

# 3440 Wilshire Boulevard Project Transportation Analysis

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## TABLE OF CONTENTS

<b>1. INTRODUCTION .....</b>	<b>1</b>
Project Description .....	1
Study Scope .....	1
Organization of Report.....	6
<b>2. EXISTING CONDITIONS .....</b>	<b>7</b>
Study Area .....	7
Existing Street System.....	7
Existing Public Transit Service.....	9
Existing Bicycle and Pedestrian Facilities.....	9
Existing Traffic Volumes and Level of Service .....	13
<b>3. TRAFFIC PROJECTIONS.....</b>	<b>17</b>
Project Traffic.....	17
Existing plus Project Traffic Conditions.....	21
Future Year 2026 Traffic Conditions.....	21
Future plus Project Traffic Projections.....	26
<b>4. INTERSECTION TRAFFIC IMPACT ANALYSIS .....</b>	<b>27</b>
Criteria for Determination of Significant Traffic Impact.....	27
Existing plus Project Impact Analysis.....	27
Future plus Project Impact Analysis .....	29
<b>5. NEIGHBORHOOD TRAFFIC IMPACT ANALYSIS .....</b>	<b>33</b>
<b>6. REGIONAL TRANSPORTATION SYSTEM IMPACT ANALYSIS.....</b>	<b>36</b>
<b>7. SITE ACCESS .....</b>	<b>38</b>
<b>8. CONSTRUCTION PERIOD IMPACT ANALYSIS.....</b>	<b>39</b>
Construction Impact Assessment.....	40
Construction Traffic.....	43
Construction Mitigation Measures .....	46
<b>9. SUMMARY AND CONCLUSIONS .....</b>	<b>47</b>

## **APPENDICES**

Appendix A: LADOT MOU

Appendix B: Lane Configurations and Traffic Volumes

Appendix C: Count Sheets

Appendix D: LOS Analysis Sheets

Appendix E: Main Street Analysis

Appendix F: Signal Warrant

## LIST OF FIGURES

Figure 1 – Location of Proposed Project and Study Intersections.....	2
Figure 2A – Site Plan – Level 1 .....	3
Figure 2B – Site Plan – Level B1 .....	4
Figure 3 – Existing Transit .....	10
Figure 4 – Existing Bicycle Facilities.....	12
Figure 5 – Trip Distribution.....	20
Figure 6 – Related Projects.....	25



## LIST OF TABLES

Table 1 – Existing Transit Service .....	11
Table 2A – Level of Service Definitions for Signalized Intersections.....	14
Table 2B – Level of Service Definitions for Stop-Controlled Intersections.....	15
Table 3 – Existing Conditions Intersection Levels of Service.....	16
Table 4 – 3440 Wilshire Project Trip Generation .....	19
Table 5 – Related Projects Trip Generation Estimates .....	22
Table 6 – Existing plus Project Intersection Levels of Service and Impact Analysis.....	28
Table 7 – Future Intersection Levels of Service and Impact Analysis.....	30
Table 8 – Peak Hour Signal Warrant.....	32
Table 9 – Neighborhood Street Impact Analysis – Existing Daily Volume Analysis.....	34
Table 10 – Neighborhood Street Impact Analysis – Future Daily Volume Analysis.....	35
Table 11 – Driveway Service and Impact Analysis.....	38
Table 12 – Construction Impact Significance Factors .....	42
Table 13 – Construction Period Trip Generation .....	45

## 1. INTRODUCTION

This report documents the assumptions, methodologies, and findings of a study conducted by Fehr & Peers to evaluate the potential traffic impacts of the proposed 3440 Wilshire Project, located at 3440 Wilshire Boulevard, south of Wilshire Boulevard, west of Mariposa Avenue and east of Irolo Street in the City of Los Angeles. This study was conducted as part of an environmental document being prepared for the proposed Project.

## PROJECT DESCRIPTION

The proposed project is on Wilshire Boulevard between Irolo Street and Mariposa Avenue. The adjacent land uses includes a church to the north, apartments to the south, retail, a school, and parking to the east, and office and retail to the west. Figure 1 illustrates the location of the proposed project in relation to the surrounding street system. Regional access to the project site is provided by the Santa Monica Freeway, Interstate 10 (I-10), with access ramps approximately 1.7 miles to the south and the Hollywood Freeway, United States 101 (US-101) with access ramps approximately 1.6 miles to the north. The project is located directly adjacent to the Metro Purple Line Wilshire/Normandie Station.

The project site is currently a parking structure with two office buildings on the site that will remain. The existing office buildings contain approximately 760,456 square feet of office space, including retail, fast food restaurants, and sit down restaurants. The Project will demolish the existing parking structure and build 641 multifamily high rise residential units and 18,454 square feet of retail space. In addition, the project will build two levels of underground parking structure and four levels of above ground parking.

The site currently has five driveways that provide access to the existing uses on the site. Two full access driveways are located on Mariposa Avenue. Two full access driveways are located on 7th Street and one full access driveway is located on Irolo Street. With the project, the southern driveway on Mariposa Avenue will be closed, leaving the site with four driveways to service the property. The residents will primarily use the Mariposa Avenue driveway and eastern 7th Street driveway, but all other land uses on the site will have access to use each of the driveways, similar to the existing site access. The loading areas for the project uses will be located in the parking structure on Level 1 and will be accessible from the Mariposa Avenue driveway. A site plan of the project site is presented in Figure 2A and 2B.

## STUDY SCOPE

The scope of work for this study was determined in consultation with the Los Angeles Department of Transportation (LADOT). The base assumptions and technical methodologies were discussed with LADOT as part of the study approach and agreed to in a memorandum of understanding dated August 2018. The MOU is included in Appendix A to this document.





Figure 1  
3440 Wilshire Study Intersections







## TRAFFIC SCENARIOS

The study assumes that the project would be completed by year 2026 and is directed at analyzing the potential project generated traffic impact on local street system under both existing and future year traffic conditions. The following traffic scenarios have been developed and analyzed as part of this study:

- Existing Conditions – The analysis of existing traffic conditions is intended to provide a basis for the remainder of the study. The existing conditions analysis includes a description of the transportation system serving the project site, existing traffic volumes, and an assessment of the operating conditions at the study analysis locations described below.
- Existing plus Project Conditions – This traffic scenario provides projected traffic volumes and an assessment of operating conditions under existing conditions with the addition of Project-generated traffic. The impacts of the proposed Project on existing traffic operating conditions were then identified.
- Future Base (Year 2026) Conditions – Future traffic projections without the proposed project were developed for the year 2026. The objective of this analysis was to project future traffic growth and operating conditions that could be expected to result from regional growth, related projects, and transportation network changes in the vicinity of the project site by the year 2026.
- Future (Year 2026) plus Project Conditions – This traffic scenario provides projected traffic volumes and an assessment of operating conditions under future conditions with the addition of Project-generated traffic. The impacts of the proposed Project on future traffic operating conditions were then identified.

## STUDY LOCATIONS

Fourteen signalized intersections, one stop-controlled intersections, and two local street segments were selected for analysis in consultation with LADOT.

### Signalized Intersections

The following 14 signalized intersections, illustrated in Figure 1, were identified in conjunction with LADOT to be analyzed as part of the scope of work for this Project:

1. Western Avenue & Wilshire Boulevard
2. Western Avenue & 8<sup>th</sup> Street
3. Normandie Avenue & 3<sup>rd</sup> Street
4. Normandie Avenue & 6<sup>th</sup> Street
5. Normandie Avenue & Wilshire Boulevard
6. Irolo Street & 7<sup>th</sup> Street
7. Irolo Street & 8<sup>th</sup> Street
8. Normandie Avenue & Olympic Boulevard
9. Mariposa Avenue & 6<sup>th</sup> Street
10. Mariposa Avenue (West) & Wilshire Boulevard
11. Mariposa Avenue (East) & Wilshire Boulevard



12. Mariposa Avenue & 8<sup>th</sup> Street
13. Vermont Avenue & Wilshire Boulevard
14. Vermont Avenue & 8<sup>th</sup> Street

### Unsignalized Analysis

The following stop-controlled intersection, illustrated in Figure 1, was identified in conjunction with LADOT to be considered for a signal warrant analysis:

- A. Mariposa Avenue & 7<sup>th</sup> Street

### Segment Analysis

The following two segments, illustrated in Figure 1, were identified in conjunction with LADOT to be analyzed as part of the scope of work for this Project:

- Segment A. Mariposa Avenue, south of 7<sup>th</sup> Street
- Segment B. Normandie Avenue, south of 7<sup>th</sup> Street

### Freeway Analysis

The *Congestion Management Program for Los Angeles County* (CMP) (Metro, 2010) requires that all CMP mainline freeway monitoring locations where a proposed project will add 150 or more trips, in either direction, during either the AM or PM peak hours be analyzed. The proposed Project is not expected to add 150 or more vehicle trips during the AM or PM peak hours on nearby freeways (see Chapter 5). Therefore, no analysis of freeway segments is required for CMP purposes.

In addition, *Agreement Between City of Los Angeles and Caltrans District 7 on Freeway Impact Analysis Procedures* (October 2013, as amended in December 2015), sets forth criteria for when a freeway impact analysis should be conducted. LADOT determined as part of the traffic study memorandum of understanding for this Project that the Project would not meet the criteria requiring a freeway impact analysis (see Appendix A). Accordingly, no further analysis under the City's amended agreement with Caltrans was required.

## ORGANIZATION OF REPORT

This report is divided into nine chapters, including this introduction. Chapter 2 describes the existing conditions including an inventory of the streets, highways, and transit service in the study area, a summary of existing traffic volumes, and an assessment of existing operating conditions. The methodologies used to develop traffic forecasts for the Existing, Existing plus Project, Future Base, and Future plus Project scenarios and the forecasts themselves are included in Chapter 3. Chapter 4 presents an assessment of potential intersection traffic impacts of the proposed Project under both existing and future conditions. The results of the neighborhood impact analysis are provided in Chapter 5. The results of the regional transportation system analysis are provided in Chapter 6. Chapter 7 provides an assessment of the proposed Project's access scheme. Chapter 8 summarizes the construction impact analysis. Chapter 9 provides the summary and conclusions.



