

Appendix J

Transportation Assessment

Wilshire and Cloverdale Project Transportation Assessment

Prepared for:
Onni Group

November 2024

LA22-3350

FEHR  PEERS

Table of Contents

Executive Summary	1
CEQA Assessment	1
Non-CEQA Assessment	1
Introduction	4
Project Description	4
Study Scope.....	9
Organization of Report	10
Environmental Setting	11
Existing Conditions	11
Cumulative Conditions.....	22
CEQA Transportation Assessment	25
Plans, Programs, Ordinances, and Policies Review	25
Vehicle Miles Traveled Analysis.....	27
Geometric Design Feature Review	31
Non-CEQA Transportation Assessment	34
Pedestrian, Bicycle, and Transit Access.....	34
Project Access, Safety, and Circulation Evaluation.....	37
Project Construction Analysis.....	52
Residential Street Cut-Through Analysis	57

Appendices

Appendix A: Memorandum of Understanding

Appendix B: Transportation Analysis Guidelines Screening Responses and Supporting Analysis

Appendix C: Plans, Programs, Ordinances, and Policies Review

Appendix D: LADOT VMT Calculator Tool Reports

Appendix E: Hazards due to a Geometric Design Feature Review

Appendix F: Intersection Turning Movement Volume Count Sheets

Appendix G: Intersection Turning Movement Volumes and Lane Configurations

Appendix H: Intersection Level of Service Worksheets and Queueing Results

List of Figures

Figure 1: Project Site Location.....	7
Figure 2: Project Site Plan	8
Figure 3: Transit Facilities	14
Figure 4: Pedestrian Facilities.....	20
Figure 5: Bicycle Facilities.....	21
Figure 6: Map of Related Projects.....	24
Figure 7: Study Intersections.....	39
Figure 8: Project Trip Distribution.....	47

List of Tables

Table 1: Summary of Proposed Floor Area ¹	5
Table 2: Summary of Required and Proposed Parking	5
Table 3: TAG Screening Criteria Issue Areas	9
Table 4: Regional Access to the Project Site ¹	12
Table 5: Local Access to the Project Site ¹	13
Table 6: Transit Lines and Ridership within 0.5 miles of the Project Site	15
Table 7: Existing Pedestrian Amenities – Sidewalk Widths and Crossing Distance.....	17
Table 8: Existing Pedestrian Amenities – Intersection Amenities at Signalized Intersections.....	18
Table 9: Related Projects	23
Table 10: Conflict with Plans, Programs, and Policies	26
Table 11: City of Los Angeles VMT Impact Criteria (15% Below APC Average).....	29
Table 12: Project Household VMT per Capita	29
Table 13: Project Work VMT per Employee	30
Table 14: Freeway Trip Distribution.....	32
Table 15: Pedestrian, Bicycle, and Transit Evaluation Criteria	35
Table 16: Study Intersections.....	38
Table 17: Level of Service Thresholds for Signalized and Unsignalized Intersections	40
Table 18: Peak-Hour Intersection LOS and 95 th Percentile Queue Lengths in Baseline Year (2023) Conditions	41
Table 19: Project Trip Generation	44
Table 20: Opening Year (2029) Peak Hour Intersection Levels of Service and Queuing Analysis.....	49
Table 21: Driveway Levels of Service and Queueing Analysis	51

Table 22: Project Construction Timeline.....	53
Table 23: Project Construction Impact Assessment.....	54
Table 24: TAG Thresholds for Residential Street Cut-Through Project Burden.....	57
Table 25: Neighborhood Street Daily Traffic Cut-Through Analysis.....	58

Executive Summary

This report presents the transportation assessment for the Wilshire and Cloverdale Project (Project) in the Wilshire Community Plan Area of the City of Los Angeles (City). Onni Group (Project applicant) proposes to construct a residential tower and podium comprised of up to 419 residential units, including 47 units for “Extremely Low-Income” households, and a 2,645 square-foot restaurant. The existing commercial buildings on the Project Site along Wilshire Boulevard, including the Los Angeles Historic-Cultural Monument (HCM) #451, would be retained and would provide 42,092 square feet of office and restaurant space.

This transportation assessment was conducted in line with guidance provided in the Los Angeles Department of Transportation’s *Transportation Assessment Guidelines* (TAG, 2022).

CEQA Assessment

The analyses included in the CEQA assessment and summarized in this report are:

- **Plan, Program, Ordinance, and Policy Review:** This analysis identified whether the Project’s transportation requirements and corrective actions conflict with the City’s transportation goals and policies. Specifically, the analysis evaluated whether the Project has any potential conflicts with adopted City plans and policies.
- **Vehicle Miles Traveled Analysis:** This analysis assessed whether the Project would cause an impact on vehicle miles traveled (VMT). The analysis utilized the LADOT VMT Calculator tool to assess VMT impacts of the Project as well as the effectiveness of selected transportation demand management measures.
- **Geometric Design Feature Review:** This analysis discussed impacts regarding the potential increase of hazards due to a geometric design feature such as design of access points to and from the Project site. The evaluation included an assessment of potential safety, operational, and capacity impacts due to the proposed site access design, as well as a freeway off-ramp safety analysis.

Based on the thresholds of significance identified in the TAG, the Project is anticipated to have a less-than-significant impact on the environment and no mitigation measures are required.

Non-CEQA Assessment

The analyses included in the non-CEQA assessment and summarized in this report are:

- **Pedestrian, Bicycle, and Transit Assessment:** This analysis determined the Project’s potential effect on pedestrian, bicycle, and transit facilities in the vicinity of the proposed Project. The analysis included an inventory of existing facilities, as well as an evaluation utilizing criteria provided in the LADOT’s *Transportation Assessment Guidelines* (TAG).



- **Project Access, Safety, and Circulation Evaluation:** This analysis covered Project access and intersection operations in line with the evaluation methodologies and criteria provided in the LADOT TAG. Under Senate Bill 743 and the TAG, the operational evaluation performed for the Project is not for consideration under the California Environmental Quality Act (CEQA) and is instead provided for informational purposes only.
- **Project Construction Analysis:** This analysis addressed activities associated with Project construction through the lens of temporary transportation constraints, temporary loss of access, and temporary impacts to transit.
- **Residential Street Cut-Through Analysis:** This analysis determined whether there may be potential increases in average daily traffic volumes on designated Local Streets near the Project that can be classified as cut-through trips generated by the Project.

Based on the analyses outlined above, the following Project-related non-CEQA deficiencies and recommended actions were identified:

- **Pedestrian, Bicycle, and Transit Assessment:** Based on the evaluation of pedestrian, bicycle, and transit access, the Project would intensify use of existing deficient pedestrian and transit facilities and increase pedestrian demand of a street on the High-Injury Network (Wilshire Boulevard). Detailed site plan concepts were not available at the time of this review but would be developed in accordance with documented safety best practices and City of Los Angeles guidelines. Notwithstanding the specific measures to avoid or minimize access-related deficiencies that would be identified in conjunction with future detailed plans, the following recommended actions are proposed:
 - **Recommendation #1:** Coordinate with LADOT and the necessary City departments to explore measures to bring curb ramps in the immediate vicinity of the Project up to ADA standards, including:
 - Installing truncated domes or other ADA-compliant tactile warning devices where missing along Wilshire Boulevard at Cloverdale Avenue and Detroit Street; and
 - Installing ADA-compliant curb ramps at the West 8th Street/Cochran Avenue intersection where there are currently no curb ramps.
 - **Recommendation #2:** Coordinate with LADOT, LA Metro, Los Angeles Department of Public Works, and the necessary City departments to provide bus shelters at high-ridership transit stops closest to the Project, including at the following stops along the project frontage:
 - Metro Lines 20 and 720 eastbound Wilshire Boulevard/Cloverdale Avenue stop
- **Project Access, Safety, and Circulation Evaluation:** Based on the evaluation of project access, safety, and circulation, the Project is not projected to cause or substantially contribute to unacceptable queueing at the four study intersections. Auto access and egress to the Project site is also anticipated to be accommodated with limited queueing on Cloverdale Avenue or Detroit Street.



- **Project Construction Analysis:** Based on the assessment of pedestrian, bicycle, and transit access, construction of the Project would have a limited negative effect on pedestrian, bicycle, transit, and vehicle circulation in the vicinity of the proposed Project. No recommended actions were identified beyond establishing a Construction Traffic Management Plan and Construction Worker Parking Plan in coordination with the City.
- **Residential Street Cut-Through Analysis:** Based on the evaluation of residential street cut-through effects of the Project, the Project is anticipated to lead to an “excessive burden” as defined by the TAG on Detroit Street between West 8th Street and West 9th Street. The following recommended action is proposed:
 - **Recommendation #3:** To address potential adverse impacts of cut-through traffic, such as congestion, access issues, and speeding on Local Streets, traffic calming and diverting features should be considered and, if deemed necessary by LADOT, implemented to offset any anticipated cut-through traffic. Physical measures might include traffic circles, speed bumps, chicanes, or chokers. Because implementation of neighborhood traffic controls on one street can cause traffic burden to shift to other streets, and because restrictive controls can be burdensome for residents, the precise measures suitable and acceptable for Detroit Street should be determined in consultation with the community, Council Office, and LADOT.



Introduction

This report documents the assumptions, methodologies, and findings of the transportation assessment to evaluate the potential transportation impacts of the proposed Wilshire and Cloverdale Project (Project). The Project is a mixed-use renovation project that would replace portions of the existing buildings with a new high-rise tower that provides ground floor commercial space.

Project Description

The Wilshire and Cloverdale Project would construct a residential tower and podium and retain existing commercial buildings along Wilshire Boulevard located at 5350—5376 Wilshire Boulevard, 706-716 Cloverdale Avenue, and 721-725 Detroit Street (Project site) within the Wilshire Community Plan Area of the City of Los Angeles (City).

- **Existing Uses:** The Project site is currently developed with four historic commercial buildings along Wilshire Boulevard and surface parking areas to the south of these buildings. The existing buildings range from one to two stories. Vehicular access to the existing lane uses is provided via two driveways on Cloverdale Avenue and a dead-end 20-foot alley that is accessed from Detroit Street and terminates at the middle of the site.
- **Proposed Uses:** The Project is a mixed-use development comprised of residential and commercial uses with associated parking. The Project would utilize the City's Transit Oriented Communities (TOC) Guidelines to construct a podium tower (Residential Tower). Existing commercial buildings, including Los Angeles Historic-Cultural Monument (HCM) #451, would be retained. The proposed floor areas by land use are summarized in **Table 1**. In addition, the Project would provide a total of 377 residential parking spaces and 66 commercial spaces within five above-grade levels and four below-grade levels. The Project would also include 20 short-term and 182 long-term bicycle parking spaces. **Table 2** summarizes existing and proposed auto and bike parking.



Table 1: Summary of Proposed Floor Area¹

Land Use	Existing Floor Area	Existing Floor Area to Be Removed	Existing and Reconfigured Floor Area after Renovation/ Conversion	Net-New Proposed Floor Area	Proposed Floor Area Upon Completion
Retail	20,001	(4,695)	0	0	0
Restaurant	18,870	(1,442)	34,092 ²	2,645	36,737
Office	9,358	0	8,000 ³	0	8,000
Residential	0	0	0	375,464	375,464 ⁴
Total	48,229	6,137	42,092	378,109	420,201

Notes:

1. All units are square feet.
2. 34,092 renovated/converted restaurant space = (18,870 square feet of existing restaurant use)-(1,442 square feet of existing restaurant use to be removed)+(15,306 square feet of existing retail use to be converted to restaurant use)+(1,358 of existing office use to be converted to restaurant use)
3. 1,358 square feet of existing office use would be converted to restaurant use.
4. Includes up to 419 residential units, including 47 units for Extremely Low-Income households

Source: Notice of Preparation for the Wilshire and Cloverdale Project, 2023.

Table 2: Summary of Required and Proposed Parking

Parking Type	Parking Requirement	Existing Parking Provided	Total Parking Proposed
Auto ^{1,2}	0	82	443
Short-Term Bike ³	13	2	20
Long-Term Bike ³	107	0	182

Notes

1. Assembly Bill 2097, effective January 1, 2023, prohibits a public agency from imposing any minimum automobile parking requirement on any residential, commercial, or other development project that is located within a half-mile of a major public transit stop.
2. Ten percent of the provided auto parking spaces would be equipped with electric vehicle (EV) charging stations. An additional thirty-five percent of auto parking spaces would include the necessary wiring to support EV charging infrastructure at a later date.
3. LAMC Section 12.21.A.16 specifies the following bicycle parking requirements as related to the net-new proposed floor area of the project –
 - a. Residential: One short-term space for every 40 dwelling units and one long-term space for every four dwelling units.
 - b. Restaurant: One short-term and one long-term space per 2,000 square feet, for a minimum of two

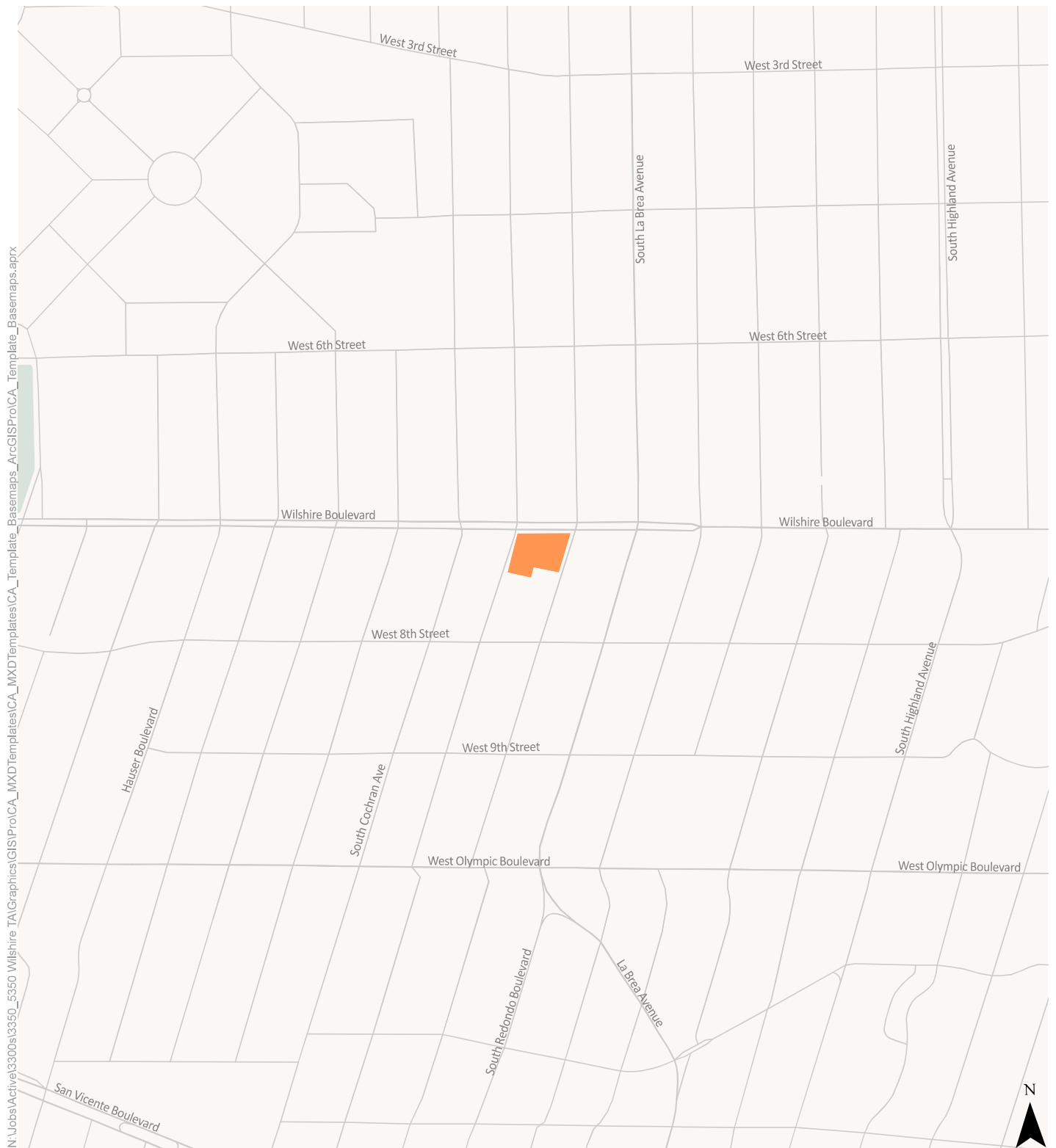
Source: Fehr & Peers, 2023.

Figure 1 shows the location of the Project site in context of the surrounding roadway network. It is bound by Wilshire Boulevard to the north, Detroit Street to the east, 8th Street to the south, and Cloverdale Avenue to the west. Regional access to the Project site is provided by I-10, approximately 2.6 miles south of the Project site, and US-101, approximately 3.5 miles north of the Project site. Local access is provided by Wilshire Boulevard, Detroit Street, and Cloverdale Avenue.



Figure 2 shows the Project site plan. Auto access to the new above-grade and below-grade levels would be provided via two, two-way driveways along Cloverdale and Detroit Street. Pedestrian access to the Residential Tower would be provided along Cloverdale Avenue.





 Project Site



Figure 1

Project Site Location



Site Plan Source: SCB, 2020.

- Primary Pedestrian Access Point
- Long-term Bicycle Parking
- Short-term Bicycle Parking
- Loading Area



Study Scope

The Scope of work for this study was determined in consultation with the Los Angeles Department of Transportation (LADOT) and is in accordance with the City's CEQA transportation thresholds of significance and LADOT's *Transportation Assessment Guidelines* (TAG) adopted in August 2022. The base assumptions and technical methodologies were discussed with LADOT as part of the study approach and agreed to in a transportation assessment memorandum of understanding (MOU) dated August 2021. The MOU is included in **Appendix A**.

The TAG establishes an updated set of guidelines, methods, and impact criteria for CEQA considerations that focus on vehicle miles traveled (VMT), geometric hazards, freeway safety analysis, and policy conflicts. The TAG also establishes a framework for various non-CEQA analyses including a pedestrian, bicycle, and transit access assessment; project access, safety and circulation assessment; project construction review; and residential street cut-through analysis, as well as impact criteria and potential corrective action options. **Table 3** outlines the issue areas evaluated for the Project based on the screening criteria set forth in the TAG. The screening analysis is available in **Appendix B**.

Table 3: TAG Screening Criteria Issue Areas

TAG Issue Area	Analysis Required?
CEQA Analyses:	
Conflicts with Plans, Programs, Ordinances, and Policies	Yes
Causing Substantial Additional Vehicle Miles Traveled	Yes
Substantially Inducing Additional Automobile Travel	No
Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use	Yes
Non-CEQA Analyses:	
Pedestrian, Bicycle, and Transit Access	Yes
Project Access Safety and Circulation	Yes
Project Construction	Yes
Residential Street Cut-Through	Yes

Source: Fehr & Peers, 2023.



Organization of Report

The report is divided into four chapters, including this introduction, as follows:

- **Chapter 1: Introduction** – Introduces the Project description and required scope of the transportation assessment
- **Chapter 2: Environmental Setting** – Describes the existing and cumulative baseline transportation system in the study area, including an overview of local and regional auto, pedestrian, bicycle, and transit access to the Project
- **Chapter 3: CEQA Transportation Assessment** – Includes required CEQA analyses, including plans, programs, ordinances, and policies review; VMT analysis; and geometric hazards evaluation
- **Chapter 4: Non-CEQA Transportation Assessment** – Summarizes the required non-CEQA transportation analyses, including a pedestrian, bicycle, and transit access assessment; access, safety, and circulation evaluation; construction analysis; and a residential street cut-through analysis



Environmental Setting

The project is located at 5350-5376 Wilshire Boulevard; 706-716 Cloverdale Ave; and 721-725 Detroit Street in the Miracle Mile district of the Wilshire Community Plan Area of the City. It is bound by Wilshire Boulevard to the north, residential buildings and surface parking to the south, Detroit Street to the east, and Cloverdale Avenue to the west. **Figure 1** shows the Project site location.

The study area bounds for the transportation assessment are a quarter-mile radius from the Project site for pedestrian, bicycle, and transit assessments, which was selected based on guidance in the TAG and approved by LADOT through the Project MOU process.

Existing Conditions

The Project is located within the planning boundary of the Wilshire Community Plan area in the City of Los Angeles (City) and is designated as “Regional Commercial” and “High Medium Residential” land uses. The Project site is also located within a Transit Priority Area (TPA), as defined by the Senate Bill (SB) 743 and the City Zoning Information File (ZI) 2452.¹ In addition, the Project site is identified as being located within a Metro right-of-way (ROW) Project Area.²

The Project site is currently developed with one- to two-story commercial buildings and a surface parking lot. The existing buildings are located at 5350-5376 Wilshire Boulevard and amount to 48,229 square feet of floor area.

The area surrounding the Project site is developed with two- to six-story buildings comprised of commercial and residential uses across Wilshire Boulevard to the north, two- and three- story residential buildings to the south, and a two- and ten-story commercial building and surface parking to the west.

Vehicular access to the Project site is currently provided via two driveways on Cloverdale Avenue and a dead end 20-foot alley that is accessed from Detroit Street and terminates at the middle of the site. Pedestrian access to the Project site is located along Wilshire Boulevard, Detroit Street, and Cloverdale Avenue.

¹ SB 743 established new rules for evaluating aesthetic and parking impacts under CEQA for certain types of projects. Specifically, Public Resources Code Section 21099(d) states: “Aesthetic and parking impacts of a residential, mixed-use residential, or employment center on an infill site within a TPA shall not be considered significant impacts on the environment.” TPAs are areas within 0.5 mile of a major transit stop that are existing or planned. Thus, in accordance with SB 743 and the City’s ZI No. 2452, the Project’s aesthetic and parking impacts are not considered significant as a matter of law.

² As described by ZI-1117, adopted by City Council on May 20, 2018, and revised on December 19, 2019, prior to the issuance of any building permit, Metro must review applicable projects within 100 feet of Metro-owned Rail or Bus Rapid Transit ROW to ensure safe access to, and operations of, transportation services and facilities.



Existing Street System

Regional access to the Project site is primarily provided by the Interstate 10 (I-10) freeway, located approximately 2.4 miles south of the Project site, and the US-101, approximately 3.8 miles north of the Project site. Local access to the Project site is provided by major streets serving the area, including Wilshire Boulevard, 8th Street, and Olympic Boulevard in the east-west direction and La Brea Avenue, Detroit Street, Cloverdale Avenue, Hauser Boulevard, and Cochran Avenue in the north-south direction.

Table 4 and **Table 5** provide an overview of the regional and local roadways, respectively, serving the Project site. The street descriptions include the designation of the roadway under the *Mobility Plan 2035* (Los Angeles Department of Planning, General Plan Mobility Element) approved by the Los Angeles City Council in August 2015 and amended in September 2016. In addition, the *Mobility Plan 2035* identifies corridors proposed to prioritize bicycle, pedestrian, transit, and vehicle infrastructure improvements. Each of the networks are defined as the following:

- **The Neighborhood-Enhanced Network (NEN)** is a selection of streets that provide comfortable and safe routes for localized travel of slower-moving modes such as walking, bicycling, or other slow speed motorized means of travel.
- **The Transit-Enhanced Network (TEN)** is the network of arterial streets prioritized to improve existing and future bus service for transit riders.
- **The Bicycle-Enhanced Network (BEN)** is a network of streets to receive treatments that prioritize bicyclists. Tier 1 Protected Bicycle Lanes are bicycle facilities that are separated from vehicular traffic. Tier 2 and Tier 3 Bicycle Lanes are facilities on roadways with striped separation. Tier 2 Bicycle Lanes are those more likely to be built by 2035.
- **The Vehicle-Enhanced Network (VEN)** identifies streets that prioritize vehicular movement and offer safe, consistent travel speeds and reliable travel times.
- **The Pedestrian-Enhanced Districts (PEDs)** identify where pedestrian improvements on arterial streets could be prioritized to provide better walking connections to and from the major destinations within communities.

Table 4: Regional Access to the Project Site¹

Name	Direction	Posted Speed (mph)	Total Number of Lanes	Nearby Ramps
I-10	East-West	65	8	Crenshaw Boulevard, Arlington Avenue, La Brea Avenue, Fairfax Avenue/Washington Boulevard
US 101	Northwest-Southwest	55	8	Highland Avenue, Cahuenga Boulevard

Notes

1. Characteristics for the segment of the roadway closest to the Project site.

Source: Fehr & Peers, 2023.



Table 5: Local Access to the Project Site¹

Name	Designation	Posted Speed (mph)	Total Number of Lanes	Parking	Bikeway	Mobility Plan 2035 Network
East-West Roadways						
West 6 th Street	Avenue II	35	3-4 ²	Both sides of street		NEN, BEN, PED
Wilshire Boulevard	Avenue I (Scenic)	35	4 ³	Both sides of street during off-peak periods only		TEN, BEN, PED
West 8 th Street	Collector	30	2 ²	Both sides of street		NEN
Olympic Boulevard	Boulevard II	35	6 ²	Both sides of street during off-peak periods only		PED, VEN
North-South Roadways						
La Brea Avenue	Avenue I	30	5	Both sides of street during off-peak periods only		TEN, BEN, PED
Detroit Street	Local	25	2	Restricted Permitted Parking		-
Cloverdale Avenue	Local	25	2	Restricted permitted parking		NEN
Hauser Boulevard	Collector	30	2 ²	Restricted permitted parking	Class II Bike Lane ⁴	BEN, NEN
Cochran Avenue	Collector	25	2	Restricted permitted parking		NEN

Notes

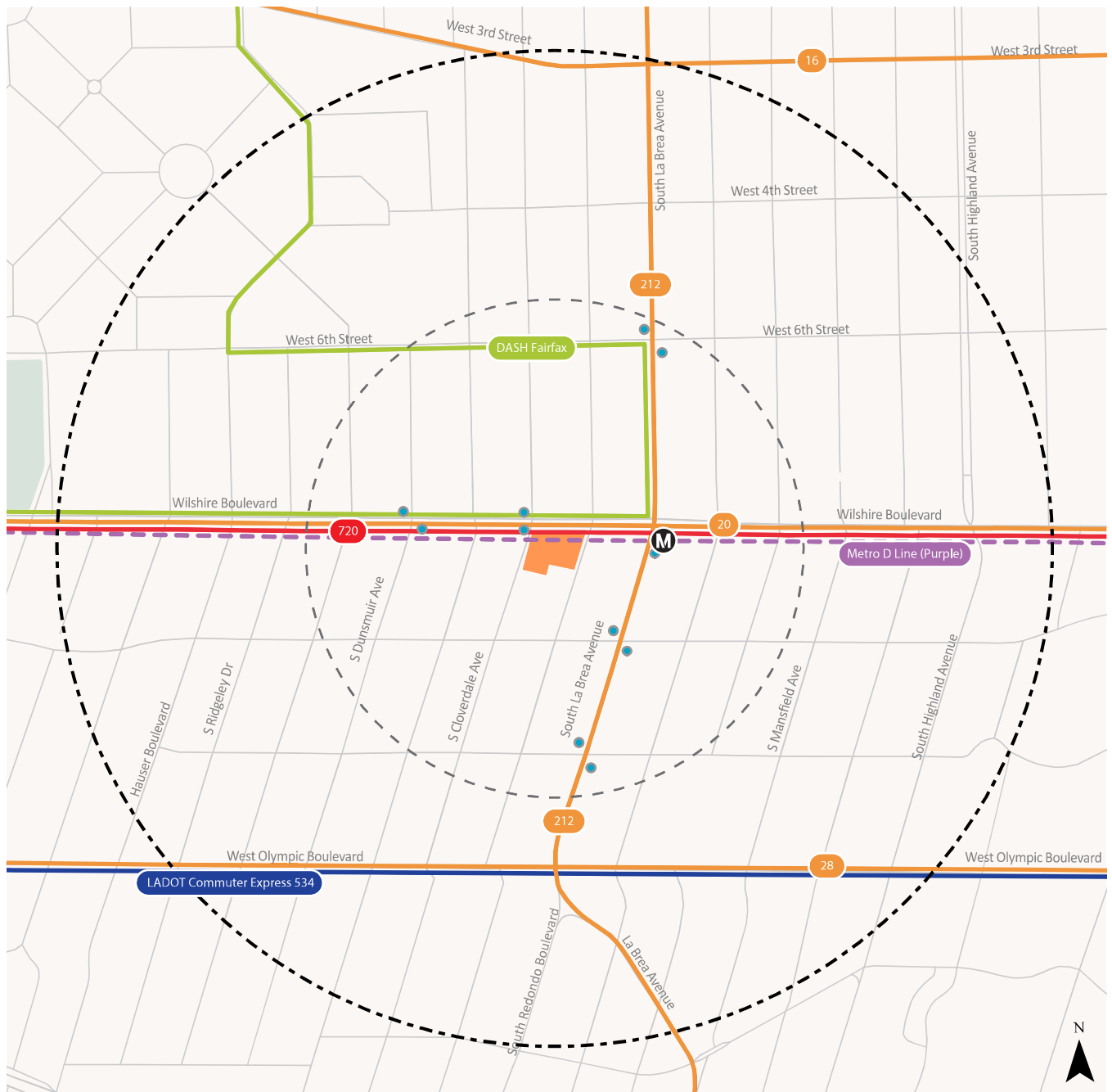
1. Characteristics for the segment of the roadway closest to the Project site.
2. Left turn pockets provided along portions of street.
3. Ongoing construction along Wilshire Boulevard for the Metro D Line extension may temporarily affect capacity.
4. North of West 6th Street.

Source: Fehr & Peers, 2023.

Existing Public Transit Service

The Project site is located within a Transit Priority Area and immediately adjacent to a future Metro D Line station stop at the Wilshire Boulevard/La Brea Avenue intersection that is currently under construction and scheduled to open in 2025. **Figure 3** shows nearby transit facilities in the study area. The Project site is well served by a variety of public transit options, including local and regional bus lines. **Table 6** summarizes transit lines and ridership in the Project site vicinity.





- | | | |
|-----------------|---|-------------------|
| 1/2-mile Buffer | Bus Stops within 1/4 mile of the Project Site | Metro Rapid Bus |
| 1/4-mile Buffer | Fairfax DASH | Metro Local Bus |
| Project Site | LADOT Commuter Express | Future Metro Rail |



Figure 3

Transit Facilities

Table 6: Transit Lines and Ridership within 0.5 miles of the Project Site

Line	Description	Peak Hour Headway ¹	Average Weekday Daily Boarding/Alighting in the Project Vicinity ²
LA Metro			
20	Downtown LA-Westwood/Santa Monica via Wilshire Boulevard	12 minutes	Westbound – 130/192 Eastbound – 164/97
212	Hawthorn-Hollywood via La Brea Avenue	12-13 minutes	Northbound – 218/330 Southbound – 324/190
720	Santa Monica-Downtown LA via Wilshire Boulevard	5-6 minutes	Westbound – 360/645 Eastbound – 513/351
Proposed D Line Extension	Union Station-Westwood via Wilshire Boulevard	12 minutes	<i>The D Line is expected to open the station at La Brea and Wilshire in 2025 with further extensions westward opening later.</i>
DASH			
Fairfax	Cedars-Sinai Medical Center-Miracle Mile via Melrose Avenue-Fairfax Avenue-Wilshire Boulevard	30 minutes	Westbound – 16/2

Notes

1. Ridership data summed for all stops within a ¼ mile of the project site. LA Metro ridership data from October 2019 data accessed on 7/13/2022: <https://la-metro.maps.arcgis.com/apps/mapviewer/index.html?webmap=9366343d77b04fc5a3a2f2b4bd1962f3>. LADOT Dash ridership data from May 2016.

Fehr & Peers, 2024.



Pedestrian and Bicycle Facilities

Pedestrian Facilities

Major roadways surrounding the site, including West 6th Street, Wilshire Boulevard, Olympic Boulevard, and La Brea Avenue, are part of the City's Pedestrian Enhanced District. The study area generally has a mature network of pedestrian facilities (summarized in **Table 7**, **Table 8**, and **Figure 4**) including sidewalks and pedestrian safety features such as tactile warning strips and high-visibility crosswalks.

Bicycle Facilities

Figure 5 shows the existing bicycle facilities in the Project area. The Class II bicycle lanes on Hauser Boulevard north of West 6th Street are the only bicycle facilities in the area.

High-Injury Network

The City's High-Injury Network (HIN) is comprised of streets identified by the City as having the highest concentration of traffic collisions that result in severe injuries and deaths, with an emphasis on those involving people walking and bicycling. As shown in **Figure 4** and **Figure 5**, West 6th Street and Wilshire Boulevard in the a quarter-mile of the Project are a part of the HIN.



