Attachment H:

Transportation Assessment

TRANSPORTATION ASSESSMENT FOR THE 7322-7340 TOPANGA CANYON BOULEVARD PROJECT CANOGA PARK, CALIFORNIA

MARCH 2021

PREPARED FOR

ALLIANT STRATEGIC DEVELOPMENT

PREPARED BY

Gibson transportation consulting, inc.

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Prepared by:

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Chapter 1

Introduction

This study presents the transportation assessment for the proposed 7322-7340 Topanga Canyon Boulevard project (Project) located at 7322-7340 Topanga Canyon Boulevard (Project Site) in the *Canoga Park-Winnetka-Woodland Hills-West Hills Community Plan* (Los Angeles Department of City Planning [LADCP], 1999) area in the Canoga Park community of the City of Los Angeles, California (City). The methodology and base assumptions used in the analysis were established based on direction from the Los Angeles Department of Transportation (LADOT).

PROJECT DESCRIPTION

Alliant Strategic Investments (Applicant) proposes the development of 149 multi-family apartment units with residential amenities and 12 units (approximately 8% of the total units) designated for Very Low Income-tenants (Project). The Project would also incorporate approximately 19,107 square feet (sf) of landscaped open space. The existing 34,884 sf of office uses would be removed to accommodate the Project.

A total of 79 assigned vehicle parking spaces within a gated at-grade parking garage and a total of 100 long-term and 10 short-term bicycle parking spaces would be provided on-site. The assigned vehicle parking is effectively divided into three sections of the garage. The conceptual Project site plan is shown in Figure 1.

Project Access and Circulation

Primary vehicular access is proposed to be provided via three gated driveways along the alley that runs along the eastern boundary of the Project Site; as noted above, each driveway will serve a section of the assigned parking supply. The driveways would accommodate right-turn and left-turn ingress and egress movements[1] and provide a 15-foot reservoir between each gate and the alley right-of-way (ROW). Pedestrian and bicycle access would be provided separate from the vehicular access via a lobby entrance along Topanga Canyon Boulevard.

PROJECT LOCATION

As illustrated in Figure 2, the Project Site is generally bounded by residential uses with Valerio Street to the north, an alley and residential uses to the east, medical office uses to the south, and Topanga Canyon Boulevard to the west. In addition, the Canoga Park Elementary School and Canoga Park Early Education Center are located adjacent to the north end of the alley. The Project is located approximately 2.25-miles north of the Ventura Freeway (US 101). The Project Site is primarily served by Topanga Canyon Boulevard.

The Project is located within 0.5 miles of a Major Transit Stop, which is defined in *Transit Oriented Communities Affordable Housing Incentive Program Guidelines* (LADCP, Revised February 26, 2018) (TOC Guidelines) as a rail station or an intersection of two or more bus routes with service intervals of 15 minutes or less during the morning and afternoon commuter peak periods. The Project Site is located within 0.50 miles west of the Sherman Way Station, which is served by the Los Angeles County Metropolitan Transportation Authority (Metro) G Line (formerly the Orange Line). The G Line runs between the North Hollywood B Line (formerly the Red Line) station and the Chatsworth Metrolink Station. In addition, the Project Site is served by numerous bus lines that are operated by Metro primarily along Topanga Canyon Boulevard.

STUDY SCOPE

The scope of analysis for this study was developed based on direction from LADOT and is consistent with the LADOT *Transportation Assessment Guidelines* (July 2020) (TAG) and in compliance with the California Environmental Quality Act (CEQA) Guidelines (California Code of Regulations, Title 14, Section 15000 and following).

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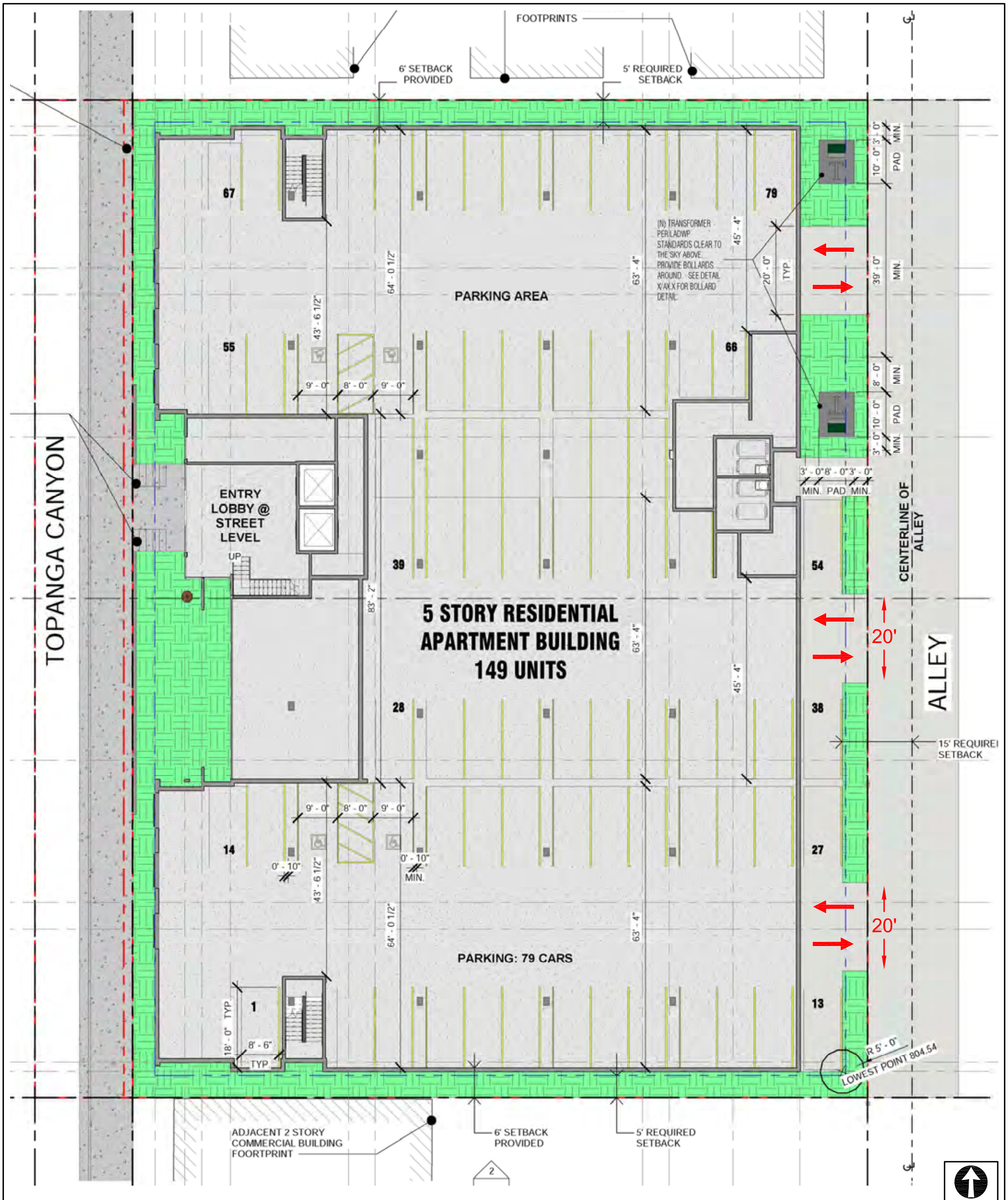
[1] As part of the facility operation, the Applicant will provide periodic updates to tenants related to the area circulation patterns and preferred routes of travel.

The base assumptions and technical methodologies (i.e., vehicle miles traveled [VMT], trip generation, study locations, analysis methodology, etc.) were identified and agreed to in a Transportation Assessment Memorandum of Understanding (MOU), which was reviewed and approved by LADOT on October 28, 2020. A copy of the signed MOU is provided in Appendix A.

ORGANIZATION OF REPORT

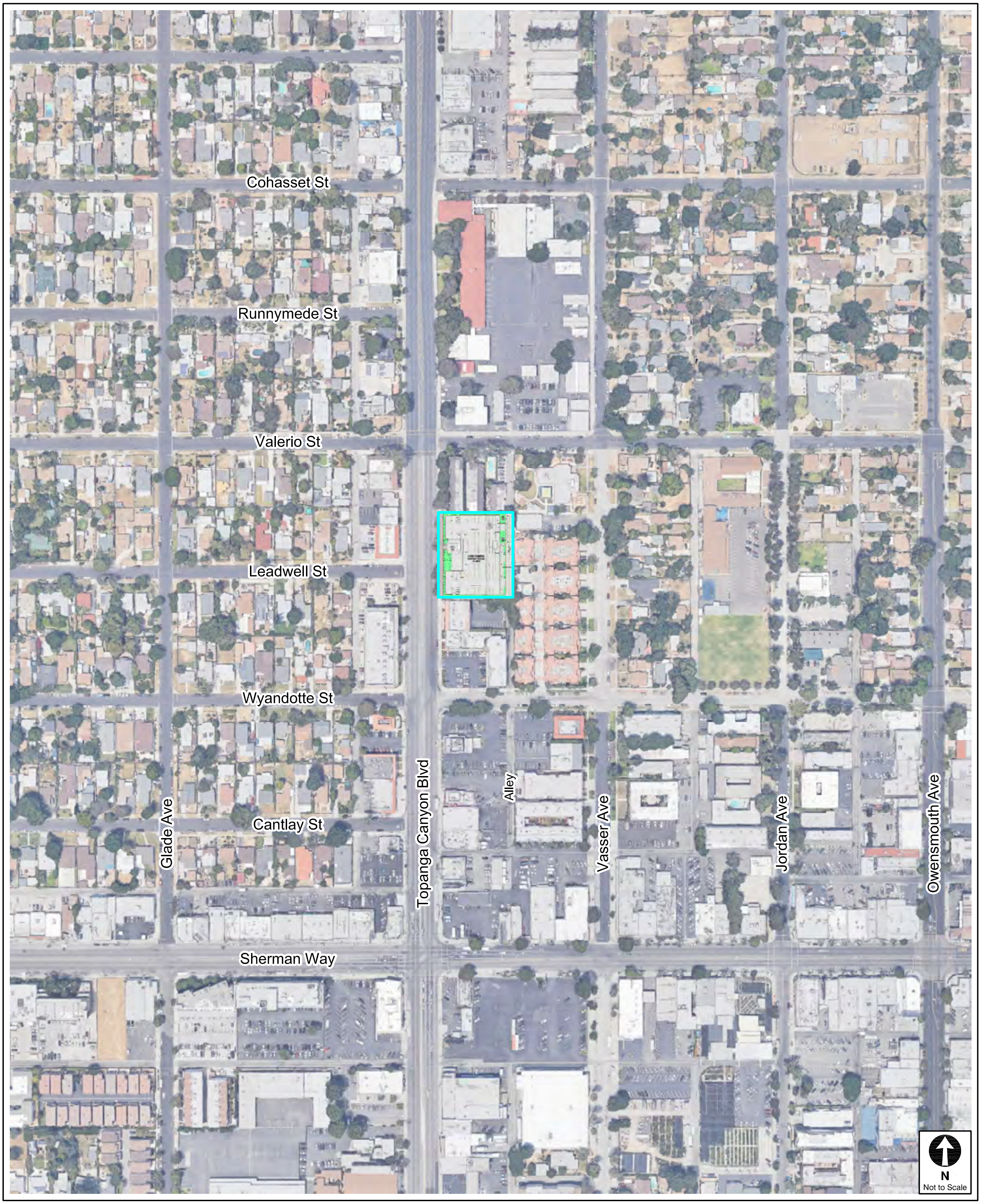
This report is divided into six chapters, including this introduction. Chapter 2 describes the Project Context including the study area and existing and future cumulative transportation conditions. Chapter 3 presents the Project Traffic including the Project trip generation, trip distribution, and trip assignment. Chapter 4 details the CEQA Analysis of Transportation Impacts including TAG Thresholds T-1 through T-3 and the California Department of Transportation (Caltrans) analysis. Chapter 5 discusses the Non-CEQA Transportation Analyses including the pedestrian, bicycle, and transit assessments, Project access, safety, and circulation assessments, residential street cut-through analysis, construction impact analysis, and parking analysis. Finally, Chapter 6 summarizes the analyses and study conclusions. The appendices contain supporting documentation, including the MOU that outlines the study scope and assumptions, and additional details supporting the technical analyses.



Source: HBA Architecture + Planning. March, 2021.

PROJECT SITE PLAN

FIGURE 1



PROJECT SITE LOCATION

FIGURE 2

Chapter 2
Project Context

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

The Existing Conditions analysis includes an assessment of the existing freeway and street systems, an analysis of traffic volumes and current operating conditions, and an assessment of the existing public transit service, as well as pedestrian and bicycle circulation, at the time of the issuance of the Notice of Preparation (NOP) in Year 2020. An inventory of lane configurations, signal phasing, parking restrictions, etc., for the analyzed intersections was also collected. The traffic count/volume development worksheets are provided in Appendix B.

In addition, this Chapter contains a discussion of the future conditions detailing the assumptions used to develop the Future without Project Conditions in Year 2023, which correspond to anticipated occupancy of the Project.

STUDY AREA

The Study Area includes intersections along Topanga Canyon Boulevard between Saticoy Street and Sherman Way, as shown in Figure 3. The intersections were selected in consultation with LADOT based on the following factors identified in the TAG:

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

As listed in Table 1, a total of four study intersections, three signalized and one unsignalized, located within the City were identified for detailed analysis of the above conditions. The existing lane configurations at the analyzed intersections are provided in Figure 4.

EXISTING TRANSPORTATION CONDITIONS

Existing Street System

The existing street system in the Study Area consists of a regional roadway system including freeways, arterials, and collector and local streets that provide regional, sub-regional, or local access and circulation within the Study Area. These transportation facilities generally provide two to six travel lanes and usually allow parking on either side of the street. Typically, the speed limits range between 25 and 35 miles per hour (mph) on the streets and between 55 and 65 mph on freeways.

Street classifications are designated in *Mobility Plan 2035, An Element of the General Plan* (LADCP, September 2016) (Mobility Plan) and incorporated in *Canoga Park-Winnetka-Woodland Hills-West Hills Community Plan.* The Mobility Plan defines specific street standards to provide an enhanced balance between traffic flow and other important street functions including transit routes and stops, pedestrian environments, bicycle routes, building design and site access, etc. Per the Mobility Plan, street classifications are defined as follows:

- <u>Freeways</u> are high-volume, high-speed roadways with limited access provided by interchanges that carry regional traffic through and do not provide local access to adjacent land uses.
- <u>Arterial Streets</u> are major streets that serve through traffic, as well as provide access to major commercial activity centers. Arterials are divided into two categories:
    - <u>Boulevards</u> represent the widest Arterial Streets that typically provide regional access to major destinations and include two categories:
        - <u>Boulevard I</u> 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, and generally includes a ROW width of 110 feet, and pavement widths of 80 feet.

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

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

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

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

- Collector Streets are generally located in residential neighborhoods and provide access to and from Arterial Streets for local traffic and are not intended for cut-through traffic. They provide one travel lane in each direction with operating speed of 25 mph, with a ROW width generally at 66 feet and pavement width of 40 feet.

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

  - Continuous Local Streets connect to other streets at both ends

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

Primary regional access to the Project Site is provided by US 101 within the Study Area. The arterial providing access to the Project Site is Topanga Canyon Boulevard (State Route 27). The following is a brief description of the roadways in the Study Area, including their classifications under the Mobility Plan:

Freeways

- US 101 – US 101 is a freeway that generally runs in the north-south direction but is oriented east-west through the Study Area and is located approximately 2.25 miles south of the Project Site. Nearest to the Study Area, US 101 provides four travel lanes in each direction. Access to and from US 101 is available via interchanges at Topanga Canyon Boulevard.

Roadways

- Saticoy Street – Saticoy Street is a designated Avenue II and travels in the east-west direction. It is located north of the Project Site and provides four travel lanes, two lanes in each direction, with left-turn lanes at major intersections and a center turn lane. Unmetered parking is generally available on the south side of the street west of Topanga Canyon Boulevard and on both sides of the street east of Topanga Canyon Boulevard within the Study Area.

- Topanga Canyon Boulevard – Topanga Canyon Boulevard (State Route 27) is a designated Boulevard II located on the western edge of the Project Site, and travels in the north-south direction. It provides six travel lanes, three lanes in each direction, with left-turn lanes at major intersections and a center turn lane. Unmetered parking with peak hour restrictions is generally available on both sides of the street within the Study Area. Topanga Canyon Boulevard provides a direct connection to US 101 via interchanges south of the Project Site.

- Valerio Street – Valerio Street is a designated Collector and travels in the east-west direction. It is located north of the Project Site and provides two travel lanes, one lane in each direction. Unmetered parking is generally available on the south side of the street east of Topanga Canyon Boulevard, and two-hour, unmetered parking is generally available on both sides of the street west of Topanga Canyon Boulevard within the Study Area.

- Leadwell Street – Leadwell Street is a designated Local Street and travels in the east-west direction. It is located west of the Project Site and provides two travel lanes, one lane in each direction. Unmetered parking is generally available on both sides of the street within the Study Area.

- Wyandotte Street – Wyandotte Street is a designated Local Street and travels in the east-west direction. It is located south of the Project Site and provides two travel lanes, one lane in each direction. Unmetered parking is generally available on both sides of the street within the Study Area.

- Sherman Way – Sherman Way is a designated Boulevard II and travels in the east-west direction. It is located south of the Project Site and provides four travel lanes, two lanes in each direction, with left-turn lanes at major intersections and a center turn lane. Sherman Way currently has Class II bicycle lanes on both sides of the street within the Study Area. Two-hour, metered parking is generally available on both sides of the street within the Study Area.

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

Existing Pedestrian Facilities

The walkability of existing facilities is based on the availability of pedestrian routes necessary to accomplish daily tasks without the use of an automobile. These attributes are quantified by WalkScore.com and assigned a score out of 100 points. With the various commercial businesses and cultural facilities adjacent to residential neighborhoods, the walkability of the area is approximately 88 points[2]; this compares to the walk score of 68 points for the adjacent community.

Currently surrounding the Project frontage, sidewalks along both sides of Topanga Canyon Boulevard provide complete pedestrian connections. The intersections of Topanga Canyon Boulevard & Saticoy Street (Intersection #1), Topanga Canyon Boulevard & Valerio Street (Intersection #2), and Topanga Canyon Boulevard & Sherman Way (Intersection #4) provide signalized pedestrian crossings near the Project Site with marked pedestrian crossings on all four legs of the intersections. These intersections provide pedestrian phasing, crosswalk striping, and Americans with Disabilities Act (ADA) accessible curb ramps. The pedestrian facilities provided at the study intersections are further detailed in Figure 5.

Pedestrian destinations within 0.25 miles of the Project Site are illustrated in Figure 6, including Canoga Park Elementary School located north of the Project Site and uses located along Topanga Canyon Boulevard.

Existing Bicycle System

Based on *2010 Bicycle Plan, A Component of the City of Los Angeles Transportation Element* (LADCP, adopted March 1, 2011) (2010 Bicycle Plan), the existing bicycle system consists of a limited network of bicycle lanes (Class II) and bicycle routes (Class III). Class II bicycle lanes are a component of street design with dedicated striping, separating vehicular traffic from bicycle traffic. Class III bicycle routes and bicycle-friendly streets are those where motorists and cyclists share the roadway and there is no separated striping for bicycle travel. Bicycle routes and bicycle-friendly streets are preferably placed on Collector and lower volume Arterial Streets. Bicycle

[2] Walk Score (www.walkscore.com) rates the Project Site with a score of 88 of 100 possible points (scores accessed on August 3, 2020 for 7340 Topanga Canyon Boulevard). Walk Score calculates the walkability of specific addresses by considering the ease of living in the neighborhood with a reduced reliance on automobile travel.

routes with shared lane markings, or “sharrows”, remind bicyclists to ride farther from parked cars to prevent collisions, increase awareness of motorists that bicycles may be in the travel lane, and shows bicyclists the correct direction of travel. As shown in Figure 5, there are currently Class II bicycle lanes along Sherman Way within the Study Area.

The components of the 2010 Bicycle Plan have been incorporated into the bicycle network of the Mobility Plan. The Mobility Plan consists of a Low-Stress Bikeway System and a Bicycle Lane Network (BLN). The Low-Stress Bikeway System is comprised of the Bicycle Enhanced Network (BEN), the Neighborhood Enhanced Network, and Bike Paths. The BEN includes protected bicycle lanes (Class IV), which provide bicycle infrastructure including cycle tracks, bicycle traffic signals, and demarcated areas to facilitate turns at intersections and along neighborhood streets. These Class IV networks typically provide mini-roundabouts, cross-street stop signs, crossing islands at major intersection crossings, improved street lighting, bicycle boxed, and bicycle-only left-turn pockets. The Neighborhood Enhanced Network (NEN) and Bicycle Paths are relatively unchanged from the 2010 Bicycle Plan.

Existing Transit System

The Project Study Area is served by bus lines operated by Metro. Figure 7 illustrates the existing transit service and transit stops within the Study Area.

Table 2 summarizes the transit lines operating in the Study Area for each of the service providers in the region, the type of service (peak vs. off-peak, express vs. local), and the frequency of service, as described above. The average frequency of transit service during the peak hour was derived from the number of peak-period stops made at the stop nearest the Project Site.

Tables 3A and 3B summarize the total residual capacity of the Metro bus lines during the morning and afternoon peak hours based on the frequency of service of each line and the maximum seated and standing capacity of each bus. As shown in Tables 3A and 3B, the transit lines within 0.25 miles walking distance of the Project Site currently have available capacity for 744 additional riders during the morning peak hour and 711 additional riders during the afternoon peak hour. The transit lines with bus stops or stations located more than 0.25 miles from the Project Site were not included.

Vision Zero

As described in *Vision Zero: Eliminating Traffic Deaths in Los Angeles by 2025* (City of Los Angeles, August 2015), Vision Zero is a traffic safety policy that promotes strategies to eliminate transportation-related collisions that result in severe injury or death. Vision Zero has identified the High Injury Network, a network of streets included based on collision data from the last five years, where strategic investments will have the biggest impact in reducing death and severe injury. Within the Study Area, Topanga Canyon Boulevard, Saticoy Street, and Sherman Way are identified in the High Injury Network.

Existing Traffic Volumes

Traffic count data collection is generally conducted during times with typical travel demand patterns (i.e., when local schools are in session, businesses in full operation, weeks without holidays, etc.). Due to the ongoing Safer at Home/Safer LA: Emergency Orders[3] in response to the COVID-19 pandemic, typical traffic patterns are disrupted and LADOT is allowing the use of historical traffic count data with application of an adjustment factor.

Historical weekday morning (7:00 AM to 10:00 AM) and afternoon (3:00 PM to 6:00 PM) peak hour traffic count data from Years 2014 and 2015 was compiled for the intersections of Topanga Canyon Boulevard & Saticoy Street (Intersection #1), Topanga Canyon Boulevard & Sherman Way (Intersection #4), and nearby De Soto Avenue & Valerio Street. The count data was then assessed to identify the potential peak hour turning movements and volumes[4] at the remaining study intersections of Topanga Canyon Boulevard & Valerio Street (Intersection #2) and Topanga Canyon Boulevard & Wyandotte Street (Intersection #3). The historical traffic counts were then increased at a rate of 1% per year to estimate Existing Year 2020 traffic volumes.

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

[4] Comparison factors were developed to identify the potential ratio of turning movements to the total volume on each respective leg of the intersection. Similarly, the ratio of the minor leg traffic volume was identified relative to the major street traffic volume (Topanga Canyon Boulevard). Major street traffic volumes were conservatively estimated from the nearest intersection with traffic count data.

The existing 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 TAG. Specifically, two requirements are provided for developing the cumulative traffic volume forecast:

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

The ambient growth factor discussed below likely includes some traffic increases resulting from the Related Projects. Therefore, through some inherent double-counting of vehicles, the traffic analysis provides a highly conservative estimate of Future without Project 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

Existing traffic is expected to increase as a result of regional growth and development outside the Study Area. Based on discussions with LADOT during the MOU process, an ambient growth factor of 1% per year compounded annually was applied to be conservative by adjusting the existing traffic volumes to reflect the effects of the regional growth and development by Year 2023. The total adjustment applied over the two-year period corresponding to the buildout year of the Project was 3.03%. This growth factor accounts for increases in traffic due to potential projects plus projects not yet proposed and projects located outside the Study Area.

Related Projects

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

The list of Related Projects is based on information provided by LADCP and LADOT. Additionally, traffic studies prepared for projects in the area were also reviewed. Consistent with the TAG, there are no active Related Projects which meet TAG location specifications. Nonetheless, one Related Project beyond one-half mile radius of the farthest outlying study intersection was included for informational purposes and is detailed in Table 4 and shown in Figure 9.

Future without Project Traffic Volumes

As discussed above, there are no active Related Projects which meet the TAG location specifications. After adjustment for ambient growth through the projected buildout Year 2023, these volumes represent the Future without Project Conditions for the four study intersections and are shown in Figure 10.

Future Roadway Improvements

The analysis of Future Conditions accounted for roadway improvements that were funded and reasonably expected to be implemented prior to the buildout of the proposed Project. Any roadway improvement that would result in changes to the physical configuration at the study intersections would be incorporated into the analysis. Other proposed traffic / trip reduction strategies such as transportation demand management (TDM) programs for individual buildings and developments were omitted from the Future Conditions analyses. Figure 11 illustrates the future transportation facilities improvements, including future transit, bicycle, and pedestrian facilities per the Mobility Plan, within the Study Area. The following plans were evaluated for their potential effects on the future roadway configurations.

Mobility Plan. In the Mobility Plan, the City identifies key corridors as components of various "mobility-enhanced networks." Each network is intended to focus on improving a particular aspect of urban mobility, including transit, neighborhood connectivity, bicycles, pedestrians, and vehicles. The specific improvements that may be implemented in those networks have not yet been identified, and there is no schedule for implementation; therefore, no changes to vehicular lane configurations were made because of the Mobility Plan. However, the following mobility-enhanced networks included corridors within the Study Area and depicted in Figure 11:

- 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. Currently, the TEN has not designated any streets within the Study Area as part of the network.

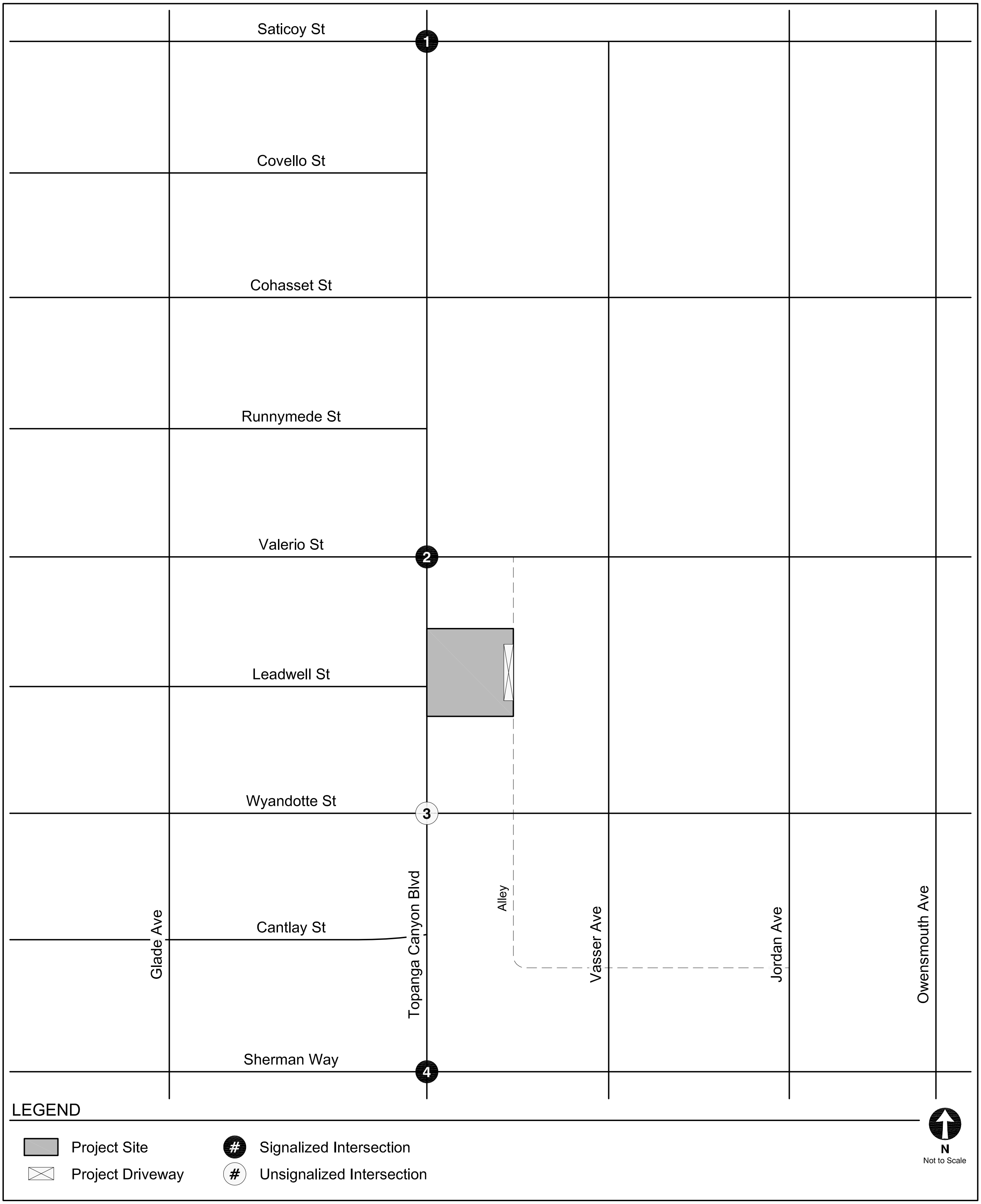
- NEN: The NEN reflects the synthesis of the bicycle and pedestrian networks and serves as a system of Local Streets that are slow moving and safe enough to connect neighborhoods through active transportation. The NEN has designated Valerio Street and Owensmouth Avenue north of Valerio Street within the Study Area as part of the network.