## 2. EXISTING CONDITIONS

A comprehensive data collection effort was undertaken to develop a detailed description of existing conditions in the study area. The assessment of conditions relevant to this study includes a description of the study area, an inventory of the local street system in the vicinity of the project site, a review of traffic volumes on these facilities, an assessment of the resulting operating conditions, and a summary of the current transit service and bicycle and pedestrian facilities in the study area. A detailed description of these elements is presented in this chapter.

### STUDY AREA

The project site is within the Wilshire Community Plan area of the City of Los Angeles. The study area selected for analysis extends to include Western Avenue to the west, Vermont Avenue to the east, 3<sup>rd</sup> Street to the north, and Olympic Boulevard to the south. All of the streets in the study area are under the jurisdiction of the City of Los Angeles.

### EXISTING STREET SYSTEM

Major arterials serving the study area include Western Avenue, Normandie Ave/Irlo St, Mariposa Avenue and Vermont Avenue in the north/south direction and 3<sup>rd</sup> Street, 6<sup>th</sup> Street, Wilshire Boulevard, 8<sup>th</sup> Street and Olympic Boulevard in the east/west direction.

Interstate 10 lies approximately two miles south of the site and US-101 lies approximately 1.5 miles north of the site. Each of these interstates provides regional access to and from the study area.

The characteristics of the major roadways serving the study area are described below. 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 September 2016.

### FREEWAYS

- **Interstate 10** runs in an east/west direction and extends from the Pacific Ocean eastward through Los Angeles County and beyond. In the vicinity of the study area, the freeway provides four lanes in each direction plus auxiliary lanes. Ramps are provided at Western Avenue, Normandie Avenue and Vermont Avenue.
- **US-101** runs in the southeast-northwest direction, extending from downtown Los Angeles through Hollywood and the San Fernando Valley and beyond. In the vicinity of the study area, the Hollywood freeway provides four lanes in each direction plus auxiliary lanes. Ramps are provided at Western Avenue, Santa Monica Boulevard, Melrose Avenue, and Vermont Avenue.

### EAST/WEST STREETS

- **3<sup>rd</sup> Street** is designated as an Avenue II in the City of Los Angeles' *Mobility Plan 2035* and runs north of the project site with two travel lanes in each direction within the project study area. Parking is



permitted along portions of the roadway on both sides of the street. Left-turn pockets are present at major intersections. 3rd Street is part of the Bicycle Enhanced Network, the Moderate Transit Enhanced Network, and the Pedestrian Enhanced Districts in the *Mobility Plan 2035*.

- **6th Street** is designated as an Avenue II that runs north of the project site with two travel lanes in each direction and with no on-street parking during peak hours. During non-peak hours, parking is permitted in the westbound direction leaving one travel lane in that direction and two eastbound travel lanes. Left-turn pockets are present at major intersections.
- **7th Street** is designated as an Avenue II that runs along the southern edge of the project site with one travel lane in each direction. Parking is permitted on both sides of the street and left-turn pockets are present at major intersections. Portions of 7th Street are part of the Neighborhood Enhanced Network and the Pedestrian Enhanced Districts in the *Mobility Plan 2035*.
- **8th Street** is designated as an Avenue II that runs south of the project site with two travel lanes in each direction. Parking is generally permitted on both sides of the street and left-turn pockets are present at major intersections. A portion of 8th Street near the project site is part of the Neighborhood Enhanced Network and the Pedestrian Enhanced Districts.
- **Olympic Boulevard** is designated as a Boulevard II that runs south of the project site with three travel lanes in each direction during peak hours and with two travel lanes in each direction during non-peak hours. Parking is permitted on both sides of the street only during non-peak hours. Left-turn pockets are present at major intersections. Olympic Boulevard is part of the Vehicle Enhanced Network and the Pedestrian Enhanced Districts.
- **Wilshire Boulevard** is designated as an Avenue I that runs north of the project site with two travel lanes in each direction and turn pockets are major intersections. An additional travel lane in each direction provides dedicated right-of-way for bus only lanes during peak hours. Parking is permitted on both sides of the street during non-peak period times. Wilshire Boulevard is part of the Tier 2 Bicycle Lane Network, the Comprehensive Transit Enhanced Network, and the Pedestrian Enhanced Districts.

## NORTH/SOUTH STREETS

- **Irolo Street** is designated as an Avenue III that runs west of the project site, south of Wilshire Boulevard with one travel lane in each direction. Parking is permitted on both sides of the street. Irolo Street is part of the Pedestrian Enhanced Districts in the *Mobility Plan 2035*.
- **Mariposa Avenue** is designated as a Local Street that runs east of the project site with one travel lane in each direction and parking permitted throughout the study area.
- **Normandie Avenue** is designated as an Avenue III that runs west of the project site with two southbound travel lanes and one northbound travel lane during the AM peak period and one southbound travel lane and two northbound travel lanes during the PM peak period. Parking is prohibited along the east side of the street during the AM peak period and is prohibited along the west side of the street during the PM peak period. Left-turn pockets are present at major



intersections. In the study area, Normandie Avenue is part of the Pedestrian Enhanced Districts north of Wilshire Boulevard and south of Irolo Street.

- **Vermont Avenue** is designated as an Avenue I that runs east of the project site with two travel lanes in each direction. Parking is permitted on both sides of the street and left-turn pockets are present at major intersections. North of Wilshire Boulevard, Vermont Avenue widens to three travel lanes in each direction during peak hours and parking is only permitted during non-peak hours. In the study area, Vermont Avenue is part of the Comprehensive Transit Enhanced Network and the Pedestrian Enhanced Districts.
- **Western Avenue** is designated as an Avenue II that runs west of the project site with two travel lanes in each direction. South of 6<sup>th</sup> street, parking is generally only permitted on one side of the street. North of 6<sup>th</sup> street, parking is permitted on both sides of the street. Left-turn pockets are present at major intersections. Western Avenue is part of the Moderate Plus Transit Enhanced Network and the Pedestrian Enhanced Districts.

Lane configurations of the study intersections are provided in Appendix B.

## EXISTING PUBLIC TRANSIT SERVICE

The Project site is served by a high level of public transit. Figure 3 shows the various metro bus routes, rapid bus routes, and Metro Rail lines providing service in the study area. The project is located adjacent to the Metro Purple Line Wilshire/Normandie Station. Eight local Metro (Route 16/17, 18, 20, 28, 66, 204, 206, 207), four Metro Rapid (Route 720, 728, 754, 757), two DASH (Wilshire Center/Koreatown and Hollywood/Wilshire), one Foothill Transit (Route 481), and one Commuter Express (Route 534) bus routes provide service within ½ mile of the project site along Wilshire Boulevard. In addition, Wilshire Boulevard has east-west dedicated bus lanes. Table 1 details the transit service near the project site.

## EXISTING BICYCLE AND PEDESTRIAN FACILITIES

Figure 4 shows citywide designated bicycle facilities in the project area. As shown in the figure, Wilshire Boulevard has peak hour bus lanes with bicycles permitted. S Oxford Avenue contains a bike lane that extends from W 3<sup>rd</sup> Street northwards. W 7<sup>th</sup> Street contains a bike lane from S Catalina Street eastwards. The *Mobility Plan 2035* identifies corridors proposed to receive improved bicycle, pedestrian and vehicle infrastructure improvements. 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 which are more likely to be built by 2035. The Neighborhood Enhanced Network is the network of locally-serving streets planned to contain traffic-calming measures that close the gaps between streets containing bicycle facilities. Within the Study Area, W 7<sup>th</sup> Street east of S New Hampshire Avenue is a planned Tier 1 Protected Bicycle Lane. Wilshire Boulevard contains a planned Tier 2 Bicycle Lane, and Vermont Avenue contains a planned Tier 3 Bicycle Lane. Several streets within the study area are included within the planned Neighborhood Enhanced Network, including W 9<sup>th</sup> Street/James Wood Boulevard, W 4<sup>th</sup> Street and S Harvard Boulevard.

The study area generally has a mature network of pedestrian facilities including sidewalks, crosswalks and pedestrian safety features. Approximately 8- to 18-foot sidewalks are provided throughout the study area.