Table 7: Existing Pedestrian Amenities – Sidewalk Widths and Crossing Distance^{1,2}

Street Name	Study Area Extents	Direction	Existing Sidewalk Width (feet)	Average Distance between Marked Crosswalks (feet) ³	Street Trees
West 6 th Street	South Cochran Avenue to South La Brea Avenue	East-West	6'-8'	350'	✓
Wilshire Boulevard	South Burnside Avenue to South Orange Drive	East-West	15'	340'	✓
West 8 th Street	South Dunsmuir Avenue to South Orange Drive	East-West	7'-8'	<i>local street</i>	✓
West 9 th Street	South Cloverdale Avenue to South Sycamore Avenue	East-West	5'-12'	<i>local street</i>	✓
South Burnside Avenue	South Burnside Avenue and Wilshire Boulevard	North-South	11'-12'	<i>local street</i>	✓
South Dunsmuir Avenue	West 8 th Street to Wilshire Boulevard	North-South	11'-12'	<i>local street</i>	✓
South Cochran Avenue	West 8 th Street to West 6 th Street	North-South	9'-10'	820'	✓
South Cloverdale Avenue	West 9 th Street to West 6 th Street	North-South	10'	<i>local street</i>	✓
South Detroit Street	West 9 th Street to West 6 th Street	North-South	14'-15'	<i>local street</i>	✓
South La Brea Avenue	West 9 th Street to West 6 th Street	North-South	14'-15'	760'	✓
South Sycamore Avenue	West 9 th Street to Wilshire Boulevard	North-South	14'-15'	<i>local street</i>	✓
South Orange Drive	West 8 th Street to Wilshire Boulevard	North-South	14'-15'	<i>local street</i>	✓

Notes

1. This inventory was completed using aerial imagery.
2. Sidewalks on both sides of all streets listed in this table.
3. Rounded up to the nearest 10 feet for Collector, Avenue, and Boulevard streets as defined by the *Mobility Plan 2035* in the vicinity of the Project. Measurement not included for Local streets as these streets typically do not have marked crosswalks due to their lower traffic volumes and more residential land use context.

Source: Fehr & Peers, 2023.



Table 8: Existing Pedestrian Amenities – Intersection Amenities at Signalized Intersections¹

Intersection	Pedestrian Signals	Pedestrian Button ²	Crosswalk Type	Curb Ramp Typology	Tactile Warning ³
Wilshire Boulevard/ Burnside Avenue	✓	NB/SB	N: Continental E/S/W: Standard	All: Diagonal	1/4
Wilshire Boulevard/ Dunsmuir Avenue	✓	NB/SB	N: Continental E/S/W: Standard	All: Diagonal	1/4
Wilshire Boulevard/ Cochran Avenue	✓	NB/SB	N: Continental E/S/W: Standard	All: Diagonal	2/4
Wilshire Boulevard/ Cloverdale Avenue	✓	NB/SB	All: Continental	All: Diagonal	1/4
Wilshire Boulevard/ Detroit Street	✓	NB/SB	All: Continental	All: Diagonal	--
Wilshire Boulevard/ La Brea Avenue	✓	NB/SB	All: Continental ⁴	All: Diagonal	3/4
Wilshire Boulevard/ Sycamore Avenue	✓	NB/SB	S/W: Continental N/E: None ⁵	All: Diagonal	2/4
Wilshire Boulevard/ Orange Drive		--	None	All: Diagonal	4/4
West 8th Street/ Dunsmuir Avenue		--	N/E/W: Continental S: Standard	All: Diagonal	3/4
West 8th Street/ Cochran Avenue	✓	NB/SB	All: Ladder	NE: Diagonal NW: Diagonal SE: Missing SW: Missing	2/4
West 8th Street/ Cloverdale Avenue		--	None	All: Diagonal	3/4
West 8th Street/ Detroit Street		--	None	All: Diagonal	4/4
West 8th Street/ La Brea Avenue	✓	EB/WB	N/W: Standard E/S: Continental	All: Diagonal	1/4
West 8th Street/ Sycamore Avenue		--	None	All: Diagonal	2/4
West 8th Street/ Orange Drive		--	None	All: Diagonal	--
West 6th Street/ Cochran Avenue	✓	NB/SB	All: Continental	All: Diagonal	--
West 6th Street/ Cloverdale Avenue		--	None	All: Diagonal	--
West 6th Street/ Detroit Street	✓	NB/SB	All: Continental	All: Diagonal	--
West 6th Street/ La Brea Avenue	✓	EB/WB	All: Continental	All: Diagonal	--



Intersection	Pedestrian Signals	Pedestrian Button ²	Crosswalk Type	Curb Ramp Typology	Tactile Warning ³
West 9 th Street/ Cloverdale Avenue		--	None	All: Diagonal	--
West 9 th Street/ Detroit Street		--	None	NE: Diagonal SE: Diagonal SW: Missing NW: Diagonal	4/4
West 9 th Street/ La Brea Avenue	✓	EB/WB	All Continental	All: Diagonal	--
West 9 th Street/ Sycamore Avenue		--	None	All: Diagonal	--

Notes

1. This inventory was completed using aerial imagery and reflects existing conditions.
2. NB/SB and EB/WB designations indicate presence of pedestrian push buttons for corresponding direction of movement.
NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound
3. The number of curb ramps equipped with tactile warnings out of the total number of curb ramps at the intersection.
4. Due to construction on the Metro D Line, crosswalks are open only on the south and east legs of the Wilshire Boulevard/La Brea Avenue Intersection.
5. The north leg of Wilshire Boulevard/Sycamore Avenue is currently under construction.

Fehr & Peers, 2023.



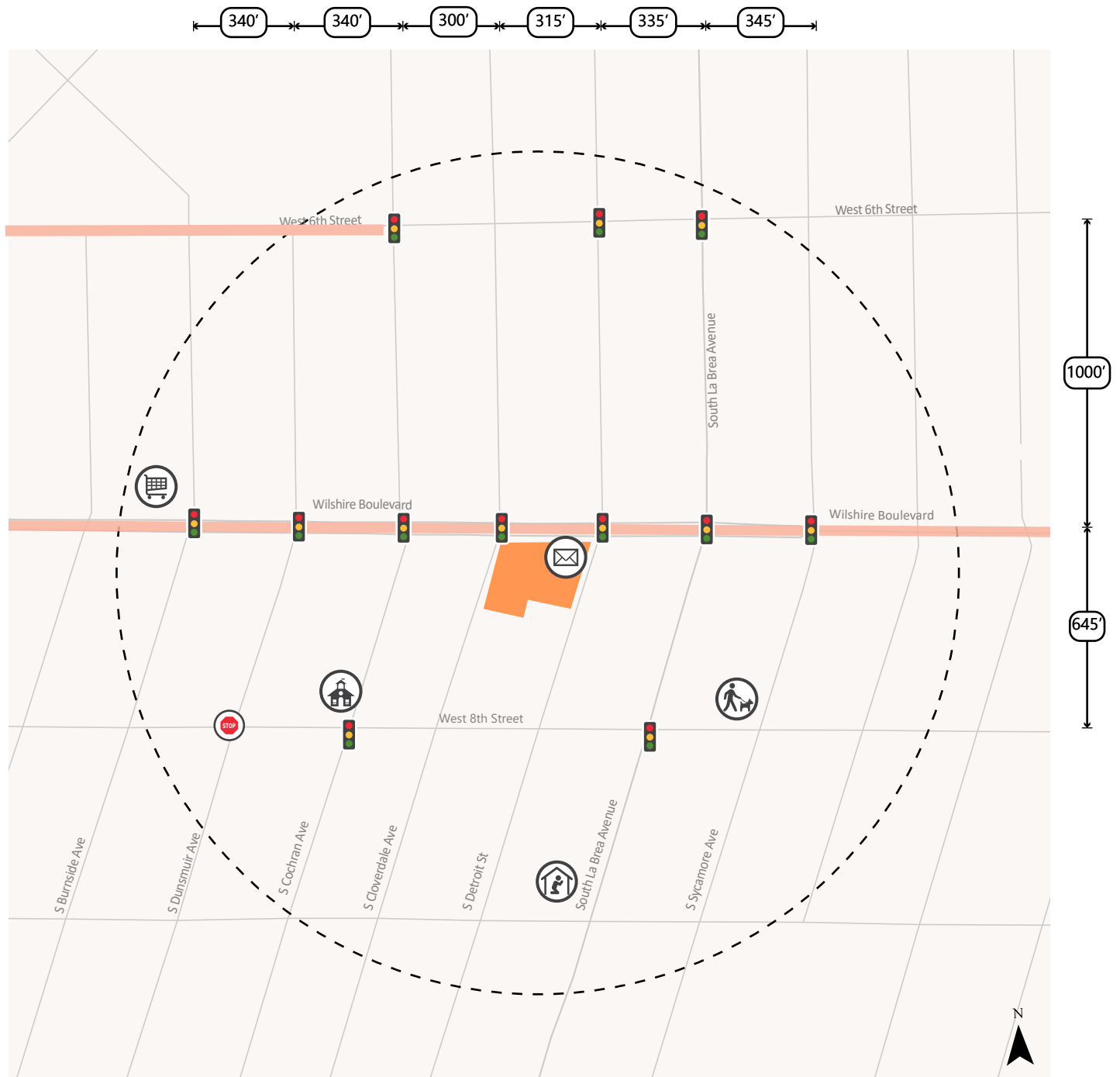
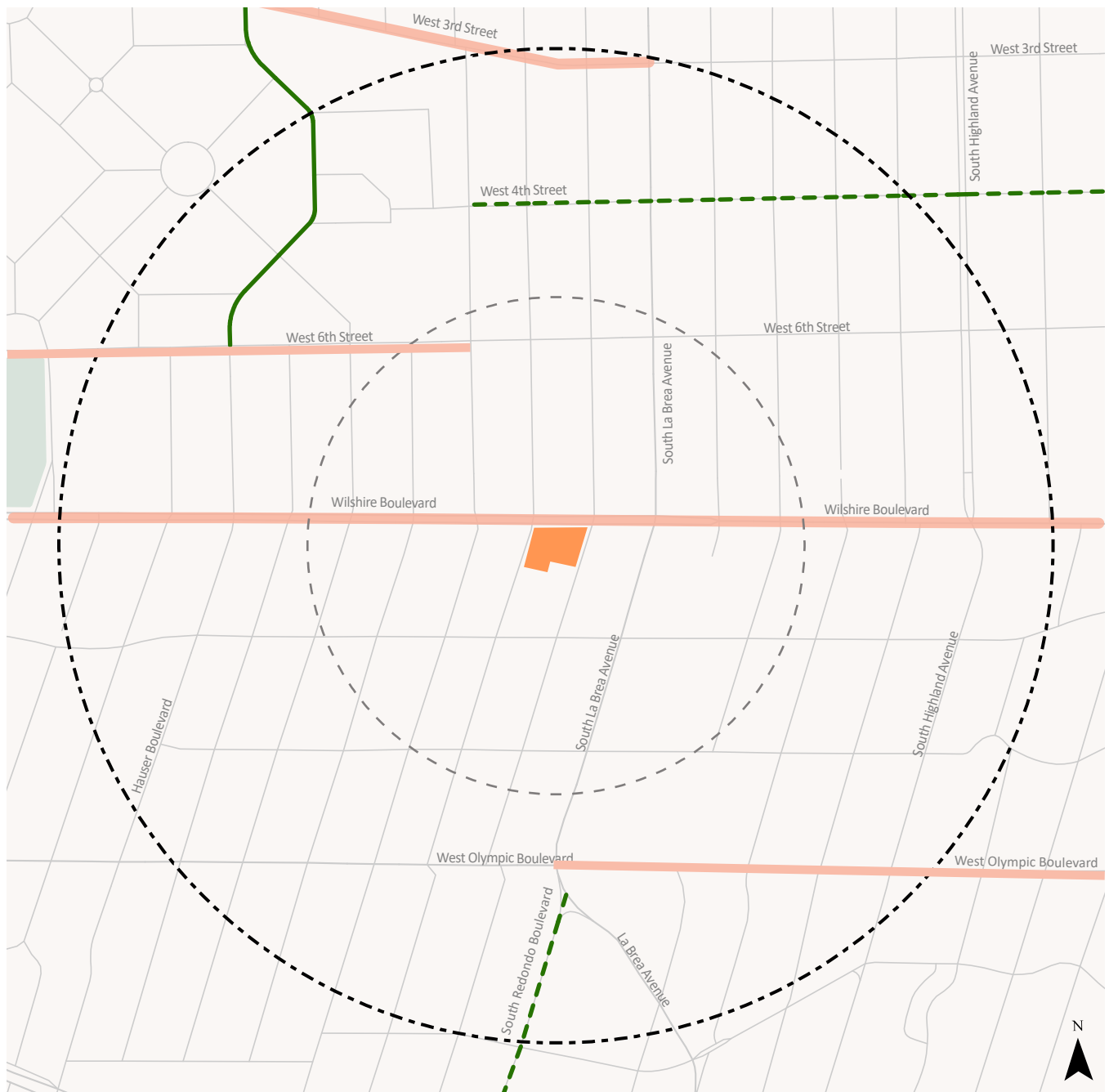


Figure 4

Pedestrian Facilities





- | | | |
|---|---|--|
|  Project Site |  1/2-mile Buffer |  Bike Lane |
|  LADOT High-Injury Network (HIN) |  1/4-mile Buffer |  Bike Route with Sharrows |



Figure 5

Bike Facilities

Cumulative Conditions

This section details the planned transportation improvements and proposed land use developments within the study area that are anticipated to be completed or underway by Project buildout.

In 2024, City of Los Angeles voters approved the Healthy Streets LA ballot measure. The ballot measure requires the City to implement the Mobility Plan 2035 when they repave or make improvements to a street. Both Wilshire Boulevard and La Brea Avenue in the vicinity of the Project are on the Comprehensive Transit Enhanced Streets Network and Bike Lane Network. While this indicates that at some point in the future, the City would likely make transit and bicycle enhancements to these two corridors, the timeline, project description, and funding are not yet defined, and therefore, these investments are not considered related projects; as they are too speculative at this time. Per the City's Los Angeles Safe Streets for All Initiative (Ordinance No. 188,198) adopted in April 2024, should the City make any improvement to a street segment of at least 1/8 of a mile in length, the street enhancements of the "mobility-enhanced networks" as described above shall also be installed along that segment as part of the improvements undertaken by the City.

Transportation Infrastructure Projects

The Metro D Line Extension is the only major programmed transportation infrastructure project in the study area.

- **Metro D Line Extension:** An extension of the Metro D Line from its existing terminus at Wilshire/Western to Century City and Westwood is currently under construction and scheduled for completion in 2027. The project will add seven new stations and a reliable, high-speed transit connection between Downtown and the Westside. Stations will open in three phases, with the first to include stations at Wilshire/La Brea, Wilshire/Fairfax, and Wilshire/La Cienega near the Project site in 2025. The Wilshire/La Brea station would be located immediately adjacent to the Project site.

Related Projects

Related projects are developments expected to be built and opened in the vicinity of the Project prior to the buildout date of the proposed Project (2029). The list of related projects within a half-mile radius of the Project was prepared based on data from LADOT and the known development landscape of the area. **Table 9** includes the list of related projects and their corresponding land use, size, and vehicle trip generation assumed to be in place by 2029. The location of each related project is illustrated in **Figure 6**.



Table 9: Related Projects¹

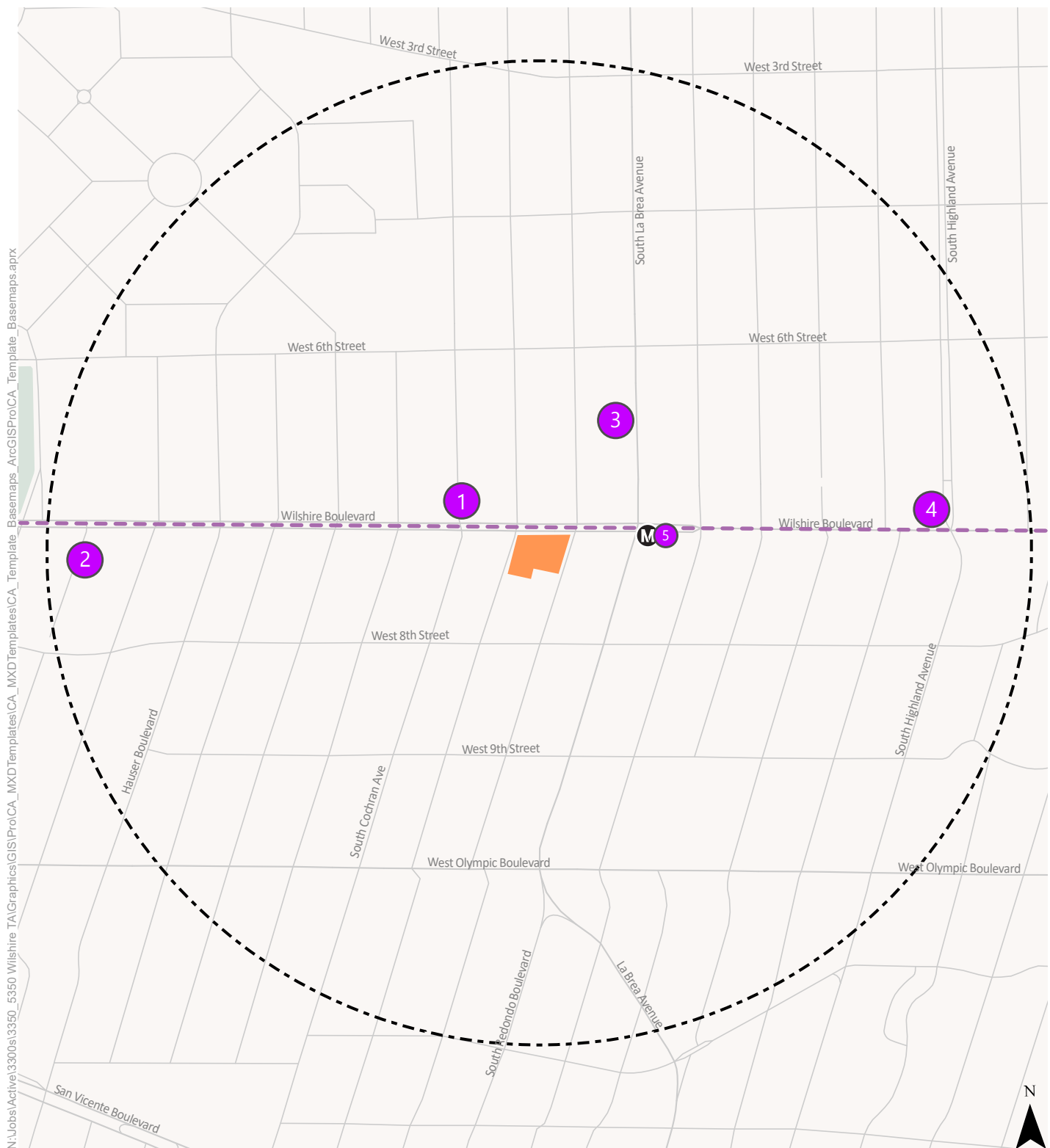
#	Project Location	Land Use ²					AM Peak Hour Trips			PM Peak Hour Trips		
		Multi-Family	Office	Retail	Hotel	Other	In	Out	Total	In	Out	Total
1	688 S Cochran Ave (5411 Wilshire Blvd)	348	-	5	-	6	-14	40	26	3	-30	-27
2	5700 Wilshire Blvd	-	2,223	-	-	118	876	9	885	351	1,113	1,464
3	629 La Brea Ave ³	121	-	13	125	-	42	37	79	46	24	70
4	5001 Wilshire Blvd ⁴	243	-	11	-	-	7	49	56	1	-25	-24
5	Metro D Line Extension	-	-	-	-	-	-	-	-	-	-	-

Notes:

1. Projects in development within a ½-mile of the project site. Related project list and trip generation provided by LADOT on 5/30/2023.
2. Multi-family = Dwelling Units; Office = 1,000 SF; Retail = 1,000 SF; Hotel = Rooms; Other = 1,000 SF unless otherwise noted.
3. This project was not on LADOT's related project list but is a known ongoing development. Trip generation was developed in alignment with LADOT's *Transportation Assessment Guidelines* (August 2022).
4. This project was not on LADOT's related project list but is a known ongoing development. The project's transportation assessment (*Transportation Assessment for the Proposed Mixed-Use Project Located at 5001 West Wilshire Boulevard, 2021*) was referenced for the project's trip generation. The LADOT case number for the project is CEN21-50601.

Source: Fehr & Peers and LADOT, 2023.





Related Projects



1/2-mile Buffer



Project Site



Future Metro Rail



Figure 6

Related Projects

CEQA Transportation Assessment

Plans, Programs, Ordinances, and Policies Review

A review was conducted to determine whether the Project conflicts with a transportation-related City plan, program, ordinance, or policy that was adopted to protect the environment.

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?

Under CEQA, a project is considered to not conflict with an applicable plan if it is consistent with the overall intent of the plan and would not preclude the attainment of its primary goals. Any conflict with an applicable policy, plan, or regulation is only a significant impact under CEQA if the policy, plan, or regulation was adopted for the purpose of avoiding or mitigating an environmental effect and if the conflict itself would result in a direct physical impact on the environment. This evaluation was conducted in alignment with CEQA guidelines and LADOT TAG and includes a review of the following City documents:

- **City of Los Angeles General Plan (1970)** is a comprehensive policy document that informs future land use decisions. It is comprised of several Elements that provide a guide for how land is used and how the City allocates its resources.
 - The *City of Los Angeles Mobility Plan 2035 (2016)* as adopted under the City's General Plan and is considered an update to the Transportation Element. It incorporates "complete streets" principles and lays the policy foundation for the operation and design of streets and public right-of-way.
 - *The Plan for a Healthy Los Angeles (2015)* is an element of the City's General Plan and lays the foundation to create healthier communities for all Angelenos. The Plan "provides high-level policy vision, along with measurable objectives and implementation programs to elevate health and environmental justice as a priority for the City's future growth and development."
- **Citywide Design Guidelines (2019)** establish ten guidelines to carry out the common design objectives laid out in the City's General Plan Framework Element and 35 Community Plans. The Guidelines are organized around one of three design approaches: Pedestrian-First Design, 360 Degree Design, and Climate-Adopted Design.
- **Municipal Code of the City of Los Angeles** codifies the regulatory and penal ordinances of the City. The current Sixth Edition assists City officials, departments, and other governmental agencies in their functions, and "will serve the people as the official source of information regarding the regulations enacted by the City of Los Angeles for the preservation of the public peace, health and safety."



- **Wilshire Community Plan (2016)**³ is one of 35 Community Plans in the City that establishes the policies and programs that inform the framework for local land use, circulation, and service systems within the selected community plan area.
- **Miracle Mile Community Design Overlay (2005)** establishes guidelines and standards for site planning to enhance pedestrian orientation and circulation.
- **Vision Zero Los Angeles (2017)**⁴ is a plan that strives to eliminate traffic-related deaths in Los Angeles by 2025 through multiple strategies such as modifying streets to better serve vulnerable road users.
- **LADOT Manual of Policies and Procedures Section 321: Driveway Design** provides guidance on the proper design of driveways and curb cuts in the City of Los Angeles.

Impact Analysis

Table 10 provides a discussion of whether the Project conflicts with the plans described above. **Appendix C** provides answers to specific questions presented in the TAG that are intended to help guide whether a project conflicts with City circulation system policies. As can be seen in **Table 10** and in the detailed evaluation in **Appendix C**, the Project is not in conflict with the various regional and local plans, programs, ordinances, and policies related to transportation.

Table 10: Conflict with Plans, Programs, and Policies

Plan, Program, Ordinance, or Policy	Conflict Review
<i>City of Los Angeles Mobility Plan 2035</i>	The Project's proposed land use and design features, including site access; pedestrian, bicycle and transit accessibility; and loading areas, were reviewed and would not conflict with the policies of the <i>Mobility Plan 2035</i> . Wilshire Boulevard in the vicinity of the Project is part of the Pedestrian-Enhanced District, the Bicycle-Enhanced Network, and the Transit-Enhanced Network. Both Cloverdale Avenue and West 8th Street in the vicinity of Project are part of the Neighborhood-Enhanced Network. The Project would not conflict with the implementation of future projects in the public right-of-way on these networks.
<i>Citywide Design Guidelines</i>	The Project would not conflict with the circulation components of the <i>Citywide Design Guidelines including Guidelines 1,2, and 3</i> . The guidelines call for incorporating vehicular access such that it does not discourage and/or inhibit the pedestrian experience and promoting a safe, comfortable, and accessible pedestrian experience. The Project does not conflict with these guidelines.
<i>Municipal Code of the City of Los Angeles</i>	The Project and its features do not conflict with the City's <i>Municipal Code</i> , including Section 12.21 A.16 (Bicycle Parking) and Section 12.26 J (TDM Ordinance. The Project would be in accordance with code requirements such as providing bicycle parking and per LAMC section 12.21 A.16.

³ The Wilshire Community Plan was adopted in 2001 and amended in 2016 as part of the Mobility Plan 2035 Update. The 2016 plan is currently in effect and forms the basis for this review of conflicts relating to the transportation system.

⁴ *Vision Zero Los Angeles 2015-2025 Action Plan*, Effective January 2017.



Plan, Program, Ordinance, or Policy	Conflict Review
<i>Plan for a Healthy Los Angeles</i>	The Project does not conflict with the <i>Plan for a Healthy Los Angeles</i> . The Project provides employment options for a growing neighborhood residential population and creating a work destination that is easily accessible via public transportation, which are two known methods for reducing overall vehicle-miles-travelled for a neighborhood.
<i>Vision Zero Los Angeles</i>	The north boundary of the Project is Wilshire Boulevard, which is identified as part of the High-Injury Network. The Project meets the goals and objectives set forth in Vision Zero by providing vehicle access via driveways along Cloverdale Avenue (Local Street) and Detroit Street (Local Street) which would minimize the potential for vehicle, pedestrian, and bicycle conflicts on Wilshire Boulevard. The pedestrian points of entry would be provided along Wilshire Boulevard and Cloverdale Avenue. Further, the Project would not conflict with the implementation of future Vision Zero projects in the public right-of-way.
<i>Wilshire Community Plan</i>	The Project is not in conflict with the transportation components of the Wilshire Community Plan. It would not be in conflict with the Wilshire Community Plan's Goals 10, 11, and 12 aimed at providing comfortable, safe alternatives to driving alone.
<i>Miracle Mile Community Design Overlay (CDO)</i>	Within the Miracle Mile CDO, the Project would not conflict with the City's guideline to orient buildings toward Wilshire Boulevard and adjacent cross-streets in order to encourage pedestrian activity along the sidewalks of Miracle Mile and facilitate pedestrian access to and from the sidewalk to adjacent properties. Specifically, the existing commercial buildings along Wilshire Boulevard would be retained, and primary pedestrian access to these buildings would continue to be provided along Wilshire Boulevard and would remain unchanged. Furthermore, the sidewalks on Wilshire Boulevard would be maintained and enhanced with new landscaping and trees.
<i>LADOT Manual of Policies and Procedures Section 321: Driveway Design</i>	The proposed new driveways are located on the non-arterial frontages in alignment with guidance provided in the <i>LADOT Manual of Policies and Procedures Section 321: Driveway Design</i> . Further, the proposed new driveways also meet the suggested maximum width of 30 feet.

Source: Fehr & Peers, 2023.

Conclusion and Recommended Actions

The Project features, location, and design generally are not in conflict with multimodal transportation options and would not conflict with City plans, policies, ordinances, and programs put in place to protect the environment. The Project is anticipated to have a less-than-significant impact on the City's ability to execute its plans, programs, policies, and ordinances related to protecting the environment. Given this, no mitigation actions are required.

Vehicle Miles Traveled Analysis

In accordance with the Governor's Office of Planning and Research (OPR) CEQA guidance as well as *City of Los Angeles Mobility Plan 2035* goals and objectives, the City has set the following significance criteria for transportation impacts based on vehicle miles traveled for land use projects and plans.

Threshold T-2.1: For a land use project, would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(1)?



The Project's impact on vehicle miles traveled was assessed utilizing LADOT's VMT Calculator Version 1.4. The VMT Calculator considers a project's land uses, proposed transportation demand management strategies, and location within the City to estimate the project's impact on vehicle miles traveled, assessed against the City's established impact criteria.

The VMT Calculator utilizes the Institute of Transportation Engineers' *Trip Generation Manual* (ITE, 9th Edition),⁵ U.S. EPA's MXD (mixed-use) methodology, and socioeconomic, transit, and trip length data from the LA Citywide Travel Demand Model to account for a project's land use mix, location, and density to estimate vehicle miles traveled for a project.

Impact Criteria

The LADOT *Transportation Assessment Guidelines* establishes that a land use project may have a potential significant impact if the proposed project meets one or more of the following criteria:

- For residential projects, the project would generate daily household VMT per capita exceeding 15% below the existing average household VMT per capita for the Area Planning Commission (APC) area in which the project is located.
- For office projects, the project would generate daily work VMT per employee exceeding 15% below the existing average work VMT per employee for the APC in which the project is located.
- For regional serving projects including retail projects, entertainment projects, and/or event centers, the project would result in a net increase in VMT. Retail projects fewer than 50,000 square feet in size are considered local-serving. New retail uses greater than 50,000 square feet may also be considered local-serving, if an applicant provides documentation that most of the vehicle trips would be originating from the project area.

For mixed-use projects, the project VMT impact should be considered significant if, after taking credit for internal capture, the project exceeds the impact criteria for any one (or all) of a particular project land use.

Table 11 outlines the City's VMT impact criteria based on these guidelines. The Project is in the Central APC, which has a daily work VMT per employee threshold of 7.6.

⁵ The LA VMT Calculator was under development prior to release of the 10th Edition of ITE's *Trip Generation* manual in 2017 and the 11th Edition in 2021. The VMT Calculator was validated to LA conditions based on the empirical counts conducted at market rate residential, affordable housing, office, and mixed-use sites in the city, regardless of the source of the rates used as a starting point.



Table 11: City of Los Angeles VMT Impact Criteria (15% Below APC Average)

Area Planning Commission	Daily Household VMT per Capita	Daily Work VMT per Employee
Central	6.0	7.6
East Los Angeles	7.2	12.7
Harbor	9.2	12.3
North Valley	9.2	15.0
South Los Angeles	6.0	11.6
South Valley	9.4	11.6
West Los Angeles	7.4	11.1

Source: LADOT *Transportation Assessment Guidelines*, 2022.

A project would have a significant cumulative impact on VMT if the project has both a significant project-level impact as determined above and is not consistent with the Southern California Association of Governments' Regional Transportation Plan/Sustainable Communities Strategy⁶ (SCAG RTP/SCS) in terms of development location, density, and intensity.

Impact Analysis

The Project's land use is outlined in **Table 1** and the Project's detailed VMT Calculator outputs are included in **Appendix D**. The Project's estimated total daily VMT is about 24,270, a net daily increase of 12,625.

Residential Vehicle Miles Traveled

The Project is a mixed-use development that predominantly serves as a residential space. The total size of the residential use is 375,464 square feet (419 units). The Project is located in a dense, walkable area near frequent Metro bus lines and a future Metro rail line. The Project's estimated household VMT per capita is listed in **Table 12**.

Table 12: Project Household VMT per Capita

Proposed Project Daily Household VMT per Capita ¹	Threshold of Significance ²	Significant VMT Impact?
4.6	6.0	No

Notes

1. Project Daily Household VMT per Capita estimated using the VMT Calculator Version 1.4

⁶ The RTP/SCS is a regional plan that demonstrates compliance with air quality conformity requirements and emissions reductions targets. It provides a comprehensive look at future transportation needs and maps out how the region will integrate transportation and land use. The latest update is *Connect SoCal* (2020-2045 RTP/SCS) adopted by the SCAG Regional Council in 2020.



2. Threshold of Significance for office and retail land use projects in the Central APC.
Source: Fehr & Peers, 2023.

The Project’s estimated daily household VMT per capita is below the Central APC’s level of significance; therefore, the Project is not expected to have a significant impact on residential VMT.

Office Vehicle Miles Traveled

In alignment with TAG guidance for office projects, work VMT per employee was estimated using LADOT’s VMT Calculator. The estimated work VMT per employee for the Project is presented in **Table 13**.

Table 13: Project Work VMT per Employee

Proposed Project Daily Work VMT per Employee ¹	Threshold of Significance ²	Significant VMT Impact?
6.7	7.6	No

Notes

- 3. Project Daily Work VMT per Employee estimated using the VMT Calculator Version 1.4
- 4. Threshold of Significance for office and retail land use projects in the Central APC.

Source: Fehr & Peers, 2023.

The Project’s estimated daily work VMT per employee is below the Central APC’s threshold of significance; therefore, the Project is not expected to have a significant impact on office VMT.

Retail Vehicle Miles Traveled

The Project is a mixed-use development that is largely residential space, with retail and office land uses. The total size of the retail components of the proposed Project are less than 50,000 square feet and intended to be local serving, primarily serving the office and residential land uses within the development and other land uses in the immediate surrounding area. Further, the proposed Project is located along a dense, walkable corridor that would allow for tenants of the adjacent office land uses along the corridor to also benefit from and access the retail component of the proposed Project by foot.

As described in the TAG, local-serving retail development tends to shorten trips and reduce VMT. Given this, no additional VMT analysis was conducted for the retail portions of the Project, and the Project is not expected to have a significant impact on retail VMT.

Cumulative Impacts

In alignment with the LADOT TAG, the Project was checked for consistency with the SCAG RTP/SCS. Given the Project’s location in a dense, urban area; proximity to quality transit; and mixed-use nature, the Project would be consistent with the applicable goals and objectives of the SCAG RTP/SCS. Given that, and that the Project would not have a significant project-level impact on VMT, the Project would not have a cumulative impact on VMT.



Conclusion and Recommended Actions

The analysis demonstrates that under the City's VMT methodology, the Project would result in a less-than-significant impact on VMT. This conclusion is based on research and substantial evidence that mixed-use infill developments with this level of transit proximity and accessibility tend to generate fewer overall vehicle trips, and those vehicle trips tend to be shorter than if the Project were built in a less dense area with less access to multimodal travel options. See **Appendix D** for additional information about the inputs and supporting documentation for the VMT analysis.

Given that the Project is not projected to have a significant impact on VMT, no mitigation measures are required.