- BEN / BLN: Within the Study Area, Sherman Way east of Topanga Canyon Boulevard has been identified as part of the BEN. Topanga Canyon Boulevard, Sherman Way west of

Topanga Canyon Boulevard, and Owensmouth Avenue south of Valerio Street have been designated as part of the BLN.

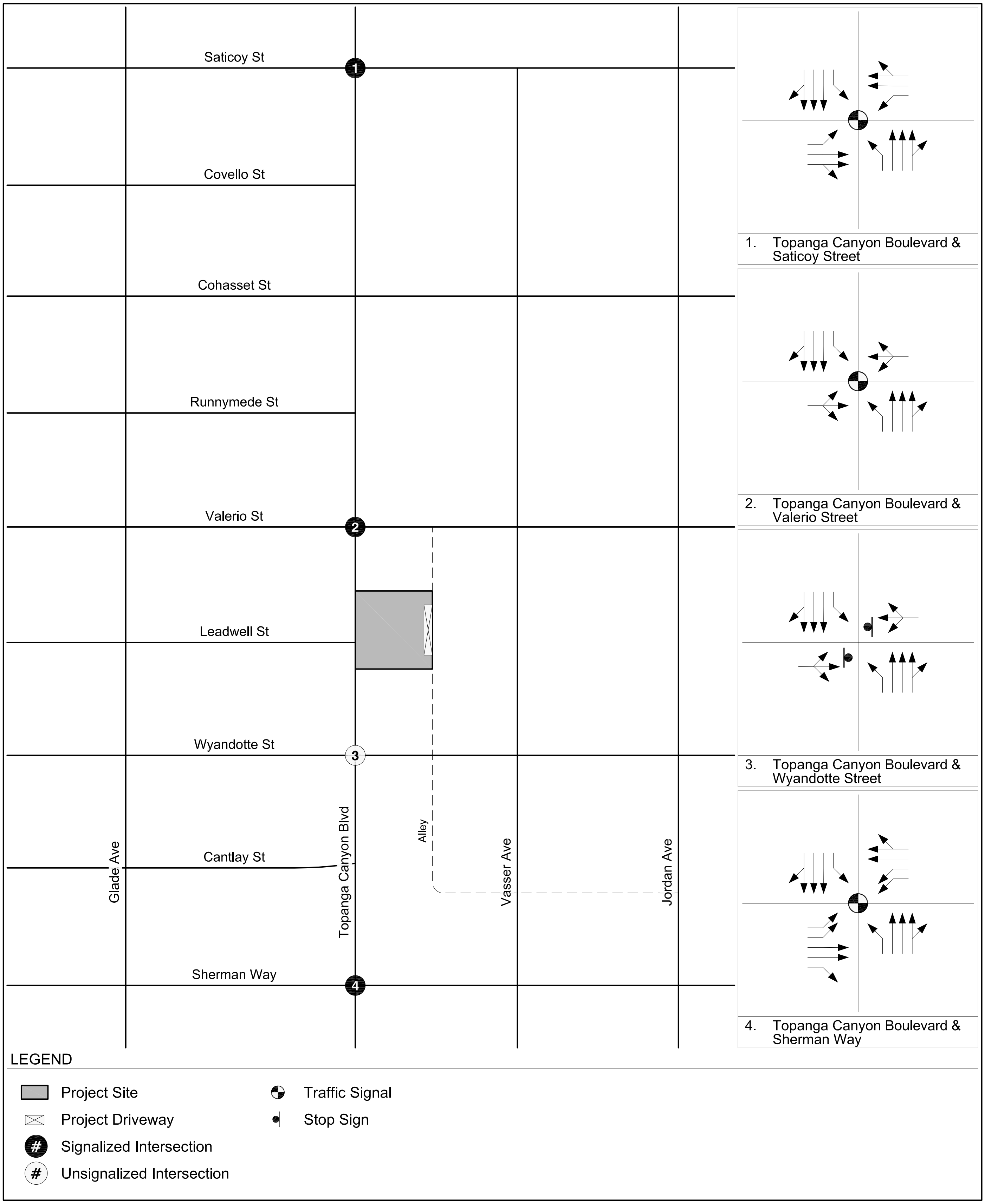
- Pedestrian Enhanced District (PED): The Mobility Plan aims to promote walking to reduce the reliance on automobile travel by providing more attractive and pedestrian-friendly sidewalks, as well as adding pedestrian signalizations, street trees, and pedestrian-oriented design features. The PED has designated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

Safe Routes to School. The 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. No improvements have been identified in the Study Area as part of the Safe Routes to School program.



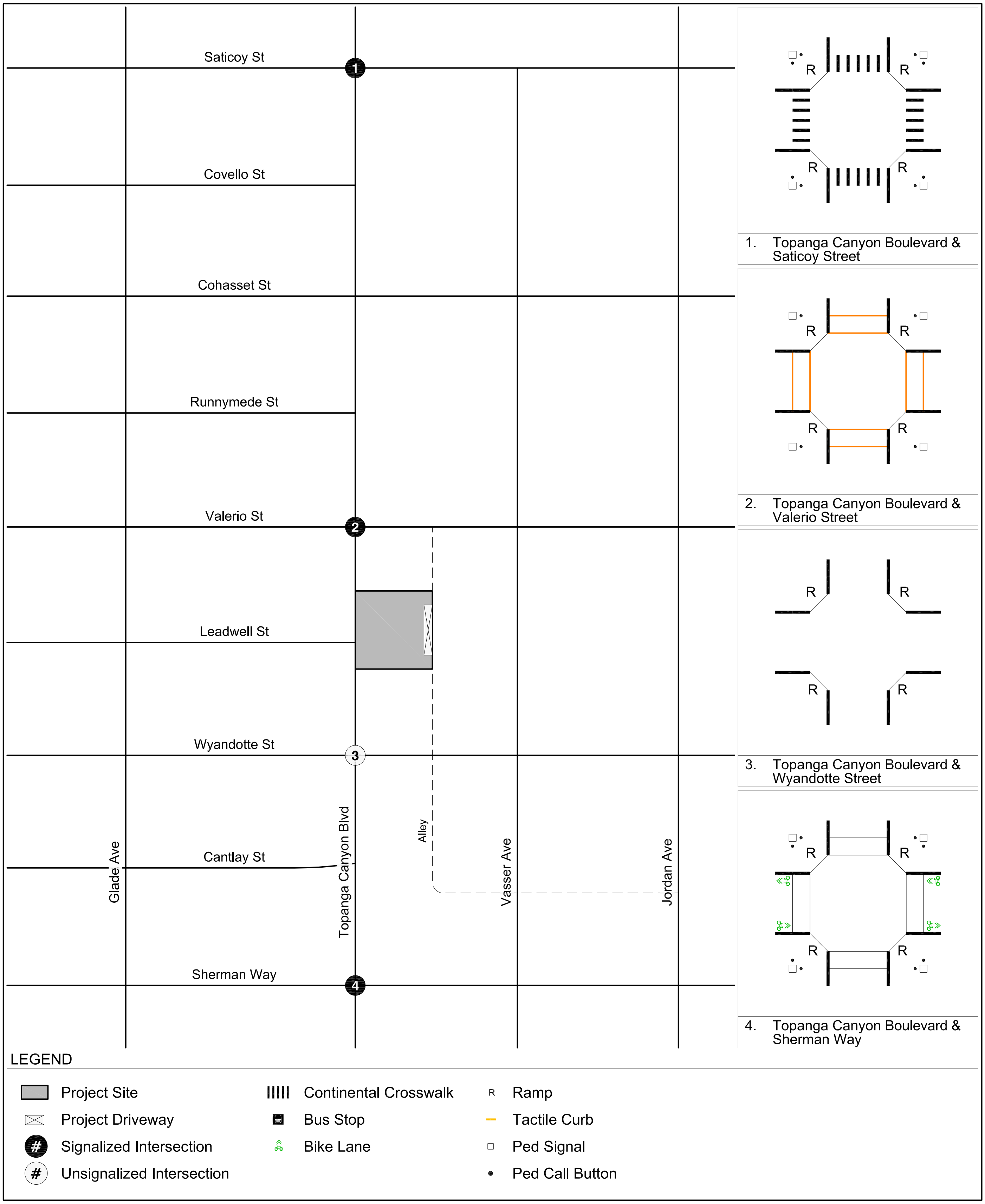
STUDY AREA & ANALYZED INTERSECTIONS

FIGURE 3



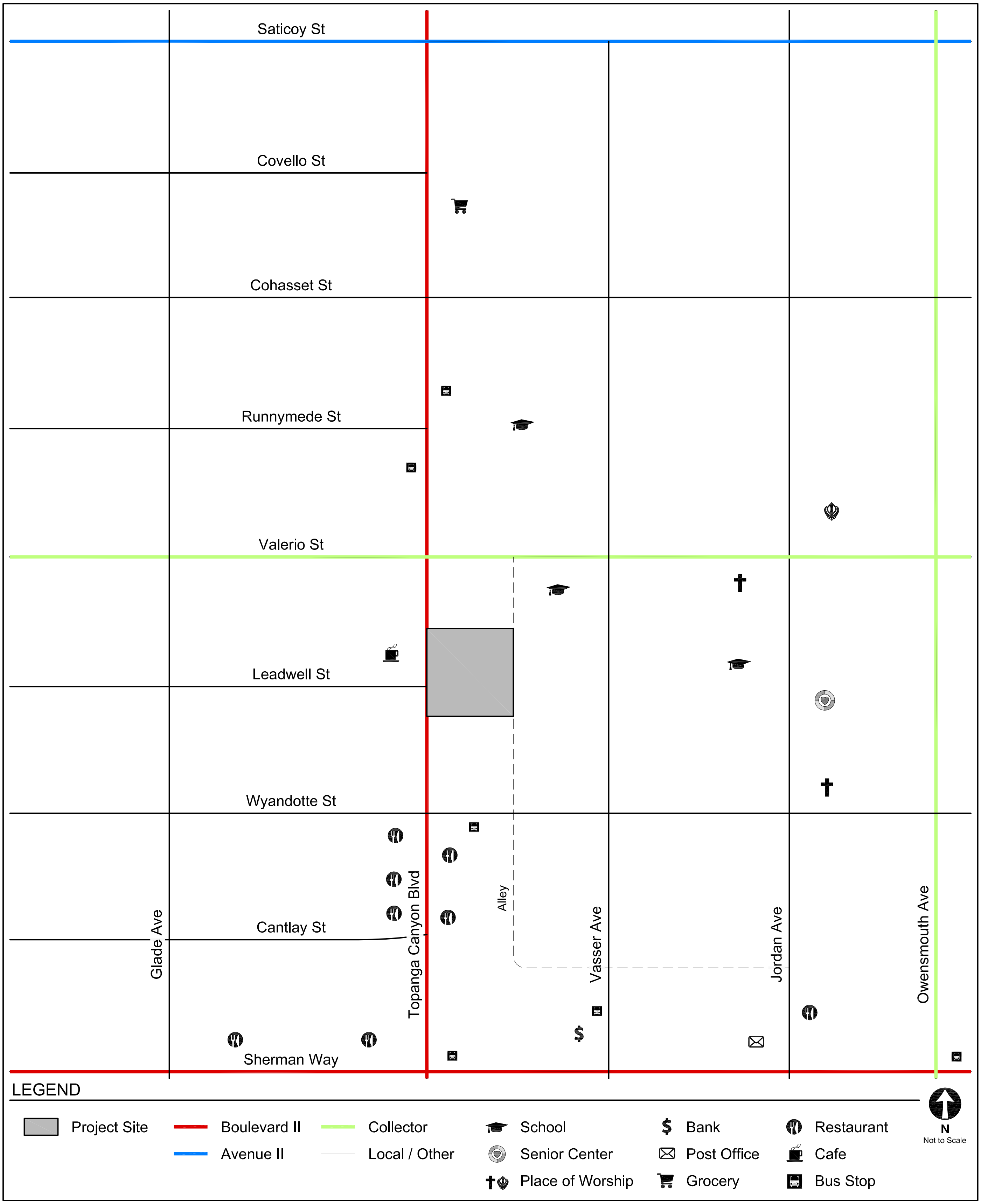
INTERSECTION LANE CONFIGURATIONS

FIGURE 4



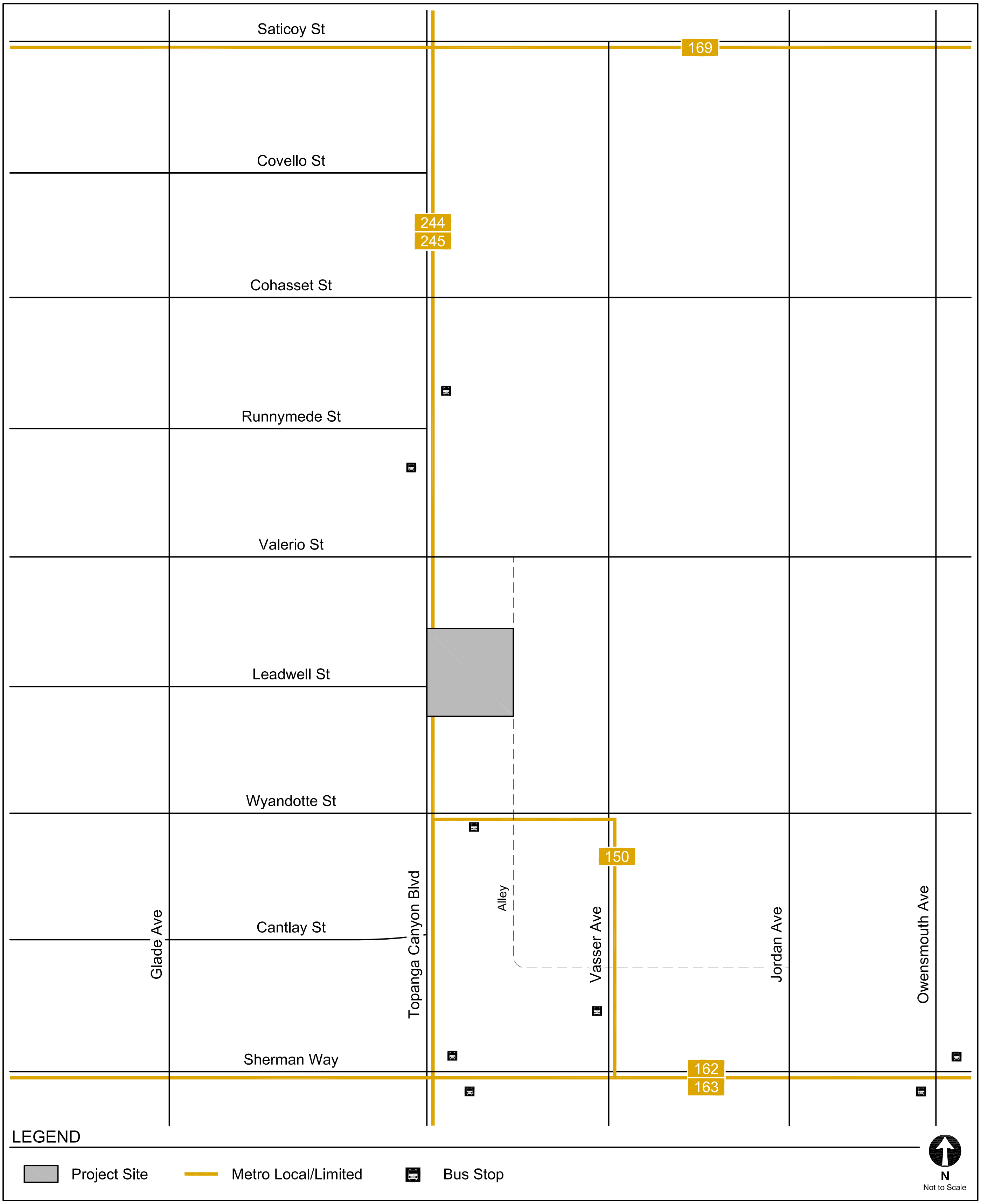
EXISTING INTERSECTION MOBILITY FACILITIES

FIGURE 5



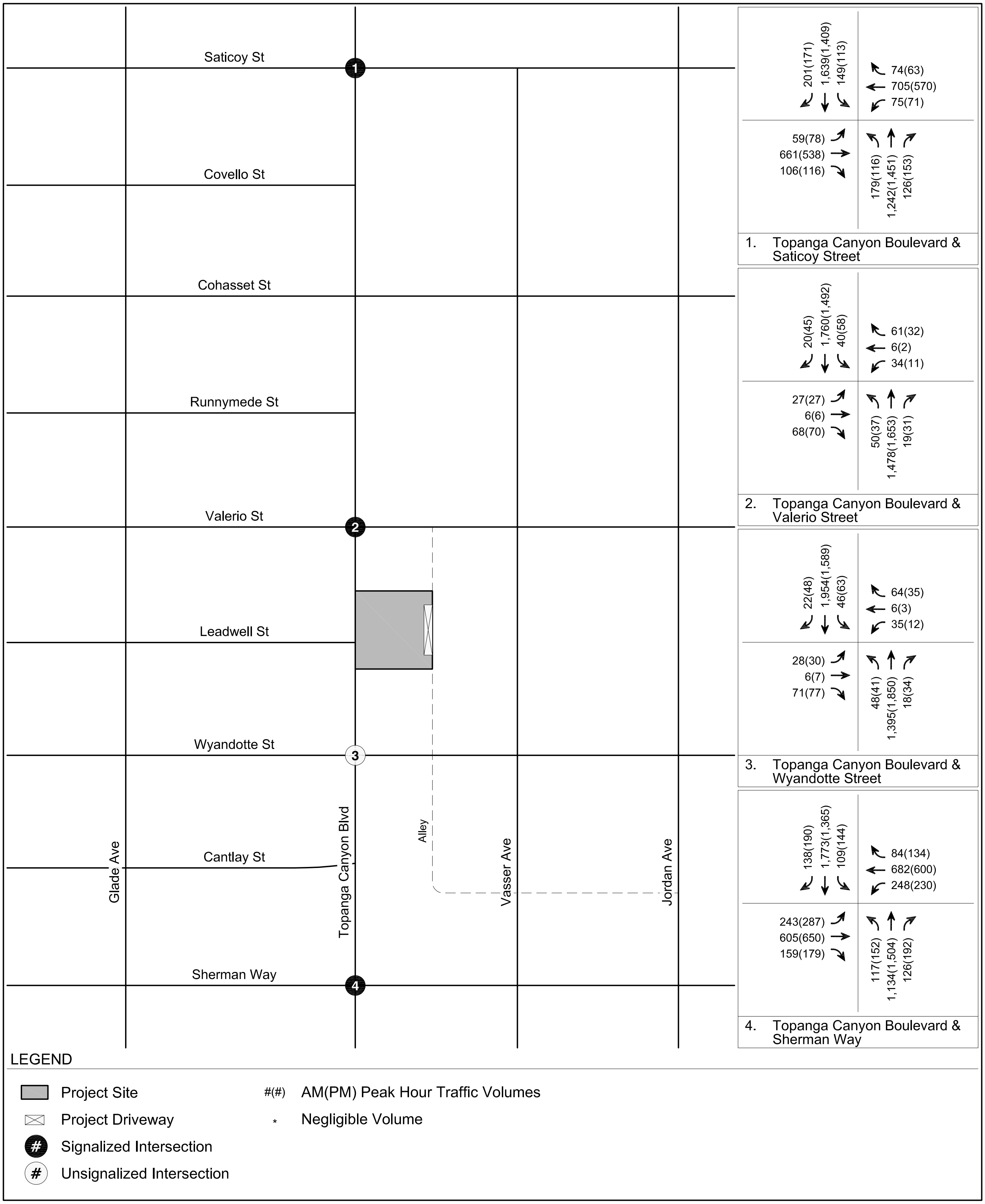
EXISTING TRANSPORTATION DESIGNATIONS & PEDESTRIAN DESTINATIONS

FIGURE 6



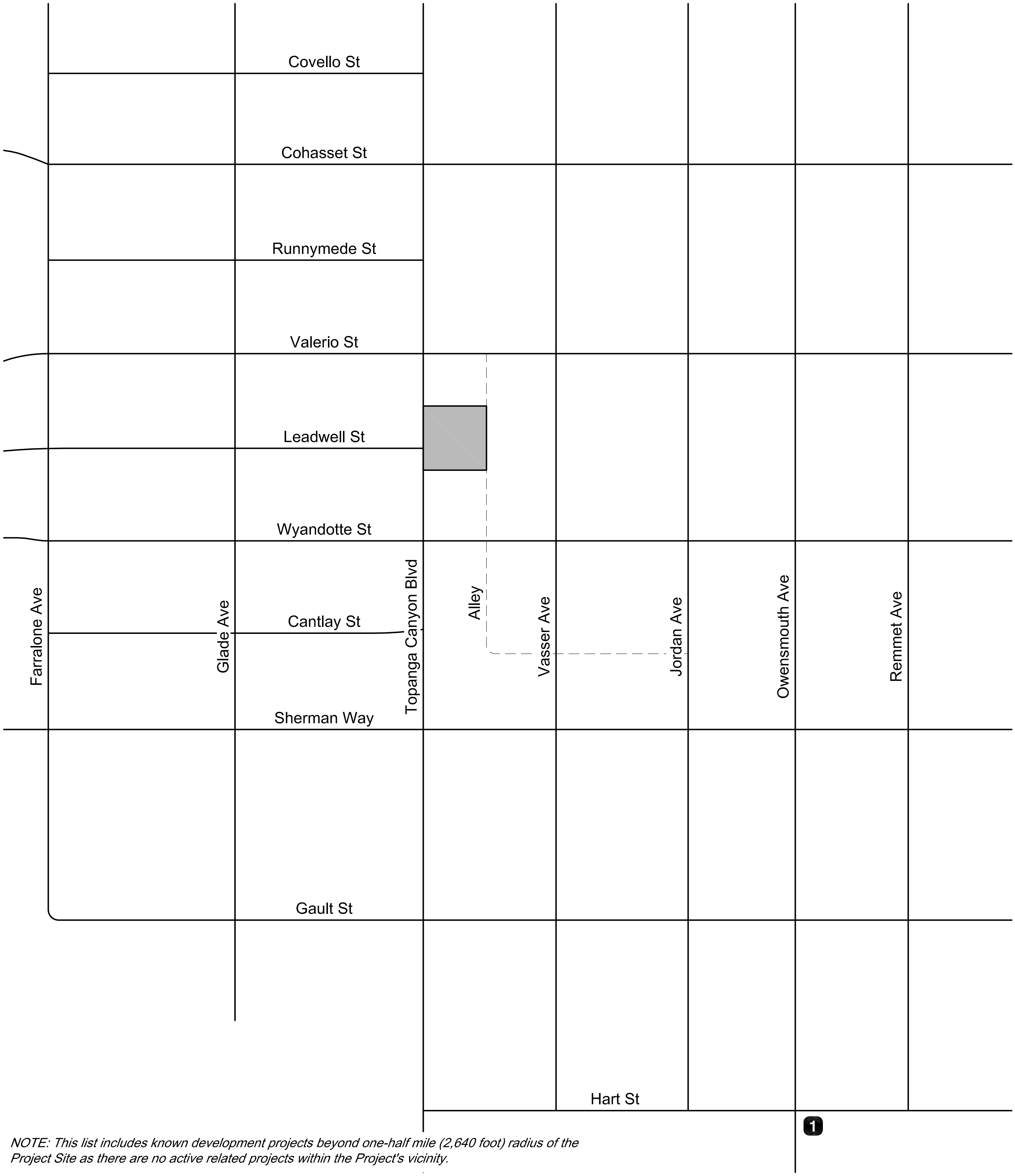
EXISTING TRANSIT SERVICE

FIGURE 7



EXISTING CONDITIONS (YEAR 2020)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 8



NOTE: This list includes known development projects beyond one-half mile (2,640 foot) radius of the Project Site as there are no active related projects within the Project's vicinity.

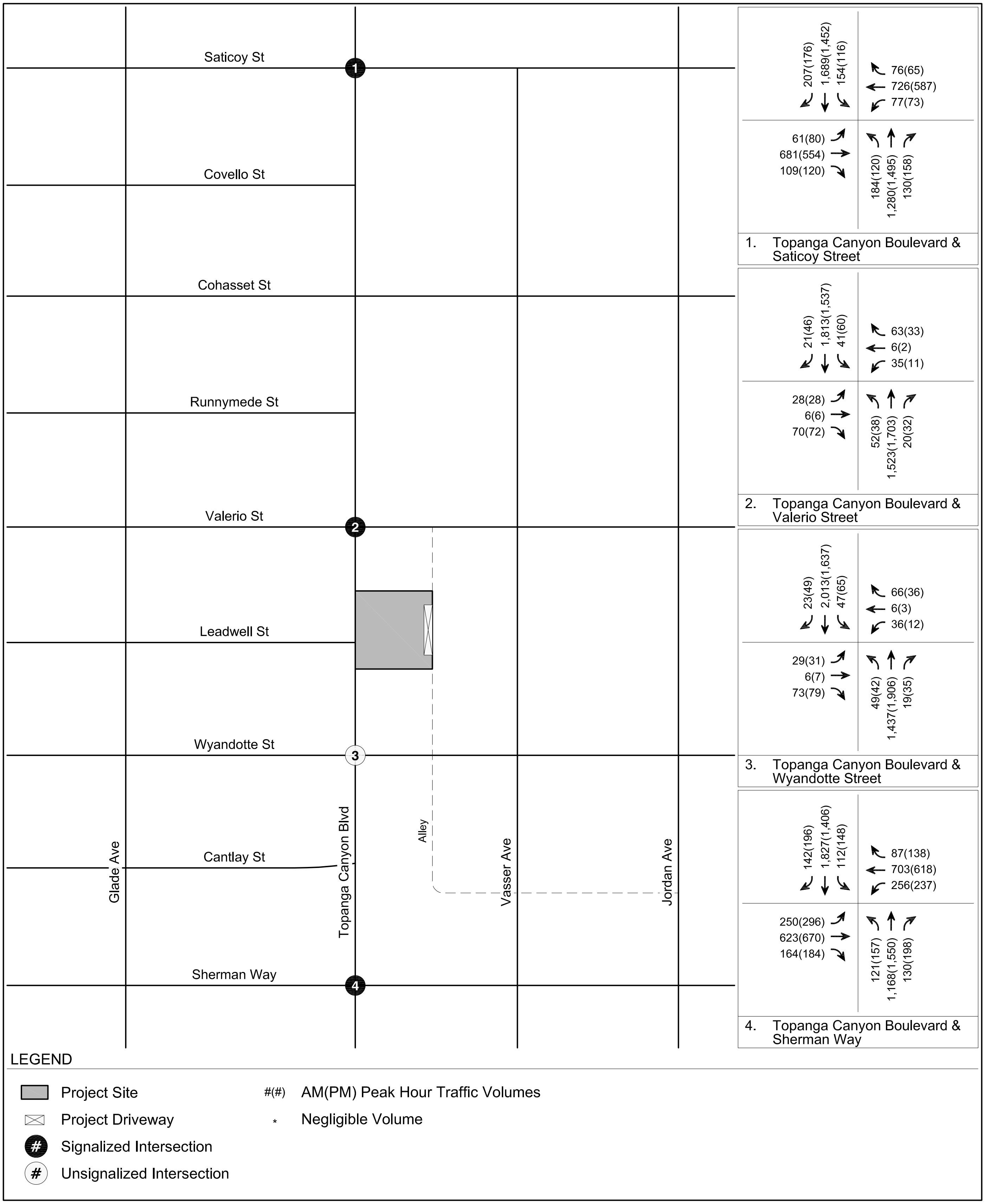
LEGEND

Project Site   # Related Project

N
Not to Scale

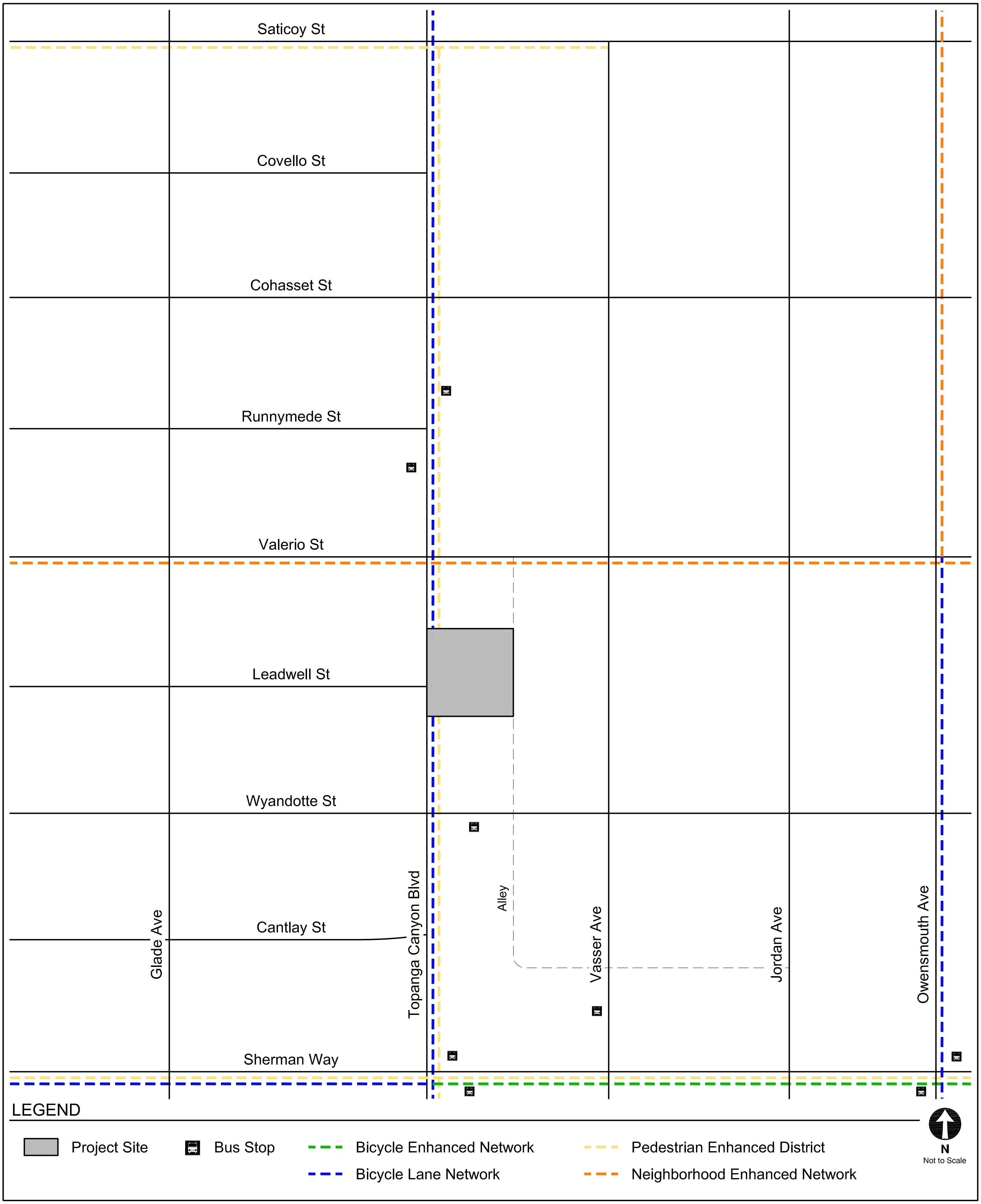
LOCATIONS OF RELATED PROJECTS

FIGURE 9



FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2023)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 10



