and street systems, and transit service, as well as pedestrian and bicycle circulation, at the time the MOU was approved in June 2020. An inventory of lane configurations, signal phasing, parking restrictions, etc., for the analyzed intersections was also collected.

In addition, this chapter contains a discussion of the future conditions detailing the assumptions used to develop the Future without Project Conditions in Year 2024, which corresponds to projected occupancy of the Project.

STUDY AREA

The Study Area includes key intersections along Highland Avenue, as well as the transportation infrastructure described below. This Study Area was established in consultation with LADOT based on the following factors identified in the TAG:

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

The following two signalized intersections, nearby the Project Site, were identified during the MOU process for detailed analysis of the above conditions:

- Intersection 1. Highland Avenue & Hollywood Boulevard
- Intersection 2. Highland Avenue & Hawthorn Avenue

Figure 3 illustrates the two study intersections within the Study Area. The existing lane configurations at the intersections are provided in Figure 4.

EXISTING TRANSPORTATION CONDITIONS

Existing Street System

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

Street classifications for roadways within the City of Los Angeles are designated in the Mobility Plan. The Mobility Plan defines specific street standards in an effort to provide an enhanced balance between traffic flow and other important street functions including transit routes and stops, pedestrian environments, bicycle routes, building design and site access, etc. Per the Mobility Plan, street classifications are defined as follows:

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

        - Boulevard II provides up to three travel lanes in each direction with a target operating speed of 35 mph with ROW widths varying from 104-110 feet, and pavement widths from 70-80 feet.

    - Avenues are typically narrower arterials that pass through both residential and commercial areas and include three categories:

        - Avenue I provides up to two travel lanes in each direction with a target operating speed of 35 mph with a ROW width of 100 feet and pavement width of 70 feet.

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

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

- Collector Streets are generally located in residential neighborhoods and provide access to and from arterial streets for local traffic and are not intended for cut-through traffic. They provide one travel lane in each direction with operating speed of 25 mph, with a ROW width generally at 65 feet and pavement width of 44 feet.

- Local Streets are intended to accommodate lower volumes of vehicle traffic and provide parking on both sides of the street. They provide one travel lane in each direction with a target operating speed of 15 to 20 mph. Pavement widths may vary between 30-36 feet within a ROW width of 50-60 feet. Local Streets include two categories:

    - Continuous Local Streets connect to other streets at both ends

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

Primary regional access to the Project Site is provided by US 101, which generally runs in the northwest-southeast direction and is located approximately 0.7 miles northeast of the Project Site, outside of the Study Area. In proximity to the Project Site, the Study Area is served by Arterial Streets such as Hollywood Boulevard and Highland Avenue. The following is a brief description of the roadways identified at the study intersections within the Study Area, including their classifications in the Mobility Plan:

Roadways

- Hollywood Boulevard: Hollywood Boulevard is a designated Avenue I and travels in the east-west direction. It is located approximately 475 feet north of the Project Site and

provides four travel lanes, two lanes in each direction, with left-turn lanes at major intersections. Within the immediate vicinity, parking is generally not available on either side of the street. Inside lanes are typically 10 feet wide and the total paved width is typically 60 feet.

- Hawthorn Avenue: Hawthorn Avenue is a Local Street and travels in the east-west direction. It is located adjacent to the southern boundary of the Project Site and provides one travel lane in each direction, with left-turn lanes at intersections. Unmetered parking with passenger loading restrictions on school days is generally available on the south side of the street between Orange Drive and Highland Avenue. Four-hour metered parking is generally available on the south side of the street between Highland Avenue and McCadden Place. Bicycle routes are also provided along Hawthorn Avenue adjacent to the Project Site. The total paved width is 36 feet along the Project Site. The Project proposes primary access to and from Hawthorn Avenue.

- Highland Avenue: Highland Avenue is a designated Avenue I and travels in the north-south direction. It is located approximately 165 feet east of the Project Site and provides four travel lanes, two lanes in each direction, with left-turn lanes at major intersections. Two-hour metered parking is generally available on the east side of the street. Inside lanes are typically 10 feet wide and the total paved width is typically 68 feet.

As required in the TAG, an inventory was conducted of facilities serving pedestrians, bicyclists, and transit riders in the vicinity of the Project Site. The existing intersection mobility facilities at the two study intersections are shown in Figure 5 and the existing transportation facilities within 0.25 miles of the Project Site are shown in Figure 6.

Existing Pedestrian Facilities

The walkability of existing facilities is based on the availability of pedestrian routes necessary to accomplish daily tasks without the use of an automobile; these attributes are quantified by WalkScore.com and assigned a score out of 100 points. With the various commercial businesses and cultural facilities adjacent to residential neighborhoods, the walkability of the Project site is approximately 98 points[1].

The sidewalks that serve as routes to the Project Site provide proper connectivity and adequate widths for a comfortable and safe pedestrian environment. The sidewalks provide connectivity to pedestrian crossings at intersections within the Study Area. Within the immediate vicinity of the

[1] WalkScore.com rates the Project site with a score of 98 of 100 possible points (scores accessed on June 1, 2020 for 6831 Hawthorn Avenue). Walk Score calculates the walkability of specific addresses by taking into account the ease of living in the neighborhood with a reduced reliance on automobile travel.

Project Site, 12-foot wide sidewalks are provided along Hawthorn Avenue and 15-foot wide sidewalks are provided along Highland Avenue. No sidewalks are provided within the alley to the north. There are tactile warning strips for American with Disabilities Act (ADA) accessibility at the adjacent intersection of Highland Avenue & Hawthorn Avenue, as well as pedestrian push buttons and continental crosswalks. The intersection of Highland Avenue & Hollywood Boulevard includes a pedestrian scramble phase for diagonal crossings.

There are numerous pedestrian destinations within 0.25 miles of the Project Site, as shown in Figure 6. North of the Project Site, Hollywood Boulevard is a commercial corridor with active entertainment and commercial uses as well as famous destinations such as the El Capitan Theatre, Hollywood & Highland, TCL Chinese Theatre, Hollywood Walk of Fame, and Hollywood Wax Museum. Directly south of the Project Site across Hawthorn Avenue is Hollywood High School. Local commercial and residential uses are also located south of the Project Site, along Hawthorn Avenue and Highland Avenue.

Vision Zero

As described in *Vision Zero: Eliminating Traffic Deaths in Los Angeles by 2025* (City of Los Angeles, August 2015), Vision Zero is a traffic safety policy that promotes strategies to eliminate transportation-related collisions that result in severe injury or death. Vision Zero has identified a High Injury Network (HIN), a network of streets included based on collision data from the last five years, where strategic investments would have the biggest impact in reducing death and severe injury. The Project Site is not located adjacent to a street identified as part of the HIN. Within the immediate Project vicinity, Hollywood Boulevard and Highland Avenue are identified as part of the HIN. Additional streets identified as part of the HIN within 0.25 miles of the Project Site are illustrated in Figure 6.

Existing Bicycle System

Based on *2010 Bicycle Plan, A Component of the City of Los Angeles Transportation Element* (Los Angeles Department of City Planning, adopted March 1, 2011) (2010 Bicycle Plan), the existing bicycle system consists of a limited network of bicycle lanes (Class II) and bicycle routes

(Class III). Class II bicycle lanes are a component of street design with dedicated striping, separating vehicular traffic from bicycle traffic. These facilities offer a safer environment for both cyclists and motorists. Class III bicycle routes and bicycle-friendly streets are those where motorists and cyclists share the roadway and there is no separated striping for bicycle travel. Bicycle routes and bicycle-friendly streets are preferably placed on collector and low volume arterial streets. Bicycle routes with shared lane markings, or "sharrows", remind bicyclists to ride farther from parked cars to prevent collisions, increase awareness of motorists that bicycles may be in the travel lane, and show bicyclists the correct direction of travel.

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

Within the immediate Project vicinity, sharrowed bicycle routes are provided along Hawthorn Avenue. Additional bicycle facilities within 0.25 miles of the Project Site are shown in Figure 6.

Existing Transit System

Figure 7 illustrates the existing bus service and transit stops within 0.25 miles of the Project Site, including the Metro B Line subway. The Metro B Line runs between North Hollywood and downtown Los Angeles, connecting with the Metro G Line (formerly the Orange Line) in North Hollywood, the Metro D Line (formerly the Purple Line) at the Wilshire/Vermont Station in Koreatown, the Metro A Line (formerly the Blue Line) and Metro E Line (formerly the Expo Line) at the 7th/Metro Station in downtown Los Angeles, and the Metro L Line (formerly the Gold Line)

at Union Station. The Metro B Line Hollywood/Highland Station is located less than 0.25 miles of the Project Site.

Table 1 summarizes the existing transit lines operating in the Study Area for each of the service providers in the region, the type of service (peak vs. off-peak, express vs. local), and frequency of service. The average headways during the peak hour were estimated using detailed trip and ridership data from 2018 and 2019 provided by Metro and LADOT, as well as schedule information from each respective transit provider.

Tables 2A and 2B summarize the available capacity of the Metro and DASH transit systems during the morning and afternoon peak hours, respectively, based on the frequency of service of each line and the maximum seated and standing capacity of each bus or train. As shown, the Metro and DASH bus lines within 0.25 miles walking distance of the Project Site currently have additional capacity for 2,004 riders during the morning peak hour and 1,786 riders during the afternoon peak hour. Additionally, the Metro B Line provides additional capacity for approximately 6,174 transit riders during the morning peak hour and 5,454 transit riders during the afternoon peak hour. In total, the public transit system in the Study Area has additional capacity for approximately 8,178 riders during the morning peak hour and 7,240 riders during the afternoon peak hour.

Existing Traffic Volumes

Traffic count data collection is generally conducted during times with typical travel demand patterns (i.e., when local schools are in session, weeks without holidays, etc.). Due to the current traffic conditions related to the State and City's response to COVID-19, the collection of new traffic counts cannot occur until the Safer at Home order is lifted, local schools are in session, businesses are fully operational, etc. Given the uncertainty of the termination of the order, historical traffic count data previously conducted was utilized for the analyses. Specifically, while valid existing weekday morning (7:00 AM to 10:00 AM) and afternoon (3:00 PM to 6:00 PM) peak period intersection counts from May 2018 at the intersection of Highland Avenue & Hollywood Boulevard are available, peak hour counts at the intersection of Highland Avenue & Hawthorn Avenue, a signalized intersection that meets the criteria for analysis in the TAG, are not available. Thus, the peak hour traffic volumes at this location were estimated using the methodology determined during the MOU process, as detailed in the memorandum provided in Appendix B. The existing

and estimated intersection peak hour traffic volumes, representing Existing Conditions in Year 2020, are illustrated in Figure 8. Traffic count summaries are provided in Appendix B.

FUTURE CUMULATIVE TRANSPORTATION CONDITIONS

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

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

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

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

Ambient Traffic Growth

Although existing traffic is typically expected to increase as a result of regional growth and development, due to the implications of COVID-19, it is speculated that future traffic conditions may show reduced congestion as people shift to telecommuting and fewer vehicle trips are made on a daily basis. Based on discussions with LADOT through the MOU process, a conservative ambient growth factor of 1% per year compounded annually was applied to the adjusted existing traffic volumes that were conducted prior to the Safer at Home order to simulate the effects of the regional growth and development by Year 2024. The total adjustment applied over the four-year period (from the adjusted base existing Year 2020 to the future Year 2024) is 4.06%. This growth factor accounts for increases in traffic due to projects not yet proposed and projects located outside the Study Area.

Related Projects

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

In compliance with the TAG, Related Projects within 0.5 miles of the Project site were reviewed for consideration in the cumulative analysis. The list of Related Projects is based on information provided by LADCP and LADOT in April 2020, as well as recent traffic studies prepared for projects in the area. The Related Projects are identified in Table 3 and their general location shown in Figure 9. Though the buildout years of many of these Related Projects are uncertain and may occur beyond the buildout year of the Project, and notwithstanding that some may never be approved or developed, they were all considered as part of this study and conservatively assumed to be completed by the Project buildout Year 2024. Therefore, the traffic growth due to the development of Related Projects considered in this analysis is highly conservative and, by itself, substantially overestimates the traffic volume growth in the Study Area that would likely occur prior to Project buildout. With the addition of the 1% per year ambient growth factor previously discussed, the Future without Project cumulative condition is even more conservative.

In addition, the list of Related Projects includes the City's draft update to the *Hollywood Community Plan,* which is currently in the environmental review stages. Based on preliminary information available from the City, the updated *Hollywood Community Plan* will propose updates to land use policies and plans that would primarily increase commercial and residential development potential in and near the Regional Center Commercial portion of the community and along selected corridors in the *Hollywood Community Plan* area. Corresponding decreases in development potential would be primarily focused on low- to medium-scale multi-family residential neighborhoods to conserve existing density and intensity of those neighborhoods. The *Hollywood Community Plan* update, once adopted, will be a long-range plan designed to accommodate population, housing, and employment growth in Hollywood until Year 2040. Only the initial period of any such projected growth would overlap with the Project's future baseline forecast, as the Project would be completed in Year 2024, well before the update to the *Hollywood Community Plan*'s horizon year.

It can be assumed that the projected growth reflected by the list of Related Projects, which in itself is a conservative assumption, as discussed above, would account for any overlapping growth that may be assumed by the updated *Hollywood Community Plan* upon its adoption. With the addition of the ambient growth factor, the Future without Project Conditions is even more conservative. Using these assumptions, the potential traffic impacts of the Project were evaluated. Estimating the Related Projects' traffic volume contributions to the study intersections involves the use of a three-step process: trip generation, trip distribution, and trip assignment.

Trip Generation. Trip generation estimates for the Related Projects were provided by LADOT or were calculated using a combination of previous study findings and the trip generation rates contained in *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017). The Related Projects trip generation estimates summarized in Table 3 are conservative in that they do not in every case account for any trips generated by the existing uses to be removed nor the likely use of other travel modes (e.g., transit, bus, bicycling, walking, carpool, etc.) Further, in many cases, they do not account for the internal capture trips within a multi-use development nor for the interaction of trips between multiple Related Projects, in which one Related Project serves as the origin for a trip destined for another Related Project.

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

the geographic distribution of population from which the employees/residents and potential patrons of the proposed developments are drawn, and the location of these projects in relation to the surrounding street system. These factors are considered along with logical travel routes through the street system to develop a reasonable pattern of trip distribution.

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

Future without Project Traffic Volumes

The Related Projects volumes were then added to the existing traffic volumes after adjustment for ambient growth through the projected Project completion year of 2024. As discussed above, this is a conservative approach as many of the Related Projects may already be reflected in the ambient growth rate. These volumes represent the Future without Project Conditions (i.e., ambient traffic growth and Related Project traffic growth added to existing traffic volumes) for Year 2024 and are shown in Figure 11 for the two study intersections.

Future Roadway and Street Improvements

The analysis of future conditions considered roadway improvements that were funded and reasonably expected to be implemented prior to the buildout of the proposed Project. Any roadway improvement that would result in changes to the physical configuration at the study intersections would be incorporated into the analysis. However, these improvements depend on the construction of the development projects, which are not guaranteed to be built or may not be completed by Project buildout. Therefore, this analysis conservatively concluded that these improvements would not be implemented by Year 2024. Other proposed traffic/trip reduction strategies such as the proposed creation of a Hollywood Transportation Management Organization (TMO) and Transportation Demand Management (TDM) programs for individual buildings and developments were not applied to the Future Conditions analysis.

Vision Zero. In efforts to increase safety on the most vulnerable City streets, LADOT has identified basic safety improvements (e.g., continental crosswalk upgrades, traffic signals, etc.) to be implemented along corridors as part of the Vision Zero Safety Improvements projects. All improvements within the Study Area have been installed and no planned improvements currently proposed. The following projects were identified within the Study Area and are depicted in Figure 12:

- Hollywood Boulevard Safety Improvements: Hollywood Boulevard between Fuller Avenue and Lyman Place
- Highland Avenue Safety Improvements: Highland Avenue between Franklin Place and Santa Monica Boulevard
- Sunset Boulevard Safety Improvements: Sunset Boulevard between L Ron Hubbard Way and Selma Avenue

LA Great Streets Initiative. The LA Great Streets Initiative focuses on reimagining streets to provide a more livable, accessible, and engaging public space for people. The street improvements can include infrastructure maintenance, sidewalk repairs, pocket parks, curb extensions, and bus stop amenity upgrades. As shown in Figure 12, Hollywood Boulevard has been identified as part of the LA Great Streets Initiative. There are no planned improvements currently proposed.

Safe Routes to School. The Safe Routes to School (SRTS) program seeks to enhance pedestrian safety and comfort on routes to and from school. The program invests in "school zone projects, neighborhood street projects and traffic safety education" and include improvements such as continental and scramble crosswalks, curb extensions and ramps, rectangular rapid flashing beacons, traffic signals, and bicycle facilities. Figure 12 illustrates the SRTS zones as part of the Hollywood High SRTS Plan and Selma Avenue Elementary SRTS Plan. All improvements as part of the SRTS have been installed.

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

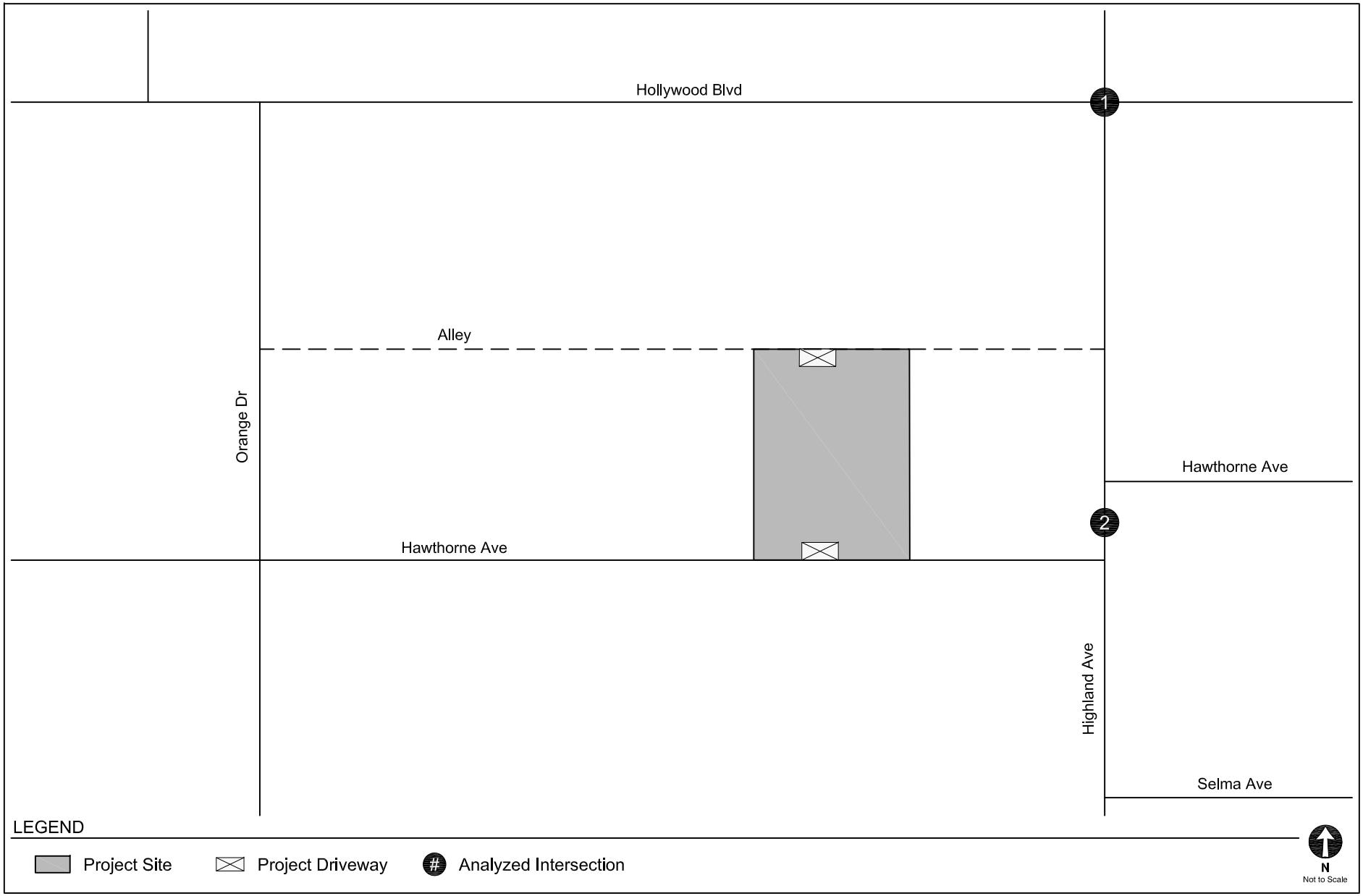
enhanced networks included corridors within the immediate vicinity of the Project Site. Additional streets within 0.25 miles of the Project Site that are designated as part of a mobility-enhanced network are depicted in Figure 12:

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

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

- BEN / BLN: The BEN designates Hollywood Boulevard as part of the network and the BLN designates Highland Avenue as part of the network.

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

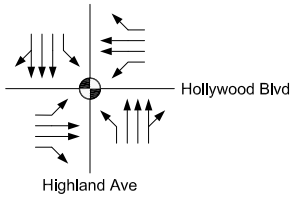
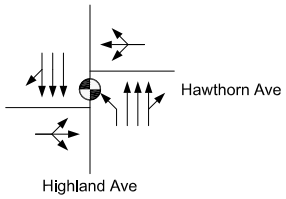


STUDY AREA

FIGURE 3

LEGEND

Traffic Signal

	EXISTING CONDITIONS (YEAR 2020)	FUTURE CONDITIONS (YEAR 2024)
1. Highland Avenue & Hollywood Boulevard		Same as Existing Conditions
2. Highland Avenue & Hawthorn Avenue		Same as Existing Conditions

INTERSECTION LANE CONFIGURATIONS

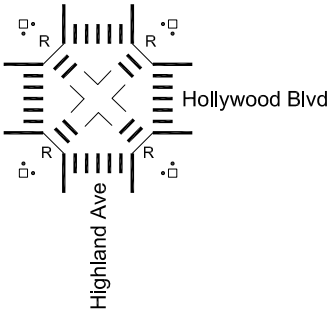
FIGURE 4

LEGEND

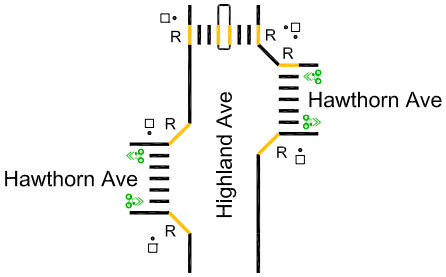
- Continental Crosswalk
- R Ramp
- Tactile Curb
- Ped Signal
- Ped Call Button
- Bike Lane (Sharrow)

N
Not to Scale

1. Highland Avenue & Hollywood Boulevard

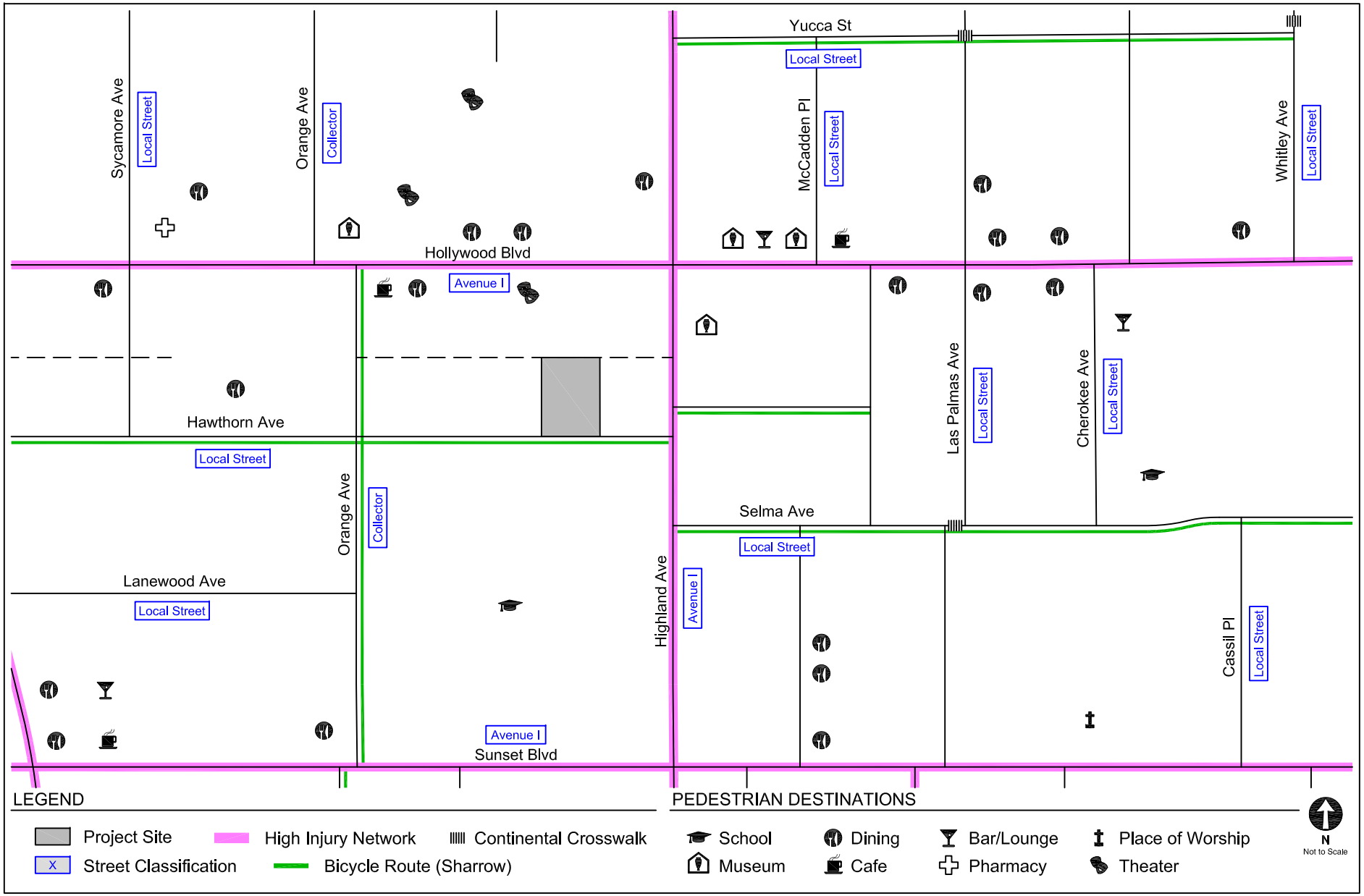


2. Highland Avenue & Hawthorn Avenue



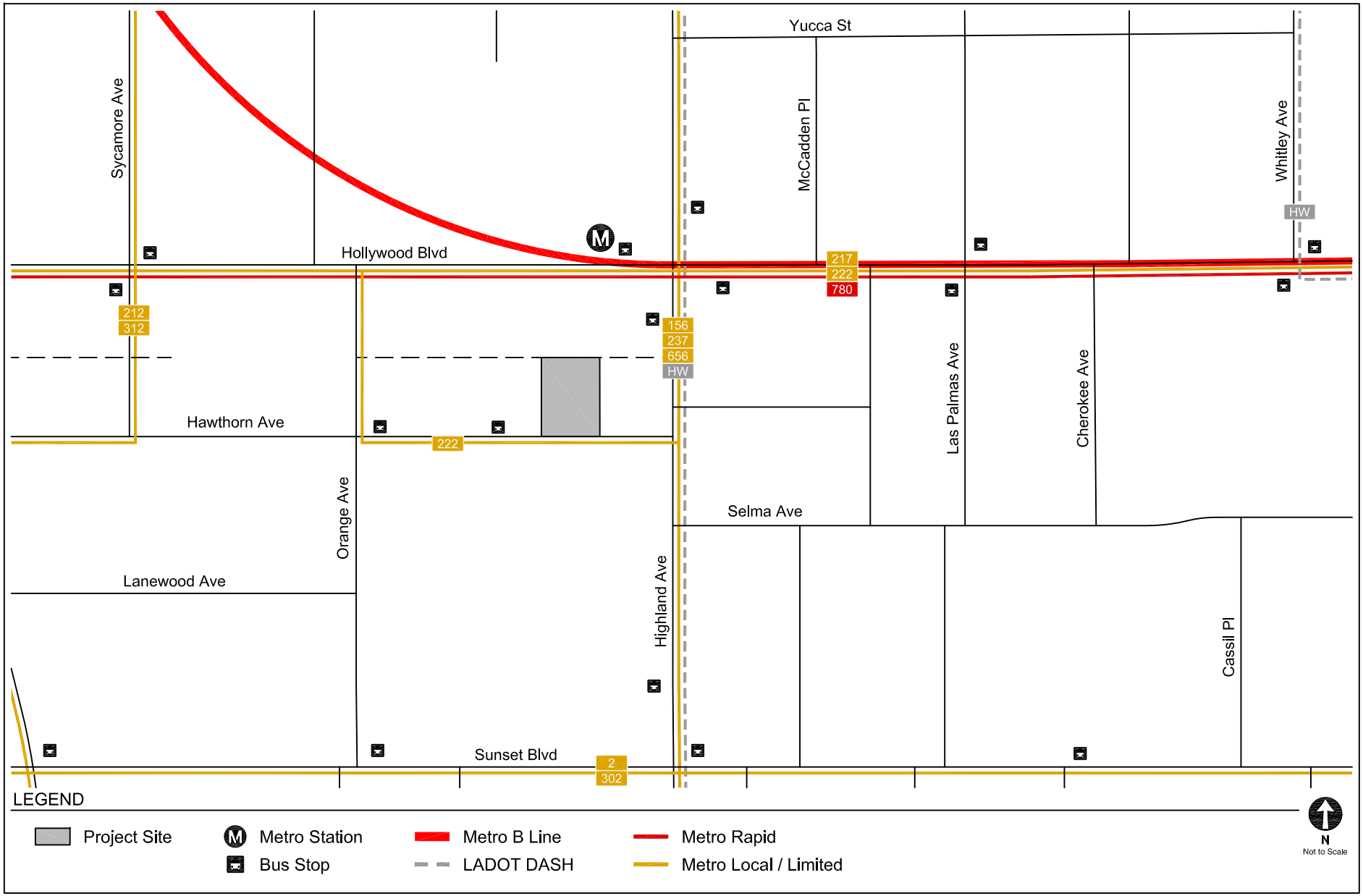
EXISTING INTERSECTION MOBILITY FACILITIES