Geometric Design Feature Review

The Project's preliminary site plan was reviewed for potential geometric design hazards due to the configuration of Project auto, bicycle, and pedestrian access points. The LADOT TAG lists the following threshold of significance for proposed land use projects:

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

The freeway safety analysis evaluates a proposed project's potential to cause or lengthen a forecasted off-ramp queue on the freeway mainline that could lead to a potential safety impact due to speed differentials between vehicles exiting the freeway off-ramps and vehicles traveling on the freeway mainline. The interim guidance on freeway safety analysis requires freeway off-ramps where a proposed project adds 25 or more trips in either the morning or afternoon peak hour to be studied for potential queuing impacts. If the proposed project is not projected to add 25 or more peak hour trips at any freeway off-ramps, then a freeway ramp analysis is not required.

Impact Analysis

Automobile Access

The existing site has three auto access points – one located on Detroit Street and two located on Cloverdale Avenue. The proposed Project would reduce this to two auto access points, one each on Cloverdale Avenue and Detroit Street:

- **Cloverdale Avenue:** The Project would include a two-way, full-access driveway off of Cloverdale Avenue accessible via the signalized Wilshire Boulevard/Cloverdale Avenue and West 8th Street/Cloverdale Avenue intersections. This driveway would provide access to above-grade and below-grade parking. The proposed driveway would replace one existing auto entrance and remove a second auto entrance on Cloverdale Avenue.



- **Detroit Street:** The Project would include a two-way, full-access driveway off of Detroit Street Accessible via the signalized Wilshire Boulevard/Detroit Street and West 8th Street/Detroit Street intersections. This driveway would provide access to above-grade and below-grade parking. The proposed driveway would replace the existing access point on Detroit Street.

The proposed driveways would be designed to comply with LADOT standards and would not require the removal or relocation of existing transit stops. Wilshire Boulevard adjacent to the Project is part of the designated HIN, however no new Project driveways are proposed along Wilshire Boulevard.

Pedestrian and Bicycle Access

Pedestrian access to the Project would be provided via several existing entrances on Wilshire Boulevard and new entrance points along Cloverdale Avenue. By providing access along Cloverdale Avenue near the Wilshire Boulevard/Cloverdale Avenue intersection, the Project allows for easy access between the Project and transit stops along Wilshire Boulevard. The Project’s pedestrian access locations would be designed to City standards and would provide adequate sight distance, sidewalks, crosswalks, and pedestrian movement controls.

Visitors, patrons, employees, and residents arriving to the Project site by bicycle or other non-motorized forms of transportation would access the Project site via pedestrian access points, as well as have access to long-term bicycle parking provided off of Cloverdale Avenue and Detroit Street. By providing long-term bicycle parking off of Cloverdale Avenue and Detroit Street, bicyclists would be able to avoid having to travel on Wilshire Boulevard, which is on the HIN, and could instead access the Project from West 8th Street.

Freeway Safety Analysis

Table 14 shows the freeway off-ramps where the Project is estimated to add vehicle trips. As can be seen, the Project is not expected to add 25 or more vehicle trips (the volume threshold established in the TAG) to any off-ramps and no further freeway safety analysis is required.

Table 14: Freeway Trip Distribution¹

Freeway	On/Off Ramp	Location	Project Trip Distribution	AM Peak Hour Volume	PM Peak Hour Volume
US-101 S	Off-Ramp	Highland	10%	7	12
I-10 E	Off-Ramp	Fairfax/Washington	10%	7	12
I-10 W	Off-Ramp	La Brea	10%	7	12

Notes:
1. Freeway off-ramps where trips are expected, and anticipated volume increases based on trip generation in **Table 19**. Fehr & Peers, 2023.



Cumulative Impacts

There are no nearby related projects with access points proposed along the same block(s) as the proposed Project. Accordingly, no significant cumulative impacts are anticipated to which both the Project and other nearby related projects would substantially increase hazards due to a geometric design feature or incompatible use.

Conclusion and Recommended Actions

The Project's design does not include hazardous geometric design features. The roadways adjacent to the Project site are part of the urban roadway network and contain no sharp curves and the development of the Project would not result in roadway alterations such that hazards would be introduced adjacent to the Project site. In addition, the proposed office and commercial uses would be consistent with other commercial uses surrounding the Project site, and the proposed uses would not introduce hazards due to incompatible uses. Thus, the Project would result in a less-than-significant impact to hazards due to a geometric design feature or incompatible uses. **Appendix E** contains more detailed responses to the TAG evaluation questions that support this conclusion.



Non-CEQA Transportation Assessment

Pedestrian, Bicycle, and Transit Access

The proposed Project was assessed to understand its effects on the surrounding pedestrian, bicycle, and transit facilities. This assessment analyzed the effects of removal, degradation, or modification of facilities and intensification of use, including that on the City's High-Injury Network. This assessment followed the evaluation criteria outlined in the LADOT TAG and was conducted under the context of the relatively high active mobility and transit uses in the Project vicinity.

Existing Facilities Inventory

An inventory of existing active transportation and transit facilities within a quarter mile of the Project was completed to understand the existing conditions of these facilities. Maps of transit, pedestrian, and bicycle facilities are provided in the **Environmental Setting** section of this report in **Figure 3**, **Figure 4**, and **Figure 5**, respectively.

Pedestrian Facilities

The existing pedestrian amenities within a quarter mile of the Project are shown in **Figure 4** and summarized in **Table 7**. The average distance between marked and/or signalized crossings is shorter when traveling eastbound and westbound than when traveling northbound or southbound in the study area. The tree canopy is greater along the more residential streets south of Wilshire Boulevard, but all streets within a quarter mile of the Project site have at least one mature tree. Pedestrian conditions at each intersection are provided in **Table 8**. The overall assessment of pedestrian facilities in the Project site area is that they are in adequate condition, however there are some missing curb ramps and many existing curb ramps are missing tactile warnings.

Bicycle Facilities

As displayed in **Figure 5**, bicycle facilities are limited in the Project vicinity. There are no designated bicycle routes within a quarter mile of the Project site, and within a half mile there is only one Class II bike lane along Hauser Boulevard, north of West 6th Street. Two Class III bike routes with sharrows also exist within a half mile of the Project site along West 4th Street, east of South Cochran Avenue, and Redondo Boulevard, south of West Olympic Boulevard. Wilshire Boulevard has two traffic lanes in each direction and is part of the High-Injury Network. These factors likely create an uncomfortable environment for bicyclists. Other streets such as West 6th Street and West 8th Street have only one traffic lane in each direction and may be utilized as more comfortable east-west travel alternatives due to their lower posted speeds and average daily total volumes.



Transit Facilities

Transit in the Project area is generally along Wilshire Boulevard and Olympic Boulevard, as shown in **Figure 3** and summarized in **Table 6**. LA Metro’s Lines 20 and 720 operate at a 12-minute and 5- to 6-minute respective peak headways and have stops within a quarter mile of the Project. The LADOT DASH Fairfax community circulator bus also makes stops within a quarter mile of the Project and operates at a 30-minute headway. Metro Line 28 has stops within a half mile of the Project site. Overall, the area has adequate bus stop amenities. The Project site is also immediately adjacent to Metro’s D Line Wilshire/La Brea station, which is forecasted to open in 2025.

Evaluation

The TAG evaluation criteria, outlined in **Table 15** below, were used to assess the effects of the proposed Project on surrounding pedestrian, bicycle, and transit facilities.

Table 15: Pedestrian, Bicycle, and Transit Evaluation Criteria

Evaluation Criteria	Project Effect?	Description
<i>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, including, but not limited to:</i>		
Removal or degradation of existing bikeways and/or supporting facilities (e.g., bikeshare stations, on-street bike racks/parking, bike corrals, etc.)?	No	There are currently no supporting bicycle facilities immediately adjacent to the Project site. Further, the Project would add short-term bicycle parking along Wilshire Boulevard in compliance with Code requirements.
Removal or degradation of existing transit and/or local circulator facilities including stops, benches, shelters, concrete pads, bus lanes, or other amenities?	No	The Project would not remove or degrade transit and/or local circulator facilities.
Removal of other existing transportation system elements supporting sustainable mobility?	No	The Project would not remove existing transportation system elements, nor would it impede the implementation of such facilities.
Increase street crossing distance for pedestrians; increase number of travel/turning lanes; or increase turning radius or turning speeds?	No	The Project would not increase street crossing distance for pedestrians, number of travel/turning lanes, or turning radii/speeds.
Removal, degradation, or narrowing of an existing sidewalk, path, crossing, or pedestrian access way?	No	The Project would not remove, degrade, or narrow any existing sidewalk, path, crossing, or pedestrian access way.
Removal or narrowing of existing sidewalk-street buffering elements (e.g., curb extension, parkway, planting strip, street trees, etc.)?	No	The Project would preserve and/or replace existing street trees areas along the Project frontage.



Evaluation Criteria	Project Effect?	Description
<i>Would the Project intensify use of existing pedestrian, bicycle, or transit facilities, including but not limited to the following:</i>		
Increase in pedestrian or vehicle volume, thereby increasing the need or attraction to cross a street at unmarked pedestrian crossings or unsignalized or uncontrolled intersections where a crossing is not available without significant rerouting?	Yes	Pedestrians accessing transit and other destinations south of the Project site would likely traverse the stop-controlled Cloverdale Avenue/West 8th Street or Detroit Street/West 8th Street intersections. Neither intersection has marked crosswalks. Pedestrians accessing the Project site off Wilshire Boulevard would have several marked and controlled crossing opportunities.
Result in new pedestrian demand between Project site entries/exits and major destinations or transit stops expected to serve the development where there are missing pedestrian facilities (e.g., gaps in the sidewalk network) or substandard pedestrian facilities (e.g., narrow or uneven sidewalks, no crosswalks at intersections or mid-block, no marked crossing, or push button crossing rather than actuated, etc.)?	Yes	The Project would increase pedestrian volumes where there are missing pedestrian facilities. Specifically, many intersections between the Project and nearby destinations are lacking tactile warnings and some are missing curb ramps, as summarized in Table 8 .
Increase transit demand at bus stops that lack marked crossings, with insufficient sidewalks, or are in isolated, unshaded, or unlit areas?	Yes	The bus stops near the Project site are accessible by crosswalks and sidewalks. All bus stops within a quarter mile of the Project site have at least a bench, however many are missing shelters or other adequate shading. Figure 3 provides an inventory of bus stop amenities near the Project.
Increase pedestrian demand of streets on the high-injury network?	Yes	The Project site's northern property line is situated on Wilshire Boulevard, which is part of the High-Injury Network.

Note: The responses above reflect conditions upon Project completion. During construction there may be temporary closures that result in temporary impacts.

Source: Fehr & Peers, 2023.

Conclusion and Recommended Actions

Based on the above evaluation of pedestrian, bicycle, and transit access, the Project would intensify use of existing deficient pedestrian and transit facilities and increase pedestrian demand of a street on the High-Injury Network (Wilshire Boulevard). Final, detailed site plan concepts were not available at the time of this review but would be developed in accordance with documented safety best practices and City of Los Angeles guidelines.

Notwithstanding the specific measures to avoid or minimize access-related deficiencies that would be identified in conjunction with future detailed plans, the following recommended actions are proposed:



- Coordinate with LADOT and the necessary City departments to explore measures to bring curb ramps in the immediate vicinity of the Project up to ADA standards:
 - Install truncated domes or other ADA-compliant tactile warning devices where missing along Wilshire Boulevard at Cloverdale Avenue and Detroit Street; and
 - Install ADA-compliant curb ramps at the West 8th Street/Cochran Avenue intersection where there are currently no curb ramps.
- Coordinate with LADOT, LA Metro, Los Angeles Department of Public Works, and the necessary City departments to provide bus shelters at high-ridership transit stops closest to the Project:
 - Metro Lines 20 and 720 eastbound Wilshire Boulevard/Cloverdale Avenue stop

Project Access, Safety, and Circulation Evaluation

Project access, safety, and circulation were evaluated from the perspective of nearby intersection and Project driveway operations. Under Senate Bill 743 and the LADOT TAG, the operational evaluation performed for the Project is not subject to CEQA and is instead provided outside of the CEQA process for informational purposes only.

Analysis Scenarios

Traffic operations were evaluated for the following scenarios:

- **Baseline (2023) Conditions:** Baseline (2023) conditions with signal and roadway configurations that reflect existing, on-the-ground conditions.
- **Opening Year (2029) No Project:** Opening Year (2029) conditions with projected ambient and related project vehicle trip growth in the study area, but without the proposed Project. No roadway modifications were assumed between Baseline (2029) and Opening Year (2029) Conditions.
- **Opening Year (2029) Plus Project:** Opening Year (2029) conditions described above plus the proposed Project.

Study Intersection Locations

The list of study intersections was developed in conjunction with LADOT staff and based on guidance provided in LADOT's *Transportation Assessment Guidelines*. The LADOT TAG specifies that intersections immediately adjacent to the Project through which 100 or more project-generated trips would travel should be analyzed. The qualifying study intersections are listed in **Table 16** and shown in **Figure 7**. **Appendix F** includes the intersection turning movement counts for each study intersection.



Table 16: Study Intersections

Intersection	Study Intersections
1	Wilshire Boulevard/Cloverdale Avenue
2	Wilshire Boulevard/Detroit Street
3	8 th Street/Cloverdale Avenue
4	8 th Street/Detroit Street

Source: Fehr & Peers, 2023.





Figure 7

Project Study Intersections and Segments

Analysis Methodology

Traffic operations, including intersection level of service (LOS) and queuing, were evaluated using the *Highway Capacity Manual* (HCM) and Synchro 11 software.

This operations analysis reports the 95th percentile queue lengths (in feet) for all turning movements and intersection control delay (in seconds) along with the corresponding level of service for each study intersection. 95th percentile queue length is defined as the queue length that has only a 5% probability of being exceeded during the analyzed peak period. The 95th percentile queue length is a conservative assumption commonly employed for intersection design considerations and does not represent the typical queue length an average driver would experience.

Level of Service Methodology

This analysis uses the Transportation Research Board's *Highway Capacity Manual, 6th Edition* (HCM) methodology to evaluate intersection level of service and delay at both signalized and unsignalized intersections. The calculation of delay represents the amount of delay experienced by vehicles passing through the intersection.

At signalized and all-way stop intersections, the delay and corresponding LOS represent the average delay experienced. For two-way stop intersections, the delay and corresponding LOS represent the worst-case approach. HCM level of service thresholds for signalized and unsignalized intersections are presented in **Table 17**.

Table 17: Level of Service Thresholds for Signalized and Unsignalized Intersections

Level of Service (LOS)	LOS Definition ¹	Signalized Intersection Average Control Delay (sec/veh)	Unsignalized Intersection Average Control Delay (sec/veh)
A	Excellent. No vehicle waits longer than one red light and no approach phase is fully used.	≤ 10.0	≤ 10.0
B	Very good. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.	> 10.1 to 20.0	> 10.1 to 15.0
C	Good. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.	> 20.1 to 35.0	> 15.1 to 25.0
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.	> 35.1 to 55.0	> 25.1 to 35.0
E	Poor. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.	> 55.1 to 80.0	> 35.1 to 50.0



Level of Service (LOS)	LOS Definition ¹	Signalized Intersection Average Control Delay (sec/veh)	Unsignalized Intersection Average Control Delay (sec/veh)
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	> 80.0	> 50.0

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

Baseline (2023) Conditions

This section presents traffic operations for the weekday morning and afternoon peak hours at the study intersections in Baseline (2023) Conditions. The lane configurations utilized in the analysis represent on-the-ground conditions for each study intersection in 2023. Signal timing and phasing parameters were provided by LADOT.

Turning Movement Volumes

Table 16 presents the study intersections included in this analysis. Intersection turning movement counts were collected in September 2023 on a typical weekday while school was in session. Due to ongoing and sporadic construction to the Metro D Line, an eastbound through lane on Wilshire Boulevard was closed on the day turning movement counts were collected. Given the ongoing nature of the construction, counts at study intersections along Wilshire Boulevard were not recollected and instead were scaled up to utilizing 2019 counts from the area to better reflect non-construction conditions. **Appendix G** includes the analyzed intersection turning movements and lane configurations for each study intersection.

Operational Analysis

Table 18 summarizes existing level of service and 95th percentile queueing at the four study intersections. **Appendix H** provides the level of service worksheets and detailed queuing reports.

Table 18: Peak-Hour Intersection LOS and 95th Percentile Queue Lengths in Baseline Year (2023) Conditions¹

Level of Service										95th % Queue ⁴	
#	Study Intersection	Control Type ²	Intersection LOS (AM/PM)	Movement ⁵	Directional LOS ³		Storage Length ⁴	AM	PM		
					AM	PM					
1	Wilshire Boulevard/ Cloverdale Avenue	Signal	A/A	EBL	A	A	75	50	25		
				EBT	A	B	225	175	350		
				EBR	A	A	100	25	25		
				WBL	A	A	100	25	25		



Level of Service								95th % Queue ⁴	
#	Study Intersection	Control Type ²	Intersection LOS (AM/PM)	Movement ⁵	Directional LOS ³		Storage Length ⁴	AM	PM
					AM	PM			
				WBT	A	A	250	50	25
				WBR	A	A	50	0	0
				NBL	C	C	-	-	-
				NBT	A	A	575	50	75
				NBR	A	A	-	-	-
				SBL	C	C	-	-	-
				SBT	A	A	850	125	100
				SBR	A	A	-	-	-
2	Wilshire Boulevard/Detroit Street	Signal	B/B	EBL	C	B	100	25	25
				EBT	A	B	250	50	100
				EBR	A	A	100	25	25
				WBL	B	A	-	-	-
				WBT	B	A	225	600	200
				WBR	A	A	50	25	25
				NBL	C	C	-	-	-
				NBT	A	A	575	100	100
				NBR	A	A	-	-	-
				SBL	C	A	-	-	-
				SBT	A	A	200	75	25
				SBR	A	C	-	-	-
3	8 th Street/Cloverdale Avenue	AWSC	A/B	NBL/T/R	A	A	575	25	25
				SBL/T/R	A	A	575	25	25
				EBL/T/R	A	B	225	25	100
				WBL/T/R	B	A	250	50	25
4	8 th Street/Detroit Street	AWSC	A/B	NBL/T/R	A	A	575	25	25
				SBL/T/R	A	A	575	25	25
				EBL/T/R	A	B	250	25	75
				WBL/T/R	B	A	250	75	25



Notes

1. Queue lengths are outputs derived from the Baseline (2023) Conditions Synchro 11 AM and PM peak hour models developed for this Project. The 95th percentile queue length is a conservative assumption commonly employed for intersection design considerations and does not represent the typical queue length that an average driver would experience. Queue lengths shown in bold are locations where the 95th percentile queue exceeds the existing storage capacity.
2. Signal = Signalized intersection; AWSC = All-way stop-controlled intersection
3. Directional level of service represents the average delay experienced for each turning movement at the intersection.
4. Storage lengths and queues are shown in feet and rounded up to the nearest 25. Dashes (-) represent movements that are reported with the through movement in that direction.
5. Movement acronyms represent the cardinal direction (first two letters) and the turn movement (last letter). For example, NBL=Northbound-left movement, NBR = Northbound-right movement, and NBT = Northbound-through movement.

Source: Fehr & Peers, 2023.

Opening Year (2029) Conditions

This section presents traffic operations for the weekday morning and afternoon peak hours at the study intersections in Opening Year (2029) No Project and Plus Project Conditions. No changes to intersection design or configuration are anticipated between Baseline (2021) and Opening Year (2029) Conditions. Because traffic signals in the City are remotely monitored and adjusted according to current traffic conditions, it was assumed that traffic signals at study intersections would be optimized in any future year operations analysis.

Opening Year (2029) Conditions Forecasts

Opening Year (2029) No Project turning movement volumes were developed considering both background growth due to anticipated development in the region and related projects in the Project vicinity that are expected to be complete by 2029 as presented in Section 2.2. Both the ambient growth factor and assumed related project trip generation were approved by LADOT through the MOU process.

An ambient growth factor of 0.7 percent per year was established based on estimates from the City of Los Angeles Travel Demand Forecasting Model. The ambient growth factor was applied to the Baseline (2023) turning movement volumes to reflect the effect of regional development.

Related project trip generation was provided by LADOT and considered in Opening Year (2029) conditions. Related project trips were assigned to the transportation network based on observed and forecasted trip distribution patterns in the region. Related project trip generation is presented in **Table 9** and the related project locations are mapped in **Figure 6**.

Project Trip Generation

Trip generation is the process of estimating the number of vehicles that would likely access a proposed project. Trip generation data published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual* (Eleventh Edition) was used as a starting point to estimate vehicle trip generation.

Table 19 summarizes the trip generation for the proposed Project, which is estimated to generate about 160 net-new auto trips during the morning peak hour and 165 net-new auto trips during the afternoon



peak hour. The proposed Project trip generation estimate, applied rates, and adjustments were approved by LADOT during the MOU process.

Table 19: Project Trip Generation

Land Use	Size		A.M. Peak Hour Trips			P.M. Peak Hour Trips		
			In	Out	Total	In	Out	Total
Multifamily Housing (High-Rise)	372	DU	22	64	86	82	30	112
Internalization Trip Adjustment			-1	-13	-14	-13	-8	-21
Extremely Low Income Affordable	47	DU	9	15	24	10	7	17
Internalization Trip Adjustment			0	-3	-3	-2	-2	-4
Driveway Trips/External Vehicle Trips			30	63	93	77	27	104
Small Office	8.0	KSF	11	3	14	6	12	18
Internalization Trip Adjustment			-2	-2	-4	-3	-1	-4
Walk/Bike/Transit Trip Adjustment			-2	-1	-3	-1	-3	-4
Driveway Trips/External Vehicle Trips			7	0	7	2	8	10
High-Turnover (Sit-Down) Restaurant	36.7	KSF	194	158	352	203	130	333
Internalization Trip Adjustment			-14	-2	-16	-7	-14	-21
Walk/Bike/Transit Trip Adjustment			-45	-39	-84	-49	-29	-78
Driveway Vehicle Trips			135	117	252	147	87	234
Pass-by Trip Adjustment			-27	-23	-50	-30	-20	-50
External Vehicle Trips			108	94	202	117	67	184
Total Project Driveway Trips			172	180	352	226	122	348
Total Project External Vehicle Trips			145	157	302	196	102	298
Existing Land Uses								
Strip Retail Plaza (<40k)	20.0	KSF	28	18	46	64	64	128
Internalization Trip Adjustment			-3	-4	-7	-29	-20	-49
Walk/Bike/Transit Trip Adjustment			-4	-2	-6	-5	-7	-12
Driveway Vehicle Trips			21	12	33	30	37	67
Pass-by Trip Adjustment			-11	-6	-17	-15	-15	-30
Existing External Trips			10	6	16	15	22	37
High-Turnover (Sit-Down) Restaurant	18.9	KSF	100	81	181	104	67	171
Internalization Trip Adjustment			-2	-4	-6	-19	-29	-48
Walk/Bike/Transit Trip Adjustment			-15	-11	-26	-13	-5	-18
Driveway Vehicle Trips			83	66	149	72	33	105
Pass-by Trip Adjustment			-17	-13	-30	-10	-10	-20
Existing External Trips			66	53	119	62	23	85
Small Office	9.4	KSF	13	3	16	7	14	21



Land Use	Size	A.M. Peak Hour Trips			P.M. Peak Hour Trips		
		In	Out	Total	In	Out	Total
Internalization Trip Adjustment		-3	-2	-5	-4	-4	-8
Walk/Bike/Transit Trip Adjustment		-2	0	-2	0	-2	-2
Driveway Trips/External Vehicle Trips		8	1	9	3	8	11
Total Existing Driveway Vehicle Trips		112	79	191	105	78	183
Total Existing External Vehicle Trips		84	60	144	80	53	133
NET PROJECT DRIVEWAY VEHICLE TRIPS		60	101	161	121	44	165
NET PROJECT EXTERNAL VEHICLE TRIPS		61	97	158	116	49	165

Notes:

1. DU = Dwelling Units; KSF = 1,000 Square Feet
2. ITE Trip Generation (Eleventh Edition) Rates and LADOT *Transportation Assessment Guidelines* (TAG) Rates
Multifamily Housing (High-Rise, Dense Multi-Use Urban) TAG rate:
AM Peak Hour: $T=0.23 \times X$ (25% in, 75% out)
PM Peak Hour: $T=0.30 \times X$ (73% in, 27% out)
Affordable Housing (Family, Inside Transit Priority Area) TAG rate:
AM Peak Hour: $T=0.49 \times X$ (37% in, 63% out)
PM Peak Hour: $T=0.35 \times X$ (56% in, 44% out)
Land Use Code 712 (Small Office, General Urban/Suburban):
AM Peak Hour: $T=1.67 \times X$ (82% in, 18% out)
PM Peak Hour: $T=2.16 \times X$ (34% in, 66% out)
Land Use Code 932 (High-Turnover (Sit-Down) Restaurant, General Urban/Suburban):
AM Peak Hour: $T=9.57 \times X$ (55% in, 45% out)
PM Peak Hour: $T=9.05 \times X$ (61% in, 39% out)
Land Use Code 822 (Strip Retail Plaza (<40 KSF), General Urban/Suburban):
AM Peak Hour: $\ln(T)=0.66\ln(X)+1.84$ (60% in, 40% out)
PM Peak Hour: $\ln(T)=0.71\ln(X)+2.72$ (50% in, 50% out)
3. Internal trip adjustment applied to account for the percentage of project trips that stay within the Project site. The applied percentages were determined based on the Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, 2011.
Proposed Residential: AM – 5% in/20% out; PM – 16% in/25% out
Proposed Office: AM – 17% in/67% out; PM – 86% in/8% out
Proposed Restaurant: AM – 6% in/2% out; PM – 6% in/8% out
Existing Office: AM – 21% in/67% out; PM – 50% in/27% out
Existing Retail: AM – 10% in/20% out; PM – 46% in/31% out
Existing Restaurant: AM – 2% in/4% out; PM – 19% in/43% out
4. Walk/bike/transit trip adjustment applied to account for the percentage of Project trips that occur by walking, biking, or transit. The walk/bike/transit trip adjustment factor applied was determined based on guidance provided in LADOT TAG given the proximity to a Metro Rapid Line 720 stop and the Metro D line station opening in 2024 at the Wilshire/La Brea intersection. An adjustment was not applied to the residential land uses of the Project as the “Dense Multi-Use Urban” and “Inside Transit Priority Area” rates are presumed to already account for increased accessibility to walk, bike, and transit modes.
Proposed project rate: 25%
Existing land use rate: 15% (D line station not yet open)
5. Pass-by trip adjustment applied to account for the percentage of trips that would already be on the adjacent roadway but make a stop by the Project site. The pass-by rate applied was determined based on guidance provided in Attachment H of the TAG.
Existing and proposed restaurant: 20%
Existing retail: 50%

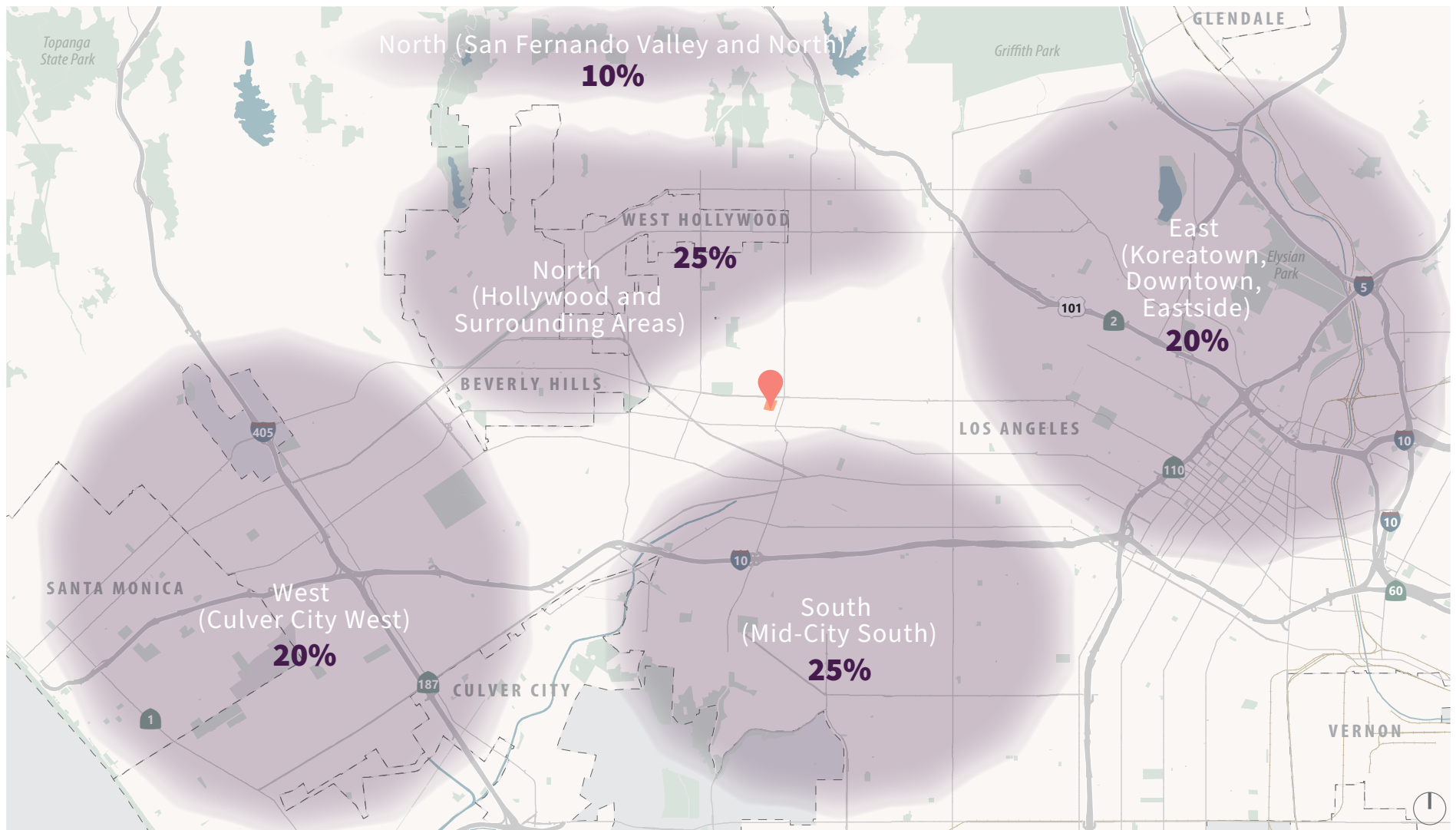
Fehr & Peers, 2023.



Project Traffic Distribution

The trip distribution process is used to estimate how auto trips generated by the Project would be distributed across the roadway network. The trip distribution was developed based on the known travel patterns, locations of complementary land uses, and select zone results from the City of Los Angeles Travel Demand Forecasting Model. **Figure 8** shows the estimated trip distribution for the Project.





Note: Trip distribution based on a select zone analysis using LADOT Travel Demand Forecast model.

 Project Site

 **X%** Project Trip Distribution



Operational Analysis

Table 20 summarizes the projected weekday peak hour LOS and 95th percentile queues for study intersections in Opening Year (2029) Conditions. The Opening Year (2029) Conditions AM and PM peak hour turning movement counts and assumed lane configurations for each of the study intersections are presented in **Appendix G**. **Appendix H** provides the level of service worksheets and detailed queuing reports.

The TAG defines unacceptable or extended queueing as the following:

- Additional queue along through lanes and either of the following conditions are expected:
 - the projected peak hour intersection LOS is D and the through lane queue increases by greater than 75 feet on any approach with the directional approach LOS at E or F, or
 - the projected peak hour intersection LOS is E or F and the through lane queue increases by greater than 50 feet on any approach with the directional approach LOS at E or F.
- Spill over from turn pockets into through lanes.
- Block cross streets or alleys.
- Spill over from drive-throughs into streets.
- Contribute to “gridlock” congestion. For the purposes of this section, “gridlock” is defined as the condition where traffic queues between closely-spaced intersections and impedes the flow of traffic through upstream intersections.

As indicated in **Table 20**, the Project would not contribute to unacceptable queuing at any of the study intersections.