FUTURE TRANSPORTATION FACILITIES & ROADWAY MODAL PRIORITIES

FIGURE 11

TABLE 1
STUDY INTERSECTIONS

No.	North/South Street	East/West Street	Jurisdiction
1.	Topanga Canyon Boulevard	Saticoy Street	City of Los Angeles
2.	Topanga Canyon Boulevard	Valerio Street	City of Los Angeles
3. [a]	Topanga Canyon Boulevard	Wyandotte Street	City of Los Angeles
4.	Topanga Canyon Boulevard	Sherman Way	City of Los Angeles

Notes
[a] Unsignalized Intersection

TABLE 2
EXISTING TRANSIT SERVICE IN STUDY AREA

Provider, Route, and Service Area		Service Type	Hours of Operation	Average Headway (minutes)			
				Morning Peak Hour		Afternoon Peak Hour	
Metro Bus Service				**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
150	Eastbound to Studio City, Westbound to Canoga Park, Northridge	Local	24-Hours	34	30	34	27
162/163	Eastbound to Sun Valley, Westbound to West Hills via Sherman Way, Lankershim Blvd	Local	4:45 A.M. - 12:45 A.M.	13	14	15	13
169	Eastbound to Burbank, Westbound to Canoga Station via Saticoy St, Valley Circle Blvd	Local	5:00 A.M. - 7:00 P.M.	40	30	60	60
244/245	Northbound to Chatsworth, Southbound to Woodland Hills via Topanga Canyon Blvd, De Soto Ave	Local/Late Night	5:15 A.M. - 10:00 P.M.	60	48	48	48

Notes
Metro: Los Angeles County Metropolitan Transportation Authority
NB: Northbound
EB: Eastbound
SB: Southbound
WB: Westbound

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

Provider, Route, and Service Area		Capacity per Trip [a]	Peak Hour Ridership [b]				Average Remaining Capacity per Trip		Average Remaining Peak Hour Capacity	
			Peak Load		Average Load					
			NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Metro Bus Service										
150	Eastbound to Studio City, Westbound to Canoga Park, Northridge	50	11	2	6	1	44	49	77	111
162/163	Eastbound to Sun Valley, Westbound to West Hills via Sherman Way, Lankershim Blvd	50	8	7	4	5	46	45	184	181
169	Eastbound to Burbank, Westbound to Canoga Station via Saticoy St, Valley Circle Blvd	50	5	22	4	12	46	38	46	38
244/245	Northbound to Chatsworth, Southbound to Woodland Hills via Topanga Canyon Blvd, De Soto Ave	50	21	9	10	5	40	45	50	57
Total Remaining Peak Hour Transit System Capacity									**744**	

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

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

Provider, Route, and Service Area		Capacity per Trip [a]	Peak Hour Ridership [b]				Average Remaining Capacity per Trip		Average Remaining Peak Hour Capacity	
			Peak Load		Average Load					
			NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Metro Bus Service										
150	Eastbound to Studio City, Westbound to Canoga Park, Northridge	50	6	2	3	1	47	49	82	111
162/163	Eastbound to Sun Valley, Westbound to West Hills via Sherman Way, Lankershim Blvd	50	15	6	10	3	40	47	160	187
169	Eastbound to Burbank, Westbound to Canoga Station via Saticoy St, Valley Circle Blvd	50	24	8	18	6	33	44	33	44
244/245	Northbound to Chatsworth, Southbound to Woodland Hills via Topanga Canyon Blvd, De Soto Ave	50	13	23	9	15	41	35	51	44
Total Remaining Peak Hour Transit System Capacity									**711**	

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

TABLE 4
RELATED PROJECTS

No.	Related Project Name	Address	Distance from Project Site	Use	Trip Generation [a]						
					Daily	Morning Peak Hour			Afternoon Peak Hour		
						In	Out	Total	In	Out	Total
1.	CPC-2019-1267-ZC-SPR	6940 Owensmouth Avenue	0.55 mile	80 apartment units	-	-	-	-	-	-	-

Notes
[a] Related project information provided by the Los Angeles Department of Transportation on July 23, 2020, Department of City Planning, and recent traffic studies prepared in the area. This list includes known development projects beyond one-half mile (2,640 foot) radius of the Project Site as there are no active related projects within the Project's vicinity.

Chapter 3
Project Traffic

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

PROJECT TRIP GENERATION

The number of peak hour trips expected to be generated by the Project was estimated using morning and afternoon peak hour rates for multifamily housing published in *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers [ITE], 2017), as well as morning and afternoon peak hour rates for Affordable Housing – Family sites published in the TAG based on vehicle trip count data collected at affordable housing sites in the City in 2016. The "Average Rate" was conservatively utilized as the entire Project Site is not fully in a Southern California Association of Governments (SCAG) 2016 Transit Priority Area (TPA) but is within a SCAG 2045 TPA. No additional transit/walking adjustment was applied to the affordable housing units.

The number of trips currently generated by the existing uses of the Project Site was also estimated using ITE rates for office uses. The ITE rates were determined by surveys of similar land uses at sites around the country and are used to calculate the number of vehicle trips traveling to and from the Project Site during the morning and afternoon peak hour relative to the size of development of the specific land use. In consultation with LADOT during the MOU process, allowable trip generation reductions were applied to account for public transit usage/walking arrivals:

- Transit/Walk-In Usage: Because the Project Site is located within a 0.5-mile walking distance from a Metro Local bus stop (Route 150) on Topanga Canyon Boulevard, a 10% reduction was applied to the market-rate units and office uses to account for transit usage and walk-in arrivals from surrounding neighborhoods and adjacent commercial developments.

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After accounting for the adjustments above and the removal of the existing uses, the Project is anticipated to generate 14 net new morning peak hour trips (-17 inbound, 31 outbound) and 23 net new afternoon peak hour trips (31 inbound, -8 outbound), as summarized in Table 5.

PROJECT TRIP DISTRIBUTION

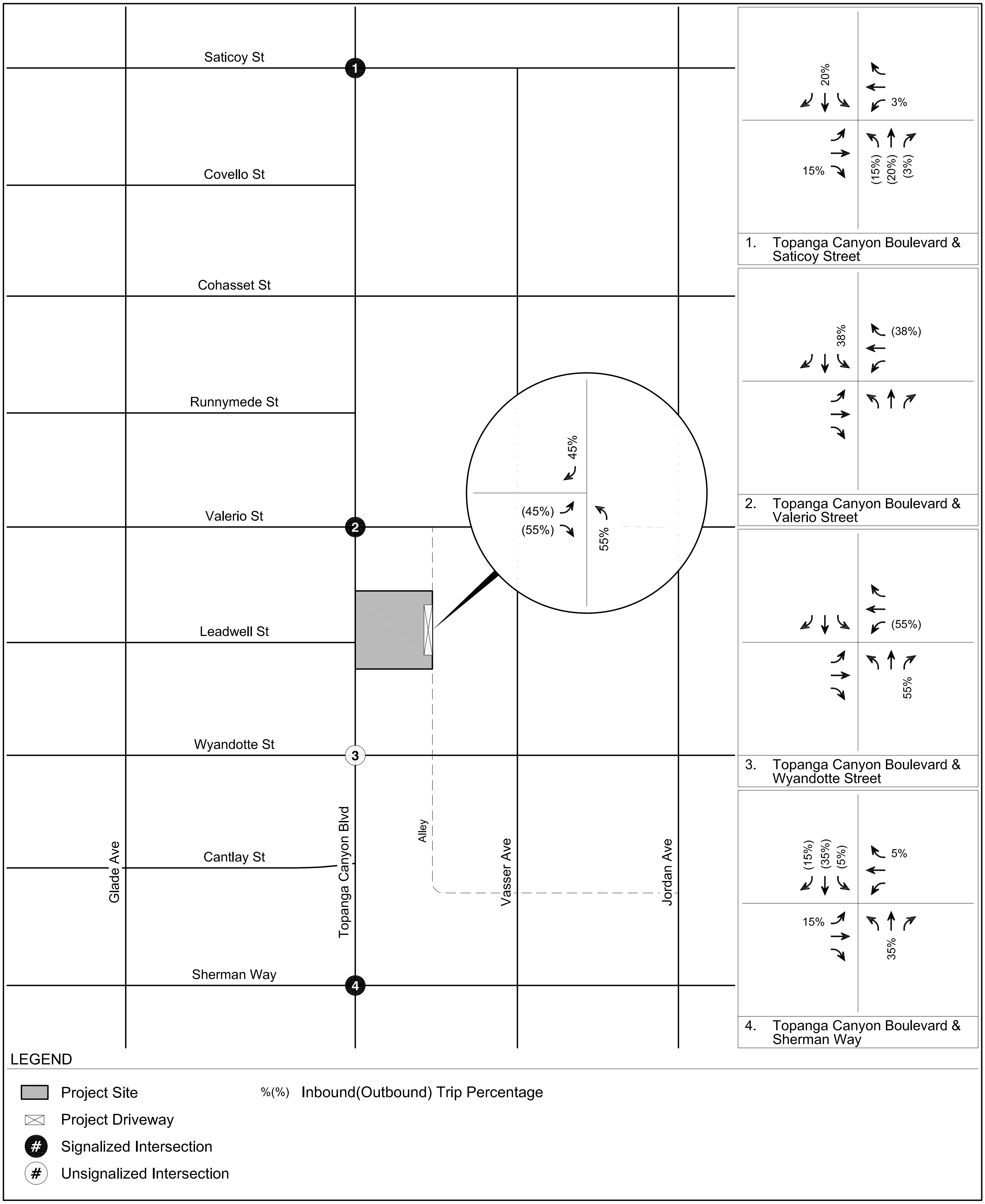
The geographic distribution of trips generated by the Project is primarily dependent on the location of residential and commercial uses from which employees and tenants of the Project would be drawn, characteristics of the street system serving the Project Site, existing intersection traffic volumes,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

The intersection-level trip distribution for the Project is shown in Figure 12. Generally, the regional pattern is as follows:

- 20% to/from the north
- 15% to/from the east
- 35% to/from the south
- 30% to/from the west

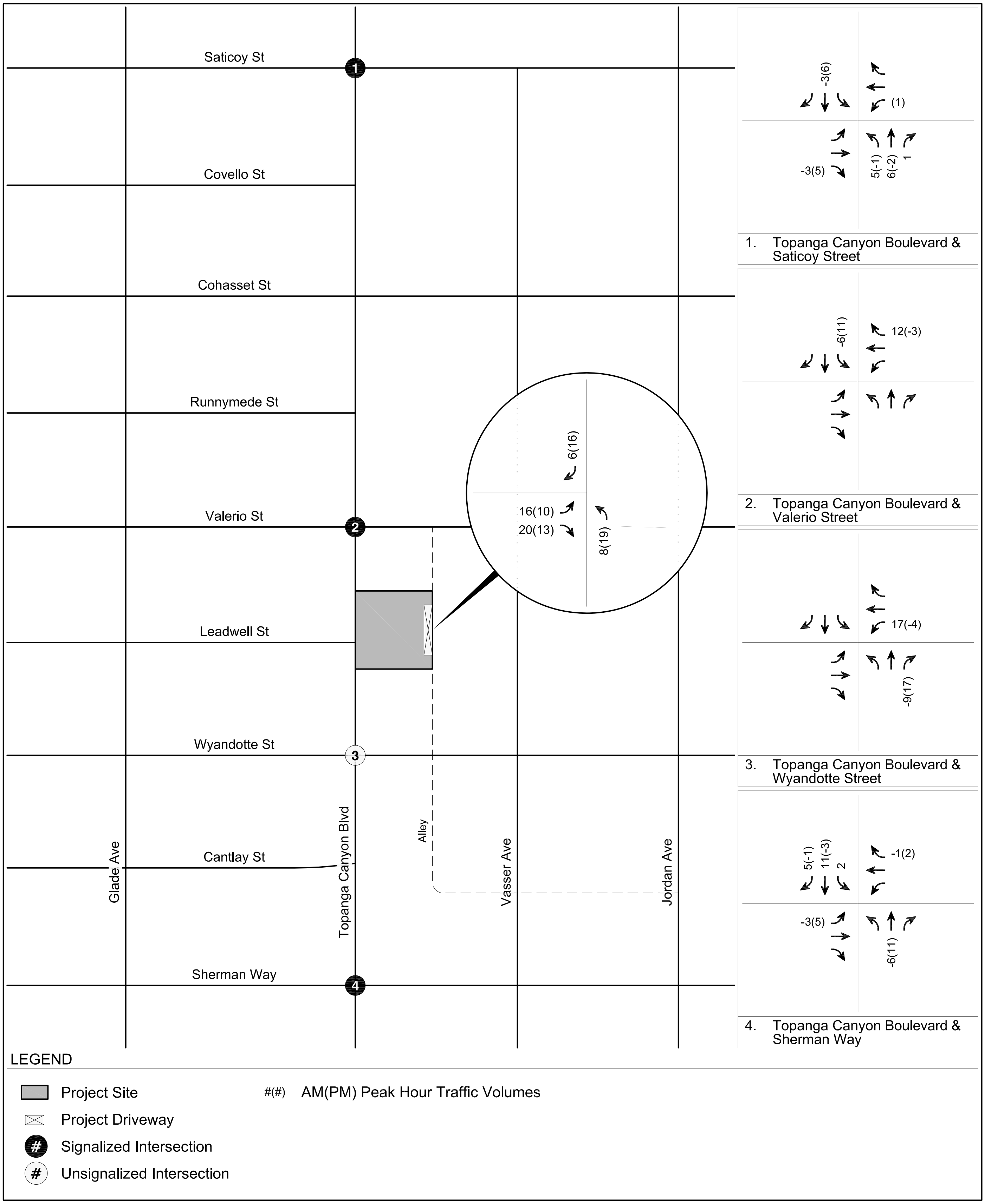
PROJECT TRIP ASSIGNMENT

The Project trip generation estimates summarized in Table 5 and the trip distribution pattern shown in Figure 12, were used to assign the Project-generated traffic through the study intersections. Figure 13 illustrates the Project-only traffic volumes at the study intersections during typical weekday morning and afternoon peak hours.



PROJECT TRIP DISTRIBUTION

FIGURE 12



NET PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE 13

TABLE 5
PROJECT VEHICLE TRIP GENERATION

Land Use	ITE Land Use	Rate	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
Trip Generation Rates [a]								
Multifamily Housing (Mid-Rise)	221	per du	26%	74%	0.36	61%	39%	0.44
Affordable Housing - Family	[b]	per du	38%	62%	0.52	56%	44%	0.38
General Office Building	710	per ksf	86%	14%	1.16	16%	84%	1.15
Proposed Project								
Multifamily Housing (Mid-Rise)	221	137 du	13	36	49	37	23	60
Transit/Walk Adjustment - 10% [c]			*(1)*	*(4)*	*(5)*	*(4)*	*(2)*	*(6)*
Affordable Housing - Family	[b]	12 du	2	4	6	3	2	5
TOTAL TRIPS - PROPOSED PROJECT			**14**	**36**	**50**	**36**	**23**	**59**
Existing Uses to be Removed								
General Office Building	710	34.884 ksf	34	6	40	6	34	40
Transit/Walk Adjustment - 10% [c]			*(3)*	*(1)*	*(4)*	*(1)*	*(3)*	*(4)*
TOTAL NET TRIPS - EXISTING USES TO BE REMOVED			**31**	**5**	**36**	**5**	**31**	**36**
TOTAL NET NEW PROJECT TRIPS			**(17)**	**31**	**14**	**31**	**(8)**	**23**

Notes
du: dwelling unit
ksf: 1,000 square feet
[a] Except as noted, trip generation source is *Trip Generation Manual, 10th Edition*, Institute of Transportation Engineers, 2017.
[b] Trip rates per LADOT *Transportation Assessment Guidelines* (July 2020), where 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 of Los Angeles in 2016. The 'Average Rate' is conservatively utilized as the entire site is not fully in a SCAG 2016 TPA, but is within a SCAG 2045 TPA; no additional transit adjustment applied.
[c] The Project site is located 0.5-mile to a Metro Local Bus (Route 150) stop on Topanga Canyon Bl, therefore a 10% transit adjustment was applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments.

Chapter 4

CEQA Analysis of Transportation Impacts

This chapter presents the results of an analysis of CEQA-related transportation impacts. The analysis identifies any potential conflicts the Project may have with adopted City plans and policies and the improvements associated with the potential conflicts as well as the results of a Project VMT analysis that satisfies State requirements under *State of California Senate Bill 743* (Steinberg, 2013) (SB 743), and an identification of any hazards which would be created due to geometric design features.

METHODOLOGY

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

The TAG defines the methodology of analyzing a project's transportation impacts in accordance with SB 743.

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

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

The thresholds were reviewed and analyzed, as detailed in the following Sections 4A-4D. In addition, a CEQA safety analysis of Caltrans facilities for the Project is provided in Section 4E.

Section 4A: Threshold T-1

Conflicting with Plans, Programs, Ordinances, or Policies Analysis

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

PLANS, PROGRAMS, ORDINANCES, AND POLICIES

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

As stated in Section 2.1.4 of the TAG, a project that generally conforms with, and does not obstruct the City's development policies and standards will generally be considered to be consistent. As detailed in Appendix C, the Project is generally consistent with the City documents listed in Table 2.1-1 of the TAG; therefore, the Project would not result in a significant impact under Threshold T-1. A detailed discussion of the plans, programs, ordinances, or policies related to the Project is provided below.

Mobility Plan

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

- Safety First: Design and operate streets in a way that enables safe access for all users, regardless of age, ability, or transportation mode of choice.

- World Class Infrastructure: A well-maintained and connected network of streets, paths, bikeways, trails, and more provides Angelenos with the optimum variety of mode choices.

- Access for All Angelenos: A fair and equitable system must be accessible to all and must pay particularly close attention to the most vulnerable users.

- Collaboration, Communication, and Informed Choices: The impact of new technologies on our day-to-day mobility demands will continue to become increasingly important to the future. The amount of information made available by new technologies must be managed responsibly in the future.

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

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

Consistent with the driveway location planning guidelines, vehicular access to the Project would be placed on a non-arterial street. Three gated driveways would be located on the alley that runs along the eastern boundary of the Project Site so as not to disrupt the operation of Topanga Canyon Boulevard, the Arterial Street along the western boundary of the Project Site. The driveways are replacing two existing driveways along Topanga Canyon Boulevard, thereby significantly reducing potential conflicts between vehicles and other users. The driveways would be designed in accordance with the standards set forth in *Manual of Policies and Procedures* (LADOT, December 2008).

The Project would provide a 3-foot roadway dedication along the Project frontage on Topanga Canyon Boulevard to meet City standards for a designated Boulevard II. Detailed dimensions of the adjacent streets are provided in Appendix C. As further detailed in Section 5E, the Project would provide off-street parking to satisfy Los Angeles Municipal Code (LAMC) requirements. The Project would also retain all other existing on-street parking along the Project frontage and potentially gain public parking with the elimination of two driveways on Topanga Canyon Boulevard.

The Project does not propose repurposing existing curb space, narrowing or shifting existing sidewalk placement, or paving, narrowing, shifting, or removing an existing parkway. The Project anticipates widening the sidewalk along Topanga Canyon Boulevard by one foot. The Project would install street trees and tree wells as required by the Urban Forestry Division to provide adequate shade, and streetlights as required by the Bureau of Street Lighting to enhance the pedestrian environment. Secured bicycle parking facilities within the Project Site would also be provided. These measures would promote active transportation modes such as biking and walking, thereby reducing the Project VMT per capita for residents compared to the average for the area, as demonstrated in Section 4B. Further, the Project does not propose modifying, removing, or otherwise negatively affect existing bicycle infrastructure.

Thus, the Project would be consistent with the goals of the Mobility Plan.

Plan for a Healthy Los Angeles

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

A detailed analysis of the Project's consistency with Plan for a Healthy Los Angeles is provided in Table 7. The Project prioritizes safety and access for all individuals utilizing the site by complying with all ADA requirements and providing connections to pedestrian amenities. Further, the Project supports healthy lifestyles by locating housing near transit (Metro Local bus routes), providing bicycle amenities, and enhancing the pedestrian environment by providing wider sidewalks, street trees, and street lights for a more comfortable environment for pedestrians. The Project will also eliminate two driveways along Topanga Canyon Boulevard, thereby reducing potential conflicts between vehicles and pedestrians/bicyclists.

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. The Project is located within the *Canoga Park-Winnetka-Woodland Hills-West Hills Community Plan* area.

A detailed analysis of the Project's consistency with *Canoga Park-Winnetka-Woodland Hills-West Hills Community Plan* is provided below and addressed in Table 8. The Project provides market-rate and affordable housing units to meet diverse residential needs without displacement of existing residents, is located in proximity to regional bus lines, and would provide convenient access to the regional transportation system. Thus, the Project would be consistent with the objectives of *Canoga Park-Winnetka-Woodland Hills-West Hills Community Plan.*

LAMC Section 12.21.A.16 (Bicycle Parking)

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

LAMC Section 12.26J (TDM Ordinance)

LAMC Section 12.26J, the TDM Ordinance (1993), establishes trip reduction requirements for non-residential projects in excess of 25,000 sf. The Project does not propose non-residential uses in excess of 25,000 sf. Therefore, LAMC Section 12.26J is not applicable.

Vision Zero Action Plan / Vision Zero Corridor Plans

Vision Zero implements projects that are designed to increase safety on the most vulnerable City streets. As discussed in Chapter 2, adjacent to the Project Site, Topanga Canyon Boulevard has been identified as part of the High Injury Network. Nonetheless, the Project would not preclude future Vision Zero Safety Improvements by the City. Thus, the Project does not conflict with Vision Zero.

Streetscape Plans

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

Citywide Design Guidelines

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

The Pedestrian-First Design guidelines are as follows:

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

A detailed analysis of the Project's consistency with the guidelines of the Pedestrian-First Design approach is provided in Table 9.

The Project design includes wider, accessible sidewalks, pedestrian amenities, and three vehicular access driveways designed in accordance with the City's design considerations. Two vehicular driveways along Topanga Canyon Boulevard will be removed, reducing the potential conflicts between pedestrians and vehicles within the public ROW. The Project would install street trees and tree wells as required by the Urban Forestry Division to provide adequate shade and streetlights as required by the Bureau of Street Lighting to enhance the pedestrian environment. Thus, the Project design provides a more comfortable environment for pedestrians aligning with the Pedestrian-First Design approach.

CUMULATIVE ANALYSIS

In addition to potential Project-specific impacts, the TAG requires that the Project be reviewed in combination with nearby Related Projects to determine if there may be a cumulatively significant impact resulting from inconsistency with a particular program, plan, policy, or ordinance. In accordance with the TAG, the cumulative analysis must include consideration of any Related Projects within 0.50 miles of the Project Site and any transportation system improvements in the vicinity. Table 4 identifies a single Related Project located outside of the required radius of the Project Site and would not result in a significant cumulative contribution to the Study Area.

Additionally, no 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. The Related Project considered in this cumulative analysis of consistency with programs, plans, policies, and ordinances would be separately reviewed and approved by the City, including a check for their consistency with applicable policies. Therefore, the Project, together with the Related Project identified in Table 4, would not create inconsistencies nor result in cumulative impacts with respect to the identified programs, plans, policies, and ordinances.

TABLE 6
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Chapter 1 – Safety First	
Policy 1.1, Roadway User Vulnerability Design, plan, and operate streets to prioritize the safety of the most vulnerable roadway user.	**Consistent.** Access to the Project would be provided via three gated driveways along the alley that runs along the eastern boundary of the Project Site. The driveways are replacing two existing driveways along Topanga Canyon Boulevard, a designated Boulevard II. Pedestrian and bicycle access would be provided separate from the vehicular access via a lobby entrance along Topanga Canyon Boulevard.
Policy 1.6 Multi-Modal Detour Facilities Design detour facilities to provide safe passage for all modes of travel.	**Consistent.** The Project would prepare a construction management plan that would include, to the extent necessary, detour rates for all applicable travel modes, including pedestrian and transit users.
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, narrowing or shifting existing sidewalk placement, or paving, narrowing, shifting, or removing an existing parkway. The Project anticipates widening the sidewalk along Topanga Canyon Boulevard by one foot. The Project would also install street trees and tree wells as required by the Urban Forestry Division to provide adequate shade and streetlights as required by the Bureau of Street Lighting to enhance the pedestrian environment.
Policy 2.4 Neighborhood Enhanced Network Provide a slow speed network of locally serving streets.	**Consistent.** Within the Study Area, Valerio Street is identified as part of the Neighborhood Enhanced Network. The Project would add some traffic to the street but otherwise would not affect the speed or safety of Valerio Street.
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.** Existing Class II bicycle lanes are provided along Sherman Way within the Study Area. The Project would provide secure bicycle parking for residents and would not hinder the ability to install bicycle infrastructure in the future.

TABLE 6 (CONTINUED)
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Chapter 3 – Access for All Angelenos	
<u>Policy 3.1 Access for All</u> Recognize all modes of travel, including pedestrian, bicycle, transit, and vehicular modes – including goods movement – as integral components of the City's transportation system.	**Consistent.** The Project encourages multi-modal transportation alternatives and access for all travel modes to and from the Project Site. The Project provides separate pedestrian, bicycle, and vehicular access points and provides bicycle parking to encourage walking and bicycling. It encourages transit usage by developing a residential project located in proximity to transit.
<u>Policy 3.2 People with Disabilities</u> Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way.	**Consistent.** The Project's vehicular and pedestrian entrances would be designed in accordance with LADOT standards and requirements from the Americans with Disabilities Act.
<u>Policy 3.4 Transit Services</u> Provide all residents, workers, and visitors with affordable, efficient, convenient, and attractive transit services.	**Consistent.** The Project is located within a 0.5-mile walking distance from Metro Local bus stops along Topanga Canyon Boulevard.
<u>Policy 3.8 Bicycle Parking</u> Provide bicyclists with convenient, secure, and well-maintained bicycle parking facilities.	**Consistent.** The Project would provide secure long-term and short-term bicycle parking for residents and guests.
Chapter 4 – Collaboration, Communication, & Informed Choices	
<u>Policy 4.8 Transportation Demand Management Strategies</u> Encourage greater utilization of Transportation Demand Management (TDM) strategies to reduce dependence on single-occupancy vehicles.	**Consistent.** The Project is located in close proximity to transit and would provide TDM improvements including bicycle parking. These measures would promote non-auto travel to reduce transportation-related impacts to the environment.
<u>Policy 4.13 Parking and Land Use Management</u> Balance on-street and off-street parking supply with other transportation and land use objectives.	**Consistent.** The Project would provide sufficient off-street parking to meet Project parking requirements. The Project would also retain existing on-street parking around Project Site frontage and allow for additional curb space in the locations of the two existing driveways along Topanga Canyon Boulevard.