FIGURE 5



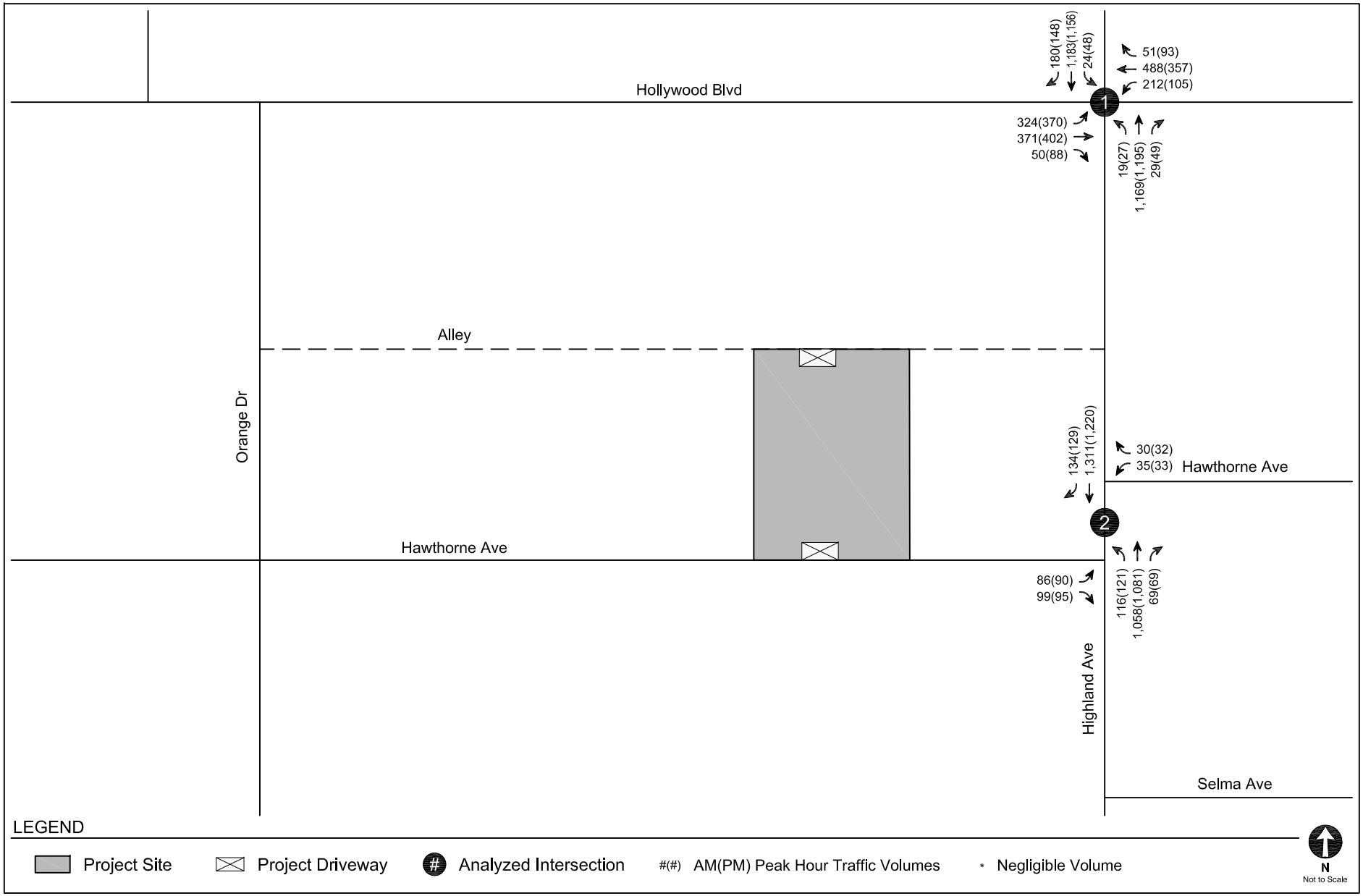
EXISTING TRANSPORTATION FACILITIES & PEDESTRIAN DESTINATIONS

FIGURE 6



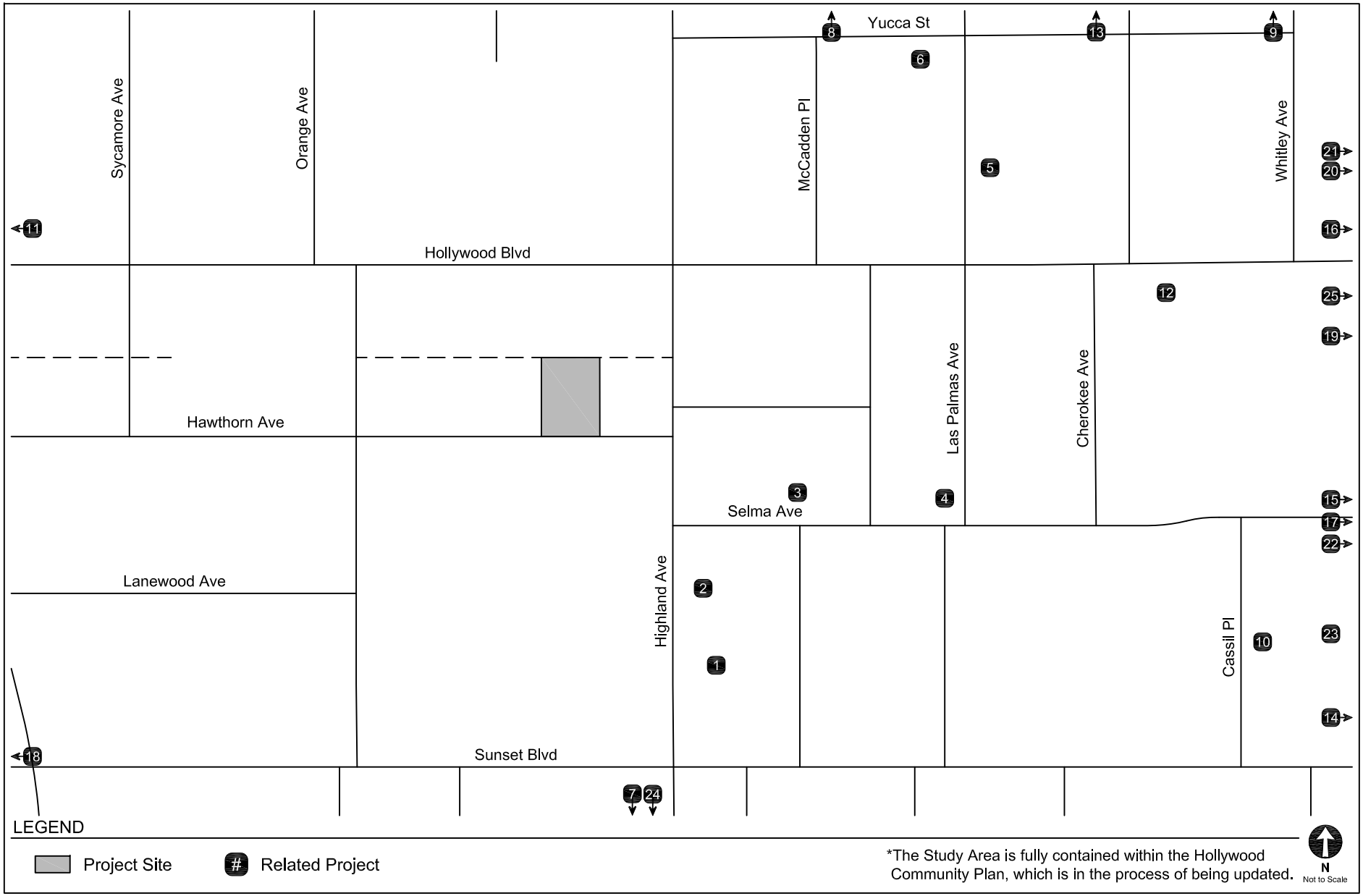
EXISTING TRANSIT SERVICE

FIGURE 7



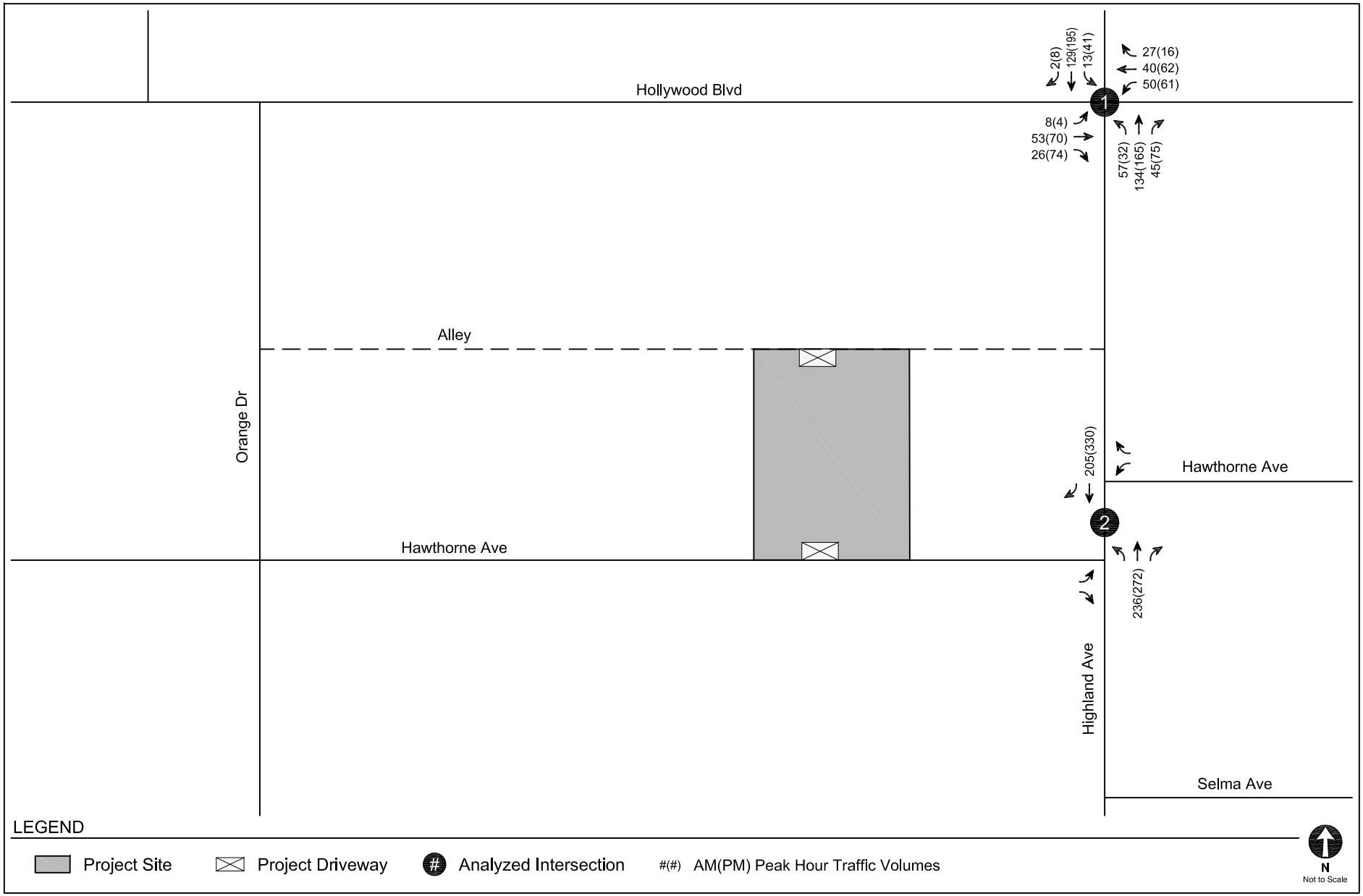
EXISTING CONDITIONS (YEAR 2020)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
8



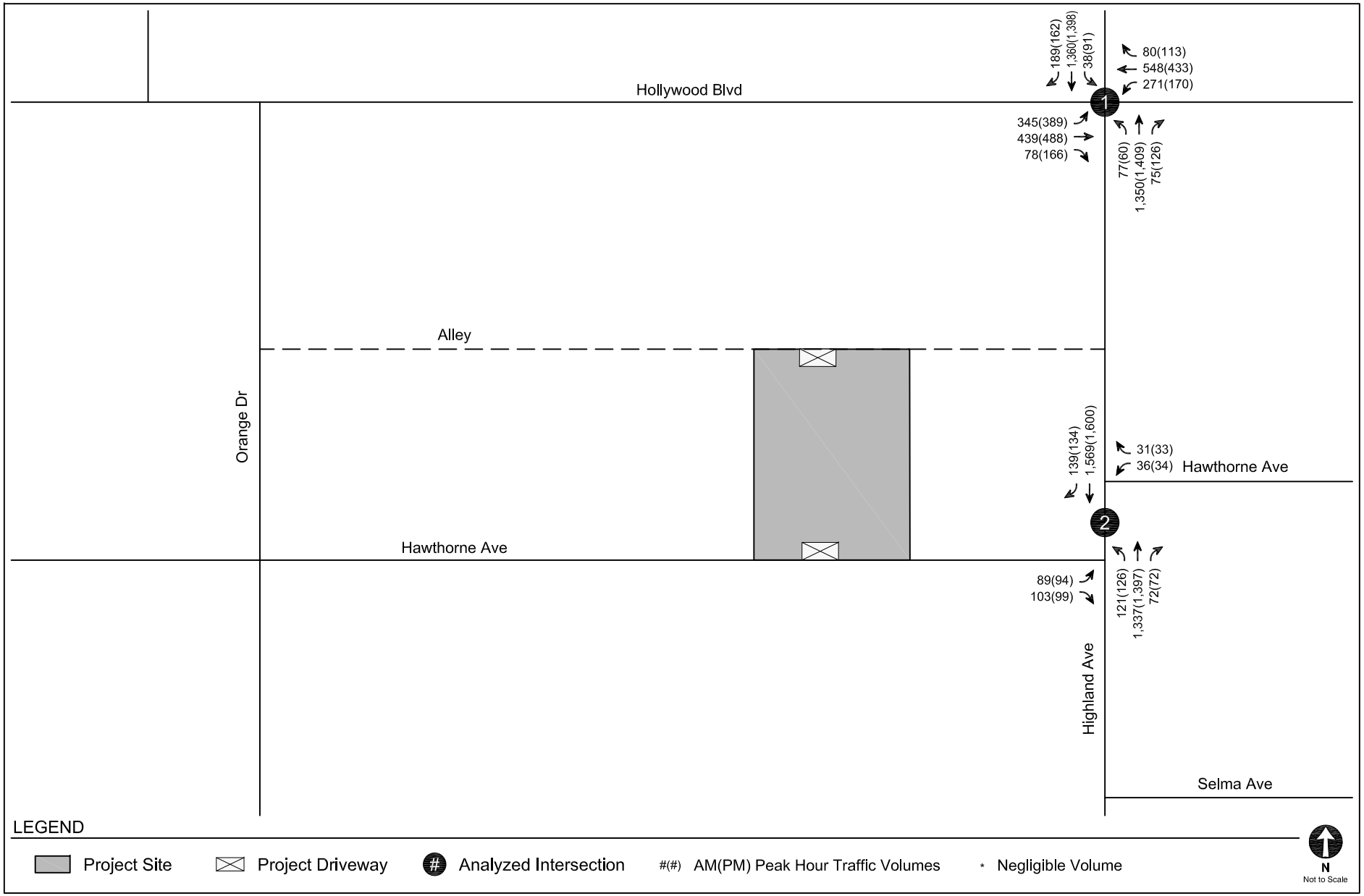
LOCATIONS OF RELATED PROJECTS

FIGURE 9



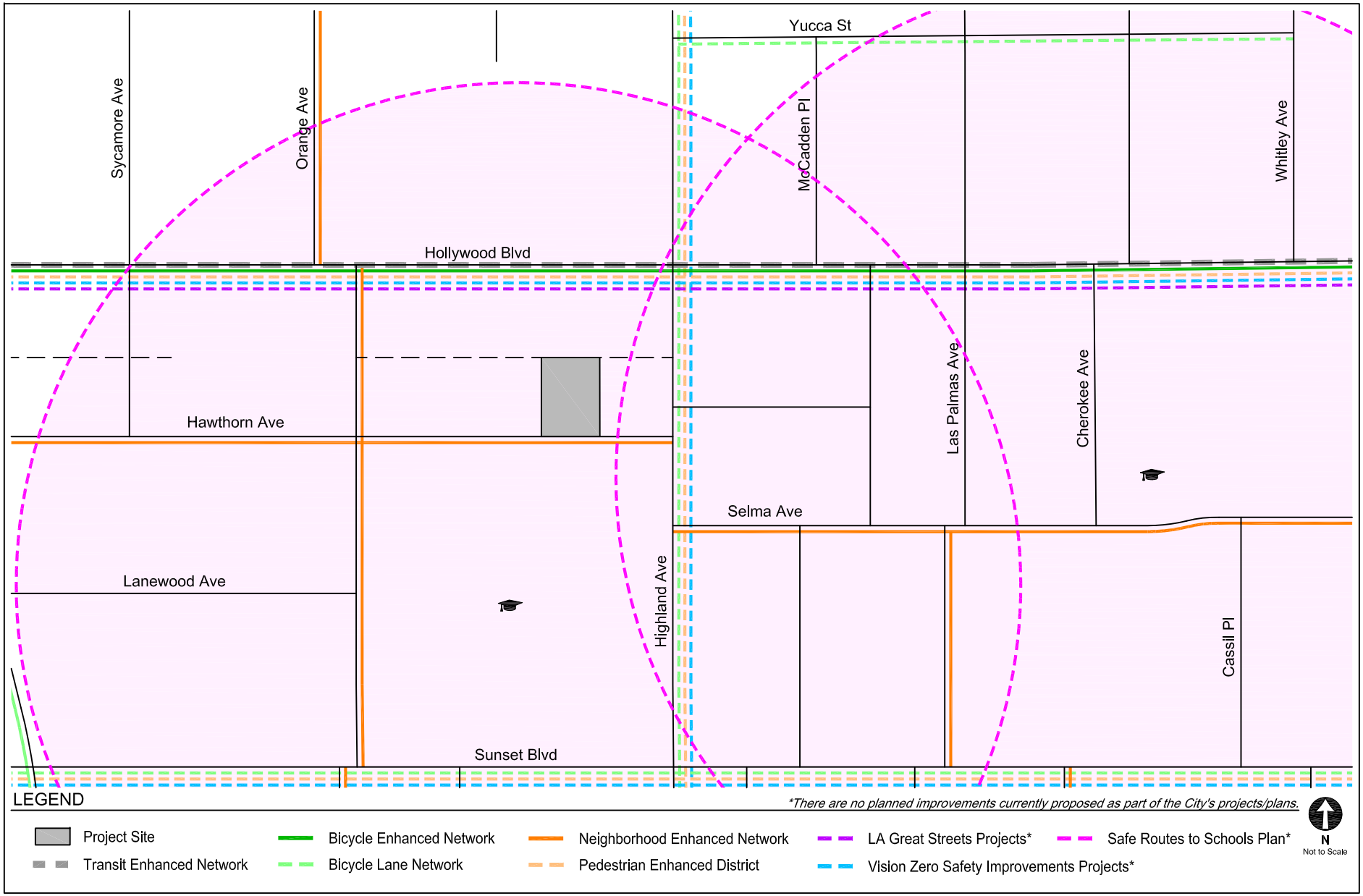
RELATED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
10



FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2024)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 11



FUTURE TRANSPORTATION FACILITIES & MODAL PRIORITIES

FIGURE 12

TABLE 1
EXISTING TRANSIT SERVICE IN PROJECT VICINITY

Provider, Route, and Service Area		Service Type	Hours of Operation	Average Headway (minutes) [a]			
				Morning Peak Hour		Afternoon Peak Hour	
Metro Bus Service				**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
2	Downtown Los Angeles - Westwood via Santa Monica Blvd & Sunset Boulevard	Local	5:00 A.M. - 2:30 A.M.	15	7	8	12
156	Panorama City - Hollywood via Highland Avenue, Vineland Avenue & Van Nuys Boulevard	Local	5:30 A.M. - 1:30 A.M.	34	34	34	34
212	Hollywood/Vine Station - Hawthorne/Lennox Station via La Brea Avenue	Local	4:45 A.M. - 7:30 A.M.	13	17	22	18
217	Vermont & Sunset - Culver City Transit Center via Hollywood Boulevard - Fairfax Avenue - La Cienega Boulevard	Local	24-Hour	17	15	13	14
222	Sunland - Hollywood via Hollywood Way, Barham Boulevard & Cahuenga Boulevard	Local	4:45 A.M. - 12:30 A.M.	60	60	48	48
237	Mission Hills - Hollywood via Woodley Avenue, Chandler Boulevard & Cahuenga Boulevard	Local	24-Hour	48	48	40	48
302	Downtown Los Angeles - Westwood via Santa Monica Blvd & Sunset Boulevard	Limited	6:00 A.M. - 9:45 A.M. 3:30 P.M. - 7:30 P.M.	N/A	11	14	N/A
312	Hollywood/Vine Station - Hawthorne/Lennox Station via La Brea Avenue	Limited	7:00 A.M. - 9:00 A.M. 3:00 P.M. - 5:00 P.M.	15	N/A	N/A	15
656	Panorama City - Hollywood via Highland Avenue, Vineland Avenue & Van Nuys Boulevard	Late Night	1:15 A.M. - 5:15 A.M.	N/A	N/A	N/A	N/A
780	Washington & Fairfax - Pasadena via Fairfax Avenue, Hollywood Boulevard & Colorado Boulevard	Rapid	6:00 A.M. - 7:45 P.M.	13	14	15	15
LADOT DASH Bus Service				**CW**	**CCW**	**CW**	**CCW**
HW	Hollywood	Local	7:00 A.M. - 7:00 P.M.	30	30	30	30
Metro Rail Service				**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
B	Downtown Los Angeles - North Hollywood	Rail	4:30 A.M. - 2:00 A.M.	10	10	10	10

Notes:

Metro: Los Angeles County Metropolitan Transportation Authority

LADOT DASH: Los Angeles Department of Transportation Downtown Area SHuttle

CW:clockwise; CCW: counter-clockwise

[a] Headway information for Metro bus system based on operating and ridership data from Metro for April 2019. Headway information for LADOT transit systems based on information via www.ladottransit.com.

TABLE 2A
TRANSIT SYSTEM CAPACITY IN PROJECT VICINITY - MORNING PEAK HOUR

Provider, Route, and Service Area		Stop Location	Capacity per Trip [a]	Peak Hour Ridership				Average Remaining Capacity per Trip		Remaining Peak Hour Capacity	
				Peak Load		Average Load					
				NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Metro Bus Service [b]											
2-302	Downtown Los Angeles - Westwood via Santa Monica Blvd & Sunset Boulevard	Sunset Blvd at Highland Ave	50	19	45	11	29	39	21	156	189
156	Panorama City - Hollywood via Highland Avenue, Vineland Avenue & Van Nuys Boulevard	Hollywood Blvd at Highland Ave	50	8	25	5	15	45	35	90	70
212-312	Hollywood/Vine Station - Hawthorne/Lennox Station via La Brea Avenue	Hawthorn Ave at Orange Dr	50	8	25	5	15	45	35	225	140
217	Vermont & Sunset - Culver City Transit Center via Hollywood Boulevard - Fairfax Avenue - La Cienega Boulevard	Hollywood Blvd at Highland Ave	50	6	25	4	18	46	32	184	128
222	Sunland - Hollywood via Hollywood Way, Barham Boulevard & Cahuenga Boulevard	Hawthorn Ave at Orange Dr	50	11	N/A	6	1	44	49	44	49
237	Mission Hills - Hollywood via Woodley Avenue, Chandler Boulevard & Cahuenga Boulevard	Highland Ave at Hollywood Blvd	50	10	7	9	6	41	44	41	44
780	Washington & Fairfax - Pasadena via Fairfax Avenue, Hollywood Boulevard & Colorado Boulevard	Hollywood Blvd at Highland Ae	75	11	35	7	26	68	49	340	196
LADOT DASH Bus Service [c]		**Stop Location**	**Capacity per Trip [a]**	**CW**	**CCW**	**CW**	**CCW**	**CW**	**CCW**	**CW**	**CCW**
HW	Hollywood	Highland Ave at Hollywood Blvd	30	4	2	4	2	26	28	52	56
Metro Rail Service *[d]*		**Stop Location**	**Capacity per Trip [a]**	**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
B	Downtown Los Angeles - North Hollywood	Hollywood/Highland Station	750	349	202	277	194	473	556	2,838	3,336
									Remaining Bus Service Capacity	**2,004**	
									Remaining Rail Transit Capacity	**6,174**	
									Total Remaining Transit System Capacity	**8,178**	

Notes:

Metro: Los Angeles County Metropolitan Transportation Authority

LADOT DASH: Los Angeles Department of Transportation Downtown Area SHuttle.

CW:clockwise; CCW: counter-clockwise

[a] Capacity assumptions:

Metro Bus - 40 seated / 50 seated and standing.

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

Metro B Line - 55 seats / car, 6 cars / run during peak periods. Metro assumes a maximum capacity of 230% of seated capacity, or approximately 125 / car.

LADOT Dash - 25 seated / 30 seated and standing.

[b] Ridership information based on data from Metro for April 2019, unless otherwise noted.

[c] Ridership information based on data from LADOT for April 2017.

[d] Ridership information based on data from Metro for 2018.

TABLE 2B
TRANSIT SYSTEM CAPACITY IN PROJECT VICINITY - AFTERNOON PEAK HOUR

Provider, Route, and Service Area		Stop Location	Capacity per Trip [a]	Peak Hour Ridership				Average Remaining Capacity per Trip		Remaining Peak Hour Capacity	
				Peak Load		Average Load					
				NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Metro Bus Service *[b]*											
2-302	Downtown Los Angeles - Westwood via Santa Monica Blvd & Sunset Boulevard	Sunset Blvd at Highland Ave	50	36	32	28	29	22	21	176	105
156	Panorama City - Hollywood via Highland Avenue, Vineland Avenue & Van Nuys Boulevard	Hollywood Blvd at Highland Ave	50	11	22	9	15	41	35	82	70
212-312	Hollywood/Vine Station - Hawthorne/Lennox Station via La Brea Avenue	Hawthorn Ave at Orange Dr	50	11	22	9	15	41	35	123	105
217	Vermont & Sunset - Culver City Transit Center via Hollywood Boulevard - Fairfax Avenue - La Cienega Boulevard	Hollywood Blvd at Highland Ave	50	12	18	10	14	40	36	200	144
222	Sunland - Hollywood via Hollywood Way, Barham Boulevard & Cahuenga Boulevard	Hawthorn Ave at Orange Dr	50	6	N/A	5	2	45	48	45	48
237	Mission Hills - Hollywood via Woodley Avenue, Chandler Boulevard & Cahuenga Boulevard	Highland Ave at Hollywood Blvd	50	12	7	11	6	39	44	78	44
780	Washington & Fairfax - Pasadena via Fairfax Avenue, Hollywood Boulevard & Colorado Boulevard	Hollywood Blvd at Highland Ave	75	27	19	21	14	54	61	216	244
LADOT DASH Bus Service *[c]*		**Stop Location**	**Capacity per Trip [a]**	**CW**	**CCW**	**CW**	**CCW**	**CW**	**CCW**	**CW**	**CCW**
HW	Hollywood	Highland Ave at Hollywood Blvd	30	6	1	6	1	24	29	48	58
Metro Rail Service *[d]*		**Stop Location**	**Capacity per Trip [a]**	**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
B	Downtown Los Angeles - North Hollywood	Hollywood/Highland Station	750	291	391	270	321	480	429	2,880	2,574
									Remaining Bus Service Capacity	**1,786**	
									Remaining Rail Transit Capacity	**5,454**	
									Total Remaining Transit System Capacity	**7,240**	

Notes:

Metro: Los Angeles County Metropolitan Transportation Authority

LADOT DASH: Los Angeles Department of Transportation Downtown Area SHuttle.

CW:clockwise; CCW: counter-clockwise

[a] Capacity assumptions:

Metro Bus - 40 seated / 50 seated and standing.

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

Metro B Line - 55 seats / car, 6 cars / run during peak periods. Metro assumes a maximum capacity of 230% of seated capacity, or approximately 125 / car.

LADOT Dash - 25 seated / 30 seated and standing.

[b] Ridership information based on data from Metro for April 2019, unless otherwise noted.

[c] Ridership information based on data from LADOT for April 2017.

[d] Ridership information based on data from Metro for 2018.

TABLE 3
RELATED PROJECTS

No.	Project	Address	Description	Trip Generation [a]						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
1.	Mixed-Use	1600-1610 N Highland Ave	248 apartment units and 12,785 sf retail	1,805	22	90	112	96	54	150
2.	Hollywood Crossroads	1540-1552 Highland Ave	950 residential units, 308 hotel rooms, 95,000 sf office and 185,000 sf commercial retail uses	14,833	381	498	879	733	548	1,281
3.	6753 Selma MU	6753 Selma Ave	51 apartment units and 438 sf ground floor retail	286	5	13	18	14	10	24
4.	Apartments	1601 N Las Palmas Ave	202 apartment units (69 affordable)	562	17	48	65	41	23	64
5.	Las Palmas Residential (Hollywood Cherokee)	1718 N Las Palmas Ave	224 residential units and 985 sf retail	1,333	21	84	105	81	43	124
6.	Apartments	1749 Las Palmas Ave	70 apartment units and 3,117 sf retail	147	2	9	11	9	5	14
7.	Apartments	1411 N Highland Ave	76 apartment units and 2,500 sf commercial	823	23	43	66	45	26	71
8.	Apartment Project	1824 N Highland Ave	118 apartment units	667	10	41	51	40	22	62
9.	1719 Whitley Hotel	1719 N Whitley Ave	156 hotel rooms	1,275	49	34	83	48	46	94
10.	Mixed-Use	1524-1538 N Cassil Pl	138 apartment units, 60 hotel rooms and 1,400 sf restaurant	1,244	32	47	79	56	41	97
11.	Mixed-Use	7107 Hollywood Blvd	410 apartment units, 5,000 sf restaurant and 5,000 sf retail	2,637	49	157	206	167	86	253
12.	6630 W Sunset Boulevard	6630 W Sunset Blvd	40 apartment units	266	4	16	20	16	9	25
13.	Montecito Senior Housing	6650 W Franklin Ave	68 senior apartment units	234	5	9	14	9	8	17
14.	CD 13 Schrader Temp Bridge Housing Shelter	1533 Schrader Blvd	70 bed shelter	89	5	3	8	4	4	8
15.	1600 Schrader	1600 Schrader Blvd	168 hotel rooms and 5,979 sf restaurant	1,666	58	40	98	80	63	143
16.	Hudson Building	6523 W Hollywood Blvd	10,402 sf restaurant, 4,074 sf of office, and 890 sf of storage	547	(16)	(11)	(27)	32	4	36
17.	Tommie Hotel	6516 W Selma Ave	212 hotel rooms, 3,855 sf bar/lounge and 8,500 sf rooftop bar/event space	2,241	71	50	121	105	84	189
18.	The Chaplin Hotel Project	7219 W Sunset Blvd	93 hotel rooms and 2,800 sf restaurant	761	27	18	45	27	29	56
19.	1637 N Wilcox MU	1637 N Wilcox Ave	93 apartment units, 61 affordable housing units and 6,586 sf commercial	831	20	44	64	40	27	67
20.	Wilcox Hotel	1717 N Wilcox Ave	133 hotel rooms and 3,580 sf retail	1,244	54	35	89	49	43	92

Notes:

[a] Source: Related project information based on available information provided by LADOT (April 8, 2020), Department of City Planning, and recent studies in the area.

TABLE 3 (CONT'D)
RELATED PROJECTS

No.	Project	Address	Description	Trip Generation [a]						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
21.	1723 N Wilcox	1723 N Wilcox Ave	81-room hotel and 2,236 sf restaurant	634	25	15	40	25	24	49
22.	Citizen News	1545 N Wilcox Ave	16,100 sf flexible event space and 14,800 sf restaurant	2,341	36	50	86	128	47	175
23.	Thompson Hotel	1541 N Wilcox Ave	190 hotel rooms and 4,463 sf restaurant, 1,382 sf meeting room	2,058	76	57	133	82	75	157
24.	Mixed-Use	1233 N Highland Ave	72 apartment units and 12,160 sf commercial	714	11	27	38	38	28	66
25.	Hollywood & Wilcox	6430-6440 W Hollywood Blvd	260 apartment units, 3,580 sf office, 11,020 sf retail and 3,200 sf restaurant	1,625	23	98	121	99	44	143

OTHER AREA-WIDE PROJECTS

Hollywood Community Plan Update
The Hollywood Community Plan Update proposes updates to land use policies and maps. The proposed changes would primarily increase commercial and residential development potential in and near the Regional Center Commercial portion of the community and along selected corridors in the Community Plan Area. The decreases in development potential would be primarily focused on low- to medium-scale multi-family residential neighborhoods to conserve existing density and intensity of those neighborhoods. The projected population growth has been captured in the conservative ambient growth rate and the Related Projects defined above. The Project Study Area is fully contained within the Community Plan Area.