Table 20: Opening Year (2029) Peak Hour Intersection Levels of Service and Queuing Analysis¹

No Project LOS						Plus Project LOS					95th Percentile Queue ⁴				Project Contributes to Unacceptable Queuing	
#	Study Intersection	Intersection LOS (AM/PM)	Movement ³	Directional LOS ²		Intersection LOS (AM/PM)	Movement ³	Directional LOS ²		Storage Length ⁴	No Project		Plus Project		AM	PM
				AM	PM			AM	PM		AM	PM	AM	PM		
1	Wilshire Boulevard/ Cloverdale Avenue	A/A	EBL	A	A	A/A	EBL	A	A	75	75	25	75	25	No	No
			EBT	A	B		EBT	A	B	225	175	425	175	450	No	No
			EBR	A	A		EBR	A	A	100	25	25	25	25	No	No
			WBL	A	B		WBL	A	B	100	25	100	25	125	No	No
			WBT	A	A		WBT	A	A	250	50	25	50	25	No	No
			WBR	A	A		WBR	A	A	50	0	0	0	0	No	No
			NBL	C	C		NBL	C	C	-	-	-	-	-	No	No
			NBT	A	A		NBT	A	A	575	50	75	75	75	No	No
			NBR	A	A		NBR	A	A	-	-	-	-	-	No	No
			SBL	C	C		SBL	C	C	-	-	-	-	-	No	No
			SBT	A	A		SBT	A	A	850	125	100	150	100	No	No
			SBR	A	A		SBR	A	A	-	-	-	-	-	No	No
2	Wilshire Boulevard/Detroit Street	B/B	EBL	C	B	B/B	EBL	D	B	100	25	25	25	25	No	No
			EBT	A	B		EBT	A	B	250	50	125	75	125	No	No
			EBR	A	A		EBR	A	A	100	25	25	25	25	No	No
			WBL	B	A		WBL	C	B	-	-	-	-	-	No	No
			WBT	C	A		WBT	C	B	225	725	250	750	275	No	No
			WBR	A	A		WBR	A	A	50	25	25	25	25	No	No
			NBL	C	C		NBL	C	C	-	-	-	-	-	No	No



No Project LOS						Plus Project LOS					95th Percentile Queue ⁴				Project Contributes to Unacceptable Queuing	
#	Study Intersection	Intersection LOS (AM/PM)	Movement ³	Directional LOS ²		Intersection LOS (AM/PM)	Movement ³	Directional LOS ²		Storage Length ⁴	No Project		Plus Project		Project Contributes to Unacceptable Queuing	
				AM	PM			AM	PM		AM	PM	AM	PM	AM	PM
			NBT	A	A		NBT	A	A	575	100	100	125	125	No	No
			NBR	A	A		NBR	A	A	-	-	-	-	-	No	No
			SBL	C	C		SBL	C	C	-	-	-	-	-	No	No
			SBT	A	A		SBT	A	A	200	75	50	75	50	No	No
			SBR	A	A		SBR	A	A	-	-	-	-	-	No	No
3	8 th Street/Cloverdale Avenue	B/B	NBL/T/R	A	A	B/B	NBL/T/R	A	A	575	25	25	25	25	No	No
			SBL/T/R	A	A		SBL/T/R	A	B	575	25	25	25	25	No	No
			EBL/T/R	A	C		EBL/T/R	A	C	225	25	125	25	150	No	No
			WBL/T/R	B	A		WBL/T/R	B	A	250	75	25	75	25	No	No
4	8 th Street/Detroit Street	B/B	NBL/T/R	A	A	B/B	NBL/T/R	A	A	575	25	25	25	25	No	No
			SBL/T/R	A	A		SBL/T/R	A	A	575	25	25	25	25	No	No
			EBL/T/R	A	B		EBL/T/R	A	C	250	25	125	50	125	No	No
			WBL/T/R	B	A		WBL/T/R	B	A	250	75	25	100	50	No	No

Notes

1.

Queue lengths are outputs derived from the Opening Year (2029) No Project and Opening Year (2029) Plus Project with Project Synchro 11 AM and PM peak hour models developed for this Project. The 95th percentile queue length is a conservative assumption commonly employed for intersection design considerations and does not represent the typical queue length that an average driver would experience.

2.

Directional level of service represents the average delay experienced for each turning movement at the intersection.

3.

Movement acronyms represent the cardinal direction (first two letters) and the turn movement (last letter). For example, NBL=Northbound-left movement, NBR = Northbound-right movement, and NBT = Northbound-through movement.

6.

Storage lengths and queues are shown in feet and rounded up to the nearest 25. Dashes (-) represent movements that are reported with the through movement in that direction.

Source: Fehr & Peers, 2023.

Project Access

This section provides an overview of automobile, walk, and bike access to the Project and presents traffic operations at the Project driveways for the weekday morning and afternoon peak hours driveways in Opening Year (2029) Plus Project Conditions.

Automobile Access

There are two auto access points to the proposed Project:

- **Cloverdale Avenue:** The Project would include one driveway off Cloverdale Avenue accessible via the signalized Wilshire Boulevard/Cloverdale Avenue or stop-controlled West 8th Street/Cloverdale Avenue intersection. The driveway would provide access to the proposed below- and above-grade parking.
- **Detroit Street:** The Project would include one driveway off Detroit Street accessible via the signalized Wilshire Boulevard/Detroit Street or stop-controlled West 8th Street/Detroit Street intersections.

Table 21 summarizes the level of service and queuing analysis completed for the Project driveways.

Table 21: Driveway Levels of Service and Queueing Analysis¹

#	Study Intersection	Movement ²	Storage Length ⁴	Directional LOS ³		95th Percentile Queues ⁴	
				AM	PM	AM	PM
5	Cloverdale Avenue/Project Driveway (West)	NBT/R	400	A	A	<25	<25
		SBL/T	150	A	A	<25	<25
		WBL/R	-	A	B	<25	<25
6	Detroit Street/Project Driveway (East)	NBT/L	300	A	A	<25	<25
		SBR/T	210	A	A	<25	<25
		EBL/R	-	A	A	<25	<25

Notes

1. Queue lengths are outputs derived from the 2029 with Project Synchro 11 AM and PM peak hour models developed for this Project. The 95th percentile queue length is a conservative assumption commonly employed for intersection design considerations and does not represent the typical queue length that an average driver would experience.
2. Movement acronyms represent the cardinal direction (first two letters) and the turn movement (last letter). For example, NBL=Northbound-left movement, NBR = Northbound-right movement, and NBT = Northbound-through movement.
3. Directional level of service represents the average delay experienced for each turning movement at the intersection.
4. Queues and storage lengths are shown in feet and rounded up to the nearest 25.

Source: Fehr & Peers, 2023.

Pedestrian and Bicycle Access

Pedestrian access to the Project would be provided via entrances along Cloverdale Avenue and along retail frontages on Wilshire Boulevard.



Visitors, patrons, and employees arriving to the Project site by bicycle or other non-motorized forms of transportation would access the Project site via pedestrian access, as well as have access to long-term bicycle parking provided via driveways off of Cloverdale Avenue and Detroit Street. By providing long-term bicycle parking off of Cloverdale Avenue and Detroit Street, bicyclists would be able to avoid having to travel on Wilshire Boulevard, which is on the HIN, and could instead access the Project from West 8th Street.

Conclusion and Recommended Actions

The proposed project is not anticipated to contribute to unacceptable queueing as defined in the TAG. Further, auto and pedestrian access points would meet City standards and guidelines. Therefore, there are no recommended actions for Project access, safety, and circulation.

Project Construction Analysis

The proposed Project was assessed to understand how activities associated with Project construction may affect existing pedestrian, bicycle, transit, or vehicle circulation. This assessment follows the evaluation methodology outlined in the LADOT TAG, considering three categories of construction impacts per the LADOT TAG: (1) temporary transportation constraints, (2) temporary loss of access, and (3) temporary loss of bus stops or rerouting of bus lines. While its purpose and overall characteristics have been defined at this time, the Project is still at the conceptual design stage of planning and, as a result, certain aspects of the LADOT TAG evaluation that pertain to detailed construction plans cannot be fully addressed at this time. Much of the evaluation presented herein is provided at a conceptual level of analysis and is qualitatively assessed.

Anticipated Construction Activity

Construction of the Project would commence with demolition of the existing site. Project construction is expected to take a total of approximately 36 months to complete, with an anticipated completion date in 2029. It is estimated that approximately 115,800 cubic yards of export would be hauled from the Project site during grading. The construction is anticipated to follow the timeline laid out in **Table 22**.



Table 22: Project Construction Timeline

Construction Phase	Duration (months)	Maximum Daily Trips		
		Employee	Haul	Delivery
Phase 1: Demolition	1	50	20	
Phase 2: Grading/Excavation	8	50	130	
Phase 3: Mat Foundation/Pour	<1	50	-	600
Phase 4: Building Foundation	6	175	-	100
Phase 5: Building Construction	16	500	-	15
Phase 6: Paving/Landscape	3	50	-	15
Phase 7: Building Renovation	8	20	-	15

Source: Project construction assumptions, November 2023.

As displayed in the table above, hauling activity is expected to occur during phases 1 and 2 of construction. Export is expected to go to either the Vulcan Irwindale Landfill located approximately 30 miles from the Project site or Sunshine Canyon Landfill located approximately 25 miles from the Project site. In addition to haul trucks, the Project is expected to generate equipment and delivery trucks during the construction phase. One example would be concrete delivery, which would be required for the parking garage and buildings on-site. Other materials could include plumbing supplies, electrical fixtures, and items used to furnish the buildings. These deliveries are expected to occur in variously sized vehicles from small delivery trucks to cement mixer trucks and 18-wheel trucks. Additionally, construction equipment would be delivered to the site. This equipment could include cranes, excavators, and other large items of machinery. Most of the heavy equipment is expected to be transported to the Project site on large trucks such as 18-wheelers or other similar vehicles. The number of construction workers would vary throughout the construction period, with Phases 4 and 5 generating the highest number of employees and thus employee trips. Specific detail on parking locations for construction workers has not yet been developed.

Construction Period Evaluation

Detailed construction plans for the Project have not yet been developed, but it is anticipated that temporary transportation constraints would occur along Wilshire Boulevard, Cloverdale Avenue, and Detroit Street based on the location and scale of the construction that is proposed. **Table 23** uses current details to assess whether Project construction would substantially interfere with pedestrian, bicycle, transit, or vehicle circulation and accessibility to adjoining areas.



Table 23: Project Construction Impact Assessment

Evaluation Criteria	Assessment
Temporary Transportation Constraints	
The length of time of temporary street closures or closures of two or more travel lanes	The current conceptual level of design for the Project does not enable the exact durations of lane or street closures. There may be temporary lane or street closures along Wilshire Boulevard, Cloverdale Avenue, and Detroit Street, but it is unlikely that construction would result in the closure of two or more travel lanes.
The classification of the street (major arterial, state highway, substandard hillside local or collector, etc.) affected	Wilshire Boulevard is classified as an Avenue I and Cloverdale Avenue and Detroit Street are classified as Local Streets.
The existing congestion levels on the affected street segments and intersections	Analyzed intersections along the Project frontage on Wilshire Boulevard were observed to operate at an LOS B or better.
The operational constraints of substandard hillside streets needing to access construction sites	<i>Not applicable.</i>
Whether the affected street directly leads to a freeway on- or off-ramp or other state highway	<i>Not applicable.</i>
Potential safety issues involved with street or lane closures	Although the construction work may cause temporary disruptions to street access, alternative routing and detours would be identified and marked in coordination with LADOT and the City of Los Angeles Bureau of Engineering.
The presence of emergency services (fire, hospital, etc.) located nearby that regularly use the affected street	Emergency services are not located in the immediate vicinity of the Project. Therefore, the Project construction would not result in impacts to emergency services.
Temporary Loss of Access	
The length of time of any loss of pedestrian or bicycle circulation past a construction area	The current conceptual level of design for the Project does not enable the exact durations of sidewalk closures. However, Project construction would require temporary loss of access for some pedestrian and bicycle circulation routes. The Project Applicant will coordinate with City Departments for realignment of pedestrian access.
The length of time of any loss of vehicular, bicycle, or pedestrian access to a parcel fronting the construction area	It is not anticipated that non-Project parcels would lose vehicular, bicycle, or pedestrian access.
The length of time of any loss or impedance of access by emergency vehicles or area residents to hillside properties	<i>Not applicable.</i>
The length of time of any loss of ADA pedestrian access to a transit station, stop, or facility	While it is not assumed that any transit stop would be affected by Project construction, as Project construction plans are finalized, a timeline for any ADA pedestrian access losses would be made available for the eastbound Metro 20 bus line stop at Wilshire Boulevard/Cloverdale Avenue.



Evaluation Criteria	Assessment
The availability of nearby vehicular or pedestrian access within ¼ mile of the lost access	There is available vehicular and pedestrian access within ¼ mile of any temporary loss of access along Wilshire Boulevard.
The type of land uses affected, and related safety, convenience, and/or economic issues	The Project site is in a mixed-use area and surrounded by commercial, residential, and office uses.
Temporary Loss of Bus Stops or Rerouting of Bus Lines	
The length of time that an existing bus stop would be unavailable or that existing service would be interrupted	The Metro 20 bus line has an eastbound stop on the south side of Wilshire Boulevard at Cloverdale Avenue (near-side of the intersection). This bus stop likely will not be affected by construction.
The availability of a nearby location (within ¼ mile) to which the bus stop or route can be temporarily relocated	There are multiple potential locations to which any impacted bus stop may be relocated within ¼ mile of the Project site.
The existence of other bus stops or routes with similar routes/destinations within a ¼-mile radius of the affected stops or routes	There are multiple alternative bus stops and alternative routes within ¼ of the Project site.
Whether the interruption would occur on a weekday, weekend or holiday, and whether the existing bus route typically provides service that/those day(s)	An exact timeline for potential disruptions is not yet available at this point in construction planning.

Source: Fehr & Peers, 2024.

Temporary Traffic Constraints

Construction activities for the Project would result in temporary transportation constraints in the form of temporary roadway and/or lane closures. The current conceptual level of design for the Project does not enable the exact times or durations to be determined at this time, nor the specific lane closure lengths, design, or phasing approach. In general, roadway/lane closures would include, but may not be limited to temporary lane closure(s) of Wilshire Boulevard between Cloverdale Avenue and Detroit Street, and Cloverdale Avenue and Detroit Street south of Wilshire Boulevard to 8th Street. Emergency vehicle access would not be restricted to this facility. Full, intermittent closures of the sidewalks are anticipated to accommodate Project construction along the south side of Wilshire Boulevard, east side of Cloverdale Avenue, and west side of Detroit Street. There are multiple nearby sidewalks that would remain open, and pedestrians are anticipated to use these sidewalks as a detour throughout the construction period. Worksite traffic control plans would be prepared for any temporary vehicle lane, bicycle lane, or sidewalk closures in accordance with applicable City and Manual of Uniform Traffic Control Devices (MUTCD) guidelines.

Temporary Loss of Access

The existing land uses near the vicinity of the construction site would remain open throughout construction. Pedestrian, vehicular, and emergency access to properties located nearby to the Project site would be open and unobstructed for the duration of construction. No loss of ADA pedestrian access to a transit stop, station, or facilities is anticipated.



Temporary Loss of Bus Stops or Rerouting of Bus Lines

Bus stops are not located along the Project frontage. The Metro 20 bus line has an eastbound stop on the south side of Wilshire Boulevard at Cloverdale Avenue (near-side of the intersection). While this bus stop is not anticipated to be impacted by construction, if certain activities require its relocation, the Project Applicant would coordinate with LADOT and LA Metro accordingly.

Conclusion and Recommended Actions

A Construction Traffic Management Plan would be developed by the contractor and approved by the City to alleviate construction period impacts, which may include but are not limited to the following measures:

- Provide off-site truck staging in a legal area furnished by the construction truck contractor.
- Schedule deliveries and pick-ups of construction materials during non-peak travel periods to the extent possible and coordinate to reduce the potential of trucks waiting to load or unload for protracted periods.
- As parking lane and/or sidewalk closures are anticipated, worksite traffic control plan(s), approved by the City, should be implemented to route vehicular traffic, bicyclists, and pedestrians around any such closures.
- Establish requirements for loading/unloading and storage of materials on the Project site, where parking spaces would be encumbered, length of time traffic travel lanes can be encumbered, sidewalk closings or pedestrian diversions to ensure the safety of the pedestrian and access to local businesses and residences.
- Ensure that access would remain unobstructed for land uses in proximity to the Project site during Project construction.
- Coordinate with the City and emergency service providers to ensure adequate access is maintained to the Project site and neighboring businesses and residences.

A Construction Worker Parking Plan would also be developed by the contractor and approved by the City to ensure that parking location requirements for construction workers are identified and strictly enforced. These could include but are not limited to the following measures:

- During construction activities when construction worker parking cannot be accommodated on the Project site, the plan shall identify alternate parking location(s) for construction workers and the method of transportation to and from the Project site (if beyond walking distance) for approval by the City 30 days prior to commencement of construction.
- Provide all construction contractors with written information on where their workers and their subcontractors are permitted to park and provide clear consequences to violators for failure to follow these regulations. This information would clearly state that no parking is permitted on residential streets.



Residential Street Cut-Through Analysis

The proposed Project was assessed to determine its potential effect on cut-through traffic on nearby residential Local Streets. Cut-through trips are defined as longer-distance trips that divert off arterials onto parallel local, residential streets to avoid congestion.

Per the TAG, a local residential street would be considered excessively burdened if the new trips generated by the Project result in increases in average daily traffic (ADT) volumes as presented in **Table 24**.

Table 24: TAG Thresholds for Residential Street Cut-Through Project Burden

Projected ADT with Project (Final ADT)	Project-Related Increase in ADT
1 to 999	120 or more
1,000 to 1,999	12% or more of final ADT
2,000 to 2,999	10% or more of final ADT
3,000 or more	8% or more of final ADT

Source: LADOT TAG, 2020.

Neighborhood Street Evaluation

Based on the screening criteria outlined in the TAG, two roadway segments were identified for further analysis: Cloverdale Avenue and Detroit Street from West 8th Street to West 9th Street.

Baseline (2023) and Opening Year (2029) ADT volumes were developed in alignment with the methodology employed for intersection volume forecasts used in the Project Access, Safety, and Circulation assessment summarized above. It was assumed that the existing peak hour volumes were ten percent of the average daily traffic (ADT) volumes.

Average daily traffic volumes for the Baseline (2023) and Opening Year (2029) conditions are summarized in **Table 25**. The Project is anticipated to lead to an “excessive burden” as defined by LADOT TAG on Detroit Street between West 8th Street and West 9th Street.



Table 25: Neighborhood Street Daily Traffic Cut-Through Analysis

Segment	Baseline (2023)	Opening Year (2029) No Project	Opening Year (2029) Plus Project	Project % Increase	Excessively Burdened? ¹
Cloverdale Avenue south of West 8th Street	1,360	1,600	1,740	9%	No
Detroit Street south of West 8th Street	970	1,000	1,130	13%	Yes

Notes:

1. Defined in **Table 24**.

Source: Fehr & Peers, 2023.

Recommended Actions

Based on the above evaluation of residential street cut-through effects of the Project, the Project is anticipated to lead to an “excessive burden” as defined by the TAG on Detroit Street between West 8th Street and West 9th Street. To address potential adverse impacts of cut-through traffic, such as congestion, access issues, and speeding on Local Streets, traffic calming and diverting features should be considered and, if deemed necessary by LADOT, implemented to offset anticipated cut-through traffic. Physical measures might include traffic circles, speed bumps, chicanes, or chokers. Because implementation of neighborhood traffic controls on one street can cause traffic burden to shift to other streets, and because restrictive controls can be burdensome for residents, the precise measures suitable and acceptable for Detroit Street should be determined in consultation with the community, Council Office, and LADOT.



Appendix A: Memorandum of Understanding



Attachment C

Transportation Assessment Memorandum of Understanding (MOU)

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

I. PROJECT INFORMATION

Project Name: Wilshire and Cloverdale Project

Project Address: 5350-5376 Wilshire Blvd, 708-716 Cloverdale Ave, 721-725 Detroit St

Project Description: Refer to NOP for full project description. Land uses and sizes are outlined in Attachment A: Trip Generation

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

II. TRANSPORTATION DEMAND MANAGEMENT (TDM) MEASURES

Select any of the following TDM measures, which may be eligible as a Project Design Feature¹, that are being considered for this project:

☐ Reduced Parking Supply ²	☒ Bicycle Parking and Amenities	☐ Parking Cash Out
--	---	---

List any other TDM measures (e.g. bike share kiosks, unbundled parking, microtransit service, etc) below that are also being considered and would require LADOT staff's determination of its eligibility as a TDM measure. LADOT staff will make the final determination of the TDM measure's eligibility for this project.

- | | |
|--|---------|
| 1 <u>Specific TDM measure unknown at this stage of project development</u> | 3 _____ |
| 2 _____ | 4 _____ |
| _____ | _____ |

III. TRIP GENERATION

Trip Generation Rate(s) Source: ITE 10th Edition / Other ITE 11th Edition and LADOT TAG rates

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

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

	IN	OUT	TOTAL
AM Trips	<u>74</u>	<u>86</u>	<u>160</u>
PM Trips	<u>90</u>	<u>72</u>	<u>162</u>

NET Daily Vehicle Trips (DVT) _____ DVT (ITE ____ ed.) <u>2,095</u> DVT (VMT Calculator ver. ____)

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

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



IV. STUDY AREA AND ASSUMPTIONS

Project Buildout Year: 2028 Ambient Growth Rate: 0.7 % Per Yr.

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

STUDY INTERSECTIONS and/or STREET SEGMENTS:

(May be subject to LADOT revision after access, safety, and circulation evaluation.)

1	<u>Wilshire/Cloverdale</u>	3	<u>8th/Detroit</u>
2	<u>Wilshire/Detroit</u>	4	<u>Cloverdale from 8th to 9th</u>
5	<u>8th/Cloverdale</u>	6	<u>Detroit from 8th to 9th</u>

Provide a separate list if more than six study intersections and/or street segments.

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

If a study intersection is located within a ¼-mile of an adjacent municipality's jurisdiction, signature approval from said municipality is required prior to MOU approval.

V. ACCESS ASSESSMENT

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

VI. ACCESS ASSESSMENT CRITERIA

If Yes to any of the above questions a., b., or c., the Transportation Assessment must assess the project's potential effect on pedestrian, bicycle, and transit facilities in the vicinity of the proposed project. Complete **Attachment C.1: Access Assessment Criteria** and attach to the draft Transportation Assessment to support the analysis. For the full scope of analysis, see Section 3.2 of the Transportation Assessment Guidelines.

VII. SITE PLAN AND MAP OF STUDY AREA

Please note that the site plan should be submitted to the Department of City Planning for cursory review.

Does the attached site plan and/or map of study area show	Yes	No	Not Applicable
Each study intersection and/or street segment	☒	☐	☐
*Project Vehicle Peak Hour trips at each study intersection	☒	☐	☐
*Project Vehicle Peak Hour trips at each project access point	☒	☐	☐
*Project trip distribution percentages at each study intersection	☒	☐	☐
Project driveways designed per LADOT MPP 321 (show widths and directions or lane assignment)	☒	☐	☐
Pedestrian access points and any pedestrian paths	☒	☐	☐
Pedestrian loading zones	☐	☒	☐
Delivery loading zone or area	☒	☐	☐
Bicycle parking onsite	☒	☐	☐
Bicycle parking offsite (in public right-of-way)	☒	☐	☐

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

**VIII. FREEWAY SAFETY ANALYSIS SCREENING**

Will the project add 25 or more trips to any freeway off-ramp in either the AM or PM peak hour? ☐ Yes ☒ No

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

IX. CONTACT INFORMATIONCONSULTANT

Name: Natalie Chyba, Fehr & Peers

Address: 600 Wilshire Boulevard, Suite 1050

Phone Number: (213)261-3076

E-Mail: n.chyba@fehrandpeers.com

DEVELOPER

Meredith Megarry, Onni

1031 S Broadway, Suite 400

(213)220-2953

mmegarry@onni.com

Approved by:	x			x		
		Consultant's Representative			Date	
Adjacent Municipality:						
		Approved by: (if applicable)			Representative	

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

Attachment C.1: Access Assessment Worksheet



Access Assessment Worksheet

This Worksheet supports the analysis needed to assess the project's potential effect on pedestrian, bicycle, and transit facilities in the vicinity of the proposed project. If the project exceeds the screening criteria in Section V of the MOU, complete and attach to the draft Transportation Assessment to support the analysis. For the full scope of analysis, see Section 3.2 of the Transportation Assessment Guidelines.:

I. PROJECT INFORMATION

Project Name: Wilshire and Cloverdale Project

Project Address: 5350-5376 Wilshire Blvd, 708-716 Cloverdale Ave, 721-725 Detroit St

Project Description: Refer to NOP for full project description. Land uses and sizes are outlined in Attachment A: Trip Generation

LADOT Project Case Number: _____

II. PEDESTRIAN/ PERSON TRIP GENERATION

Source of Pedestrian/Person Trip Generation Rate(s)? ☐ ITE 10th Edition ☒ Other: Assuming 25% of trips are walk/transit trips in alignment with TAG guidance

	Land Use	Size/Unit	Daily Person Trips
Proposed	Total Project		1,300
	Total new trips:		1,300

Pedestrian/Person trip generation table including a description of the proposed land uses, trip credits, person trip assumptions, comparison studies used for reference, etc. attached? ☐ Yes ☒ No

III. PEDESTRIAN ATTRACTORS INVENTORY

Attach Pedestrian Map for the area (1,320 foot radius from edge of the project site) depicting:

- site pedestrian entrance(s)
- Existing or proposed passenger loading zones
- pedestrian generation/distribution values
 - Geographic Distribution: N 5 % S 15 % E 50 % W 30 %
- transit boarding and alighting of transit stops (should include Metro rail stations; Metro, DASH, and other municipal bus stops)



City of Los Angeles Transportation Assessment MOU

- Key pedestrian destinations with hours of operation:
 - schools (school times)
 - government offices with a public counter or meeting room
 - senior citizen centers
 - recreation centers or playgrounds
 - public libraries
 - medical centers or clinics
 - child care facilities
 - post offices
 - places of worship
 - grocery stores
 - other facilities that attract pedestrian trips
- pedestrian walking routes to key destinations from project site

Note: Pedestrian Count Summary, Bicycle Count Summary, Manual Traffic Count Summary will need to be attached to the Transportation Assessment

IV. FACILITIES INVENTORY

Is a High Injury Network street located within 1,320 foot radius from the edge of the project site? ☒ Yes ☐ No

If yes, list streets and include distance from the project:

Wilshire Boulevard	at	Project frontage
	at	(feet)
	at	(feet)
	at	(feet)

Attach Radius Map for the area (1,320 foot radius from edge of the project site) depicting the following existing and proposed facilities:

- transit stops
- bike facilities
- traffic control devices for controlled crossings
- uncontrolled crosswalks
- location of any missing, damaged or substandard sidewalks No missing sidewalks within a 1/4 mile radius from the project site

For a reference of planned facilities, see the [Transportation Assessment Support Map](#)

Crossing Distances



City of Los Angeles Transportation Assessment MOU

Does the project property have frontage along an arterial street (designated as either an Avenue or Boulevard?)

☒ Yes ☐ No

If yes, provide the distance between the crossing control devices (e.g. signalized crosswalk, or controlled mid-block crossing) along any arterial within 1,320 feet of the property.

See Attachment I

For each street along the property frontage, provide:
the roadway configuration:

- | | | | |
|-----------------------------------|------------------------|-----------------------------------|----------|
| • 2-Lane | Detroit and Cloverdale | • 5-Lane w/ striped median | Wilshire |
| • 3-Lane w/ striped median | | • 5-Lane w/ raised median | |
| • 3-Lane w/ raised median | | • 6-Lane | |
| • 4-Lane | | • Other: _____ | |

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

V. Project Construction

Will the project require any construction activity within the city right-of-way? ☒ Yes ☐ No

If yes, will the project require temporary closure of any of the following city facilities?

- sidewalk
- bike lane
- parking lane
- travel lane
- bus stop
- bicycle parking (racks or corrals)
- bike share or other micro-mobility station
- car share station
- parklet
- other: _____

While it is expected that the majority of construction activities for the project would primarily be confined on-site, limited off-site construction activities may occur in adjacent street rights-of-way during certain periods of the day, which could potentially require temporary lane closures. However, if lane closures are necessary, the remaining travel lanes would be maintained in accordance with standard construction management plans which would be implemented to ensure adequate auto, bike, transit, and pedestrian circulation and emergency access.

Attachment A: Proposed Project Vehicle Trip Generation

Land Use ²	Size ¹	AM Peak Hour Trips			PM Peak Hour Trips		
		In	Out	Total	In	Out	Total
Multifamily Housing (High-Rise)	372 DU	35	51	86	56	56	112
Internalization Trip Adjustment ³		-2	-10	-12	-9	-14	-23
Extremely Low Income Affordable	47 DU	9	15	24	10	7	17
Internalization Trip Adjustment ³		0	-3	-3	-2	-2	-4
Driveway Trips/External Vehicle Trips		42	53	95	55	47	102
Small Office	8 KSF	11	3	14	6	12	18
Internalization Trip Adjustment ³		-2	-2	-4	-5	-1	-6
Walk/Bike/Transit Trip Adjustment ⁴		-2	-1	-3	0	-3	-3
Driveway Trips/External Vehicle Trips		7	0	7	1	8	9
High-Turnover (Sit-Down) Restaurant	36.7 KSF	194	158	352	203	130	333
Internalization Trip Adjustment ³		-12	-3	-15	-11	-10	-21
Walk/Bike/Transit Trip Adjustment ⁴		-46	-38	-84	-48	-30	-78
Driveway Vehicle Trips		136	117	253	144	90	234
Pass-by Trip Adjustment ⁵		-27	-24	-51	-30	-20	-50
External Vehicle Trips		109	93	202	114	70	184
Total Project Driveway Trips		185	170	355	200	145	345
Total Project External Vehicle Trips		158	146	304	170	125	295
Existing Land Uses							
Strip Retail Plaza (<40k)	20 KSF	28	18	46	64	64	128
Internalization Trip Adjustment ³		-3	-4	-7	-29	-20	-49
Walk/Bike/Transit Trip Adjustment ⁴		-4	-2	-6	-5	-7	-12
Driveway Vehicle Trips		21	12	33	30	37	67
Pass-by Trip Adjustment ⁵		-11	-6	-17	-15	-15	-30
Existing External Vehicle Trips		10	6	16	15	22	37
High-Turnover (Sit-Down) Restaurant	18.9 KSF	100	81	181	104	67	171
Internalization Trip Adjustment ³		-2	-4	-6	-19	-29	-48
Walk/Bike/Transit Trip Adjustment ⁴		-15	-11	-26	-13	-5	-18
Driveway Vehicle Trips		83	66	149	72	33	105
Pass-by Trip Adjustment ⁵		-17	-13	-30	-10	-10	-20
Existing External Vehicle Trips		66	53	119	62	23	85
Small Office	9.4 KSF	13	3	16	7	14	21
Internalization Trip Adjustment ³		-3	-2	-5	-4	-4	-8
Walk/Bike/Transit Trip Adjustment ⁴		-2	0	-2	-1	-2	-3
Driveway Trips/External Vehicle Trips		8	1	9	2	8	10
NET-NEW PROJECT DRIVEWAY VEHICLE TRIPS		73	91	164	95	67	162
NET-NEW PROJECT EXTERNAL VEHICLE TRIPS		74	86	160	90	72	162



Notes:

1. DU = Dwelling Units
KSF = 1,000 Square Feet
2. ITE Trip Generation (Eleventh Edition) Rates and LADOT *Transportation Assessment Guidelines (TAG)* Rates
Multifamily Housing (High-Rise, Dense Multi-Use Urban) TAG rate:
AM Peak Hour: $T=0.23 \times X$ (41% in, 59% out)
PM Peak Hour: $T=0.30 \times X$ (50% in, 50% out)
Affordable Housing (Family, Inside Transit Priority Area) TAG rate:
AM Peak Hour: $T=0.49 \times X$ (37% in, 63% out)
PM Peak Hour: $T=0.35 \times X$ (56% in, 44% out)
Land Use Code 712 (Small Office, General Urban/Suburban):
AM Peak Hour: $T=1.67 \times X$ (82% in, 18% out)
PM Peak Hour: $T=2.16 \times X$ (34% in, 66% out)
Land Use Code 932 (High-Turnover (Sit-Down) Restaurant, General Urban/Suburban):
AM Peak Hour: $T=9.57 \times X$ (55% in, 45% out)
PM Peak Hour: $T=9.05 \times X$ (61% in, 39% out)
Land Use Code 822 (Strip Retail Plaza (<40 KSF), General Urban/Suburban):
AM Peak Hour: $\ln(T)=0.66\ln(X)+1.84$ (60% in, 40% out)
PM Peak Hour: $\ln(T)=0.71\ln(X)+2.72$ (50% in, 50% out)
3. Internal trip adjustment applied to account for the percentage of project trips that stay within the Project site. The applied percentages were determined based on the Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, 2011.
Proposed Residential: AM – 5% in/20% out; PM – 16% in/25% out
Proposed Office: AM – 17% in/67% out; PM – 86% in/8% out
Proposed Restaurant: AM – 6% in/2% out; PM – 6% in/8% out
Existing Office: AM – 21% in/67% out; PM – 50% in/27% out
Existing Retail: AM – 10% in/20% out; PM – 46% in/31% out
Existing Restaurant: AM – 2% in/4% out; PM – 19% in/43% out
4. Walk/bike/transit trip adjustment applied to account for the percentage of Project trips that occur by walking, biking, or transit. The walk/bike/transit trip adjustment factor applied was determined based on guidance provided in LADOT TAG given the proximity to a Metro Rapid Line 720 stop and the Metro D line station opening in 2024 at the Wilshire/La Brea intersection. An adjustment was not applied to the residential land uses of the Project as the “Dense Multi-Use Urban” and “Inside Transit Priority Area” rates are presumed to already account for increased accessibility to walk, bike, and transit modes.
Proposed project rate: 25%
Existing land use rate: 15% (D line station not yet open)
5. Pass-by trip adjustment applied to account for the percentage of trips that would already be on the adjacent roadway but make a stop by the Project site. The pass-by rate applied was determined based on guidance provided in Attachment H of the TAG.
Existing and proposed restaurant: 20%
Existing retail: 50%





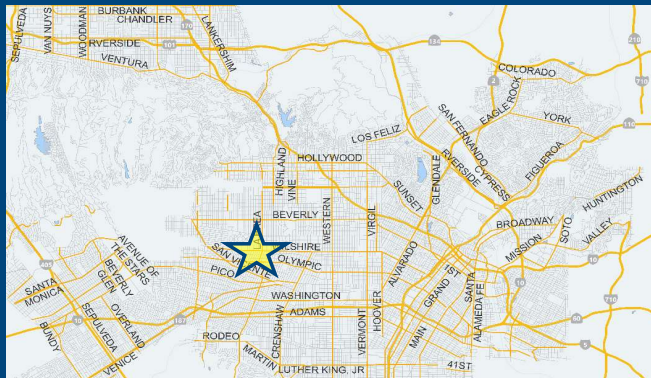
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3



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

Project Information

Project: Wilshire and Cloverdale Project
 Scenario: [WWW](#)
 Address: 5350 W WILSHIRE BLVD, 90036 [Q](#)



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

☒ Yes ☐ No

Existing Land Use

Land Use Type	Value	Unit
Office General Office	9.4	ksf
Retail General Retail	20	ksf
Retail High-Turnover Sit-Down Restaurant	18.9	ksf
Office General Office	9.4	ksf

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

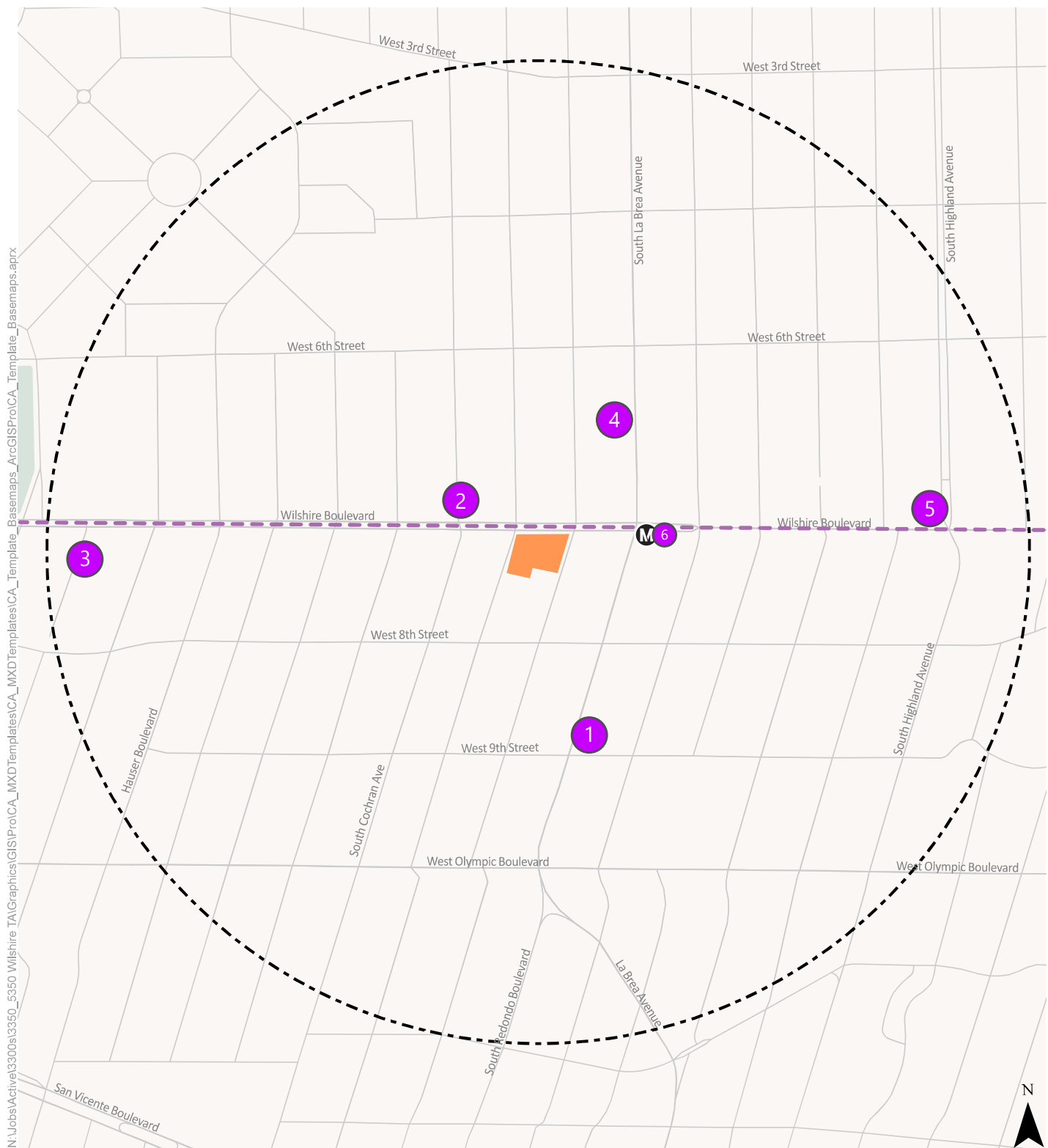
Proposed Project Land Use

Land Use Type	Value	Unit
Retail High-Turnover Sit-Down Restaurant	36.7	ksf
Housing Multi-Family	372	DU
Housing Affordable Housing - Family	47	DU
Office General Office	8	ksf
Retail High-Turnover Sit-Down Restaurant	36.7	ksf

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

Project Screening Summary

Existing Land Use	Proposed
1,841 Daily Vehicle Trips	3,936 Daily Vehicle Trips
11,649 Daily VMT	24,274 Daily VMT
Tier 1 Screening Criteria	
Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐	
Tier 2 Screening Criteria	
The net increase in daily trips < 250 trips	2,095 Net Daily Trips
The net increase in daily VMT ≤ 0	12,625 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	36,700 ksf
The proposed project is required to perform VMT analysis.	