TABLE 6 (CONTINUED)
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Chapter 5 – Clean Environments & Healthy Communities	
<u>Policy 5.1 Sustainable Transportation</u> Encourage the development of a sustainable transportation system that promotes environmental and public health.	**Consistent.** As part of the Project, secure bicycle parking would be provided for residents, which would promote active transportation modes such as biking and walking. Additionally, the Project is near high-quality bus transit along Topanga Canyon Boulevard.
<u>Policy 5.2 Vehicle Miles Traveled (VMT)</u> Support ways to reduce vehicle miles traveled (VMT) per capita.	**Consistent.** The Project is estimated to generate lower work VMT per employee than the average for the area, as demonstrated in Section 4B. Additionally, the Project would incorporate design features, which include TDM measures to reduce the number of single occupancy vehicle trips to the Project Site, including the following: • Include bike parking per LAMC, including short-term and long-term parking facilities

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

TABLE 7
PROJECT CONSISTENCY WITH PLAN FOR A HEALTHY LOS ANGELES

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Chapter 1 – Los Angeles, a Leader in Health and Equity	
Policy 1.5 Plan for Health Improve Angelenos' health and well-being by incorporating a health perspective into land use, design, policy, and zoning decisions through existing tools, practices, and programs.	**Consistent.** The Project supports healthy lifestyles by locating housing near transit, providing bicycle parking, and orienting pedestrian access toward Topanga Canyon Boulevard.
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 existing office space into a more active and vibrant residential community with the development of market-rate and affordable housing.
Chapter 5 – An Environment Where Life Thrives	
Policy 5.7 Land Use Planning for Public Health and GHG Emission Reduction Promote land use policies that reduce per capita greenhouse gas emissions, result in improved air quality and decreased air pollution, especially for children, seniors, and others susceptible to respiratory diseases.	**Consistent.** The Project is estimated to generate lower household VMT per capita than the average for the area, as demonstrated in Section 4B. Additionally, the Project would incorporate design features, which include TDM measures to reduce the number of single occupancy vehicle trips to the Project Site, including the following: • Include bike parking per LAMC, including short-term and long-term parking facilities VMT directly contributes to GHG emissions, so a reduction in VMT also reduces GHG per capita.

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

TABLE 8
PROJECT CONSISTENCY WITH CANOGA PARK-WINNETKA-WOODLAND HILLS-WEST HILLS COMMUNITY PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Plan Objectives and Policies	
Objective 1-1: Achieve and maintain a housing supply sufficient to meet the diverse economic needs of current and projected population to the year 2010. 1-1.1 Maintain an adequate supply and distribution of multi-family housing opportunities in the Community Plan Area 1-1.4 Protect the quality of the residential environment through attention to the physical appearance of communities	**Consistent.** The Project would provide market-rate and affordable housing units to meet the diverse needs of various economic and age segments of the community. The Project would be consistent with the Citywide Design Guidelines and the design guidelines and standards for residential developments included in the Urban Design Chapter of the Community Plan to ensure a safe, secure, and high-quality residential environment.
Objective 1-2: Reduce automobile trips in residential areas by locating new housing in areas offering proximity to goods, services, and facilities. 1-2.1 Locate higher residential densities near commercial centers and major bus routes where public service facilities, utilities and topography will accommodate the development	**Consistent.** The Project is near commercial uses and high-quality bus transit along Topanga Canyon Boulevard.
Objective 1-4: Provide a diversity of housing opportunities capable of accommodating all persons regardless of income, age, or ethnic background. 1-4.1 Promote greater individual choice in type, quality, price, and location of housing 1-4.3 Ensure new housing opportunities minimize displacement of the residents	**Consistent.** The Project would provide market-rate and affordable housing units to meet the diverse needs of various economic and age segments of the community. The Project does not displace any existing housing; rather, it converts existing office space into a more active and vibrant residential community with the development of market-rate and affordable housing.

Notes
[a] Objectives, Policies, Programs, or Plans based on information provided in the *Canoga Park-Winnetka-Woodland Hills-West Hills Community Plan* (Los Angeles Department of City Planning, 1999).

TABLE 9
PROJECT CONSISTENCY WITH CITYWIDE DESIGN GUIDELINES

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Pedestrian-First Design	
<u>Guideline 1: Promote a safe, comfortable, and accessible pedestrian experience for all</u> 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. **<u>Guideline 2: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience</u>** 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. **<u>Guideline 3: Design projects to actively engage with streets and public space and maintain human scale</u>** New projects should be designed to contribute to a vibrant and attractive public realm that promotes a sense of civic pride. Better connections within the built environment contribute to a livable and accessible city and a healthier public realm.	**Consistent.** The Project design would include wider, accessible sidewalks, pedestrian amenities, and vehicular access driveways in accordance with the City's design considerations. Two vehicular driveways along Topanga Canyon Boulevard will be removed, reducing the potential conflicts between pedestrians and vehicles within the public ROW. The Project would also install street trees and tree wells as required by the Urban Forestry Division to provide adequate shade and streetlights as required by the Bureau of Street Lighting to enhance the pedestrian environment.

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

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

Threshold T-2.1 states that a residential project would result in a significant VMT impact if it would generate household VMT per capita which does not meet at least 15% below the existing average household VMT per capita for the Area Planning Commission (APC) area in which a project is located. Similarly, a commercial project would result in a significant VMT impact if it would generate work VMT per employee which does not meet at least 15% below the existing average work VMT per employee for the APC area in which the project is located.

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

VMT METHODOLOGY

The following describes the methodology by which vehicle trips and VMT are calculated in *City of Los Angeles VMT Calculator Version 1.3* (July 2020) (VMT Calculator), as detailed in *City of Los Angeles VMT Calculator Documentation* (LADOT and LADCP, May 2020). LADOT developed the VMT Calculator to estimate project-specific daily household VMT per capita and daily work VMT per employee for developments within City limits, which are based on the following types of one-way trips:

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

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

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

APC	Daily Household VMT per Capita	Daily Work VMT per Employee
Central	6.0	7.6
East LA	7.2	12.7
Harbor	9.2	12.3
North Valley	9.2	15.0
South LA	6.0	11.6
South Valley	9.4	11.6
West LA	7.4	11.1

Source: TAG (LADOT, July 2019)

The Project is located within the South Valley APC.

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

Travel Behavior Zone (TBZ)

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

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

The VMT Calculator determines a project's TBZ based on the latitude and longitude of a project address. The Project located within a Compact Infill (Zone 3) TBZ.

Mixed-Use Development Methodology

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

- The project's jobs/housing balance
- Land use density of the project
- Transportation network connectivity
- Availability of and proximity to transit
- Proximity to retail and other destinations
- Vehicle ownership rates
- Household size

Trip Lengths

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

Population and Employment Assumptions

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

TDM Measures

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

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

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

PROJECT VMT ANALYSIS

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

The Project only consists of residential uses, and therefore, per *City of Los Angeles VMT Calculator User Guide* (LADOT and LADCP, May 2020), would not generate work VMT per employee and would not result in a significant work VMT impact. As such, the VMT analysis presented below evaluates the household VMT per capita generated by the residential uses of the Project.

Project VMT

The Project incorporates design features which include measures to reduce the number of single occupancy vehicle trips to the Project Site. For the purposes of this analysis, the following Project design feature was accounted for in the VMT evaluation:

- Bike parking per LAMC, including short-term and long-term parking facilities, to support safe and comfortable bicycle travel

The VMT analysis results based on the VMT Calculator are summarized in Table 10. The VMT Calculator estimates that the Project would generate a total daily VMT of 5,502 and a total home-based production VMT of 2,916. Thus, the Project would generate an average household VMT per capita of 8.4. The average household VMT per capita would not exceed the South Valley APC significant household VMT impact threshold of 9.4 and, therefore, the overall Project would not result in a significant VMT impact and no mitigation measures would be required.

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

CUMULATIVE ANALYSIS

Cumulative effects of development projects are determined based on the consistency with the air quality and GHG reduction goals of *Connect SoCal – The 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy of the Southern California Association of Governments* (SCAG, Adopted May 2020) (RTP/SCS) in terms of development location, density, and intensity. The RTP/SCS presents a long-term vision for the region's transportation system through Year 2045 and balances the region's future mobility and housing needs with economic, environmental, and public health goals.

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

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

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

TABLE 10
VMT ANALYSIS SUMMARY

Project Information	
Land Use	**Size**
Housing | Multi-Family	137 du
Housing | Affordable Housing - Family	12 du
Project Analysis *[a]*	
Resident Population [b]	346
Employee Population [c]	0
Project Area Planning Commission	South Valley
Travel Behavior Zone (TBZ)	Compact Infill
Maximum Allowable VMT Reduction [d]	40%
VMT Analysis	**Prior to Mitigation** [e]
Daily Vehicle Trips	685
Total Daily VMT	5,502
Total Home-Based Production VMT	2,916
Household VMT per Capita [f]	8.4
Impact Threshold	9.4
Significant Impact	NO
Total Work-Based Attraction VMT	N/A
Work VMT per Employee [g]	N/A
Impact Threshold	11.6
Significant Impact	-

Notes

[a] Project Analysis based on the *City of Los Angeles VMT Calculator Version 1.3* (July 2020).
[b] The population factors for multi-family households were derived from Census data for the City of Los Angeles. The population factors for affordable housing uses were derived from data regarding the affordable housing sites observed within the City of Los Angeles as part of developing empirical trip generation rates and data from the City.
[c] Total Employment and Work VMT do not apply to the land uses of this Project.
[d] The maximum allowable VMT reduction is based on the Project's designated TBZ as determined form *Transportation Demand Management Strategies in LA VMT Calculator* (LADOT, August 2018) and *Quantifying Greenhouse Gas Mitigation Measures* (California Air Pollution Control Officers Association, 2010).
[e] Project design features include:
1. Include bike parking per LAMC
[f] Based on home-based production trips only (see Appendix D, Report 4).
[g] Based on home-based work attraction trips only (see Appendix D, Report 4).

Section 4C: Threshold T-2.2

Substantially Inducing Additional Automobile Travel Analysis

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

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

Section 4D: Threshold T-3

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

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

ACCESS OVERVIEW

As described in Chapter 1, vehicular access to the Project Site would be provided via three gated driveways along the alley that runs along the eastern boundary of the Project Site. In accordance with LADOT guidelines, the driveways would be located on an alley so as not to disrupt the operations of Topanga Canyon Boulevard, the Arterial Street adjacent to the western boundary of the Project Site. The Project would maintain the designated roadway widths and ROW requirements as indicated in the Mobility Plan. Pedestrian and bicycle access would be provided separate from the vehicular access via a lobby entrance along Topanga Canyon Boulevard.

PROJECT HAZARDS ANALYSIS

Potential Geometric Design Hazards

The three vehicular driveways along the alley provide adequate sight distance as the design does not locate impediments that would affect visibility of approaching vehicles, pedestrians, or bicycles. Additionally, the vehicular driveways intersect the alley at a right angle to maximize sight distance. No unusual or new obstacles are presented in the design that would be considered hazardous to vehicles, bicycles, or pedestrians.

Based on the analysis in Chapter 3, the Project would generate less than one vehicle every minute that would utilize the three vehicular driveways along the alley during peak hours. The driveways would have the capacity to individually accommodate all peak hour Project trips, and, therefore, no queuing hazards would occur related to operation of the driveways. As further discussed in Section 5B, Project traffic can be accommodated at the driveways and would not substantially affect operating conditions along any of the adjacent streets.

Consistency with Modal Priority Networks

The Project vehicular driveways are not proposed along a street designated as part of the BEN/BLN, TEN, PED, or High Injury Network, and, thus, would not preclude or interfere with the implementation of future roadway improvements benefiting transit, pedestrians, or bicycles.

Pedestrian and Bicycle Activity

As discussed above, pedestrian and bicycle access would be separated from the vehicular access via a lobby entrance along Topanga Canyon Boulevard, as shown in Figure 1. The Project would result in an increase in both pedestrian and bicycle activity along Topanga Canyon Boulevard; however, the access locations would be designed to provide adequate sidewalks widths and connectivity that meet the City’s requirements to further protect pedestrian and bicycle safety. The Project vehicular driveways, located in the alley, would not cross any existing pedestrian or bicycle infrastructure, and is not anticipated to result in vehicle-pedestrian or vehicle-bicycle conflicts. In order to support and facilitate bicycle use to and from the Project Site, short-term and long-term bicycle parking spaces would be provided as detailed in Section 5F.

Summary

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

CUMULATIVE ANALYSIS

In addition to potential Project-specific impacts, the TAG requires that the Project be reviewed in combination with Related Projects with access points along the same block as the Project to determine if there may be a cumulatively significant impact. There are currently no identified Related Projects proposed with access points along the same block of the Project. Therefore, the Project would not result in cumulative impacts that would substantially increase hazards due to geometric design features, including safety, operational, or capacity impacts.

Section 4E
Caltrans Analysis

LADOT issued *Interim Guidance for Freeway Safety Analysis* (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[5].
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

[5] 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 SAFETY ANALYSIS

Based on the Project's trip generation estimates and trip assignments, which are detailed in Chapter 3, the Project would not add 25 or more peak hour trips to any freeway off-ramp locations. Therefore, no further Caltrans 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 5
Non-CEQA Transportation Analysis

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

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

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

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

Section 5A
Pedestrian, Bicycle, and Transit Assessment

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

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

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

EXISTING FACILITIES

Pedestrians and Bicycles

Existing pedestrian facilities adjacent to the Project Site include an approximately 10-foot wide sidewalk along Topanga Canyon Boulevard. The Project would remove the existing curb cuts along Topanga Canyon Boulevard and, therefore, would not introduce any modifications/disruptions to these existing facilities. As such, the Project would not directly or indirectly result in a permanent removal or modification that would lead to the degradation of pedestrian or bicycle facilities. Although the Project may intensify use of existing pedestrian and bicycle facilities, the Project would provide bicycle amenities and pedestrian connectivity to accommodate increase in pedestrians and bicyclists.

The signalized intersection of Topanga Canyon Boulevard & Valerio Street provides signalized pedestrian crossings in proximity to the Project Site with marked pedestrian crosswalks on all four legs of the intersection, pedestrian phasing, and ADA accessible ramps. Figure 6 shows a map of commercial and institutional facilities within walking distance of the Project Site that could attract pedestrian activity.

Within the Study Area, Class II bicycle lanes are provided along Sherman Way.

Transit

As detailed in Chapter 2 and illustrated in Figure 7, there are numerous transit stops within the Study Area that provide service to bus lines operated by Metro. In proximity to the Project Site, a Metro Local 244/245 stop for southbound service is provided along the western side of Topanga Canyon Boulevard south of Runnymede Street. A Metro Local 150 stop for eastbound service is provided along the southern side of Wyandotte Street east of Topanga Canyon Boulevard. Further, Metro local 162/163 stops for eastbound and westbound service are provided on the southeast and northeast corners of the intersection of Topanga Canyon Boulevard & Sherman Way, respectively, both stops providing a bus shelter and bench.

Tables 3A and 3B summarize the total residual capacity of the Metro bus lines during the morning and afternoon peak hours based on the frequency of service of each line and the maximum seated and standing capacity of each bus or train. As shown in Tables 3A and 3B, the Metro bus lines within 0.25 miles walking distance of the Project Site currently have additional capacity for 744 additional riders during the morning peak hour and 711 additional riders during the afternoon peak hour.

INTENSIFICATION OF USE

The Project would not directly or indirectly result in a permanent removal or modification that would lead to the degradation of pedestrian or bicycle facilities. Although the Project may intensify use of existing pedestrian and bicycle facilities, the Project would provide adequate measures to ensure the safety of those accessing the site and utilizing the street system surrounding it. The Project would improve the east side of Topanga Canyon Boulevard with one additional foot of sidewalk to meet City standards. Additionally, the improved sidewalks would be lined with street trees as required by the Urban Forestry Division and streetlights as required by the Bureau of Street Lighting to provide a comfortable pedestrian environment. The Project would also provide new internal walkways, large open space, and 37 trees at the ground floor level to enhance pedestrian connections throughout the site. 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, the Project Site and the Study Area are served by transit as detailed in Table 2. As shown in Tables 3A and 3B, the total residual capacity of the Metro bus lines within the Study Area during the morning and afternoon peak hours is approximately 744 and 711 transit trips, respectively.

Transit usage for the multifamily housing component is based on the 10% trip generation adjustment applied to account for transit usage in proximity to local transit stops. Conversely, transit usage is inherent to the Affordable Housing – Family trip generation rates; therefore, a 10% factor was conservatively applied to account for the transit usage already captured by the Affordable Housing – Family trip rates.

Thus, approximately six new trips during the morning peak hour and seven new trips during the afternoon peak hour could arrive to the Project Site via local transit. 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 transit trips correspond to 10 person trips by transit in the morning peak hour and 11 in the afternoon peak hours. This equates to approximately 1.3% of the total residual capacity of the transit lines within the Study Area during the morning peak hour and 1.5% in the afternoon peak hours, confirming the total transit capacity along the routes of those lines can accommodate the Project's transit trips without placing a significant strain on capacity. As such, the Project would not lead to the degradation of transit facilities or significantly intensify use of transit facilities.

CUMULATIVE ANALYSIS

The Project would result in some intensification of pedestrian, bicycle, and transit activity in the vicinity of the Project Site. However, the Project would improve the adjacent pedestrian facilities and promote a more comfortable environment for all users through adequate sidewalk widths, street trees, streetlights, and enhanced pedestrian and bicycle connections along Topanga Canyon Boulevard. Further, the current transit infrastructure has adequate residual capacity to accommodate Project transit trips. The pedestrian, bicycle, and transit activity generated by the Project would not strain the transportation system dedicated to those modes.

Section 5B
Project Access, Safety, and Circulation Assessment

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

PROJECT ACCESS

Vehicles

Primary vehicular access is proposed to be provided via three gated driveways along the alley that runs along the eastern boundary of the Project Site. The driveways would accommodate right-turn and left-turn ingress and egress movements and provide a 15-foot reservoir between the gate and alley ROW.

Pedestrians and Bicycles

Pedestrian and bicycle access would be separated from the vehicular access via a lobby entrance along Topanga Canyon Boulevard.

The Project access locations would be designed to provide adequate sidewalks widths and connectivity that meet the City's requirements to further protect pedestrian safety, along with removal of two existing driveways along Topanga Canyon Boulevard to improve pedestrian and bicycle safety.

The Project driveways are placed in the alley and would not cross any existing pedestrian or bicycle infrastructure. The Project driveways are not anticipated to result in vehicle-pedestrian or vehicle-bicycle conflicts. In order to support and facilitate bicycle use to and from the Project Site, short-term and long-term bicycle parking spaces would be provided as detailed in Section 5F.

PASSENGER LOADING EVALUATION

The Project proposes all passenger loading to take place along Topanga Canyon Boulevard. Additionally, unmetered on-street parking with peak hour restrictions is allowed on Topanga Canyon Boulevard. Accounting for the removal of the two existing driveways along Topanga Canyon Boulevard, approximately eight on-street spaces adjacent to the Project Site can serve passenger loading purposes when not in use by parked vehicles.

OPERATIONAL EVALUATION

Intersection operation conditions were evaluated for typical weekday morning (7:00 AM to 10:00 AM) and afternoon (3:00 PM to 6:00 PM) peak periods. A total of four study intersections, three signalized and one unsignalized, in the vicinity of the Project Site within the City were selected for detailed transportation analysis in consultation with LADOT.

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

- Existing with Project Conditions (Year 2020) – This analysis condition analyzes the potential intersection operating conditions that could be expected if the Project were built under existing conditions. In this analysis, the Project-generated traffic is added to the Existing Conditions.
- Future with Project Conditions (Year 2023) – This analysis condition analyzes the potential intersection operating conditions that could be expected if the Project is fully occupied in the projected buildout year. In this analysis, the Project-generated traffic is added to Future without Project Conditions (Year 2023).

Methodology

In accordance with the TAG, the intersection delay and queue analyses for the operational evaluation were conducted using the *Highway Capacity Manual, 6th Edition* (Transportation

Research Board, 2016) (HCM) methodology, which was implemented using Synchro software and signal timing worksheets from the City to analyze intersection operating conditions. The HCM signalized methodology calculates the average delay, in seconds, for each vehicle passing through the intersections, while the HCM unsignalized two-way stop-control methodology calculates the control delay, in seconds, for individual approaches of an intersection and does not account for traffic gaps created by adjacent traffic signals.

Table 11 presents a description of the LOS categories, which range from excellent, nearly free-flow traffic at LOS A, to stop-and-go conditions at LOS F, for signalized and unsignalized intersections. The queue lengths were estimated using Synchro, which reports the 95th percentile queue length for signalized and unsignalized intersections in vehicles per lane, which can be converted into distance by multiplying the vehicle queue by 25 feet per vehicle. The reported queues are calculated using the HCM signalized and unsignalized intersection methodology.

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

Existing with Project Conditions

Traffic Volumes. The Project-only morning and afternoon peak hour traffic volumes described in Chapter 3 and shown in Figure 13 were added to the Existing morning and afternoon peak hour traffic volumes shown in Figure 8. The resulting volumes are illustrated in Figure 14 and represent Existing with Project Conditions, assuming Project operation under existing conditions.

Intersection LOS. Table 12 summarizes the results of the Existing and Existing with Project Conditions during the weekday morning and afternoon peak hours for the study intersections. As shown in Table 12, two of the four study intersections are anticipated to operate at LOS C or better during both the morning and afternoon peak hours under both Existing and Existing with Project Conditions. The signalized intersection of Topanga Canyon Boulevard & Sherman Way (Intersection #4) is anticipated to operate at LOS E during both the morning and afternoon peak hours under Existing Conditions, and LOS E in the morning peak and LOS F the afternoon peak hour under Existing with Project Conditions. The unsignalized intersection of Topanga Canyon Boulevard & Wyandotte Street demonstrates poor LOS for the reported side street approach with or without Project traffic. This is primarily due to left-turning side street traffic entering a busy arterial without signal protections. The analysis methodology does not factor in traffic gaps created by the adjacent signals that may allow more progression through the intersection, as well as the ability to safely harbor within the left-turn median.

Future with Project Conditions

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

Traffic Volumes. The Project-only morning and afternoon peak hour traffic volumes described in Chapter 3 and shown in Figure 13 were added to the Future without Project (Year 2023) morning and afternoon peak hour traffic volumes shown in Figure 10. The resulting volumes are illustrated in Figure 15 and represent Future with Project Conditions after development of the Project in Year 2023.

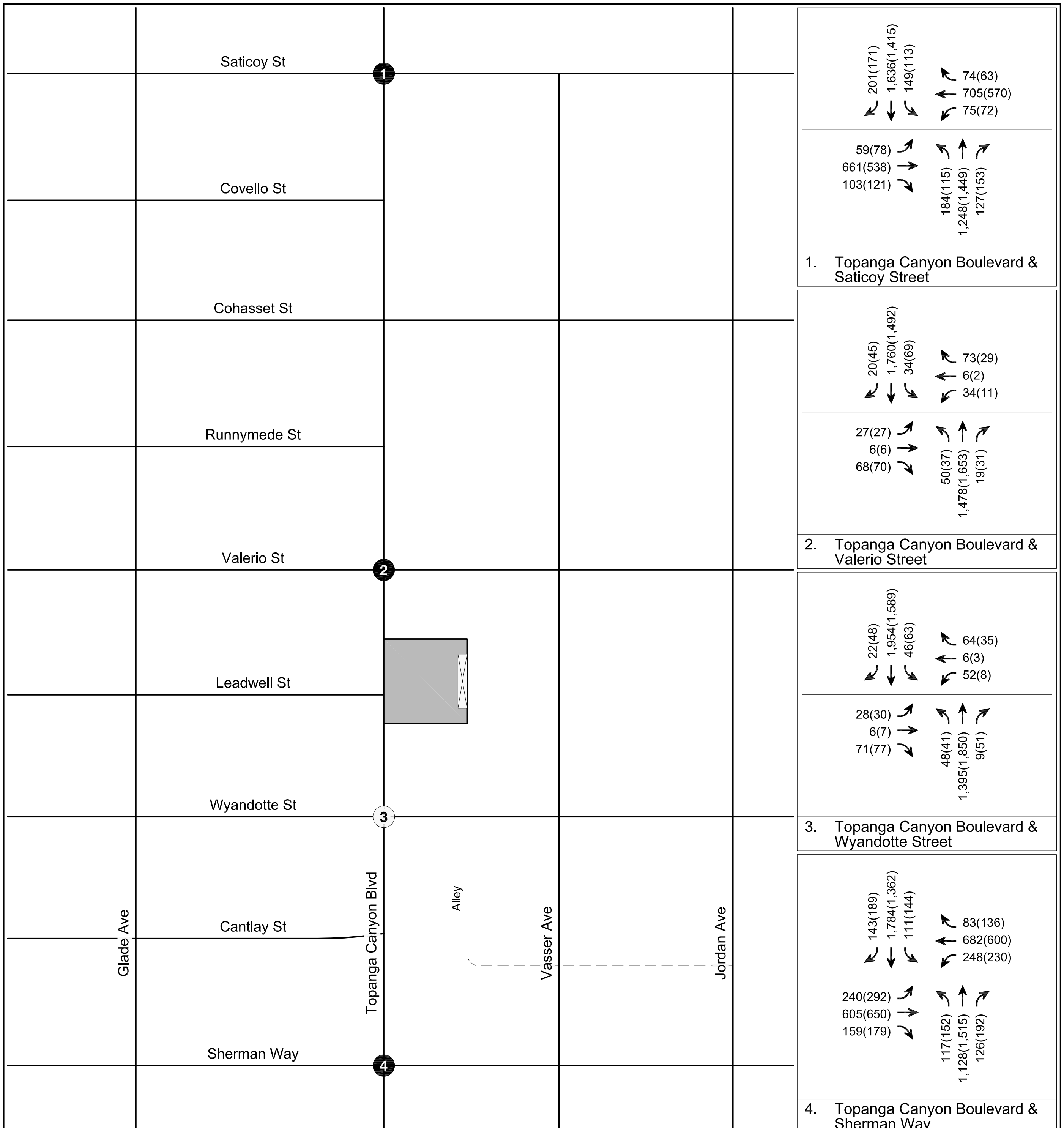
Intersection LOS. Table 13 summarizes the results of the Future without Project (Year 2023) and Future with Project Conditions (Year 2023) during the weekday morning and afternoon peak hours for the four study intersections. As shown in Table 13, two of the four study intersections are anticipated to operate at LOS C or better during both the morning and afternoon peak hours under Future without Project (Year 2023) and Future with Project Conditions (Year 2023). The signalized study intersection of Topanga Canyon Boulevard & Sherman Way (Intersection #4) is anticipated to operate at LOS F during the morning peak hour and LOS E during the afternoon peak hour with or without the Project traffic. The unsignalized intersection of Topanga Canyon Boulevard & Wyandotte Street demonstrates poor LOS for the reported side street approach with or without Project traffic. This is primarily due to left-turning side street traffic entering a busy arterial without the signal protections. The analysis methodology does not factor in traffic gaps created by the adjacent signals which may allow more progression through the intersection, as well as the ability to safely harbor within the left turn median.

INTERSECTION QUEUING ANALYSIS

The four study intersections were analyzed to determine whether the lengths of intersection turning lanes were adequate to accommodate vehicle queue lengths.

The queue lengths were estimated using Synchro software, which reports the 95th percentile queue length for signalized and unsignalized intersections. Synchro queue results reported in vehicle-length are converted to feet by multiplying each vehicle by 25 feet to account for the average length of a vehicle plus distance between vehicles in the queue. The reported queues were calculated using the HCM signalized and unsignalized intersection methodology.

Queuing results are included in the analysis worksheets provided in Appendix E.