Notes:

[a] Source: Related project information based on available information provided by LADOT (April 8, 2020), Department of City Planning, and recent studies in the area.

Chapter 3
CEQA Analysis of Transportation Impacts

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

METHODOLOGY

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

To adapt to SB 743, the Los Angeles City Planning Commission recommended the approval of revised guidelines to include new transportation analysis screening procedures and thresholds, subsequently approved by the Los Angeles City Council on July 30, 2019 (Council File 14-1169). The TAG defines the methodology of analyzing a project's transportation impacts in accordance with SB 743.

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

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

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

The thresholds were reviewed and analyzed, as detailed in the following Sections 3A-3D. In addition, a CEQA safety analysis of California Department of Transportation (Caltrans) facilities for the Project is provided in Section 3E.

Section 3A: Threshold T-1

Conflicting with Plans, Programs, Ordinances, or Policies Analysis

This section presents a review of the Project's consistency with plans and policies guiding development and transportation networks in Los Angeles.

SIGNIFICANCE CRITERIA

The Consistency with Policy Analysis applies Threshold T-1 from the TAG to the Project. Threshold T-1 states that a project results in a significant impact if it would "conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities" (TAG Section 2.1.3).

A project would be considered consistent with a policy if it is generally in conformance and does not obstruct the implementation of that policy or preclude future improvements. If a conflict is identified, mitigation measures would focus on improving access, comfort, and safety for all mobility types, especially pedestrians, bicyclists, and transit riders.

PLANS, PROGRAMS, ORDINANCES, AND POLICIES

Table 2.1-1 of the TAG identifies a series of City documents or plans that establish the regulatory framework for development in the City. Attachment D of the TAG, *Plans, Policies, and Programs Consistency Worksheet*, provides a structured approach to evaluate whether a project conflicts with the City's plans, programs, ordinances, or policies and to streamline the review by highlighting the most relevant plans, policies, and programs when assessing potential impacts to the City's transportation system. The *Plans, Policies, and Programs Consistency Worksheet* was completed for the Project and provided in Appendix C. Each of the documents listed in Table 2.1-1 of the TAG was reviewed for applicability to the Project, and the relevant transportation-related policies are summarized below, along with the Project's conformance. More detailed discussions on consistency with key policies are provided in tables in Appendix C, as indicated below.

Mobility Plan

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

- Safety First: Design and operate streets in a way that enables safe access for all users, regardless of age, ability, or transportation mode choice.
- World Class Infrastructure: A well-maintained and connected network of streets, paths, bikeways, trails, that more provides Angelenos with the optimum variety of mode choices.
- Access for all Angelenos: A fair and equitable system must be accessible to all and must pay particularly close attention to the most vulnerable users.
- Collaboration, Communication, and Informed Choices: The impact of new technologies on our day-to-day mobility demands will continue to become increasingly important to the future.
- Clean Environments and Healthy Communities: Active transportation modes such as bicycling and walking can significantly improve personal fitness and create new opportunities for social interaction, while lessening impacts on the environment.

The Project would be consistent with these mobility goals as detailed in Table C-1 in Appendix C. In summary, the Project provides separate pedestrian access to the site via residential lobby and commercial entrances along Hawthorn Avenue, with secondary access along the alley to the north, to reduce conflicts with vehicles. Although bicycle routes are provided along Hawthorn Avenue, the Project does not propose modifying, removing, or otherwise affecting existing bicycle infrastructure. All ROW, roadway, and dedication widths would be designed to meet the goals and serve the long-term needs of the Mobility Plan. The Project would maintain the designated driveway and roadway width requirements as indicated in the Mobility Plan. Consistent with the driveway location planning guidelines, vehicular access to the Project, a mixed-use development, would be placed on a non-arterial street, Hawthorn Avenue. In addition, the driveway and reservoir area would be designed in compliance with the guidelines identified in Section 321 of *Manual of Policies and Procedures* (LADOT, December 2008) to provide sufficient internal queuing space and ensure safety for pedestrians. While Hawthorn Avenue is part of the NEN, the Project would not be in conflict with or preclude implementation of any neighborhood improvements that may be identified for the street.

The Project encourages non-motorized travel through provision of short- and long-term bicycle parking and promotes transit usage by developing a mixed-use project located within a 0.25-mile walking distance of the Metro B Line Hollywood/Highland Station and nearby local bus stops along Hollywood Boulevard. All sidewalks and curb ramps along the Project frontage would be designed in compliance with ADA standards to achieve accessibility for all patrons of the Project. In addition, the Project includes a mix of land uses to encourage interaction between components within a walkable environment in close proximity to jobs, destinations, and the multitude of neighborhood services available in the immediate Hollywood area, thereby reducing the number of trips made by vehicle and therefore reducing overall VMT.

The Project would incorporate TDM measures to reduce the dependency on single-occupancy vehicles by providing convenient bicycle parking, as further discussed in Section 3B. TDM measures help reduce VMT and vehicle trips to and from the Project Site consistent with City and State transportation and GHG policies and objectives. The Project would also provide sufficient off-street parking to accommodate the Project's parking demand on-site.

The Project does not hinder other goals and policies identified in the Mobility Plan. Therefore, the Project is consistent with and would not obstruct the implementation of the Mobility Plan.

Plan for a Healthy Los Angeles

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

A detailed analysis of the Project's consistency with *Plan for a Healthy Los Angeles* is provided in Table C-2 of Appendix C. The Project prioritizes safety and access for all individuals utilizing the site by complying with all ADA requirements and providing direct connections to pedestrian amenities at the nearby signalized intersection of Highland Avenue & Hawthorn Avenue. Further, the Project supports healthy lifestyles by locating housing and jobs near transit, providing bicycle parking, and enhancing the pedestrian environment by providing shade trees and commercial

patio seating for a more comfortable and inviting environment for pedestrians. The Project also includes affordable housing units to provide attainable opportunities for social mobility.

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

Land Use Element of the General Plan

The City General Plan's Land Use Element contains 35 Community Plans that establish specific goals and strategies for the various neighborhoods across Los Angeles. As previously described, the Project is located within the *Hollywood Community Plan* area.

A detailed analysis of the Project's consistency with the *Hollywood Community Plan* is provided in Table C-3 of Appendix C. The Project would provide both market-rate and affordable residential units to further the development of Hollywood as a major center of population and satisfy the varying needs and desires of all economic segments of the community, maximizing the opportunity for individual choice. Thus, the Project promotes and encourages development standards in line with the goals and objectives of the *Hollywood Community Plan*. The Project is consistent with the circulation standards and criteria of the *Hollywood Community Plan* as the transportation system adjacent to the Project Site, including Hawthorn Avenue and the alley to the north, would adequately serve the traffic generated by the Project without resulting in significant congestion. In addition, the Project would implement TDM strategies to further reduce the number of single-occupancy vehicle trips generated by the Project.

The City is currently in the process of updating the *Hollywood Community Plan* to guide development in the Hollywood area through Year 2040. *Hollywood Community Plan Update Draft Environmental Impact Report* (Terry A. Hayes Associates, November 2018) was recirculated for public review in October 2019. Formal adoption of the *Hollywood Community Plan Update* is anticipated by the end of Year 2020.

Redevelopment Plan

The Project Site is located within the *Redevelopment Plan for the Hollywood Redevelopment Project* (The Community Redevelopment Agency of the City of Los Angeles, amended October 2003) (the Redevelopment Plan). The Redevelopment Plan outlines a set of goals for community development including employment and business opportunities, improving the quality of the environment in the Hollywood area, supporting Hollywood as the center of the entertainment industry, and promoting the reuse of existing buildings.

A detailed analysis of the Project's consistency with the Redevelopment Plan is provided in Table C-4 of Appendix C. The Project promotes a balanced community as it proposes a mixed-use development including residential and commercial uses located approximately 250 feet south of Hollywood Boulevard within an active commercial and entertainment district of Hollywood. The Project is not located along a corridor that has been identified as a circulation corridor in the Redevelopment Plan and, thus, the Project would not preclude any City improvements to circulation and traffic flow. Therefore, the Project would be consistent with the Redevelopment Plan.

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

LAMC Section 12.21.A.16 details the bicycle parking requirements for new developments. As further detailed in Section 4F, the Project's 137 multi-family housing units and 1,207 sf of restaurant/café space would require a total of 106 bicycle parking spaces (11 short-term and 95 long-term). The Project's bicycle parking supply would comply with LAMC requirements.

LAMC Section 12.26J (TDM Ordinance)

LAMC Section 12.26J, the TDM Ordinance (1993), establishes trip reduction requirements for non-residential projects in excess of 25,000 sf. The Project's commercial component would not exceed 25,000 sf, and therefore LAMC Section 12.26J would not apply to the Project. Therefore, the Project would not conflict with the requirements of LAMC Section 12.26J. Nonetheless, the

Project proposes to implement TDM measures including bicycle parking per LAMC requirements, as further described in Section 3B.

LAMC Section 12.37 (Waivers of Dedications and Improvement)

LAMC Section 12.37 states that a project must dedicate and improve adjacent streets to half-width ROW standards consistent with street designations from the Mobility Plan. Adjacent to the Project, Hawthorn Avenue is a designated Local Street with the required 30-foot half-ROW. The alley to the north requires a 10-foot half-ROW. The Applicant will provide a three-foot dedication along the alley to increase the half-ROW from seven feet to 10 feet. No waivers of dedication are requested. Therefore, the Project would be consistent with LAMC Section 12.37.

Vision Zero Action Plan / Vision Zero Corridor Plans

Vision Zero implements projects that are designed to increase safety on the most vulnerable City streets. The City has identified a number of streets as part of the HIN where City projects will be targeted. The Project Site is not located adjacent to a street identified as part of the HIN. Within the Study Area, Hollywood Boulevard and Highland Avenue are identified as part of the HIN. As of May 2019, LADOT installed basic safety improvements along Hollywood Boulevard between Fuller Avenue and Lyman Place as part of the Hollywood Boulevard Safety Improvements project. In the vicinity of the Project Site, these improvements included a pedestrian scramble (all-walk signal phase) at Highland Avenue & Hollywood Boulevard and continental crosswalk upgrades at Orange Drive & Hollywood Boulevard. As of June 2019, LADOT installed similar basic safety improvements along Highland Avenue between Franklin Place and Santa Monica Boulevard. In the vicinity of the Project Site, these improvements included installation of a traffic signal at Highland Avenue & Hawthorn Avenue. No additional improvements within the Study Area are planned for implementation at this time.

Nonetheless, the Project improvements to the pedestrian environment would not preclude future Vision Zero safety improvements by the City. Thus, the Project does not conflict with Vision Zero.

Streetscape Plans

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

Citywide Design Guidelines

Citywide Design Guidelines (LADCP Urban Design Studio, October 2019) identifies urban design principles to guide architects and developers in designing high-quality projects that meet the City's functional, aesthetic, and policy objectives and help foster a sense of community. The design guidelines are organized around three design approaches, Pedestrian-First Design, 360-Degree Design, and Climate-Adapted Design. Per the TAG, a detailed analysis of the Project's consistency with the Pedestrian-First Design Guidelines 1 to 3 is provided in Table C-5 of Appendix C.

In summary, adequate sidewalks along Hawthorn Avenue would be provided in accordance with the City's Living Streets design considerations. Additionally, street trees would be incorporated to provide shade for a more comfortable and inviting mobility environment for pedestrians. Therefore, the Project would align with Pedestrian-First Design Guidelines 1 to 3 of the *Citywide Design Guidelines* to provide a safe, comfortable, and accessible experience for all transportation modes.

CUMULATIVE ANALYSIS

In addition to potential Project-specific impacts, the TAG requires that the Project be reviewed in combination with nearby Related Projects to determine if there may be a cumulatively significant impact resulting from inconsistency with a particular program, plan, policy, or ordinance. In accordance with the TAG, the cumulative analysis must include consideration of any Related Projects within 0.5 miles of the Project site and any transportation system improvements in the vicinity. Related Projects located within 0.5 miles of the Project site are identified in Table 3. None of the identified Related Projects are located along the same block as the Project; thus, the Project and the Related Projects would not result in a cumulative impact that would preclude the City from

serving the transportation needs as defined by the City's adopted programs, plans, ordinances, or policies.

Similar to the Project, the Related Projects considered in this cumulative analysis would be individually responsible for complying with relevant plans, programs, ordinances, or policies addressing the circulation system. The Project, together with the Related Projects, would not result in cumulative impacts with respect to consistency with each of the plans, ordinances, or policies reviewed. Therefore, the Project, together with the Related Projects identified in Table 3, would not create inconsistencies nor result in cumulative impacts with respect to the identified programs, plans, policies, and ordinances.

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

This section presents an analysis of potential VMT impacts for the Project under Threshold T-2.1 based on the TAG.

VMT GUIDELINES

The VMT guidelines are intended to promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses. This encourages development that shortens the distance between housing, jobs, and services, increases the availability of affordable housing options proximal to public transit, offers attractive non-vehicular transportation alternatives, provides strong TDM programs, and promotes walking and bicycling trips.

VMT Impact Thresholds

The TAG identifies significance thresholds to apply to development projects when evaluating potential VMT impacts. Consistent with State CEQA guidance, the TAG in Threshold T-2.1 states that a residential project would result in a significant VMT impact if it would generate household VMT per capita more than 15% below the existing average household VMT per capita for the Area Planning Commission (APC) area in which it's located. Similarly, an office or retail project would result in a significant VMT impact if it would generate work VMT per employee more than 15% below the existing average work VMT per employee for the APC area in which it is located.

Residents contribute to household VMT while employees (including hotel, office, retail, and restaurant employees) contribute to work VMT. The TAG identifies a daily household VMT per capita impact criteria of 6.0 and a daily work VMT per employee impact criteria of 7.6 for the Central APC, in which the Project is located. Therefore, should the Project's average household

VMT per capita be equal to or lower than 6.0 and average work VMT per employee be equal to or lower than 7.6, the Project's overall VMT impact would be less than significant.

It is important to note that these thresholds, and the VMT analysis to which the thresholds apply, are based on specific types of one-way trips, including:

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

The location and characteristics of residences and workplaces are often the main drivers of VMT, as detailed in Appendix 1 of *Technical Advisory on Evaluating Transportation Impacts in CEQA* (California Governor's Office of Planning and Research, December 2018). Therefore, as detailed in *City of Los Angeles VMT Calculator Documentation* (LADOT and LADCP, May 2020) (VMT Calculator Documentation), the City's household VMT per capita threshold applies to Home-Based Work Production and Home-Based Other Production trips and the work VMT per employee threshold applies to Home-Based Work Attraction trips.

Other types of trips generated by the Project, including Non-Home-Based Other Production (trips to a non-residential destination originating from a non-residential use at the Project Site), Home-Based Other Attraction (trips to a non-workplace destination at the Project Site originating from a residential use), and Non-Home-Based Other Attraction (trips to a non-residential destination at the Project Site originating from a non-residential use), are not factored into the VMT per capita and VMT per employee thresholds as those trips are typically localized and are assumed to have a negligible effect on the VMT impact assessment. However, those trips are factored into the calculation of total Project trip generation and VMT for LADOT screening purposes when determining whether Threshold T-2.1 is applicable to a given project.

VMT ANALYSIS METHODOLOGY

LADOT created a tool (VMT Calculator) designed to estimate project-specific daily household VMT per capita and daily work VMT per employee for developments within City limits. The VMT Calculator accounts for a variety of sociodemographic, land use, and environment factors estimated for each census tract within the City, as well as the interaction of land uses within a mixed-use development. Some of the key factors built into the VMT Calculator include travel behavior zones (TBZs), mixed-use development methodology, population, and employment assumptions, and TDM measures.

TBZs

The City developed TBZs as part of a framework for determining the magnitude of VMT and vehicle trip reductions that could be achieved through TDM strategies. As detailed in the VMT Calculator Documentation, TBZs were designated in each Census tract throughout the City considering population density, land use density, intersection density, and proximity to transit. They are categorized as follows:

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

The VMT Calculator determines a project's TBZ based on the latitude and longitude of a project address. The Project Site is located in an Urban (Zone 4) TBZ.

Mixed-Use Development Methodology

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

- The project location's jobs/housing balance, which factors into how many trips are local or internal to a mixed-use project
- Land use density where the project is located, which factors into the likelihood of short trips, as well as walking and bicycling
- Transportation network density, which affects the circuity of travel (whether driving, walking, or bicycling) and, therefore, affects both trip length and the likelihood of choosing non-automobile modes of travel
- Proximity to transit, which affects the likelihood that residents or employees will travel via transit rather than automobile
- Proximity to retail and other destinations, affecting the likelihood that residents or employees will take short trips or non-automobile modes for routine commercial activities
- Vehicle ownership rates, with higher levels of vehicle ownership leading to a higher rate of automobile trips
- Household size, which affects both the number of trips made by a given residential unit (increasing or decreasing overall VMT) and also affects the number of people when calculating the daily VMT per capita

Trip Lengths

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

Population and Employment Assumptions

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

TDM Measures

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

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

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

PROJECT VMT ANALYSIS

The VMT Calculator (version 1.3, released in July 2020) was used to evaluate Project VMT as compared with the City's VMT significance thresholds. The VMT Calculator utilized the Project's land uses and their respective density (123 multi-family housing units, 14 affordable housing units, and 1,207 sf of high-turnover restaurant) as the primary input.

Per *City of Los Angeles VMT Calculator User Guide* (LADOT and LADCP, May 2020), work VMT per employee is not reported for projects in which the commercial use is local-serving (assumed true for commercial uses less than 50,000 sf) and is considered to be less than significant. Therefore, the Project's 1,207 sf of restaurant/café space would not result in a significant work VMT impact.

Additionally, the Project includes design features considered as TDM strategies to reduce the number of single occupancy vehicle trips to the Project Site, including provision of bicycle parking per LAMC requirements on-site. This strategy was incorporated into the VMT Calculator as a Project feature.

Project VMT

The VMT analysis results from the VMT Calculator are shown in Table 4. Detailed output results from the VMT Calculator is provided in Appendix D.

As shown in Table 4, the VMT Calculator estimates that the Project would generate 3,571 total daily VMT. It would produce 1,504 home-based production VMT (used to calculate household VMT per capita). Based on the VMT Calculator residential population estimate, the Project would generate average household VMT per capita of 4.7, which is below the Central APC impact threshold of 6.0. Therefore, the Project would not result in a significant VMT impact and no mitigation measures would be required.

CUMULATIVE ANALYSIS

Cumulative effects of development projects are determined based on the consistency with the air quality and GHG reduction goals of *2016–2040 Regional Transportation Plan / Sustainable Communities Strategy* (Southern California Association of Governments [SCAG], Adopted April 2016) (RTP/SCS) in terms of development location, density, and intensity. The RTP/SCS presents a long-term vision for the region's transportation system through Year 2040 and balances the region's future mobility and housing needs with economic, environmental, and public health goals.

As previously detailed, the Project includes a mixed-use development consisting of multi-family housing units and community serving ground floor commercial uses. The Project would be designed to further reduce single occupancy trips to the Project Site through various TDM strategies that would be incorporated as Project features, including bicycle parking. The Project would also contribute to the productivity and use of the regional transportation system by providing housing near transit and encourage active transportation, new bicycle parking, and active street frontages, consistent with RTP/SCS goals. Thus, the Project encourages a variety of transportation options and is consistent with the RTP/SCS goal of maximizing mobility and accessibility in the region, and therefore would not result in a cumulatively significant VMT impact.

Moreover, as detailed in the TAG, projects that do not demonstrate an impact by applying an efficiency-based impact threshold (i.e., household VMT per capita, work VMT per employee) in the impact analysis would necessarily not result in a cumulatively significant VMT impact. A less than significant impact conclusion using the City's criteria is sufficient in demonstrating there is no cumulative VMT impact, as those projects are already shown to align with the long-term VMT and greenhouse gas reduction goals of the RTP/SCS. As the Project would not result in a significant household VMT impact, it also would not result in a cumulatively significant VMT impact under Threshold T-2.1, and no further evaluation or mitigation measures would be required.

TABLE 4
VMT ANALYSIS SUMMARY

Project Information	
Address	6831 Hawthorn Avenue [a]
Project Land Uses	**Size**
Multi-Family Housing	123 units
Affordable Housing	14 units
Restaurant	1,207 sf
Project Location Characteristics [b]	
Area Planning Commission	Central
Travel Behavior Zone [c]	Urban
Maximum VMT Reduction [d]	*75%*
Project VMT Analysis [e]	
Daily Vehicle Trips	556
Daily VMT	3,571
Total Household VMT	1,504
Household VMT per Capita [f]	4.7
Impact Threshold	6.0
Significant Impact	**NO**
Total Work VMT	--
Work VMT per Employee [g]	--
Impact Threshold	N/A
Significant Impact	**NO**

Notes:

[a] Project address latitude and longitude (34.100652, -118.339721) was used in the VMT Calculator.

[b] Project Analysis based on the *City of Los Angeles VMT Calculator Version 1.3* (July 2020).

[c] "Urban" TBZs are characterized in *City of Los Angeles VMT Calculator Documentation* (LADOT and DCP, November 2019) as high-density neighborhoods characterized by multi-story buildings with a dense road network.

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

[e] The Project TDM Measures (incorporated in the VMT Calculator as Project Design Features) include:

1. Bicycle parking per LAMC requirements

[f] Household VMT per Capita is based on the "home-based work production" trip types.

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

Section 3C: Threshold T-2.2

Substantially Inducing Additional Automobile Travel Analysis

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

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

Section 3D: Threshold T-3

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

This section presents an analysis of potential safety, operational, or capacity impacts that could be caused by the design or location of Project access points.

SIGNIFICANCE CRITERIA

The Geometric Design and Land Use Hazards Analysis measures the Project against Threshold T-3 as described in TAG Section 2.4. It seeks to identify potential safety conflicts between vehicles, pedestrians, and bicycles as well as operational delays or capacity reductions resulting from the design or placement of Project access points.

Threshold T-3 requires that the determination of significance should be based on commonly-accepted traffic engineering design standards (such as those identified in Section 321 of LADOT's *Manual of Policies and Procedures* regarding driveway design) while considering the amount of pedestrian and bicycle activity crossing vehicular access points, sight distance and physical conditions like curves or grade changes, and the project's proximity to streets identified in the HIN or the SRTS program. Significance may be determined qualitatively or quantitatively as best suits the circumstances of the project.

If a significant impact is identified, mitigation measures may include installation of new traffic control devices, redesign, or relocation of access points, turn restrictions, pavement markings, or vehicular demand management.

ACCESS OVERVIEW

As described in Chapter 1 and shown in Figure 1, vehicle access to the Project Site would be provided via one driveway along Hawthorn Avenue and a second driveway from the alley to the

north. Both driveways are located approximately 250 feet west of Highland Avenue. The Project driveways would be designed and placed to provide adequate sight distance to minimize potential vehicular-pedestrian conflicts. The design and locations of the Project driveways are not anticipated to result in vehicle-bicycle conflicts.

A traffic signal controls the intersection of Highland Avenue & Hawthorn Avenue. The traffic signal facilitates traffic flow to and from Hawthorn Avenue and reduces conflicts and confusion between vehicular traffic and pedestrians with marked crosswalks, walk signal indicators, and countdown timers.

PROJECT HAZARDS ANALYSIS

Potential Geometric Design Hazards

Hawthorn Avenue and the alley along the Project Site northern boundary provide excellent sight distance as both streets are straight and flat. No unusual or new obstacles are presented in the design that would reduce sight distance or be considered hazardous to vehicles, bicycles, or pedestrians.

Based on the analysis in Section 4C, the Project would generate approximately 55 vehicles (19 inbound and 36 outbound) during the morning peak hour and approximately 52 vehicles (32 inbound and 20 outbound) during the afternoon peak hour at the driveways on Hawthorn Avenue and the alley. Each driveway would have the capacity to individually accommodate all peak hour Project trips and, therefore, no hazards would occur related to operation of the driveways. As further discussed in Section 4C, Project traffic can be accommodated at the driveways and would not substantially affect operating conditions along Hawthorn Avenue or the alley.

Consistency with Modal Priority Networks

As summarized in Chapter 2, Hawthorn Avenue is a designated Local Street and part of the NEN. The existing half-width ROW along Hawthorn Avenue meets the City standards. As such, the Applicant is not required to provide additional dedication or widening along Hawthorn Avenue.

The existing half-width ROW along the alley is seven feet and the Applicant is required to provide a three-foot dedication to meet the long-term goals of the Mobility Plan.

Currently, there are bicycle routes and bus stops provided along Hawthorn Avenue adjacent to the Project Site. However, no streets adjacent to the Project Site has been identified as part of the Mobility Plan's Bicycle Network or Transit Enhanced Network. Nonetheless, the driveways would not preclude or interfere with the implementation of future roadway improvements benefiting transit, pedestrians, or bicycles.

Pedestrian and Bicycle Activity

The Project would result in an increase in both pedestrian and bicycle activity on Hawthorn Avenue, though not in sufficient quantities to result in a significant conflict with vehicles using the driveway. Further, pedestrians would have separate dedicated access points, as shown in Figure 1.

The Project is located directly northeast of Hollywood High School, on the opposite side of Hawthorn Avenue. As part of the Hollywood High School SRTS Plan, infrastructure improvement projects have been identified in the vicinity that would enhance pedestrian safety and comfort on routes to and from school. These projects include installation of continental and scramble crosswalks, curb extensions and ramps, rectangular rapid flashing beacons, traffic signals, and bicycle facilities. All identified improvement projects have been installed and no additional projects are currently planned.

Based on this review, the Project design and operation would not create any hazards that would significantly impact streets, sidewalks, or other mobility infrastructure.

CUMULATIVE ANALYSIS

In addition to potential Project-specific impacts, the TAG requires that the Project be reviewed in combination with Related Projects with access points along the same block as the proposed project to determine if there may be a cumulatively significant impact. None of the Related

Projects identified in Table 3 are located along the same block as the Project. Therefore, the Project would not result in cumulatively significant impacts due to geometric design features, including safety, operational, or capacity impacts.

Section 3E
Caltrans Analysis

Recently, LADOT issued *Interim Guidance for Freeway Safety Analysis* (LADOT, May 1, 2020) (City Freeway Guidance) identifying City requirements for a CEQA safety analysis of Caltrans facilities as part of a transportation assessment.

ANALYSIS METHODOLOGY

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

Based on the City Freeway Guidance, a transportation assessment for a development project must include analysis of any freeway off-ramp where the project adds 25 or more peak hour trips. A project would result in a significant impact at such a ramp if each of the following three criteria were met:

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

Should a significant impact be identified, mitigation measures to be considered include TDM measures to reduce a project's trip generation, investments in active transportation or transit

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

system infrastructure to reduce a project's trip generation, changes to the traffic signal timing or lane assignments at the ramp intersection, or physical changes to the off-ramp. Any physical change to the ramp would have to improve safety, not induce greater VMT, and not result in secondary environmental impacts.

PROJECT ANALYSIS

Based on the Project's trip generation estimates and trip assignments, which are later detailed in Section 4A, the Project would not add 25 or more peak hour trips to any freeway off-ramp. Therefore, no further freeway off-ramp queuing analysis is required. Furthermore, the Project would not result in a significant safety impact, and no corrective measures at any freeway off-ramps would be required.

Chapter 4
Non-CEQA Transportation Analysis

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

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

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

The four non-CEQA transportation analyses were reviewed in detail in Sections 4B-4E. In addition, a review of the proposed parking and the City's parking requirement for the Project is provided in Section 4F.

Section 4A
Project Traffic

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

PROJECT TRIP GENERATION

With the exception of the residential use, the number of vehicle trips expected to be generated by the Project was estimated using rates published in *Trip Generation Manual, 10th Edition*. These rates were determined by surveys of similar land uses at sites around the country and are used to calculate the morning and afternoon peak hour vehicle trips traveling to and from the Project Site based on the density of each land use. The rates applied to the Project are summarized in Table 5. The use of these rates and the various trip generation reductions summarized below were reviewed and approved by LADOT as part of an approved MOU for the Project.

Trip rates can be specific to a project's environmental setting as defined in *Trip Generation Manual, 10th Edition.* The "Dense Multi-Use Urban" environment is defined as "a fully developed area with diverse and interacting complementary land uses, good pedestrian activity, and convenient and frequent transit." This location type was agreed upon in consultation with LADOT. The number of trips expected to be generated by the residential component of the Project was calculated using local trip generation rates developed by LADOT for multi-family, mid-rise residential land uses in "Dense Multi-Use Urban" areas, as provided in Table 3.3-1 of the TAG. Additionally, per the TAG, residential or mixed-use developments that include affordable housing units are eligible to use a City-specific trip generation rate based on vehicle trip count data collected at affordable housing sites in the City, as provided in Table 3.3-2 of the TAG.

Appropriate trip generation reductions to account for public transit usage, pass-by trips, and trips shared between the Project land uses were made in accordance with the TAG and reviewed and approved by LADOT as part of the MOU:

- Internal Capture: A 5% internal capture reduction was applied to the restaurant trip generation estimates to account for person trips made between the different uses of the Project without requiring an additional vehicle trip (e.g. residents visiting the on-site restaurant space).

- Transit/Walk-In Usage: Because the Project Site is located within a 0.25-mile walking distance from a transit station (the Metro B Line Hollywood/Highland Station) and Metro Rapid bus stop (Metro Rapid 780), a 15% reduction was applied to the restaurant use to account for transit usage and walk-in arrivals from surrounding neighborhoods and adjacent commercial developments. The residential trip rates are based on local data collected in dense urban areas with convenient and frequent transit service and, thus, transit usage is inherent in the rates and does not allow for additional reductions.

- Pass-By Trips: Consistent with Attachment H of the TAG, a 20% pass-by adjustment was also applied to the restaurant use to account for Project trips made as an intermediate stop on the way from a separate origin to a primary trip destination without route diversion.

After accounting for the adjustments above, the Project is expected to generate 53 net morning peak hour trips (18 inbound, 35 outbound) and 50 net afternoon peak hour trips (31 inbound, 19 outbound), as summarized in Table 5.