Related Projects



1/2-mile Buffer



Project Site



Future Metro Rail



Attachment D.1

Related Projects

Attachment D.2: Related Project List and Net-New Vehicle Trip Generation

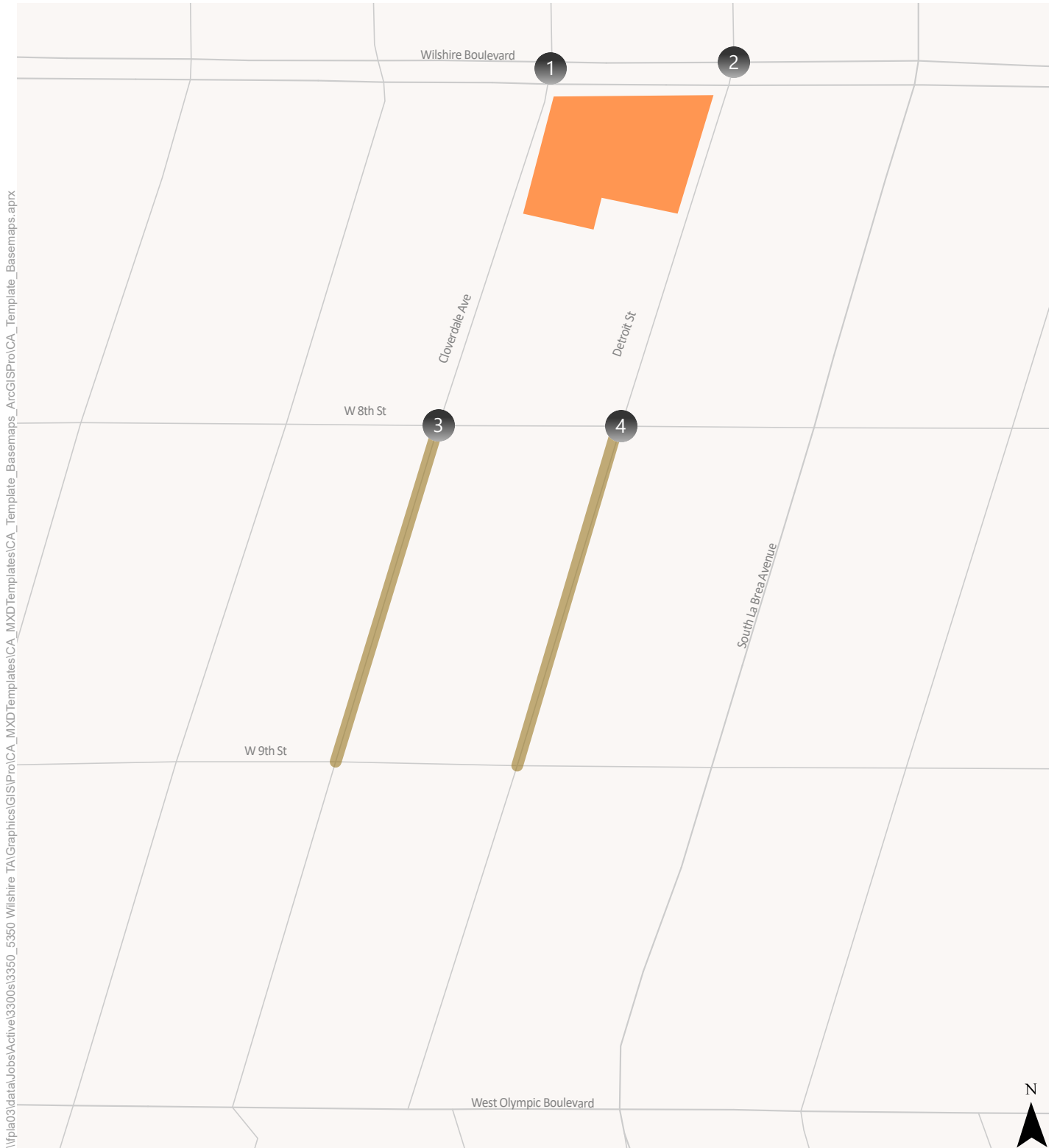
#	Project Location ¹	Land Use ²					AM Peak Hour Trips			PM Peak Hour Trips		
		Multi-Family	Office	Retail	Hotel	Other	In	Out	Total	In	Out	Total
1	850 S La Brea Ave	40		5			6	18	24	24	18	42
2	688 S Cochran Ave (5411 Wilshire Blvd)	348		5		6	-14	40	26	3	-30	-27
3	5700 Wilshire Blvd		2,223			118	876	9	885	351	1,113	1,464
4	629 La Brea Ave ³	121		13	125		42	37	79	46	24	70
5	5001 Wilshire Blvd	243		11			7	49	56	1	-25	-24
6	Metro D (Purple) Line Extension	-	-	-		-	-	-	-	-	-	-

Notes:

1. Projects in development within a ½-mile of the project site. Related project list and trip generation provided by LADOT on 5/30/2023.
2. Multi-family = Dwelling Units; Office = 1,000 SF; Retail = 1,000 SF; Hotel = Rooms; Other = 1,000 SF unless otherwise noted.
3. This project was not on LADOT's related project list but is a known ongoing development. Trip generation was developed in alignment with LADOT's *Transportation Assessment Guidelines* (August 2022).

Related Projects as of May 30, 2023.





Study Intersection



Project Site

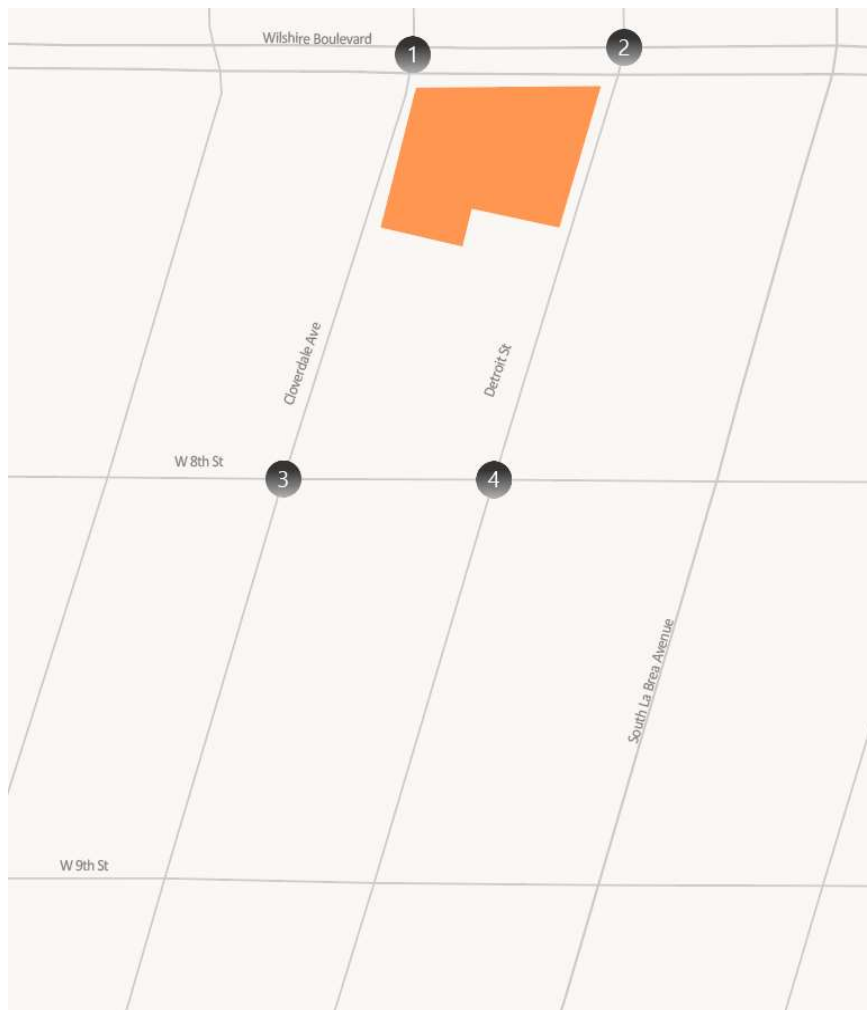


Roadway Segment Proposed for Neighborhood Cut-Through Analysis (Non-CEQA)

Attachment E



Project Study Intersections and Segments



● Study Intersection ■ Project Site

1. Cloverdale Ave/Wilshire Blvd	2. Detroit St/Wilshire Blvd	3. Cloverdale Ave/8th St
0 (0) 5 (7) 0 (0) 0 (0) 4 (4) 8 (9) 0 (0) 6 (7) 4 (5) 7 (5) 0 (0) 13 (11) Cloverdale Ave Wilshire Blvd	0 (0) 0 (0) 0 (0) 0 (0) 8 (9) 11 (14) 0 (0) 13 (11) 6 (7) 4 (4) 2 (2) 13 (11) Detroit St Wilshire Blvd	7 (7) 6 (5) 10 (8) 9 (10) 4 (4) 0 (0) 6 (7) 6 (7) 0 (0) 0 (0) 7 (8) 0 (0) Cloverdale Ave 8th St
4. Detroit St/8th St		
4 (4) 4 (4) 15 (13) 6 (7) 10 (8) 0 (0) 0 (0) 7 (8) 0 (0) Detroit St 8th St		

0 (0)

13 (11)

6 (7)

4 (4)

2 (2)

13 (11)



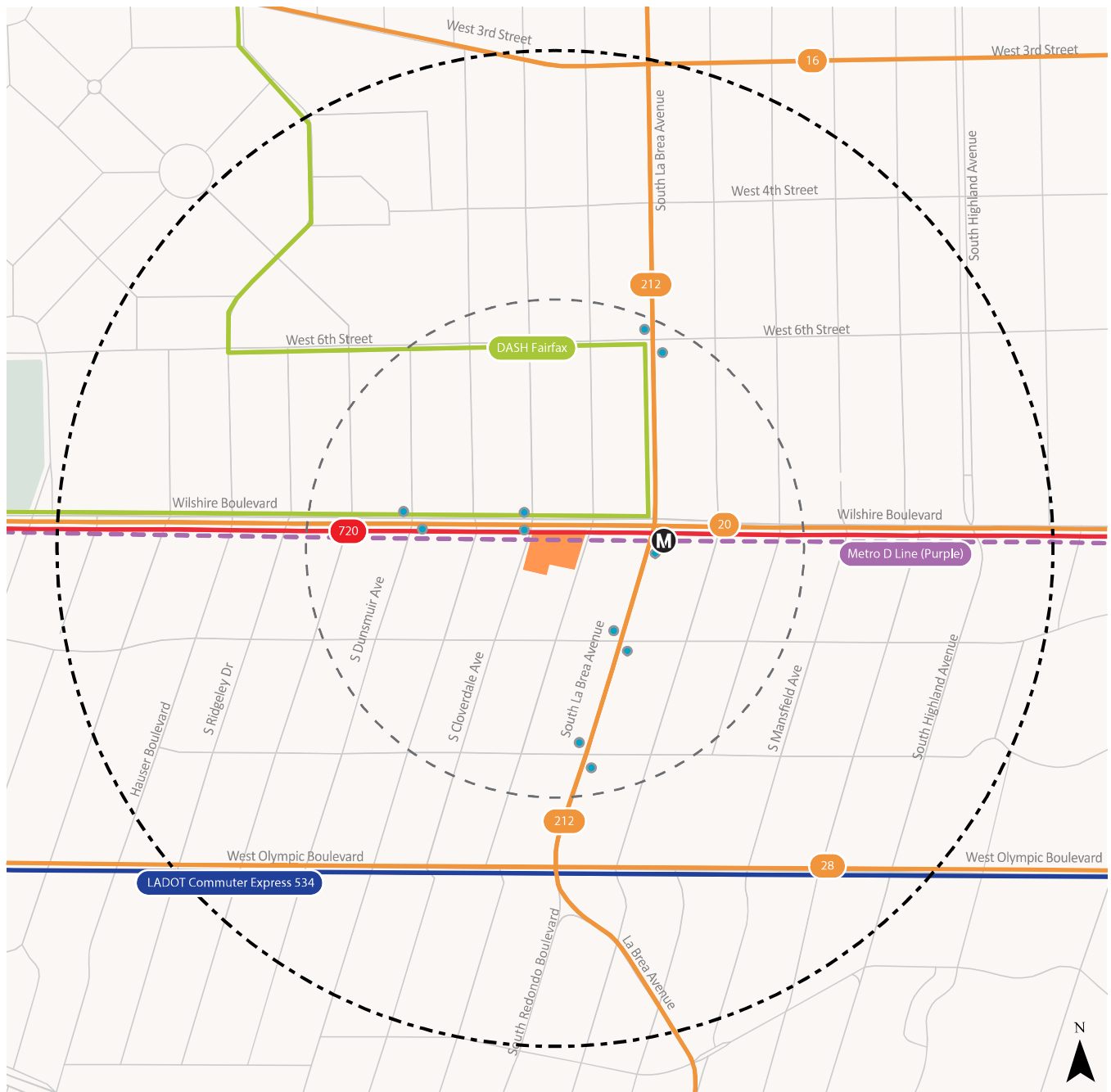
Attachment G: Freeway Trip Distribution¹

Freeway	On/Off Ramp	Location	Project Trip Distribution	AM Peak Hour Volume	PM Peak Hour Volume
US-101 S	Off-Ramp	Highland	10%	8	9
I-10 E	Off-Ramp	Fairfax/Washington	10%	8	9
I-10 W	Off-Ramp	La Brea	10%	8	9

Notes:

1. Freeway off-ramps where trips are expected, and anticipated volume increases based on trip generation in **Attachment A**. Fehr & Peers, 2023.





- 1/2-mile Buffer
- 1/4-mile Buffer
- Project Site

- Bus Stops within 1/4 mile of the Project Site
- Fairfax DASH
- LADOT Commuter Express

- Metro Rapid Bus
- Metro Local Bus
- - - Future Metro Rail



Attachment H.2: Transit Lines and Ridership within a ¼-mile of the Project Site

Line	Description	Peak Hour Headway	Average Boarding/Alighting in the Project Vicinity ¹
LA Metro			
20	Downtown LA-Westwood/Santa Monica via Wilshire Boulevard	12 minutes	Westbound – 131/192 Eastbound – 164/97
212	Hawthorn-Hollywood via La Brea Avenue	15 minutes	Northbound – 218/330 Southbound – 324/190
720	Santa Monica-Downtown LA via Wilshire Boulevard	5 minutes	Westbound – 360/645 Eastbound – 513/351
Proposed D (Purple) Line Extension	Union Station-Westwood via Wilshire Boulevard	15 minutes	<i>The D Line is expected to open the station at La Brea and Wilshire in 2024 with further extensions westward opening later.</i>
DASH			
Fairfax	Cedars-Sinai Medical Center-Miracle Mile via Melrose Avenue-Fairfax Avenue-Wilshire Boulevard	30 minutes	Westbound – 16/2

Notes:

- Ridership data summed for all stops within a ¼-mile of the project site. LA Metro ridership data from October 2019 ridership data accessed on 7/13/2022: <https://la-metro.maps.arcgis.com/apps/mapviewer/index.html?webmap=9366343d77b04fc5a3a2f2b4bd1962f3>. LADOT Dash ridership data from May 2016

Fehr & Peers, 2023.





1/4-mile Buffer

Project Site

Los Angeles High Injury Network



Signalized Crosswalk



Stop Controlled Crosswalk



Grocery Store



Post Office



Place of Worship



Dog Park

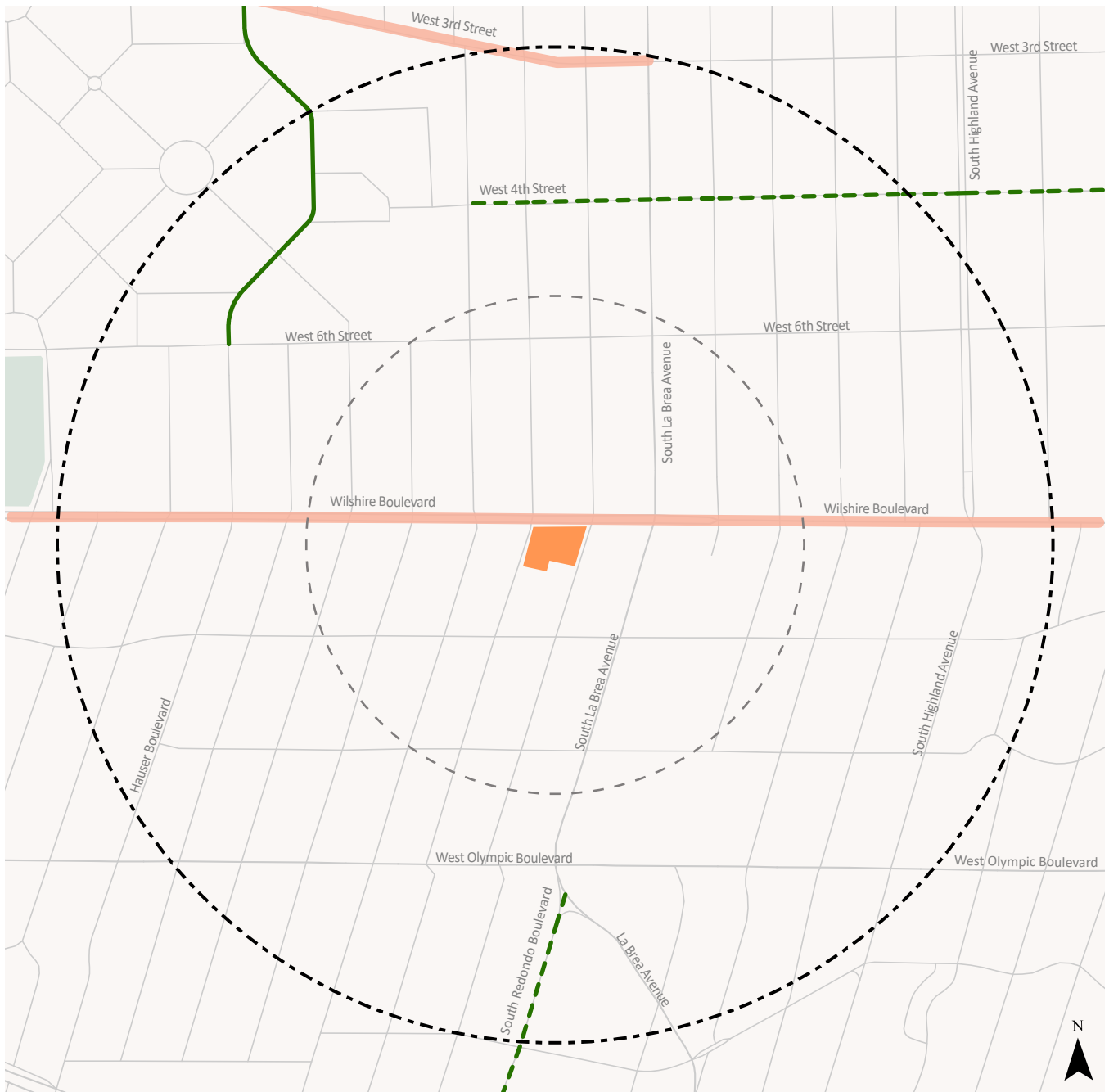


School

Attachment I

Pedestrian Generators



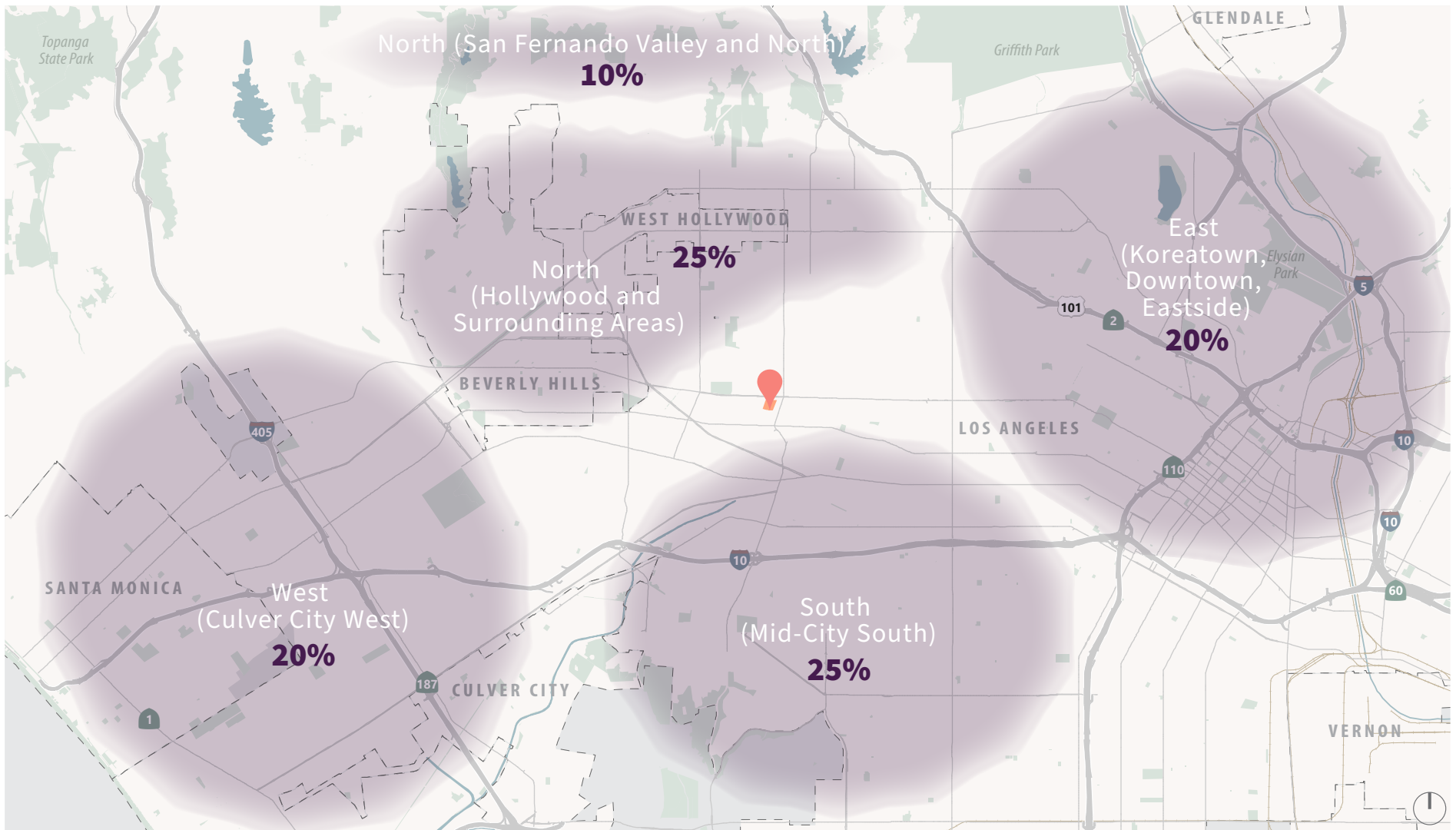


- | | | |
|---|---|--|
|  Project Site |  1/2-mile Buffer |  Bike Lane |
|  LADOT High-Injury Network (HIN) |  1/4-mile Buffer |  Bike Route with Sharrows |

Attachment J

Bike Infrastructure





Note: Trip distribution based on a select zone analysis using LADOT Travel Demand Forecast model.

 Project Site

 **X%** Project Trip Distribution



Appendix B: Transportation Analysis Guidelines Screening Responses and Supporting Analysis



Appendix B: Transportation Analysis Guidelines

Screening Responses and Supporting Analysis

Screening Criteria ¹	Screening Evaluation	Analysis Required?
2.1 CONFLICTING WITH PLANS, PROGRAMS, ORDINANCES, OR POLICIES		
If the project requires a discretionary action, and the answer is yes to any of the following questions, further analysis will be required to assess whether the proposed project would conflict with plans, programs, ordinances, or policies: 1. Does the project require a discretionary action that requires the decision maker to find that the decision substantially conforms to the purpose, intent and provisions of the General Plan? 2. Is the project known to directly conflict with a transportation plan, policy, or program adopted to support multimodal transportation options or public safety? 3. 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.)?	1. Yes, discretionary actions may be needed, including permits and approvals. 2. No. 3. Yes, the Project would include reconfiguration of driveways and streetscape improvements in the public right-of-way.	Yes, further analysis is required.



Screening Criteria ¹	Screening Evaluation	Analysis Required?
2.2 CAUSING SUBSTANTIAL VEHICLE MILES TRAVELED		
If the project requires a discretionary action, and the answer is no to either T-2.1-1 or T-2.1-2, further analysis will not be required for Threshold T-2.1, and a “no impact” determination can be made for that threshold: 1. T-2.1-1: Would the land use project generate a net increase of 250 or more daily vehicle trips? 2. T-2.1-2: Would the project generate a net increase in daily VMT? In addition to the above screening criteria, the portion of, or the entirety of a project that contains small-scale or local serving retail uses are assumed to have less than significant VMT impacts. If the answer to the following question is no, then that portion of the project meets the screening criteria and a no impact determination can be made for the portion of the project that contains retail uses. However, if the retail project is part of a larger mixed-use project, then the remaining portion of the project may be subject to further analysis in accordance with the above screening criteria. Projects that include retail uses in excess of the screening criteria would need to evaluate the entirety of the project’s vehicle miles traveled, as specified in Section 2.2.4. 3. If the project includes retail uses, does the portion of the project that contains retail uses exceed a net 50,000 square feet? Independent of the above screening criteria, and the project requires a discretionary action, further analysis will be required if the following statement is true: 4. Would the Project or Plan located within a one-half mile of a fixed-rail or fixed-guideway transit station replace an existing number of residential units with a smaller number of residential units?	1. Yes, the Project would generate an estimated net increase of about 2,100 daily vehicle trips. 2. Yes, the Project would result in a net increase of daily VMT. 3. No 4. No	Yes, further analysis is required for the residential and office land uses. No further analysis is required regarding the retail use of the project.
2.3 SUBSTANTIALLY INDUCING ADDITIONAL AUTOMOBILE TRAVEL		
If the answer is no to the following question, further analysis will not be required for Threshold T-2.2, and a no impact determination can be made for that threshold: 1. T-2.2: Would the project include the addition of through traffic lanes on existing or new highways, including general purpose lanes, high-occupancy vehicle (HOV) lanes, peak period lanes, auxiliary lanes, and lanes through grade-separated interchanges (except managed lanes, transit lanes, and auxiliary lanes of less than one mile in length designed to improve roadway safety)?	1. No	No, further analysis is not required and a “no impact” determination can be made.



Screening Criteria ¹	Screening Evaluation	Analysis Required?
2.4 SUBSTANTIALLY INCREASING HAZARDS DUE TO A GEOMETRIC DESIGN FEATURE OR INCOMPATIBLE USE		
If the project requires a discretionary action, and the answer is “yes” to either of the following questions, further analysis will be required to assess whether the project would result in impacts due to geometric design hazards or incompatible uses: 1. Is the project proposing new driveways, or introducing new vehicle access to the property from the public right-of-way? 2. Is the project proposing to, or required to make any voluntary or required, modifications to the public right-of-way (i.e., street dedications, reconfigurations of curb line, etc.)? In addition to the screening questions above, if the answer is “yes” to all of the following questions, further analysis will be required to assess whether the project would result in impacts due to queuing from a freeway off-ramp that could lead to unsafe differential travel speeds: 3. Does the land use project involve a discretionary action that would be under review by the Department of City Planning? 4. Would the land use project generate a net increase of 250 or more daily vehicle trips? 5. Would the land use project add 25 or more trips to any off ramp in either the morning or afternoon peak hour?	1. Yes, the Project is proposing one driveway each off of Cloverdale Avenue and Detroit Street. 2. Yes, the Project would include reconfiguration of driveways and streetscape improvements in the public right-of-way. 3. Yes, discretionary actions may be needed, including permits and approvals. 4. Yes, the Project would generate an estimated net increase of about 2,100 daily vehicle trips. 5. No.	Yes, further analysis is required to determine impacts related to geometric design hazards. However, no additional analysis is required for freeway off-ramps.
3.2 PEDESTRIAN, BICYCLE, AND TRANSIT ACCESS ASSESSMENT		
If the answer is yes to all of the following questions, further analysis will be required to assess whether the project would negatively affect existing pedestrian, bicycle, or transit facilities: 1. Does the land use project involve a discretionary action that would be under review by the Department of City Planning? 2. Does the land use project include the construction, or addition of: a. 50 (or more) dwelling units or guest rooms or combination thereof, or b. 50,000 square feet (or more) of non-residential space? 3. Would the project generate a net increase of 1,000 or more daily vehicle trips, or is the project’s frontage along an Avenue or Boulevard (as designated in the City’s General Plan), 250 linear feet or more, or is the project’s building frontage encompassing an entire block along an Avenue or Boulevard (as designated in the City’s General Plan)?	1. Yes, discretionary actions may be needed, including permits and approvals. 2. Yes, the Project would include up to 419 residential units. 3. Yes, the Project would generate an estimated net increase of about 2,100 vehicle trips and encompasses an entire block of Wilshire Boulevard, which has an Avenue designation.	Yes, further analysis is required.