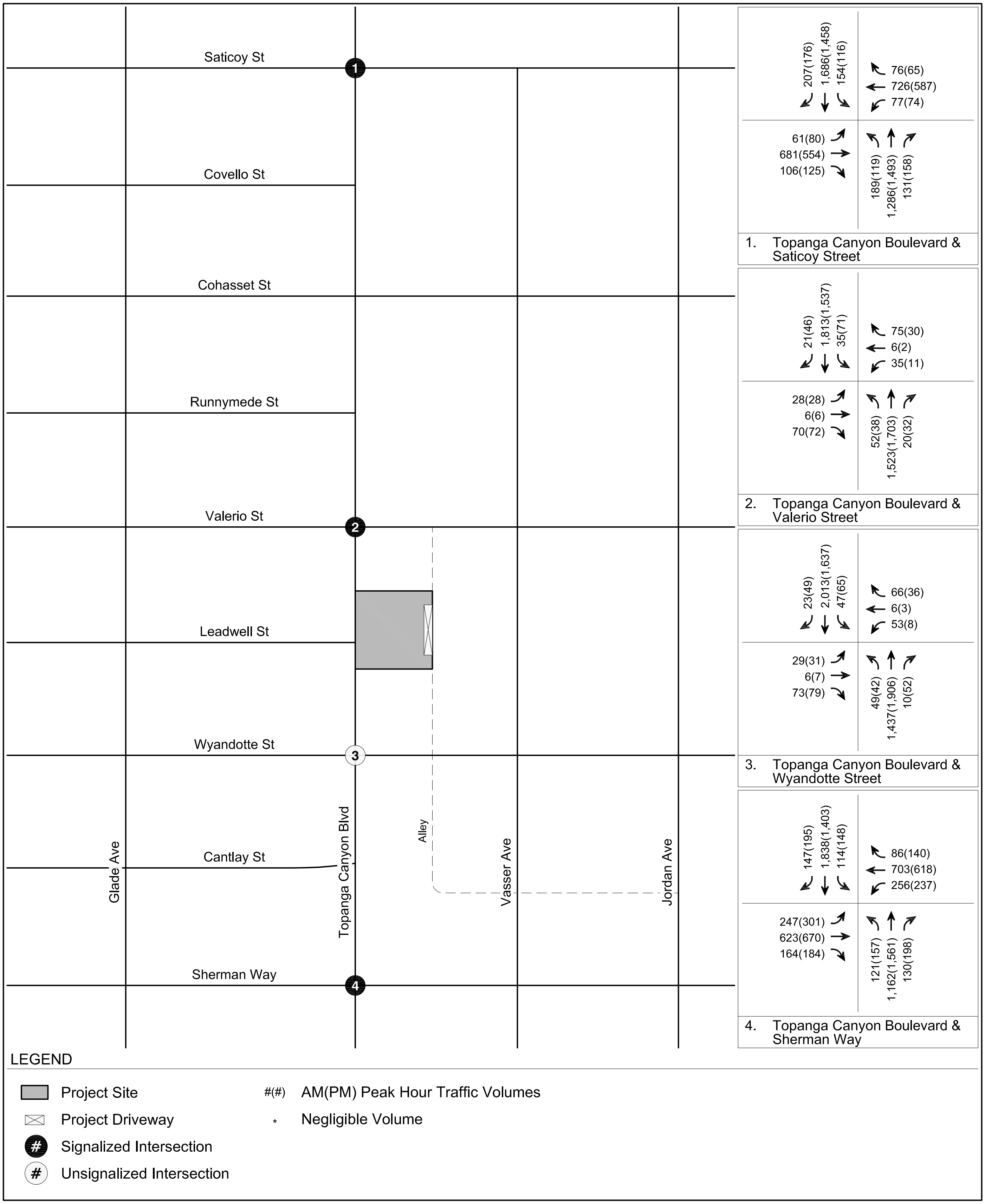


LEGEND

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

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

FIGURE 14



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

FIGURE 15

TABLE 11
INTERSECTION LEVEL OF SERVICE

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

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

TABLE 12
EXISTING CONDITIONS (YEAR 2020)
INTERSECTION LEVELS OF SERVICE

No	Intersection	Peak Hour	Existing		Existing with Project	
			Delay	LOS	Delay	LOS
1. [a]	Topanga Canyon Bouelvard & Saticoy St	AM	33.6	C	32.8	C
		PM	30.1	C	29.4	C
2. [a]	Topanga Canyon Bouelvard & Valerio Street	AM	3.5	A	3.7	A
		PM	2.8	A	2.8	A
3. [b]	Topanga Canyon Bouelvard & Wyandotte Street	AM	69.2	F	69.2	F
		PM	71.0	F	73.2	F
4. [a]	Topanga Canyon Bouelvard & Sherman Way	AM	80.0	E	81.2	F
		PM	71.1	E	72.3	E

Notes

Delay is measured in seconds per vehicle.

LOS = Level of service

Results per Synchro 10.

[a] Intersection analysis based on HCM 6th Edition Signalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through the intersection.

[b] Intersection analysis based on the HCM 6th Edition Two-Way Stop Control Unsignalized methodology, which calculates the control delay, in seconds, for each individual approach of an intersection. The reported control delay represents the worst-case approach, and does not account for traffic gaps created by adjacent traffic signals. The average delay is provided in Appendix E.

TABLE 13
FUTURE CONDITIONS (YEAR 2023)
INTERSECTION LEVELS OF SERVICE

No	Intersection	Peak Hour	Future without Project		Future with Project	
			Delay	LOS	Delay	LOS
1. [a]	Topanga Canyon Bouelvard & Saticoy St	AM	33.9	C	34.1	C
		PM	30.3	C	30.4	C
2. [a]	Topanga Canyon Bouelvard & Valerio Street	AM	3.5	A	3.7	A
		PM	2.8	A	2.8	A
3. [b]	Topanga Canyon Bouelvard & Wyandotte Street	AM	80.2	F	80.2	F
		PM	*	F	*	F
4. [a]	Topanga Canyon Bouelvard & Sherman Way	AM	86.8	F	88.2	F
		PM	77.0	E	76.2	E

Notes
Delay is measured in seconds per vehicle, where "*" represents value exceeding the maximum delay.
LOS = Level of service
Results per Synchro 10.
[a] Intersection analysis based on HCM 6th Edition Signalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through the intersection.
[b] Intersection analysis based on the HCM 6th Edition Two-Way Stop Control Unsignalized methodology, which calculates the control delay, in seconds, for each individual approach of an intersection. The reported control delay represents the worst-case approach, and does not account for traffic gaps created by adjacent traffic signals. The average delay is provided in Appendix E.

Section 5C
Residential Street Cut-Through Analysis

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

Due to the fact that this is a residential Project with driveways located on a lower-volume alley rather than an arterial, trips to and from the Project are not considered cut-through traffic. Thus, the Project does not meet the criteria to conduct a Local Residential Street Cut-Through Analysis.

Section 5D
Construction Impact Analysis

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

CONSTRUCTION EVALUATION CRITERIA

Section 3.4.3 of the TAG identifies 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 10-month period, with completion anticipated in Year 2023. Construction of the Project may occur at once or in multiple, potentially overlapping phases. Additionally, construction activities may take place intermittently and not all portions of the Project Site would be under construction concurrently. For purposes of providing a conservative analysis, any overlapping phases that could result in greater construction-related impacts were reviewed. Peak haul truck activity occurs during the excavation and grading phase and peak worker activity occurs during the building construction phase. These two phases of construction were studied in greater detail.

EXCAVATION AND GRADING SUBPHASE

The peak period of truck activity during construction would occur during 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 excavation and grading phase of construction.

Haul trucks would travel on approved truck routes designated within the City. 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.

Excavation and Grading Phase Trip Generation

Based on projections compiled for the Project, approximately 9,700 cubic yards (CY) of material would be excavated and removed from the Project Site over a 60-day period. It is anticipated that a maximum of 15 trucks per workday, based on an anticipated haul truck capacity of 11 CY, would be required during this phase. Thus, up to 30 daily truck trips (15 inbound, 15 outbound) are forecasted to occur during the excavation and grading period, with approximately six trips per hour (three inbound, three outbound) uniformly over a typical six-hour off-peak hauling period.

Because construction trucks (such as earth-hauling trucks and cement trucks) are larger and slower than the passenger vehicles that make up the majority of the vehicles on the roads, they have an effect on traffic that is greater than a passenger vehicle's effect. *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 22.11 of the HCM suggest a PCE of 2.0 for trucks traveling on level terrain. Assuming a PCE factor of 2.0, the 30 daily truck trips would be equivalent to 60 daily PCE trips. The six hourly truck trips would be equivalent to approximately 12 PCE trips per hour (six inbound, six outbound).

In addition, a maximum of 13 daily construction worker trips are anticipated during the excavation and grading period. The 13 construction worker trips would result in 26 one-way vehicle trips (13 inbound, 13 outbound), to and from the Project Site on a daily basis. It is anticipated that the majority of workers would arrive on-site prior to the weekday morning commuter peak hour and leave prior to or after the afternoon commuter peak hour. Therefore, no peak hour construction traffic impacts are expected during the excavation and grading subphase of construction.

BUILDING CONSTRUCTION SUBPHASE

During the building construction subphase, parking for construction workers would generally be provided on-site, in local public parking facilities or, if needed, at an adjacent private plaza. Restrictions against workers parking in the public ROW in the vicinity of (or adjacent to) the Project Site would be identified as part of the Construction Management Plan. Construction materials storage and truck staging would generally be contained on-site or in the parking lane along the Project frontage.

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 overlap of the building construction and architectural coating subphases would employ the most construction workers, with a maximum of 144 workers per day. The estimated number of daily vehicle trips associated with the construction workers is approximately 288 one-way trips (144 inbound and 144 outbound trips), but nearly all of those trips would occur outside of the peak hours, as described above. As such, the building construction subphase of Project construction is not expected to cause a traffic impact at any of the study intersections.

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.) have been 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. A single travel lane on Topanga Canyon Boulevard may be temporarily closed throughout the construction period. Temporary traffic controls would be provided to direct traffic around any closures as required in the Construction Management Plan, and emergency access would not be impeded.

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

Transit

There are no existing bus stops located adjacent to the Project Site and, thus, no temporary relocation of any bus stop is anticipated due to the construction of the Project.

Parking

The parking lane along Topanga Canyon Boulevard may be needed for staging, deliveries, and/or crane placement during limited periods of construction. Thus, construction activities would potentially result in temporary loss of up to six public parking spaces.

CONSTRUCTION MANAGEMENT PLAN

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

- Advance bilingual notification of adjacent property owners and occupants of upcoming construction activities, including durations and daily hours of operation.
- Prohibition of construction worker or equipment parking on adjacent streets.
- Prohibition of hauling truck staging on any streets adjacent to the Project, unless specifically approved as a condition of an approved haul route.
- Temporary pedestrian, bicycle, and vehicular traffic controls during all construction activities adjacent to Topanga Canyon Boulevard to ensure traffic safety on public rights-of-way. These controls shall include, but not be limited to, flag people trained in pedestrian and bicycle safety.
- Scheduling of construction activities to reduce the effect on traffic flow on surrounding arterial streets.
- Containment of construction activity within the Project Site boundaries to the extent feasible.
- Safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers shall be implemented as appropriate, 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.
- Spacing of trucks so as to discourage a convoy effect.
- Sufficient dampening of the construction area to control dust caused by grading and hauling and reasonable control at all times of dust caused by wind.
- Maintenance of a log, available on the job site at all times, documenting the dates of hauling and the number of trips (i.e., trucks) per day.
- Identification of a construction manager and provision of a telephone number for any inquiries or complaints from residents regarding construction activities. 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 a construction management plan 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 5E
Parking Analysis

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

PARKING SUPPLY

The Project would provide a total of 79 assigned vehicle parking spaces within a gated at-grade parking garage and a total of 100 long-term and 10 short-term bicycle parking spaces.

VEHICLE PARKING CODE REQUIREMENTS

The parking requirements for the residential use of the Project were calculated by applying the appropriate parking ratios for a residential development under the requirements of the TOC Guidelines, as follows:

- Residential: 0.5 spaces / bedroom

As shown in Table 14, the Project would require a total of 79 spaces for the 149 dwelling units (140 studio/one-bedroom units and nine two-bedroom units). The Project's proposed 79 spaces would satisfy the TOC requirements for on-site parking supply.

BICYCLE PARKING CODE REQUIREMENTS

LAMC Section 12.21.A.16 details the parking requirements for new developments. However, new bicycle parking requirements have been developed by the City and the Project would follow the new requirements set out in Case No. CPC-2016-4216-CA and Council File No. 12-1297-S1, as follows:

- Short-term
  - 1-25 units: 1 space per 10 units
  - 26-100 units: 1 space per 15 units
  - 101-149 units: 1 space per 20 units
- Long-term
  - 1-25 units: 1 space per 1 unit
  - 26-100 units: 1 space per 1.5 units
  - 101-149 units: 1 space per 2 units

As shown in Table 15, the Project would require a total of 100 long-term and 10 short-term bicycle parking spaces. The Project's proposed 100 long-term and 10 short-term bicycle parking spaces would satisfy the LAMC requirements for on-site bicycle parking supply.

TABLE 14
VEHICLE PARKING CODE REQUIREMENTS

SPECIAL DISTRICT/TOC PARKING ANALYSIS			
Land Use	**Size**	**Parking Rate**	**Total Spaces**
Residential			
Studio	24 du	0.50 sp / 1 bedroom	12
1-Bedroom	116 du	0.50 sp / 1 bedroom	58
2-Bedroom	9 du	0.50 sp / 1 bedroom	9
		TOC Parking Requirement	**79**

Notes
[a] Parking rates per Transit Oriented Community (TOC) Guidelines Section 2.a.i.4 for residential uses.

TABLE 15
BICYCLE PARKING CODE REQUIREMENTS

Land Use	Size	Short-Term		Long-Term	
		Rate [a]	Requirement	Rate [a]	Requirement
Residential (1-25 du)	25 du	1.0 sp / 10 du	3 sp	1.0 sp / 1 du	25 sp
Residential (26-100 du)	75 du	1.0 sp / 15 du	5 sp	1.0 sp / 1.5 du	50 sp
Residential (101-148 du)	49 du	1.0 sp / 20 du	2 sp	1.0 sp / 2 du	25 sp
		Total Short-Term	**10 sp**	**Total Long-Term**	**100 sp**
				Total Code Bicycle Parking Requirement	**110 sp**

Notes
[a] Bicycle requirements as calculated by Section 12.21.A.16 of *Los Angeles Municipal Code (LAMC)* and proposed amendments per Case No. CPC-2016-4216-CA and Council File No. 12-1297-S1.

Chapter 6

Summary and Conclusions

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 is located at 7322-7340 Topanga Canyon Boulevard.
- The Project proposes 137 market-rate apartment units and 12 affordable apartment units and is anticipated to be completed in Year 2023.
- Vehicular access would be provided via three gated driveways accessible from the alley that runs along the eastern boundary of the Project Site, replacing the two existing driveways along Topanga Canyon Boulevard.
- The Project would be consistent with the City’s plans, programs, ordinances, and polices and would not generate any geometric design hazard impacts.
- The Project would not result in VMT impacts and would not require mitigation.
- After accounting for vehicle trips generated by the existing office use, the Project is estimated to generate 14 net new morning peak hour trips and 23 net new afternoon peak hour trips.
- The Project provides adequate internal circulation to accommodate vehicular, pedestrian, and bicycle traffic without impeding through traffic movements on City streets.
- The Project would meet LAMC-required vehicle and bicycle parking requirements and incorporate pedestrian and bicycle-friendly designs, including wider sidewalks and open spaces.
- The addition of Project trips would not adversely affect any residential Local Streets.
- All construction activities would occur outside of the commuter morning and afternoon peak hours to the extent feasible and would not result in substantial interference. A Construction Management Plan would be prepared to ensure that construction impacts are less than significant.
- The Project would provide a total of 79 assigned vehicle parking spaces within a gated at-grade parking garage and a total of 100 long-term and 10 short-term bicycle parking spaces.

References

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

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

Canoga Park-Winnetka-Woodland Hills-West Hills Community Plan, City of Los Angeles, 1999.

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.

City of Los Angeles VMT Calculator Version 1.3, Los Angeles Department of Transportation and Los Angeles Department of City Planning, July 2020.

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

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

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

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

Los Angeles Municipal Code, City of Los Angeles.

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

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

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

State of California Senate Bill 743, Steinberg, 2013.

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

Transit Oriented Communities Affordable Housing Incentive Program Guidelines, Los Angeles Department of City Planning, Revised February 26, 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: 7322-7340 Topanga Canyon Boulevard

Project Address: 7322-7340 Topanga Canyon Boulevard, Canoga Park, CA 91303

Project Description: The Project proposes the development of 136 market-rate apartment units and 12 affordable apartment units. Parking for the Project would be provided within a partial subterranean and above ground parking garage. The existing 34,884 sf office uses on-site will be removed with the development of the Project.

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

II. Transportation Demand Management (TDM) Measures

Provide any transportation demand management measures that are being considered where the eligibility needs to be verified in advance (e.g. bike share kiosks, unbundled parking, microstransit service, etc.). Note that LADOT staff will make the final determination if TDM measures eligibility for a particular project. Please confirm eligibility with the LADOT Planning and Bureau staff assigned to your project.

1 ____________ 4 ____________

2 ____________ 5 ____________

3 ____________ 6 ____________

Select any TDM measures that are currently being considered that may be eligible as a Project Design Feature[1]:

☐	Reduced Parking Supply[2]
☑	Bicycle Parking and Amenities
☐	Parking Cash Out

III. Trip Generation

Trip Generation Rate(s) Source: ITE 10th Edition / Other ITE 10th Edition, LADOT TAG

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

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

	IN	OUT	TOTAL
AM Trips	(17)	31	14
PM Trips	30	(8)	22

NET Daily Vehicle Trips (DVT)

____ DVT (ITE __ ed.)

357 DVT (VMT Calculator ver. 1.3)

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

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

IV. Study Area and Assumptions

Project Buildout Year: 2022 Ambient Growth Rate: 1.0 % Per Yr.

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

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

1 Topanga Canyon Blvd & Valerio St
2 Topanga Canyon Blvd & Wyandotte St
3 Topanga Canyon Bl & Saticoy St
4 Topanga Canyon Bl & Sherman Way
5
6

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

V. ACCESS ASSESSMENT

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

If questions a., b., or c. is Yes then complete **Attachment C.1: Access Assessment Criteria**.

VI. SITE PLAN and map of Study Area

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

VII. Contact Information

	CONSULTANT	DEVELOPER
Name:	Gibson Transportation Consulting, Inc.	Alliant Strategic Development (Attn: John Shaw)
Address:	555 W. 5th Street, Suite 3375, Los Angeles, CA 90013	23901 Calabasas Road, Ste 2010, Calabasas, CA 91302
Phone Number:	(213) 683-0088	(310) 200-9838
E-Mail:	lmullarkey-williams@gibsontrans.com	John.Shaw@alliantstrategic.com

Approved by: x [signature] 10/28/20 x [signature] 10/28/2020

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.

Appendix B

Traffic Volume Data

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

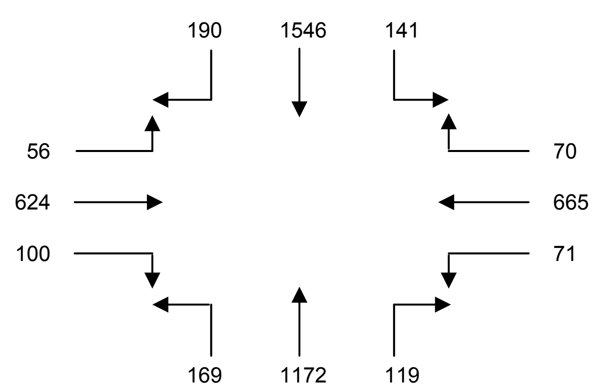
CLIENT:		OVERLAND TRAFFIC CONSULTANTS, INC.
PROJECT:		CANOGA PARK
DATE:		TUESDAY, MARCH 04, 2014
PERIOD:		07:00 AM TO 10:00 AM
INTERSECTION	N/S	TOPANGA CANYON BOULEVARD
	E/W	SATICOY STREET
FILE NUMBER:		2-AM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	22	341	20	6	125	26	9	191	19	17	106	16
0715-0730	43	391	45	12	160	21	15	227	32	24	132	14
0730-0745	42	400	38	15	193	20	33	333	52	18	159	12
0745-0800	57	410	44	22	159	17	36	313	53	20	168	11
0800-0815	37	340	30	17	153	19	25	254	33	31	175	19
0815-0830	54	396	29	16	160	15	25	272	31	31	122	14
0830-0845	48	365	21	12	168	18	16	228	22	38	132	14
0845-0900	37	427	13	15	114	15	22	186	19	27	106	21
0900-0915	23	352	20	10	94	22	19	196	13	18	100	20
0915-0930	25	348	27	15	66	28	20	175	26	16	56	22
0930-0945	14	286	13	24	88	28	21	187	10	13	72	15
0945-1000	14	349	15	24	86	16	29	138	10	11	69	14

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0700-0800	164	1542	147	55	637	84	93	1064	156	79	565	53	4639
0715-0815	179	1541	157	66	665	77	109	1127	170	93	634	56	4874
0730-0830	190	1546	141	70	665	71	119	1172	169	100	624	56	4923
0745-0845	196	1511	124	67	640	69	102	1067	139	120	597	58	4690
0800-0900	176	1528	93	60	595	67	88	940	105	127	535	68	4382
0815-0915	162	1540	83	53	536	70	82	882	85	114	460	69	4136
0830-0930	133	1492	81	52	442	83	77	785	80	99	394	77	3795
0845-0945	99	1413	73	64	362	93	82	744	68	74	334	78	3484
0900-1000	76	1335	75	73	334	94	89	696	59	58	297	71	3257

A.M. PEAK HOUR
0730-0830

SATICOY STREET



TOPANGA CANYON BOULEVARD

DATA PROVIDED BY:

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877

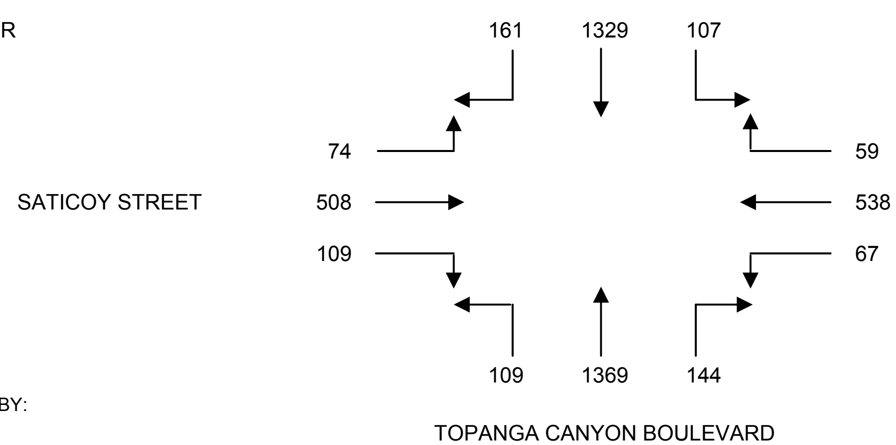
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: OVERLAND TRAFFIC CONSULTANTS, INC.
PROJECT: CANOGA PARK
DATE: TUESDAY, MARCH 04, 2014
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION N/S TOPANGA CANYON BOULEVARD
E/W SATICOY STREET
FILE NUMBER: 2-PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0300-0315	33	301	18	17	114	25	38	264	28	20	105	27
0315-0330	30	292	27	17	112	17	37	282	31	19	118	23
0330-0345	33	281	26	16	104	21	39	305	22	12	117	20
0345-0400	27	287	20	24	110	17	34	288	33	19	115	21
0400-0415	23	319	27	14	123	14	29	294	26	20	124	15
0415-0430	24	282	31	16	126	15	38	300	31	21	142	15
0430-0445	35	273	26	15	126	12	38	278	26	24	137	19
0445-0500	30	302	27	13	112	13	20	315	33	20	124	16
0500-0515	46	347	23	19	147	19	34	339	34	35	129	21
0515-0530	39	354	28	10	124	16	29	344	21	28	123	19
0530-0545	42	339	23	16	152	17	49	352	24	25	136	18
0545-0600	34	289	33	14	115	15	32	334	30	21	120	16

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0300-0400	123	1161	91	74	440	80	148	1139	114	70	455	91	3986
0315-0415	113	1179	100	71	449	69	139	1169	112	70	474	79	4024
0330-0430	107	1169	104	70	463	67	140	1187	112	72	498	71	4060
0345-0445	109	1161	104	69	485	58	139	1160	116	84	518	70	4073
0400-0500	112	1176	111	58	487	54	125	1187	116	85	527	65	4103
0415-0515	135	1204	107	63	511	59	130	1232	124	100	532	71	4268
0430-0530	150	1276	104	57	509	60	121	1276	114	107	513	75	4362
0445-0545	157	1342	101	58	535	65	132	1350	112	108	512	74	4546
0500-0600	161	1329	107	59	538	67	144	1369	109	109	508	74	4574

P.M. PEAK HOUR
0500-0600



DATA PROVIDED BY:

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
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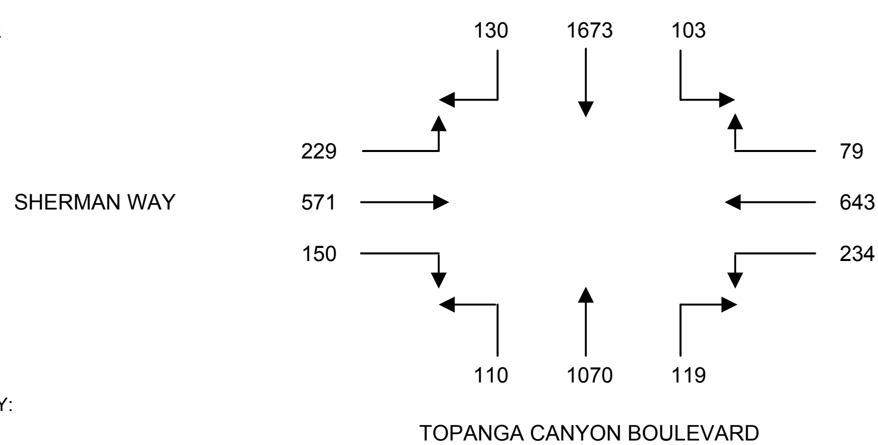
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: OVERLAND TRAFFIC CONSULTANTS, INC.
PROJECT: CANOGA PARK
DATE: WEDNESDAY, MARCH 05, 2014
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION N/S TOPANGA CANYON BOULEVARD
E/W SHERMAN WAY
FILE NUMBER: 6-AM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	22	427	22	17	95	50	14	200	17	13	92	30
0715-0730	38	396	16	25	112	40	20	230	20	23	84	30
0730-0745	37	497	23	20	158	60	35	296	21	30	113	57
0745-0800	33	418	28	19	172	62	32	304	37	44	169	62
0800-0815	25	402	29	20	162	69	29	242	20	35	161	64
0815-0830	35	356	23	20	151	43	23	228	32	41	128	46
0830-0845	46	392	28	16	126	48	20	191	20	37	103	38
0845-0900	32	358	22	24	112	54	21	219	23	25	105	38
0900-0915	35	377	22	20	102	54	28	200	24	34	105	43
0915-0930	30	327	26	19	98	30	24	190	33	29	100	58
0930-0945	23	330	20	25	105	35	20	154	28	39	97	35
0945-1000	20	322	22	17	97	43	36	191	25	25	77	29

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0700-0800	130	1738	89	81	537	212	101	1030	95	110	458	179	4760
0715-0815	133	1713	96	84	604	231	116	1072	98	132	527	213	5019
0730-0830	130	1673	103	79	643	234	119	1070	110	150	571	229	5111
0745-0845	139	1568	108	75	611	222	104	965	109	157	561	210	4829
0800-0900	138	1508	102	80	551	214	93	880	95	138	497	186	4482
0815-0915	148	1483	95	80	491	199	92	838	99	137	441	165	4268
0830-0930	143	1454	98	79	438	186	93	800	100	125	413	177	4106
0845-0945	120	1392	90	88	417	173	93	763	108	127	407	174	3952
0900-1000	108	1356	90	81	402	162	108	735	110	127	379	165	3823

A.M. PEAK HOUR
0730-0830



DATA PROVIDED BY:

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
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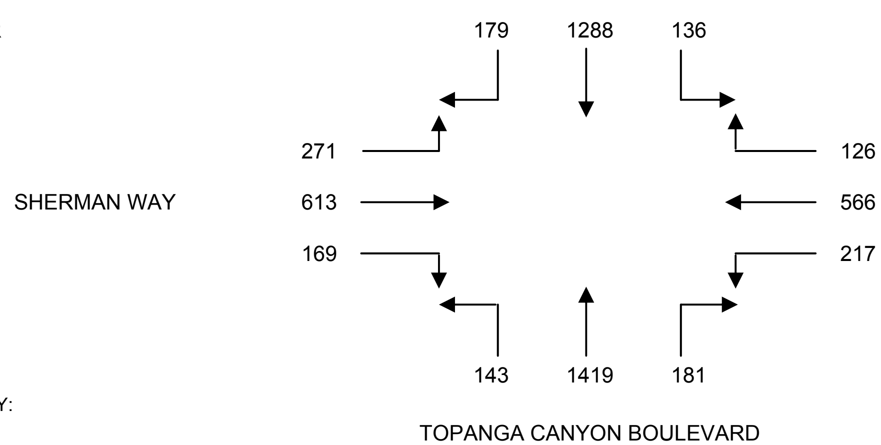
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT:		OVERLAND TRAFFIC CONSULTANTS, INC.
PROJECT:		CANOGA PARK
DATE:		WEDNESDAY, MARCH 05, 2014
PERIOD:		03:00 PM TO 06:00 PM
INTERSECTION	N/S	TOPANGA CANYON BOULEVARD
	E/W	SHERMAN WAY
FILE NUMBER:		6-PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0300-0315	29	270	39	30	157	63	39	278	32	43	149	55
0315-0330	41	310	37	21	167	78	49	318	43	38	150	62
0330-0345	40	270	41	27	140	57	65	374	45	49	158	51
0345-0400	34	328	30	32	136	68	43	281	33	36	154	66
0400-0415	42	255	28	20	126	45	36	324	41	42	145	59
0415-0430	52	298	35	36	124	57	53	337	36	40	131	68
0430-0445	36	265	22	21	131	56	35	302	24	40	162	52
0445-0500	52	306	33	29	143	76	44	366	33	44	147	60
0500-0515	47	344	39	34	131	40	40	340	27	39	142	63
0515-0530	39	326	30	28	155	66	43	340	42	48	164	63
0530-0545	46	288	26	30	122	45	44	340	40	31	152	78
0545-0600	47	330	41	34	158	66	54	399	34	51	155	67