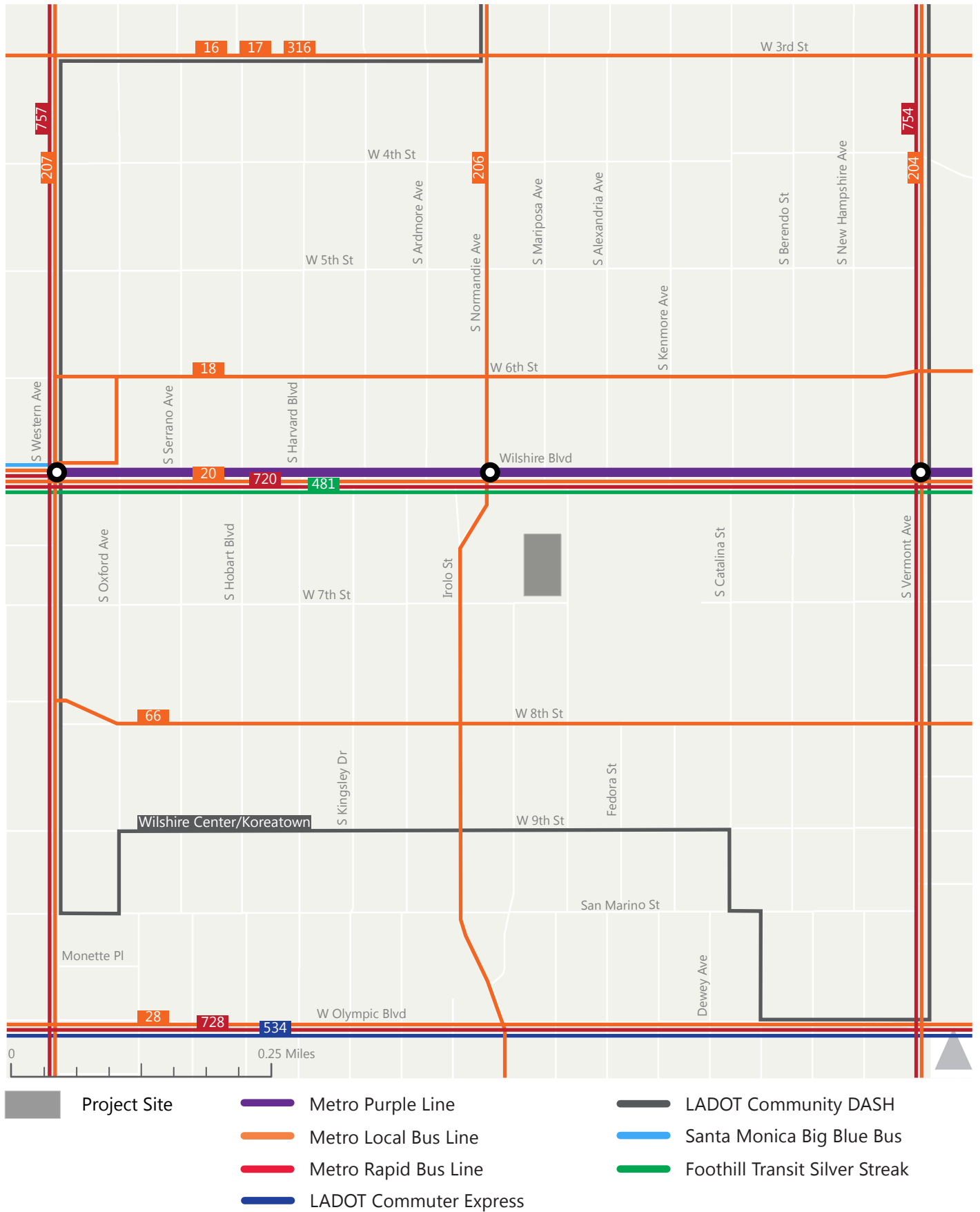


Figure 3  
Existing Transit Service



**TABLE 1**  
**3440 WILSHIRE PROJECT**  
**EXISTING TRANSIT SERVICE**

Transit Route	Operator	Service Type	Service From	Via	Weekday Headways	
					AM	PM
Wilshire Center/Koreatown Loop	LADOT	Shuttle	Wilshire Center/Koreatown Loop	Western Ave	20 mins.	20 mins.
Hollywood/Wilshire Loop	LADOT	Shuttle	Hollywood/Wilshire Loop	Western Ave	25 mins.	25 mins.
16/17/316	Metro	Local	Century City to 6th & Los Angeles	3rd St	1-8 mins.	1-9 mins.
18	Metro	Local	Wilshire Center to Montebello	6th St	8-12 mins.	6-20 mins
20	Metro	Local	Santa Monica to 7th & Main	Wilshire Blvd	6-10 mins.	12-16 mins.
28	Metro	Local	Century City to Eagle Rock	Olympic Blvd	9-13 mins.	8-15 mins.
66	Metro	Local	Wilshire Center to Montebello	8th St	3-10 mins.	5-11 mins.
204	Metro	Local	Athens to Hollywood	Vermont Ave	8-11 mins.	10-15 mins.
206	Metro	Local	Athens to Hollywood	Normandie Ave/Irolo St	7-10 mins.	11-16 mins.
207	Metro	Local	Los Feliz to Hawthorne	Western Ave	10-13 mins.	10-15 mins.
720	Metro	Rapid	Santa Monica to Commerce	Wilshire Blvd	3-11 mins.	3-12 mins.
728	Metro	Rapid	Century City to Union Station	Olympic Blvd	12 mins.	10-12 mins.
754	Metro	Rapid	Athens to Hollywood	Vermont Ave	5-6 mins.	5-10 mins.
757	Metro	Rapid	Hawthorne to Los Feliz	Western Ave	6-15 mins.	10-16 mins.
481	Foothill	Regional	Wilshire Center to El Monte Station	Wilshire Blvd	20 mins.	15-20 mins.
534	LADOT	Commuter Express	Westwood to Union Station	Olympic Blvd	15 mins.	30 mins.
Purple Line	Metro	Heavy Rail	Koreatown to Union Station	Wilshire Blvd	10 mins.	10 mins.

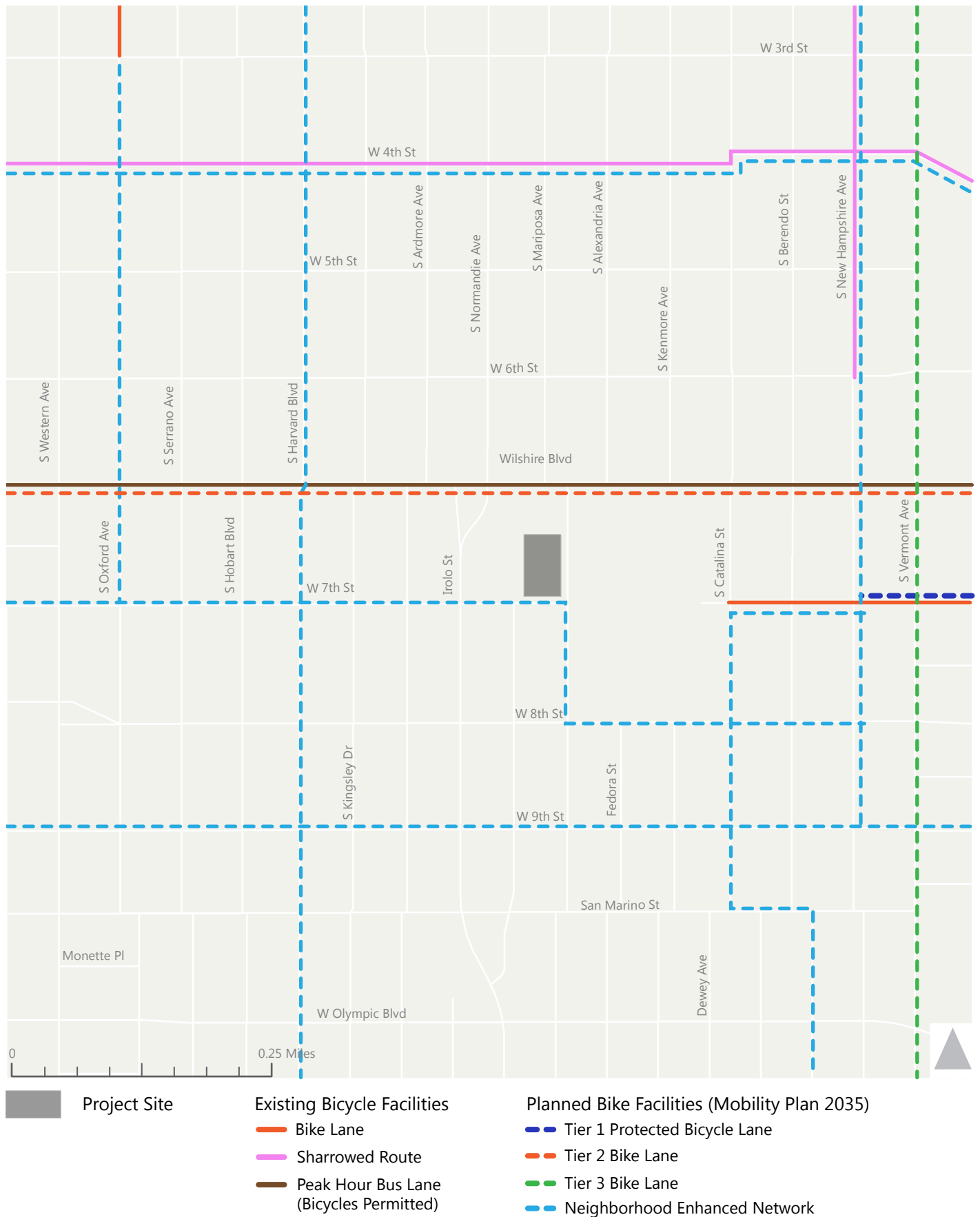


Figure 4

Existing and Planned Bicycle Facilities



## EXISTING TRAFFIC VOLUMES AND LEVEL OF SERVICE

This section presents existing base peak hour traffic volumes, describes the methodology used to assess the traffic conditions at each intersection, and analyzes the resulting operating conditions at each, indicating volume-to-capacity (V/C) ratios and levels of service (LOS).

### EXISTING TRAFFIC VOLUMES

New weekday AM and PM peak hour turning movement counts were collected at the study intersections on Tuesday, April 17, 2018. The existing weekday morning and afternoon peak hour volumes at the study intersections are provided in Appendix B. Count sheets for these intersections are contained in Appendix C.

### LEVEL OF SERVICE METHODOLOGY

A variety of standard methodologies are available to analyze LOS. According to *Transportation Impact Study Guidelines* (LADOT, December 2016), this study is required to use the Critical Movement Analysis (CMA) method of intersection capacity calculation (Transportation Research Board, 1980) to analyze signalized intersections in the City of Los Angeles. The V/C ratio is then used to find the corresponding LOS based on the definitions in Table 2A. Under the CMA methodology, a V/C ratio is generated for each study intersection based on factors such as the volume of traffic and the number of lanes providing for such vehicle movement and an LOS grade.

For the driveway analysis, the *Highway Capacity Manual* (HCM) (Transportation Research Board, 2010) methodology was used to analyze the delay. Under HCM methodology, delay is calculated in seconds and given an LOS grade, as shown in Table 2B.

The City of Los Angeles' Automated Traffic Surveillance and Control (ATSAC) system is a computer-based traffic signal control system that monitors traffic conditions and system performance to allow ATSAC operations to manage signal timing to improve traffic flow conditions. The Adaptive Traffic Control System (ATCS) is an enhancement to ATSAC and provides fully traffic-adaptive signal control based on real-time traffic conditions. All of the study intersections located in the City of Los Angeles are currently operating under the City's ATSAC system and ATCS control. ATSAC and ATCS provide improved operating conditions. Therefore, in accordance with City of Los Angeles procedures, a credit of 0.07 V/C reduction was applied at each intersection where ATSAC is implemented and an additional 0.03 V/C reduction was applied at each intersection where ATCS is implemented.

### EXISTING LEVELS OF SERVICE

Existing year traffic volumes presented in Appendix B were analyzed using the intersection capacity analysis methodology described above to determine the existing operating conditions at the study intersections. Table 3 summarizes the results of the analysis of the existing weekday morning and afternoon peak hour V/C ratio and corresponding LOS at each of the analyzed intersections. As indicated, all of the 14 signalized intersections analyzed for impacts operate at LOS D or better during both peak periods. Analysis sheets are provided in Appendix D.