Screening Criteria ¹	Screening Evaluation	Analysis Required?
3.3 PROJECT ACCESS, SAFETY, AND CIRCULATION EVALUATION		
Land Use Development Projects: For land use projects, if the answer is yes to all of the following questions, further analysis will be required to assess whether the project would negatively affect project access and circulation: 1. Does the land use project involve a discretionary action that would be under review by the Department of City Planning? 2. Would the land use project generate a net increase of 250 or more daily vehicle trips?	1. Yes, discretionary actions may be needed, including permits and approvals. 2. Yes, the Project would generate an estimated net increase of about 2,100 daily vehicle trips.	Yes, further analysis is required.



Screening Criteria ¹	Screening Evaluation	Analysis Required?
3.4 PROJECT CONSTRUCTION		
If the answer is yes to any of the following questions, further analysis will be required to assess if the project could negatively affect existing pedestrian, bicycle, transit, or vehicle circulation: 1. Would the project require construction activities to take place within the right-of-way of a Boulevard or Avenue (as designated in the Mobility Plan 2035) which would necessitate temporary lane, alley, or street closures for more than one day (including day and evening hours, and overnight closures if on a residential street?) 2. Would the project require construction activities to take place within the right-of-way of a Collector or Local Street (as designated in the Mobility Plan 2035) which would necessitate temporary lane, alley, or street closures for more than seven days (including day and evening hours, and including overnight closures if on a residential street?) 3. Would in-street construction activities result in the loss of regular vehicle, bicycle, or pedestrian access, including loss of existing bicycle parking to an existing land use for more than one day, including day and evening hours and overnight closures if access is lost to residential units? 4. Would in-street construction activities result in the loss of regular ADA pedestrian access to an existing transit station, stop, or facility (e.g., layover zone) during revenue hours? 5. Would in-street construction activities result in the temporary loss for more than one day of an existing bus stop or rerouting of a bus route that serves the project site? 6. Would construction activities result in the temporary removal and/or loss of on-street metered parking for more than 30 days? 7. Would the project involve a discretionary action to construct new buildings or additions of more than 1,000 square feet that require access for hauling construction materials and equipment from streets of less than 24- feet wide in a hillside area?	1. Yes, the Project frontage is along an Avenue-designated street. Specific construction details are not known at this time, but may require temporary closures. 2. Yes, the Project access points are on local-designated streets. Specific construction details are not known at this time, but may require temporary closures. 3. Unknown at this time. 4. Unknown at this time. 5. Unknown at this time. 6. Unknown at this time. 7. No, the Project is not located in a hillside area.	Yes, further analysis is required.



Screening Criteria ¹	Screening Evaluation	Analysis Required?
3.5 RESIDENTIAL STREET CUT-THROUGH ANALYSIS		
Land Use Development Projects: If the answer is yes to all of the following questions, further analysis may be required to assess whether the project would negatively affect residential streets: 1. Would the project generate a net increase of 250 or more daily vehicle trips? 2. Does the land use project include a discretionary action that would be under review by the Department of City Planning? In addition, for development projects, when selecting residential street segments for analyses during the transportation assessment scoping process, all of the following conditions must be present: 3. The project is located along a currently congested Boulevard or Avenue and adds trips that may lead to trip diversion to parallel routes along residential Local Streets. The congestion level of the Boulevard or Avenue can be determined based on the estimated peak hour LOS under project conditions of the study intersection(s) (as determined in Section 3.3). LOS E and F are considered to represent congested conditions; 4. The project is projected to add a substantial amount of automobile traffic to the congested Boulevard(s), Avenue(s), or Collector(s) that could potentially cause a shift to alternative route(s); and 5. Nearby local residential street(s) (defined as Local streets as designated in the City's General Plan passing through a residential neighborhood) provide motorists with a viable alternative route. A viable alternative route is defined as one which is parallel and reasonably adjacent to the primary route as to make it attractive as an alternative to the primary route. LADOT has discretion to define which routes are viable alternative routes, based on, but not limited to, features such as geography and presence of existing traffic control devices, etc.	1. Yes, the Project would generate an estimated net increase of about 2,100 daily vehicle trips. 2. Yes, discretionary actions may be needed, including permits and approvals. 3. Study intersections are not currently at congested levels on this segment of Wilshire Boulevard. 4. The Project would add trips to Wilshire Boulevard and La Brea Avenue. 5. There are local streets in the vicinity of the Project that could provide alternative routes for portions of trips, such as Detroit Street and Cloverdale Avenue south of the Project site.	Yes, further analysis is required.

Notes:

1. Adapted from *Transportation Analysis Guidelines*, LADOT, August 2022.

Source: Fehr & Peers, 2023.



Appendix C: Plans, Programs, Ordinances, and Policies Review



Appendix C: Detailed Responses in Support of Determining Plans, Programs, Ordinances, or Policies Applicability

#	Guiding Questions	Relevant Plans, Policies, and Programs	Evaluation
A. Mobility Plan 2035 PROW Classification Standards for Dedications and Improvements			
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?	Mobility Plan 2035 (MP 2035) Policies 2.1, 2.3, 3.2, and MP 2035 Street Designations and Standard Roadway Dimensions	No. The existing building on Wilshire Boulevard (Avenue I) would remain. All new construction is proposed along Cloverdale Avenue and Detroit Street, both classified as Local Streets.
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?		Not applicable.
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)?		Not applicable.
A.4	If the answer to A.3. is NO, is the project applicant asking to waive from the dedication standards?		Not applicable.
B. Mobility Plan 2035 PROW Policy Alignment with Project-Initiated Changes			
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?	MP 2035 Policies 2.1, 2.3, and 2.10; and Street Designations and Standard Roadway Dimensions	Yes, driveway curb cuts will change, although total number of curb cuts will be reduced by one. The Project would not physically modify the curb placement or sidewalk/parkway in a way that negatively impacts how people access the property. No street widenings, sidewalk narrowing, vehicle turnouts, bike facility removals, transit amenity removals, or parkway degradation are proposed. The Project would comply with all required setbacks and would coordinate with the Urban Forestry Division on street tree removals and replacements.

#	Guiding Questions	Relevant Plans, Policies, and Programs	Evaluation
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?	MP 2035 Policy 2.10, Program PL.1, and CDG 2, MPP 321	No. Project driveways would be provided via Detroit Street and Cloverdale Avenue, both classified as Local Streets and would not conflict with the Driveway Design Guidelines.
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?		<i>Not applicable.</i>
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?		<i>Not applicable.</i>
C. Network Access			
C1.1	Does the project propose to vacate or otherwise restrict public access to a street, alley, or public stairway?	MP 2035 Policy 3.9	Yes. The Project proposes to vacate and merge the existing 20-foot public alley into the Project. The public alley is currently accessed from Detroit Street and dead-ends within the Project site halfway between Detroit Street and Cloverdale Avenue.
C1.2	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?		No, however the public alley is currently accessed from Detroit Street and dead-ends within the Project site halfway between Detroit Street and Cloverdale Avenue, providing no through legal public access and only access to the existing land uses. The Project would still be accessible via Detroit Street, therefore, the closure of the alley would not result in reduced access for people walking and biking.
C.2.1	Does the project create a cul-de-sac or is the project located adjacent to an existing cul-de-sac?	MP 2035 Policy 3.10	No.

#	Guiding Questions	Relevant Plans, Policies, and Programs	Evaluation
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?		Not applicable.
D. Parking Supply and Transportation Demand Management			
D.1	Would the project propose a supply of onsite parking that exceeds the baseline amount as required in the Los Angeles Municipal Code or a Specific plan, whichever requirement prevails?	MP 2035 Policies 3.8, 4.8, and 4.13	Yes. California Assembly Bill 2097 removes parking minimums for developments within a half-mile of a major transit stop. The Project is immediately adjacent to the future Metro D Line station at Wilshire Boulevard and La Brea Avenue, set to open 2024. The Project is proposing to provide 443 parking stalls, which is over the minimum required.
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. California Assembly Bill 1317 requires that proposed parking stalls be unbundled from the lease or sale of residential units in the proposed Project.
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. The Project is exceeding the bicycle parking requirements as outlined in the LAMC. The Project is required to provide 13 short-term and 107 long-term bicycle parking spaces and is providing 20 short-term and 182 long-term spaces.
D.4	Does the Project include more than 25,000 square feet of gross floor area construction of new non-residential gross floor?		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?		Not applicable.
E. Consistency with Regional Plans			
E.1	Does the Project or Plan apply one of 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?	Southern California Association of Governments Regional	Yes.

Wilshire and Cloverdale Transportation Assessment
Appendix C: PPOP Assessment

#	Guiding Questions	Relevant Plans, Policies, and Programs	Evaluation
E.2	E.2 If the Answer to E.1 is YES, does the Project or Plan result in a significant VMT impact?	Transportation Plan/Sustainable Communities Strategy	No.
E.3	If the Answer to E.1 is NO, does the Project result in a net increase in VMT?		Yes.

Review of Conflict with Wilshire Community Plan

The Wilshire Community Plan (WCP), adopted in 2001 and amended in 2016 as part of the Mobility Plan 2035 Update, is one of 35 community plans in the City of Los Angeles that establishes the policies and programs that inform the framework for local land use, circulation, and service systems within the selected community plan area. Per the City's *Transportation Assessment Guidelines*, a review of the Wilshire Community Plan was conducted to evaluate whether the proposed Project conflicts with or precludes the implementation of transportation elements of the community plan framework.

The Wilshire Community Plan contains transportation-related objectives, policies, and programs in Chapter III, Land Use Plan Policies and Programs. The Project was reviewed to identify any conflicts with WCP objectives, policies, and programs that pertain to transportation and a project's potential impact on the environment.

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

- **Alternate Standards (Street Reclassifications):** The Wilshire Community Plan maintains alternate standards for the development of certain streets due to environmental and urban design considerations, including for Wilshire Boulevard, which states that no widening in excess of the existing roadway shall occur. The proposed Project does not propose to widen Wilshire Boulevard.
- **Goal 10 - Develop additional public transit services which improve mobility with efficient, reliable, safe, convenient alternatives to automobile travel.** The Project does not preclude the continued enhancement of public transit service around the Project site. The Project encourages transit use by enhancing the pedestrian environment along the Project frontage.
- **Goal 11 – Encourage a system of safe, efficient, and attractive bicycle and pedestrian facilities.** The proposed Project is in alignment with this goal and would provide bicycle parking in alignment with LAMC requirements as well as create a pedestrian-oriented frontage along Wilshire Boulevard. Further, the Project would not prohibit any future development of bicycle and pedestrian facilities in the surrounding area.
- **Goal 12 – Encourage alternative modes of transportation to reduce single-occupancy vehicular trips.** The Project's location along a transit-rich corridor, pedestrian-oriented frontage, and conveniently located long-term bicycle parking would encourage the use of active and transit modes.



Appendix D: LADOT VMT Calculator Tool Reports



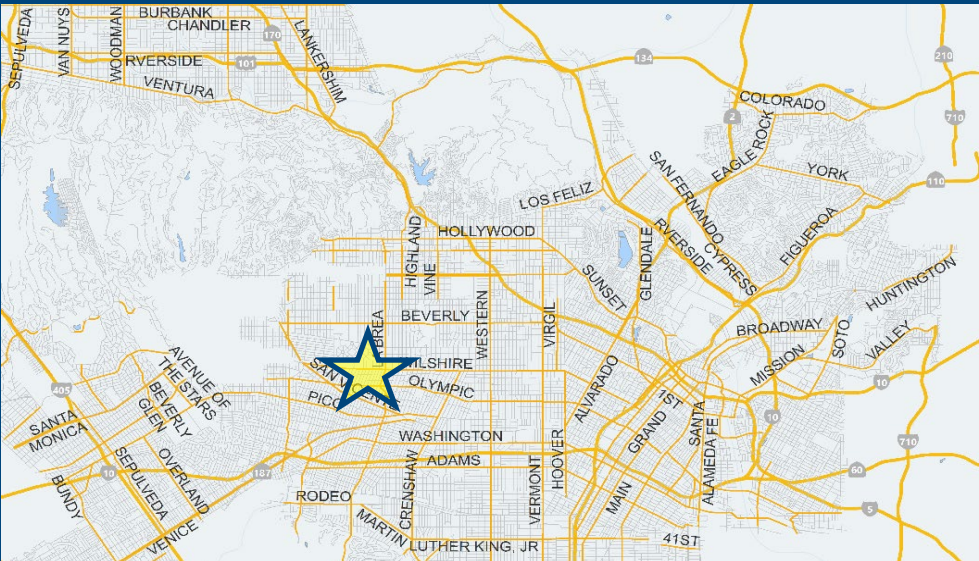
CITY OF LOS ANGELES VMT CALCULATOR Version 1.4



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

Project Information

Project: Wilshire and Cloverdale Project
Scenario:
Address: 5350 W WILSHIRE BLVD, 90036



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
Retail General Retail	20	ksf
Office General Office	9.4	ksf
Retail High-Turnover Sit-Down Restaurant	18.9	ksf
Retail General Retail	20	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 Affordable Housing - Family	47	DU
Housing Multi-Family	372	DU
Retail High-Turnover Sit-Down Restaurant	36.7	ksf
Office General Office	8	ksf
Housing Affordable Housing - Family	47	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
1,841 Daily Vehicle Trips	3,936 Daily Vehicle Trips
11,649 Daily VMT	24,274 Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips 2,095
Net Daily Trips

The net increase in daily VMT ≤ 0 12,625
Net Daily VMT

The proposed project consists of only retail land uses ≤ 50,000 square feet total. 36,700
ksf

The proposed project is required to perform VMT analysis.

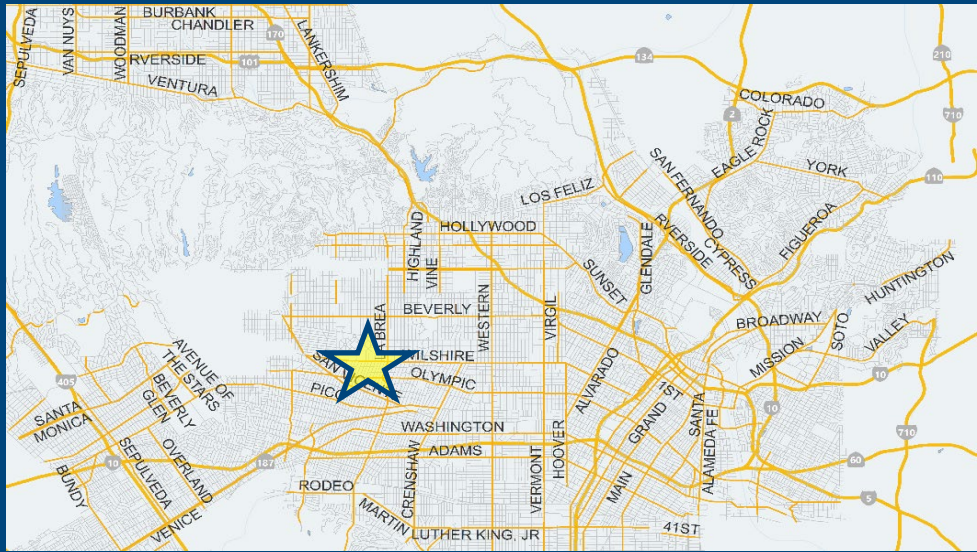


CITY OF LOS ANGELES VMT CALCULATOR Version 1.4



Project Information

Project: Wilshire and Cloverdale Project
Scenario:
Address: 5350 W WILSHIRE BLVD, 90036



Proposed Project Land Use Type	Value	Unit
Housing Multi-Family	372	DU
Retail High-Turnover Sit-Down Restaurant	36.7	ksf
Office General Office	8	ksf
Housing Affordable Housing - Family	47	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

Max Home Based TDM Achieved?

Max Work Based TDM Achieved?

Proposed Project

No

With Mitigation

No

A

Parking

Reduce Parking Supply

100

city code parking provision for the project site

74

actual parking provision for the project site

☐ Proposed Prj

☐ Mitigation

Unbundle Parking

175

monthly parking cost (dollar) for the project site

☐ Proposed Prj

☐ Mitigation

Parking Cash-Out

50

percent of employees eligible

☐ Proposed Prj

☐ Mitigation

Price Workplace Parking

6.00

daily parking charge (dollar)

50

percent of employees subject to priced parking

☐ Proposed Prj

☐ Mitigation

Residential Area Parking Permits

200

cost (dollar) of annual permit

☐ Proposed Prj

☐ Mitigation

B

Transit

C

Education & Encouragement

D

Commute Trip Reductions

E

Shared Mobility

F

Bicycle Infrastructure

G

Neighborhood Enhancement

Analysis Results

Proposed Project	With
3,936 Daily Vehicle Trips	3,936 Daily Vehicle Trips
24,274 Daily VMT	24,274 Daily VMT
4.6 Household VMT per Capita	4.6 Household VMT
6.7 Work VMT per Employee	6.7 Work VMT per Employee

Significant VMT Impact?	
Household: No Threshold = 6.0 15% Below APC	Household: No Threshold = 6.0 15% Below APC
Work: No Threshold = 7.6 15% Below APC	Work: No Threshold = 7.6 15% Below APC

Measuring the Miles

3/12/2024

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: March 12, 2024

Project Name: Wilshire and Cloverdale Project

Project Scenario:

Project Address: 5350 W WILSHIRE BLVD, 90036



Version 1.4

Project Information			
Land Use Type		Value	Units
Housing	Single Family	0	DU
	Multi Family	372	DU
	Townhouse	0	DU
	Hotel	0	Rooms
	Motel	0	Rooms
Affordable Housing	Family	47	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	36.700	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	8.000	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

Project and Analysis Overview

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: March 12, 2024

Project Name: Wilshire and Cloverdale Project

Project Scenario:

Project Address: 5350 W WILSHIRE BLVD, 90036



Version 1.4

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: March 12, 2024

Project Name: Wilshire and Cloverdale Project

Project Scenario:

Project Address: 5350 W WILSHIRE BLVD, 90036



Version 1.4

Analysis Results			
Total Employees: 179			
Total Population: 986			
Proposed Project		With Mitigation	
3,936	Daily Vehicle Trips	3,936	Daily Vehicle Trips
24,274	Daily VMT	24,274	Daily VMT
4.6	Household VMT per Capita	4.6	Household VMT per Capita
6.7	Work VMT per Employee	6.7	Work VMT per Employee
Significant VMT Impact?			
APC: Central			
Impact Threshold: 15% Below APC Average			
Household = 6.0			
Work = 7.6			
Proposed Project		With Mitigation	
VMT Threshold	Impact	VMT Threshold	Impact
Household > 6.0	No	Household > 6.0	No
Work > 7.6	No	Work > 7.6	No

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: March 12, 2024

Project Name: Wilshire and Cloverdale Project

Project Scenario:

Project Address: 5350 W WILSHIRE BLVD, 90036



Version 1.4

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: March 12, 2024

Project Name: Wilshire and Cloverdale Project

Project Scenario:

Project Address: 5350 W WILSHIRE BLVD, 90036



Version 1.4

TDM Strategy Inputs, Cont.			
Strategy Type	Description	Proposed Project	Mitigations
Transit	Reduction in headways (increase in frequency) (%)	0%	0%
	Reduce transit headways		
	Existing transit mode share (as a percent of total daily trips) (%)	0%	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%
	Promotions and marketing	Employees and residents participating (%)	0%
(cont. on following page)			

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: March 12, 2024

Project Name: Wilshire and Cloverdale Project

Project Scenario:

Project Address: 5350 W WILSHIRE BLVD, 90036



Version 1.4

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: March 12, 2024

Project Name: Wilshire and Cloverdale Project

Project Scenario:

Project Address: 5350 W WILSHIRE BLVD, 90036



Version 1.4

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: March 12, 2024
 Project Name: Wilshire and Cloverdale Project
 Project Scenario:
 Project Address: 5350 W WILSHIRE BLVD, 90036



Version 1.4

TDM Adjustments by Trip Purpose & Strategy

Place type: Compact Infill

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: March 12, 2024
 Project Name: Wilshire and Cloverdale Project
 Project Scenario:
 Project Address: 5350 W WILSHIRE BLVD, 90036



Version 1.4

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Compact Infill

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

Final Combined & Maximum TDM Effect

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

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

where X%=

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

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: March 12, 2024

Project Name: Wilshire and Cloverdale Project

Project Scenario:

Project Address: 5350 W WILSHIRE BLVD, 90036



Version 1.4

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	373	-26.0%	276	6.6	2,462	1,822
Home Based Other Production	1,033	-46.7%	551	4.9	5,062	2,700
Non-Home Based Other Production	1,173	-7.1%	1,090	6.9	8,094	7,521
Home-Based Work Attraction	259	-37.1%	163	7.4	1,917	1,206
Home-Based Other Attraction	2,074	-46.4%	1,112	5.9	12,237	6,561
Non-Home Based Other Attraction	807	-7.8%	744	6.0	4,842	4,464

MXD Methodology with TDM Measures

	Proposed Project			Project with Mitigation Measures		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	0.0%	276	1,822	0.0%	276	1,822
Home Based Other Production	0.0%	551	2,700	0.0%	551	2,700
Non-Home Based Other Production	0.0%	1,090	7,521	0.0%	1,090	7,521
Home-Based Work Attraction	0.0%	163	1,206	0.0%	163	1,206
Home-Based Other Attraction	0.0%	1,112	6,561	0.0%	1,112	6,561
Non-Home Based Other Attraction	0.0%	744	4,464	0.0%	744	4,464

MXD VMT Methodology Per Capita & Per Employee

Total Population: 986

Total Employees: 179

APC: Central

	Proposed Project	Project with Mitigation Measures
Total Home Based Production VMT	4,522	4,522
Total Home Based Work Attraction VMT	1,206	1,206
Total Home Based VMT Per Capita	4.6	4.6
Total Work Based VMT Per Employee	6.7	6.7

Appendix E: Hazards due to a Geometric Design Feature Review



Appendix E: Detailed Responses for Substantially Increasing Hazards Due to A Geometric Design Feature or Incompatible Use

Adapted from Section 2.4 in Transportation Analysis Guidelines, LADOT, 2022

Preliminary project access plans are to be reviewed in light of commonly accepted traffic engineering design standards to ascertain whether any deficiencies are apparent in the site access plans which would be considered significant. The determination of significance shall be on a case-by-case basis, considering the factors outlined in **Table E-2**.

Table E-2: Geometric Design Feature Evaluation

Evaluation Factors	Assessment
The relative amount of pedestrian activity at project access points.	The Project site is in a mixed-use area with residential and commercial development. Recent pedestrian counts conducted along the Project frontage on Wilshire Boulevard at Cloverdale Avenue and Detroit Street indicated a high level of pedestrian activity in the morning and afternoon peak hours (100-225 pedestrians in the peak hour). The Project would maintain sidewalk widths along all adjacent streets and contribute to improving walkability with enhancements to the Project site, such as preserving and/or replacing existing street trees.
Design features/physical configurations that affect the visibility of pedestrians and bicyclists to drivers entering and exiting the site, and the visibility of cars to pedestrians and bicyclists.	Pedestrian access to the Project site would be provided via existing sidewalks around the perimeter of the Project site and through pedestrian entry points on Cloverdale Avenue. Residents and visitors arriving at the Project site by bicycle would have the same access opportunities as pedestrians and would be able to utilize on-site bicycle parking facilities. The Project's access locations would be designed to City standards and would provide adequate sight distance, sidewalks, crosswalks, and pedestrian movement controls that meet the City's requirements. Street trees and other potential impediments to adequate driver and pedestrian visibility would be minimal.
The type of bicycle facilities the project driveway(s) crosses and the relative level of utilization.	None of the streets in the vicinity of the Project site are part of the Bicycle Enhanced Network. Wilshire Boulevard is part of the Bicycle Lane Network per the Mobility Plan 2035, however there are no immediate plans for the implementation of bicycle lanes on Wilshire Boulevard along the Project frontage. Furthermore, the Project is not proposing driveways on Wilshire Boulevard.
The physical conditions of the site and surrounding area, such as curves, slopes, walks, landscaping, or other barriers, that could result in vehicle/pedestrian, vehicle/bicycle, or vehicle/vehicle impacts.	The streets adjacent to the Project site (Wilshire Boulevard, West 8 th Street, Cloverdale Avenue, and Detroit Street) are flat and do not curve. The Project would locate driveways at right angles to avoid visibility challenges once vehicles have exited the above-ground and subterranean parking garage.



Evaluation Factors	Assessment
The project location, or project-related changes to the public right-of-way, relative to proximity to the High Injury Network or a Safe Routes to School program area.	Wilshire Boulevard is on the City's High-Injury Network; however, the Project proposes driveway access along Cloverdale Avenue and Detroit Street, not along Wilshire Boulevard. This helps minimize potential conflicts between vehicles, pedestrians, and bicyclists traveling on Wilshire Boulevard and would not preclude the City from implementing changes associated with Vision Zero. The Project is not located in a Safe Routes to School program area.
Any other conditions, including the approximate location of incompatible uses that would substantially increase a transportation hazard.	The Project is in a mixed-use area and proposes mixed-use development that is consistent with the surrounding area. The Project's multimodal amenities and location of driveways would not substantially increase transportation hazards.



Appendix F: Intersection Turning Movement Volume Count Sheets



National Data & Surveying Services

Intersection Turning Movement Count

Location: S Cloverdale Ave & Wilshire Blvd

City: Los Angeles

Control: Signalized

Project ID: 23-020356-001

Date: 9/19/2023

Total

NS/EW Streets:	S Cloverdale Ave				S Cloverdale Ave				Wilshire Blvd				Wilshire Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
7:00 AM	1	2	0	0	2	10	2	0	1	57	2	0	6	155	7	0	245
7:15 AM	0	1	1	0	1	5	6	0	2	50	2	0	4	201	0	0	273
7:30 AM	2	1	4	0	1	6	3	0	1	83	1	0	5	194	3	1	305
7:45 AM	1	4	2	0	2	7	6	0	2	103	4	0	6	231	1	0	369
8:00 AM	5	4	2	0	0	6	8	0	5	100	6	2	7	160	2	0	307
8:15 AM	4	2	1	0	5	7	14	0	3	95	4	0	5	173	2	1	316
8:30 AM	1	3	2	0	4	2	16	0	9	99	5	0	7	220	2	0	370
8:45 AM	2	6	1	0	3	10	16	0	2	75	8	0	9	217	2	0	351
9:00 AM	0	4	2	0	3	5	6	0	3	87	3	0	5	156	4	0	278
9:15 AM	4	4	3	0	0	5	3	0	4	76	9	1	10	168	3	0	290
9:30 AM	2	2	2	0	1	5	6	0	5	80	12	0	7	169	1	0	292
9:45 AM	2	4	7	0	4	5	5	0	3	76	7	3	9	171	6	0	302
TOTAL VOLUMES :	NL 24	NT 37	NR 27	NU 0	SL 26	ST 73	SR 91	SU 0	EL 40	ET 981	ER 63	EU 6	WL 80	WT 2215	WR 33	WU 2	TOTAL 3698
APPROACH %'s :	27.27%	42.05%	30.68%	0.00%	13.68%	38.42%	47.89%	0.00%	3.67%	90.00%	5.78%	0.55%	3.43%	95.06%	1.42%	0.09%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	11	13	7	0	11	22	44	0	19	397	19	2	25	784	7	1	1362
PEAK HR FACTOR :	0.550	0.813	0.875	0.000	0.550	0.786	0.688	0.000	0.528	0.964	0.792	0.250	0.893	0.848	0.875	0.250	0.920
	0.705				0.740				0.967				0.858				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
3:00 PM	1	3	5	0	3	7	3	0	0	178	4	1	12	101	4	0	322
3:15 PM	0	3	5	0	2	8	7	0	6	201	9	1	12	128	4	3	389
3:30 PM	2	5	3	0	2	7	4	0	4	222	13	1	16	119	1	1	400
3:45 PM	3	1	5	0	4	8	7	1	4	219	7	0	15	140	1	1	416
4:00 PM	4	4	6	0	2	9	6	0	3	214	10	0	13	120	4	0	395
4:15 PM	3	3	4	0	2	4	3	0	2	229	10	0	11	144	0	1	416
4:30 PM	2	1	4	0	6	13	6	1	1	219	9	0	9	127	10	4	412
4:45 PM	4	7	3	0	6	3	5	0	5	218	12	1	12	121	5	1	403
5:00 PM	2	4	6	0	1	11	5	0	8	229	7	0	4	119	5	0	401
5:15 PM	1	5	5	0	2	8	8	0	7	217	10	0	10	128	2	0	403
5:30 PM	2	3	4	0	2	9	9	0	4	216	10	0	7	151	2	2	421
5:45 PM	4	5	7	0	2	6	4	1	5	216	5	2	9	142	5	0	413
TOTAL VOLUMES :	NL 28	NT 44	NR 57	NU 0	SL 34	ST 93	SR 67	SU 3	EL 49	ET 2578	ER 106	EU 6	WL 130	WT 1540	WR 43	WU 13	TOTAL 4791
APPROACH %'s :	21.71%	34.11%	44.19%	0.00%	17.26%	47.21%	34.01%	1.52%	1.79%	94.12%	3.87%	0.22%	7.53%	89.22%	2.49%	0.75%	
PEAK HR :	03:45 PM - 04:45 PM																TOTAL
PEAK HR VOL :	12	9	19	0	14	34	22	2	10	881	36	0	48	531	15	6	1639
PEAK HR FACTOR :	0.750	0.563	0.792	0.000	0.583	0.654	0.786	0.500	0.625	0.962	0.900	0.000	0.800	0.922	0.375	0.375	0.985
	0.714				0.692				0.962				0.955				

National Data & Surveying Services

Location: S Detroit St & Wilshire Blvd

City: Los Angeles

Control: Signalized

Intersection Turning Movement Count

Project ID: 23-020356-002

Date: 9/19/2023

Total

NS/EW Streets:	S Detroit St				S Detroit St				Wilshire Blvd				Wilshire Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	2 ET	1 ER	0 EU	0 WL	2 WT	1 WR	0 WU	
7:00 AM	2	3	2	1	1	1	4	0	1	60	1	0	1	163	2	0	242
7:15 AM	1	2	3	0	1	1	3	0	2	51	3	0	1	199	4	0	271
7:30 AM	1	5	1	1	0	4	4	0	1	82	1	0	0	198	5	0	303
7:45 AM	3	8	2	0	2	2	3	0	1	103	6	0	1	230	3	0	364
8:00 AM	1	18	2	0	0	1	6	0	2	104	2	0	0	162	5	0	303
8:15 AM	6	11	0	0	0	4	4	0	3	92	4	0	1	173	5	0	303
8:30 AM	4	4	5	0	3	2	4	0	5	95	4	0	1	227	6	0	360
8:45 AM	4	9	2	0	2	1	5	0	2	76	4	0	2	220	8	0	335
9:00 AM	4	5	4	0	2	3	6	0	0	91	8	1	4	163	4	0	295
9:15 AM	1	5	5	0	0	2	6	0	2	75	2	1	0	173	7	1	280
9:30 AM	7	8	5	0	1	2	1	1	2	78	4	0	0	169	5	0	283
9:45 AM	2	7	4	0	0	2	4	0	1	78	9	0	1	184	6	0	298
TOTAL VOLUMES :	NL 36	NT 85	NR 35	NU 2	SL 12	ST 25	SR 50	SU 1	EL 22	ET 985	ER 48	EU 2	WL 12	WT 2261	WR 60	WU 1	TOTAL 3637
APPROACH %'s :	22.78%	53.80%	22.15%	1.27%	13.64%	28.41%	56.82%	1.14%	2.08%	93.19%	4.54%	0.19%	0.51%	96.87%	2.57%	0.04%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	14	41	9	0	5	9	17	0	11	394	16	0	3	792	19	0	1330
PEAK HR FACTOR :	0.583	0.569	0.450	0.000	0.417	0.563	0.708	0.000	0.550	0.947	0.667	0.000	0.750	0.861	0.792	0.000	0.913
	0.762				0.861				0.957				0.870				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	2 ET	1 ER	0 EU	0 WL	2 WT	1 WR	0 WU	
3:00 PM	2	9	7	0	1	1	1	0	4	176	9	0	0	117	7	0	334
3:15 PM	5	15	6	0	3	1	0	0	3	191	12	2	2	135	7	0	382
3:30 PM	4	13	3	0	2	1	2	0	3	220	13	0	1	137	5	0	404
3:45 PM	2	15	2	0	2	0	0	0	4	216	7	0	1	152	10	0	411
4:00 PM	5	6	4	0	0	3	2	0	2	199	9	0	1	130	10	0	371
4:15 PM	3	11	3	0	0	1	2	0	4	229	13	0	0	145	11	0	422
4:30 PM	8	10	8	0	1	1	1	0	1	208	7	0	0	147	3	0	395
4:45 PM	3	16	4	0	1	3	2	0	2	230	10	0	1	126	9	0	407
5:00 PM	0	12	7	0	1	0	0	0	1	216	6	1	0	130	12	0	386
5:15 PM	5	13	5	0	1	2	1	0	5	213	2	0	0	131	6	0	384
5:30 PM	2	24	5	0	0	1	3	0	1	224	7	0	0	153	12	0	432
5:45 PM	3	10	4	0	1	1	2	0	4	210	7	1	0	151	14	0	408
TOTAL VOLUMES :	NL 42	NT 154	NR 58	NU 0	SL 13	ST 15	SR 16	SU 0	EL 34	ET 2532	ER 102	EU 4	WL 6	WT 1654	WR 106	WU 0	TOTAL 4736
APPROACH %'s :	16.54%	60.63%	22.83%	0.00%	29.55%	34.09%	36.36%	0.00%	1.27%	94.76%	3.82%	0.15%	0.34%	93.66%	6.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	14	49	22	0	3	5	5	0	8	883	36	1	1	548	35	0	1610
PEAK HR FACTOR :	0.438	0.766	0.688	0.000	0.750	0.417	0.625	0.000	0.500	0.960	0.692	0.250	0.250	0.932	0.729	0.000	0.954
	0.817				0.542				0.943				0.936				