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0300-0400	144	1178	147	110	600	266	196	1251	153	166	611	234	5056
0315-0415	157	1163	136	100	569	248	193	1297	162	165	607	238	5035
0330-0430	168	1151	134	115	526	227	197	1316	155	167	588	244	4988
0345-0445	164	1146	115	109	517	226	167	1244	134	158	592	245	4817
0400-0500	182	1124	118	106	524	234	168	1329	134	166	585	239	4909
0415-0515	187	1213	129	120	529	229	172	1345	120	163	582	243	5032
0430-0530	174	1241	124	112	560	238	162	1348	126	171	615	238	5109
0445-0545	184	1264	128	121	551	227	171	1386	142	162	605	264	5205
0500-0600	179	1288	136	126	566	217	181	1419	143	169	613	271	5308

P.M. PEAK HOUR
0500-0600



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THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
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City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South De Soto Ave

East/West Valerio St

Day: Tuesday Date: June 16, 2015 Weather: SUNNY

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

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	129	103	3	9
BIKES	15	20	4	5
BUSES	52	37	3	2

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	238	7.45	351	8.30	24	7.00	23	7.45
PM PK 15 MIN	375	17.00	303	17.00	29	17.30	15	16.45
AM PK HOUR	853	7.30	1351	7.45	64	7.45	74	7.30
PM PK HOUR	1458	16.45	1168	16.45	91	16.45	49	16.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	26	765	10	801
8-9	18	771	18	807
9-10	14	725	20	759
15-16	28	1119	25	1172
16-17	27	1301	30	1358
17-18	31	1399	26	1456
TOTAL	144	6080	129	6353

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	29	1253	14	1296
8-9	26	1250	18	1294
9-10	27	1041	9	1077
15-16	51	912	37	1000
16-17	50	1005	30	1085
17-18	42	1069	32	1143
TOTAL	225	6530	140	6895

Hours	**TOTAL** N-S	**XING S/L** Ped	Sch	**XING N/L** Ped	Sch
7-8	2097	0	0	4	0
8-9	2101	0	0	0	0
9-10	1836	0	0	1	0
15-16	2172	0	0	2	0
16-17	2443	1	0	0	0
17-18	2599	0	0	0	0
TOTAL	13248	1	0	7	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	16	4	42	62
8-9	14	6	40	60
9-10	11	0	37	48
15-16	26	8	41	75
16-17	17	6	46	69
17-18	21	5	55	81
TOTAL	105	29	261	395

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	22	4	40	66
8-9	12	2	39	53
9-10	12	2	24	38
15-16	9	4	32	45
16-17	11	3	35	49
17-18	8	2	25	35
TOTAL	74	17	195	286

Hours	**TOTAL** E-W	**XING W/L** Ped	Sch	**XING E/L** Ped	Sch
7-8	128	12	2	4	0
8-9	113	3	0	11	0
9-10	86	3	0	7	0
15-16	120	8	5	2	1
16-17	118	6	0	3	0
17-18	116	5	0	1	0
TOTAL	681	37	7	28	1

Volume Factoring Worksheet

Year to Factor To: ***2020***

Annual Traffic Growth: ***1.00%***

Instructions
1. Enter factor year (usually existing year)
2. Enter annual traffic growth rate
3. Enter traffic count data in "Input" section
4. Enter traffic count year for each intersection
5. Pull factored traffic volumes from "Output" section

INPUT

			AM												PM												
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	**Count**
Int	N/S Street	E/W Street	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	**Year**
2	Topanga Canyon	Valerio	19	1660	38	58	6	32	18	1394	47	64	6	25	42	1,408	55	30	2	10	29	1,559	35	66	6	25	**2014**
		Total WB & EB as a % of SB		1717			95			1460			95			1505			42			1622			97		
3	Topanga Canyon	Wyandotte	21	1843	43	60	6	33	17	1,316	45	67	6	26	45	1,499	59	33	3	11	32	1,745	39	73	7	28	**2014**
		Total WB & EB as a % of SB		1906			99			1378			99			1603			46			1816			107		
1	Topanga Canyon	Saticoy	190	1,546	141	70	665	71	119	1,172	169	100	624	56	161	1,329	107	59	538	67	144	1,369	109	109	508	74	**2014**
4	Topanga Canyon	Sherman	130	1673	103	79	643	234	119	1070	110	150	571	229	179	1288	136	126	566	217	181	1419	143	169	613	271	**2014**
A	De Soto	Valerio	14	1,253	29	40	4	22	10	765	26	42	4	16	32	1,069	42	25	2	8	26	1,399	31	55	5	21	**2015**
		% Turns	1%	97%	2%	61%	6%	33%	1%	96%	3%	68%	6%	26%	3%	94%	4%	71%	6%	23%	2%	96%	2%	68%	6%	26%	
		Total WB & EB as a % of SB					3%			38%			3%						1%			127%			3%		

OUTPUT

			AM												PM											
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Int	N/S Street	E/W Street	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
2	Topanga Canyon	Valerio	20	1760	40	61	6	34	19	1478	50	68	6	27	45	1492	58	32	2	11	31	1653	37	70	6	27
3	Topanga Canyon	Wyandotte	22	1954	46	64	6	35	18	1395	48	71	6	28	48	1589	63	35	3	12	34	1850	41	77	7	30
1	Topanga Canyon	Saticoy	201	1639	149	74	705	75	126	1242	179	106	661	59	171	1409	113	63	570	71	153	1451	116	116	538	78
4	Topanga Canyon	Sherman	138	1773	109	84	682	248	126	1134	117	159	605	243	190	1365	144	134	600	230	192	1504	152	179	650	287

Appendix C

CEQA T-1 Plans, Policies, Programs Consistency Worksheet

Plans, Policies and Programs Consistency Worksheet

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

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

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

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

I. SCREENING CRITERIA FOR POLICY ANALYSIS

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

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

☑ Yes ☐ No

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

☐ Yes ☑ No

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

☑ Yes ☐ No

II. PLAN CONSISTENCY ANALYSIS

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

These questions address potential conflict with:

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

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

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

Mobility Plan 2035 Street Designations and Standard Roadway Dimensions

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

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

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

☑ Yes ☐ No ☐ N/A

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

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

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

Topanga Canyon Boulevard
Frontage 1 Existing PROW'/Curb' : Existing 52' Required 55' Proposed 55'

Alley
Frontage 2 Existing PROW'/Curb' : Existing 10' Required 10' Proposed 10'

Frontage 3 Existing PROW'/Curb' : Existing ____________ Required ______________ Proposed _______________

Frontage 4 Existing PROW'/Curb' : Existing ____________ Required ______________ Proposed _______________

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

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

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

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

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

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

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

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

B.1 Project-Initiated Changes to the PROW Dimensions

These questions address potential conflict with:

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

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

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

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

Mobility Plan 2035 Street Designations and Standard Roadway Dimensions

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

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

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

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

☐ **Yes** ☑ No

B.2 Driveway Access

These questions address potential conflict with:

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

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

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

Site Planning Best Practices:

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

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

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

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

☐ **Yes** ☑ No

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

Impact Analysis

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

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

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

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

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

☐ **Yes** ☐ No ☑ N/A

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

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

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

☐ **Yes** ☐ No ☑ N/A

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

C. Network Access

C. 1 Alley, Street and Stairway Access

These questions address potential conflict with:

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

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

☐ Yes ☑ No

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

☐ Yes ☐ **No** ☑ N/A

C.2 New Cul-de-sacs

These questions address potential conflict with:

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

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

☐ Yes ☑ No

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

☐ Yes ☐ **No** ☑ N/A

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

D. Parking Supply and Transportation Demand Management

These questions address potential conflict with:

> ***Mobility Plan 2035 Policy 3.8*** *– Bicycle Parking, Provide bicyclists with convenient, secure and well maintained bicycle parking facilities.*
>
> ***Mobility Plan 2035 Policy 4.8 –*** *Transportation Demand Management Strategies. Encourage greater utilization of Transportation Demand Management Strategies to reduce dependence on single-occupancy vehicles.*
>
> ***Mobility Plan 2035 Policy 4.13*** *– Parking and Land Use Management: Balance on-street and off-street parking supply with other transportation and land use objectives.*

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

☐ Yes ☑ No

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

☐ Yes ☐ **No** ☑ N/A

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

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

☑ Yes ☐ **No**

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

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

☐ Yes ☑ No

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

☐ Yes ☐ **No** ☑ N/A

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

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

E. Consistency with Regional Plans

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

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

☐ Yes ☑ No

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

☐ Yes ☐ No ☑ N/A

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

☐ Yes ☑ No ☐ N/A

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

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

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

References

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

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

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

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

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

ATTACHMENT D.1: CITY PLAN, POLICIES AND GUIDELINES

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

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

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

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

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

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

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

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

Appendix D

VMT Analysis Worksheets

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

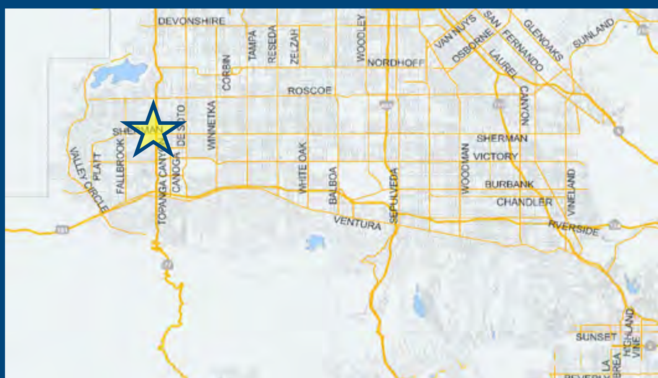
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: J1841 - 7322-7340 Topanga Canyon Blvd

Scenario:

Address: 7322 N TOPANGA CANYON BLVD, 91303



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

○ Yes ○ No

Existing Land Use

Land Use Type	Value	Unit
Office | General Office	34.884	ksf
Office | General Office	34.884	ksf

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

Proposed Project Land Use

Land Use Type	Value	Unit
Housing | Multi-Family	136	DU
Housing | Affordable Housing - Family	12	DU
Housing | Multi-Family	137	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
329 Daily Vehicle Trips	690 Daily Vehicle Trips
3,021 Daily VMT	5,537 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	361 Net Daily Trips
The net increase in daily VMT ≤ 0	2,516 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	0.000 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

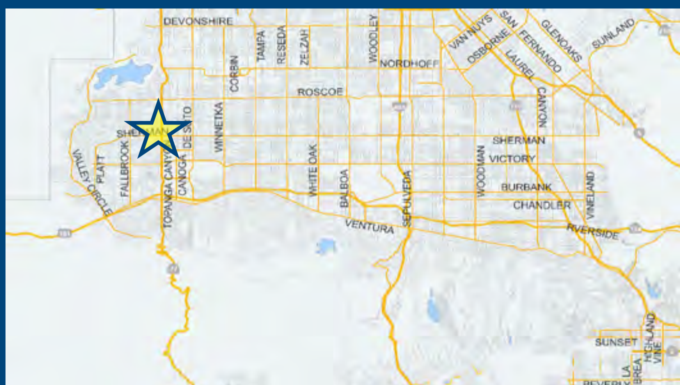
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: J1841 - 7322-7340 Topanga Canyon Blvd

Scenario:

Address: 7322 N TOPANGA CANYON BLVD, 91303



Proposed Project Land Use Type	Value	Unit
Housing | Affordable Housing - Family	12	DU
Housing | Multi-Family	137	DU

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
☐ Proposed Prj ☐ Mitigation
Select Proposed Prj or Mitigation to include this strategy

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

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

G Neighborhood Enhancement

Analysis Results

Proposed Project	With Mitigation
685 Daily Vehicle Trips	**685** Daily Vehicle Trips
5,502 Daily VMT	**5,502** Daily VMT
8.4 Household VMT per Capita	**8.4** Household VMT
N/A Work VMT per Employee	**N/A** Work VMT per Employee

Significant VMT Impact?

Proposed Project	With Mitigation
Household: No Threshold = 9.4 15% Below APC	**Household: No** Threshold = 9.4 15% Below APC
Work: N/A Threshold = 11.6 15% Below APC	**Work: N/A** Threshold = 11.6 15% Below APC

Measuring the Miles

3/2/2021

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: March 2, 2021
Project Name: J1841 - 7322-7340 Topanga Canyon Blvd
Project Scenario:
Project Address: 7322 N TOPANGA CANYON BLVD, 91303

Version 1.3

Project Information

Land Use Type		Value	Units
Housing	*Single Family*	*0*	*DU*
	Multi Family	137	DU
	Townhouse	*0*	*DU*
	Hotel	*0*	*Rooms*
	Motel	*0*	*Rooms*
Affordable Housing	Family	12	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	*0.000*	*ksf*
	Fast-Food Restaurant	*0.000*	*ksf*
	Quality Restaurant	*0.000*	*ksf*
	Auto Repair	*0.000*	*ksf*
	Home Improvement	*0.000*	*ksf*
	Free-Standing Discount	*0.000*	*ksf*
	Movie Theater	*0*	*Seats*
Office	*General Office*	*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*

Analysis Results

Total Employees: 0
Total Population: 346

Proposed Project		*With Mitigation*	
685	**Daily Vehicle Trips**	**685**	**Daily Vehicle Trips**
5,502	**Daily VMT**	**5,502**	**Daily VMT**
8.4	**Household VMT per Capita**	**8.4**	**Household VMT per Capita**
N/A	**Work VMT per Employee**	**N/A**	**Work VMT per Employee**

Significant VMT Impact?

APC: South Valley

Impact Threshold: 15% Below APC Average
Household = 9.4
Work = 11.6

Proposed Project		*With Mitigation*	
VMT Threshold	**Impact**	**VMT Threshold**	**Impact**
Household > 9.4	No	Household > 9.4	No
Work > 11.6	N/A	Work > 11.6	N/A

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: March 2, 2021
Project Name: J1841 - 7322-7340 Topanga Canyon Blv
Project Scenario:
Project Address: 7322 N TOPANGA CANYON BLVD, 9130

Version 1.3

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: March 2, 2021
Project Name: J1841 - 7322-7340 Topanga Canyon Blvd
Project Scenario:
Project Address: 7322 N TOPANGA CANYON BLVD, 91303

Version 1.3

TDM Adjustments by Trip Purpose & Strategy

Place type: Compact Infill

		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: Compact Infill

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

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: March 2, 2021
Project Name: J1841 - 7322-7340 Topanga Canyon Blv
Project Scenario:
Project Address: 7322 N TOPANGA CANYON BLVD, 9130

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	133	-12.8%	116	11.5	1,530	1,334
Home Based Other Production	368	-32.1%	250	6.4	2,355	1,600
Non-Home Based Other Production	172	-2.3%	168	9.2	1,582	1,546
Home-Based Work Attraction	0	0.0%	0	10.4	0	0
Home-Based Other Attraction	175	-34.3%	115	6.3	1,103	725
Non-Home Based Other Attraction	42	-2.4%	41	8.1	340	332

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%	115	1,326	-0.6%	115	1,326
Home Based Other Production	-0.6%	248	1,590	-0.6%	248	1,590
Non-Home Based Other Production	-0.6%	167	1,536	-0.6%	167	1,536
Home-Based Work Attraction	-0.6%	0	0	-0.6%	0	0
Home-Based Other Attraction	-0.6%	114	720	-0.6%	114	720
Non-Home Based Other Attraction	-0.6%	41	330	-0.6%	41	330

MXD VMT Methodology Per Capita & Per Employee

Total Population: 346
Total Employees: 0
APC: South Valley

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**2,916**	**2,916**
Total Home Based Work Attraction VMT	**0**	**0**
Total Home Based VMT Per Capita	**8.4**	**8.4**
Total Work Based VMT Per Employee	**N/A**	**N/A**

Appendix E

HCM Analysis Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↑↱		↰	↑↑↱	
Traffic Volume (veh/h)	59	661	106	75	705	74	179	1242	126	149	1639	201
Future Volume (veh/h)	59	661	106	75	705	74	179	1242	126	149	1639	201
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	64	718	115	82	766	80	195	1350	137	162	1782	218
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	984	158	135	1042	109	221	1810	184	379	2179	265
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.25	0.77	0.77	0.21	0.47	0.47
Sat Flow, veh/h	651	3068	491	659	3247	339	1781	4710	478	1781	4612	561
Grp Volume(v), veh/h	64	416	417	82	419	427	195	976	511	162	1313	687
Grp Sat Flow(s),veh/h/ln	651	1777	1782	659	1777	1809	1781	1702	1784	1781	1702	1769
Q Serve(g_s), s	11.6	24.9	24.9	13.6	25.2	25.2	12.6	18.7	18.7	9.5	39.7	40.2
Cycle Q Clear(g_c), s	36.8	24.9	24.9	38.5	25.2	25.2	12.6	18.7	18.7	9.5	39.7	40.2
Prop In Lane	1.00		0.28	1.00		0.19	1.00		0.27	1.00		0.32
Lane Grp Cap(c), veh/h	132	570	572	135	570	580	221	1308	685	379	1608	836
V/C Ratio(X)	0.48	0.73	0.73	0.61	0.74	0.74	0.88	0.75	0.75	0.43	0.82	0.82
Avail Cap(c_a), veh/h	132	570	572	135	570	580	221	1308	685	379	1608	836
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.6	36.1	36.1	53.8	36.2	36.2	44.3	10.7	10.7	40.9	27.2	27.3
Incr Delay (d2), s/veh	4.3	5.3	5.3	9.6	5.5	5.4	34.0	3.6	6.7	0.8	4.7	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.7	17.1	17.2	5.1	17.3	17.6	11.1	7.5	8.6	7.6	23.5	25.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.9	41.4	41.4	63.5	41.7	41.6	78.3	14.3	17.4	41.7	31.9	36.3
LnGrp LOS	E	D	D	E	D	D	E	B	B	D	C	D
Approach Vol, veh/h		897			928			1682			2162	
Approach Delay, s/veh		42.5			43.6			22.7			34.0	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.4	62.6		44.0	31.4	51.6		44.0				
Change Period (Y+Rc), s	* 5.5	* 5.7		* 5.5	* 5.7	* 5.5		* 5.5				
Max Green Setting (Gmax), s	* 15	* 50		* 39	* 19	* 46		* 39				
Max Q Clear Time (g_c+I1), s	14.6	42.2		40.5	11.5	20.7		38.8				
Green Ext Time (p_c), s	0.0	7.2		0.0	0.2	15.5		0.0				

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	6	68	34	6	61	50	1478	19	40	1760	20
Future Volume (veh/h)	27	6	68	34	6	61	50	1478	19	40	1760	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	7	74	37	7	66	54	1607	21	43	1913	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	18	96	78	18	83	251	4321	56	317	4329	50
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	331	210	1111	434	205	959	229	5194	68	309	5204	60
Grp Volume(v), veh/h	110	0	0	110	0	0	54	1053	575	43	1251	684
Grp Sat Flow(s),veh/h/ln	1651	0	0	1599	0	0	229	1702	1858	309	1702	1860
Q Serve(g_s), s	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.6	0.0	0.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.26		0.67	0.34		0.60	1.00		0.04	1.00		0.03
Lane Grp Cap(c), veh/h	181	0	0	178	0	0	251	2832	1546	317	2832	1547
V/C Ratio(X)	0.61	0.00	0.00	0.62	0.00	0.00	0.22	0.37	0.37	0.14	0.44	0.44
Avail Cap(c_a), veh/h	370	0	0	365	0	0	251	2832	1546	317	2832	1547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.20	0.20	0.20
Uniform Delay (d), s/veh	53.6	0.0	0.0	53.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.3	0.0	0.0	3.4	0.0	0.0	2.0	0.4	0.7	0.2	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.1	0.0	0.0	6.2	0.0	0.0	0.2	0.3	0.5	0.0	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.8	0.0	0.0	57.1	0.0	0.0	2.0	0.4	0.7	0.2	0.1	0.2
LnGrp LOS	E	A	A	E	A	A	A	A	A	A	A	A
Approach Vol, veh/h		110			110			1682			1978	
Approach Delay, s/veh		56.8			57.1			0.5			0.1	
Approach LOS		E			E			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	104.3	15.7	104.3	15.7
Change Period (Y+Rc), s	* 4.5	* 5.3	* 4.5	* 5.3
Max Green Setting (Gmax), s	* 85	* 25	* 85	* 25
Max Q Clear Time (g_c+I1), s	2.0	9.9	2.0	9.6
Green Ext Time (p_c), s	47.5	0.5	37.9	0.5

Intersection Summary	
HCM 6th Ctrl Delay	3.5
HCM 6th LOS	A

Notes

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

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	6	71	35	6	64	48	1395	18	46	1954	22
Future Vol, veh/h	28	6	71	35	6	64	48	1395	18	46	1954	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	7	77	38	7	70	52	1516	20	50	2124	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2950	3876	1074	2583	3878	768	2148	0	0	1536	0	0
Stage 1	2236	2236	-	1630	1630	-	-	-	-	-	-	-
Stage 2	714	1640	-	953	2248	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	~ 16	~ 3	185	~ 27	~ 3	295	105	-	-	214	-	-
Stage 1	~ 26	78	-	71	158	-	-	-	-	-	-	-
Stage 2	353	157	-	252	77	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 1	185	-	~ 1	295	105	-	-	214	-	-
Mov Cap-2 Maneuver	-	~ 1	-	-	~ 1	-	-	-	-	-	-	-
Stage 1	~ 13	60	-	~ 36	80	-	-	-	-	-	-	-
Stage 2	125	79	-	100	59	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			2.3	0.6
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	105	-	-	-	185	-	295	214	-	-
HCM Lane V/C Ratio	0.497	-	-	-	0.417	-	0.236	0.234	-	-
HCM Control Delay (s)	69.2	-	-	-	37.7	-	20.9	26.9	-	-
HCM Lane LOS	F	-	-	-	E	-	C	D	-	-
HCM 95th %tile Q(veh)	2.2	-	-	-	1.9	-	0.9	0.9	-	-

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	243	605	159	248	682	84	117	1134	126	109	1773	138
Future Volume (veh/h)	243	605	159	248	682	84	117	1134	126	109	1773	138
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	264	658	173	270	741	91	127	1233	137	118	1927	150
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	780	703	336	743	91	399	1659	184	399	1720	133
Arrive On Green	0.08	0.22	0.22	0.10	0.23	0.23	0.22	0.36	0.36	0.07	0.12	0.12
Sat Flow, veh/h	3456	3554	1585	3456	3186	391	1781	4663	518	1781	4833	374
Grp Volume(v), veh/h	264	658	173	270	413	419	127	900	470	118	1355	722
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1800	1781	1702	1777	1781	1702	1803
Q Serve(g_s), s	9.1	21.3	0.0	9.2	27.9	27.9	7.1	27.8	27.8	7.5	42.7	42.7
Cycle Q Clear(g_c), s	9.1	21.3	0.0	9.2	27.9	27.9	7.1	27.8	27.8	7.5	42.7	42.7
Prop In Lane	1.00		1.00	1.00		0.22	1.00		0.29	1.00		0.21
Lane Grp Cap(c), veh/h	288	780	703	336	415	420	399	1211	632	399	1211	642
V/C Ratio(X)	0.92	0.84	0.25	0.80	1.00	1.00	0.32	0.74	0.74	0.30	1.12	1.13
Avail Cap(c_a), veh/h	288	829	725	336	415	420	399	1211	632	399	1211	642
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	44.9	20.8	53.1	46.0	46.0	38.9	33.8	33.8	46.6	53.0	53.0
Incr Delay (d2), s/veh	32.2	8.8	0.4	13.3	43.2	43.2	2.1	4.1	7.7	1.9	64.8	75.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.0	15.6	5.6	8.1	24.0	24.2	6.1	17.8	19.2	6.7	42.6	47.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.8	53.7	21.3	66.4	89.2	89.1	41.0	38.0	41.6	48.5	117.8	128.4
LnGrp LOS	F	D	C	E	F	F	D	D	D	D	F	F
Approach Vol, veh/h		1095			1102			1497			2195	
Approach Delay, s/veh		56.5			83.6			39.4			117.6	
Approach LOS		E			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.0	48.2	17.3	32.0	33.0	48.2	15.6	33.7
Change Period (Y+Rc), s	* 5.8	* 5.5	* 5.6	5.7	* 5.8	* 5.5	* 5.6	5.7
Max Green Setting (Gmax), s	* 17	* 43	* 10	28.0	* 17	* 43	* 10	28.0
Max Q Clear Time (g_c+I1), s	9.5	29.8	11.2	23.3	9.1	44.7	11.1	29.9
Green Ext Time (p_c), s	0.1	9.4	0.0	3.1	0.2	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	80.0
HCM 6th LOS	E

Notes

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

User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	538	116	71	570	63	116	1451	153	113	1409	171
Future Volume (veh/h)	78	538	116	71	570	63	116	1451	153	113	1409	171
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	585	126	77	620	68	126	1577	166	123	1532	186
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	908	195	162	1008	110	215	1936	203	243	1975	239
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.24	0.82	0.82	0.14	0.43	0.43
Sat Flow, veh/h	755	2910	625	739	3230	354	1781	4692	493	1781	4614	560
Grp Volume(v), veh/h	85	357	354	77	341	347	126	1143	600	123	1130	588
Grp Sat Flow(s),veh/h/ln	755	1777	1758	739	1777	1807	1781	1702	1782	1781	1702	1770
Q Serve(g_s), s	13.0	20.7	20.8	12.0	19.6	19.7	7.5	21.5	21.6	7.7	34.1	34.2
Cycle Q Clear(g_c), s	32.6	20.7	20.8	32.9	19.6	19.7	7.5	21.5	21.6	7.7	34.1	34.2
Prop In Lane	1.00		0.36	1.00		0.20	1.00		0.28	1.00		0.32
Lane Grp Cap(c), veh/h	172	554	548	162	554	564	215	1404	735	243	1457	757
V/C Ratio(X)	0.49	0.64	0.65	0.48	0.61	0.62	0.59	0.81	0.82	0.51	0.78	0.78
Avail Cap(c_a), veh/h	185	585	579	175	585	595	215	1404	735	243	1457	757
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.1	35.5	35.6	49.7	35.1	35.2	42.8	8.0	8.1	48.1	29.4	29.4
Incr Delay (d2), s/veh	3.5	2.8	2.9	3.4	2.3	2.3	10.1	4.8	8.8	1.7	4.1	7.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.7	14.4	14.4	4.3	13.7	13.9	6.6	7.2	8.6	6.4	20.8	22.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.5	38.3	38.5	53.1	37.4	37.5	52.9	12.8	16.9	49.8	33.5	37.1
LnGrp LOS	D	D	D	D	D	D	D	B	B	D	C	D
Approach Vol, veh/h		796			765			1869			1841	
Approach Delay, s/veh		39.9			39.0			16.8			35.7	
Approach LOS		D			D			B			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.0	57.1		42.9	22.1	55.0		42.9
Change Period (Y+Rc), s	* 5.5	* 5.7		* 5.5	* 5.7	* 5.5		* 5.5
Max Green Setting (Gmax), s	* 15	* 50		* 40	* 14	* 50		* 40
Max Q Clear Time (g_c+I1), s	9.5	36.2		34.9	9.7	23.6		34.6
Green Ext Time (p_c), s	0.1	10.8		2.6	0.1	18.4		2.8

Intersection Summary	
HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	6	70	11	2	32	37	1653	31	58	1492	45
Future Volume (veh/h)	27	6	70	11	2	32	37	1653	31	58	1492	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	7	76	12	2	35	40	1797	34	63	1622	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	18	95	59	21	107	306	4282	81	271	4227	128
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	307	204	1080	240	243	1208	297	5159	98	254	5093	154
Grp Volume(v), veh/h	112	0	0	49	0	0	40	1185	646	63	1084	587
Grp Sat Flow(s),veh/h/ln	1591	0	0	1691	0	0	297	1702	1853	254	1702	1843
Q Serve(g_s), s	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.2	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.26		0.68	0.24		0.71	1.00		0.05	1.00		0.08
Lane Grp Cap(c), veh/h	178	0	0	187	0	0	306	2825	1538	271	2825	1529
V/C Ratio(X)	0.63	0.00	0.00	0.26	0.00	0.00	0.13	0.42	0.42	0.23	0.38	0.38
Avail Cap(c_a), veh/h	367	0	0	373	0	0	306	2825	1538	271	2825	1529
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.46	0.46	0.46
Uniform Delay (d), s/veh	53.5	0.0	0.0	51.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.6	0.0	0.0	0.7	0.0	0.0	0.9	0.5	0.8	0.9	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.3	0.0	0.0	2.6	0.0	0.0	0.1	0.3	0.6	0.1	0.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.1	0.0	0.0	52.1	0.0	0.0	0.9	0.5	0.8	0.9	0.2	0.3
LnGrp LOS	E	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		112			49			1871			1734	
Approach Delay, s/veh		57.1			52.1			0.6			0.3	
Approach LOS		E			D			A			A	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		104.1		15.9		104.1		15.9
Change Period (Y+Rc), s		* 4.5		* 5.3		* 4.5		* 5.3
Max Green Setting (Gmax), s		* 85		* 25		* 85		* 25
Max Q Clear Time (g_c+I1), s		2.0		5.3		2.0		10.2
Green Ext Time (p_c), s		40.0		0.2		43.3		0.5