**TABLE 2A**  
**LEVEL OF SERVICE DEFINITIONS FOR SIGNALIZED INTERSECTIONS**  
**CMA METHODOLOGY**

Level of Service	Volume/Capacity Ratio	Definition
A	0.000 - 0.600	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	>0.600 - 0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat what restricted within groups of vehicles.
C	>0.700 - 0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	>0.800 - 0.900	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.
E	>0.900 - 1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	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

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



**TABLE 2B**  
**LEVEL OF SERVICE DEFINITIONS FOR**  
**STOP-CONTROLLED INTERSECTIONS**

Level of Service	Average Control Delay (seconds/vehicle)
A	$\leq 10.0$
B	$> 10.0$ and $\leq 15.0$
C	$> 15.0$ and $\leq 25.0$
D	$> 25.0$ and $\leq 35.0$
E	$> 35.0$ and $\leq 50.0$
F	$> 50.0$

Source: *Highway Capacity Manual*, Transportation Research Board, 2010.

**TABLE 3**  
**3440 WILSHIRE PROJECT**  
**EXISTING CONDITIONS INTERSECTION LEVELS OF SERVICE**

NO.	INTERSECTION	PEAK HOUR	EXISTING (2018)	
			V/C	LOS
1	Western Ave & Wilshire Blvd	AM	0.719	C
		PM	0.661	B
2	Western Ave & 8th St	AM	0.660	B
		PM	0.619	B
3	Normandie Ave & 3rd St	AM	0.627	B
		PM	0.587	A
4	Normandie Ave & 6th St	AM	0.562	A
		PM	0.571	A
5	Normandie Ave & Wilshire Blvd	AM	0.679	B
		PM	0.687	B
6	Irolo St & 7th St	AM	0.521	A
		PM	0.583	A
7	Irolo St & 8th St	AM	0.712	C
		PM	0.709	C
8	Normandie Ave & Olympic Blvd	AM	0.696	B
		PM	0.715	C
9	Mariposa Ave & 6th St	AM	0.483	A
		PM	0.517	A
10	Mariposa Ave (West) & Wilshire Blvd	AM	0.545	A
		PM	0.525	A
11	Mariposa Ave (East) & Wilshire Blvd	AM	0.511	A
		PM	0.467	A
12	Mariposa Ave & 8th St	AM	0.403	A
		PM	0.450	A
13	Vermont Ave & Wilshire Blvd	AM	0.833	D
		PM	0.757	C
14	Vermont Ave & 8th St	AM	0.649	B
		PM	0.651	B

## 3. TRAFFIC PROJECTIONS

### PROJECT TRAFFIC

The development of trip generation estimates for the proposed project involves the use of a 3-step process similar to that discussed for the cumulative projects: trip generation, trip distribution, and traffic assignment.

#### PROJECT TRIP GENERATION

As discussed in Chapter 1, the proposed project consists of 641 multifamily high rise residential units and 18,454 square feet of retail space.

Trip generation rates from *Trip Generation, 10<sup>th</sup> Edition* (Institute of Transportation Engineers [ITE], 2017) were used to estimate the number of trips associated with the project and are presented in Table 4. The ITE 10<sup>th</sup> edition introduces and defines the geographic setting for four different settings/locations: Rural, General Urban/Suburban, Dense Multi-Use Urban, and City Core. In many instances, trip generation rates are provided for each land use by geographic setting. The Project is located in an area that meets the dense multi-use urban ITE definitions; therefore, the trip generation rates for dense multi-use urban were used when available. However, for mid-rise and high-rise multifamily housing sites in dense multi-use urban and center city core areas, empirical trip generation data from surveys conducted at properties located within the City of Los Angeles area are available as a secondary data source to the ITE trip rates. The local data reveals higher high-rise residential trip generation rates than the ITE 10<sup>th</sup> edition rates; therefore, the local data was used for the residential component of this project. A summary of the local data and ITE geographical settings is shown in the MOU in Appendix A.

Furthermore, ITE rates for General Urban/Suburban were used for the retail uses since data is not available for the Dense Multi-Use Urban geographic setting for retail uses. ITE daily rates for General Urban/Suburban were also used for daily trip generation for the residential uses since daily rate data is not available for the Dense Multi-Use Urban geographic setting for these uses.

While the ITE 10<sup>th</sup> edition data and local data account for geographic settings in urban environments, the data is based on single-use freestanding sites. These defining characteristics limit their applicability to mixed-use or multi-use development projects, such as the proposed project, which is in a high density walkable urban setting with frequent and nearby local and regional transit service. The land use mix, design features, and setting of the proposed project include characteristics that influence travel behavior differently from typical single-use developments. In order to estimate the project's trip generation within the context of the mixed-use setting, a Main Street analysis was conducted, as detailed in Appendix E. The project trip generation accounts for the mix of uses provided in the project, the dense urban setting in which it is located, and the level of transit service provided in the area.

The Main Street methodology as applied in this study starts by estimating the trip generation based on trip generation rates from *Trip Generation, 9<sup>th</sup> Edition* (Institute of Transportation Engineers [ITE], 2012) and then estimates reductions to account for trip internalization and external non-automobile trips. The Main Street methodology estimates that the proposed project would generate about 32-44% percent fewer trips than the unadjusted ITE data. Informed adjustments were made to the ITE trip generation based on the Main



Street analysis to account for the improved density and diversity of land uses, pedestrian and bicycle connectivity, and transit service in the future.

Internal trip credits can be defined as a reduction that can be applied to the trip generation estimates for individual land uses to account for trips internal to the site. These are trips usually made via walking within the site. Reflective of the travel behavior characteristics of the land uses in the Wilshire corridor as well as the Main Street analysis, a 15% internal credit was incorporated in the trip generation analysis.

Consistent with the City of Los Angeles' *Transportation Impact Study Guidelines* which state that developments above or adjacent to a Metro Rail, Metrolink, or Orange Line station, with convenient pedestrian access to the station may qualify for up to a 25% transit credit, the trip generation estimates incorporate a 25% transit credit.

Per LADOT's *Transportation Impact Study Guidelines*, Attachment I Policy on Pass-By Trips, pass-by credits were applied to portions of the development. A 50% pass-by credit was applied to the retail uses. Pass-by credits account for the patrons making an intermediate stop on the way from an origin to a primary trip destination without a route diversion. These trips would be attracted from traffic passing the site on Wilshire Boulevard and other nearby streets.

As shown in Table 4, the project would generate an estimated net increase of 2,040 daily trips, including 131 trips (19 inbound/112 outbound) during the AM peak hour and 186 trips (125 inbound/61 outbound) during the PM peak hour.

## PROJECT TRAFFIC DISTRIBUTION

The geographic distribution of trips generated by the proposed project is dependent on characteristics of the street system serving the project site; the level of accessibility of routes to and from the proposed project site; locations of employment and commercial centers to which residents of the project would be drawn; and residential areas from which the retail employees and other commercial visitors would be drawn. A select zone analysis was conducted for the proposed uses using the City of Los Angeles' Travel Demand Model to inform the general distribution pattern for this study. The distribution of project trips is illustrated in Figure 5.

## PROJECT TRAFFIC ASSIGNMENT

The traffic to be generated by the proposed project was assigned to the street network using the distribution pattern described in Figure 5. Appendix B provides the assignment of the proposed Project-generated peak hour traffic volumes at the analyzed intersections during the AM and PM peak hours. The assignment of traffic volumes took into consideration the locations of the proposed project driveways on Mariposa Avenue, Irolo Street, and 7th Street.

## PROJECT DRIVEWAYS

As discussed, the site currently has five driveways that provide access to the existing uses on the site. Two full access driveways are located on Mariposa Avenue, Two full access driveways are located on 7th Street and one full access driveway is located on Irolo Street. With the project, the southern driveway on Mariposa Avenue will be closed, leaving the site with four driveways to service the property. The residents will primarily use the Mariposa Avenue driveway and eastern 7th Street driveway, but all other land uses on the site will have access to use each of the driveways, similar to the existing site access.



**TABLE 4  
3440 WILSHIRE PROJECT  
TRIP GENERATION - ITE 10TH EDITION**

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]							Estimated Trip Generation						
			Daily	AM Peak Hour			PM Peak Hour			Daily	AM Peak Hour Trips			PM Peak Hour Trips		
				Rate	In%	Out%	Rate	In%	Out%		In	Out	Total	In	Out	Total
PROPOSED PROJECT																
Retail	820	18.454 ksf	37.75	0.94	62%	38%	3.81	48%	52%	697	11	6	17	34	36	70
Less: Internal Capture [b]			15%		15%	15%		15%	15%	(105)	(2)	(1)	(3)	(5)	(5)	(10)
Less: Transit Credit [c]			25%	25%			25%			(148)	(2)	(1)	(3)	(7)	(8)	(15)
Total Driveway Trips										444	7	4	11	22	23	45
Less: Pass-by [d]			50%	50%			50%			(222)	(3)	(2)	(5)	(11)	(11)	(22)
Net External Vehicle Trips										222	4	2	6	11	12	23
Multifamily Houseing (High-Rise) [e]	222	641 DU	4.45	0.23	12%	88%	0.3	70%	30%	2,852	18	129	147	134	58	192
Internal Capture [b]			15%		15%	15%		15%	15%	(428)	(3)	(19)	(22)	(20)	(9)	(29)
Less: Transit Credit [f]			25%							(606)		[f]			[f]	
Net External Vehicle Trips										1,818	15	110	125	114	49	163
TOTAL DRIVEWAY TRIPS										2,262	22	114	136	136	72	208
NET INCREMENTAL EXTERNAL TRIPS										2,040	19	112	131	125	61	186

**Notes:**

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 10th Edition*, 2017

[b] Internal capture represents the percentage of trips between land uses that occur within the site. Main Street model calibration of base ITE rates reflecting project & site specific characteristics.

[c] The transit credit is based on LADOT's *Traffic Study Policies and Procedures*, December 2016. The guidelines state that up to 25% transit credit may be taken for projects adjacent to a transit station or Rapid Bus stop.