National Data & Surveying Services

Location: S Cloverdale Ave & W 8th St

City: Los Angeles

Control: 4-Way Stop

Intersection Turning Movement Count

Project ID: 23-020356-003

Date: 9/19/2023

Total

NS/EW Streets:	S Cloverdale Ave				S Cloverdale Ave				W 8th St				W 8th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	1	1	0	6	11	1	0	0	10	0	0	0	17	1	0	48
7:15 AM	2	2	1	0	2	6	1	0	0	15	0	0	0	30	1	0	60
7:30 AM	5	5	1	0	3	6	2	0	2	28	2	0	2	46	1	0	103
7:45 AM	9	6	2	0	4	7	7	0	1	27	0	0	1	59	0	0	123
8:00 AM	2	5	0	0	8	6	4	1	3	35	1	0	5	70	6	0	146
8:15 AM	2	6	2	0	6	2	3	0	1	24	0	0	1	74	4	0	125
8:30 AM	3	5	1	0	7	6	3	0	3	29	1	1	0	83	6	0	148
8:45 AM	3	8	0	0	7	12	2	0	2	27	2	0	0	55	7	0	125
9:00 AM	3	9	1	1	6	8	6	0	1	34	0	0	2	46	0	0	117
9:15 AM	0	9	2	0	9	5	3	0	3	32	1	0	2	44	2	0	112
9:30 AM	2	3	0	0	12	6	2	0	3	39	0	0	3	41	3	0	114
9:45 AM	2	5	1	0	9	10	2	0	3	21	1	0	1	43	2	0	100
TOTAL VOLUMES :	NL 33	NT 64	NR 12	NU 1	SL 79	ST 85	SR 36	SU 1	EL 22	ET 321	ER 8	EU 1	WL 17	WT 608	WR 33	WU 0	TOTAL 1321
APPROACH %'s :	30.00%	58.18%	10.91%	0.91%	39.30%	42.29%	17.91%	0.50%	6.25%	91.19%	2.27%	0.28%	2.58%	92.40%	5.02%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	10	24	3	0	28	26	12	1	9	115	4	1	6	282	23	0	544
PEAK HR FACTOR :	0.833	0.750	0.375	0.000	0.875	0.542	0.750	0.250	0.750	0.821	0.500	0.250	0.300	0.849	0.821	0.000	0.919
	0.841				0.798				0.827				0.874				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
3:00 PM	2	5	0	0	7	12	3	0	5	44	1	0	0	27	1	0	107
3:15 PM	3	6	2	0	11	10	2	0	4	56	0	0	1	20	1	0	116
3:30 PM	2	3	0	0	11	14	4	0	1	69	3	0	0	27	6	0	140
3:45 PM	1	4	1	0	10	14	2	0	4	61	1	0	0	17	3	0	118
4:00 PM	1	7	1	0	14	14	3	0	3	50	3	0	2	20	0	0	118
4:15 PM	0	1	0	0	2	13	4	0	5	79	1	0	1	28	1	0	135
4:30 PM	2	4	0	0	7	22	2	0	2	107	3	0	1	12	1	0	163
4:45 PM	0	9	1	0	4	12	4	0	4	81	1	0	2	32	4	0	154
5:00 PM	2	8	1	0	5	16	3	0	2	87	3	0	2	24	3	1	157
5:15 PM	1	7	2	0	5	17	2	0	4	105	9	0	0	19	1	1	173
5:30 PM	2	10	1	0	11	20	1	0	3	89	2	0	5	31	1	1	177
5:45 PM	3	9	0	0	9	8	2	0	3	84	1	0	4	26	3	0	152
TOTAL VOLUMES :	NL 19	NT 73	NR 9	NU 0	SL 96	ST 172	SR 32	SU 0	EL 40	ET 912	ER 28	EU 0	WL 18	WT 283	WR 25	WU 3	TOTAL 1710
APPROACH %'s :	18.81%	72.28%	8.91%	0.00%	32.00%	57.33%	10.67%	0.00%	4.08%	93.06%	2.86%	0.00%	5.47%	86.02%	7.60%	0.91%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	5	34	5	0	25	65	10	0	13	362	15	0	9	106	9	3	661
PEAK HR FACTOR :	0.625	0.850	0.625	0.000	0.568	0.813	0.625	0.000	0.813	0.862	0.417	0.000	0.450	0.828	0.563	0.750	0.934
	0.846				0.781				0.826				0.836				

National Data & Surveying Services

Location: S Detroit St & W 8th St

City: Los Angeles

Control: 4-Way Stop

Intersection Turning Movement Count

Project ID: 23-020356-004

Date: 9/19/2023

Total

NS/EW Streets:	S Detroit St				S Detroit St				W 8th St				W 8th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	1	1	3	0	1	1	0	0	1	14	2	0	0	18	5	0	47
7:15 AM	2	2	2	0	2	1	4	1	1	15	1	0	2	22	1	0	56
7:30 AM	0	3	1	0	2	3	2	0	3	32	0	0	2	48	2	0	98
7:45 AM	5	7	4	0	4	3	0	0	2	29	1	0	1	52	8	0	116
8:00 AM	1	9	2	0	2	0	5	0	4	34	5	0	2	73	8	0	145
8:15 AM	2	8	4	0	4	5	1	0	6	27	1	0	2	77	5	1	143
8:30 AM	3	3	4	0	4	6	2	0	1	31	4	0	3	82	8	0	151
8:45 AM	0	6	3	0	6	2	6	0	3	29	1	1	1	58	7	0	123
9:00 AM	1	3	0	0	9	4	4	0	4	33	4	0	0	41	8	1	112
9:15 AM	1	3	7	0	4	0	3	0	7	33	1	0	0	46	7	0	112
9:30 AM	2	9	5	0	5	2	5	0	6	44	2	0	4	39	7	0	130
9:45 AM	2	3	4	0	4	2	2	0	5	25	2	0	3	43	5	2	102
TOTAL VOLUMES :	NL 20	NT 57	NR 39	NU 0	SL 47	ST 29	SR 34	SU 1	EL 43	ET 346	ER 24	EU 1	WL 20	WT 599	WR 71	WU 4	TOTAL 1335
APPROACH %'s :	17.24%	49.14%	33.62%	0.00%	42.34%	26.13%	30.63%	0.90%	10.39%	83.57%	5.80%	0.24%	2.88%	86.31%	10.23%	0.58%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	6	26	13	0	16	13	14	0	14	121	11	1	8	290	28	1	562
PEAK HR FACTOR :	0.500	0.722	0.813	0.000	0.667	0.542	0.583	0.000	0.583	0.890	0.550	0.250	0.667	0.884	0.875	0.250	0.930
	0.804				0.768				0.855				0.879				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
3:00 PM	1	10	3	0	7	2	2	0	3	43	1	0	4	24	3	1	104
3:15 PM	2	13	5	0	8	4	0	0	8	65	0	0	3	20	6	0	134
3:30 PM	2	6	4	0	12	1	1	0	6	68	2	0	6	33	2	0	143
3:45 PM	0	11	5	0	6	2	0	0	4	71	1	0	4	21	4	0	129
4:00 PM	1	8	7	0	5	5	2	0	3	58	3	0	3	19	3	0	117
4:15 PM	1	7	1	0	7	3	6	0	2	73	5	0	1	24	7	0	137
4:30 PM	1	13	2	0	8	7	4	0	6	105	0	0	1	10	6	0	163
4:45 PM	0	11	1	1	6	9	6	0	8	79	2	0	2	34	7	0	166
5:00 PM	1	11	1	0	4	2	1	0	6	80	3	0	3	25	3	2	142
5:15 PM	1	8	3	0	3	2	1	0	10	101	1	0	1	21	5	0	157
5:30 PM	0	13	5	0	2	4	2	0	5	95	4	0	6	34	7	0	177
5:45 PM	1	10	1	0	2	4	2	0	5	91	1	0	3	31	3	0	154
TOTAL VOLUMES :	NL 11	NT 121	NR 38	NU 1	SL 70	ST 45	SR 27	SU 0	EL 66	ET 929	ER 23	EU 0	WL 37	WT 296	WR 56	WU 3	TOTAL 1723
APPROACH %'s :	6.43%	70.76%	22.22%	0.58%	49.30%	31.69%	19.01%	0.00%	6.48%	91.26%	2.26%	0.00%	9.44%	75.51%	14.29%	0.77%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	2	43	10	1	15	17	10	0	29	355	10	0	12	114	22	2	642
PEAK HR FACTOR :	0.500	0.827	0.500	0.250	0.625	0.472	0.417	0.000	0.725	0.879	0.625	0.000	0.500	0.838	0.786	0.250	0.907
	0.778				0.500				0.879				0.798				

Appendix G: Intersection Turning Movement Volumes and Lane Configurations





● Study Intersection ■ Project Site

1. Cloverdale Ave/Wilshire Blvd	2. Detroit St/Wilshire Blvd	3. Cloverdale Ave/8th St
4. Detroit St/8th St		





● Study Intersection ■ Project Site

1. Cloverdale Ave/Wilshire Blvd	2. Detroit St/Wilshire Blvd	3. Cloverdale Ave/8th St
4. Detroit St/8th St		





● Study Intersection ■ Project Site

1. Cloverdale Ave/Wilshire Blvd	2. Detroit St/Wilshire Blvd	3. Cloverdale Ave/8th St
80 (30) 45 (59) 20 (20) 10 (20) 1,546 (810) 56 (82) 40 (10) 736 (1,406) 32 (59) 29 (21) 20 (10) 25 (37)	30 (10) 20 (10) 10 (10) 30 (50) 1,567 (840) 18 (30) 20 (10) 736 (1,404) 35 (59) 25 (22) 72 (71) 36 (34)	19 (14) 37 (74) 41 (36) 27 (23) 335 (133) 10 (10) 15 (19) 135 (429) 10 (20) 10 (10) 25 (50) 10 (10)
4. Detroit St/8th St	5. Cloverdale Ave/Proj. Dwy (West)	6. Detroit St/Proj. Dwy (East)
15 (13) 15 (23) 37 (29) 37 (33) 347 (153) 10 (10) 25 (39) 151 (426) 10 (10) 10 (10) 35 (50) 10 (10)	120 (171) 13 (29) 24 (8) 27 (14) 50 (60) 17 (32)	13 (28) 60 (71) 23 (8) 27 (14) 17 (32) 80 (90)



Appendix H: Intersection Level of Service Worksheets and Queueing Results



HCM 6th Signalized Intersection Summary

1: Cloverdale Ave & Wilshire Blvd

Existing Conditions AM
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	690	30	50	1360	10	20	20	10	20	40	80
Future Volume (veh/h)	40	690	30	50	1360	10	20	20	10	20	40	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.94	0.99		0.92	0.97		0.95	0.96		0.94
Parking Bus, Adj	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
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	43	750	33	54	1478	11	22	22	11	22	43	87
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	300	2227	888	441	2227	914	154	140	60	69	106	174
Arrive On Green	0.63	0.63	0.63	1.00	1.00	1.00	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	351	3554	1417	686	3554	1458	461	661	281	111	499	817
Grp Volume(v), veh/h	43	750	33	54	1478	11	55	0	0	152	0	0
Grp Sat Flow(s),veh/h/ln	351	1777	1417	686	1777	1458	1403	0	0	1428	0	0
Q Serve(g_s), s	4.7	9.0	0.8	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.7	9.0	0.8	10.3	0.0	0.0	2.5	0.0	0.0	8.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.40		0.20	0.14		0.57
Lane Grp Cap(c), veh/h	300	2227	888	441	2227	914	354	0	0	349	0	0
V/C Ratio(X)	0.14	0.34	0.04	0.12	0.66	0.01	0.16	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	300	2227	888	441	2227	914	520	0	0	522	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.58	0.58	0.58	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.2	8.0	6.4	0.8	0.0	0.0	28.9	0.0	0.0	31.1	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.1	0.0	0.3	0.9	0.0	0.2	0.0	0.0	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.0	0.2	0.0	0.3	0.0	1.0	0.0	0.0	3.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.5	8.1	6.4	1.1	0.9	0.0	29.1	0.0	0.0	32.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h	826			1543			55			152		
Approach Delay, s/veh	8.0			0.9			29.1			32.0		
Approach LOS	A			A			C			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	65.2			24.8			65.2			24.8		
Change Period (Y+Rc), s	* 8.8			5.7			* 8.8			5.7		
Max Green Setting (Gmax), s	* 45			30.3			* 45			30.3		
Max Q Clear Time (g_c+I1), s	12.3			10.2			11.0			4.5		
Green Ext Time (p_c), s	23.6			0.9			9.9			0.3		

Intersection Summary

HCM 6th Ctrl Delay	5.6
HCM 6th LOS	A

Notes

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

Queues

1: Cloverdale Ave & Wilshire Blvd

Existing Conditions AM

Timing Plan: AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	43	750	33	54	1478	11	55	152
v/c Ratio	0.27	0.32	0.04	0.12	0.64	0.01	0.21	0.55
Control Delay	14.9	8.4	3.4	2.8	4.6	0.1	24.8	36.3
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Total Delay	14.9	8.4	3.4	2.8	5.0	0.1	24.8	36.3
Queue Length 50th (ft)	8	78	0	4	60	0	22	75
Queue Length 95th (ft)	39	155	12	m3	37	m0	48	118
Internal Link Dist (ft)		224			228		199	835
Turn Bay Length (ft)	60		60	80		40		
Base Capacity (vph)	160	2311	898	435	2311	793	475	488
Starvation Cap Reductn	0	0	0	0	312	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.32	0.04	0.12	0.74	0.01	0.12	0.31

Intersection Summary

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

HCM 6th Signalized Intersection Summary

2: Detroit St & Wilshire Blvd

Existing Conditions AM
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	680	30	10	1380	30	20	70	20	10	20	30
Future Volume (veh/h)	20	680	30	10	1380	30	20	70	20	10	20	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	0.99		0.93	0.97		0.97	0.98		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	22	747	23	11	1516	23	22	77	22	11	22	24
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	2089	882	45	2037	864	73	182	46	73	113	101
Arrive On Green	0.65	0.65	0.65	0.65	0.65	0.65	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	303	3198	1350	7	3119	1322	140	1006	255	142	624	558
Grp Volume(v), veh/h	22	747	23	817	710	23	121	0	0	57	0	0
Grp Sat Flow(s),veh/h/ln	303	1599	1350	1671	1455	1322	1401	0	0	1324	0	0
Q Serve(g_s), s	4.8	9.5	0.5	0.0	29.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	34.5	9.5	0.5	29.5	29.7	0.6	6.7	0.0	0.0	3.2	0.0	0.0
Prop In Lane	1.00		1.00	0.01		1.00	0.18		0.18	0.19		0.42
Lane Grp Cap(c), veh/h	178	2089	882	1132	951	864	301	0	0	288	0	0
V/C Ratio(X)	0.12	0.36	0.03	0.72	0.75	0.03	0.40	0.00	0.00	0.20	0.00	0.00
Avail Cap(c_a), veh/h	178	2089	882	1132	951	864	524	0	0	498	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.2	7.1	5.5	10.5	10.6	5.5	32.9	0.0	0.0	31.5	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.5	0.1	4.0	5.3	0.1	0.9	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.9	0.1	10.1	9.1	0.1	2.4	0.0	0.0	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.6	7.5	5.6	14.5	15.9	5.6	33.8	0.0	0.0	31.8	0.0	0.0
LnGrp LOS	C	A	A	B	B	A	C	A	A	C	A	A
Approach Vol, veh/h	792			1550			121			57		
Approach Delay, s/veh	7.9			15.0			33.8			31.8		
Approach LOS	A			B			C			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	67.8			22.2			67.8			22.2		
Change Period (Y+Rc), s	9.0			* 5.9			9.0			* 5.9		
Max Green Setting (Gmax), s	44.0			* 31			44.0			* 31		
Max Q Clear Time (g_c+I1), s	31.7			5.2			36.5			8.7		
Green Ext Time (p_c), s	9.5			0.3			4.2			0.6		

Intersection Summary

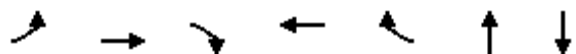
HCM 6th Ctrl Delay	14.1
HCM 6th LOS	B

Notes

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

Queues
2: Detroit St & Wilshire Blvd

Existing Conditions AM
Timing Plan: AM Peak Hour



Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	22	747	33	1527	33	121	66
v/c Ratio	0.15	0.35	0.04	0.75	0.04	0.53	0.31
Control Delay	5.8	3.7	0.5	14.8	3.1	37.0	30.2
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	5.8	3.8	0.5	14.8	3.1	37.0	30.2
Queue Length 50th (ft)	1	18	0	241	0	58	29
Queue Length 95th (ft)	6	47	1	#587	13	92	55
Internal Link Dist (ft)		228		262		227	843
Turn Bay Length (ft)	110		90		50		
Base Capacity (vph)	144	2146	930	2034	777	479	454
Starvation Cap Reductn	0	419	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.43	0.04	0.75	0.04	0.25	0.15

Intersection Summary

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

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	10	115	4	6	282	23	10	24	3	29	26	12
Future Vol, veh/h	10	115	4	6	282	23	10	24	3	29	26	12
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	125	4	7	307	25	11	26	3	32	28	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.6	10.3	8.5	8.7
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	8%	2%	43%
Vol Thru, %	65%	89%	91%	39%
Vol Right, %	8%	3%	7%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	37	129	311	67
LT Vol	10	10	6	29
Through Vol	24	115	282	26
RT Vol	3	4	23	12
Lane Flow Rate	40	140	338	73
Geometry Grp	1	1	1	1
Degree of Util (X)	0.057	0.178	0.407	0.102
Departure Headway (Hd)	5.111	4.577	4.338	5.036
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	699	784	832	710
Service Time	3.154	2.608	2.363	3.076
HCM Lane V/C Ratio	0.057	0.179	0.406	0.103
HCM Control Delay	8.5	8.6	10.3	8.7
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.2	0.6	2	0.3

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	15	121	11	9	290	28	6	26	13	16	13	14
Future Vol, veh/h	15	121	11	9	290	28	6	26	13	16	13	14
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	130	12	10	312	30	6	28	14	17	14	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.7	10.4	8.4	8.4
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	10%	3%	37%
Vol Thru, %	58%	82%	89%	30%
Vol Right, %	29%	7%	9%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	147	327	43
LT Vol	6	15	9	16
Through Vol	26	121	290	13
RT Vol	13	11	28	14
Lane Flow Rate	48	158	352	46
Geometry Grp	1	1	1	1
Degree of Util (X)	0.067	0.198	0.42	0.064
Departure Headway (Hd)	4.978	4.513	4.298	5.006
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	719	795	840	714
Service Time	3.016	2.539	2.319	3.045
HCM Lane V/C Ratio	0.067	0.199	0.419	0.064
HCM Control Delay	8.4	8.7	10.4	8.4
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.2	0.7	2.1	0.2

HCM 6th Signalized Intersection Summary

1: Cloverdale Ave & Wilshire Blvd

Existing Conditions PM
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1210	50	70	730	20	20	10	30	20	50	30
Future Volume (veh/h)	10	1210	50	70	730	20	20	10	30	20	50	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.92	1.00		0.92	0.95		0.93	0.95		0.94
Parking Bus, Adj	1.00	1.00	0.92	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
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	11	1315	54	76	793	22	22	11	33	22	54	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	491	2220	840	240	2220	913	129	70	145	88	182	96
Arrive On Green	0.62	0.62	0.62	1.00	1.00	1.00	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	658	3554	1345	397	3554	1461	352	326	678	185	851	450
Grp Volume(v), veh/h	11	1315	54	76	793	22	66	0	0	109	0	0
Grp Sat Flow(s),veh/h/ln	658	1777	1345	397	1777	1461	1356	0	0	1485	0	0
Q Serve(g_s), s	0.6	19.8	1.4	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	19.8	1.4	28.6	0.0	0.0	3.3	0.0	0.0	5.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.33		0.50	0.20		0.30
Lane Grp Cap(c), veh/h	491	2220	840	240	2220	913	344	0	0	366	0	0
V/C Ratio(X)	0.02	0.59	0.06	0.32	0.36	0.02	0.19	0.00	0.00	0.30	0.00	0.00
Avail Cap(c_a), veh/h	491	2220	840	240	2220	913	502	0	0	543	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.5	10.1	6.6	5.1	0.0	0.0	29.1	0.0	0.0	29.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	3.2	0.4	0.0	0.3	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	6.7	0.4	0.6	0.1	0.0	1.2	0.0	0.0	2.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.5	10.6	6.7	8.2	0.4	0.0	29.3	0.0	0.0	30.3	0.0	0.0
LnGrp LOS	A	B	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h	1380				891				66			
Approach Delay, s/veh	10.4				1.1				29.3			
Approach LOS	B				A				C			
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	65.0			25.0			65.0			25.0		
Change Period (Y+Rc), s	* 8.8			5.7			* 8.8			5.7		
Max Green Setting (Gmax), s	* 45			30.3			* 45			30.3		
Max Q Clear Time (g_c+I1), s	30.6			7.3			21.8			5.3		
Green Ext Time (p_c), s	8.3			0.6			14.1			0.3		
Intersection Summary												
HCM 6th Ctrl Delay			8.4									
HCM 6th LOS			A									
Notes												

Queues

1: Cloverdale Ave & Wilshire Blvd

Existing Conditions PM

Timing Plan: PM Peak Hour

								
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	1315	54	76	793	22	66	109
v/c Ratio	0.02	0.52	0.07	0.32	0.31	0.02	0.27	0.40
Control Delay	8.4	9.7	4.6	7.4	2.9	0.3	23.7	27.2
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	8.4	9.7	4.6	7.4	2.9	0.3	23.7	27.2
Queue Length 50th (ft)	2	145	3	6	31	0	24	45
Queue Length 95th (ft)	10	327	21	13	21	m0	51	79
Internal Link Dist (ft)		224			228		199	835
Turn Bay Length (ft)	60		60	80		40		
Base Capacity (vph)	442	2541	812	239	2541	881	467	508
Starvation Cap Reductn	0	0	0	0	569	0	0	0
Spillback Cap Reductn	0	7	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.52	0.07	0.32	0.40	0.02	0.14	0.21
Intersection Summary								
m Volume for 95th percentile queue is metered by upstream signal.								

HCM 6th Signalized Intersection Summary

2: Detroit St & Wilshire Blvd

Existing Conditions PM
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1210	50	0	750	50	20	70	30	0	10	10
Future Volume (veh/h)	10	1210	50	0	750	50	20	70	30	0	10	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.93	0.97		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	11	1330	45	0	824	45	22	77	33	0	11	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	381	2075	876	0	2075	858	70	170	65	0	230	42
Arrive On Green	0.65	0.65	0.65	0.00	0.65	0.65	0.19	0.19	0.19	0.00	0.19	0.19
Sat Flow, veh/h	571	3198	1350	0	3282	1322	128	915	348	0	1240	225
Grp Volume(v), veh/h	11	1330	45	0	824	45	132	0	0	0	0	13
Grp Sat Flow(s),veh/h/ln	571	1599	1350	0	1599	1322	1390	0	0	0	0	1466
Q Serve(g_s), s	0.8	22.5	1.1	0.0	11.0	1.1	0.2	0.0	0.0	0.0	0.0	0.7
Cycle Q Clear(g_c), s	11.8	22.5	1.1	0.0	11.0	1.1	7.4	0.0	0.0	0.0	0.0	0.7
Prop In Lane	1.00		1.00	0.00		1.00	0.17		0.25	0.00		0.15
Lane Grp Cap(c), veh/h	381	2075	876	0	2075	858	305	0	0	0	0	272
V/C Ratio(X)	0.03	0.64	0.05	0.00	0.40	0.05	0.43	0.00	0.00	0.00	0.00	0.05
Avail Cap(c_a), veh/h	381	2075	876	0	2075	858	522	0	0	0	0	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	10.3	9.5	5.7	0.0	7.5	5.7	32.9	0.0	0.0	0.0	0.0	30.1
Incr Delay (d2), s/veh	0.1	1.3	0.1	0.0	0.6	0.1	1.0	0.0	0.0	0.0	0.0	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(50%),veh/ln	0.1	6.8	0.3	0.0	3.3	0.3	2.7	0.0	0.0	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.4	10.8	5.8	0.0	8.0	5.9	33.8	0.0	0.0	0.0	0.0	30.2
LnGrp LOS	B	B	A	A	A	A	C	A	A	A	A	C
Approach Vol, veh/h	1386			869			132			13		
Approach Delay, s/veh	10.6			7.9			33.8			30.2		
Approach LOS	B			A			C			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	67.4			22.6			67.4			22.6		
Change Period (Y+Rc), s	9.0			* 5.9			9.0			* 5.9		
Max Green Setting (Gmax), s	44.0			* 31			44.0			* 31		
Max Q Clear Time (g_c+I1), s	13.0			2.7			24.5			9.4		
Green Ext Time (p_c), s	9.4			0.0			13.5			0.7		

Intersection Summary

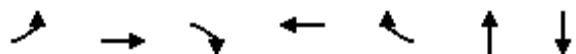
HCM 6th Ctrl Delay	11.0
HCM 6th LOS	B

Notes

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

Queues
2: Detroit St & Wilshire Blvd

Existing Conditions PM
Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	1330	55	824	55	132	22
v/c Ratio	0.03	0.62	0.06	0.39	0.07	0.55	0.09
Control Delay	4.0	5.2	1.0	8.3	4.3	36.4	19.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	5.2	1.0	8.3	4.3	36.4	19.4
Queue Length 50th (ft)	0	28	0	87	3	60	6
Queue Length 95th (ft)	m2	76	m2	194	23	97	22
Internal Link Dist (ft)		228		262		227	843
Turn Bay Length (ft)	110		90		50		
Base Capacity (vph)	362	2140	927	2140	775	486	485
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.62	0.06	0.39	0.07	0.27	0.05

Intersection Summary

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

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	13	362	15	12	106	9	5	34	5	25	65	10
Future Vol, veh/h	13	362	15	12	106	9	5	34	5	25	65	10
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	393	16	13	115	10	5	37	5	27	71	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.5	8.9	8.8	9.3
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	3%	9%	25%
Vol Thru, %	77%	93%	83%	65%
Vol Right, %	11%	4%	7%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	44	390	127	100
LT Vol	5	13	12	25
Through Vol	34	362	106	65
RT Vol	5	15	9	10
Lane Flow Rate	48	424	138	109
Geometry Grp	1	1	1	1
Degree of Util (X)	0.071	0.529	0.184	0.159
Departure Headway (Hd)	5.34	4.494	4.799	5.275
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	666	801	744	675
Service Time	3.415	2.534	2.853	3.342
HCM Lane V/C Ratio	0.072	0.529	0.185	0.161
HCM Control Delay	8.8	12.5	8.9	9.3
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.2	3.2	0.7	0.6

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	29	355	10	14	114	22	3	43	10	15	17	10
Future Vol, veh/h	29	355	10	14	114	22	3	43	10	15	17	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	382	11	15	123	24	3	46	11	16	18	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12	8.8	8.8	8.7
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	7%	9%	36%
Vol Thru, %	77%	90%	76%	40%
Vol Right, %	18%	3%	15%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	56	394	150	42
LT Vol	3	29	14	15
Through Vol	43	355	114	17
RT Vol	10	10	22	10
Lane Flow Rate	60	424	161	45
Geometry Grp	1	1	1	1
Degree of Util (X)	0.087	0.516	0.206	0.066
Departure Headway (Hd)	5.208	4.387	4.59	5.256
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	685	822	781	678
Service Time	3.261	2.416	2.627	3.313
HCM Lane V/C Ratio	0.088	0.516	0.206	0.066
HCM Control Delay	8.8	12	8.8	8.7
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.3	3	0.8	0.2

HCM 6th Signalized Intersection Summary

1: Cloverdale Ave & Wilshire Blvd

Future Base AM
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	730	30	50	1540	10	20	20	10	20	40	80
Future Volume (veh/h)	40	730	30	50	1540	10	20	20	10	20	40	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.94	0.99		0.92	0.97		0.95	0.96		0.94
Parking Bus, Adj	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
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	43	793	33	54	1674	11	22	22	11	22	43	87
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	262	2227	888	423	2227	914	154	140	60	69	106	174
Arrive On Green	0.63	0.63	0.63	1.00	1.00	1.00	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	291	3554	1417	660	3554	1458	461	661	281	111	499	817
Grp Volume(v), veh/h	43	793	33	54	1674	11	55	0	0	152	0	0
Grp Sat Flow(s),veh/h/ln	291	1777	1417	660	1777	1458	1403	0	0	1428	0	0
Q Serve(g_s), s	5.8	9.7	0.8	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.8	9.7	0.8	11.1	0.0	0.0	2.5	0.0	0.0	8.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.40		0.20	0.14		0.57
Lane Grp Cap(c), veh/h	262	2227	888	423	2227	914	354	0	0	349	0	0
V/C Ratio(X)	0.16	0.36	0.04	0.13	0.75	0.01	0.16	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	262	2227	888	423	2227	914	520	0	0	522	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.42	0.42	0.42	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.4	8.1	6.4	1.0	0.0	0.0	28.9	0.0	0.0	31.1	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.1	0.0	0.3	1.0	0.0	0.2	0.0	0.0	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.2	0.2	0.0	0.3	0.0	1.0	0.0	0.0	3.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.8	8.2	6.4	1.2	1.0	0.0	29.1	0.0	0.0	32.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		869			1739			55			152	
Approach Delay, s/veh		8.1			1.0			29.1			32.0	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		65.2		24.8		65.2		24.8				
Change Period (Y+Rc), s		* 8.8		5.7		* 8.8		5.7				
Max Green Setting (Gmax), s		* 45		30.3		* 45		30.3				
Max Q Clear Time (g_c+I1), s		13.1		10.2		11.7		4.5				
Green Ext Time (p_c), s		25.7		0.9		10.7		0.3				

Intersection Summary

HCM 6th Ctrl Delay	5.4
HCM 6th LOS	A

Notes

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

Queues

1: Cloverdale Ave & Wilshire Blvd

Future Base AM

Timing Plan: AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	43	793	33	54	1674	11	55	152
v/c Ratio	0.39	0.34	0.04	0.13	0.73	0.01	0.20	0.56
Control Delay	24.2	8.7	3.4	2.2	4.3	0.0	24.6	37.7
Queue Delay	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0
Total Delay	24.2	8.7	3.4	2.2	5.1	0.0	24.6	37.7
Queue Length 50th (ft)	9	85	0	2	26	0	22	78
Queue Length 95th (ft)	#62	165	12	m3	40	m0	48	122
Internal Link Dist (ft)		224			228		199	835
Turn Bay Length (ft)	60		60	80		40		
Base Capacity (vph)	110	2303	895	412	2303	790	476	484
Starvation Cap Reductn	0	0	0	0	302	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.34	0.04	0.13	0.84	0.01	0.12	0.31

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

HCM 6th Signalized Intersection Summary

2: Detroit St & Wilshire Blvd

Future Base AM
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	720	30	10	1560	30	20	70	20	10	20	30
Future Volume (veh/h)	20	720	30	10	1560	30	20	70	20	10	20	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	0.99		0.93	0.97		0.97	0.98		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	22	791	23	11	1714	23	22	77	22	11	22	24
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	137	2089	882	45	2038	864	73	182	46	73	113	101
Arrive On Green	0.65	0.65	0.65	0.65	0.65	0.65	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	250	3198	1350	6	3120	1322	140	1006	255	142	624	558
Grp Volume(v), veh/h	22	791	23	924	801	23	121	0	0	57	0	0
Grp Sat Flow(s),veh/h/ln	250	1599	1350	1672	1455	1322	1401	0	0	1324	0	0
Q Serve(g_s), s	6.7	10.3	0.5	0.0	38.2	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	44.9	10.3	0.5	38.0	38.2	0.6	6.7	0.0	0.0	3.2	0.0	0.0
Prop In Lane	1.00		1.00	0.01		1.00	0.18		0.18	0.19		0.42
Lane Grp Cap(c), veh/h	137	2089	882	1132	951	864	301	0	0	288	0	0
V/C Ratio(X)	0.16	0.38	0.03	0.82	0.84	0.03	0.40	0.00	0.00	0.20	0.00	0.00
Avail Cap(c_a), veh/h	137	2089	882	1132	951	864	524	0	0	498	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.3	7.2	5.5	12.0	12.0	5.5	32.9	0.0	0.0	31.5	0.0	0.0
Incr Delay (d2), s/veh	2.4	0.5	0.1	6.5	9.0	0.1	0.9	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.1	0.1	13.5	12.3	0.1	2.4	0.0	0.0	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.7	7.7	5.6	18.5	21.0	5.6	33.8	0.0	0.0	31.8	0.0	0.0
LnGrp LOS	C	A	A	B	C	A	C	A	A	C	A	A
Approach Vol, veh/h	836			1748			121			57		
Approach Delay, s/veh	8.3			19.5			33.8			31.8		
Approach LOS	A			B			C			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	67.8			22.2			67.8			22.2		
Change Period (Y+Rc), s	9.0			* 5.9			9.0			* 5.9		
Max Green Setting (Gmax), s	44.0			* 31			44.0			* 31		
Max Q Clear Time (g_c+I1), s	40.2			5.2			46.9			8.7		
Green Ext Time (p_c), s	3.5			0.3			0.0			0.6		