PROJECT TRIP DISTRIBUTION

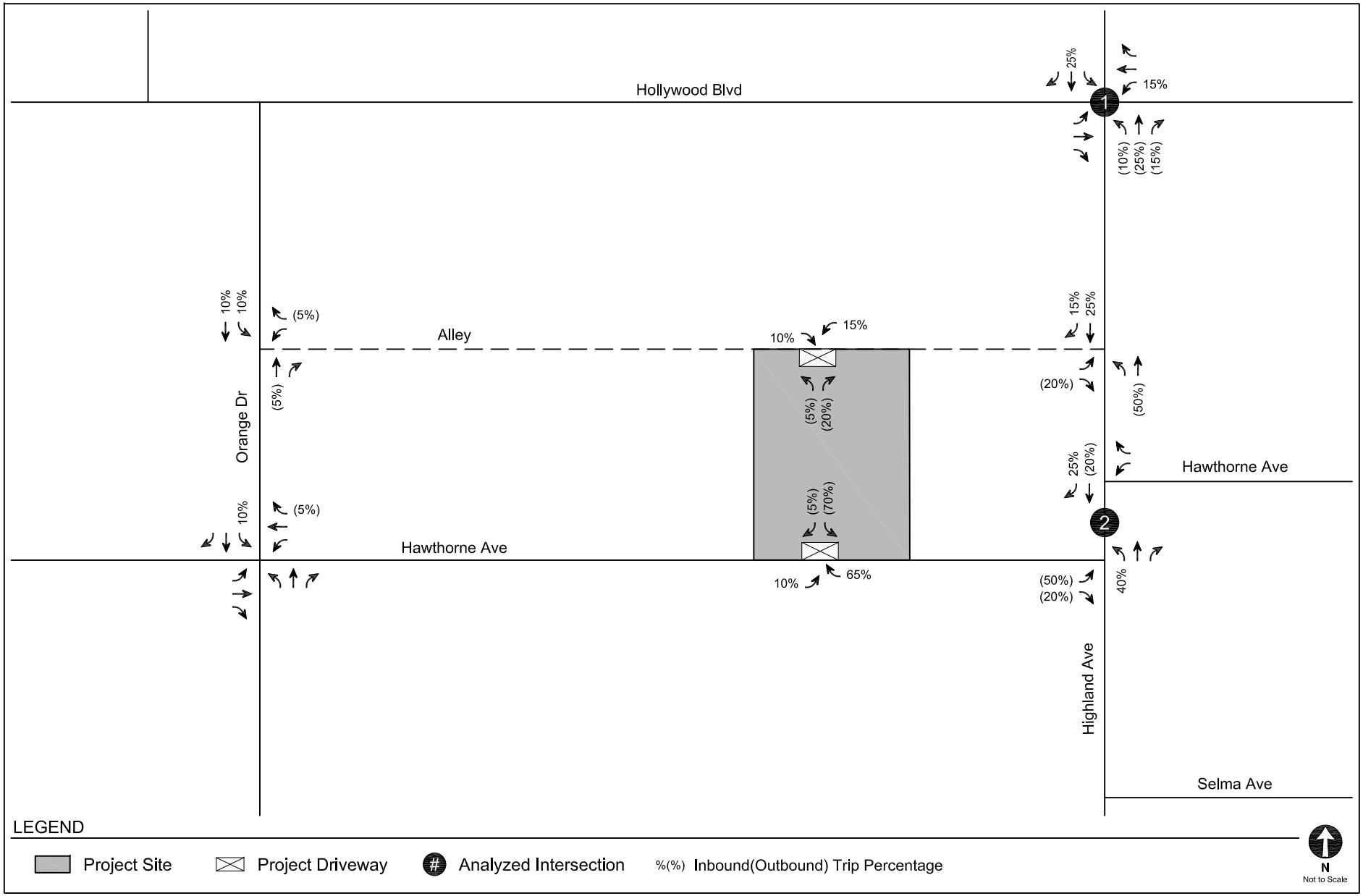
The geographic distribution of trips generated by the Project is primarily dependent on the location of employment and commercial centers from which residents, employees and visitors of the Project would be drawn, characteristics of the street system serving the Project Site, and the level of accessibility of the routes to and from the Project Site, existing intersection traffic volumes, the location of the proposed driveways, as well as input from LADOT staff.

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

- 25% to/from the north
- 40% to/from the south
- 15% to/from the east
- 20% to/from the west

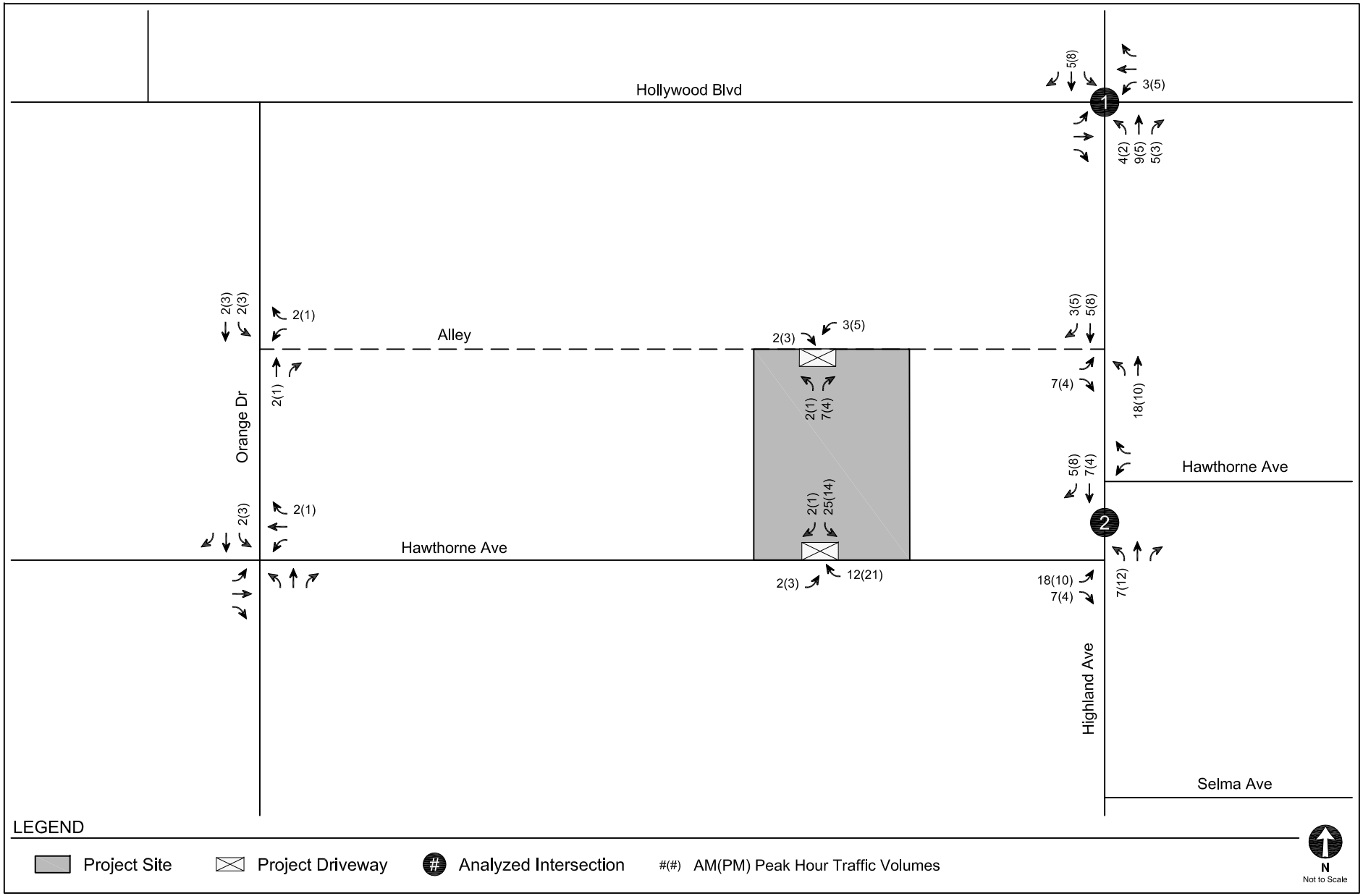
PROJECT TRIP ASSIGNMENT

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



PROJECT TRIP DISTRIBUTION

FIGURE 13



PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
14

TABLE 5
PROJECT TRIP GENERATION

Land Use	ITE Land Use	Rate	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
TRIP GENERATION RATES [a]								
Multi-Family Housing (Mid-Rise) [b]	221	per dwelling unit	26%	74%	0.31	61%	39%	0.30
Affordable Apartments	[c]	per du	37%	63%	0.49	56%	44%	0.35
High-Turnover (Sit-Down) Restaurant	932	per ksf	55%	45%	9.94	62%	38%	9.77
TRIP GENERATION ESTIMATES								
Multi-Family Housing (Mid-Rise) [b]	221	123 du	10	28	38	23	14	37
Affordable Apartments	[c]	14 du	3	4	7	3	2	5
High-Turnover (Sit-Down) Restaurant	932	1.207 ksf	7	5	12	7	5	12
Internal Capture Adjustment - 5% [d]			*0*	*0*	*0*	*0*	*0*	*0*
Transit/Walk-In Adjustment - 15% [e]			*-1*	*-1*	*-2*	*-1*	*-1*	*-2*
Pass-By Trip Adjustment - 20% [f]			*-1*	*-1*	*-2*	*-1*	*-1*	*-2*
TOTAL PROJECT TRIPS			**18**	**35**	**53**	**31**	**19**	**50**
TOTAL PROJECT DRIVEWAY TRIPS (no Pass-By)			**19**	**36**	**55**	**32**	**20**	**52**

Notes:

ksf: 1,000 square feet

[a] Trip generation rates are from *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017) and are based on developments located in "General Urban / Suburban" area, unless otherwise noted.

[b] Morning and afternoon trip generation rates for multi-family housing (mid-rise) are based on local trip generation rates developed by LADOT for developments located in "Dense Multi-Use Urban" area as detailed in Table 3.3-1 of LADOT's *Transportation Assessment Guidelines* . These rates are not subjected to transit/ walk-in adjustments.

[c] Per LADOT's *Transportation Assessment Guidelines,* residential or mixed-use developments that include Affordable Housing Units are eligible to use a city specific trip generation rate based on vehicle trip count data collected at affordable housing in the City of Los Angeles in 2016. Rates were based on developments located inside a Transit Priority Area (TPA), as defined per Public Resources Code Section 21064.3. These rates are not subjected to any transit/walk-in adjustment.

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

[e] Per LADOT's *Transportation Assessment Guidelines,* the Project Site is located within 0.25 miles walking distance from a transit station (Metro B Line [formerly Red Line] Hollywood / Highland Station) and RapidBus stop (Metro Rapid 780), therefore a 15% transit reduction is applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments.

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

Section 4B

Pedestrian, Bicycle, and Transit Assessment

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

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

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

EXISTING FACILITIES

Pedestrians and Bicycles

Within the immediate vicinity of the Project Site, 12-foot wide sidewalks are provided along Hawthorn Avenue and 15-foot wide sidewalks are provided along Highland Avenue. No sidewalks are provided within the alley to the north. There are tactile warning strips for ADA accessibility, as well as pedestrian push buttons and continental crosswalks, at the adjacent intersection of Highland Avenue & Hawthorn Avenue. Figure 6 shows a map of commercial and institutional facilities within walking distance of the Project Site that could attract pedestrian activity.

Within the vicinity of the Project Site, bicycle routes are provided on Hawthorn Avenue adjacent to the Project, on Orange Drive south of Hollywood Boulevard, and on Selma Avenue east of Highland Avenue.

Transit

Some public transit stops in the vicinity of the Project Site are not equipped with shelters for rain or shade or benches. For example, the two bus stops on Hawthorn Avenue for Metro Routes 222 and 212/312, located approximately 100 feet and 375 feet west of the Project Site, respectively, lack such amenities.

On-Street Parking

Along Hawthorn Avenue, unmetered parking with restrictions on school days to allow for passenger loading is generally available on the south side of the street between Orange Drive and Highland Avenue, and four-hour metered parking is generally available on the south side of the street between Highland Avenue and McCadden Place. Along Highland Avenue, two-hour metered parking is generally available on the east side of the street.

INTENSIFICATION OF USE

The Project would result in additional pedestrian, bicycle, and transit activity in the vicinity of the Project Site. However, the Project would enhance the pedestrian environment by providing a more comfortable pedestrian experience with street trees and maintaining accessible sidewalks along the Project frontage. The Project would provide bicycle parking for residents, employees, and guests in accordance with the LAMC, along with a bicycle service area. Given the Project Site's proximity to active entertainment and commercial uses in Hollywood, it is ideally located to encourage non-automobile trips to and from those destinations. Furthermore, the Project is located within a 0.25-mile walking distance of the Metro B Line Hollywood/Highland Station, which expands the reach of public transit. Overall, the Project would not result in the deterioration of any existing facilities serving pedestrians or bicyclists.

Although the Project (and other Related Projects) will cumulatively add transit ridership, as detailed in Table 1, the Study Area is served by several established transit routes. The Project is served by multiple bus lines along Hollywood Boulevard, Highland Avenue, and Hawthorn Avenue operated by Metro and LADOT DASH, as well as the Metro B Line. As shown in Tables 2A and

2B, the total residual capacity of the bus and rail lines within a 0.25-mile walking distance of the Project Site during the morning and afternoon peak hours is approximately 8,178 and 7,240 transit trips, respectively. As shown in Table 5, transit use is projected to generate two vehicle-transit trips during each peak hour. Based on the average vehicle occupancy factor of 1.55 for all trip purposes in Los Angeles County as identified in *SCAG Regional Travel Demand Model and 2012 Model Validation* (SCAG, March 2016), the total Project vehicle-transit trips correspond to three person-transit trips during each peak hour. It should be noted that a percentage of person-transit trips are inherent in the trip generation rates of the residential component. To be conservative, the person-transit trips were further increased by 15%, resulting in approximately four transit trips. This equates to less than 1% of the total residual capacity of the transit lines within the Study Area during the morning and afternoon peak hours, confirming that the adjacent transit capacity can easily accommodate the intensification of transit usage attributable to the Project without significantly absorbing excess capacity.

CONCLUSION

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

Section 4C

Project Access, Safety, and Circulation Assessment

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

OPERATIONAL EVALUATION

Intersection operations were evaluated for typical weekday morning (7:00 AM to 10:00 AM) and afternoon (3:00 PM to 6:00 PM) peak periods. The two signalized intersections were selected for detailed transportation analysis and are shown in Figure 3.

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

- Existing with Project Conditions: This analysis condition estimates the potential intersection operating conditions that could be expected if the Project were built under existing conditions.
- Future with Project Conditions (Year 2024): This analysis condition estimates the potential intersection operating conditions that could be expected if the Project were occupied in the projected buildout year. In this analysis, the Project-generated traffic is added to Future without Project Conditions (Year 2024).

Methodology

In accordance with the TAG, the intersection delay and queue analyses for the operational evaluation were conducted using the *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016) (HCM) methodology, which was implemented using Synchro software with signal timing configurations from the City to analyze intersection operating conditions. The HCM signalized methodology calculates the average delay, in seconds, for each vehicle passing through the intersections. Table 6 presents a description of the LOS categories, which range from

excellent, nearly free-flow traffic at LOS A, to congested, stop-and-go conditions at LOS F, for signalized intersections. The queue lengths were estimated using Synchro, which reports the 85th percentile queue length, in feet, for each approach lane. The reported queues are calculated using the HCM signalized intersection methodology.

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

Existing with Project Conditions

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

Intersection LOS. Table 7 summarizes the LOS analysis for Existing and Existing with Project Conditions for the two study intersections. Based on observations of existing intersection operations, it is recognized that the HCM methodology for individual intersections of major arterials does not in every case account for vehicular queues, pedestrian conflicts, etc. Thus, the LOS operating conditions may appear better than is observed. To provide a more conservative analysis, the LOS presented in Table 7 reflects observed conditions in order to provide a worst-case analysis of Project impacts at the intersection of Highland Avenue & Hollywood Boulevard (Intersection #1). As shown, under both Existing and Existing with Project Conditions, the intersection of Highland Avenue & Hawthorn Avenue (Intersection #2) operates at LOS C during both the morning and afternoon peak hours. The intersection of Highland Avenue & Hollywood Boulevard (Intersection #1) operates at LOS F during both the morning and afternoon peak hours. The Project would not change the LOS operating conditions at either intersection and would result in minor changes in delay of 1.6 seconds or less.

Future with Project Conditions

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

Traffic Volumes. The Project-only morning and afternoon peak hour traffic volumes shown in Figure 14 were added to the Future without Project (Year 2024) morning and afternoon peak hour traffic volumes shown in Figure 11. The resulting volumes are illustrated in Figure 16 and represent Future with Project Conditions after development of the Project in Year 2024.

Intersection LOS. Table 8 summarizes the LOS analysis for Future without Project and Future with Project Conditions for each of the study intersections. As shown, under both Future without Project and Future with Project Conditions, the intersection of Highland Avenue & Hawthorn Avenue (Intersection #2) operates at LOS C during both the morning and afternoon peak hours. The intersection of Highland Avenue & Hollywood Boulevard (Intersection #1) operates at LOS F during both the morning and afternoon peak hours. The Project would not change the LOS operating conditions at either intersection and would result in minor changes in delay of 3.3 seconds or less.

QUEUING ANALYSIS

The study intersections and driveways were also analyzed to determine whether the lengths of intersection turning lanes could accommodate vehicle queue lengths. The queue lengths were estimated using Synchro software, which reports the 85th percentile queue length in vehicle-length that can be multiplied by 25 feet to represent the average length of a vehicle. The reported queues are calculated using the HCM signalized intersection methodology.

Driveway Analysis

As illustrated in Figure 1, vehicular access to the Project Site would be provided via one driveway along Hawthorn Avenue and another on the alley located along the northern boundary of the Project Site. Both driveways are located approximately 250 feet west of Highland Avenue.

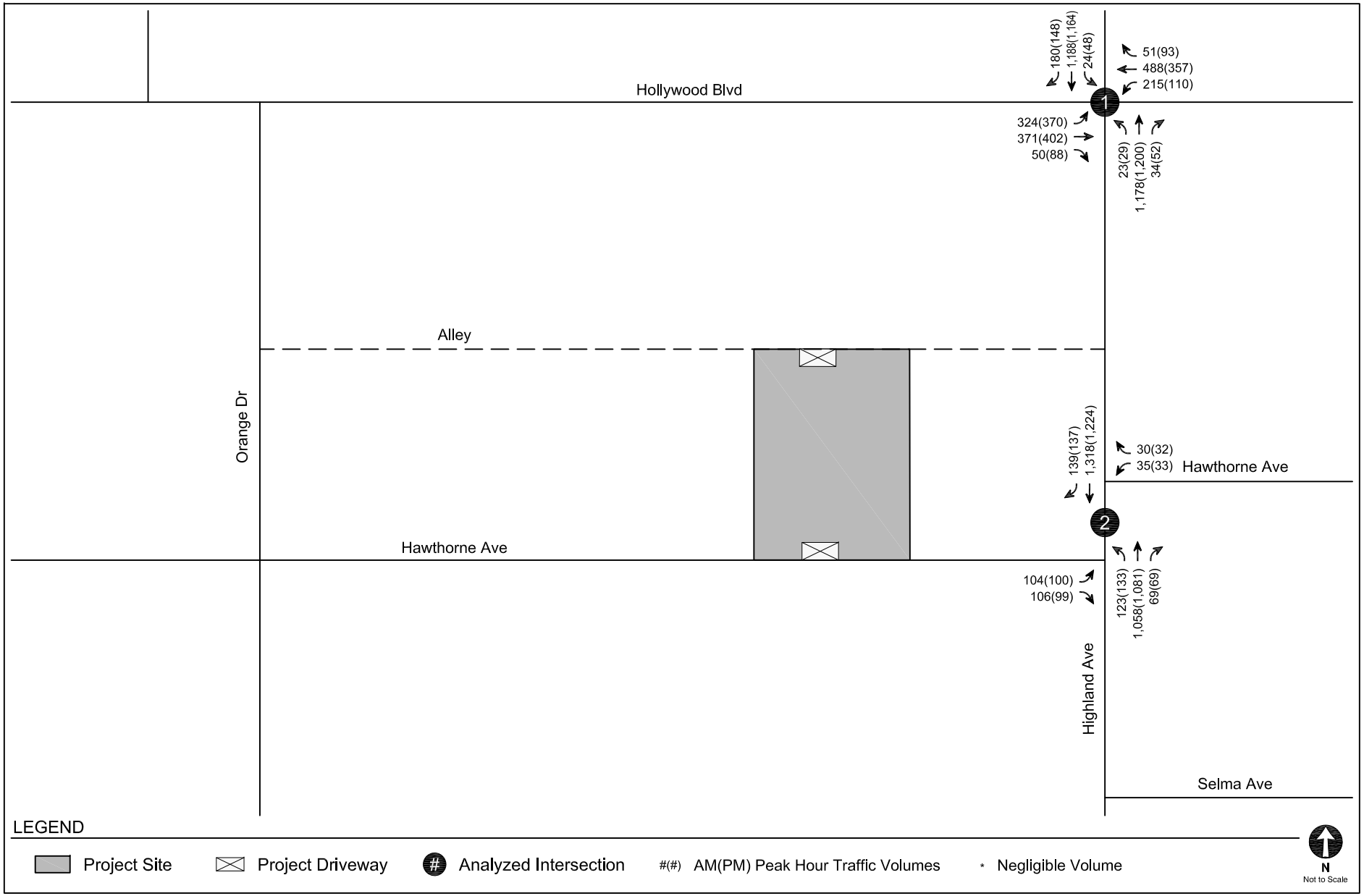
As detailed in Table 5, the Project would generate approximately 55 vehicles (19 inbound and 36 outbound) at the driveways on Hawthorn Avenue and the alley during the morning peak hour and approximately 52 vehicles (32 inbound and 20 outbound) during the afternoon peak hour. Based on the LOS calculation worksheets provided in Appendix E, the driveways would operate at acceptable LOS A or LOS B conditions during all analyzed peak hours and could accommodate peak Project traffic demand. The driveway queuing analysis estimates a queue of less than one vehicle-length at the approaches. Based on the estimated traffic volumes and configuration of this driveway, queuing would not extend as far as Highland Avenue or Orange Drive and would not significantly affect through traffic movements along Hawthorn Avenue.

Based on the evaluation of driveways and internal circulation, the driveways would be adequate to serve the demand of the Project Site and would not result in internal stacking that would spill into City arterials. The traffic expected at each Project driveway can be accommodated internally as well as within the existing infrastructure and lane striping at adjacent intersections. The Project's internal circulation design and access provisions would not cause vehicle queues to extend beyond the driveways into the adjacent street system.

Detailed queuing analysis worksheets are provided in Appendix E.

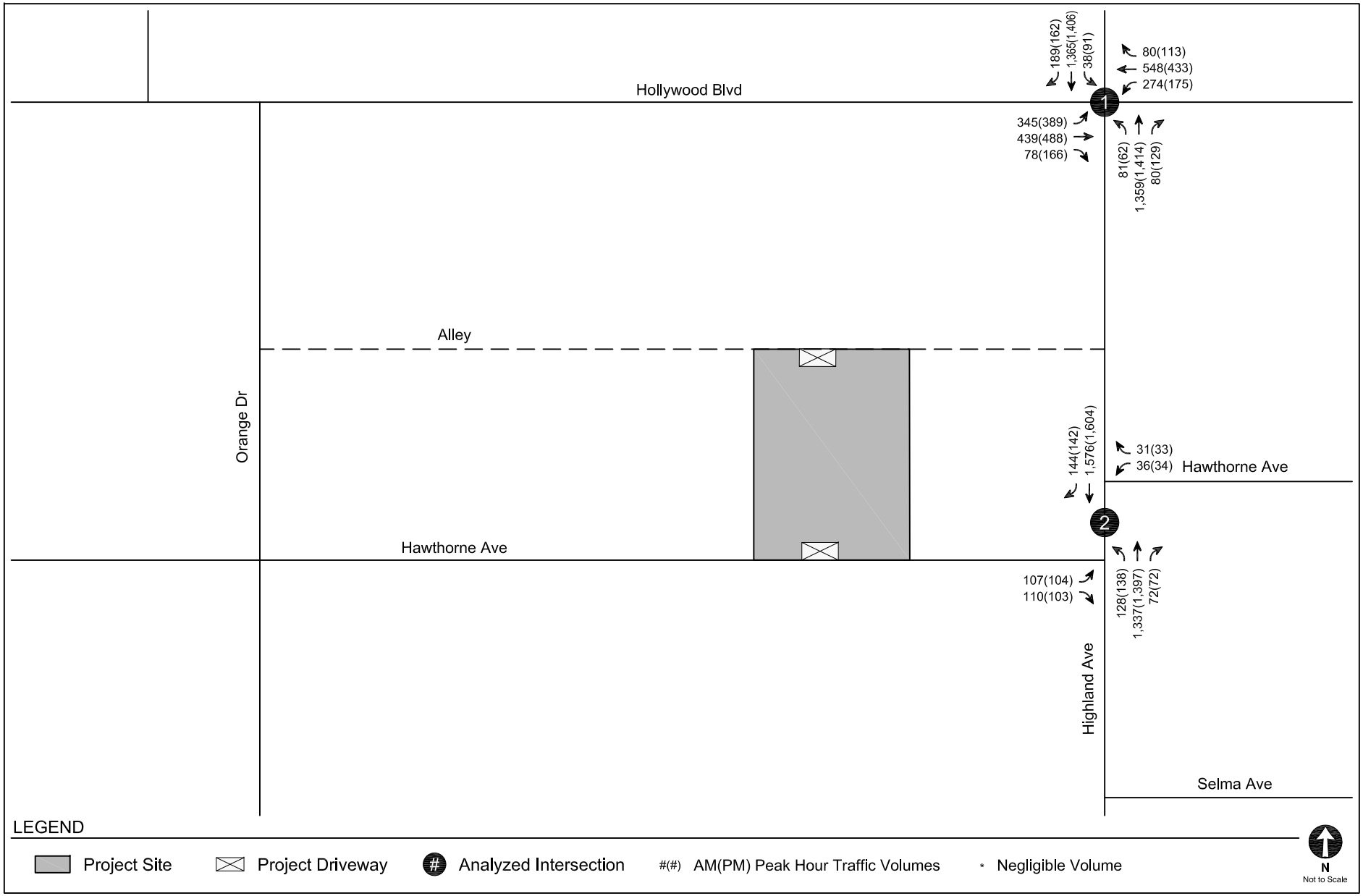
SAFETY EVALUATION

The safety evaluation determines if the Project would result in changes in roadway operations that would be expected to improve or reduce safety for vulnerable road users and applies to transportation projects. The Project does not propose a transportation project and, thus, a safety evaluation will not be required.



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

FIGURE 15



FUTURE WITH PROJECT CONDITIONS (YEAR 2024)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 16

TABLE 6
INTERSECTION LEVEL OF SERVICE DEFINITIONS

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

Notes:
Source: *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016).
[a] Measured in seconds.

TABLE 7
EXISTING CONDITIONS (YEAR 2020)
INTERSECTION LEVELS OF SERVICE

No	Intersection	Peak Hour	Existing Conditions		Existing with Project Conditions	
			Delay	LOS	Delay	LOS
1. [a]	Highland Avenue & Hollywood Boulevard	AM PM	59.2 62.0	F * F *	58.7 62.7	F * F *
2.	Highland Avenue & Hawthorn Avenue	AM PM	25.4 24.0	C C	27.0 25.2	C C

Notes:

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

TABLE 8
FUTURE CONDITIONS (YEAR 2024)
INTERSECTION LEVELS OF SERVICE

No	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions	
			Delay	LOS	Delay	LOS
1. [a]	Highland Avenue & Hollywood Boulevard	AM PM	86.1 90.0	F * F *	87.5 91.4	F * F *
2.	Highland Avenue & Hawthorn Avenue	AM PM	30.8 30.3	C C	33.8 33.6	C C

Notes:

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

Section 4D
Residential Street Cut-Through Analysis

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

Section 3.5.2 of the TAG provides a list of questions to assess whether the Project would negatively affect residential streets and if further analysis is required. The Project is not located along a congested Boulevard or Avenue and the net daily trips generated by the Project are not projected to lead to trip diversion to parallel routes along residential Local Streets, nor is the Project projected to add a substantial amount of automobile traffic to congested Arterial Streets that could potentially cause a shift to residential Local Streets, nor is there a nearby local residential street that provides a viable alternative route to the Project Site. Thus, the Project is not required to conduct a Local Residential Street Cut-Through Analysis.

Section 4E
Project Construction Assessment

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

CONSTRUCTION EVALUATION CRITERIA

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

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

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

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

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

PROPOSED CONSTRUCTION SCHEDULE

The Project is anticipated to be constructed over a period of approximately 25 months, with an anticipated completion in Year 2024. Construction activity would occur in accordance with LAMC requirements, which prohibit construction from 9:00 PM to 7:00 AM on weekdays, 6:00 PM to 8:00 AM on Saturday, and any time on Sunday. The majority of construction workers will arrive before the morning peak hour and depart before the afternoon peak hour, as per typical construction day schedules. The construction period would include sub-phases of site demolition, excavation and grading, foundations, and building construction. Peak haul truck activity occurs during excavation, and peak worker activity occurs during building construction. These two sub-phases of construction were studied in greater detail.

EXCAVATION AND GRADING PHASE

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

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

Haul trucks would travel on approved truck routes designated within the City to the Sunshine Canyon Landfill. Given the Project Site's proximity to US 101, haul truck traffic would take the most direct route to the appropriate freeway ramps. The haul route will be reviewed and approved by the City.

Based on projections compiled for the Project, approximately 26,000 cubic yards (CY) of material would be removed from the Project Site over a 25-work day period. That equates to approximately 1,040 CY of material exported each work day, requiring 74 haul trucks per work day based on an anticipated haul truck capacity of 14 CY each. Thus, up to 148 daily haul truck trips (74 inbound, 74 outbound) are forecast to occur during the excavation period.

Transportation Research Circular No. 212, Interim Materials on Highway Capacity (Transportation Research Board, 1980) defines passenger car equivalency (PCE) for a vehicle as the number of through moving passenger cars to which it is equivalent based on the vehicle's headway and delay-creating effects. Table 8 of *Transportation Research Circular No. 212* and Exhibit 12-25 of the HCM suggest a PCE of 2.0 for trucks. Assuming a PCE factor of 2.0, the 148 truck trips would be equivalent to 296 daily PCE trips.

In addition, a maximum of 15 construction workers would work at the Project Site during this phase. Assuming minimal carpooling amongst those workers, an average vehicle occupancy (AVO) of 1.135 persons per vehicle was applied, as provided in *CEQA Air Quality Handbook* (South Coast Air Quality Management District, 1993). Therefore, 15 workers would result in a total of 13 vehicle trips to and from the Project Site on a daily basis.

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

BUILDING CONSTRUCTION PHASE

The traffic impacts associated with construction workers depends on the number of construction workers employed during various phases of construction, as well as the travel mode and travel time of the workers. In general, the hours of construction typically require workers to be on-site before the weekday morning commuter peak period and allow them to leave before or after the afternoon commuter peak period (i.e., arrive at the site prior to 7:00 AM and depart before 4:00

PM or after 6:00 PM). Therefore, most, if not all, construction worker trips would occur outside of the typical weekday commuter peak periods.

According to construction projections prepared for the Project, the building subphase of construction would employ the most construction workers, with a maximum of approximately 100 workers per day for all components of the building (i.e., framing, plumbing, elevators, inspections, finishing). However, since the different building components would not be constructed or installed simultaneously, this cumulative estimate likely overstates the number of workers that would be expected on the peak construction day. Furthermore, on most of the estimated workdays to complete the Project, there would be far fewer workers than on the peak day. Therefore, the estimate of 60 workers per day used for the purposes of this analysis represents a conservative estimate.

Assuming an AVO of 1.135 persons per vehicle, 60 workers would result in a total of 53 vehicles that would arrive and depart from the Project Site each day. The estimated number of daily trips associated with the construction workers is approximately 106 (53 inbound and 53 outbound trips), but nearly all of those trips would occur outside of the peak hours, as described above. As such, the building phase of Project construction is not expected to cause a significant traffic impact at any of the study intersections.

During construction, adequate parking for construction workers would be secured in local public parking facilities at the Hollywood & Highland parking structure, located less than 0.25 miles from the Project Site. Restrictions against workers parking in the public ROW in the vicinity of (or adjacent to) the Project Site would be identified as part of the Construction Management Plan. All construction materials storage and truck staging would be contained on-site.

POTENTIAL IMPACTS ON ACCESS, TRANSIT, AND PARKING

Project construction is not expected to create hazards for roadway travelers, bus riders, or parkers, so long as commonly practiced safety procedures for construction are followed. Such procedures and other measures (e.g., to address temporary traffic control, lane closures, sidewalk closures, etc.) will be incorporated into the Construction Management Plan. The construction-related impacts associated with access and transit are anticipated to be less than significant, and

the implementation of the Construction Management Plan described below would further reduce those impacts.

Access

Construction activities are expected to be primarily contained within the Project Site boundaries. However, it is expected that construction fences may encroach into the public ROW (e.g., sidewalks and roadways) adjacent to the Project Site, where the parking lane and/or sidewalk on Hawthorn Avenue would be used throughout the construction period of the Project. Travel lanes would be maintained in both directions along the adjacent street throughout the construction period and emergency access would not be impeded.