[d] The pass-by credit is based on Attachment I of LADOT's *Traffic Study Policies and Procedures*, December 2016.

[e] Local high-rise residential data collected for LADOT was used to determine the trip generation for the residential land use. The local data did not include information on daily rates, so the general urban/suburban daily rate was used, making it appropriate to apply a transit credit.

[f] The local high-rise residential data for the peak hours was collected in locations with access to transit; therefore, a transit credit was not applied during the peak hours. As local data was not available for daily, the general urban/suburban daily rate was used, making it appropriate to apply a transit credit.





## EXISTING PLUS PROJECT TRAFFIC CONDITIONS

The Project traffic estimated and assigned to the study intersections was added to the existing traffic volumes to estimate existing plus project traffic volumes. Turning movement traffic volumes for the Existing plus Project scenario are provided in Appendix B. Analysis sheets are provided in Appendix D.

## FUTURE YEAR 2026 TRAFFIC CONDITIONS

To evaluate the potential impacts of the proposed project on future (Year 2026) conditions, it was necessary to develop estimates of future traffic conditions in the area both without and with Project traffic. First, estimates of traffic growth were developed for the study area to forecast future conditions without the Project. These forecasts included traffic increases as a result of both regional ambient traffic growth and traffic generated by specific developments in the vicinity of the Project (related projects).

These projected traffic volumes, identified herein as the Future Base conditions, represent the future conditions without the proposed Project. The traffic generated by the proposed Project was then estimated and assigned to the surrounding street system. Project traffic was added to the Future Base conditions to form Future (year 2026) plus Project traffic conditions, which were analyzed to determine the incremental traffic impacts attributable to the Project itself.

The assumptions and analysis methodology used to develop each of the future year scenarios discussed above are described in more detail in the following sections.

## BACKGROUND OR AMBIENT GROWTH

Based on historic trends and at the direction of LADOT, it was established that an ambient growth factor of 1% per year should be applied to adjust the existing base year traffic volumes to reflect the effects of regional growth and development by year 2026. This adjustment was applied to the existing (year 2018) traffic volume data to reflect the effect of ambient growth by the year 2026.

## RELATED PROJECT TRAFFIC GENERATION AND ASSIGNMENT

Future Base traffic forecasts include the effects of known specific projects, called related projects, expected to be implemented in the vicinity of the proposed project site prior to the buildout date of the proposed Project. The list of related projects was prepared based on data from LADOT and verified by City Planning. A total of 134 cumulative projects were identified in the study area; these projects are listed in Table 5 and illustrated in Figure 6.



**Table 5**  
**3440 Wilshire Project**  
**Related Project List**

No.	Project Location [a]	Land Use	Size	Estimated Trip Generation [b]						
				Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
					In	Out	Total	In	Out	Total
1	3323 W Olympic Bl	Condominiums Office	208 du 3.5 ksf	409	-13	49	36	39	-7	32
2	805 S Catalina St	Condominiums Retail	300 du 5 ksf	1935	24	119	143	110	57	167
3	100 N Western Ave	Retail Apartments	30 ksf 98 du	940	17	40	57	54	38	92
4	2755 W 15th Street	School	300 enrollment	486	68	57	125	24	24	48
5	3640 W Wilshire Blvd	Apartments	209 du	1182	18	72	90	73	40	113
6	940 S Western Avenue	Apartments Retail	79 du 8 ksf	380	6	31	37	26	11	37
7	535 S Kingsley Dr	Apartments	85 du	543	8	31	39	36	19	55
8	2850 W 7th St	Condominiums Other Retail	160 du 40 rooms 3.6 ksf	1057	20	72	92	72	42	114
9	800 S Harvard Blvd	Apartments Retail	131 du 7 ksf	827	14	32	46	44	33	77
10	2929 W Leeward Ave	Condominiums	80 du	476	7	33	40	44	21	65
11	2968 W 6th St	Apartments Commercial Commercial	399 du 12 ksf 8 ksf	2943	73	154	227	168	93	261
12	241 N Vermont	Apartments Retail	100 du 5 ksf	510	7	38	45	33	16	49
13	4110 W 3rd Street	Hotel Retail	174 rooms 27.8 ksf	1186	45	35	80	46	40	86
14	1011 S Serrano Ave	Apartments	91 du	545	8	33	41	32	18	50
15	3076 W Olympic Blvd	Apartments Retail	226 du 16.907 ksf	1567	25	78	103	90	56	146
16	3875 W Wilshire Bl	Apartments	196 du	1114	17	68	85	69	37	106
17	3350 W Wilshire Bl	Apartments	121 du	728	11	43	54	47	25	72
18	3545 W Wilshire Blvd	Apartments Retail	433 du 49.849 ksf	917	-42	83	41	84	10	94
19	605 S Vermont Ave	Apartments Museum	103 du 30.937 ksf	755	17	39	56	42	37	79
20	1011 S Park View St	Apartments	108 du	594	9	38	47	38	19	57
21	2965 W 6th St	Hotel	99 rooms	688	26	18	44	25	25	50
22	1255 E Elden Ave	Apartments	93 du	376	0	32	32	28	10	38
23	2972 W 7th St	Apartments Retail	180 du 15 ksf	486	7	59	66	43	8	51
24	1017 S Mariposa Ave	Apartments	79 du	373	5	23	28	23	12	35
25	2859 W Francis Ave	Apartments	81 du	492	7	28	35	31	5	36
26	700 S Manhattan pl	Apartments Restaurant Retail	162 du 6.5 ksf 3.5 ksf	1260	19	57	76	71	46	117
27	411 S Normandie Ave	Apartments	224 du	1407	22	86	108	87	47	134
28	3525 W 8th Street	Apartments Supermarket	367 du 22.906 ksf	1214	8	121	129	83	25	108
29	2870 W Olympic Blvd	Hotel Retail	78 rooms 16.384 ksf	834	22	14	36	30	28	58
30	815 S Kingsley Dr	Apartments	90 du	542	8	33	41	33	17	50
31	616 S Westmoreland Ave	Apartments Restaurant Retail	72 du 2.765 ksf 1.043 ksf	461	2	29	31	30	5	35
32	2525 Wilshire Bl	Condominiums Retail	160 du 7.5 ksf	1160	16	60	76	61	36	97
33	3330 W Beverly Bl	Apartments Childcare	40 du 4.237 ksf	495	26	34	63	35	32	67
34	2405 W 8th Street	Apartments Retail	144 du 4.406 ksf	333	-20	48	28	42	-15	27
35	422 Lake St	Apartments	80 du	532	8	33	41	33	17	50
36	1929 W Pico Bl	School	480 enrollment	821	140	66	206	20	42	62
37	235 N Hoover	Apartments	214 du	1423	22	87	109	86	47	133
38	3240 W Wilshire Bl	Hotel Apartments Retail	162 rooms 545 du 5222 ksf	1,353	15	173	188	89	23	112
39	1930 W Wilshire Bl	Apartments Theatre Classroom Hotel	478 du 850 seats 50 enrollment 220 rooms	1355	-44	128	84	103	-41	62
40	888 S Vermont Avenue	Office Retail	4.4 ksf 47.208 ksf	2526	45	19	64	171	169	340
41	1000 S Vermont Ave	Apartments Retail	236 du 60.3 ksf	2655	39	94	133	137	102	239
42	257 S Mariposa Avenue	Retail Apartments	3.94 ksf 140 du	1036	14	58	94	61	33	72
43	2501 W Olympic Blvd	Apartments Retail	173 du 184.56 ksf	1911	27	72	99	100	73	173
44	3170 W Olympic Blvd	Retail	32.3 ksf	1624	24	89	113	94	56	150

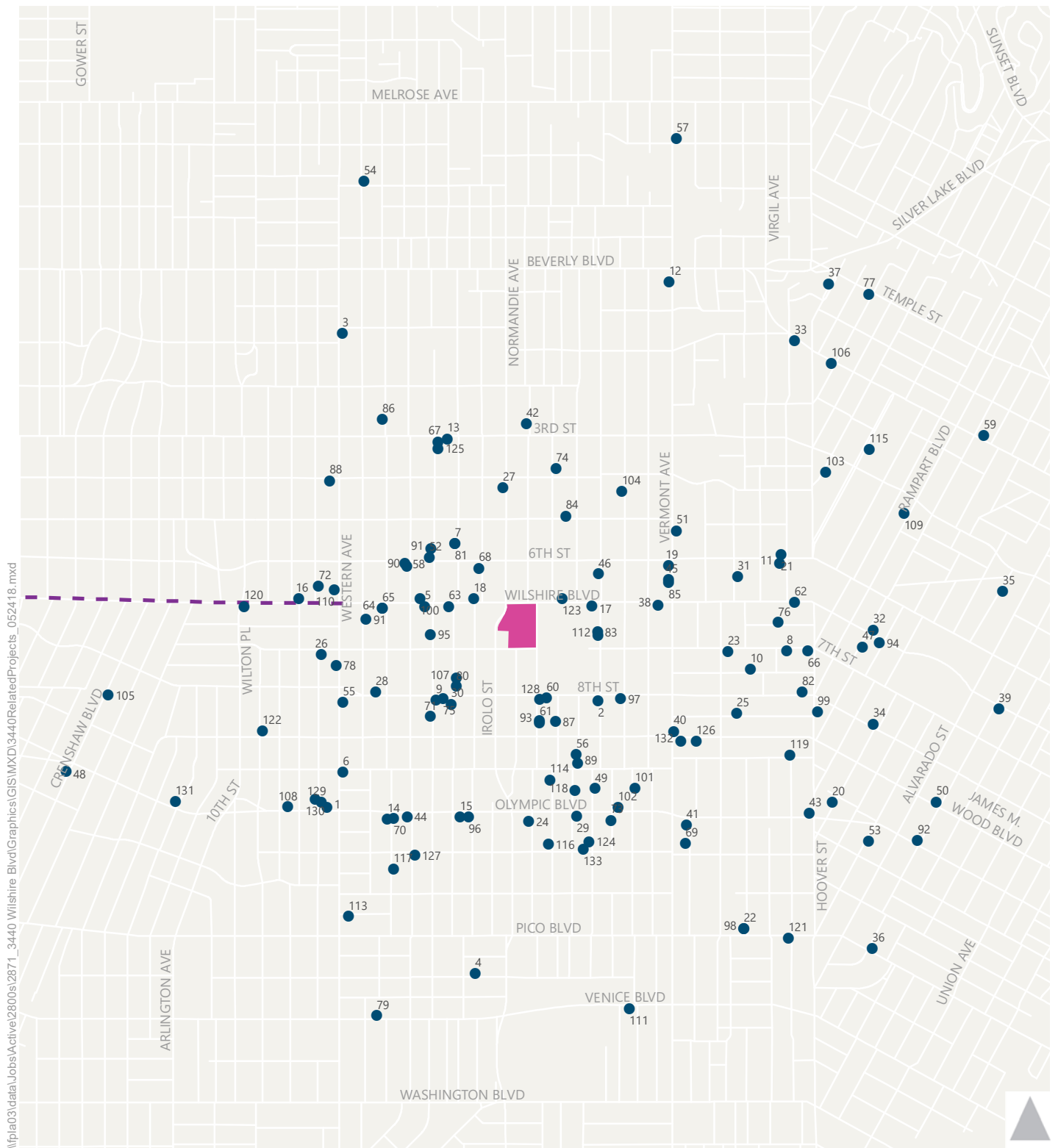
**Table 5**  
**3440 Wilshire Project**  
**Related Project List**