Intersection Summary

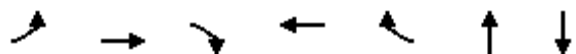
HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

Notes

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

Queues
2: Detroit St & Wilshire Blvd

Future Base AM
Timing Plan: AM Peak Hour



Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	22	791	33	1725	33	121	66
v/c Ratio	0.21	0.37	0.04	0.85	0.04	0.53	0.31
Control Delay	9.2	3.8	0.5	18.5	3.1	37.0	32.0
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	9.2	3.9	0.5	18.5	3.1	37.0	32.0
Queue Length 50th (ft)	2	35	0	313	0	58	31
Queue Length 95th (ft)	m7	49	1	#713	13	92	57
Internal Link Dist (ft)		228		262		227	843
Turn Bay Length (ft)	110		90		50		
Base Capacity (vph)	103	2146	930	2035	777	479	452
Starvation Cap Reductn	0	358	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.44	0.04	0.85	0.04	0.25	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

HCM 6th AWSC
3: Cloverdale Ave & W 8th St

Future Base AM
Timing Plan: AM Peak Hour

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	130	10	10	330	20	10	20	10	30	30	10
Future Vol, veh/h	10	130	10	10	330	20	10	20	10	30	30	10
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	141	11	11	359	22	11	22	11	33	33	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	11.4	8.6	9
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	7%	3%	43%
Vol Thru, %	50%	87%	92%	43%
Vol Right, %	25%	7%	6%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	150	360	70
LT Vol	10	10	10	30
Through Vol	20	130	330	30
RT Vol	10	10	20	10
Lane Flow Rate	43	163	391	76
Geometry Grp	1	1	1	1
Degree of Util (X)	0.063	0.21	0.478	0.111
Departure Headway (Hd)	5.191	4.64	4.401	5.236
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	687	771	818	682
Service Time	3.249	2.681	2.435	3.291
HCM Lane V/C Ratio	0.063	0.211	0.478	0.111
HCM Control Delay	8.6	8.9	11.4	9
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.2	0.8	2.6	0.4

HCM 6th AWSC
4: Detroit St & W 8th St

Future Base AM
Timing Plan: AM Peak Hour

Intersection												
Intersection Delay, s/veh	10.5											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	140	10	10	340	30	10	30	10	20	10	10
Future Vol, veh/h	20	140	10	10	340	30	10	30	10	20	10	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	151	11	11	366	32	11	32	11	22	11	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB	WB			NB			SB				
Opposing Approach	WB	EB			SB			NB				
Opposing Lanes	1	1			1			1				
Conflicting Approach Left	SB	NB			EB			WB				
Conflicting Lanes Left	1	1			1			1				
Conflicting Approach Right	NB	SB			WB			EB				
Conflicting Lanes Right	1	1			1			1				
HCM Control Delay	9.1	11.6			8.7			8.7				
HCM LOS	A	B			A			A				
Lane	NBLn1	EBLn1	WBLn1	SBLn1								
Vol Left, %	20%	12%	3%	50%								
Vol Thru, %	60%	82%	89%	25%								
Vol Right, %	20%	6%	8%	25%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	50	170	380	40								
LT Vol	10	20	10	20								
Through Vol	30	140	340	10								
RT Vol	10	10	30	10								
Lane Flow Rate	54	183	409	43								
Geometry Grp	1	1	1	1								
Degree of Util (X)	0.078	0.234	0.494	0.063								
Departure Headway (Hd)	5.227	4.605	4.348	5.275								
Convergence, Y/N	Yes	Yes	Yes	Yes								
Cap	683	779	829	676								
Service Time	3.28	2.639	2.375	3.329								
HCM Lane V/C Ratio	0.079	0.235	0.493	0.064								
HCM Control Delay	8.7	9.1	11.6	8.7								
HCM Lane LOS	A	A	B	A								
HCM 95th-tile Q	0.3	0.9	2.8	0.2								

HCM 6th Signalized Intersection Summary

1: Cloverdale Ave & Wilshire Blvd

Future Base PM
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1400	50	70	810	20	20	10	30	20	50	30
Future Volume (veh/h)	10	1400	50	70	810	20	20	10	30	20	50	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.92	1.00		0.92	0.95		0.93	0.95		0.94
Parking Bus, Adj	1.00	1.00	0.92	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
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	11	1522	54	76	880	22	22	11	33	22	54	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	459	2220	840	192	2220	913	129	70	145	88	182	96
Arrive On Green	0.62	0.62	0.62	1.00	1.00	1.00	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	608	3554	1345	325	3554	1461	352	326	678	185	851	450
Grp Volume(v), veh/h	11	1522	54	76	880	22	66	0	0	109	0	0
Grp Sat Flow(s),veh/h/ln	608	1777	1345	325	1777	1461	1356	0	0	1485	0	0
Q Serve(g_s), s	0.6	25.3	1.4	15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	25.3	1.4	40.4	0.0	0.0	3.3	0.0	0.0	5.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.33		0.50	0.20		0.30
Lane Grp Cap(c), veh/h	459	2220	840	192	2220	913	344	0	0	366	0	0
V/C Ratio(X)	0.02	0.69	0.06	0.40	0.40	0.02	0.19	0.00	0.00	0.30	0.00	0.00
Avail Cap(c_a), veh/h	459	2220	840	192	2220	913	502	0	0	543	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.91	0.91	0.91	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.5	11.1	6.6	9.1	0.0	0.0	29.1	0.0	0.0	29.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	5.5	0.5	0.0	0.3	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	8.7	0.4	1.1	0.1	0.0	1.2	0.0	0.0	2.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.5	12.1	6.7	14.6	0.5	0.0	29.3	0.0	0.0	30.3	0.0	0.0
LnGrp LOS	A	B	A	B	A	A	C	A	A	C	A	A
Approach Vol, veh/h	1587				978				66			
Approach Delay, s/veh	11.9				1.6				29.3			
Approach LOS	B				A				C			
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	65.0			25.0			65.0			25.0		
Change Period (Y+Rc), s	* 8.8			5.7			* 8.8			5.7		
Max Green Setting (Gmax), s	* 45			30.3			* 45			30.3		
Max Q Clear Time (g_c+I1), s	42.4			7.3			27.3			5.3		
Green Ext Time (p_c), s	2.1			0.6			13.3			0.3		

Intersection Summary

HCM 6th Ctrl Delay	9.3
HCM 6th LOS	A

Notes

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

Queues

1: Cloverdale Ave & Wilshire Blvd

Future Base PM

Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	1522	54	76	880	22	66	109
v/c Ratio	0.03	0.60	0.07	0.43	0.35	0.02	0.28	0.40
Control Delay	8.4	11.0	4.6	14.3	2.4	0.2	27.4	27.2
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	8.4	11.0	4.6	14.3	2.4	0.2	27.4	27.2
Queue Length 50th (ft)	2	185	3	3	15	0	29	45
Queue Length 95th (ft)	10	416	21	#98	22	m0	56	79
Internal Link Dist (ft)		224			228		199	835
Turn Bay Length (ft)	60		60	80		40		
Base Capacity (vph)	404	2541	812	175	2541	881	461	508
Starvation Cap Reductn	0	0	0	0	463	0	0	0
Spillback Cap Reductn	0	26	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.61	0.07	0.43	0.42	0.02	0.14	0.21

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

HCM 6th Signalized Intersection Summary

2: Detroit St & Wilshire Blvd

Future Base PM
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1400	50	0	830	50	20	70	30	10	10	10
Future Volume (veh/h)	10	1400	50	0	830	50	20	70	30	10	10	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.93	0.97		0.97	0.98		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	11	1538	45	0	912	45	22	77	33	11	11	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	348	2074	875	0	2074	857	70	170	65	149	127	20
Arrive On Green	0.65	0.65	0.65	0.00	0.65	0.65	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	526	3198	1350	0	3282	1322	128	915	348	490	681	106
Grp Volume(v), veh/h	11	1538	45	0	912	45	132	0	0	24	0	0
Grp Sat Flow(s),veh/h/ln	526	1599	1350	0	1599	1322	1391	0	0	1277	0	0
Q Serve(g_s), s	0.9	29.3	1.1	0.0	12.6	1.1	0.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.6	29.3	1.1	0.0	12.6	1.1	7.4	0.0	0.0	1.2	0.0	0.0
Prop In Lane	1.00		1.00	0.00		1.00	0.17		0.25	0.46		0.08
Lane Grp Cap(c), veh/h	348	2074	875	0	2074	857	305	0	0	296	0	0
V/C Ratio(X)	0.03	0.74	0.05	0.00	0.44	0.05	0.43	0.00	0.00	0.08	0.00	0.00
Avail Cap(c_a), veh/h	348	2074	875	0	2074	857	522	0	0	490	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.77	0.77	0.77	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.1	10.7	5.8	0.0	7.8	5.8	32.8	0.0	0.0	30.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.9	0.1	0.0	0.7	0.1	1.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	9.0	0.3	0.0	3.8	0.3	2.7	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.2	12.6	5.8	0.0	8.5	5.9	33.8	0.0	0.0	30.4	0.0	0.0
LnGrp LOS	B	B	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h	1594				957				132			
Approach Delay, s/veh	12.4				8.3				33.8			
Approach LOS	B				A				C			
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	67.4			22.6			67.4			22.6		
Change Period (Y+Rc), s	9.0			* 5.9			9.0			* 5.9		
Max Green Setting (Gmax), s	44.0			* 31			44.0			* 31		
Max Q Clear Time (g_c+I1), s	14.6			3.2			31.3			9.4		
Green Ext Time (p_c), s	10.4			0.1			10.5			0.7		

Intersection Summary

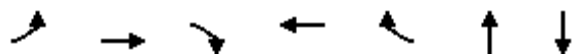
HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Notes

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

Queues
2: Detroit St & Wilshire Blvd

Future Base PM
Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	1538	55	912	55	132	33
v/c Ratio	0.03	0.72	0.06	0.43	0.07	0.56	0.15
Control Delay	4.7	7.5	1.5	8.8	4.4	38.1	22.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.7	7.5	1.5	8.8	4.4	38.1	22.4
Queue Length 50th (ft)	1	72	1	102	3	64	11
Queue Length 95th (ft)	m2	#114	m3	221	23	100	31
Internal Link Dist (ft)		228		262		227	843
Turn Bay Length (ft)	110		90		50		
Base Capacity (vph)	326	2131	923	2131	772	481	442
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.72	0.06	0.43	0.07	0.27	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

HCM 6th AWSC
3: Cloverdale Ave & W 8th St

Future Base PM
Timing Plan: PM Peak Hour

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	10	420	20	10	130	10	10	40	10	30	70	10
Future Vol, veh/h	10	420	20	10	130	10	10	40	10	30	70	10
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	457	22	11	141	11	11	43	11	33	76	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.2	9.5	9.3	9.9
HCM LOS	C	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	2%	7%	27%
Vol Thru, %	67%	93%	87%	64%
Vol Right, %	17%	4%	7%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	450	150	110
LT Vol	10	10	10	30
Through Vol	40	420	130	70
RT Vol	10	20	10	10
Lane Flow Rate	65	489	163	120
Geometry Grp	1	1	1	1
Degree of Util (X)	0.103	0.627	0.225	0.187
Departure Headway (Hd)	5.686	4.614	4.978	5.642
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	634	778	713	640
Service Time	3.69	2.687	3.075	3.645
HCM Lane V/C Ratio	0.103	0.629	0.229	0.188
HCM Control Delay	9.3	15.2	9.5	9.9
HCM Lane LOS	A	C	A	A
HCM 95th-tile Q	0.3	4.5	0.9	0.7

HCM 6th AWSC
4: Detroit St & W 8th St

Future Base PM
Timing Plan: PM Peak Hour

Intersection												
Intersection Delay, s/veh	12.4											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	30	420	10	10	140	20	10	40	10	20	20	10
Future Vol, veh/h	30	420	10	10	140	20	10	40	10	20	20	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	452	11	11	151	22	11	43	11	22	22	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	14.4			9.3			9.1			9.1		
HCM LOS	B			A			A			A		
Lane	NBLn1	EBLn1	WBLn1	SBLn1								
Vol Left, %	17%	7%	6%	40%								
Vol Thru, %	67%	91%	82%	40%								
Vol Right, %	17%	2%	12%	20%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	60	460	170	50								
LT Vol	10	30	10	20								
Through Vol	40	420	140	20								
RT Vol	10	10	20	10								
Lane Flow Rate	65	495	183	54								
Geometry Grp	1	1	1	1								
Degree of Util (X)	0.098	0.613	0.24	0.082								
Departure Headway (Hd)	5.472	4.464	4.734	5.519								
Convergence, Y/N	Yes	Yes	Yes	Yes								
Cap	650	806	755	644								
Service Time	3.548	2.502	2.785	3.596								
HCM Lane V/C Ratio	0.1	0.614	0.242	0.084								
HCM Control Delay	9.1	14.4	9.3	9.1								
HCM Lane LOS	A	B	A	A								
HCM 95th-tile Q	0.3	4.3	0.9	0.3								

HCM 6th Signalized Intersection Summary

1: Cloverdale Ave & Wilshire Blvd

Future with Project AM
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	736	32	56	1546	10	29	20	25	20	45	80
Future Volume (veh/h)	40	736	32	56	1546	10	29	20	25	20	45	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.94	0.99		0.92	0.97		0.95	0.96		0.94
Parking Bus, Adj	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
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	43	800	35	61	1680	11	32	22	27	22	49	87
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	261	2221	886	418	2221	911	151	101	98	69	115	169
Arrive On Green	0.62	0.62	0.62	1.00	1.00	1.00	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	289	3554	1417	654	3554	1458	445	470	457	107	538	790
Grp Volume(v), veh/h	43	800	35	61	1680	11	81	0	0	158	0	0
Grp Sat Flow(s),veh/h/ln	289	1777	1417	654	1777	1458	1371	0	0	1435	0	0
Q Serve(g_s), s	5.9	9.8	0.9	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.9	9.8	0.9	11.5	0.0	0.0	4.0	0.0	0.0	8.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.40		0.33	0.14		0.55
Lane Grp Cap(c), veh/h	261	2221	886	418	2221	911	349	0	0	353	0	0
V/C Ratio(X)	0.16	0.36	0.04	0.15	0.76	0.01	0.23	0.00	0.00	0.45	0.00	0.00
Avail Cap(c_a), veh/h	261	2221	886	418	2221	911	509	0	0	525	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.36	0.36	0.36	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.4	8.2	6.5	1.0	0.0	0.0	29.3	0.0	0.0	31.1	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.1	0.0	0.3	0.9	0.0	0.3	0.0	0.0	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.3	0.2	0.0	0.3	0.0	1.5	0.0	0.0	3.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.9	8.3	6.5	1.3	0.9	0.0	29.7	0.0	0.0	32.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		878			1752			81			158	
Approach Delay, s/veh		8.2			0.9			29.7			32.0	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		65.0		25.0		65.0		25.0				
Change Period (Y+Rc), s		* 8.8		5.7		* 8.8		5.7				
Max Green Setting (Gmax), s		* 45		30.3		* 45		30.3				
Max Q Clear Time (g_c+I1), s		13.5		10.5		11.8		6.0				
Green Ext Time (p_c), s		25.5		0.9		10.8		0.4				

Intersection Summary

HCM 6th Ctrl Delay	5.7
HCM 6th LOS	A

Notes

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

Queues

1: Cloverdale Ave & Wilshire Blvd

Future with Project AM

Timing Plan: AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	43	800	35	61	1680	11	81	158
v/c Ratio	0.39	0.35	0.04	0.15	0.73	0.01	0.30	0.57
Control Delay	24.4	8.7	3.6	2.2	4.0	0.0	22.6	38.3
Queue Delay	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0
Total Delay	24.4	8.7	3.6	2.2	4.8	0.0	22.6	38.3
Queue Length 50th (ft)	9	88	0	2	27	0	27	81
Queue Length 95th (ft)	#63	167	13	m3	42	m0	60	126
Internal Link Dist (ft)		224			228		199	835
Turn Bay Length (ft)	60		60	80		40		
Base Capacity (vph)	110	2297	892	406	2297	788	456	485
Starvation Cap Reductn	0	0	0	0	324	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.35	0.04	0.15	0.85	0.01	0.18	0.33

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

HCM 6th Signalized Intersection Summary

2: Detroit St & Wilshire Blvd

Future with Project AM
Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	736	35	18	1567	30	25	72	36	10	20	30
Future Volume (veh/h)	20	736	35	18	1567	30	25	72	36	10	20	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	0.99		0.93	0.97		0.97	0.98		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	22	809	28	20	1722	23	27	79	40	11	22	24
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	2049	864	51	1982	846	76	164	73	77	121	109
Arrive On Green	0.64	0.64	0.64	0.64	0.64	0.64	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	249	3198	1349	16	3094	1321	149	847	376	149	625	563
Grp Volume(v), veh/h	22	809	28	932	810	23	146	0	0	57	0	0
Grp Sat Flow(s), veh/h/ln	249	1599	1349	1654	1455	1321	1372	0	0	1337	0	0
Q Serve(g_s), s	7.1	10.9	0.7	9.2	40.6	0.6	1.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	47.7	10.9	0.7	40.9	40.6	0.6	8.4	0.0	0.0	3.1	0.0	0.0
Prop In Lane	1.00		1.00	0.02		1.00	0.18		0.27	0.19		0.42
Lane Grp Cap(c), veh/h	127	2049	864	1101	932	846	313	0	0	307	0	0
V/C Ratio(X)	0.17	0.39	0.03	0.85	0.87	0.03	0.47	0.00	0.00	0.19	0.00	0.00
Avail Cap(c_a), veh/h	127	2049	864	1101	932	846	516	0	0	500	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.4	7.8	5.9	13.0	13.1	5.9	32.6	0.0	0.0	30.5	0.0	0.0
Incr Delay (d2), s/veh	2.8	0.5	0.1	8.1	10.8	0.1	1.1	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.3	0.2	14.8	13.6	0.2	2.9	0.0	0.0	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	8.3	6.0	21.1	23.9	6.0	33.7	0.0	0.0	30.8	0.0	0.0
LnGrp LOS	D	A	A	C	C	A	C	A	A	C	A	A
Approach Vol, veh/h	859			1765			146			57		
Approach Delay, s/veh	8.9			22.2			33.7			30.8		
Approach LOS	A			C			C			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	66.7			23.3			66.7			23.3		
Change Period (Y+Rc), s	9.0			* 5.9			9.0			* 5.9		
Max Green Setting (Gmax), s	44.0			* 31			44.0			* 31		
Max Q Clear Time (g_c+I1), s	42.9			5.1			49.7			10.4		
Green Ext Time (p_c), s	1.0			0.3			0.0			0.8		

Intersection Summary

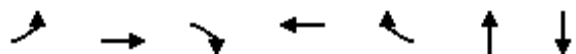
HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

Notes

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

Queues
2: Detroit St & Wilshire Blvd

Future with Project AM
Timing Plan: AM Peak Hour



Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	22	809	38	1742	33	146	66
v/c Ratio	0.23	0.38	0.04	0.88	0.04	0.60	0.29
Control Delay	10.6	4.0	0.6	20.6	3.2	37.6	30.9
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	10.6	4.1	0.6	20.6	3.2	37.6	30.9
Queue Length 50th (ft)	2	40	0	344	0	66	31
Queue Length 95th (ft)	m7	54	2	#729	13	106	57
Internal Link Dist (ft)		228		262		227	843
Turn Bay Length (ft)	110		90		50		
Base Capacity (vph)	95	2121	919	1989	768	477	454
Starvation Cap Reductn	0	341	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.45	0.04	0.88	0.04	0.31	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Intersection

Intersection Delay, s/veh 10.8

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	15	135	10	10	335	27	10	25	10	41	37	19
Future Vol, veh/h	15	135	10	10	335	27	10	25	10	41	37	19
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	147	11	11	364	29	11	27	11	45	40	21
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	12.1	8.8	9.3
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	9%	3%	42%
Vol Thru, %	56%	84%	90%	38%
Vol Right, %	22%	6%	7%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	160	372	97
LT Vol	10	15	10	41
Through Vol	25	135	335	37
RT Vol	10	10	27	19
Lane Flow Rate	49	174	404	105
Geometry Grp	1	1	1	1
Degree of Util (X)	0.072	0.231	0.506	0.155
Departure Headway (Hd)	5.324	4.773	4.506	5.285
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	667	748	797	674
Service Time	3.404	2.829	2.551	3.356
HCM Lane V/C Ratio	0.073	0.233	0.507	0.156
HCM Control Delay	8.8	9.3	12.1	9.3
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.2	0.9	2.9	0.5

Intersection

Intersection Delay, s/veh 11.1

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	25	151	10	10	347	37	10	35	10	37	15	15
Future Vol, veh/h	25	151	10	10	347	37	10	35	10	37	15	15
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	162	11	11	373	40	11	38	11	40	16	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	12.4	9	9.1
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	13%	3%	55%
Vol Thru, %	64%	81%	88%	22%
Vol Right, %	18%	5%	9%	22%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	186	394	67
LT Vol	10	25	10	37
Through Vol	35	151	347	15
RT Vol	10	10	37	15
Lane Flow Rate	59	200	424	72
Geometry Grp	1	1	1	1
Degree of Util (X)	0.088	0.263	0.525	0.108
Departure Headway (Hd)	5.374	4.742	4.463	5.401
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	661	754	805	658
Service Time	3.451	2.793	2.504	3.475
HCM Lane V/C Ratio	0.089	0.265	0.527	0.109
HCM Control Delay	9	9.5	12.4	9.1
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.3	1.1	3.1	0.4

HCM 6th TWSC
5: Cloverdale Ave & W Project Driveway

Future with Project AM
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	2.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	24	50	17	13	120
Future Vol, veh/h	27	24	50	17	13	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	26	54	18	14	130
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	221	63	0	0	72	0
Stage 1	63	-	-	-	-	-
Stage 2	158	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	767	1002	-	-	1528	-
Stage 1	960	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	759	1002	-	-	1528	-
Mov Cap-2 Maneuver	759	-	-	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	862	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.5	0		0.7		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-		857	1528	
HCM Lane V/C Ratio	-	-		0.065	0.009	
HCM Control Delay (s)	-	-		9.5	7.4	
HCM Lane LOS	-	-		A	A	
HCM 95th %tile Q(veh)	-	-		0.2	0	

HCM 6th TWSC
6: Detroit St & E Project Driveway

Future with Project AM
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	2.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	27	17	80	60	13
Future Vol, veh/h	23	27	17	80	60	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	29	18	87	65	14
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	195	72	79	0	-	0
Stage 1	72	-	-	-	-	-
Stage 2	123	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	794	990	1519	-	-	-
Stage 1	951	-	-	-	-	-
Stage 2	902	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	784	990	1519	-	-	-
Mov Cap-2 Maneuver	784	-	-	-	-	-
Stage 1	940	-	-	-	-	-
Stage 2	902	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.3	1.3		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1519	-	883	-	-	
HCM Lane V/C Ratio	0.012	-	0.062	-	-	
HCM Control Delay (s)	7.4	0	9.3	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.2	-	-	

HCM 6th Signalized Intersection Summary

1: Cloverdale Ave & Wilshire Blvd

Future with Project PM
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1406	59	82	810	20	21	10	37	20	59	30
Future Volume (veh/h)	10	1406	59	82	810	20	21	10	37	20	59	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.94	1.00		0.92	0.96		0.95	0.96		0.94
Parking Bus, Adj	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
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	11	1528	64	89	880	22	23	11	40	22	64	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	468	2268	906	197	2268	932	117	63	150	79	186	84
Arrive On Green	0.64	0.64	0.64	1.00	1.00	1.00	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	607	3554	1419	320	3554	1460	320	315	746	159	929	417
Grp Volume(v), veh/h	11	1528	64	89	880	22	74	0	0	119	0	0
Grp Sat Flow(s),veh/h/ln	607	1777	1419	320	1777	1460	1381	0	0	1505	0	0
Q Serve(g_s), s	0.6	24.6	1.5	18.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	24.6	1.5	43.5	0.0	0.0	3.8	0.0	0.0	5.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.31		0.54	0.18		0.28
Lane Grp Cap(c), veh/h	468	2268	906	197	2268	932	329	0	0	349	0	0
V/C Ratio(X)	0.02	0.67	0.07	0.45	0.39	0.02	0.22	0.00	0.00	0.34	0.00	0.00
Avail Cap(c_a), veh/h	468	2268	906	197	2268	932	508	0	0	548	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.82	0.82	0.82	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.0	10.3	6.2	9.3	0.0	0.0	30.3	0.0	0.0	31.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	6.0	0.4	0.0	0.3	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	8.2	0.4	1.2	0.1	0.0	1.4	0.0	0.0	2.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.0	11.2	6.2	15.3	0.4	0.0	30.6	0.0	0.0	31.7	0.0	0.0
LnGrp LOS	A	B	A	B	A	A	C	A	A	C	A	A
Approach Vol, veh/h	1603				991				74			
Approach Delay, s/veh	11.0				1.7				30.6			
Approach LOS	B				A				C			
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	66.2			23.8			66.2			23.8		
Change Period (Y+Rc), s	* 8.8			5.7			* 8.8			5.7		
Max Green Setting (Gmax), s	* 45			30.3			* 45			30.3		
Max Q Clear Time (g_c+I1), s	45.5			7.9			26.6			5.8		
Green Ext Time (p_c), s	0.0			0.6			13.8			0.4		

Intersection Summary

HCM 6th Ctrl Delay	9.1
HCM 6th LOS	A

Notes

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

Queues

1: Cloverdale Ave & Wilshire Blvd

Future with Project PM

Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	1528	64	89	880	22	74	119
v/c Ratio	0.03	0.65	0.07	0.58	0.37	0.03	0.30	0.43
Control Delay	8.5	12.2	5.0	22.1	2.2	0.2	26.9	29.2
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Total Delay	8.5	12.2	5.0	22.1	2.4	0.2	26.9	29.2
Queue Length 50th (ft)	2	194	4	3	16	0	31	52
Queue Length 95th (ft)	10	420	25	m#118	22	m0	60	88
Internal Link Dist (ft)		224			228		199	835
Turn Bay Length (ft)	60		60	80		40		
Base Capacity (vph)	368	2353	914	154	2353	807	463	512
Starvation Cap Reductn	0	0	0	0	572	0	0	0
Spillback Cap Reductn	0	30	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.66	0.07	0.58	0.49	0.03	0.16	0.23

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

HCM 6th Signalized Intersection Summary

2: Detroit St & Wilshire Blvd

Future with Project PM
Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1404	59	30	840	50	22	71	34	10	10	10
Future Volume (veh/h)	10	1404	59	30	840	50	22	71	34	10	10	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.93	0.97		0.97	0.98		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	11	1543	55	33	923	45	24	78	37	11	11	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	315	2063	870	72	1711	852	73	167	70	150	127	20
Arrive On Green	0.64	0.64	0.64	0.64	0.64	0.64	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	523	3198	1349	45	2653	1321	135	880	368	483	671	105
Grp Volume(v), veh/h	11	1543	55	441	515	45	139	0	0	24	0	0
Grp Sat Flow(s),veh/h/ln	523	1599	1349	1243	1455	1321	1384	0	0	1260	0	0
Q Serve(g_s), s	1.1	29.8	1.4	4.3	17.5	1.1	0.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	18.5	29.8	1.4	34.0	17.5	1.1	7.9	0.0	0.0	1.2	0.0	0.0
Prop In Lane	1.00		1.00	0.07		1.00	0.17		0.27	0.46		0.08
Lane Grp Cap(c), veh/h	315	2063	870	845	938	852	309	0	0	297	0	0
V/C Ratio(X)	0.03	0.75	0.06	0.52	0.55	0.05	0.45	0.00	0.00	0.08	0.00	0.00
Avail Cap(c_a), veh/h	315	2063	870	845	938	852	520	0	0	487	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.71	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.9	11.0	5.9	8.2	8.8	5.9	32.7	0.0	0.0	30.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.8	0.1	2.3	2.3	0.1	1.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	9.1	0.4	4.0	5.2	0.3	2.8	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.0	12.8	6.0	10.5	11.1	6.0	33.8	0.0	0.0	30.2	0.0	0.0
LnGrp LOS	B	B	A	B	B	A	C	A	A	C	A	A
Approach Vol, veh/h	1609			1001			139			24		
Approach Delay, s/veh	12.6			10.6			33.8			30.2		
Approach LOS	B			B			C			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	67.0			23.0			67.0			23.0		
Change Period (Y+Rc), s	9.0			* 5.9			9.0			* 5.9		
Max Green Setting (Gmax), s	44.0			* 31			44.0			* 31		
Max Q Clear Time (g_c+I1), s	36.0			3.2			31.8			9.9		
Green Ext Time (p_c), s	4.8			0.1			10.2			0.7		

Intersection Summary

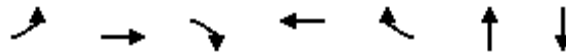
HCM 6th Ctrl Delay	13.1
HCM 6th LOS	B

Notes

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

Queues
2: Detroit St & Wilshire Blvd

Future with Project PM
Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	1543	65	956	55	139	33
v/c Ratio	0.04	0.73	0.07	0.55	0.07	0.58	0.15
Control Delay	4.9	7.3	1.8	10.8	4.4	38.9	22.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.9	7.3	1.8	10.8	4.4	38.9	22.2
Queue Length 50th (ft)	1	73	1	123	3	67	11
Queue Length 95th (ft)	m2	#121	m4	268	23	106	31
Internal Link Dist (ft)		228		262		227	843
Turn Bay Length (ft)	110		90		50		
Base Capacity (vph)	307	2121	919	1752	768	478	443
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.73	0.07	0.55	0.07	0.29	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Intersection

Intersection Delay, s/veh 14.3

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	19	429	20	10	133	23	10	50	10	36	74	14
Future Vol, veh/h	19	429	20	10	133	23	10	50	10	36	74	14
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	466	22	11	145	25	11	54	11	39	80	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	17.5	10	9.7	10.4
HCM LOS	C	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	4%	6%	29%
Vol Thru, %	71%	92%	80%	60%
Vol Right, %	14%	4%	14%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	468	166	124
LT Vol	10	19	10	36
Through Vol	50	429	133	74
RT Vol	10	20	23	14
Lane Flow Rate	76	509	180	135
Geometry Grp	1	1	1	1
Degree of Util (X)	0.124	0.682	0.259	0.216
Departure Headway (Hd)	5.859	4.825	5.166	5.78
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	611	753	695	620
Service Time	3.904	2.825	3.197	3.822
HCM Lane V/C Ratio	0.124	0.676	0.259	0.218
HCM Control Delay	9.7	17.5	10	10.4
HCM Lane LOS	A	C	A	B
HCM 95th-tile Q	0.4	5.4	1	0.8

Intersection

Intersection Delay, s/veh 13.2

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	426	10	10	153	33	0	50	10	29	23	13
Future Vol, veh/h	39	426	10	10	153	33	0	50	10	29	23	13
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	458	11	11	165	35	0	54	11	31	25	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.6	9.7	9.3	9.4
HCM LOS	C	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	8%	5%	45%
Vol Thru, %	83%	90%	78%	35%
Vol Right, %	17%	2%	17%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	475	196	65
LT Vol	0	39	10	29
Through Vol	50	426	153	23
RT Vol	10	10	33	13
Lane Flow Rate	65	511	211	70
Geometry Grp	1	1	1	1
Degree of Util (X)	0.1	0.645	0.28	0.109
Departure Headway (Hd)	5.578	4.548	4.779	5.636
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	635	792	746	629
Service Time	3.675	2.602	2.847	3.733
HCM Lane V/C Ratio	0.102	0.645	0.283	0.111
HCM Control Delay	9.3	15.6	9.7	9.4
HCM Lane LOS	A	C	A	A
HCM 95th-tile Q	0.3	4.8	1.1	0.4

HCM 6th TWSC
5: Cloverdale Ave & W Project Driveway

Future with Project PM
Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	8	60	32	29	171
Future Vol, veh/h	14	8	60	32	29	171
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	9	65	35	32	186
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	333	83	0	0	100	0
Stage 1	83	-	-	-	-	-
Stage 2	250	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	662	976	-	-	1493	-
Stage 1	940	-	-	-	-	-
Stage 2	792	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	646	976	-	-	1493	-
Mov Cap-2 Maneuver	646	-	-	-	-	-
Stage 1	940	-	-	-	-	-
Stage 2	773	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	10	0		1.1		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	737	1493	-	
HCM Lane V/C Ratio	-	-	0.032	0.021	-	
HCM Control Delay (s)	-	-	10	7.5	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-	

HCM 6th TWSC
6: Detroit St & E Project Driveway

Future with Project PM
Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	14	32	90	61	28
Future Vol, veh/h	8	14	32	90	61	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	15	35	98	66	30
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	249	81	96	0	-	0
Stage 1	81	-	-	-	-	-
Stage 2	168	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	739	979	1498	-	-	-
Stage 1	942	-	-	-	-	-
Stage 2	862	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	721	979	1498	-	-	-
Mov Cap-2 Maneuver	721	-	-	-	-	-
Stage 1	918	-	-	-	-	-
Stage 2	862	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.3	2		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1498	-	866	-	-	
HCM Lane V/C Ratio	0.023	-	0.028	-	-	
HCM Control Delay (s)	7.5	0	9.3	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-	