The use of the public ROW along Hawthorn Avenue would require temporary re-routing of pedestrian and bicycle traffic as the sidewalks fronting the Project Site would be closed. The Construction Management Plan would include measures to ensure pedestrian and bicycle safety along the affected sidewalks, bicycle facilities, and temporary walkways (e.g., use of directional signage, maintaining continuous and unobstructed pedestrian paths, and/or providing overhead covering).

Transit

The construction activities of the Project would not require a temporary transit stop relocation of the nearby Metro bus stop along Hawthorn Avenue, west of the Project Site.

Parking

On-street and unmetered parking is generally allowed on Hawthorn Avenue. However, red-curb is striped adjacent to the Project frontage and, thus, construction would not result in a temporary loss of on-street parking spaces.

CONSTRUCTION MANAGEMENT PLAN

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

- Advance, bilingual notification of adjacent property owners and occupants of upcoming construction activities, including durations and daily hours of operation
- Prohibition of construction worker or equipment parking on adjacent streets
- Temporary pedestrian, bicycle, and vehicular traffic controls during all construction activities adjacent to Hawthorn Avenue, to ensure traffic safety on public rights of way
- Temporary traffic control (e.g., flag persons) during all construction activities adjacent to public rights-of-way to improve traffic flow on public roadways
- Scheduling of construction activities to reduce the effect on traffic flow on surrounding Arterial Streets
- Containment of construction activity within the Project Site boundaries, to the extent feasible
- Coordination with Metro to address any transit stop relocations
- Coordination with LADOT Parking Meter Division to address loss of metered parking spaces
- Safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers shall be implemented as appropriate
- Safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers shall be implemented as appropriate, including along all identified Los Angeles Unified School District (LAUSD) pedestrian routes to nearby schools
- Scheduling of construction-related deliveries, haul trips, etc., to occur outside the commuter peak hours, so as to not impede school drop-off and pick-up activities and students using LAUSD's identified pedestrian routes to nearby schools
- No staging of hauling trucks on any streets adjacent to the Project, unless specifically approved as a condition of an approved haul route

- Spacing of trucks to discourage a convoy effect

- Sufficient dampening of the construction area to control dust caused by grading and hauling, and maintain reasonable control at all times over dust caused by wind

- Maintenance of a log, available on the job site at all times, documenting the dates of hauling and the number of trips (i.e., trucks) per day

- Identification of a construction manager and provision of a telephone number for any inquiries or complaints from residents regarding construction activities. The telephone number shall be posted at the site readily visible to any interested party during site preparation, grading, and construction

It is likely that Construction Management Plans would also be submitted for approval to the City by the Related Projects prior to the start of construction activities. As part of the LADOT and/or Los Angeles Department of Building and Safety established review process of Construction Management Plans, potential overlapping construction activities and proposed haul routes would be reviewed to minimize the impacts of cumulative construction activities on any particular roadway.

Section 4F
Parking Analysis

This section provides an analysis of Project parking supply and demand and the Project's parking requirements set forth in the LAMC.

PARKING SUPPLY

The Project would provide 150 vehicular parking spaces located at-grade and in two subterranean levels, as well as 106 bicycle parking spaces on the ground level.

VEHICULAR PARKING CODE REQUIREMENTS

The Project parking requirements with direct application of the LAMC were calculated by applying the appropriate parking ratios from LAMC Section 12.21A.4(a)(b) for residential uses and LAMC Section 12.21A.4(c) for the restaurant use. The LAMC standard parking rates detailed in Table 9 were applied to the Project and resulted in a total requirement of 204 parking spaces.

Per LAMC Section 12.22.A.31, the Transit Oriented Communities Affordable Housing Incentive Program Guidelines (TOC Guidelines), the Project qualifies as a Tier 3 Housing Development because it is located within 0.5 miles of a rail transit station. Thus, the parking requirements for the residential use of the Project were calculated by applying the appropriate parking ratios from the TOC Guidelines as detailed in Table 9. The lowest potential parking requirements for the restaurant use were calculated by applying the minimum parking ratios for commercial uses within the Hollywood Redevelopment Project Area from LAMC Section 12.21.A4(x)(3)(2). As shown in Table 9, the minimum required code vehicle parking after reductions is 71 vehicle parking spaces. Thus, the Project's proposed parking supply would meet the LAMC requirements.

BICYCLE PARKING CODE REQUIREMENTS

LAMC Section 12.21.A.16 details the bicycle parking requirements. Per the LAMC, the Project's proposed 137 dwelling units would require a total of nine short-term and 93 long-term bicycle parking spaces and the commercial space would require a minimum of two short-term and two long-term spaces.

As summarized in Table 10, the total LAMC requirement for the Project is 11 short-term and 95 long-term bicycle parking spaces. Therefore, the Project's proposed short-term and long-term bicycle parking supply would meet the LAMC requirements.

TABLE 9
CODE VEHICLE PARKING REQUIREMENTS

STANDARD CODE PARKING ANALYSIS [a]			
Land Use	**Size**	**Parking Rate**	**Total Spaces**
Residential			
< 3 habitable rooms (studio)	54 du	1.00 sp / 1 du	54
= 3 habitable rooms (1 bedroom)	56 du	1.50 sp / 1 du	84
> 3 habitable rooms (2+ bedrooms)	27 du	2.00 sp / 1 du	54
Restaurant and Bars, General	1,207 sf	10.00 sp / 1,000 sf	12
		Total Standard Code Parking Requirement	**204**

MINIMUM REQUIRED PARKING ANALYSIS			
Land Use	**Size**	**Parking Rate**	**Total Spaces**
Residential [b]	137 du	0.50 sp / 1 du	69
Restaurant and Bars, General [c]	1,207 sf	2.00 sp / 1,000 sf	2
		Minimum Required Parking	**71**
		Total Parking Provided	**150**

Notes:

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

[b] Residential parking requirement per the TOC Guidelines for projects located in a TOC Tier 3 area.

[c] Commercial parking requirement per LAMC Section 12.21.A.4(x)(3)(2) pursuant to the Project Site's location within the Hollywood Redevelopment Project Area.

TABLE 10
CODE BICYCLE PARKING REQUIREMENTS

Project	Size	Bicycle Short-Term Parking Rate [a]	Total Short-Term Bicycle Spaces	Bicycle Long-Term Parking Rate [a]	Total Long-Term Bicycle Spaces
Residential					
First 25 units	25 du	1.00 sp / 10 du	2	1.00 sp / 1 du	25
Next 75 units	75 du	1.00 sp / 15 du	5	1.00 sp / 1.5 du	50
Next 100 units	37 du	1.00 sp / 20 du	2	1.00 sp / 2 du	18
Subtotal - Residential	137 du		9		93
Restaurant [b]	1,207 sf	1.00 sp / 2,000 sf	2	1.00 sp / 2,000 sf	2
Total Bicycle Parking Required			**11**		**95**

Notes:
[a] Bicycle parking rates per Section 12.21.A16(a).
[b] A minimum of two short-term and two long-term bicycle parking spaces are required.

Chapter 5

Summary

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

- The Project consists of an eight-story mixed-use residential and commercial development, including 123 market-rate dwelling units, 14 affordable dwelling units, and approximately 1,207 sf of neighborhood serving ground floor restaurant/café space.
- The Project is anticipated to be complete in Year 2024 and is estimated to generate 53 morning peak hour trips and 50 afternoon peak hour trips.
- The Project is consistent with the City's plans, programs, ordinances, and policies and would not result in geometric design hazard impacts.
- The Project would include TDM strategies, such as LAMC-required bicycle parking, as part of the Project design features.
- The Project would not result in VMT per capita impact, and no further mitigation measures would be required.
- The Project would not cause a significant safety impact at any freeway off-ramp locations.
- The Project provides adequate internal circulation to accommodate vehicular, pedestrian, and bicycle traffic without impeding through traffic movements on City streets.
- The Project will incorporate pedestrian and bicycle-friendly designs, such as a bicycle parking, adequate sidewalks, and open space.
- All construction activities would occur outside of the commuter morning and afternoon peak hours to the extent feasible and will not result in significant traffic impacts. A Construction Management Plan will ensure that construction impacts are less than significant.
- The Project is in compliance with LAMC vehicle and bicycle parking requirements.

References

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

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

The 2016-2040 Regional Transportation Plan / Sustainable Communities Strategy, Southern California Association of Governments, April 2016.

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

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

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

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

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

Hollywood Community Plan, Los Angeles Department of City Planning, 1988.

Hollywood Community Plan Update Draft Environmental Impact Report, Terry A. Hayes Associates, Inc., November 2018.

Interim Guidance for Freeway Safety Analysis, Los Angeles Department of Transportation, May 1, 2020.

Los Angeles Municipal Code, City of Los Angeles.

Manual of Policies and Procedures, Los Angeles Department of Transportation, December 2008.

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

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

References, cont.

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

Redevelopment Plan for the Hollywood Redevelopment Project, The Community Redevelopment Agency of the City of Los Angeles, amended October 2003.

State of California Senate Bill 743, Steinberg, 2013.

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

Transportation Assessment Guidelines, Los Angeles Department of Transportation, July 2020.

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

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

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

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

Appendix A

Memorandum of Understanding

LADOT

Transportation Assessment Memorandum of Understanding (MOU)

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

I. PROJECT INFORMATION

Project Name: 6831 Hawthorn Avenue Mixed-Use Development

Project Address: 6831 Hawthorn Avenue, Los Angeles, CA 90028

Project Description: The Project will consist of 137 multi-family residential units, of which 14 units will be affordable housing, and 1,207 square feet of restaurant/cafe space. The existing surface parking lot would be removed to accommodate the Project.

LADOT Project Case Number: CEN20-49736 Project Site Plan attached? *(Required)* ■ Yes ☐ No

II. TRIP GENERATION

Geographic Distribution: N 25 % S 40 % E 15 % W 20 %

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

Trip Generation Rate(s): ITE 10th Edition / Other LADOT Transportation Assessment Guidelines

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	18	35	53
PM Trips	31	19	50

Daily Trips 529
(From VMT Calculator)

III. STUDY AREA AND ASSUMPTIONS

Project Buildout Year: 2024 Ambient Growth Rate: 1 % Per Yr.

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

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

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

1 Highland Avenue & Hollywood Boulevard
2 Highland Avenue & Hawthorn Avenue
3
4
5
6

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

IV. ACCESS ASSESSMENT

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

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

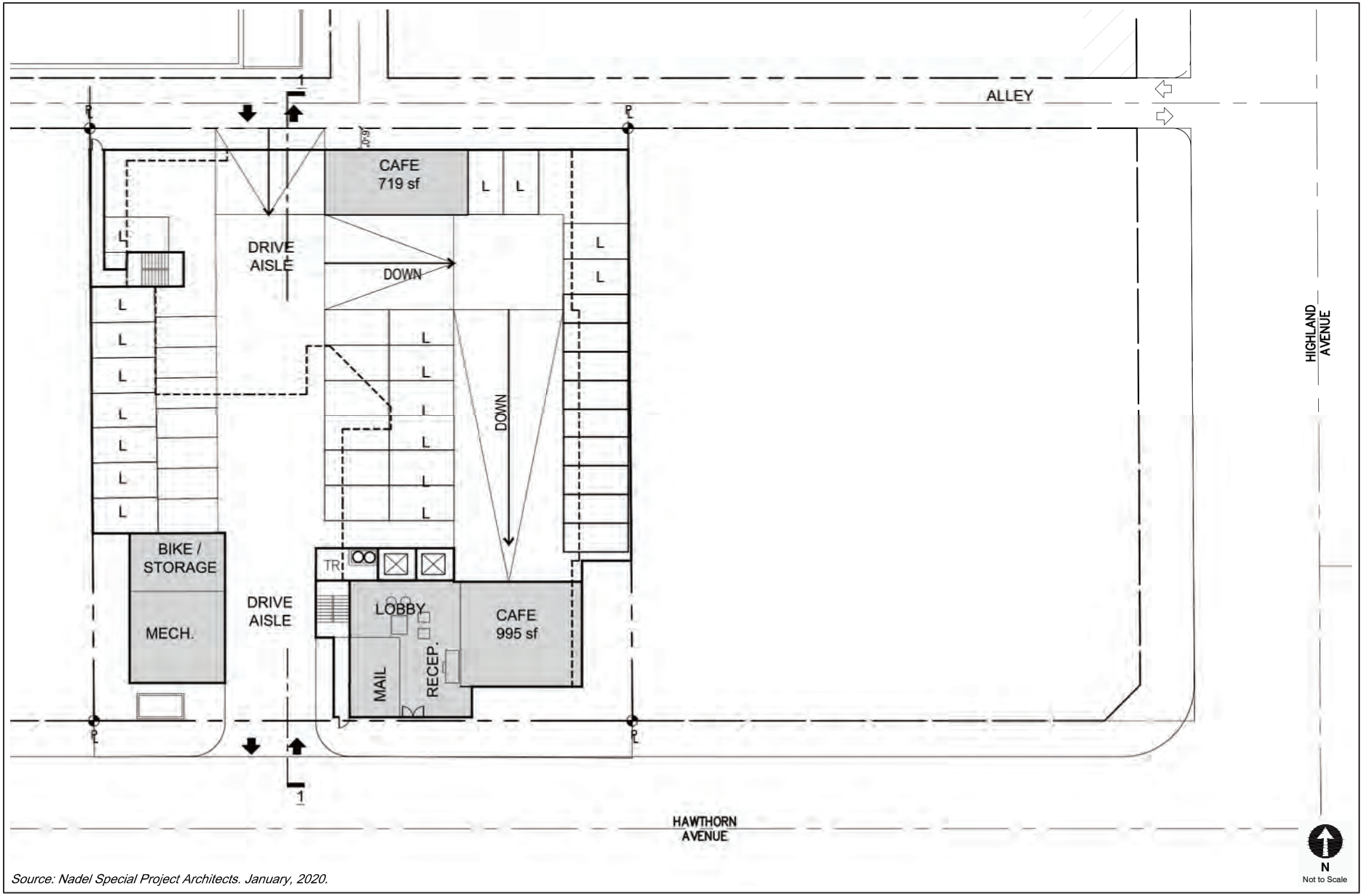
Is the project's building frontage encompassing an entire block along an Avenue or Boulevard as classified by the City's General Plan? ☐ Yes ■ No

V. CONTACT INFORMATION

	CONSULTANT	DEVELOPER
Name:	Gibson Transportation Consulting, Inc.	Yorkwood LLC c/o Gary Benjamin, AICP
Address:	555 W. 5th St., Suite 3375, Los Angeles, CA 90013	11755 Wilshire Bl, Suite 2140, Los Angeles, 90025
Phone Number:	(213) 683-0088	(213) 479-7521
E-Mail:	cle@gibsontrans.com	gary@alchemyplanning.com

Approved by:	x			x		
	Casey Tonalle	4/20/20			6/4/2020	
	Consultant's Representative	Date		LADOT Representative	*Date	

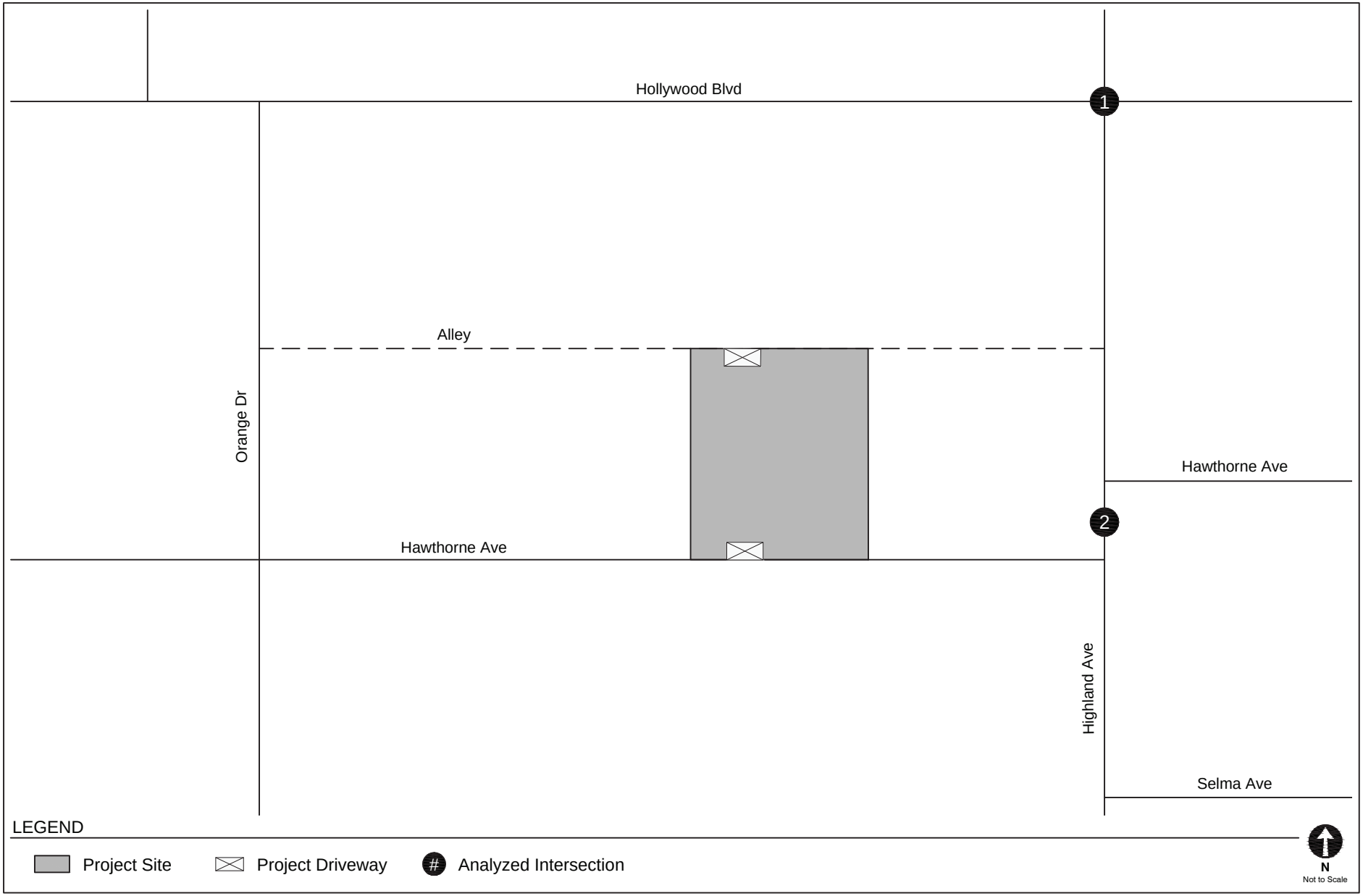
*MOUs are generally valid for two years after signing. If after two years a transportation assessment has not been submitted to LADOT, the developer's representative shall check with the appropriate LADOT office to determine if the terms of this MOU are still valid or if a new MOU is needed.



Source: Nadel Special Project Architects. January, 2020.

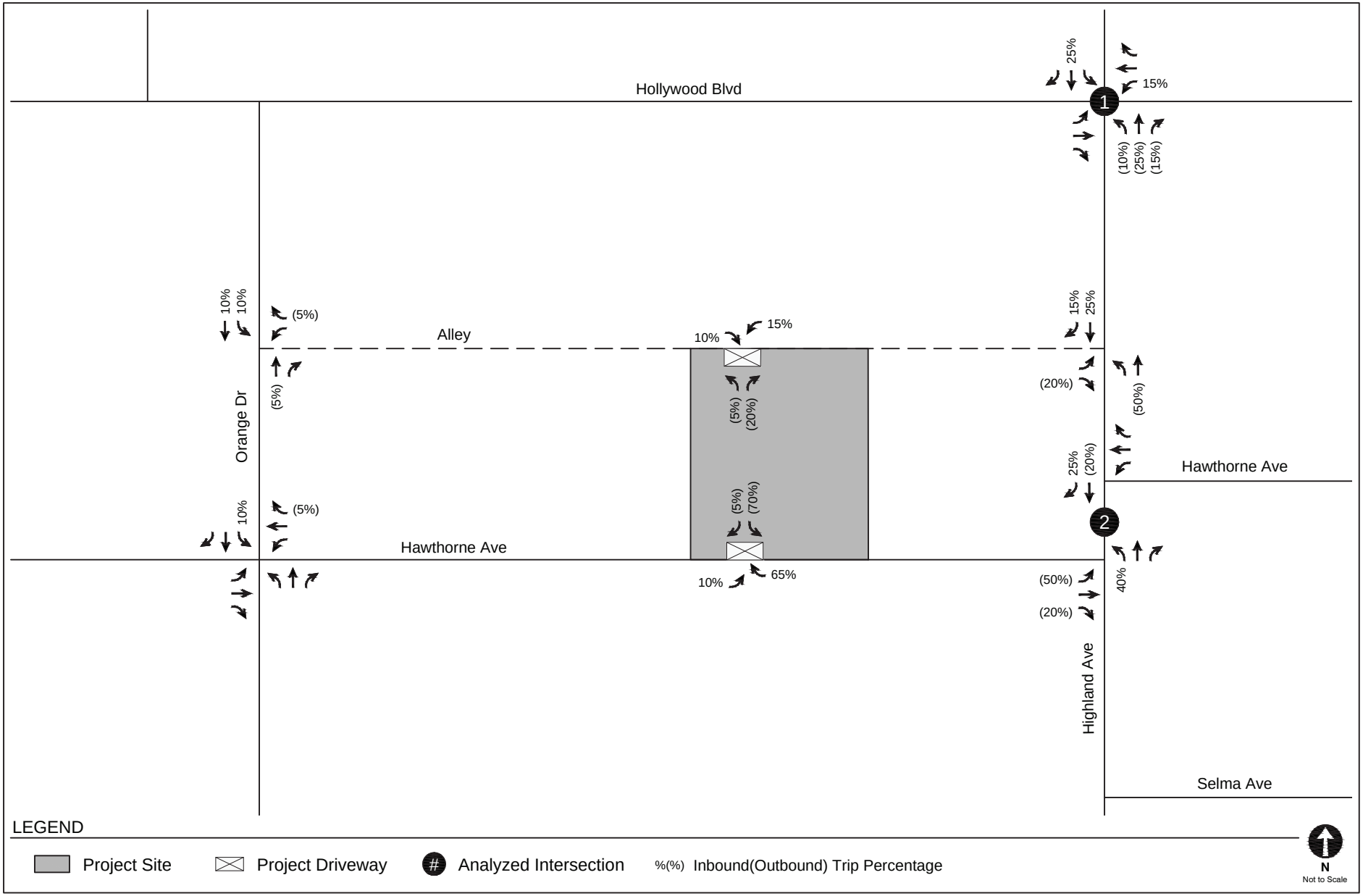
PROJECT SITE PLAN

FIGURE
1



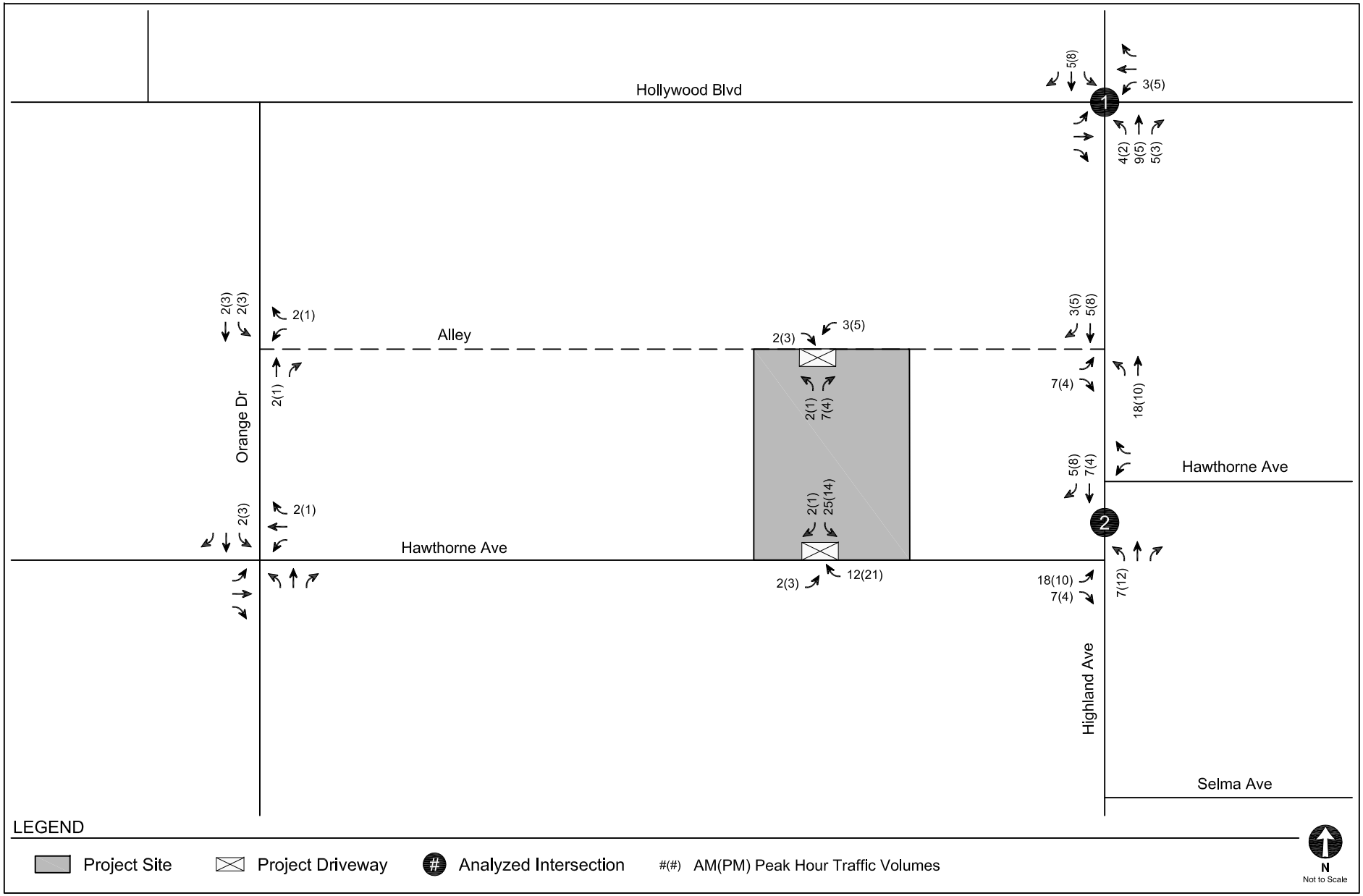
STUDY AREA & ANALYZED INTERSECTION

FIGURE 2



PROJECT TRIP DISTRIBUTION

FIGURE 3



PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
4

LOCATIONS OF RELATED PROJECTS

FIGURE 5

TABLE 1
6831 HAWTHORN AVENUE MIXED-USE DEVELOPMENT
PROJECT TRIP GENERATION

Land Use	ITE Land Use	Rate	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
TRIP GENERATION RATES [a]								
Multi-Family Housing (Mid-Rise) [b]	221	per dwelling unit	26%	74%	0.31	61%	39%	0.30
Affordable Apartments	[c]	per du	37%	63%	0.49	56%	44%	0.35
High-Turnover (Sit-Down) Restaurant	932	per ksf	55%	45%	9.94	62%	38%	9.77
TRIP GENERATION ESTIMATES								
Multi-Family Housing (Mid-Rise) [b]	221	123 du	10	28	38	23	14	37
Affordable Apartments	[c]	14 du	3	4	7	3	2	5
High-Turnover (Sit-Down) Restaurant	932	1.207 ksf	7	5	12	7	5	12
Internal Capture Adjustment - 5% [d]			*0*	*0*	*0*	*0*	*0*	*0*
Transit/Walk-In Adjustment - 15% [e]			*-1*	*-1*	*-2*	*-1*	*-1*	*-2*
Pass-By Trip Adjustment - 20% [f]			*-1*	*-1*	*-2*	*-1*	*-1*	*-2*
TOTAL PROJECT TRIP GENERATION			**18**	**35**	**53**	**31**	**19**	**50**

Notes:

ksf: 1,000 square feet

[a] Trip generation rates are from *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017) and are based on developments located in "General Urban / Suburban" area, unless otherwise noted.

[b] Morning and afternoon trip generation rates for multi-family housing (mid-rise) are based on local trip generation rates developed by LADOT for developments located in "Dense Multi-Use Urban" area as detailed in Table 3.3-1 of LADOT's *Transportation Assessment Guidelines*. These rates are not subjected to transit/ walk-in adjustments.

[c] Per LADOT's *Transportation Assessment Guidelines,* residential or mixed-use developments that include Affordable Housing Units are eligible to use a city specific trip generation rate based on vehicle trip count data collected at affordable housing in the City of Los Angeles in 2016. Rates were based on developments located inside a Transit Priority Area (TPA), as defined per Public Resources Code Section 21064.3. These rates are not subjected to any transit/walk-in adjustment.

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

[e] Per LADOT's *Transportation Assessment Guidelines,* the Project Site is located within 0.25 miles walking distance from a transit station (Metro B Line [formerly Red Line] Hollywood / Highland Station) and RapidBus stop (Metro Rapid 780), therefore a 15% transit reduction is applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments.

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

TABLE 2
6831 HAWTHORN AVENUE MIXED-USE DEVELOPMENT
RELATED PROJECTS

No.	Project	Address	Description	Trip Generation [a]						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
1.	Mixed-Use	1600-1610 N Highland Ave	248 apartment units and 12,785 sf retail	1,805	22	90	112	96	54	150
2.	Hollywood Crossroads	1540-1552 Highland Ave	950 residential units, 308 hotel rooms, 95,000 sf office and 185,000 sf commercial retail uses	14,833	381	498	879	733	548	1,281
3.	6753 Selma MU	6753 Selma Ave	51 apartment units and 438 sf ground floor retail	286	5	13	18	14	10	24
4.	Apartments	1601 N Las Palmas Ave	202 apartment units (69 affordable)	562	17	48	65	41	23	64
5.	Las Palmas Residential (Hollywood Cherokee)	1718 N Las Palmas Ave	224 residential units and 985 sf retail	1,333	21	84	105	81	43	124
6.	Apartments	1749 Las Palmas Ave	70 apartment units and 3,117 sf retail	147	2	9	11	9	5	14
7.	Apartments	1411 N Highland Ave	76 apartment units and 2,500 sf commercial	823	23	43	66	45	26	71
8.	Apartment Project	1824 N Highland Ave	118 apartment units	667	10	41	51	40	22	62

OTHER AREA-WIDE PROJECTS

Hollywood Community Plan Update
The Hollywood Community Plan Update proposes updates to land use policies and maps. The proposed changes would primarily increase commercial and residential development potential in and near the Regional Center Commercial portion of the community and along selected corridors in the Community Plan Area. The decreases in development potential would be primarily focused on low- to medium-scale multi-family residential neighborhoods to conserve existing density and intensity of those neighborhoods. The projected population growth has been captured in the conservative ambient growth rate and the Related Projects defined above. The Project Study Area is fully contained within the Community Plan Area.

Notes:

[a] Source: Related project information based on available information provided by LADOT (April 8, 2020), Department of City Planning, and recent studies in the area.