No.	Project Location [a]	Land Use	Size	Estimated Trip Generation [b]						
				Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
					In	Out	Total	In	Out	Total
45	631 S Vermont Av	Hotel Condominiums Office Retail	200 rooms 250 du 49.22 ksf 21.32 ksf	2599	95	95	190	115	120	235
46	621 S Catalina St	Apartments Retail Restaurant Banquet Hall	165 du 8.5 ksf 15 ksf 15 ksf	2776	26	55	81	180	95	275
47	668 S Coronado St	Apartments Retail	122 du 1182 ksf	947	14	48	62	56	34	90
48	1009 S Crenshaw Blvd	Apartments Retail	206 ksf 23.585 du	587	-14	48	34	33	23	56
49	966 Dewey Av	Hotel	99 rooms	677	28	15	43	24	24	48
50	2005 W James M Wood Blvd	Hotel	100 rooms	545	24	18	42	20	18	38
51	510 S Vermont Ave	Office Retail Sr. Housing Community Center Apartments	2166 employees 17.5 ksf 72 du 13.2 ksf 246 ksf	3215	216	104	320	121	293	414
52	3751 W 6th Street	Apartments Hotel rooms Retail Restaurant	44 du 200 rooms 10 ksf 8 ksf	1183	39	31	70	36	21	57
53	1030 S Lake St	Assisted Living	203 rooms	939	39	23	62	49	48	97
54	500 S Oxford Ave	Condominiums	89 du	439	6	27	33	26	13	39
55	800 S Western Av	Apartments Retail Restaurant Hotel	96 du 29.73 ksf 30 ksf 148 rooms	3908	127	98	225	149	111	260
56	923 S Kenmore Avenue	Apartments	69 du	432	7	26	33	26	15	40
57	600 N Vermont Av	Apartments Retail	120 du 14.6 ksf	320	8	46	54	12	18	30
58	3800 W 6th St	Condominiums Hotel Retail	122 du 192 rooms 23.549 ksf	1966	34	50	84	73	51	124
59	2515 W Beverly Blvd	School	650 students	527	131	126	257	40	22	62
60	3216 W 8th St	Condominiums Hotel Retail Entertainment	8 du 60 rooms 4.808 ksf 2.465 ksf	694	24	18	42	42	32	74
61	840 S Mariposa Av	Apartments	173 du	978	15	60	75	61	31	92
62	2900 Wilshire	Apartments Retail Restaurant	644 DU 10 ksf 5.5 ksf	3482	81	135	216	137	81	218
63	3600 Wilshire	Apartments Retail	810 DU 30 ksf	3307	47	202	249	202	107	309
64	3700 Wilshire	Office	103.719 DU	858	108	14	122	20	96	116
65	3700 Wilshire	Apartments Retail	510 DU 64.296 ksf	3500	49	153	202	178	81	259
66	2806 W 7th St	Apartments	158 du	1051	16	64	81	64	34	98
67	300 S Harvard Blvd	Hotel Restaurant	171 rooms 2.8 ksf	447	69	64	133	65	52	117
68	601 S Ardmore Ave	Apartments Commercial	428 du 31.689 ksf	4199	63	187	248	228	154	383
69	1041 S Menlo Ave	Apartments Commercial	228 du 53.41 ksf	3797	55	112	167	187	152	339
70	1006 S Serrano Ave	Apartments Commercial	252 du 33.28 ksf	3097	46	115	161	161	119	279
71	837 Harvard Blvd	Apartments	65 du	432	7	27	33	26	14	40
72	636 S Manhattan Pl	Apartments Retail	132 du 0.9 ksf	916	14	54	68	55	31	85
73	1021 1/2 Catalina St	Commercial Apartments	5.289 ksf 70 du	692	10	31	41	37	25	63
74	352 S Alexandria Ave	Apartments	59 du	392	6	24	30	24	13	37
75	3418 W 8th St	Apartments	131 du	871	13	53	67	53	28	81
76	2867 W Sunset Pl	Apartments	60 du	399	6	24	31	24	13	37
77	3200 Temple St	Apartments	59 du	392	6	24	30	24	13	37
78	721 S Western Ave	Apartments Retail	160 du 10.282 ksf	1503	22	69	92	82	55	137
79	2229 W Venice Blvd	Office	120 ksf	1324	165	22	187	30	148	179
80	762 S Kingsley Dr	Apartments	67 du	446	7	27	34	27	15	42
81	535 S Kingsley Dr	Condominiums	72 du	418	5	26	32	25	12	37
82	2723 W 8th St	School	450 students	581	111	91	203	33	34	68
83	685 S Catalina St	Apartments	120 du	798	12	49	61	48	26	74
84	3551 W 5th St	Apartments	69 du	459	7	28	35	28	15	43
85	635 S Vermont Ave	Apartments Commercial	179 du 12 ksf	1702	25	77	103	93	62	156
86	245 S Serrano Ave	Apartments	54 du	359	6	22	28	22	12	33
87	839 Fedora St	Condominium	75 du	436	6	27	33	26	13	39

**Table 5**  
**3440 Wilshire Project**  
**Related Project List**

No.	Project Location [a]	Land Use	Size	Estimated Trip Generation [b]						
				Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
					In	Out	Total	In	Out	Total
88	4250 W 4th St	Apartments	57 du	688	10	26	36	36	26	62
89	933 1/2 S Kenmore Ave	Commercial	7.228 ksf							
		Apartments	68 du	452	7	28	35	27	15	42
90	601 S Hobart Ave	Retail	15.2 ksf							
		Hotel	192 rooms	1460	77	107	184	124	96	219
		Condominiums	122 du							
91	672 Oxford Ave	Apartments	506 du	6014	89	229	318	314	230	544
		Commercial	62.035 ksf							
91	547 S Harvard Blvd	Apartments	44 du							
		Hotel	200 rooms	7872	169	141	310	386	396	780
		Commercial	175 ksf							
92	2001 W Olympic Blvd	Hotel	150 rooms	375	50	47	97	54	49	104
		Retail	6.917 ksf							
93	836 S Mariposa Ave	Condominium	98 du	569	7	36	43	34	17	51
94	2500 W Wilshire Blvd	Office	12.5 ksf							
		Apartments	248 du	1787	42	103	146	103	69	173
95	687 S Harvard Blvd	Hotel	110 rooms	292	45	41	86	42	33	75
		Restaurant	1.84 ksf							
96	3060 W Olympic Blvd	Retail	17.768 ksf	2262	34	98	132	123	83	206
		Apartments	226 du							
97	3100 W 8th St	Apartments	98 du	805	12	41	53	45	28	74
		Retail	3.575 ksf							
98	1255 S Elden Ave	Apartments	93 du	618	9	38	47	37	20	58
99	820 S Hoover St	Condominiums	32 du	414	7	15	22	18	14	32
		Retail	4.5 ksf							
100	3663 W Wilshire Blvd	Office	55.38 ksf							
		School	216 seats	825	94	44	138	20	3	23
		School	420 seats							
101	968 S Berendo St	Church	85.308 ksf	535	23	8	31	3	9	12
102	2789 W Olympic Bl	Office	27.81 ksf							
		Retail	20.607 ksf	612	16	8	24	25	29	54
103	326 S Reno St	Apartments	65 du	326	5	20	25	20	11	31
104	427 S Berendo St	Apartments	85 du	288	5	17	22	17	10	27
105	850 S Crenshaw	Apartments	44 du	293	4	18	22	18	10	28
106	3200 W Beverly Bl	Apartments	32 du							
		Retail	5.867 ksf	632	4	16	20	39	32	71
107	748 S Kingsley Drive	Apartments	67 du	406	6	25	31	24	14	38
108	3377 W Olympic Blvd	Assisted Living	146 du							
		Office	8.682 ksf	358	13	0	13	8	28	36
		Restaurant	4.454 ksf							
109	329 S Rampart Blvd	Apartments	45 du	279	6	17	23	17	9	26
		Affordable Housing	8 du							
110	635 S Western Av	Apartments	220 du	672	6	17	23	17	9	26
		Retail	0.9 ksf							
111	1810 W Venice Blvd	Storage	15.4 ksf	385	12	10	22	20	20	40
112	689 S Catalina St	Apartments	61 du	406	0	0	22	0	0	40
113	3062 W 12th Pl	Condominiums	51 du	439	6	20	25	24	15	39
		Retail	3.35 ksf							
114	955 S Fedora St	Apartments	40 du	266	4	16	20	16	9	25
115	228 S Occidental Blvd	Apartments	48 du	319	5	20	24	19	10	30
116	1053 S Fedora St	Apartments	40 du	266	4	16	20	16	9	25
117	1124 S Serrano Ave	Apartments	42 du	279	4	17	21	17	9	26
118	968 S Kenmore Ave	Apartments	41 du	273	4	17	21	17	9	25
119	2649 W San Marino Ave	Apartments	46 du	306	5	19	23	19	10	29
120	3986 W Wilshire	Apartments	228 du							
		Coffee Shop	1.75 ksf	503	-50	6	-44	53	25	78
		Restaurant	3.5 ksf							
		Retail	12 ksf							
121	2250 W Pico Blvd	Hotel	125 rooms	409	26	19	45	10	9	19
122	870 S Gramercy Dr	Apartments	53 du	352	5	22	27	21	12	33
123	3377 W Wilshire Blvd	Restaurant	11.971 ksf	1077	0	10	10	60	30	90
124	1045 S Dewey Ave	Apartments	67 du	446	7	27	34	27	15	42
125	314 S Harvard Blvd	Apartments	20 du	133	2	8	10	8	4	12
126	2842 W James M. Wood Blvd	Apartments	193 du	2118	32	85	117	113	80	193
		Retail	19.544 ksf							
127	1100 S Hobart Ave[d]	Apartments	39 du	259	6	15	21	16	10	26
128	800 S Mariposa Ave	Hotel	80 rooms							
		Apartments	8 du	1014	30	23	53	40	40	80
		Commercial	7.181 ksf							
129	986 S Manhattan Pl	Apartments	114 du	758	18	45	63	47	29	76
130	981 S Manhattan Pl[d]	Apartments	95 du	632	15	37	52	39	25	64
131	991 S 3rd Ave	Apartments	51 du	339	5	21	26	21	11	32
132	2878 W James M. Wood Blvd	Apartments	50 du	333	5	21	26	20	11	31
133	2755 W 11th Street	Apartments	67 du	446	7	27	34	27	15	42
134	Metro Purple Line	Light Rail Transit	--	--	--	--	--	--	--	--