Intersection Summary	
HCM 6th Ctrl Delay	2.8
HCM 6th LOS	A

Notes

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

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	7	77	12	3	35	41	1850	34	63	1589	48
Future Vol, veh/h	30	7	77	12	3	35	41	1850	34	63	1589	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	8	84	13	3	38	45	2011	37	68	1727	52

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2785	4027	890	2951	4035	1024	1779	0	0	2048	0	0
Stage 1	1889	1889	-	2120	2120	-	-	-	-	-	-	-
Stage 2	896	2138	-	831	1915	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	~ 20	~ 3	245	16	~ 3	200	162	-	-	118	-	-
Stage 1	46	117	-	31	90	-	-	-	-	-	-	-
Stage 2	273	88	-	299	114	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 1	245	-	~ 1	200	162	-	-	118	-	-
Mov Cap-2 Maneuver	-	~ 1	-	-	~ 1	-	-	-	-	-	-	-
Stage 1	33	50	-	22	65	-	-	-	-	-	-	-
Stage 2	152	64	-	71	48	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.8	2.6
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	162	-	-	-	245	-	200	118	-	-
HCM Lane V/C Ratio	0.275	-	-	-	0.342	-	0.19	0.58	-	-
HCM Control Delay (s)	35.4	-	-	-	27.1	-	27.2	71	-	-
HCM Lane LOS	E	-	-	-	D	-	D	F	-	-
HCM 95th %tile Q(veh)	1.1	-	-	-	1.5	-	0.7	2.8	-	-

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	287	650	179	230	600	134	152	1504	192	144	1365	190
Future Volume (veh/h)	287	650	179	230	600	134	152	1504	192	144	1365	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	312	707	195	250	652	146	165	1635	209	157	1484	207
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	323	822	723	332	676	151	401	1578	201	401	1559	217
Arrive On Green	0.09	0.23	0.23	0.10	0.23	0.23	0.22	0.34	0.34	0.07	0.11	0.11
Sat Flow, veh/h	3456	3554	1585	3456	2886	645	1781	4585	584	1781	4530	631
Grp Volume(v), veh/h	312	707	195	250	401	397	165	1213	631	157	1115	576
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1754	1781	1702	1765	1781	1702	1757
Q Serve(g_s), s	10.8	22.9	0.0	8.5	26.8	26.9	9.5	41.3	41.3	10.1	39.1	39.1
Cycle Q Clear(g_c), s	10.8	22.9	0.0	8.5	26.8	26.9	9.5	41.3	41.3	10.1	39.1	39.1
Prop In Lane	1.00		1.00	1.00		0.37	1.00		0.33	1.00		0.36
Lane Grp Cap(c), veh/h	323	822	723	332	416	411	401	1172	608	401	1172	605
V/C Ratio(X)	0.97	0.86	0.27	0.75	0.96	0.97	0.41	1.04	1.04	0.39	0.95	0.95
Avail Cap(c_a), veh/h	323	859	740	332	416	411	401	1172	608	401	1172	605
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.2	44.3	20.2	52.8	45.5	45.5	39.7	39.3	39.4	47.7	52.2	52.2
Incr Delay (d2), s/veh	41.2	9.7	0.5	9.3	34.9	35.7	3.1	35.8	47.1	2.9	17.0	26.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.7	16.6	6.3	7.4	22.3	22.2	8.0	31.3	34.7	8.8	28.1	30.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.4	53.9	20.7	62.1	80.4	81.2	42.8	75.1	86.4	50.6	69.2	78.9
LnGrp LOS	F	D	C	E	F	F	D	F	F	D	E	E
Approach Vol, veh/h		1214			1048			2009			1848	
Approach Delay, s/veh		59.2			76.3			76.0			70.6	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.1	46.8	17.1	33.5	33.1	46.8	16.8	33.8
Change Period (Y+Rc), s	* 5.8	* 5.5	* 5.6	5.7	* 5.8	* 5.5	* 5.6	5.7
Max Green Setting (Gmax), s	* 17	* 41	* 10	29.0	* 17	* 41	* 11	28.1
Max Q Clear Time (g_c+I1), s	12.1	43.3	10.5	24.9	11.5	41.1	12.8	28.9
Green Ext Time (p_c), s	0.2	0.0	0.0	2.8	0.2	0.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	71.1
HCM 6th LOS	E

Notes

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

User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↑↱		↰	↑↑↱	
Traffic Volume (veh/h)	59	661	103	75	705	74	184	1248	127	149	1636	201
Future Volume (veh/h)	59	661	103	75	705	74	184	1248	127	149	1636	201
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	64	718	112	82	766	80	200	1357	138	162	1778	218
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	963	150	128	1015	106	230	1919	195	352	2194	268
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.26	0.81	0.81	0.20	0.48	0.48
Sat Flow, veh/h	651	3081	480	661	3247	339	1781	4709	479	1781	4611	562
Grp Volume(v), veh/h	64	414	416	82	419	427	200	981	514	162	1310	686
Grp Sat Flow(s),veh/h/ln	651	1777	1784	661	1777	1809	1781	1702	1784	1781	1702	1769
Q Serve(g_s), s	11.8	25.1	25.1	12.4	25.5	25.5	12.9	15.1	15.1	9.6	39.4	39.8
Cycle Q Clear(g_c), s	37.3	25.1	25.1	37.5	25.5	25.5	12.9	15.1	15.1	9.6	39.4	39.8
Prop In Lane	1.00		0.27	1.00		0.19	1.00		0.27	1.00		0.32
Lane Grp Cap(c), veh/h	125	555	557	128	555	565	230	1387	727	352	1620	842
V/C Ratio(X)	0.51	0.75	0.75	0.64	0.75	0.76	0.87	0.71	0.71	0.46	0.81	0.81
Avail Cap(c_a), veh/h	125	555	557	128	555	565	230	1387	727	352	1620	842
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	37.0	37.0	54.8	37.1	37.1	43.5	8.0	8.0	42.5	26.8	26.9
Incr Delay (d2), s/veh	5.2	6.0	6.0	12.1	6.4	6.3	31.3	2.8	5.3	0.9	4.5	8.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.8	17.4	17.4	5.3	17.6	17.9	11.1	6.1	7.2	7.8	23.2	25.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.1	43.0	43.0	67.0	43.5	43.4	74.8	10.8	13.3	43.4	31.3	35.5
LnGrp LOS	E	D	D	E	D	D	E	B	B	D	C	D
Approach Vol, veh/h		894			928			1695			2158	
Approach Delay, s/veh		44.1			45.5			19.1			33.5	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.0	63.0		43.0	29.6	54.4		43.0				
Change Period (Y+Rc), s	* 5.5	* 5.7		* 5.5	* 5.7	* 5.5		* 5.5				
Max Green Setting (Gmax), s	* 16	* 51		* 38	* 17	* 49		* 38				
Max Q Clear Time (g_c+I1), s	14.9	41.8		39.5	11.6	17.1		39.3				
Green Ext Time (p_c), s	0.0	7.9		0.0	0.2	17.9		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			32.8
HCM 6th LOS			C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	6	68	34	6	73	50	1478	19	34	1760	20
Future Volume (veh/h)	27	6	68	34	6	73	50	1478	19	34	1760	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	7	74	37	7	79	54	1607	21	37	1913	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	20	103	75	18	98	249	4282	56	315	4290	49
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	318	215	1097	387	192	1038	229	5194	68	309	5204	60
Grp Volume(v), veh/h	110	0	0	123	0	0	54	1053	575	37	1251	684
Grp Sat Flow(s),veh/h/ln	1631	0	0	1617	0	0	229	1702	1858	309	1702	1860
Q Serve(g_s), s	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.7	0.0	0.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.26		0.67	0.30		0.64	1.00		0.04	1.00		0.03
Lane Grp Cap(c), veh/h	191	0	0	191	0	0	249	2806	1532	315	2806	1533
V/C Ratio(X)	0.58	0.00	0.00	0.64	0.00	0.00	0.22	0.38	0.38	0.12	0.45	0.45
Avail Cap(c_a), veh/h	368	0	0	367	0	0	249	2806	1532	315	2806	1533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.22	0.22	0.22
Uniform Delay (d), s/veh	52.7	0.0	0.0	53.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.7	0.0	0.0	3.6	0.0	0.0	2.0	0.4	0.7	0.2	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.1	0.0	0.0	6.9	0.0	0.0	0.2	0.3	0.5	0.0	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	0.0	0.0	56.8	0.0	0.0	2.0	0.4	0.7	0.2	0.1	0.2
LnGrp LOS	E	A	A	E	A	A	A	A	A	A	A	A
Approach Vol, veh/h		110			123			1682			1972	
Approach Delay, s/veh		55.5			56.8			0.5			0.1	
Approach LOS		E			E			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	103.4	16.6	103.4	16.6
Change Period (Y+Rc), s	* 4.5	* 5.3	* 4.5	* 5.3
Max Green Setting (Gmax), s	* 85	* 25	* 85	* 25
Max Q Clear Time (g_c+I1), s	2.0	10.8	2.0	9.7
Green Ext Time (p_c), s	47.0	0.5	37.9	0.5

Intersection Summary	
HCM 6th Ctrl Delay	3.7
HCM 6th LOS	A

Notes

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

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	6	71	52	6	64	48	1395	9	46	1954	22
Future Vol, veh/h	28	6	71	52	6	64	48	1395	9	46	1954	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	7	77	57	7	70	52	1516	10	50	2124	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2950	3866	1074	2578	3873	763	2148	0	0	1526	0	0
Stage 1	2236	2236	-	1625	1625	-	-	-	-	-	-	-
Stage 2	714	1630	-	953	2248	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	~ 16	~ 3	185	~ 27	~ 3	298	105	-	-	216	-	-
Stage 1	~ 26	78	-	72	159	-	-	-	-	-	-	-
Stage 2	353	158	-	252	77	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 1	185	-	~ 1	298	105	-	-	216	-	-
Mov Cap-2 Maneuver	-	~ 1	-	-	~ 1	-	-	-	-	-	-	-
Stage 1	~ 13	60	-	~ 36	80	-	-	-	-	-	-	-
Stage 2	125	80	-	101	59	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			2.3	0.6
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	105	-	-	-	185	-	298	216	-	-
HCM Lane V/C Ratio	0.497	-	-	-	0.417	-	0.233	0.231	-	-
HCM Control Delay (s)	69.2	-	-	-	37.7	-	20.7	26.6	-	-
HCM Lane LOS	F	-	-	-	E	-	C	D	-	-
HCM 95th %tile Q(veh)	2.2	-	-	-	1.9	-	0.9	0.9	-	-

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	605	159	248	682	83	117	1128	126	111	1784	143
Future Volume (veh/h)	240	605	159	248	682	83	117	1128	126	111	1784	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	261	658	173	270	741	90	127	1226	137	121	1939	155
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	780	703	336	744	90	399	1658	185	399	1716	136
Arrive On Green	0.08	0.22	0.22	0.10	0.23	0.23	0.22	0.36	0.36	0.07	0.12	0.12
Sat Flow, veh/h	3456	3554	1585	3456	3190	387	1781	4660	521	1781	4822	384
Grp Volume(v), veh/h	261	658	173	270	413	418	127	896	467	121	1366	728
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1801	1781	1702	1777	1781	1702	1801
Q Serve(g_s), s	9.0	21.3	0.0	9.2	27.8	27.9	7.1	27.6	27.6	7.7	42.7	42.7
Cycle Q Clear(g_c), s	9.0	21.3	0.0	9.2	27.8	27.9	7.1	27.6	27.6	7.7	42.7	42.7
Prop In Lane	1.00		1.00	1.00		0.22	1.00		0.29	1.00		0.21
Lane Grp Cap(c), veh/h	288	780	703	336	415	420	399	1211	632	399	1211	641
V/C Ratio(X)	0.91	0.84	0.25	0.80	1.00	1.00	0.32	0.74	0.74	0.30	1.13	1.14
Avail Cap(c_a), veh/h	288	829	725	336	415	420	399	1211	632	399	1211	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	44.9	20.8	53.1	45.9	45.9	38.9	33.8	33.8	46.7	53.0	53.0
Incr Delay (d2), s/veh	30.1	8.8	0.4	13.3	42.9	42.8	2.1	4.1	7.6	1.9	68.5	79.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.8	15.6	5.6	8.1	23.9	24.2	6.1	17.6	19.0	6.9	43.6	48.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.6	53.7	21.3	66.4	88.8	88.7	41.0	37.9	41.4	48.6	121.5	132.1
LnGrp LOS	F	D	C	E	F	F	D	D	D	D	F	F
Approach Vol, veh/h		1092			1101			1490			2215	
Approach Delay, s/veh		55.9			83.3			39.2			121.0	
Approach LOS		E			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.0	48.2	17.3	32.0	33.0	48.2	15.6	33.7
Change Period (Y+Rc), s	* 5.8	* 5.5	* 5.6	5.7	* 5.8	* 5.5	* 5.6	5.7
Max Green Setting (Gmax), s	* 17	* 43	* 10	28.0	* 17	* 43	* 10	28.0
Max Q Clear Time (g_c+I1), s	9.7	29.6	11.2	23.3	9.1	44.7	11.0	29.9
Green Ext Time (p_c), s	0.1	9.5	0.0	3.1	0.2	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	81.2
HCM 6th LOS	F

Notes

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

User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↑↱		↰	↑↑↱	
Traffic Volume (veh/h)	78	538	121	72	570	63	115	1449	153	113	1415	171
Future Volume (veh/h)	78	538	121	72	570	63	115	1449	153	113	1415	171
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	585	132	78	620	68	125	1575	166	123	1538	186
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	905	204	162	1014	111	200	1974	208	225	2006	242
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.22	0.84	0.84	0.13	0.43	0.43
Sat Flow, veh/h	755	2882	649	734	3230	354	1781	4692	494	1781	4616	558
Grp Volume(v), veh/h	85	360	357	78	341	347	125	1142	599	123	1134	590
Grp Sat Flow(s),veh/h/ln	755	1777	1754	734	1777	1807	1781	1702	1781	1781	1702	1770
Q Serve(g_s), s	12.9	20.9	21.0	12.3	19.5	19.6	7.6	19.4	19.5	7.8	33.9	34.0
Cycle Q Clear(g_c), s	32.5	20.9	21.0	33.3	19.5	19.6	7.6	19.4	19.5	7.8	33.9	34.0
Prop In Lane	1.00		0.37	1.00		0.20	1.00		0.28	1.00		0.32
Lane Grp Cap(c), veh/h	174	558	550	162	558	567	200	1433	750	225	1479	769
V/C Ratio(X)	0.49	0.65	0.65	0.48	0.61	0.61	0.62	0.80	0.80	0.55	0.77	0.77
Avail Cap(c_a), veh/h	185	585	577	173	585	595	200	1433	750	225	1479	769
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.8	35.4	35.5	49.8	34.9	35.0	44.2	7.0	7.0	49.2	28.8	28.8
Incr Delay (d2), s/veh	3.4	2.9	3.0	3.5	2.3	2.2	12.5	4.3	7.9	2.8	3.9	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.7	14.5	14.4	4.3	13.6	13.9	6.8	6.6	7.9	6.6	20.6	22.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.1	38.3	38.4	53.3	37.2	37.2	56.7	11.3	14.9	52.0	32.6	36.0
LnGrp LOS	D	D	D	D	D	D	E	B	B	D	C	D
Approach Vol, veh/h		802			766			1866			1847	
Approach Delay, s/veh		39.8			38.8			15.5			35.0	
Approach LOS		D			D			B			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.0	57.8		43.2	20.8	56.0		43.2				
Change Period (Y+Rc), s	* 5.5	* 5.7		* 5.5	* 5.7	* 5.5		* 5.5				
Max Green Setting (Gmax), s	* 14	* 51		* 40	* 13	* 51		* 40				
Max Q Clear Time (g_c+I1), s	9.6	36.0		35.3	9.8	21.5		34.5				
Green Ext Time (p_c), s	0.1	11.6		2.3	0.1	19.9		2.8				
Intersection Summary												
HCM 6th Ctrl Delay			29.4									
HCM 6th LOS			C									

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	6	70	11	2	29	37	1653	31	69	1492	45
Future Volume (veh/h)	27	6	70	11	2	29	37	1653	31	69	1492	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	7	76	12	2	32	40	1797	34	75	1622	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	18	95	61	23	104	306	4280	81	271	4225	128
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	306	204	1076	257	258	1178	297	5159	98	254	5093	154
Grp Volume(v), veh/h	112	0	0	46	0	0	40	1185	646	75	1084	587
Grp Sat Flow(s),veh/h/ln	1585	0	0	1693	0	0	297	1702	1853	254	1702	1843
Q Serve(g_s), s	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.2	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.26		0.68	0.26		0.70	1.00		0.05	1.00		0.08
Lane Grp Cap(c), veh/h	178	0	0	188	0	0	306	2824	1537	271	2824	1529
V/C Ratio(X)	0.63	0.00	0.00	0.24	0.00	0.00	0.13	0.42	0.42	0.28	0.38	0.38
Avail Cap(c_a), veh/h	364	0	0	370	0	0	306	2824	1537	271	2824	1529
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.48	0.48	0.48
Uniform Delay (d), s/veh	53.5	0.0	0.0	51.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.6	0.0	0.0	0.7	0.0	0.0	0.9	0.5	0.8	1.2	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.3	0.0	0.0	2.4	0.0	0.0	0.1	0.3	0.6	0.2	0.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.1	0.0	0.0	51.9	0.0	0.0	0.9	0.5	0.8	1.2	0.2	0.4
LnGrp LOS	E	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		112			46			1871			1746	
Approach Delay, s/veh		57.1			51.9			0.6			0.3	
Approach LOS		E			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		104.1		15.9		104.1		15.9				
Change Period (Y+Rc), s		* 4.5		* 5.3		* 4.5		* 5.3				
Max Green Setting (Gmax), s		* 85		* 25		* 85		* 25				
Max Q Clear Time (g_c+I1), s		2.0		5.1		2.0		10.2				
Green Ext Time (p_c), s		41.3		0.2		43.3		0.5				
Intersection Summary												
HCM 6th Ctrl Delay			2.8									
HCM 6th LOS			A									

Notes

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

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	7	77	8	3	35	41	1850	51	63	1589	48
Future Vol, veh/h	30	7	77	8	3	35	41	1850	51	63	1589	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	8	84	9	3	38	45	2011	55	68	1727	52

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2785	4045	890	2960	4044	1033	1779	0	0	2066	0	0
Stage 1	1889	1889	-	2129	2129	-	-	-	-	-	-	-
Stage 2	896	2156	-	831	1915	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	~ 20	~ 3	245	16	~ 3	197	162	-	-	116	-	-
Stage 1	46	117	-	31	89	-	-	-	-	-	-	-
Stage 2	273	86	-	299	114	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 1	245	-	~ 1	197	162	-	-	116	-	-
Mov Cap-2 Maneuver	-	~ 1	-	-	~ 1	-	-	-	-	-	-	-
Stage 1	33	48	-	22	64	-	-	-	-	-	-	-
Stage 2	151	62	-	69	47	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.7	2.7
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	162	-	-	-	245	-	197	116	-	-
HCM Lane V/C Ratio	0.275	-	-	-	0.342	-	0.193	0.59	-	-
HCM Control Delay (s)	35.4	-	-	-	27.1	-	27.6	73.2	-	-
HCM Lane LOS	E	-	-	-	D	-	D	F	-	-
HCM 95th %tile Q(veh)	1.1	-	-	-	1.5	-	0.7	2.9	-	-

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑	↱	↰↰	↑↱		↰	↑↑↱		↰	↑↑↱	
Traffic Volume (veh/h)	292	650	179	230	600	136	152	1515	192	144	1362	189
Future Volume (veh/h)	292	650	179	230	600	136	152	1515	192	144	1362	189
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	317	707	195	250	652	148	165	1647	209	157	1480	205
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	328	825	725	335	674	153	401	1572	199	401	1553	215
Arrive On Green	0.10	0.23	0.23	0.10	0.23	0.23	0.23	0.34	0.34	0.07	0.11	0.11
Sat Flow, veh/h	3456	3554	1585	3456	2877	652	1781	4589	581	1781	4534	627
Grp Volume(v), veh/h	317	707	195	250	402	398	165	1220	636	157	1111	574
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1753	1781	1702	1766	1781	1702	1757
Q Serve(g_s), s	11.0	22.9	0.0	8.5	26.9	27.0	9.5	41.1	41.1	10.1	38.9	39.0
Cycle Q Clear(g_c), s	11.0	22.9	0.0	8.5	26.9	27.0	9.5	41.1	41.1	10.1	38.9	39.0
Prop In Lane	1.00		1.00	1.00		0.37	1.00		0.33	1.00		0.36
Lane Grp Cap(c), veh/h	328	825	725	335	416	410	401	1166	605	401	1166	602
V/C Ratio(X)	0.97	0.86	0.27	0.75	0.97	0.97	0.41	1.05	1.05	0.39	0.95	0.95
Avail Cap(c_a), veh/h	328	865	742	335	416	410	401	1166	605	401	1166	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	44.1	20.2	52.8	45.5	45.5	39.7	39.5	39.5	47.7	52.3	52.3
Incr Delay (d2), s/veh	40.4	9.3	0.5	8.9	35.6	36.3	3.1	39.4	50.7	2.9	17.2	27.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.8	16.6	6.2	7.3	22.4	22.3	8.0	32.1	35.6	8.8	28.0	30.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.5	53.5	20.6	61.6	81.1	81.9	42.8	78.9	90.2	50.6	69.4	79.2
LnGrp LOS	F	D	C	E	F	F	D	F	F	D	E	E
Approach Vol, veh/h		1219			1050			2021			1842	
Approach Delay, s/veh		58.9			76.7			79.5			70.9	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.1	46.6	17.2	33.6	33.1	46.6	17.0	33.8
Change Period (Y+Rc), s	* 5.8	* 5.5	* 5.6	5.7	* 5.8	* 5.5	* 5.6	5.7
Max Green Setting (Gmax), s	* 17	* 41	* 10	29.2	* 17	* 41	* 11	28.1
Max Q Clear Time (g_c+I1), s	12.1	43.1	10.5	24.9	11.5	41.0	13.0	29.0
Green Ext Time (p_c), s	0.2	0.0	0.0	3.0	0.2	0.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	72.3
HCM 6th LOS	E

Notes

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

User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	681	109	77	726	76	184	1280	130	154	1689	207
Future Volume (veh/h)	61	681	109	77	726	76	184	1280	130	154	1689	207
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	740	118	84	789	83	200	1391	141	167	1836	225
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	985	157	128	1041	109	218	1920	195	337	2187	266
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.25	0.81	0.81	0.19	0.47	0.47
Sat Flow, veh/h	635	3070	489	644	3245	341	1781	4711	477	1781	4612	561
Grp Volume(v), veh/h	66	428	430	84	432	440	200	1005	527	167	1352	709
Grp Sat Flow(s),veh/h/ln	635	1777	1782	644	1777	1809	1781	1702	1784	1781	1702	1769
Q Serve(g_s), s	12.3	25.9	25.9	12.6	26.2	26.2	13.1	16.0	16.0	10.1	41.6	42.2
Cycle Q Clear(g_c), s	38.5	25.9	25.9	38.5	26.2	26.2	13.1	16.0	16.0	10.1	41.6	42.2
Prop In Lane	1.00		0.27	1.00		0.19	1.00		0.27	1.00		0.32
Lane Grp Cap(c), veh/h	125	570	572	128	570	580	218	1387	727	337	1614	839
V/C Ratio(X)	0.53	0.75	0.75	0.66	0.76	0.76	0.92	0.72	0.72	0.50	0.84	0.85
Avail Cap(c_a), veh/h	125	570	572	128	570	580	218	1387	727	337	1614	839
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	36.5	36.5	54.9	36.6	36.6	44.7	8.1	8.1	43.5	27.5	27.7
Incr Delay (d2), s/veh	5.9	6.1	6.1	13.7	6.4	6.3	40.2	3.1	5.7	1.1	5.4	10.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.0	17.8	17.9	5.5	18.0	18.3	11.8	6.3	7.4	8.1	24.5	27.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.8	42.5	42.6	68.7	42.9	42.8	84.9	11.1	13.8	44.7	32.9	37.9
LnGrp LOS	E	D	D	E	D	D	F	B	B	D	C	D
Approach Vol, veh/h		924			956			1732			2228	
Approach Delay, s/veh		43.8			45.2			20.5			35.4	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.2	62.8		44.0	28.6	54.4		44.0				
Change Period (Y+Rc), s	* 5.5	* 5.7		* 5.5	* 5.7	* 5.5		* 5.5				
Max Green Setting (Gmax), s	* 15	* 50		* 39	* 16	* 49		* 39				
Max Q Clear Time (g_c+I1), s	15.1	44.2		40.5	12.1	18.0		40.5				
Green Ext Time (p_c), s	0.0	5.7		0.0	0.1	18.1		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			33.9									
HCM 6th LOS			C									

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	6	70	35	6	63	52	1523	20	41	1813	21
Future Volume (veh/h)	28	6	70	35	6	63	52	1523	20	41	1813	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	7	76	38	7	68	57	1655	22	45	1971	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	18	98	78	18	85	240	4306	57	305	4315	50
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	331	206	1104	431	201	956	217	5193	69	295	5203	61
Grp Volume(v), veh/h	113	0	0	113	0	0	57	1085	592	45	1289	705
Grp Sat Flow(s),veh/h/ln	1642	0	0	1588	0	0	217	1702	1858	295	1702	1859
Q Serve(g_s), s	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.9	0.0	0.0	8.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.27		0.67	0.34		0.60	1.00		0.04	1.00		0.03
Lane Grp Cap(c), veh/h	184	0	0	181	0	0	240	2823	1541	305	2823	1542
V/C Ratio(X)	0.61	0.00	0.00	0.62	0.00	0.00	0.24	0.38	0.38	0.15	0.46	0.46
Avail Cap(c_a), veh/h	369	0	0	364	0	0	240	2823	1541	305	2823	1542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.14	0.14	0.14
Uniform Delay (d), s/veh	53.4	0.0	0.0	53.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.3	0.0	0.0	3.5	0.0	0.0	2.3	0.4	0.7	0.1	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.3	0.0	0.0	6.3	0.0	0.0	0.3	0.3	0.6	0.0	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.7	0.0	0.0	57.0	0.0	0.0	2.3	0.4	0.7	0.1	0.1	0.1
LnGrp LOS	E	A	A	E	A	A	A	A	A	A	A	A
Approach Vol, veh/h		113			113			1734			2039	
Approach Delay, s/veh		56.7			57.0			0.6			0.1	
Approach LOS		E			E			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		104.0		16.0		104.0		16.0				
Change Period (Y+Rc), s		* 4.5		* 5.3		* 4.5		* 5.3				
Max Green Setting (Gmax), s		* 85		* 25		* 85		* 25				
Max Q Clear Time (g_c+I1), s		2.0		10.2		2.0		9.9				
Green Ext Time (p_c), s		50.1		0.5		40.5		0.5				

Intersection Summary			
HCM 6th Ctrl Delay			3.5
HCM 6th LOS			A

Notes

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

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	6	73	36	6	66	49	1437	19	47	2013	23
Future Vol, veh/h	29	6	73	36	6	66	49	1437	19	47	2013	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	7	79	39	7	72	53	1562	21	51	2188	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3037	3992	1107	2660	3994	792	2213	0	0	1583	0	0
Stage 1	2303	2303	-	1679	1679	-	-	-	-	-	-	-
Stage 2	734	1689	-	981	2315	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	~ 14	~ 3	176	~ 24	~ 3	285	97	-	-	203	-	-
Stage 1	~ 23	72	-	66	150	-	-	-	-	-	-	-
Stage 2	343	148	-	242	71	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 1	176	-	~ 1	285	97	-	-	203	-	-
Mov Cap-2 Maneuver	-	~ 1	-	-	~ 1	-	-	-	-	-	-	-
Stage 1	~ 10	54	-	~ 30	68	-	-	-	-	-	-	-
Stage 2	105	67	-	87	53	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			2.6	0.6
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	97	-	-	-	176	-	285	203	-	-
HCM Lane V/C Ratio	0.549	-	-	-	0.451	-	0.252	0.252	-	-
HCM Control Delay (s)	80.2	-	-	-	41.2	-	21.8	28.6	-	-
HCM Lane LOS	F	-	-	-	E	-	C	D	-	-
HCM 95th %tile Q(veh)	2.5	-	-	-	2.1	-	1	1	-	-