VMT Screening Summary

CITY OF LOS ANGELES VMT CALCULATOR Version 1.2

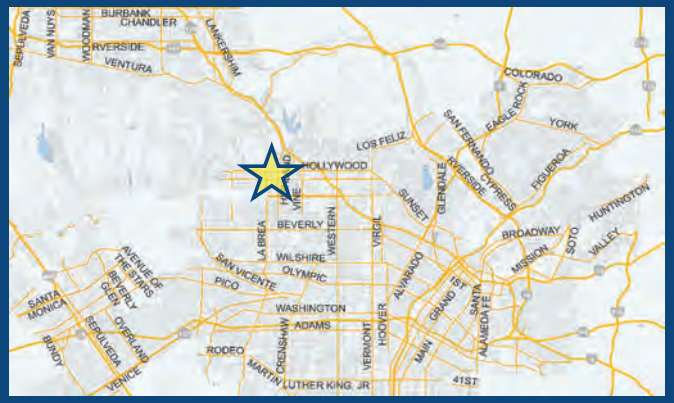
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 6831 Hawthorne Ave Mixed Use

Scenario:

Address: 34.100652, -118.339721



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
Housing | Multi-Family	123	DU
Retail | High-Turnover Sit-Down Restaurant	1.207	ksf
Housing | Affordable Housing - Family	14	DU
Housing | Multi-Family	123	DU

☐ 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	529 Daily Vehicle Trips
0 Daily VMT	3,508 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	529 Net Daily Trips
The net increase in daily VMT ≤ 0	3,508 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	1.207 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

5/29/2020

Appendix B

Traffic Volume Methodology Memorandum and Traffic Volume Data

National Data & Surveying Services

Intersection Turning Movement Count

Location: Highland Ave & Hollywood Blvd
City: Hollywood
Control: Signalized

Project ID: 18-05272-029
Date: 5/16/2018

Total

NS/EW Streets:	Highland Ave				Highland Ave				Hollywood Blvd				Hollywood Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	2	216	7	0	4	276	47	0	29	65	9	0	43	134	13	0	845
7:15 AM	2	244	6	0	5	266	49	0	31	56	2	0	59	143	10	0	873
7:30 AM	3	284	10	0	6	323	52	0	44	70	11	0	43	122	9	0	977
7:45 AM	1	306	8	0	4	283	40	0	58	76	7	0	58	126	7	0	974
8:00 AM	4	279	8	0	5	285	51	0	69	96	12	0	51	117	10	0	987
8:15 AM	6	303	6	0	8	297	40	0	71	89	14	0	48	144	15	0	1041
8:30 AM	6	292	7	0	4	281	48	0	94	93	7	0	65	98	15	0	1010
8:45 AM	3	272	7	0	7	297	37	0	84	86	16	0	44	119	10	0	982
9:00 AM	8	240	5	0	16	272	31	0	55	91	12	0	67	134	9	0	940
9:15 AM	2	195	6	0	21	294	39	0	97	92	9	0	44	104	12	0	915
9:30 AM	4	250	7	0	16	283	43	0	61	82	13	0	44	127	16	0	946
9:45 AM	13	236	6	0	19	236	39	0	63	94	11	0	48	106	17	0	888
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	54	3117	83	0	115	3393	516	0	756	990	123	0	614	1474	143	0	11378
APPROACH %'s :	1.66%	95.79%	2.55%	0.00%	2.86%	84.32%	12.82%	0.00%	40.45%	52.97%	6.58%	0.00%	27.52%	66.07%	6.41%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	19	1146	28	0	24	1160	176	0	318	364	49	0	208	478	50	0	4020
PEAK HR FACTOR :	0.792	0.946	0.875	0.000	0.750	0.976	0.863	0.000	0.846	0.948	0.766	0.000	0.800	0.830	0.833	0.000	0.965
	0.947				0.986				0.942				0.889				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	11	247	7	0	15	238	33	0	88	103	19	0	24	99	21	0	905
4:15 PM	6	294	6	0	13	263	36	0	70	119	19	0	28	89	21	0	964
4:30 PM	11	270	13	0	24	255	45	0	88	99	13	0	30	83	20	0	951
4:45 PM	7	286	9	0	18	242	41	0	84	105	17	0	29	92	35	0	965
5:00 PM	2	297	16	0	14	293	35	0	92	90	29	0	28	86	16	0	998
5:15 PM	10	293	7	0	9	281	37	0	91	98	14	0	27	100	20	0	987
5:30 PM	6	266	11	0	16	270	41	0	83	107	29	0	23	85	36	0	973
5:45 PM	8	316	14	0	8	289	32	0	97	99	14	0	25	79	19	0	1000
6:00 PM	9	251	9	0	31	278	31	0	81	105	13	0	26	86	20	0	940
6:15 PM	11	297	7	0	13	286	22	0	90	113	23	0	16	77	21	0	976
6:30 PM	3	283	11	0	15	271	31	0	89	110	18	0	20	78	21	0	950
6:45 PM	7	292	18	0	15	274	31	0	87	109	17	0	22	82	29	0	983
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	91	3392	128	0	191	3240	415	0	1040	1257	225	0	298	1036	279	0	11592
APPROACH %'s :	2.52%	93.94%	3.54%	0.00%	4.97%	84.24%	10.79%	0.00%	41.24%	49.84%	8.92%	0.00%	18.47%	64.23%	17.30%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	26	1172	48	0	47	1133	145	0	363	394	86	0	103	350	91	0	3958
PEAK HR FACTOR :	0.650	0.927	0.750	0.000	0.734	0.967	0.884	0.000	0.936	0.921	0.741	0.000	0.920	0.875	0.632	0.000	0.990
	0.922				0.969				0.962				0.925				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Highland Ave & Hollywood Blvd
City: Hollywood
Control: Signalized

Project ID: 18-05272-029
Date: 5/16/2018

Bikes

NS/EW Streets:	Highland Ave				Highland Ave				Hollywood Blvd				Hollywood Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	1	0	0	0	0	1	0	0	0	1	0	0	4	1	0	9
7:15 AM	1	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	4
7:30 AM	0	1	0	0	1	0	0	0	0	0	1	0	1	2	0	0	6
7:45 AM	1	1	2	0	0	0	2	0	0	1	0	0	1	0	0	0	8
8:00 AM	0	1	0	0	0	2	0	0	0	2	1	0	1	1	1	0	9
8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	1	2	0	0	2	0	0	5
8:45 AM	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	3
9:00 AM	0	1	0	0	0	1	0	0	0	0	1	0	0	1	1	0	5
9:15 AM	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	4
9:30 AM	1	0	0	0	0	1	1	0	0	0	2	0	1	0	0	0	6
9:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	5	6	2	0	2	6	4	1	0	5	11	0	5	12	3	1	63
APPROACH %'s :	38.46%	46.15%	15.38%	0.00%	15.38%	46.15%	30.77%	7.69%	0.00%	31.25%	68.75%	0.00%	23.81%	57.14%	14.29%	4.76%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	1	0	0	0	4	0	0	0	3	5	0	2	3	1	0	19
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.375	0.625	0.000	0.500	0.375	0.250	0.000	0.528
		0.250				0.500				0.667				0.500			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	3	0	0	0	2	1	0	0	1	0	0	7
4:15 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	2	0	0	4
4:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
4:45 PM	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	3
5:00 PM	0	2	0	0	0	1	0	0	1	0	0	0	1	1	0	0	6
5:15 PM	1	1	0	0	0	0	0	0	0	0	1	0	0	2	0	0	5
5:30 PM	0	1	0	0	1	0	0	0	0	4	0	0	1	0	0	0	7
5:45 PM	0	0	0	0	0	2	0	0	0	1	2	0	0	1	1	0	7
6:00 PM	0	0	0	0	1	1	0	0	1	1	1	0	0	2	0	0	7
6:15 PM	2	0	0	0	0	1	0	0	0	1	0	0	0	3	1	0	8
6:30 PM	1	0	0	0	0	2	0	0	0	3	0	0	0	1	0	0	7
6:45 PM	0	1	1	0	2	0	0	0	0	2	0	0	0	0	0	0	6
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4	6	1	0	5	10	0	0	3	18	5	0	2	13	2	0	69
APPROACH %'s :	36.36%	54.55%	9.09%	0.00%	33.33%	66.67%	0.00%	0.00%	11.54%	69.23%	19.23%	0.00%	11.76%	76.47%	11.76%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	1	4	0	0	1	3	0	0	1	5	3	0	2	4	1	0	25
PEAK HR FACTOR :	0.25	0.500	0.000	0.000	0.250	0.375	0.000	0.000	0.250	0.313	0.375	0.000	0.500	0.500	0.250	0.000	0.893
		0.625				0.500				0.563				0.875			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Highland Ave & Hollywood Blvd
City: Hollywood

Project ID: 18-05272-029
Date: 5/16/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Highland Ave		Highland Ave		Hollywood Blvd		Hollywood Blvd						
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		SCRAMBLE (NE/SW)		SCRAMBLE (NW/SE)		
	EB	WB	EB	WB	NB	SB	NB	SB	NB	SB	NB	SB	TOTAL
7:00 AM	10	19	8	5	4	10	21	19	1	23	13	2	135
7:15 AM	5	13	5	7	6	5	11	24	3	32	16	3	130
7:30 AM	20	19	17	11	3	7	12	79	0	32	20	12	232
7:45 AM	6	18	4	14	2	0	13	63	1	36	26	16	199
8:00 AM	12	19	17	14	5	4	9	56	0	47	22	7	212
8:15 AM	13	7	13	7	5	2	31	19	1	37	19	3	157
8:30 AM	17	13	8	6	7	6	23	29	2	78	27	1	217
8:45 AM	22	35	24	13	5	7	19	20	1	45	33	2	226
9:00 AM	28	25	14	12	3	16	13	60	0	50	34	2	257
9:15 AM	19	38	36	32	5	11	32	35	6	27	27	8	276
9:30 AM	26	47	14	19	8	3	33	24	1	20	31	6	232
9:45 AM	61	57	32	20	13	18	23	37	8	37	24	2	332
	EB	WB	EB	WB	NB	SB	NB	SB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	239	310	192	160	66	89	240	465	24	464	292	64	2605
APPROACH %'s :	43.53%	56.47%	54.55%	45.45%	42.58%	57.42%	34.04%	65.96%	4.92%	95.08%	82.02%	17.98%	
PEAK HR :	08:00 AM - 09:00 AM												TOTAL
PEAK HR VOL :	64	74	62	40	22	19	82	124	4	207	101	13	812
PEAK HR FACTOR :	0.727	0.529	0.646	0.714	0.786	0.679	0.661	0.554	0.500	0.663	0.765	0.464	0.898
	0.605		0.689		0.788		0.792		0.659		0.814		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		SCRAMBLE (NE/SW)		SCRAMBLE (NW/SE)		
	EB	WB	EB	WB	NB	SB	NB	SB	NB	SB	NB	SB	TOTAL
4:00 PM	131	64	90	80	26	20	64	52	22	59	60	3	671
4:15 PM	114	103	103	93	33	32	72	64	10	24	72	3	723
4:30 PM	126	103	76	98	18	28	73	82	13	29	43	6	695
4:45 PM	102	100	112	66	16	22	83	80	19	35	94	4	733
5:00 PM	100	104	88	43	20	26	69	72	13	53	104	11	703
5:15 PM	133	84	67	62	18	15	114	61	20	33	90	11	708
5:30 PM	76	82	51	53	26	27	69	48	8	44	77	9	570
5:45 PM	100	83	73	43	17	19	60	46	10	64	104	5	624
6:00 PM	115	82	81	72	23	30	79	58	12	40	96	4	692
6:15 PM	107	141	75	37	34	16	71	51	9	51	70	23	685
6:30 PM	124	109	66	57	15	12	109	79	13	46	45	25	700
6:45 PM	81	79	74	19	15	6	63	55	15	34	71	8	520
	EB	WB	EB	WB	NB	SB	NB	SB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1309	1134	956	723	261	253	926	748	164	512	926	112	8024
APPROACH %'s :	53.58%	46.42%	56.94%	43.06%	50.78%	49.22%	55.32%	44.68%	24.26%	75.74%	89.21%	10.79%	
PEAK HR :	05:00 PM - 06:00 PM												TOTAL
PEAK HR VOL :	409	353	279	201	81	87	312	227	51	194	375	36	2605
PEAK HR FACTOR :	0.769	0.849	0.793	0.810	0.779	0.806	0.684	0.788	0.638	0.758	0.901	0.818	0.920
	0.878		0.916		0.792		0.770		0.828		0.893		

Prepared by National Data & Surveying Services

Highland Ave & Hollywood Blvd

Peak Hour Turning Movement Count

ID: 18-05272-029
City: Hollywood

Day: Wednesday
Date: 05/16/2018

PEAK HOURS

AM: 08:00 AM - 09:00 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS

AM: 07:00 AM - 10:00 AM
NOON: NONE
PM: 04:00 PM - 07:00 PM

Highland Ave — SOUTHBOUND

AM	176	1160	24	0	1514	AM
NOON	0	0	0	0	0	NOON
PM	145	1133	47	0	1626	PM

0 3 1 0

Hollywood Blvd — EASTBOUND

AM	NOON	PM		
673	0	521	⇦	
0	0	0	↶	0
318	0	363	↱	1
364	0	394	→	2
49	0	86	↳	1
AM	NOON	PM		

CONTROL

Signalized

TEV	4020	0	3958
	AM	NOON	PM
PHF	0.97		0.99

WESTBOUND — Hollywood Blvd

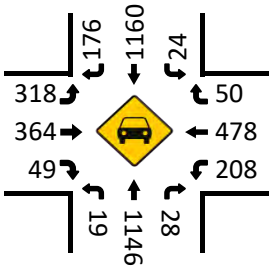
PM	NOON	AM		
91	0	50	↰	1
350	0	478	←	2
103	0	208	↰	1
0	0	0	↶	0
489	0	416	⇨	
PM	NOON	AM		

0 1 3 0

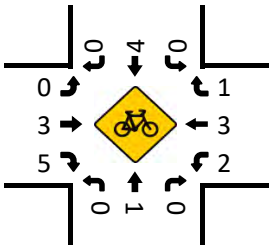
Highland Ave — NORTHBOUND

PM	1322	0	26	1172	48	PM
NOON	0	0	0	0	0	NOON
AM	1417	0	19	1146	28	AM

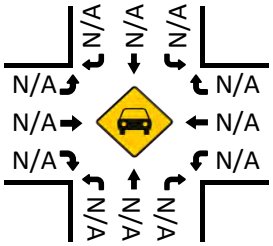
Total Vehicles (AM)



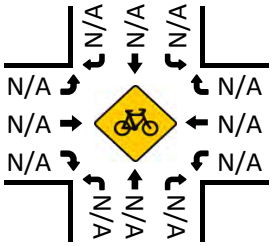
Bikes (AM)



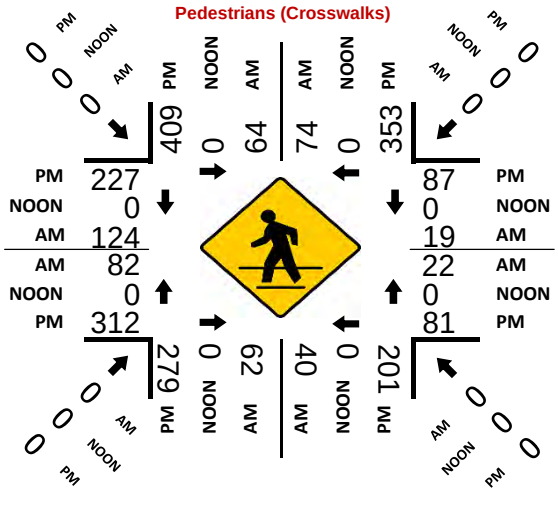
Total Vehicles (Noon)



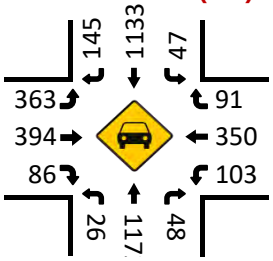
Bikes (NOON)



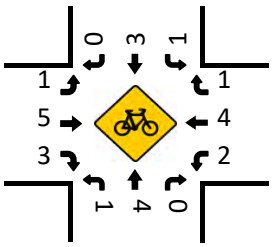
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Gibson
transportation consulting, inc.

MEMORANDUM

TO: Wes Pringle, LADOT

FROM: Jonathan Chambers, P.E. and Casey Le, P.E.

DATE: April 20, 2020

RE: Peak Hour Traffic Volume Estimation for
Highland Avenue & Hawthorn Avenue
Los Angeles, California **Ref:** J1811

In light of the current COVID-19 pandemic and its effects on traffic patterns, we are unable to collect valid traffic count data for use in the transportation assessment for the 6831 Hawthorn Avenue Mixed-Use Development project located at 6831 Hawthorn Avenue. Specifically, while we have valid existing peak hour intersection counts from May 2018 at the intersections of Highland Avenue & Hollywood Boulevard and Highland Avenue & Selma Avenue, we do not have a count at the intersection of Highland Avenue & Hawthorn Avenue, a signalized intersection that meets the criteria for analysis in the Transportation Assessment Guidelines.

We therefore estimated morning and afternoon peak hour traffic volumes for the intersection of Highland Avenue & Hawthorn Avenue using the steps below and as shown in Table 1.

1. Grow existing counts taken in 2018 at Highland Avenue & Hollywood Boulevard and Highland Avenue & Selma Avenue to Year 2020 using a growth rate of 1% per year. Additionally, grow supplemental existing average daily traffic (ADT) counts taken in 2015 along Hawthorn Avenue between Orange Drive & Highland Avenue and between Highland Avenue & McCadden Place to Year 2020 using a growth rate of 1% per year.

2. Estimate the total southbound approach volume for Highland Avenue & Hawthorn Avenue using the higher volume of the downstream approach (EBR, SBT, and WBL movements at Highland Avenue & Hollywood Boulevard) or upstream departure (SBR, SBT, and SBL movements at Highland Avenue & Selma Avenue). The downstream approach was determined to be the higher volume during both morning and afternoon peak hours.

3. Estimate the total northbound approach volume for Highland Avenue & Hawthorn Avenue using the higher volume of the downstream approach (WBR, NBT, and EBL movements at Highland Avenue & Selma Avenue) or upstream departure (NBR, NBT, and NBL movements at Highland Avenue & Hollywood Boulevard). The downstream approach was determined to be the higher volume during the morning peak hour and the upstream departure was determined to be the higher volume during the afternoon peak hour.

4. Using the total southbound and northbound approaches at Highland Avenue & Hawthorn Avenue, find the southbound and northbound approach ratios.

5. Estimate the peak hour approach and departure volumes for the west and east legs of Highland Avenue & Hawthorn Avenue. The most congested peak hour typically occurs in the afternoon and can be generally estimated at 10% of the ADT count. For this analysis, it was assumed that the morning peak hour would also display similar traffic conditions. Estimate the peak hour approach and departure for the west leg of Highland Avenue & Hawthorn Avenue based on 10% of the eastbound ADT count and westbound ADT count along Hawthorn Avenue between Orange Drive & Highland Avenue, respectively.

6. Estimate the peak hour approach and departure volumes for the east leg of Highland Avenue & Hawthorn Avenue based on 10% of the westbound ADT count and eastbound ADT count along Hawthorn Avenue between Highland Avenue & McCadden Place, respectively.

7. The SBR and NBL turning movements at Highland Avenue & Hawthorn Avenue were estimated based on the peak hour departure volume for the west leg of Highland Avenue & Hawthorn Avenue.

8. The WBR and WBL turning movements at Highland Avenue & Hawthorn Avenue were estimated based on the peak hour approach volume for the east leg of Highland Avenue & Hawthorn Avenue.

9. The NBR turning movement at Highland Avenue & Hawthorn Avenue were estimated based on the peak hour departure volume for the east leg of Highland Avenue & Hawthorn Avenue. Note that SBL turning movement is prohibited at Highland Avenue & Hawthorn Avenue. Thus, no left-turn volume was estimated for the southbound approach.

10. The EBR and EBL turning movements at Highland Avenue & Hawthorn Avenue were estimated based on the peak hour approach volume for the west leg of Highland Avenue & Hawthorn Avenue.

11. The total SBR, WBL, and EBR movement splits were estimated using the ratio of the southbound approach on Highland Avenue.

12. The total WBR, NBR, NBL, and EBL movement splits were estimated using the ratio of the northbound approach on Highland Avenue.

13. The SBT and NBT movements previously estimated at Highland Avenue & Hawthorn Avenue were adjusted by subtracting the SBR from the total southbound approach and the subtracting the NBL and NBR from the total northbound approach.

We believe this approach results in a reasonable estimation of the traffic volumes at the intersection of Highland Avenue & Hawthorn Avenue. We analyzed the average intersection delay, using Synchro 10 implementing the Highway Capacity Manual methodology, for the Existing (Year 2020) without Project and with Project scenarios. As shown in Table 2, the average intersection delay would result in LOS C conditions during both the morning and afternoon peak hours, with and without Project traffic.

In order to determine how sensitive the level of service is to the estimated traffic volumes, we tested a conservative scenario in which all of the turning movement volumes into and out of the minor

street were doubled. These volumes are also shown in Table 1 and the results of the Synchro analysis are provided in Table 2. As shown in Table 2, this conservative scenario results in LOS D conditions during both the morning and afternoon peak hours, with and without Project traffic. Due to the modest nature of the difference in LOS (i.e., one level of service difference during each peak hour and still maintaining acceptable operating conditions) despite a doubling of the minor street traffic volumes, we find the original (non-doubled) traffic volume estimate to be adequate for use in the transportation assessment.

TABLE 1
TRAFFIC VOLUME ESTIMATION FOR HIGHLAND AVENUE & HAWTHORN AVENUE

Existing Peak Hour Intersection Counts [a]

Intersection Location	Count Date	Morning Peak Hour												Afternoon Peak Hour											
		SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Highland Ave & Hollywood Blvd	Wednesday, May 16th, 2018	180	1,183	24	51	488	212	29	1,169	19	50	371	324	148	1,156	48	93	357	105	49	1,195	27	88	402	370
Highland Ave & Selma Ave	Wednesday, May 16th, 2018	30	1,359	28	43	12	128	81	1,197	36	7	2	3	23	1,248	43	42	9	101	68	1,110	17	7	3	1
McCadden Pl & Hawthorn Ave	Thursday, March 7th, 2002	13	60	0	0	0	0	0	26	9	38	0	19	15	63	0	0	0	0	0	41	17	53	0	30

Existing Average Daily Traffic (ADT) Count [a]

Hawthorn Ave Segment Location	Count Date	Daily Total - Westbound (West Leg Dep/East Leg App)	Daily Total - Eastbound (West Leg App/East Leg Dep)
Btwn Orange Dr & Highland Ave	Thursday, May 21st, 2015	2,503	1,854
Btwn Highland Ave & McCadden Pl	Thursday, May 21st, 2015	646	692

Volume Estimation Process for Highland Ave & Hawthorn Ave

Southbound and Northbound Approach Volumes	SB	NB	SB	NB
Estimate total SB based on Highland Ave & Hollywood Blvd NB based on Highland Ave & Selma Ave	1,445	1,243	1,349	1,271
Using the total SB and NB volumes, determine the SB and NB ratios for Highland Ave & Hawthorn Ave	Ratio of SB/(SB+NB):	Ratio of NB/(SB+NB):	Ratio of SB/(SB+NB):	Ratio of NB/(SB+NB):
	54%	**46%**	**51%**	**49%**

West Leg and East Leg Approach and Departure Volumes [c]	Morning Peak Hour		Afternoon Peak Hour	
	Approach	Departure	Approach	Departure
Estimate West Leg approach and departure based on 10% of ADT count	185	250	185	250
Estimate East Leg approach and departure based on 10% of ADT count	65	69	65	69

Turning Volumes [c]	Morning Peak Hour												Afternoon Peak Hour											
	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Estimate total of SBR & NBL, total of WBR & WBL, NBR, and total of EBR & EBL volumes based on approach and departure volumes	250			65		65	69		250	185		185	250			65		65	69		250	185		185
Estimate directional splits of turning movements using SB & NB ratios	134			30		35	69		116	99		86	129			32		33	69		121	95		90
Adjust SB and NB through movements to account for SB and NB turns	SBT: 1,445 - 134 = 1,311						NBT: 1,243 - 69 - 116 = 1,058						SBT: 1,349 - 129 = 1,220						NBT: 1,153 - 69 - 121 = 1,081					

Resulting Volumes for Highland Ave & Hawthorn Ave

Highland Ave & Hawthorn Ave	Morning Peak Hour												Afternoon Peak Hour											
	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Total Adjusted Volumes [d]	134	1,311	0	30	0	35	69	1,058	116	99	0	86	129	1,220	0	32	0	33	69	1,081	121	95	0	90
Volumes with Turns Doubled for Sensitivity Testing	268	1,311	0	60	0	70	138	1,058	232	198	0	172	258	1,220	0	64	0	66	138	1,081	242	190	0	180

Notes:

[a] Existing counts were increased by 1% to represent year 2020 volumes.

[b] The most congested peak hour typically occurs in the afternoon and can be generally estimated at 10% of the ADT count. For this analysis, it was assumed that the morning peak hour would also display similar traffic conditions.

[c] SBL turning movement is prohibited at the intersection of Highland Avenue & Hawthorn Avenue. Thus, no left-turn volume was estimated for the southbound approach.

[d] Total adjusted volume at Highland Avenue & Hawthorn Avenue will be used to represent the Existing (Year 2020) turning movement count for the transportation assessment analysis.

TABLE 2
EXISTING WITH PROJECT CONDITIONS
INTERSECTION LEVELS OF SERVICE

Intersection	Peak Hour	Existing Conditions		Existing with Project Conditions		
		Delay	LOS	Delay	LOS	∆ Delay
Analysis Using Total Adjusted Volumes						
Highland Avenue & Hawthorn Avenue	AM	24.9	C	26.2	C	1.3
	PM	28.6	C	28.8	C	0.2
Analysis Using Doubled Volumes (for Sensitivity Testing Only)						
Highland Avenue & Hawthorn Avenue	AM	42.6	D	46.8	D	4.2
	PM	41.4	D	43.9	D	2.5

Appendix C

Threshold T-1 Consistency Worksheet and Evaluation Tables

Plans, Policies and Programs Consistency Worksheet

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

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

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

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

I. SCREENING CRITERIA FOR POLICY ANALYSIS

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

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

☑ Yes ☐ No

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

☐ Yes ☑ No

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

☑ Yes ☐ No

II. PLAN CONSISTENCY ANALYSIS

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

These questions address potential conflict with:

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

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

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

Mobility Plan 2035 Street Designations and Standard Roadway Dimensions

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

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

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

The Project will provide the required dedication along the alley per the Mobility Plan. The alley is not a designated Boulevard or Avenue. See Section 3A of Transportation Assessment ☐ Yes ☐ No ☑ N/A

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

A.4 If the answer to **A.3. is NO**, is the project applicant asking to waive from the dedication standards? ☐ **Yes** ☐ **No** ☑ N/A

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

See Section 3A of Transportation Assessment

Frontage 1 Existing PROW'/Curb' : Existing _____Required_____Proposed_____

Frontage 2 Existing PROW'/Curb' : Existing _____Required_____Proposed_____

Frontage 3 Existing PROW'/Curb' : Existing _____Required_____Proposed_____

Frontage 4 Existing PROW'/Curb' : Existing _____Required_____Proposed_____

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

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

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

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

See Chapter 2 and Section 3A of Transportation Assessment

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

Is the project within the service area of Metro Bike Share, or is there demonstrated demand for micro-mobility services? See Section 3A of Transportation Assessment

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

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

B.1 Project-Initiated Changes to the PROW Dimensions

These questions address potential conflict with:

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

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

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

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

Mobility Plan 2035 Street Designations and Standard Roadway Dimensions

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

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

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

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

☐ **Yes** ☑ No

B.2 Driveway Access

These questions address potential conflict with:

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

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

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

Site Planning Best Practices:

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

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

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

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

☐ **Yes** ☑ No

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

Impact Analysis

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

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

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

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

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

☐ **Yes** ☑ No ☐ N/A

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

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

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

☐ **Yes** ☑ No ☐ N/A

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

C. Network Access

C. 1 Alley, Street and Stairway Access

These questions address potential conflict with:

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

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

☐ Yes ☑ No

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

☐ Yes ☐ **No** ☑ N/A

C.2 New Cul-de-sacs

These questions address potential conflict with:

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

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

☐ Yes ☑ No

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

☐ Yes ☐ **No** ☑ N/A

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

D. Parking Supply and Transportation Demand Management

These questions address potential conflict with:

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

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

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

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

☐ Yes ☑ No

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

☐ Yes ☐ **No** ☑ N/A

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

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

☑ Yes ☐ **No**

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

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

☐ Yes ☑ No

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

☐ Yes ☐ **No** ☑ N/A

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

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

E. Consistency with Regional Plans

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

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

☑ Yes ☐ No

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

☐ Yes ☑ No ☐ N/A

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

☐ Yes ☐ No ☑ N/A

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

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

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

References

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

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

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

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

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

ATTACHMENT D.1: CITY PLAN, POLICIES AND GUIDELINES

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

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

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

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

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

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

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

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

TABLE C-1
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Chapter 1 - Safety First	
Policy 1.1, Roadway User Vulnerability Design, plan, and operate streets to prioritize the safety of the most vulnerable roadway user.	**Consistent.** Access to the Project would be provided via a proposed driveway along Hawthorn Avenue, a designated Local Street in the Mobility Plan, and an alley to the north. Separate pedestrian access to the Project Site would be provided via entrances along Hawthorn Avenue with secondary access along the alley. Bicycle access would utilize the same vehicular access points.
Policy 1.3 Safe Routes to Schools Prioritize the safety of school children on all streets regardless of highway classifications.	**Consistent.** Hollywood High School is located directly south of the Project Site, on the opposite side of Hawthorn Avenue. The Safe Routes to School map for Hollywood High School includes infrastructure improvement projects that have been implemented to enhance pedestrian safety and comfort of routes to and from school. The Project would not result in unsafe conditions for students.
Chapter 2 - World Class Infrastructure	
Policy 2.2 Complete Streets Design Guide Establish the Complete Streets Design Guide as the City's document to guide the operations and design of streets and other public rights-of-way.	**Consistent.** The Project would conform to all design element requirements which may affect public rights-of-way, including proper driveway alignment, adequate sidewalk widths, improved lighting elements, and landscaping design which does not hinder sight distance, mobility, or accessibility.
Policy 2.3 Pedestrian Infrastructure Recognize walking as a component of every trip, and ensure high-quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.	**Consistent.** The Project does not propose repurposing existing curb space and does not propose narrowing or shifting existing sidewalk placement or paving, narrowing, shifting, or removing an existing parkway. The Project provides street trees along the Project frontage on Hawthorn Avenue to provide adequate shade and enhance the pedestrian environment. Additionally, the Project would provide a three-foot dedication along the alley to the north to meet the long-term mobility needs identified in the Mobility Plan.

Notes:

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

TABLE C-1 (CONT'D)
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	Analysis of Project Consistency
Policy 2.4 Neighborhood Enhanced Network Provide a slow speed network of locally serving streets.	**Consistent.** Hawthorn Avenue is part of the Neighborhood Enhanced Network. Although vehicle access to the Project Site is provided along this street segment, the Project does not propose additional access points and therefore would not result in further traffic interference with the neighborhood character of the surrounding area.
Policy 2.5 Transit Network Improve the performance and reliability of existing and future bus service.	**Consistent.** The Project is located within one-quarter mile walking distance to the Metro B Line Hollywood/Highland Station and Metro Rapid 780 bus stop. The proximity to transit would encourage more transit usage and provides residents, employees, and visitors to the Project with alternative travel modes.
Policy 2.6 Bicycle Networks Provide safe, convenient, and comfortable local and regional bicycling facilities for people of all types and abilities. (includes scooters, skateboards, rollerblades, etc.)	**Consistent.** The Project does not propose modifying, removing, or otherwise affecting existing bicycle infrastructure, and the Project driveways are not proposed along a street with a bicycle facility. The Project provides infrastructure and services to encourage bicycling for residents, employees, and visitors to the Project Site. The Project will provide 106 bicycle parking spaces.
Policy 2.10 Loading Areas Facilitate the provision of adequate on and off-street loading areas.	**Consistent.** All passenger and commercial loading activities would occur on-site as to not disrupt the operations within the public right-of-way.
Policy 2.17 Street Widenings Carefully consider the overall implications (costs, character, safety, travel, infrastructure, environment) of widening a street before requiring the widening, even when the existing right of way does not include a curb and gutter or the resulting roadway would be less than the standard dimension.	**Consistent.** The Project does not propose modifications to widen streets beyond their required Mobility Plan classifications. The Project will provide a three-foot dedication along the alley to the north to meet the long-term mobility needs identified in the Mobility Plan. The Project does not propose any additional dedication or widening along Hawthorn Avenue.