Note: DU = dwelling units  
ksf = one thousand square feet  
[a] Related projects list is based on information provided from LADOT in on May 1, 2018, and LADCP April 26, 2018.  
[b] Project includes the unoccupied office space of 3700 Wilshire Blvd as a related project



- Related Projects
- Purple Line Extension
- Project Site



Figure 6  
Related Projects

### **Trip Generation**

For related projects provided by LADOT, the trip generation was used as provided. For related projects provided by City Planning or other sources, trip generation was used from a combination of previous study findings and publicly available environmental documentation. Where trip generation estimates for the related projects were not available, they were calculated using trip generation rates contained in *Trip Generation, 9<sup>th</sup>*. Table 5 presents the resulting trip generation estimates for these related projects. These projections are conservative in that they do not in every case account for either the existing uses to be removed or the possible use of non-motorized travel modes (transit, walking, etc.).

### **Trip Distribution**

The geographic distribution of the traffic generated by the related projects is dependent on several factors. These factors include the type and density of the proposed land uses, the geographic distribution of population from which employees and potential patrons of proposed commercial developments may be drawn, the locations of employment and commercial centers to which residents of residential projects may be drawn, and the location of the projects in relation to the surrounding street system. Additionally, if the traffic study or environmental document for a related project was available, the trip distribution from that study was used.

### **Traffic Assignment**

Using the estimated trip generation and trip distribution patterns described above, traffic generated by the related projects was assigned to the street network.

## **TRANSPORTATION INFRASTRUCTURE PROJECTS**

The Metro Purple Line subway is currently undergoing an extension from the Wilshire/Western station to Westwood/UCLA. Construction for the first section of the project began in 2015 and is anticipated to be completed in 2023. The second section of the project, began in 2018 and is anticipated to be completed in 2025. The full project includes additional stations at Westwood/UCLA and Westwood/Veterans Affairs Hospital.

There are no other infrastructure changes in the study area planned for implementation by year 2026 per confirmation by City staff. Therefore, network changes were not included in the analysis.

## **FUTURE YEAR 2026 BASE TRAFFIC VOLUMES**

Future year 2026 base weekday AM and PM peak hour traffic volumes and lane geometries for the analyzed intersections are provided in Appendix B. The Future Base traffic conditions represent an estimate of future conditions without the proposed Project inclusive of the ambient background growth and related projects traffic.

## **FUTURE PLUS PROJECT TRAFFIC PROJECTIONS**

The proposed Project traffic volumes were added to the year 2026 Future Base traffic projections, resulting in Future (year 2026) plus Project AM and PM peak hour traffic volumes. As provided in Appendix B, the Future (year 2026) plus Project scenario presents future traffic conditions with the completion of the proposed Project.



## 4. INTERSECTION TRAFFIC IMPACT ANALYSIS

The traffic impact analysis evaluates the projected LOS at each study intersection under the Existing plus Project and Future (year 2026) plus Project conditions to estimate the incremental increase in the V/C ratios caused by the proposed Project. This provides the information needed to assess the potential impact of the project using significance criteria established by LADOT.

### CRITERIA FOR DETERMINATION OF SIGNIFICANT TRAFFIC IMPACT

The City of Los Angeles has established threshold criteria to determine significant traffic impact of a proposed project in its jurisdiction. Under the LADOT guidelines, an intersection would be significantly impacted with an increase in V/C ratio equal to or greater than 0.04 for intersections operating at LOS C, equal to or greater than 0.02 for intersections operating at LOS D, and equal to or greater than 0.01 for intersections operating at LOS E or F after the addition of project traffic. Intersections operating at LOS A or B after the addition of the project traffic are not considered significantly impacted regardless of the increase in V/C ratio. The following summarizes the impact criteria:

LOS	Final V/C Ratio	Project-Related Increase in V/C
C	> 0.700 - 0.800	equal to or greater than 0.040
D	> 0.800 - 0.900	equal to or greater than 0.020
E or F	> 0.900	equal to or greater than 0.010

### EXISTING PLUS PROJECT IMPACT ANALYSIS

#### EXISTING PLUS PROJECT TRAFFIC LEVEL OF SERVICE

The existing plus project traffic volumes presented in Appendix B were analyzed to determine the projected V/C ratios and LOS for each of the analyzed intersections under this scenario. Table 6 summarizes the Existing plus Project LOS. Analysis sheets are provided in Appendix D. As indicated in Table 6, all 14 signalized intersections are projected to operate at LOS D or better during both peak hours.

#### EXISTING PLUS PROJECT INTERSECTION IMPACTS

As shown in Table 6, after applying the aforementioned City of Los Angeles significant impact criteria, it is determined that the proposed Project would not result in significant impacts under Existing plus Project conditions at any of the study intersections.





**TABLE 6**  
**3440 WILSHIRE PROJECT**  
**EXISTING PLUS PROJECT INTERSECTION LEVELS OF SERVICE AND IMPACT ANALYSIS**

NO.	INTERSECTION	PEAK HOUR	EXISTING		EXISTING + PROJECT		V/C INCREASE	SIGNIFICANT IMPACT?
			V/C	LOS	V/C	LOS		
1	Western Ave & Wilshire Blvd	AM	0.719	C	0.722	C	0.003	No
		PM	0.661	B	0.664	B	0.003	No
2	Western Ave & 8th St	AM	0.660	B	0.661	B	0.001	No
		PM	0.619	B	0.621	B	0.002	No
3	Normandie Ave & 3rd St	AM	0.627	B	0.628	B	0.001	No
		PM	0.587	A	0.588	A	0.001	No
4	Normandie Ave & 6th St	AM	0.562	A	0.563	A	0.001	No
		PM	0.571	A	0.573	A	0.002	No
5	Normandie Ave & Wilshire Blvd	AM	0.679	B	0.680	B	0.001	No
		PM	0.687	B	0.697	B	0.010	No
6	Irolo St & 7th St	AM	0.521	A	0.532	A	0.011	No
		PM	0.583	A	0.601	B	0.018	No
7	Irolo St & 8th St	AM	0.712	C	0.716	C	0.004	No
		PM	0.709	C	0.713	C	0.004	No
8	Normandie Ave & Olympic Blvd	AM	0.696	B	0.697	B	0.001	No
		PM	0.715	C	0.717	C	0.002	No
9	Mariposa Ave & 6th St	AM	0.483	A	0.487	A	0.004	No
		PM	0.517	A	0.523	A	0.006	No
10	Mariposa Ave (West) & Wilshire Blvd	AM	0.545	A	0.551	A	0.006	No
		PM	0.525	A	0.537	A	0.012	No
11	Mariposa Ave (East) & Wilshire Blvd	AM	0.511	A	0.527	A	0.016	No
		PM	0.467	A	0.493	A	0.026	No
12	Mariposa Ave & 8th St	AM	0.403	A	0.416	A	0.013	No
		PM	0.450	A	0.483	A	0.033	No
13	Vermont Ave & Wilshire Blvd	AM	0.833	D	0.839	D	0.006	No
		PM	0.757	C	0.759	C	0.002	No
14	Vermont Ave & 8th St	AM	0.649	B	0.650	B	0.001	No
		PM	0.651	B	0.658	B	0.007	No

## FUTURE PLUS PROJECT IMPACT ANALYSIS

### FUTURE BASE TRAFFIC CONDITIONS

The year 2026 Future Base peak hour traffic volumes were analyzed to determine the projected V/C ratio and LOS for each of the analyzed intersections. Table 7 summarizes the future LOS. Seven of the 14 signalized intersections analyzed for impacts are projected to operate at LOS D or better during the morning and afternoon peak hours under Future Base conditions. The following seven intersections are projected to operate at LOS E or worse during one or both of the peak hours under Future Base conditions:

1. Western Avenue & Wilshire Boulevard (LOS E during AM and PM)
2. Western Avenue & 8<sup>th</sup> Street (LOS E during AM and LOS F during PM)
5. Normandie Avenue & Wilshire Boulevard (LOS F during AM and PM)
7. Irolo Street & 8<sup>th</sup> Street (LOS F during AM and PM)
8. Normandie Avenue & Olympic Boulevard (LOS E during AM and LOS F during PM)
13. Vermont Avenue & Wilshire Boulevard (LOS F during AM and PM)
14. Vermont Avenue & 8<sup>th</sup> Street (LOS E during AM and LOS F during PM)

### FUTURE PLUS PROJECT TRAFFIC CONDITIONS

The resulting Future (year 2026) plus Project peak hour traffic volumes, provided in Appendix B, were analyzed to determine the projected future operating conditions with the addition of the proposed Project traffic. The results of the Future (year 2026) plus Project analysis are also presented in Table 7, with analysis sheets provided in Appendix D. Seven of the 14 signalized intersections analyzed for impacts are projected to operate at LOS D or better during the morning and afternoon peak hours under Future (year 2026) plus Project conditions. The following seven intersections are projected to operate at LOS E or worse during one or both of the peak hours under Future (year 2026) plus Project conditions:

1. Western Avenue & Wilshire Boulevard (LOS E during AM and PM)
2. Western Avenue & 8<sup>th</sup> Street (LOS E during AM and LOS F during PM)
5. Normandie Avenue & Wilshire Boulevard (LOS F during AM and PM)
7. Irolo Street & 8<sup>th</sup> Street (LOS F during AM and PM)
8. Normandie Avenue & Olympic Boulevard (LOS E during AM and LOS F during PM)
13. Vermont Avenue & Wilshire Boulevard (LOS F during AM and PM)
14. Vermont Avenue & 8<sup>th</sup> Street (LOS E during AM and LOS F during PM)

### FUTURE (YEAR 2026) PLUS PROJECT INTERSECTION IMPACTS

As shown in Table 7, using the criteria for determination of significant impacts, it is determined that the proposed Project would not result in significant impacts under Future (year 2026) plus Project conditions. No mitigation measures are therefore required.