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	623	164	256	703	87	121	1168	130	112	1827	142
Future Volume (veh/h)	250	623	164	256	703	87	121	1168	130	112	1827	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	1870	1870	1870
Adj Flow Rate, veh/h	272	677	178	278	764	95	132	1270	141	122	1986	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	2	2	2
Cap, veh/h	288	790	708	326	742	92	399	1659	184	399	1720	133
Arrive On Green	0.08	0.22	0.22	0.09	0.23	0.23	0.22	0.36	0.36	0.07	0.12	0.12
Sat Flow, veh/h	3456	3554	1585	3456	3181	395	1781	4663	518	1781	4834	373
Grp Volume(v), veh/h	272	677	178	278	427	432	132	927	484	122	1395	745
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1799	1781	1702	1777	1781	1702	1803
Q Serve(g_s), s	9.4	22.0	0.0	9.5	28.0	28.0	7.5	28.9	28.9	7.8	42.7	42.7
Cycle Q Clear(g_c), s	9.4	22.0	0.0	9.5	28.0	28.0	7.5	28.9	28.9	7.8	42.7	42.7
Prop In Lane	1.00		1.00	1.00		0.22	1.00		0.29	1.00		0.21
Lane Grp Cap(c), veh/h	288	790	708	326	415	420	399	1211	632	399	1211	642
V/C Ratio(X)	0.94	0.86	0.25	0.85	1.03	1.03	0.33	0.77	0.77	0.31	1.15	1.16
Avail Cap(c_a), veh/h	288	829	725	326	415	420	399	1211	632	399	1211	642
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	44.8	20.7	53.5	46.0	46.0	39.0	34.2	34.2	46.7	53.0	53.0
Incr Delay (d2), s/veh	38.3	9.7	0.4	19.1	51.9	51.8	2.2	4.6	8.6	2.0	78.2	88.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.5	16.1	5.8	8.7	25.7	25.9	6.3	18.4	20.0	6.9	46.2	51.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.0	54.5	21.1	72.6	97.9	97.8	41.2	38.9	42.8	48.7	131.1	141.8
LnGrp LOS	F	D	C	E	F	F	D	D	D	D	F	F
Approach Vol, veh/h		1127			1137			1543			2262	
Approach Delay, s/veh		58.6			91.7			40.3			130.2	
Approach LOS		E			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.0	48.2	16.9	32.4	33.0	48.2	15.6	33.7
Change Period (Y+Rc), s	* 5.8	* 5.5	* 5.6	5.7	* 5.8	* 5.5	* 5.6	5.7
Max Green Setting (Gmax), s	* 17	* 43	* 10	28.0	* 17	* 43	* 10	28.0
Max Q Clear Time (g_c+I1), s	9.8	30.9	11.5	24.0	9.5	44.7	11.4	30.0
Green Ext Time (p_c), s	0.1	8.9	0.0	2.7	0.2	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	86.8
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	554	120	73	587	65	120	1495	158	116	1452	176
Future Volume (veh/h)	80	554	120	73	587	65	120	1495	158	116	1452	176
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	87	602	130	79	638	71	130	1625	172	126	1578	191
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	170	923	199	161	1024	114	200	1974	209	218	1989	240
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.22	0.84	0.84	0.12	0.43	0.43
Sat Flow, veh/h	740	2908	627	724	3224	358	1781	4690	495	1781	4616	558
Grp Volume(v), veh/h	87	367	365	79	351	358	130	1179	618	126	1163	606
Grp Sat Flow(s),veh/h/ln	740	1777	1758	724	1777	1806	1781	1702	1781	1781	1702	1770
Q Serve(g_s), s	13.6	21.3	21.4	12.7	20.2	20.2	7.9	21.4	21.6	8.0	35.4	35.6
Cycle Q Clear(g_c), s	33.8	21.3	21.4	34.1	20.2	20.2	7.9	21.4	21.6	8.0	35.4	35.6
Prop In Lane	1.00		0.36	1.00		0.20	1.00		0.28	1.00		0.32
Lane Grp Cap(c), veh/h	170	564	558	161	564	573	200	1433	750	218	1467	763
V/C Ratio(X)	0.51	0.65	0.65	0.49	0.62	0.62	0.65	0.82	0.82	0.58	0.79	0.79
Avail Cap(c_a), veh/h	179	585	579	169	585	594	200	1433	750	218	1467	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	35.2	35.3	49.9	34.8	34.9	44.3	7.2	7.2	49.7	29.5	29.6
Incr Delay (d2), s/veh	3.7	3.0	3.1	3.7	2.5	2.4	13.6	4.9	9.0	3.7	4.5	8.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.8	14.8	14.7	4.4	14.0	14.2	7.1	6.9	8.4	6.8	21.5	23.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.0	38.2	38.3	53.6	37.3	37.3	57.9	12.1	16.2	53.4	34.0	37.9
LnGrp LOS	D	D	D	D	D	D	E	B	B	D	C	D
Approach Vol, veh/h		819			788			1927			1895	
Approach Delay, s/veh		39.8			38.9			16.5			36.6	
Approach LOS		D			D			B			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.0	57.4		43.6	20.4	56.0		43.6				
Change Period (Y+Rc), s	* 5.5	* 5.7		* 5.5	* 5.7	* 5.5		* 5.5				
Max Green Setting (Gmax), s	* 14	* 51		* 40	* 13	* 51		* 40				
Max Q Clear Time (g_c+I1), s	9.9	37.6		36.1	10.0	23.6		35.8				
Green Ext Time (p_c), s	0.1	10.7		2.0	0.1	19.4		2.2				

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 (veh/h)	28	6	72	11	2	33	38	1703	32	60	1537	46
Future Volume (veh/h)	28	6	72	11	2	33	38	1703	32	60	1537	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	7	78	12	2	36	41	1851	35	65	1671	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	18	98	58	22	110	294	4272	81	259	4218	126
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	311	201	1079	234	239	1218	283	5159	98	241	5095	152
Grp Volume(v), veh/h	115	0	0	50	0	0	41	1221	665	65	1116	605
Grp Sat Flow(s),veh/h/ln	1591	0	0	1691	0	0	283	1702	1853	241	1702	1843
Q Serve(g_s), s	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.4	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.26		0.68	0.24		0.72	1.00		0.05	1.00		0.08
Lane Grp Cap(c), veh/h	182	0	0	190	0	0	294	2818	1534	259	2818	1526
V/C Ratio(X)	0.63	0.00	0.00	0.26	0.00	0.00	0.14	0.43	0.43	0.25	0.40	0.40
Avail Cap(c_a), veh/h	367	0	0	373	0	0	294	2818	1534	259	2818	1526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.44	0.44	0.44
Uniform Delay (d), s/veh	53.4	0.0	0.0	51.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.6	0.0	0.0	0.7	0.0	0.0	1.0	0.5	0.9	1.0	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.4	0.0	0.0	2.6	0.0	0.0	0.1	0.3	0.7	0.1	0.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.0	0.0	0.0	51.9	0.0	0.0	1.0	0.5	0.9	1.0	0.2	0.3
LnGrp LOS	E	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		115			50			1927			1786	
Approach Delay, s/veh		57.0			51.9			0.6			0.3	
Approach LOS		E			D			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		103.9		16.1		103.9		16.1				
Change Period (Y+Rc), s		* 4.5		* 5.3		* 4.5		* 5.3				
Max Green Setting (Gmax), s		* 85		* 25		* 85		* 25				
Max Q Clear Time (g_c+I1), s		2.0		5.4		2.0		10.4				
Green Ext Time (p_c), s		42.5		0.2		45.7		0.5				

Intersection Summary			
HCM 6th Ctrl Delay			2.8
HCM 6th LOS			A

Notes

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

Intersection	
Int Delay, s/veh	64.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	7	79	12	3	36	42	1906	35	65	1637	49
Future Vol, veh/h	31	7	79	12	3	36	42	1906	35	65	1637	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	8	86	13	3	39	46	2072	38	71	1779	53

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2870	4150	916	3041	4157	1055	1832	0	0	2110	0	0
Stage 1	1948	1948	-	2183	2183	-	-	-	-	-	-	-
Stage 2	922	2202	-	858	1974	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	~ 18	~ 2	236	14	~ 2	191	152	-	-	110	-	-
Stage 1	42	110	-	28	83	-	-	-	-	-	-	-
Stage 2	263	81	-	288	106	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 5	0	236	~ 3	0	191	152	-	-	110	-	-
Mov Cap-2 Maneuver	~ 5	0	-	~ 3	0	-	-	-	-	-	-	-
Stage 1	~ 29	39	-	20	58	-	-	-	-	-	-	-
Stage 2	138	56	-	52	38	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 1536.4	$ 1251.2	0.8	3.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	152	-	-	5	236	3	191	110	-	-
HCM Lane V/C Ratio	0.3	-	-	8.261	0.364	5.435	0.205	0.642	-	-
HCM Control Delay (s)	38.5	-	-	$ 4670.7	28.7	$ 4185.4	28.6	83.5	-	-
HCM Lane LOS	E	-	-	F	D	F	D	F	-	-
HCM 95th %tile Q(veh)	1.2	-	-	6.8	1.6	3.4	0.7	3.2	-	-

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	296	670	184	237	618	138	157	1550	198	148	1406	196
Future Volume (veh/h)	296	670	184	237	618	138	157	1550	198	148	1406	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	322	728	200	258	672	150	171	1685	215	161	1528	213
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	323	830	727	322	674	150	401	1586	202	399	1563	218
Arrive On Green	0.09	0.23	0.23	0.09	0.23	0.23	0.23	0.35	0.35	0.07	0.11	0.11
Sat Flow, veh/h	3456	3554	1585	3456	2887	644	1781	4586	583	1781	4530	630
Grp Volume(v), veh/h	322	728	200	258	413	409	171	1249	651	161	1147	594
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1754	1781	1702	1765	1781	1702	1757
Q Serve(g_s), s	11.2	23.7	0.0	8.8	27.9	27.9	9.9	41.5	41.5	10.4	40.3	40.4
Cycle Q Clear(g_c), s	11.2	23.7	0.0	8.8	27.9	27.9	9.9	41.5	41.5	10.4	40.3	40.4
Prop In Lane	1.00		1.00	1.00		0.37	1.00		0.33	1.00		0.36
Lane Grp Cap(c), veh/h	323	830	727	322	415	409	401	1177	611	399	1174	606
V/C Ratio(X)	1.00	0.88	0.28	0.80	1.00	1.00	0.43	1.06	1.07	0.40	0.98	0.98
Avail Cap(c_a), veh/h	323	856	738	322	415	409	401	1177	611	399	1174	606
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	44.3	20.1	53.3	46.0	46.0	39.9	39.2	39.3	47.9	52.7	52.7
Incr Delay (d2), s/veh	49.6	11.1	0.5	13.4	43.3	44.0	3.3	44.0	55.4	3.0	21.3	31.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.4	17.2	6.4	7.9	24.0	23.9	8.3	33.6	37.2	9.1	29.6	32.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.0	55.4	20.6	66.8	89.3	90.0	43.2	83.2	94.6	50.9	74.0	84.5
LnGrp LOS	F	E	C	E	F	F	D	F	F	D	E	F
Approach Vol, veh/h		1250			1080			2071			1902	
Approach Delay, s/veh		62.4			84.2			83.5			75.3	
Approach LOS		E			F			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.0	47.0	16.8	33.7	33.1	46.9	16.8	33.7				
Change Period (Y+Rc), s	* 5.8	* 5.5	* 5.6	5.7	* 5.8	* 5.5	* 5.6	5.7				
Max Green Setting (Gmax), s	* 17	* 42	* 10	28.9	* 17	* 41	* 11	28.0				
Max Q Clear Time (g_c+I1), s	12.4	43.5	10.8	25.7	11.9	42.4	13.2	29.9				
Green Ext Time (p_c), s	0.2	0.0	0.0	2.3	0.2	0.0	0.0	0.0				

Intersection Summary		
HCM 6th Ctrl Delay		77.0
HCM 6th LOS		E

Notes

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

User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↑↱		↰	↑↑↱	
Traffic Volume (veh/h)	61	681	106	77	726	76	189	1286	131	154	1686	207
Future Volume (veh/h)	61	681	106	77	726	76	189	1286	131	154	1686	207
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	740	115	84	789	83	205	1398	142	167	1833	225
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	989	154	129	1041	109	227	1919	195	337	2163	264
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.25	0.81	0.81	0.19	0.47	0.47
Sat Flow, veh/h	635	3082	479	646	3245	341	1781	4710	478	1781	4611	562
Grp Volume(v), veh/h	66	426	429	84	432	440	205	1010	530	167	1350	708
Grp Sat Flow(s),veh/h/ln	635	1777	1784	646	1777	1809	1781	1702	1784	1781	1702	1769
Q Serve(g_s), s	12.3	25.7	25.8	12.7	26.2	26.2	13.4	16.2	16.2	10.1	41.9	42.5
Cycle Q Clear(g_c), s	38.5	25.7	25.8	38.5	26.2	26.2	13.4	16.2	16.2	10.1	41.9	42.5
Prop In Lane	1.00		0.27	1.00		0.19	1.00		0.27	1.00		0.32
Lane Grp Cap(c), veh/h	125	570	572	129	570	580	227	1387	727	337	1597	830
V/C Ratio(X)	0.53	0.75	0.75	0.65	0.76	0.76	0.90	0.73	0.73	0.50	0.85	0.85
Avail Cap(c_a), veh/h	125	570	572	129	570	580	227	1387	727	337	1597	830
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	36.4	36.4	54.8	36.6	36.6	44.0	8.1	8.1	43.5	28.0	28.2
Incr Delay (d2), s/veh	5.9	6.0	6.0	13.3	6.4	6.3	36.8	3.1	5.8	1.1	5.7	10.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.0	17.7	17.8	5.5	18.0	18.3	11.7	6.4	7.5	8.1	24.8	27.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.8	42.4	42.4	68.1	42.9	42.8	80.7	11.2	13.9	44.7	33.7	39.0
LnGrp LOS	E	D	D	E	D	D	F	B	B	D	C	D
Approach Vol, veh/h		921			956			1745			2225	
Approach Delay, s/veh		43.6			45.1			20.2			36.2	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.8	62.2		44.0	28.6	54.4		44.0				
Change Period (Y+Rc), s	* 5.5	* 5.7		* 5.5	* 5.7	* 5.5		* 5.5				
Max Green Setting (Gmax), s	* 15	* 50		* 39	* 16	* 49		* 39				
Max Q Clear Time (g_c+I1), s	15.4	44.5		40.5	12.1	18.2		40.5				
Green Ext Time (p_c), s	0.0	4.9		0.0	0.1	18.1		0.0				

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

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	6	70	35	6	75	52	1523	20	35	1813	21
Future Volume (veh/h)	28	6	70	35	6	75	52	1523	20	35	1813	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	7	76	38	7	82	57	1655	22	38	1971	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	21	106	76	18	101	238	4265	57	302	4273	50
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	319	212	1090	383	187	1039	217	5193	69	295	5203	61
Grp Volume(v), veh/h	113	0	0	127	0	0	57	1085	592	38	1289	705
Grp Sat Flow(s),veh/h/ln	1620	0	0	1609	0	0	217	1702	1858	295	1702	1859
Q Serve(g_s), s	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.0	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.27		0.67	0.30		0.65	1.00		0.04	1.00		0.03
Lane Grp Cap(c), veh/h	195	0	0	195	0	0	238	2796	1526	302	2796	1527
V/C Ratio(X)	0.58	0.00	0.00	0.65	0.00	0.00	0.24	0.39	0.39	0.13	0.46	0.46
Avail Cap(c_a), veh/h	367	0	0	366	0	0	238	2796	1526	302	2796	1527
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.12	0.12	0.12
Uniform Delay (d), s/veh	52.5	0.0	0.0	53.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.7	0.0	0.0	3.6	0.0	0.0	2.4	0.4	0.7	0.1	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.2	0.0	0.0	7.1	0.0	0.0	0.3	0.3	0.6	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.2	0.0	0.0	56.6	0.0	0.0	2.4	0.4	0.7	0.1	0.1	0.1
LnGrp LOS	E	A	A	E	A	A	A	A	A	A	A	A
Approach Vol, veh/h		113			127			1734			2032	
Approach Delay, s/veh		55.2			56.6			0.6			0.1	
Approach LOS		E			E			A			A	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		103.1		16.9		103.1		16.9
Change Period (Y+Rc), s		* 4.5		* 5.3		* 4.5		* 5.3
Max Green Setting (Gmax), s		* 85		* 25		* 85		* 25
Max Q Clear Time (g_c+I1), s		2.0		11.1		2.0		10.0
Green Ext Time (p_c), s		49.6		0.5		40.5		0.5

Intersection Summary	
HCM 6th Ctrl Delay	3.7
HCM 6th LOS	A

Notes

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

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	6	73	53	6	66	49	1437	10	47	2013	23
Future Vol, veh/h	29	6	73	53	6	66	49	1437	10	47	2013	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	7	79	58	7	72	53	1562	11	51	2188	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3037	3982	1107	2655	3989	787	2213	0	0	1573	0	0
Stage 1	2303	2303	-	1674	1674	-	-	-	-	-	-	-
Stage 2	734	1679	-	981	2315	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	~ 14	~ 3	176	~ 24	~ 3	287	97	-	-	205	-	-
Stage 1	~ 23	72	-	66	151	-	-	-	-	-	-	-
Stage 2	343	150	-	242	71	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 1	176	-	~ 1	287	97	-	-	205	-	-
Mov Cap-2 Maneuver	-	~ 1	-	-	~ 1	-	-	-	-	-	-	-
Stage 1	~ 10	54	-	~ 30	69	-	-	-	-	-	-	-
Stage 2	106	68	-	88	53	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			2.6	0.6
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	97	-	-	-	176	-	287	205	-	-
HCM Lane V/C Ratio	0.549	-	-	-	0.451	-	0.25	0.249	-	-
HCM Control Delay (s)	80.2	-	-	-	41.2	-	21.7	28.3	-	-
HCM Lane LOS	F	-	-	-	E	-	C	D	-	-
HCM 95th %tile Q(veh)	2.5	-	-	-	2.1	-	1	0.9	-	-

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	247	623	164	256	703	86	121	1162	130	114	1838	147
Future Volume (veh/h)	247	623	164	256	703	86	121	1162	130	114	1838	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	268	677	178	278	764	93	132	1263	141	124	1998	160
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	790	708	326	744	91	399	1658	185	399	1716	137
Arrive On Green	0.08	0.22	0.22	0.09	0.23	0.23	0.22	0.36	0.36	0.07	0.12	0.12
Sat Flow, veh/h	3456	3554	1585	3456	3189	388	1781	4661	520	1781	4822	384
Grp Volume(v), veh/h	268	677	178	278	426	431	132	922	482	124	1407	751
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1801	1781	1702	1777	1781	1702	1801
Q Serve(g_s), s	9.2	22.0	0.0	9.5	28.0	28.0	7.5	28.7	28.7	7.9	42.7	42.7
Cycle Q Clear(g_c), s	9.2	22.0	0.0	9.5	28.0	28.0	7.5	28.7	28.7	7.9	42.7	42.7
Prop In Lane	1.00		1.00	1.00		0.22	1.00		0.29	1.00		0.21
Lane Grp Cap(c), veh/h	288	790	708	326	415	420	399	1211	632	399	1211	641
V/C Ratio(X)	0.93	0.86	0.25	0.85	1.03	1.03	0.33	0.76	0.76	0.31	1.16	1.17
Avail Cap(c_a), veh/h	288	829	725	326	415	420	399	1211	632	399	1211	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	44.8	20.7	53.5	46.0	46.0	39.0	34.2	34.2	46.8	53.0	53.0
Incr Delay (d2), s/veh	35.2	9.7	0.4	19.1	51.1	51.0	2.2	4.6	8.4	2.0	82.2	93.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.2	16.1	5.8	8.7	25.5	25.8	6.3	18.3	19.8	7.1	47.3	52.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.8	54.5	21.1	72.6	97.1	97.0	41.2	38.7	42.6	48.8	135.1	146.1
LnGrp LOS	F	D	C	E	F	F	D	D	D	D	F	F
Approach Vol, veh/h		1123			1135			1536			2282	
Approach Delay, s/veh		57.7			91.1			40.1			134.0	
Approach LOS		E			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.0	48.2	16.9	32.4	33.0	48.2	15.6	33.7
Change Period (Y+Rc), s	* 5.8	* 5.5	* 5.6	5.7	* 5.8	* 5.5	* 5.6	5.7
Max Green Setting (Gmax), s	* 17	* 43	* 10	28.0	* 17	* 43	* 10	28.0
Max Q Clear Time (g_c+I1), s	9.9	30.7	11.5	24.0	9.5	44.7	11.2	30.0
Green Ext Time (p_c), s	0.1	9.0	0.0	2.7	0.2	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	88.2
HCM 6th LOS	F

Notes

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

User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	554	125	74	587	65	119	1493	158	116	1458	176
Future Volume (veh/h)	80	554	125	74	587	65	119	1493	158	116	1458	176
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	87	602	136	80	638	71	129	1623	172	126	1585	191
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	920	207	160	1029	114	200	1973	209	215	1982	238
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.22	0.84	0.84	0.12	0.43	0.43
Sat Flow, veh/h	740	2881	649	720	3224	358	1781	4689	496	1781	4619	556
Grp Volume(v), veh/h	87	371	367	80	351	358	129	1177	618	126	1167	609
Grp Sat Flow(s),veh/h/ln	740	1777	1753	720	1777	1806	1781	1702	1781	1781	1702	1770
Q Serve(g_s), s	13.6	21.5	21.6	12.9	20.1	20.2	7.9	21.3	21.5	8.0	35.8	35.9
Cycle Q Clear(g_c), s	33.8	21.5	21.6	34.6	20.1	20.2	7.9	21.3	21.5	8.0	35.8	35.9
Prop In Lane	1.00		0.37	1.00		0.20	1.00		0.28	1.00		0.31
Lane Grp Cap(c), veh/h	172	567	560	160	567	577	200	1433	750	215	1461	760
V/C Ratio(X)	0.51	0.65	0.66	0.50	0.62	0.62	0.64	0.82	0.82	0.59	0.80	0.80
Avail Cap(c_a), veh/h	179	585	577	167	585	594	200	1433	750	215	1461	760
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	35.1	35.2	50.0	34.7	34.7	44.3	7.2	7.2	49.9	29.8	29.8
Incr Delay (d2), s/veh	3.6	3.0	3.1	3.8	2.4	2.4	13.3	4.9	9.0	4.1	4.7	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.8	14.9	14.8	4.5	14.0	14.2	7.0	6.9	8.4	6.9	21.7	23.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	38.2	38.3	53.8	37.1	37.1	57.7	12.1	16.2	54.0	34.4	38.5
LnGrp LOS	D	D	D	D	D	D	E	B	B	D	C	D
Approach Vol, veh/h		825			789			1924			1902	
Approach Delay, s/veh		39.8			38.8			16.4			37.0	
Approach LOS		D			D			B			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.0	57.2		43.8	20.2	56.0		43.8				
Change Period (Y+Rc), s	* 5.5	* 5.7		* 5.5	* 5.7	* 5.5		* 5.5				
Max Green Setting (Gmax), s	* 14	* 51		* 40	* 13	* 51		* 40				
Max Q Clear Time (g_c+I1), s	9.9	37.9		36.6	10.0	23.5		35.8				
Green Ext Time (p_c), s	0.1	10.5		1.8	0.1	19.5		2.3				

Intersection Summary			
HCM 6th Ctrl Delay			30.4
HCM 6th LOS			C

Notes

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

HCM 6th Signalized Intersection Summary
2: Topanga Canyon Blvd & Valerio St

11/30/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	6	72	11	2	30	38	1703	32	71	1537	46
Future Volume (veh/h)	28	6	72	11	2	30	38	1703	32	71	1537	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	7	78	12	2	33	41	1851	35	77	1671	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	18	97	60	23	108	294	4270	81	259	4217	126
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	309	201	1075	251	254	1189	283	5159	98	241	5095	152
Grp Volume(v), veh/h	115	0	0	47	0	0	41	1221	665	77	1116	605
Grp Sat Flow(s),veh/h/ln	1585	0	0	1693	0	0	283	1702	1853	241	1702	1843
Q Serve(g_s), s	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.5	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.26		0.68	0.26		0.70	1.00		0.05	1.00		0.08
Lane Grp Cap(c), veh/h	182	0	0	191	0	0	294	2817	1534	259	2817	1525
V/C Ratio(X)	0.63	0.00	0.00	0.25	0.00	0.00	0.14	0.43	0.43	0.30	0.40	0.40
Avail Cap(c_a), veh/h	364	0	0	371	0	0	294	2817	1534	259	2817	1525
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.43	0.43	0.43
Uniform Delay (d), s/veh	53.4	0.0	0.0	51.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.6	0.0	0.0	0.7	0.0	0.0	1.0	0.5	0.9	1.3	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.4	0.0	0.0	2.5	0.0	0.0	0.1	0.3	0.7	0.2	0.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.0	0.0	0.0	51.7	0.0	0.0	1.0	0.5	0.9	1.3	0.2	0.3
LnGrp LOS	E	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		115			47			1927			1798	
Approach Delay, s/veh		57.0			51.7			0.6			0.3	
Approach LOS		E			D			A			A	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		103.8		16.2		103.8		16.2
Change Period (Y+Rc), s		* 4.5		* 5.3		* 4.5		* 5.3
Max Green Setting (Gmax), s		* 85		* 25		* 85		* 25
Max Q Clear Time (g_c+I1), s		2.0		5.2		2.0		10.5
Green Ext Time (p_c), s		43.8		0.2		45.8		0.5

Intersection Summary			
HCM 6th Ctrl Delay			2.8
HCM 6th LOS			A

Notes

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

Intersection	
Int Delay, s/veh	57.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	7	79	8	3	36	42	1906	52	65	1637	49
Future Vol, veh/h	31	7	79	8	3	36	42	1906	52	65	1637	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	8	86	9	3	39	46	2072	57	71	1779	53

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2870	4169	916	3051	4167	1065	1832	0	0	2129	0	0
Stage 1	1948	1948	-	2193	2193	-	-	-	-	-	-	-
Stage 2	922	2221	-	858	1974	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	~ 18	~ 2	236	14	~ 2	188	152	-	-	107	-	-
Stage 1	42	110	-	28	82	-	-	-	-	-	-	-
Stage 2	263	79	-	288	106	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 5	0	236	~ 3	0	188	152	-	-	107	-	-
Mov Cap-2 Maneuver	~ 5	0	-	~ 3	0	-	-	-	-	-	-	-
Stage 1	~ 29	37	-	20	57	-	-	-	-	-	-	-
Stage 2	137	55	-	49	36	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 1536.4	$ 839.1	0.8	3.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	152	-	-	5	236	3	188	107	-	-
HCM Lane V/C Ratio	0.3	-	-	8.261	0.364	3.986	0.208	0.66	-	-
HCM Control Delay (s)	38.5	-	-	$ 4670.7	28.7	$ 3490.2	29.1	88.1	-	-
HCM Lane LOS	E	-	-	F	D	F	D	F	-	-
HCM 95th %tile Q(veh)	1.2	-	-	6.8	1.6	2.8	0.8	3.4	-	-

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑	↱	↰↰	↑↱		↰	↑↑↱		↰	↑↑↱	
Traffic Volume (veh/h)	301	670	184	237	618	140	157	1561	198	148	1403	195
Future Volume (veh/h)	301	670	184	237	618	140	157	1561	198	148	1403	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	327	728	200	258	672	152	171	1697	215	161	1525	212
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	299	820	722	308	672	152	401	1618	204	399	1594	221
Arrive On Green	0.09	0.23	0.23	0.09	0.23	0.23	0.23	0.35	0.35	0.07	0.12	0.12
Sat Flow, veh/h	3456	3554	1585	3456	2879	651	1781	4591	579	1781	4532	629
Grp Volume(v), veh/h	327	728	200	258	414	410	171	1257	655	161	1145	592
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1753	1781	1702	1766	1781	1702	1757
Q Serve(g_s), s	10.4	23.8	0.0	8.8	28.0	28.0	9.9	42.3	42.3	10.4	40.1	40.2
Cycle Q Clear(g_c), s	10.4	23.8	0.0	8.8	28.0	28.0	9.9	42.3	42.3	10.4	40.1	40.2
Prop In Lane	1.00		1.00	1.00		0.37	1.00		0.33	1.00		0.36
Lane Grp Cap(c), veh/h	299	820	722	308	415	409	401	1200	623	399	1197	618
V/C Ratio(X)	1.09	0.89	0.28	0.84	1.00	1.00	0.43	1.05	1.05	0.40	0.96	0.96
Avail Cap(c_a), veh/h	299	841	732	308	415	409	401	1200	623	399	1197	618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	44.6	20.3	53.8	46.0	46.0	39.9	38.8	38.9	47.9	52.1	52.2
Incr Delay (d2), s/veh	78.8	12.1	0.5	18.0	44.1	44.8	3.3	39.2	50.8	3.0	17.4	27.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.8	17.4	6.5	8.1	24.2	24.0	8.3	32.9	36.5	9.1	28.8	31.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	133.6	56.8	20.8	71.7	90.1	90.8	43.2	78.1	89.6	50.9	69.6	79.5
LnGrp LOS	F	E	C	E	F	F	D	F	F	D	E	E
Approach Vol, veh/h		1255			1082			2083			1898	
Approach Delay, s/veh		71.1			86.0			78.9			71.1	
Approach LOS		E			F			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.0	47.8	16.3	33.4	33.1	47.7	16.0	33.7
Change Period (Y+Rc), s	* 5.8	* 5.5	* 5.6	5.7	* 5.8	* 5.5	* 5.6	5.7
Max Green Setting (Gmax), s	* 17	* 42	* 10	28.4	* 17	* 42	* 10	28.0
Max Q Clear Time (g_c+I1), s	12.4	44.3	10.8	25.8	11.9	42.2	12.4	30.0
Green Ext Time (p_c), s	0.2	0.0	0.0	1.9	0.2	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	76.2
HCM 6th LOS	E

Notes

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

User approved changes to right turn type.