Notes:

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

TABLE C-1 (CONT'D)
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Chapter 3 - Access for All Angelenos	
Policy 3.1 Access for All Recognize all modes of travel, including pedestrian, bicycle, transit, and vehicular modes – including goods movement – as integral components of the City's transportation system.	**Consistent.** The Project encourages multi-modal transportation alternatives and access for all travel modes to and from the Project Site. The Project provides separate pedestrian entrances and bicycle parking to encourage walking and bicycling. The Project encourages transit usage by developing a mixed-use project located in proximity to transit. The Project would support those residents, employees, and visitors who choose to travel by automobile through the provision of an access point along Hawthorn Avenue and the alley to the north, on-site passenger loading and commercial loading, and adequate parking supply to serve demand.
Policy 3.2 People with Disabilities Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way.	**Consistent.** The Project's vehicular and pedestrian entrances would be designed in accordance with LADOT standards and would comply with ADA requirements. The Project design would also be in compliance with all ADA requirements and would provide direct connections to pedestrian amenities at adjacent intersections.
Policy 3.3 Land Use Access and Mix Promote equitable land use decisions that result in fewer vehicle trips by providing greater proximity and access to jobs, destinations, and other neighborhood services.	**Consistent.** The Project's mix of high-density residential uses and local-serving restaurant/cafe space located within proximity to transit in the large entertainment and commercial industry in the Hollywood Community helps to minimize vehicle trips and enhance proximity and convenience of residences to jobs and services.
Policy 3.4 Transit Services Provide all residents, workers, and visitors with affordable, efficient, convenient, and attractive transit services.	**Consistent.** The Project is located within one-quarter mile of the Metro B Line Hollywood/Highland Station and Metro Rapid 780 bus stop, providing residents, employees, and visitors to the Project with multiple public transit services.

Notes:

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

TABLE C-1 (CONT'D)
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Policy 3.5 Multi-Modal Features Support “first-mile, last-mile solutions” such as multi-modal transportation services, organizations, and activities in the areas around transit stations and major bus stops (transit stops) to maximize multi-modal connectivity and access for transit riders.	**Consistent.** The Project would support "first-mile, last-mile solutions" by developing a mixed-use project located in an active entertainment and commercial area of the Hollywood Community and within one-quarter mile of the Metro B Line Hollywood/Highland Station and Metro Rapid 780 bus stop. Additionally, the Project includes several design features as TDM measures, such as bicycle parking and amenities, that will encourage the use of transit and other alternative modes of transportation.
Policy 3.6 Regional Transportation & Union Station Continue to promote Union Station as the major regional transportation hub linking Amtrak, Metrolink, Metro Rail, and high-speed rail service.	**Consistent.** The Project is located within one-quarter mile of the Metro B Line Hollywood/Highland Station which provides a direct subway connection to Union Station. The Project's development of residential units enhances the value of the connection to Union Station.
Policy 3.7 Regional Transit Connections Improve transit access and service to major regional destinations, job centers, and inter-modal facilities.	**Consistent.** The Project would improve access between transit and major regional destinations and employment centers by developing a mix of high-density residential uses and commercial uses located in an active entertainment and commercial area of the Hollywood Community and within one-quarter mile of the Metro B Line Hollywood/Highland Station and Metro Rapid 780 bus stop.
Policy 3.8 Bicycle Parking Provide bicyclists with convenient, secure, and well-maintained bicycle parking facilities.	**Consistent.** The Project provides bicycle parking to encourage bicycling for residents, employees, and visitors to the Project Site.

Notes:

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

TABLE C-1 (CONT'D)
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Chapter 4 - Collaboration, Communication, & Informed Choices	
Policy 4.8 Transportation Demand Management Strategies Encourage greater utilization of Transportation Demand Management (TDM) strategies to reduce dependence on single-occupancy vehicles.	**Consistent.** The Project is located in proximity to transit and would provide TDM improvements including bicycle parking. These measures would promote non-auto travel to improve personal fitness and reduce transportation-related impacts to the environment.
Policy 4.13 Parking and Land Use Management Balance on-street and off-street parking supply with other transportation and land use objectives.	**Consistent.** The Project would provide sufficient off-street parking to accommodate Project parking demand. The Project would also retain the existing on-street parking around Project frontage.
Chapter 5 - Clean Environments & Healthy Communities	
Policy 5.1 Sustainable Transportation Encourage the development of a sustainable transportation system that promotes environmental and public health.	**Consistent.** As part of the Project, secured bicycle parking would be provided, which would promote active transportation modes such as biking and walking. Additionally, the Project is located within one-quarter mile walking distance to the Metro B Line Hollywood/Highland Station and Metro Rapid 780 bus stop, providing residents, employees, and visitors to the Project with public transportation alternatives.
Policy 5.2 Vehicle Miles Traveled (VMT) Support ways to reduce vehicle miles traveled (VMT) per capita.	**Consistent.** The Project incorporates several TDM measures to reduce the number of single occupancy vehicle trips to the Project Site. As demonstrated in Section 3B, the Project is estimated to generate lower household VMT per capita than the average for the area.

Notes:

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

TABLE C-2
PROJECT CONSISTENCY WITH PLAN FOR A HEALTHY LOS ANGELES

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Chapter 1 - Los Angeles, a Leader in Health and Equity	
Policy 1.5 Plan for Health Improve Angelenos' health and well-being by incorporating a health perspective into land use, design, policy, and zoning decisions through existing tools, practices, and programs.	**Consistent.** The Project prioritizes safety and access for all individuals utilizing the site by complying with all ADA requirements and providing direct connections to pedestrian amenities at adjacent intersections. Further, the Project supports healthy lifestyles by locating housing and jobs near transit, providing bicycle parking, and enhancing the pedestrian environment with street trees and commercial patio seating.
Policy 1.6 Poverty and Health Reduce the debilitating impact that poverty has on individual, familial, and community health and well-being by: promoting cross-cutting efforts and partnerships to increase access to income; safe, healthy, and stable affordable housing options; and attainable opportunities for social mobility.	**Consistent.** The Project includes up to 14 affordable housing units.
Policy 1.7 Displacement and Health Reduce the harmful health impacts of displacement on individuals, families and communities by pursuing strategies to create opportunities for existing residents to benefit from local revitalization efforts by: creating local employment and economic opportunities for low-income residents and local small businesses; expanding and preserving existing housing opportunities available to low-income residents; preserving cultural and social resources; and creating and implementing tools to evaluate and mitigate the potential displacement caused by large-scale investment and development.	**Consistent.** The Project does not displace any existing housing; rather, it converts underutilized land into a more active and vibrant mixed-use community with the development of additional housing, including up to 14 affordable housing units, and local-serving restaurant/café space.

Notes:

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

TABLE C-2 (CONT'D)
PROJECT CONSISTENCY WITH PLAN FOR A HEALTHY LOS ANGELES

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Chapter 2 - A City Built for Health	
Policy 2.1 Access to Goods and Services Enhance opportunities for improved health and well-being for all Angelenos by increasing the availability of and access to affordable goods and services that promote health and healthy environments, with a priority on low-income neighborhoods.	**Consistent.** The Project would provide 1,207 square feet of local-serving restaurant/café space on the ground level of the Project Site, easily accessed by foot from surrounding areas.
Chapter 5 - An Environment Where Life Thrives	
Policy 5.7 Land Use Planning for Public Health and GHG Emission Reduction Promote land use policies that reduce per capita greenhouse gas emissions, result in improved air quality and decreased air pollution, especially for children, seniors and others susceptible to respiratory diseases.	**Consistent.** The Project incorporates several TDM measures to reduce the number of single occupancy vehicle trips to the Project Site. As demonstrated in Section 3B, the Project is estimated to generate lower household VMT per capita than the average for the area. VMT directly contributes to GHG emissions, so a reduced VMT per capita also reduces GHG per capita.

Notes:

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

TABLE C-3
PROJECT CONSISTENCY WITH HOLLYWOOD COMMUNITY PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Objective 1: To coordinate the development of Hollywood with that of other parts of the City of Los Angeles and the metropolitan area. To further the development of Hollywood as a major center of population, employment, retail services, and entertainment; and to perpetuate its image as the international center of the motion picture industry.	**Consistent.** The Project would propose a mixed-use development that is located near an active entertainment and commercial center of the Hollywood Community. The Project would provide both housing and employment opportunities with the proposal of both market-rate and affordable residential units and local-serving ground floor restaurant/café uses.
Objective 3: To make provision for the housing required to satisfy the varying needs and desires of all economic segments of the Community, maximizing the opportunity for individual choice.	**Consistent.** The Project's provision of 14 affordable units would contribute to the goal of providing all economic segments of the community with opportunities to have their needs and desires met. Additionally, the Project would propose housing opportunities in proximity to entertainment and commercial centers as well as various transit bus lines and the Metro B Line.
Objective 4: To promote economic well being and public convenience through: a. Allocating and distributing commercial lands for retail, service, and office facilities in quantities and patterns based on accepted planning principles and standards.	**Consistent.** The Project would propose local-serving ground floor restaurant/café uses.
Objective 6: To make provision for a circulation system coordinated with land uses and densities and adequate to accommodate traffic; and to encourage and the expansion and improvement of public transportation service.	**Consistent.** The Project would provide residential and commercial land uses in proximity to Metro bus stops and within one-quarter mile walking distance of the Metro B Line Hollywood/Highland Station. The Project's close proximity to transit provides alternative modes of transportation for residents, employees, and visitors to take to and from the Project Site.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in the *Hollywood Community Plan,* Los Angeles Department of City Planning, 1988.

TABLE C-4
PROJECT CONSISTENCY WITH REDEVELOPMENT PLAN FOR THE HOLLYWOOD REDEVELOPMENT PROJECT

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Goal 3: Promote a balanced community meeting the needs of the residential, commercial, industrial, arts and entertainment sectors.	**Consistent.** The Project would provide a balance of market-rate and affordable residential units and commercial uses to meet the needs for both land use types in the Hollywood area.
Goal 7: Promote the development of Hollywood Boulevard within the Hollywood commercial core as a unique place which: a) reflects Hollywood's position as the entertainment center; b) provides facilities for tourists; c) contains active retail and entertainment uses at the street level; d) provides for residential uses; e) is pedestrian oriented; f) is a focus for the arts, particularly the performing arts; and g) recognizes and reinforces its history and architecture.	**Consistent.** The Project would proposes a mixed-use development located approximately 250 feet south of Hollywood Boulevard within an active commercial and entertainment center area of Hollywood.
Goal 9: Provide housing choices and increase the supply and improve the quality of housing for all income and age groups, especially for persons with low and moderate incomes; and to provide home ownership opportunities and other housing choices which meet the needs of the resident population.	**Consistent.** The Project would provide 14 affordable units to increase the supply and provide opportunities for housing choices for persons with low and moderate incomes.
Goal 12: Support and encourage a circulation system which will improve the quality of life in Hollywood, including pedestrian, automobile, parking and mass transit systems with an emphasis on serving existing facilities and meeting future needs.	**Consistent.** The Project is not located along any corridor that has been identified as a circulation corridor in the Redevelopment Plan, and thus, the Project would not preclude any City improvements to circulation.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in the draft text of the *Hollywood Redevelopment Project,* The Community Redevelopment Agency of the City of Los Angeles, May 1986, Effective July 12, 2003.

TABLE C-5
PROJECT CONSISTENCY WITH CITYWIDE DESIGN GUIDELINES

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

Notes:

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

Appendix D

VMT Analysis Worksheets

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

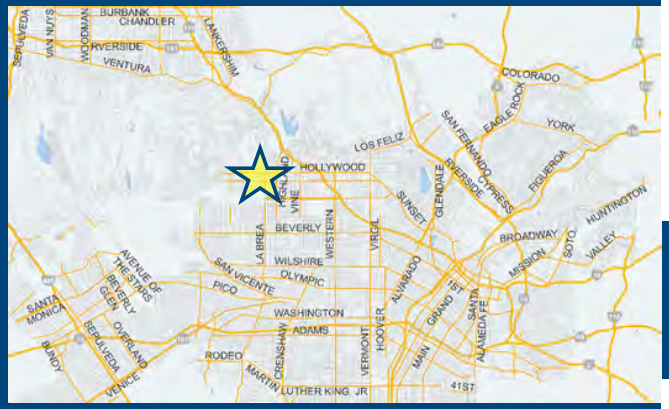
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 6831 Hawthorn Ave Mixed-Use

Scenario:

Address: 34.100652, -118.339721



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

○ Yes ○ No

Existing Land Use

Land Use Type	Value	Unit
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	1.207	ksf
Housing | Multi-Family	123	DU
Housing | Affordable Housing - Family	14	DU
Retail | High-Turnover Sit-Down Restaurant	1.207	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	559 Daily Vehicle Trips
0 Daily VMT	3,593 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	559 Net Daily Trips
The net increase in daily VMT ≤ 0	3,593 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	1.207 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

7/14/2020

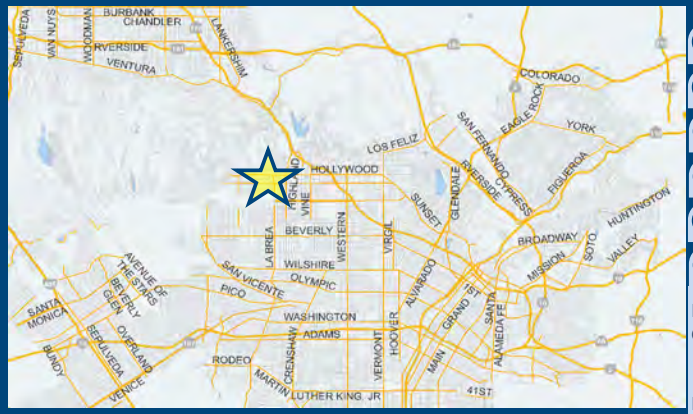
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 6831 Hawthorn Ave Mixed-Use

Scenario:

Address: 34.100652, -118.339721



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	123	DU
Housing | Affordable Housing - Family	14	DU
Retail | High-Turnover Sit-Down Restaurant	1.207	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
- **B** Transit
- **C** Education & Encouragement
- **D** Commute Trip Reductions
- **E** Shared Mobility
- **F** Bicycle Infrastructure

Implement/Improve On-street Bicycle Facility — Select Proposed Prj or Mitigation to include this strategy
☐ Proposed Prj ☐ Mitigation

Include Bike Parking Per LAMC — Select Proposed Prj or Mitigation to include this strategy
☑ Proposed Prj ☐ Mitigation

Include Secure Bike Parking and Showers — Select Proposed Prj or Mitigation to include this strategy
☐ Proposed Prj ☐ Mitigation

- **G** Neighborhood Enhancement

Analysis Results

Proposed Project	With Mitigation
556 Daily Vehicle Trips	**556** Daily Vehicle Trips
3,571 Daily VMT	**3,571** Daily VMT
4.7 Household VMT per Capita	**4.7** 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

7/14/2020

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: July 14, 2020
Project Name: 6831 Hawthorn Ave Mixed-Use
Project Scenario:
Project Address: 34.100652, -118.339721

Version 1.3

Project Information			
Land Use Type		**Value**	**Units**
Housing	*Single Family*	*0*	*DU*
	Multi Family	123	DU
	Townhouse	*0*	*DU*
	Hotel	*0*	*Rooms*
	Motel	*0*	*Rooms*
Affordable Housing	Family	14	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	1.207	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: July 14, 2020
Project Name: 6831 Hawthorn Ave Mixed-Use
Project Scenario:
Project Address: 34.100652, -118.339721

Version 1.3

Analysis Results			
Total Employees: 5 Total Population: 321			
Proposed Project		***With Mitigation***	
556	**Daily Vehicle Trips**	**556**	**Daily Vehicle Trips**
3,571	**Daily VMT**	**3,571**	**Daily VMT**
4.7	**Household VMT per Capita**	**4.7**	**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 Work > 7.6	No N/A	Household > 6.0 Work > 7.6	No 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)	Yes	Yes
	Include secure bike parking and showers	*Includes indoor bike parking/lockers, showers, & repair station (Yes/No)*	*0*	*0*
Neighborhood Enhancement	*Traffic calming improvements*	*Streets with traffic calming improvements (%)*	*0%*	*0%*
		Intersections with traffic calming improvements (%)	*0%*	*0%*
	Pedestrian network improvements	*Included (within project and connecting off-site/within project only)*	*0*	*0*

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: July 14, 2020
Project Name: 6831 Hawthorn Ave Mixed-Use
Project Scenario:
Project Address: 34.100652, -118.339721

Version 1.3

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	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
	Include secure bike parking and showers	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	
Neighborhood Enhancement	Traffic calming improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Neighborhood Enhancement
	Pedestrian network improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*
MAX. TDM EFFECT	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*

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

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

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: July 14, 2020
Project Name: 6831 Hawthorn Ave Mixed-Use
Project Scenario:
Project Address: 34.100652, -118.339721

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	122	-27.9%	88	7.5	915	660
Home Based Other Production	338	-48.5%	174	4.9	1,656	853
Non-Home Based Other Production	180	-4.4%	172	7.3	1,314	1,256
Home-Based Work Attraction	7	-85.7%	1	8.7	61	9
Home-Based Other Attraction	212	-68.4%	67	6.3	1,336	422
Non-Home Based Other Attraction	61	-6.6%	57	6.9	421	393

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	-0.6%	87	656	-0.6%	87	656
Home Based Other Production	-0.6%	173	848	-0.6%	173	848
Non-Home Based Other Production	-0.6%	171	1,248	-0.6%	171	1,248
Home-Based Work Attraction	-0.6%	1	9	-0.6%	1	9
Home-Based Other Attraction	-0.6%	67	419	-0.6%	67	419
Non-Home Based Other Attraction	-0.6%	57	391	-0.6%	57	391

MXD VMT Methodology Per Capita & Per Employee

Total Population: 321
Total Employees: 5
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**1,504**	**1,504**
Total Home Based Work Attraction VMT	**9**	**9**
Total Home Based VMT Per Capita	**4.7**	**4.7**
Total Work Based VMT Per Employee	**N/A**	**N/A**

VMT Calculator User Agreement

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

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

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

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

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

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

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

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

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

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

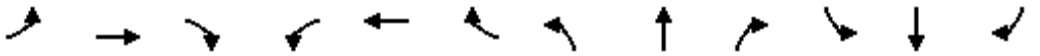
Before making decisions using the information provided in this application, contact City LADOT staff to confirm the validity of the data provided.

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

You, the User	
By:	Casey Tonale
Print Name:	Casey T Le
Title:	Associate
Company:	Gibson Transportation Consulting, Inc.
Address:	555 W. 5th St., Suite 3375 Los Angeles, CA 90013
Phone:	(213) 683 - 0088
Email Address:	cle@gibsontrans.com
Date:	July 14, 2020

Appendix E

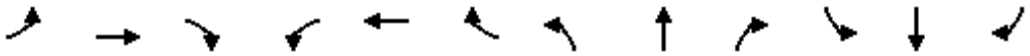
HCM Analysis Worksheets



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	324	371	50	212	488	51	19	1169	29	24	1183	180
Future Volume (vph)	324	371	50	212	488	51	19	1169	29	24	1183	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.6	5.0	4.0	5.6	5.0	5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	5067		1770	4984	
Flt Permitted	0.30	1.00	1.00	0.51	1.00	1.00	0.07	1.00		0.07	1.00	
Satd. Flow (perm)	557	3539	1583	959	3539	1583	135	5067		135	4984	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	352	403	54	230	530	55	21	1271	32	26	1286	196
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	352	403	54	230	530	55	21	1303	0	26	1482	0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6	3	5	2	7	3	8		7	4	
Permitted Phases	6		6	2		2	8			4		
Actuated Green, G (s)	101.2	80.1	88.1	74.2	57.1	65.1	63.0	55.0		63.0	55.0	
Effective Green, g (s)	101.2	80.1	88.1	74.2	57.1	65.1	63.0	55.0		63.0	55.0	
Actuated g/C Ratio	0.56	0.44	0.49	0.41	0.32	0.36	0.35	0.31		0.35	0.31	
Clearance Time (s)	4.0	5.6	5.0	4.0	5.6	5.0	5.0	5.2		5.0	5.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	583	1574	774	472	1122	572	119	1548		119	1522	
v/s Ratio Prot	c0.13	0.11	0.00	0.05	0.15	0.00	0.01	0.26		c0.01	c0.30	
v/s Ratio Perm	c0.20		0.03	0.15		0.03	0.05			0.07		
v/c Ratio	0.60	0.26	0.07	0.49	0.47	0.10	0.18	0.84		0.22	0.97	
Uniform Delay, d1	23.6	31.3	24.3	35.7	49.4	38.0	45.2	58.4		43.3	61.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.8	0.1	0.0	0.8	1.4	0.1	0.7	5.7		0.9	17.6	
Delay (s)	25.4	31.4	24.3	36.5	50.8	38.1	45.9	64.2		44.2	79.4	
Level of Service	C	C	C	D	D	D	D	E		D	E	
Approach Delay (s)		28.3			45.9			63.9			78.8	
Approach LOS		C			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	59.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	23.8
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	0	99	35	0	30	116	1058	69	0	1311	134
Future Volume (veh/h)	86	0	99	35	0	30	116	1058	69	0	1311	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	93	0	108	38	0	33	126	1150	75	0	1425	146
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	83	0	96	75	0	65	262	3111	203	0	2577	264
Arrive On Green	0.11	0.00	0.11	0.08	0.00	0.08	0.05	0.64	0.64	0.00	0.55	0.55
Sat Flow, veh/h	773	0	897	901	0	783	1781	4898	319	0	4874	482
Grp Volume(v), veh/h	201	0	0	71	0	0	126	799	426	0	1031	540
Grp Sat Flow(s),veh/h/ln	1670	0	0	1684	0	0	1781	1702	1813	0	1702	1784
Q Serve(g_s), s	12.9	0.0	0.0	4.8	0.0	0.0	3.5	13.4	13.4	0.0	23.6	23.6
Cycle Q Clear(g_c), s	12.9	0.0	0.0	4.8	0.0	0.0	3.5	13.4	13.4	0.0	23.6	23.6
Prop In Lane	0.46		0.54	0.54		0.46	1.00		0.18	0.00		0.27
Lane Grp Cap(c), veh/h	180	0	0	140	0	0	262	2162	1152	0	1864	977
V/C Ratio(X)	1.12	0.00	0.00	0.51	0.00	0.00	0.48	0.37	0.37	0.00	0.55	0.55
Avail Cap(c_a), veh/h	180	0	0	394	0	0	314	2162	1152	0	1864	977
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	0.0	0.0	52.7	0.0	0.0	14.1	10.4	10.4	0.0	17.6	17.6
Incr Delay (d2), s/veh	102.9	0.0	0.0	2.8	0.0	0.0	1.4	0.5	0.9	0.0	1.2	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	14.6	0.0	0.0	3.7	0.0	0.0	2.6	7.3	7.9	0.0	12.5	13.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	156.4	0.0	0.0	55.5	0.0	0.0	15.4	10.9	11.3	0.0	18.8	19.9
LnGrp LOS	F	A	A	E	A	A	B	B	B	A	B	B
Approach Vol, veh/h		201			71			1351			1571	
Approach Delay, s/veh		156.4			55.5			11.5			19.2	
Approach LOS		F			E			B			B	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.5	72.4		20.2		82.9		16.9				
Change Period (Y+Rc), s	4.6	6.7		* 7.3		6.7		6.9				
Max Green Setting (Gmax), s	9.4	44.1		* 13		58.1		28.1				
Max Q Clear Time (g_c+I1), s	5.5	25.6		14.9		15.4		6.8				
Green Ext Time (p_c), s	0.1	12.6		0.0		11.1		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		25.4
HCM 6th LOS		C

Notes

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

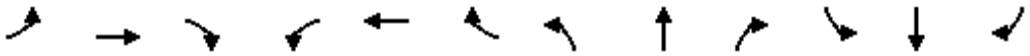
HCM Signalized Intersection Capacity Analysis
1: Highland Ave & Hollywood Blvd

05/19/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	370	402	88	105	357	93	27	1195	49	48	1156	148
Future Volume (vph)	370	402	88	105	357	93	27	1195	49	48	1156	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.6	5.0	4.0	5.6	5.0	5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	5055		1770	4999	
Flt Permitted	0.40	1.00	1.00	0.50	1.00	1.00	0.08	1.00		0.08	1.00	
Satd. Flow (perm)	745	3539	1583	928	3539	1583	143	5055		143	4999	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	402	437	96	114	388	101	29	1299	53	52	1257	161
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	402	437	96	114	388	101	29	1352	0	52	1418	0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6	3	5	2	7	3	8		7	4	
Permitted Phases	6		6	2		2	8			4		
Actuated Green, G (s)	102.2	86.9	96.9	67.9	56.6	66.6	62.0	52.0		62.0	52.0	
Effective Green, g (s)	102.2	86.9	96.9	67.9	56.6	66.6	62.0	52.0		62.0	52.0	
Actuated g/C Ratio	0.57	0.48	0.54	0.38	0.31	0.37	0.34	0.29		0.34	0.29	
Clearance Time (s)	4.0	5.6	5.0	4.0	5.6	5.0	5.0	5.2		5.0	5.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	659	1708	852	402	1112	585	139	1460		139	1444	
v/s Ratio Prot	c0.14	0.12	0.01	0.02	0.11	0.01	0.01	0.27		c0.02	c0.28	
v/s Ratio Perm	c0.21		0.05	0.09		0.05	0.06			0.11		
v/c Ratio	0.61	0.26	0.11	0.28	0.35	0.17	0.21	0.93		0.37	0.98	
Uniform Delay, d1	22.7	27.5	20.4	37.3	47.5	38.2	45.5	62.1		45.4	63.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.7	0.1	0.1	0.4	0.9	0.1	0.7	11.5		1.7	19.8	
Delay (s)	24.4	27.5	20.5	37.7	48.4	38.3	46.3	73.6		47.1	83.3	
Level of Service	C	C	C	D	D	D	D	E		D	F	
Approach Delay (s)		25.5			44.7			73.0			82.0	
Approach LOS		C			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	62.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	23.8
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	0	95	33	0	32	121	1081	69	0	1220	129
Future Volume (veh/h)	90	0	95	33	0	32	121	1081	69	0	1220	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	98	0	103	36	0	35	132	1175	75	0	1326	140
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	93	0	98	71	0	69	278	3083	197	0	2537	268
Arrive On Green	0.11	0.00	0.11	0.08	0.00	0.08	0.05	0.63	0.63	0.00	0.54	0.54
Sat Flow, veh/h	817	0	858	851	0	828	1781	4905	313	0	4858	495
Grp Volume(v), veh/h	201	0	0	71	0	0	132	815	435	0	962	504
Grp Sat Flow(s),veh/h/ln	1675	0	0	1679	0	0	1781	1702	1814	0	1702	1781
Q Serve(g_s), s	13.7	0.0	0.0	4.9	0.0	0.0	3.8	14.0	14.0	0.0	21.7	21.7
Cycle Q Clear(g_c), s	13.7	0.0	0.0	4.9	0.0	0.0	3.8	14.0	14.0	0.0	21.7	21.7
Prop In Lane	0.49		0.51	0.51		0.49	1.00		0.17	0.00		0.28
Lane Grp Cap(c), veh/h	191	0	0	139	0	0	278	2140	1140	0	1841	963
V/C Ratio(X)	1.05	0.00	0.00	0.51	0.00	0.00	0.47	0.38	0.38	0.00	0.52	0.52
Avail Cap(c_a), veh/h	191	0	0	393	0	0	345	2140	1140	0	1841	963
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	53.2	0.0	0.0	52.7	0.0	0.0	13.7	10.9	10.9	0.0	17.6	17.6
Incr Delay (d2), s/veh	79.2	0.0	0.0	2.9	0.0	0.0	1.3	0.5	1.0	0.0	1.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	13.5	0.0	0.0	3.7	0.0	0.0	2.8	7.6	8.2	0.0	11.6	12.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	132.3	0.0	0.0	55.5	0.0	0.0	15.0	11.4	11.9	0.0	18.7	19.7
LnGrp LOS	F	A	A	E	A	A	B	B	B	A	B	B
Approach Vol, veh/h		201			71			1382			1466	
Approach Delay, s/veh		132.3			55.5			11.9			19.0	
Approach LOS		F			E			B			B	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.5	71.6		21.0		82.1		16.9				
Change Period (Y+Rc), s	4.6	6.7		* 7.3		6.7		6.9				
Max Green Setting (Gmax), s	10.4	42.3		* 14		57.3		28.1				
Max Q Clear Time (g_c+I1), s	5.8	23.7		15.7		16.0		6.9				
Green Ext Time (p_c), s	0.1	11.9		0.0		11.4		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		24.0	
HCM 6th LOS		C	

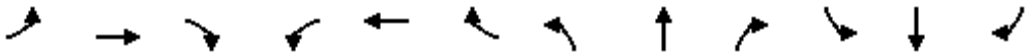
Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	324	371	50	215	488	51	23	1178	34	24	1188	180
Future Volume (vph)	324	371	50	215	488	51	23	1178	34	24	1188	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.6	5.0	4.0	5.6	5.0	5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	5064		1770	4985	
Flt Permitted	0.29	1.00	1.00	0.51	1.00	1.00	0.07	1.00		0.07	1.00	
Satd. Flow (perm)	548	3539	1583	959	3539	1583	134	5064		134	4985	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	352	403	54	234	530	55	25	1280	37	26	1291	196
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	352	403	54	234	530	55	25	1317	0	26	1487	0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6	3	5	2	7	3	8		7	4	
Permitted Phases	6		6	2		2	8			4		
Actuated Green, G (s)	100.6	79.0	87.0	73.4	55.8	63.8	63.6	55.6		63.6	55.6	
Effective Green, g (s)	100.6	79.0	87.0	73.4	55.8	63.8	63.6	55.6		63.6	55.6	
Actuated g/C Ratio	0.56	0.44	0.48	0.41	0.31	0.35	0.35	0.31		0.35	0.31	
Clearance Time (s)	4.0	5.6	5.0	4.0	5.6	5.0	5.0	5.2		5.0	5.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	583	1553	765	470	1097	561	120	1564		120	1539	
v/s Ratio Prot	c0.14	0.11	0.00	0.05	0.15	0.00	0.01	0.26		c0.01	c0.30	
v/s Ratio Perm	c0.20		0.03	0.15		0.03	0.06			0.07		
v/c Ratio	0.60	0.26	0.07	0.50	0.48	0.10	0.21	0.84		0.22	0.97	
Uniform Delay, d1	24.0	32.0	24.9	36.4	50.4	38.9	44.9	58.1		43.0	61.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.8	0.1	0.0	0.8	1.5	0.1	0.9	5.7		0.9	16.2	
Delay (s)	25.8	32.1	24.9	37.2	51.9	38.9	45.8	63.8		43.9	77.5	
Level of Service	C	C	C	D	D	D	D	E		D	E	
Approach Delay (s)		28.8			46.8			63.4			76.9	
Approach LOS		C			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	58.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	23.8
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	0	106	35	0	30	123	1058	69	0	1318	139
Future Volume (veh/h)	104	0	106	35	0	30	123	1058	69	0	1318	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	113	0	115	38	0	33	134	1150	75	0	1433	151
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	102	0	104	75	0	65	254	3038	198	0	2497	263
Arrive On Green	0.12	0.00	0.12	0.08	0.00	0.08	0.05	0.62	0.62	0.00	0.53	0.53
Sat Flow, veh/h	831	0	846	901	0	783	1781	4898	319	0	4860	494
Grp Volume(v), veh/h	228	0	0	71	0	0	134	799	426	0	1040	544
Grp Sat Flow(s),veh/h/ln	1677	0	0	1684	0	0	1781	1702	1813	0	1702	1781
Q Serve(g_s), s	14.7	0.0	0.0	4.8	0.0	0.0	3.9	14.0	14.0	0.0	24.7	24.7
Cycle Q Clear(g_c), s	14.7	0.0	0.0	4.8	0.0	0.0	3.9	14.0	14.0	0.0	24.7	24.7
Prop In Lane	0.50		0.50	0.54		0.46	1.00		0.18	0.00		0.28
Lane Grp Cap(c), veh/h	205	0	0	140	0	0	254	2111	1124	0	1812	948
V/C Ratio(X)	1.11	0.00	0.00	0.51	0.00	0.00	0.53	0.38	0.38	0.00	0.57	0.57
Avail Cap(c_a), veh/h	205	0	0	394	0	0	308	2111	1124	0	1812	948
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	0.0	0.0	52.7	0.0	0.0	15.5	11.3	11.3	0.0	18.9	18.9
Incr Delay (d2), s/veh	95.4	0.0	0.0	2.8	0.0	0.0	1.7	0.5	1.0	0.0	1.3	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	15.9	0.0	0.0	3.7	0.0	0.0	2.9	7.6	8.2	0.0	13.1	14.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	148.1	0.0	0.0	55.5	0.0	0.0	17.2	11.8	12.3	0.0	20.2	21.4
LnGrp LOS	F	A	A	E	A	A	B	B	B	A	C	C
Approach Vol, veh/h		228			71			1359			1584	
Approach Delay, s/veh		148.1			55.5			12.5			20.6	
Approach LOS		F			E			B			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.6	70.6		22.0		81.1		16.9				
Change Period (Y+Rc), s	4.6	6.7		* 7.3		6.7		6.9				
Max Green Setting (Gmax), s	9.6	42.1		* 15		56.3		28.1				
Max Q Clear Time (g_c+I1), s	5.9	26.7		16.7		16.0		6.8				
Green Ext Time (p_c), s	0.1	11.0		0.0		11.0		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		27.0
HCM 6th LOS		C

Notes

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

Intersection	
Int Delay, s/veh	6.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	2	3	0	2	7
Future Vol, veh/h	0	2	3	0	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	3	0	2	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	2	0	7	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	6	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1620	-	1014	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1017	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1620	-	1012	1084
Mov Cap-2 Maneuver	-	-	-	-	1012	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1015	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1067	-	-	1620	-
HCM Lane V/C Ratio	0.009	-	-	0.002	-
HCM Control Delay (s)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	185	250	12	25	2
Future Vol, veh/h	2	185	250	12	25	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	201	272	13	27	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	285	0	-	0	484	279
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	205	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1277	-	-	-	542	760
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	829	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1277	-	-	-	541	760
Mov Cap-2 Maneuver	-	-	-	-	541	-
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	829	-

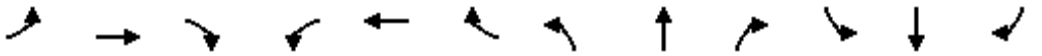
Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1277	-	-	-	553
HCM Lane V/C Ratio	0.002	-	-	-	0.053
HCM Control Delay (s)	7.8	0	-	-	11.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	370	402	88	110	357	93	29	1200	52	48	1164	148
Future Volume (vph)	370	402	88	110	357	93	29	1200	52	48	1164	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.6	5.0	4.0	5.6	5.0	5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	5053		1770	4999	
Flt Permitted	0.40	1.00	1.00	0.50	1.00	1.00	0.08	1.00		0.08	1.00	
Satd. Flow (perm)	745	3539	1583	928	3539	1583	143	5053		143	4999	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	402	437	96	120	388	101	32	1304	57	52	1265	161
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	402	437	96	120	388	101	32	1361	0	52	1426	0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6	3	5	2	7	3	8		7	4	
Permitted Phases	6		6	2		2	8			4		
Actuated Green, G (s)	102.2	86.7	96.7	68.1	56.6	66.6	62.0	52.0		62.0	52.0	
Effective Green, g (s)	102.2	86.7	96.7	68.1	56.6	66.6	62.0	52.0		62.0	52.0	
Actuated g/C Ratio	0.57	0.48	0.54	0.38	0.31	0.37	0.34	0.29		0.34	0.29	
Clearance Time (s)	4.0	5.6	5.0	4.0	5.6	5.0	5.0	5.2		5.0	5.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	659	1704	850	404	1112	585	139	1459		139	1444	
v/s Ratio Prot	c0.14	0.12	0.01	0.02	0.11	0.01	0.01	0.27		c0.02	c0.29	
v/s Ratio Perm	c0.21		0.05	0.09		0.05	0.07			0.11		
v/c Ratio	0.61	0.26	0.11	0.30	0.35	0.17	0.23	0.93		0.37	0.99	
Uniform Delay, d1	22.7	27.6	20.5	37.3	47.5	38.2	45.7	62.3		45.5	63.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.7	0.1	0.1	0.4	0.9	0.1	0.8	12.2		1.7	20.9	
Delay (s)	24.4	27.7	20.6	37.7	48.4	38.3	46.5	74.5		47.2	84.6	
Level of Service	C	C	C	D	D	D	D	E		D	F	
Approach Delay (s)		25.5			44.6			73.9			83.3	
Approach LOS		C			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	62.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	23.8
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	0	99	33	0	32	133	1081	69	0	1224	137
Future Volume (veh/h)	100	0	99	33	0	32	133	1081	69	0	1224	137
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	109	0	108	36	0	35	145	1175	75	0	1330	149
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	103	0	102	71	0	69	276	3042	194	0	2465	276
Arrive On Green	0.12	0.00	0.12	0.08	0.00	0.08	0.05	0.62	0.62	0.00	0.53	0.53
Sat Flow, veh/h	843	0	835	851	0	828	1781	4905	313	0	4827	522
Grp Volume(v), veh/h	217	0	0	71	0	0	145	815	435	0	972	507
Grp Sat Flow(s),veh/h/ln	1678	0	0	1679	0	0	1781	1702	1814	0	1702	1776
Q Serve(g_s), s	14.7	0.0	0.0	4.9	0.0	0.0	4.3	14.4	14.4	0.0	22.6	22.6
Cycle Q Clear(g_c), s	14.7	0.0	0.0	4.9	0.0	0.0	4.3	14.4	14.4	0.0	22.6	22.6
Prop In Lane	0.50		0.50	0.51		0.49	1.00		0.17	0.00		0.29
Lane Grp Cap(c), veh/h	206	0	0	139	0	0	276	2111	1125	0	1801	940
V/C Ratio(X)	1.06	0.00	0.00	0.51	0.00	0.00	0.53	0.39	0.39	0.00	0.54	0.54
Avail Cap(c_a), veh/h	206	0	0	393	0	0	336	2111	1125	0	1801	940
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	0.0	0.0	52.7	0.0	0.0	14.8	11.4	11.4	0.0	18.6	18.6
Incr Delay (d2), s/veh	78.3	0.0	0.0	2.9	0.0	0.0	1.6	0.5	1.0	0.0	1.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	14.4	0.0	0.0	3.7	0.0	0.0	3.2	7.8	8.4	0.0	12.1	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	130.9	0.0	0.0	55.5	0.0	0.0	16.3	11.9	12.4	0.0	19.8	20.8
LnGrp LOS	F	A	A	E	A	A	B	B	B	A	B	C
Approach Vol, veh/h		217			71			1395			1479	
Approach Delay, s/veh		130.9			55.5			12.5			20.2	
Approach LOS		F			E			B			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.9	70.2		22.0		81.1		16.9				
Change Period (Y+Rc), s	4.6	6.7		* 7.3		6.7		6.9				
Max Green Setting (Gmax), s	10.4	41.3		* 15		56.3		28.1				
Max Q Clear Time (g_c+I1), s	6.3	24.6		16.7		16.4		6.9				
Green Ext Time (p_c), s	0.1	11.1		0.0		11.3		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		25.2
HCM 6th LOS		C

Notes

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

Intersection	
Int Delay, s/veh	6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	3	5	0	1	4
Future Vol, veh/h	0	3	5	0	1	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	5	0	1	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	3	0	12	2
Stage 1	-	-	-	-	2	-
Stage 2	-	-	-	-	10	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1619	-	1008	1082
Stage 1	-	-	-	-	1021	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1619	-	1005	1082
Mov Cap-2 Maneuver	-	-	-	-	1005	-
Stage 1	-	-	-	-	1021	-
Stage 2	-	-	-	-	1010	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1066	-	-	1619	-
HCM Lane V/C Ratio	0.005	-	-	0.003	-
HCM Control Delay (s)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	185	250	21	14	1
Future Vol, veh/h	3	185	250	21	14	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	201	272	23	15	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	295	0	-	0	491	284
Stage 1	-	-	-	-	284	-
Stage 2	-	-	-	-	207	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1266	-	-	-	537	755
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	828	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1266	-	-	-	535	755
Mov Cap-2 Maneuver	-	-	-	-	535	-
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	828	-

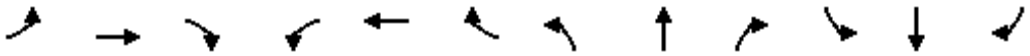
Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1266	-	-	-	546
HCM Lane V/C Ratio	0.003	-	-	-	0.03
HCM Control Delay (s)	7.9	0	-	-	11.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	345	439	78	271	548	80	77	1350	75	38	1360	189
Future Volume (vph)	345	439	78	271	548	80	77	1350	75	38	1360	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.6	5.0	4.0	5.6	5.0	5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	5045		1770	4992	
Flt Permitted	0.21	1.00	1.00	0.48	1.00	1.00	0.07	1.00		0.07	1.00	
Satd. Flow (perm)	399	3539	1583	893	3539	1583	138	5045		138	4992	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	375	477	85	295	596	87	84	1467	82	41	1478	205
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	375	477	85	295	596	87	84	1549	0	41	1683	0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6	3	5	2	7	3	8		7	4	
Permitted Phases	6		6	2		2	8			4		
Actuated Green, G (s)	100.4	67.1	77.1	77.8	48.5	58.5	63.8	53.8		63.8	53.8	
Effective Green, g (s)	100.4	67.1	77.1	77.8	48.5	58.5	63.8	53.8		63.8	53.8	
Actuated g/C Ratio	0.56	0.37	0.43	0.43	0.27	0.32	0.35	0.30		0.35	0.30	
Clearance Time (s)	4.0	5.6	5.0	4.0	5.6	5.0	5.0	5.2		5.0	5.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	587	1319	678	528	953	514	139	1507		139	1492	
v/s Ratio Prot	c0.17	0.13	0.01	0.09	0.17	0.01	c0.03	0.31		0.02	c0.34	
v/s Ratio Perm	c0.19		0.05	0.15		0.05	0.18			0.09		
v/c Ratio	0.64	0.36	0.13	0.56	0.63	0.17	0.60	1.03		0.29	1.13	
Uniform Delay, d1	25.9	40.9	31.1	34.8	57.8	43.4	46.6	63.1		45.4	63.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.3	0.2	0.1	1.3	3.1	0.2	7.2	30.6		1.2	66.8	
Delay (s)	28.2	41.1	31.2	36.1	60.9	43.6	53.8	93.7		46.6	129.9	
Level of Service	C	D	C	D	E	D	D	F		D	F	
Approach Delay (s)		35.0			51.9			91.6			127.9	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	86.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	23.8
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



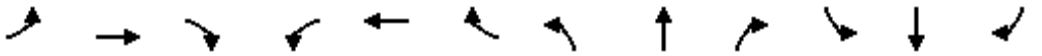
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	0	103	36	0	31	121	1337	72	0	1569	139
Future Volume (veh/h)	89	0	103	36	0	31	121	1337	72	0	1569	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	97	0	112	39	0	34	132	1453	78	0	1705	151
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	69	0	80	75	0	66	228	3239	174	0	2700	239
Arrive On Green	0.09	0.00	0.09	0.08	0.00	0.08	0.05	0.65	0.65	0.00	0.57	0.57
Sat Flow, veh/h	775	0	895	900	0	784	1781	4960	266	0	4945	422
Grp Volume(v), veh/h	209	0	0	73	0	0	132	997	534	0	1214	642
Grp Sat Flow(s),veh/h/ln	1670	0	0	1684	0	0	1781	1702	1822	0	1702	1794
Q Serve(g_s), s	10.7	0.0	0.0	5.0	0.0	0.0	3.5	17.2	17.2	0.0	28.9	29.1
Cycle Q Clear(g_c), s	10.7	0.0	0.0	5.0	0.0	0.0	3.5	17.2	17.2	0.0	28.9	29.1
Prop In Lane	0.46		0.54	0.53		0.47	1.00		0.15	0.00		0.24
Lane Grp Cap(c), veh/h	149	0	0	141	0	0	228	2223	1190	0	1924	1014
V/C Ratio(X)	1.40	0.00	0.00	0.52	0.00	0.00	0.58	0.45	0.45	0.00	0.63	0.63
Avail Cap(c_a), veh/h	149	0	0	394	0	0	250	2223	1190	0	1924	1014
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	0.0	0.0	52.7	0.0	0.0	17.4	10.2	10.2	0.0	17.6	17.7
Incr Delay (d2), s/veh	216.6	0.0	0.0	2.9	0.0	0.0	2.8	0.7	1.2	0.0	1.6	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	19.3	0.0	0.0	3.8	0.0	0.0	3.2	8.9	9.7	0.0	14.9	16.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	271.3	0.0	0.0	55.6	0.0	0.0	20.2	10.9	11.4	0.0	19.2	20.7
LnGrp LOS	F	A	A	E	A	A	C	B	B	A	B	C
Approach Vol, veh/h		209			73			1663			1856	
Approach Delay, s/veh		271.3			55.6			11.8			19.7	
Approach LOS		F			E			B			B	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.5	74.5		18.0		85.1		16.9				
Change Period (Y+Rc), s	4.6	6.7		* 7.3		6.7		6.9				
Max Green Setting (Gmax), s	7.4	48.3		* 11		60.3		28.1				
Max Q Clear Time (g_c+I1), s	5.5	31.1		12.7		19.2		7.0				
Green Ext Time (p_c), s	0.1	13.6		0.0		15.4		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		30.8	
HCM 6th LOS		C	

Notes

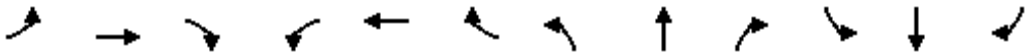
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	389	488	166	170	433	113	60	1409	126	91	1398	162
Future Volume (vph)	389	488	166	170	433	113	60	1409	126	91	1398	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.6	5.0	4.0	5.6	5.0	5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	5023		1770	5006	
Flt Permitted	0.26	1.00	1.00	0.46	1.00	1.00	0.07	1.00		0.07	1.00	
Satd. Flow (perm)	488	3539	1583	848	3539	1583	136	5023		136	5006	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	423	530	180	185	471	123	65	1532	137	99	1520	176
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	423	530	180	185	471	123	65	1669	0	99	1696	0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6	3	5	2	7	3	8		7	4	
Permitted Phases	6		6	2		2	8			4		
Actuated Green, G (s)	99.4	80.2	90.2	56.3	41.1	51.1	64.8	54.8		64.8	54.8	
Effective Green, g (s)	99.4	80.2	90.2	56.3	41.1	51.1	64.8	54.8		64.8	54.8	
Actuated g/C Ratio	0.55	0.45	0.50	0.31	0.23	0.28	0.36	0.30		0.36	0.30	
Clearance Time (s)	4.0	5.6	5.0	4.0	5.6	5.0	5.0	5.2		5.0	5.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	656	1576	793	343	808	449	139	1529		139	1524	
v/s Ratio Prot	c0.19	0.15	0.01	0.05	0.13	0.02	0.03	0.33		c0.04	c0.34	
v/s Ratio Perm	c0.16		0.10	0.12		0.06	0.14			0.22		
v/c Ratio	0.64	0.34	0.23	0.54	0.58	0.27	0.47	1.09		0.71	1.11	
Uniform Delay, d1	25.9	32.5	25.3	47.5	61.8	50.0	45.7	62.6		46.6	62.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	0.1	0.1	1.6	3.1	0.3	2.5	52.3		15.8	60.6	
Delay (s)	28.1	32.7	25.4	49.1	64.9	50.4	48.2	114.9		62.4	123.2	
Level of Service	C	C	C	D	E	D	D	F		E	F	
Approach Delay (s)		29.8			58.8			112.4			119.8	
Approach LOS		C			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	90.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	23.8
Intersection Capacity Utilization	93.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



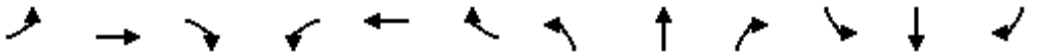
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	0	99	34	0	33	126	1397	72	0	1600	134
Future Volume (veh/h)	94	0	99	34	0	33	126	1397	72	0	1600	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	102	0	108	37	0	36	137	1518	78	0	1739	146
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	74	0	78	71	0	69	224	3239	166	0	2705	227
Arrive On Green	0.09	0.00	0.09	0.08	0.00	0.08	0.05	0.65	0.65	0.00	0.56	0.56
Sat Flow, veh/h	813	0	861	851	0	828	1781	4973	255	0	4968	402
Grp Volume(v), veh/h	210	0	0	73	0	0	137	1039	557	0	1232	653
Grp Sat Flow(s),veh/h/ln	1675	0	0	1679	0	0	1781	1702	1824	0	1702	1798
Q Serve(g_s), s	10.9	0.0	0.0	5.0	0.0	0.0	3.7	18.4	18.4	0.0	29.7	29.9
Cycle Q Clear(g_c), s	10.9	0.0	0.0	5.0	0.0	0.0	3.7	18.4	18.4	0.0	29.7	29.9
Prop In Lane	0.49		0.51	0.51		0.49	1.00		0.14	0.00		0.22
Lane Grp Cap(c), veh/h	152	0	0	140	0	0	224	2217	1188	0	1918	1013
V/C Ratio(X)	1.38	0.00	0.00	0.52	0.00	0.00	0.61	0.47	0.47	0.00	0.64	0.64
Avail Cap(c_a), veh/h	152	0	0	393	0	0	246	2217	1188	0	1918	1013
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	0.0	0.0	52.7	0.0	0.0	18.7	10.5	10.5	0.0	17.9	17.9
Incr Delay (d2), s/veh	206.8	0.0	0.0	3.0	0.0	0.0	3.8	0.7	1.3	0.0	1.7	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	19.1	0.0	0.0	3.8	0.0	0.0	3.6	9.5	10.3	0.0	15.3	16.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	261.3	0.0	0.0	55.6	0.0	0.0	22.5	11.2	11.8	0.0	19.6	21.1
LnGrp LOS	F	A	A	E	A	A	C	B	B	A	B	C
Approach Vol, veh/h		210			73			1733			1885	
Approach Delay, s/veh		261.3			55.6			12.3			20.1	
Approach LOS		F			E			B			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.5	74.3		18.2		84.9		16.9				
Change Period (Y+Rc), s	4.6	6.7		* 7.3		6.7		6.9				
Max Green Setting (Gmax), s	7.4	48.1		* 11		60.1		28.1				
Max Q Clear Time (g_c+I1), s	5.7	31.9		12.9		20.4		7.0				
Green Ext Time (p_c), s	0.1	13.0		0.0		16.2		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		30.3	
HCM 6th LOS		C	

Notes

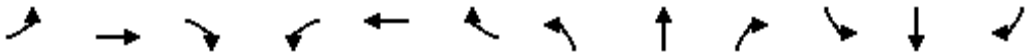
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	345	439	78	274	548	80	81	1359	80	38	1365	189
Future Volume (vph)	345	439	78	274	548	80	81	1359	80	38	1365	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.6	5.0	4.0	5.6	5.0	5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	5043		1770	4993	
Flt Permitted	0.22	1.00	1.00	0.48	1.00	1.00	0.07	1.00		0.07	1.00	
Satd. Flow (perm)	402	3539	1583	893	3539	1583	138	5043		138	4993	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	375	477	85	298	596	87	88	1477	87	41	1484	205
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	375	477	85	298	596	87	88	1564	0	41	1689	0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6	3	5	2	7	3	8		7	4	
Permitted Phases	6		6	2		2	8			4		
Actuated Green, G (s)	100.4	65.8	75.8	79.4	48.8	58.8	63.8	53.8		63.8	53.8	
Effective Green, g (s)	100.4	65.8	75.8	79.4	48.8	58.8	63.8	53.8		63.8	53.8	
Actuated g/C Ratio	0.56	0.37	0.42	0.44	0.27	0.33	0.35	0.30		0.35	0.30	
Clearance Time (s)	4.0	5.6	5.0	4.0	5.6	5.0	5.0	5.2		5.0	5.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	585	1293	666	543	959	517	139	1507		139	1492	
v/s Ratio Prot	c0.17	0.13	0.01	0.09	0.17	0.01	c0.04	0.31		0.02	c0.34	
v/s Ratio Perm	c0.19		0.05	0.15		0.05	0.19			0.09		
v/c Ratio	0.64	0.37	0.13	0.55	0.62	0.17	0.63	1.04		0.29	1.13	
Uniform Delay, d1	25.9	41.9	31.9	33.8	57.5	43.2	46.7	63.1		45.4	63.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.4	0.2	0.1	1.1	3.0	0.2	9.1	33.6		1.2	68.4	
Delay (s)	28.3	42.1	32.0	34.9	60.5	43.3	55.8	96.7		46.6	131.5	
Level of Service	C	D	C	C	E	D	E	F		D	F	
Approach Delay (s)		35.6			51.2			94.5			129.5	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	87.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	23.8
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	0	110	36	0	31	128	1337	72	0	1576	144
Future Volume (veh/h)	107	0	110	36	0	31	128	1337	72	0	1576	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	116	0	120	39	0	34	139	1453	78	0	1713	157
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	81	0	84	75	0	66	223	3194	171	0	2647	242
Arrive On Green	0.10	0.00	0.10	0.08	0.00	0.08	0.05	0.64	0.64	0.00	0.56	0.56
Sat Flow, veh/h	824	0	852	900	0	784	1781	4960	266	0	4929	435
Grp Volume(v), veh/h	236	0	0	73	0	0	139	997	534	0	1224	646
Grp Sat Flow(s),veh/h/ln	1676	0	0	1684	0	0	1781	1702	1822	0	1702	1792
Q Serve(g_s), s	11.8	0.0	0.0	5.0	0.0	0.0	3.8	17.7	17.7	0.0	29.9	30.1
Cycle Q Clear(g_c), s	11.8	0.0	0.0	5.0	0.0	0.0	3.8	17.7	17.7	0.0	29.9	30.1
Prop In Lane	0.49		0.51	0.53		0.47	1.00		0.15	0.00		0.24
Lane Grp Cap(c), veh/h	165	0	0	141	0	0	223	2192	1173	0	1893	996
V/C Ratio(X)	1.43	0.00	0.00	0.52	0.00	0.00	0.62	0.45	0.45	0.00	0.65	0.65
Avail Cap(c_a), veh/h	165	0	0	394	0	0	245	2192	1173	0	1893	996
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	0.0	0.0	52.7	0.0	0.0	19.1	10.8	10.8	0.0	18.5	18.5
Incr Delay (d2), s/veh	225.7	0.0	0.0	2.9	0.0	0.0	4.2	0.7	1.3	0.0	1.7	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	21.9	0.0	0.0	3.8	0.0	0.0	3.7	9.2	10.0	0.0	15.4	16.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	279.8	0.0	0.0	55.6	0.0	0.0	23.3	11.4	12.0	0.0	20.2	21.8
LnGrp LOS	F	A	A	E	A	A	C	B	B	A	C	C
Approach Vol, veh/h		236			73			1670			1870	
Approach Delay, s/veh		279.8			55.6			12.6			20.7	
Approach LOS		F			E			B			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.5	73.4		19.1		84.0		16.9				
Change Period (Y+Rc), s	4.6	6.7		* 7.3		6.7		6.9				
Max Green Setting (Gmax), s	7.4	47.2		* 12		59.2		28.1				
Max Q Clear Time (g_c+I1), s	5.8	32.1		13.8		19.7		7.0				
Green Ext Time (p_c), s	0.0	12.2		0.0		15.2		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	33.8
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	6.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	2	3	0	2	7
Future Vol, veh/h	0	2	3	0	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	3	0	2	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	2	0	7	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	6	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1620	-	1014	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1017	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1620	-	1012	1084
Mov Cap-2 Maneuver	-	-	-	-	1012	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1015	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1067	-	-	1620	-
HCM Lane V/C Ratio	0.009	-	-	0.002	-
HCM Control Delay (s)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	193	260	12	25	2
Future Vol, veh/h	2	193	260	12	25	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	210	283	13	27	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	296	0	-	0	504	290
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	214	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1265	-	-	-	528	749
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	822	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1265	-	-	-	527	749
Mov Cap-2 Maneuver	-	-	-	-	527	-
Stage 1	-	-	-	-	757	-
Stage 2	-	-	-	-	822	-

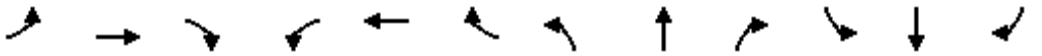
Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1265	-	-	-	539
HCM Lane V/C Ratio	0.002	-	-	-	0.054
HCM Control Delay (s)	7.9	0	-	-	12.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	389	488	166	175	433	113	62	1414	129	91	1406	162
Future Volume (vph)	389	488	166	175	433	113	62	1414	129	91	1406	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.6	5.0	4.0	5.6	5.0	5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	5022		1770	5007	
Flt Permitted	0.26	1.00	1.00	0.46	1.00	1.00	0.07	1.00		0.07	1.00	
Satd. Flow (perm)	488	3539	1583	848	3539	1583	136	5022		136	5007	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	423	530	180	190	471	123	67	1537	140	99	1528	176
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	423	530	180	190	471	123	67	1677	0	99	1704	0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6	3	5	2	7	3	8		7	4	
Permitted Phases	6		6	2		2	8			4		
Actuated Green, G (s)	99.4	79.8	89.8	56.7	41.1	51.1	64.8	54.8		64.8	54.8	
Effective Green, g (s)	99.4	79.8	89.8	56.7	41.1	51.1	64.8	54.8		64.8	54.8	
Actuated g/C Ratio	0.55	0.44	0.50	0.32	0.23	0.28	0.36	0.30		0.36	0.30	
Clearance Time (s)	4.0	5.6	5.0	4.0	5.6	5.0	5.0	5.2		5.0	5.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	656	1568	789	347	808	449	139	1528		139	1524	
v/s Ratio Prot	c0.19	0.15	0.01	0.05	0.13	0.02	0.03	0.33		c0.04	c0.34	
v/s Ratio Perm	c0.16		0.10	0.13		0.06	0.15			0.22		
v/c Ratio	0.64	0.34	0.23	0.55	0.58	0.27	0.48	1.10		0.71	1.12	
Uniform Delay, d1	25.9	32.8	25.5	47.3	61.8	50.0	45.8	62.6		46.6	62.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	0.1	0.1	1.8	3.1	0.3	2.6	54.5		15.8	62.6	
Delay (s)	28.1	32.9	25.7	49.1	64.9	50.4	48.4	117.1		62.4	125.2	
Level of Service	C	C	C	D	E	D	D	F		E	F	
Approach Delay (s)		30.0			58.8			114.5			121.8	
Approach LOS		C			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	91.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	23.8
Intersection Capacity Utilization	93.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	0	103	34	0	33	138	1397	72	0	1604	142
Future Volume (veh/h)	104	0	103	34	0	33	138	1397	72	0	1604	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	113	0	112	37	0	36	150	1518	78	0	1743	154
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	77	0	76	71	0	69	224	3239	166	0	2686	237
Arrive On Green	0.09	0.00	0.09	0.08	0.00	0.08	0.05	0.65	0.65	0.00	0.56	0.56
Sat Flow, veh/h	843	0	835	851	0	828	1781	4973	255	0	4946	421
Grp Volume(v), veh/h	225	0	0	73	0	0	150	1039	557	0	1241	656
Grp Sat Flow(s),veh/h/ln	1678	0	0	1679	0	0	1781	1702	1824	0	1702	1795
Q Serve(g_s), s	10.9	0.0	0.0	5.0	0.0	0.0	4.1	18.4	18.4	0.0	30.1	30.3
Cycle Q Clear(g_c), s	10.9	0.0	0.0	5.0	0.0	0.0	4.1	18.4	18.4	0.0	30.1	30.3
Prop In Lane	0.50		0.50	0.51		0.49	1.00		0.14	0.00		0.23
Lane Grp Cap(c), veh/h	152	0	0	140	0	0	224	2217	1188	0	1913	1009
V/C Ratio(X)	1.48	0.00	0.00	0.52	0.00	0.00	0.67	0.47	0.47	0.00	0.65	0.65
Avail Cap(c_a), veh/h	152	0	0	393	0	0	252	2217	1188	0	1913	1009
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	0.0	0.0	52.7	0.0	0.0	20.0	10.5	10.5	0.0	18.1	18.1
Incr Delay (d2), s/veh	246.2	0.0	0.0	3.0	0.0	0.0	5.7	0.7	1.3	0.0	1.7	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	21.6	0.0	0.0	3.8	0.0	0.0	4.6	9.5	10.3	0.0	15.5	16.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	300.8	0.0	0.0	55.6	0.0	0.0	25.6	11.2	11.8	0.0	19.8	21.4
LnGrp LOS	F	A	A	E	A	A	C	B	B	A	B	C
Approach Vol, veh/h		225			73			1746			1897	
Approach Delay, s/veh		300.8			55.6			12.6			20.4	
Approach LOS		F			E			B			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.7	74.2		18.2		84.9		16.9				
Change Period (Y+Rc), s	4.6	6.7		* 7.3		6.7		6.9				
Max Green Setting (Gmax), s	8.0	47.5		* 11		60.1		28.1				
Max Q Clear Time (g_c+I1), s	6.1	32.3		12.9		20.4		7.0				
Green Ext Time (p_c), s	0.1	12.4		0.0		16.2		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		33.6	
HCM 6th LOS		C	

Notes

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

Intersection	
Int Delay, s/veh	6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	3	5	0	1	4
Future Vol, veh/h	0	3	5	0	1	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	5	0	1	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	3	0	12	2
Stage 1	-	-	-	-	2	-
Stage 2	-	-	-	-	10	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1619	-	1008	1082
Stage 1	-	-	-	-	1021	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1619	-	1005	1082
Mov Cap-2 Maneuver	-	-	-	-	1005	-
Stage 1	-	-	-	-	1021	-
Stage 2	-	-	-	-	1010	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1066	-	-	1619	-
HCM Lane V/C Ratio	0.005	-	-	0.003	-
HCM Control Delay (s)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	193	260	21	14	1
Future Vol, veh/h	3	193	260	21	14	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	210	283	23	15	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	306	0	-	0	511	295
Stage 1	-	-	-	-	295	-
Stage 2	-	-	-	-	216	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1255	-	-	-	523	744
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	820	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1255	-	-	-	521	744
Mov Cap-2 Maneuver	-	-	-	-	521	-
Stage 1	-	-	-	-	753	-
Stage 2	-	-	-	-	820	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1255	-	-	-	532
HCM Lane V/C Ratio	0.003	-	-	-	0.031
HCM Control Delay (s)	7.9	0	-	-	12
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1