**TABLE 7**  
**3440 WILSHIRE PROJECT**  
**FUTURE YEAR (2026) PLUS PROJECT INTERSECTION LEVELS OF SERVICE AND IMPACT ANALYSIS**

NO.	INTERSECTION	PEAK HOUR	FUTURE (2026)		FUTURE (2026) + PROJECT		V/C INCREASE	SIGNIFICANT IMPACT?
			V/C	LOS	V/C	LOS		
1	Western Ave & Wilshire Blvd	AM	0.972	E	0.975	E	0.003	No
		PM	0.940	E	0.943	E	0.003	No
2	Western Ave & 8th St	AM	0.920	E	0.921	E	0.001	No
		PM	1.009	F	1.012	F	0.003	No
3	Normandie Ave & 3rd St	AM	0.828	D	0.828	D	0.000	No
		PM	0.864	D	0.866	D	0.002	No
4	Normandie Ave & 6th St	AM	0.789	C	0.789	C	0.000	No
		PM	0.755	C	0.756	C	0.001	No
5	Normandie Ave & Wilshire Blvd	AM	1.037	F	1.038	F	0.001	No
		PM	1.058	F	1.062	F	0.004	No
6	Irolo St & 7th St	AM	0.657	B	0.668	B	0.011	No
		PM	0.809	D	0.826	D	0.017	No
7	Irolo St & 8th St	AM	1.189	F	1.194	F	0.005	No
		PM	1.279	F	1.285	F	0.006	No
8	Normandie Ave & Olympic Blvd	AM	0.962	E	0.963	E	0.001	No
		PM	1.046	F	1.049	F	0.003	No
9	Mariposa Ave & 6th St	AM	0.569	A	0.575	A	0.006	No
		PM	0.619	B	0.625	B	0.006	No
10	Mariposa Ave (West) & Wilshire Blvd	AM	0.690	B	0.696	B	0.006	No
		PM	0.701	C	0.713	C	0.012	No
11	Mariposa Ave (East) & Wilshire Blvd	AM	0.657	B	0.673	B	0.016	No
		PM	0.635	B	0.661	B	0.026	No
12	Mariposa Ave & 8th St	AM	0.574	A	0.587	A	0.013	No
		PM	0.661	B	0.698	B	0.037	No
13	Vermont Ave & Wilshire Blvd	AM	1.159	F	1.165	F	0.006	No
		PM	1.161	F	1.168	F	0.007	No
14	Vermont Ave & 8th St	AM	0.985	E	0.990	E	0.005	No
		PM	1.046	F	1.048	F	0.002	No

## UNSIGNALIZED INTERSECTION SIGNAL WARRANT ANALYSIS

One intersection near the project site is currently unsignalized, Mariposa Avenue & 7<sup>th</sup> Street. The City of Los Angeles traffic analysis methodology and significance criteria are for signalized intersections only. The City does not provide impact thresholds for unsignalized intersections. Rather, the LADOT *Transportation Impact Study Guidelines* states that “unsignalized intersections should be evaluated solely to determine the need for the installation of a traffic signal or other traffic control device.”

Traffic volumes and lane configurations, as presented in Appendix B, were used to prepare the signal warrant analysis at the Mariposa Avenue & 7<sup>th</sup> Street unsignalized intersection under existing, existing plus project, future base, and future plus project conditions. As shown in Table 8, the intersection met the signal warrant thresholds during the PM peak hour under all analysis scenarios, except existing conditions. During the AM peak hour, the intersection met the signal warrant for future plus project conditions. Analysis sheets are provided in Appendix F.



**TABLE 8**  
**3440 WILSHIRE PROJECT**  
**PEAK HOUR SIGNAL WARRANT ANALYSIS**

<b>No.</b>	<b>INTERSECTIONS</b>	<b>PEAK HOUR</b>	<b>EXISTING SIGNAL WARRANT MET</b>	<b>EXISTING PLUS PROJECT SIGNAL WARRANT MET</b>	<b>FUTURE BASE SIGNAL WARRANT MET</b>	<b>FUTURE PLUS PROJECT SIGNAL WARRANT MET</b>
A	Mariposa Ave & 7th St	AM	No	No	No	Yes
		PM	No	Yes	Yes	Yes

## 5. NEIGHBORHOOD TRAFFIC IMPACT ANALYSIS

This chapter presents the results of an analysis conducted regarding the potential for Project impacts on local residential streets in neighborhoods near the Project. The analysis was conducted on two residential street segments to the south of 7<sup>th</sup> Street and the project site on Normandie Avenue and Mariposa Avenue. These streets were selected in conjunction with the City of Los Angeles, as they were determined to have a greater likelihood of neighborhood cut-through traffic from the Project. The significance of potential impacts was assessed using criteria established by the City of Los Angeles.

24-hour machine counts were conducted on the two analyzed street segments in April 2018. Future daily traffic volumes were projected in a manner similar to the peak hour analysis of the study intersections, including both ambient growth at 1% per year as well as anticipated traffic from cumulative projects that could be constructed by 2026. The net new Project trips were assigned to the street network based on the Project trip distribution pattern presented in Chapter 3 and were added to the future base projection to obtain future plus project projections.

### NEIGHBORHOOD STREET IMPACTS

Under the City of Los Angeles guidelines, a project impact on a local residential street would be considered significant if the new commercial trips generated by the project result in increases in average daily traffic (ADT) volumes as follows:

<b>Projected ADT with Project (Final ADT)</b>	<b>Project-Related Increase in ADT</b>
0 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

Daily traffic volumes for the existing and projected future conditions are summarized in Tables 9 to 10. As shown, the proposed Project would not result in a significant impact at any of the study neighborhood street segments.



**TABLE 9**  
**3440 WILSHIRE PROJECT**  
**NEIGHBORHOOD STREET IMPACT ANALYSIS - EXISTING PLUS PROJECT ANALYSIS**

Street Segment	Weekday Two Way Daily	With Project Impact Analysis				
	Existing Base	Commercial Project Only	Existing plus Project	Project % Increase	Impact Criteria [a]	Significant Impact?
Mariposa Ave south of 7th Street	5,531	77	5,608	1.4%	8%	NO
Normandie Ave south of 7th Street	4,164	[b]	4,164	[b]	8%	No

Notes:

[a] Uses City of Los Angeles impact criteria for residential street segments.

[b] Negligible number of project trips are projected to use this segment.

**TABLE 10**  
**3440 WILSHIRE PROJECT**  
**NEIGHBORHOOD STREET IMPACT ANALYSIS - CUMULATIVE PLUS PROJECT ANALYSIS**

Street Segment	Weekday Two-Way Daily Volume		With Project Impact Analysis				
	Existing Base	Cumulative Base	Commercial Project Only	Cumulative plus Project	Project % Increase	Impact Criteria [a]	Significant Impact?
Mariposa Ave south of 7th Street	5,531	6,271	77	6,348	1.2%	8%	NO
Normandie Ave south of 7th Street	4,164	4,509	[b]	4,509	[b]	8%	NO

Notes:

[a] Uses City of Los Angeles impact criteria for residential street segments.

[b] Negligible number of project trips are projected to use this segment.



## 6. REGIONAL TRANSPORTATION SYSTEM IMPACT ANALYSIS

This section presents an analysis of potential impacts on the regional transportation system. This analysis was conducted in accordance with the procedures outlined in *Congestion Management Program for Los Angeles County* (Metro, 2010). The CMP requires that, when an environmental impact report is prepared for a project, traffic and transit impact analyses be conducted for select regional facilities based on the quantity of project traffic expected to use those facilities.

In addition, *Agreement Between City of Los Angeles and Caltrans District 7 on Freeway Impact Analysis Procedures* (October 2013, as amended in December 2015) sets forth criteria for when a freeway impact analysis should be conducted. LADOT determined as part of the traffic study memorandum of understanding for the Project (see Appendix A) that the Project would not meet these criteria for requiring a freeway impact analysis.

### REGIONAL TRAFFIC IMPACT ANALYSIS

The CMP guidelines require that the first issue to be addressed is the determination of the geographic scope of the study area. The criteria for determining the study area for CMP arterial monitoring intersections and for freeway monitoring locations are:

- All CMP arterial monitoring intersections where the proposed project will add 50 or more trips during either the AM or PM peak hours of adjacent street traffic.
- All CMP mainline freeway monitoring locations where the proposed project will add 150 or more trips, in either direction, during either the AM or PM peak hours.

### SIGNIFICANT TRAFFIC IMPACT CRITERIA

The CMP traffic impact analysis guidelines establish that a significant project impact occurs when a certain threshold is exceeded. If the proposed project increases traffic demand on a CMP facility by 2% of capacity ( $V/C \geq 0.02$ ), causing LOS F ( $V/C > 1.00$ ), a significant impact would occur. If the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity ( $V/C \geq 0.02$ ).

### ARTERIAL MONITORING STATIONS

The CMP arterial monitoring station closest to the proposed project site is at Western Avenue & Wilshire Boulevard located west of the proposed project site. Based on the project trip distribution and trip generation, the project is expected to add approximately 11 trips in the AM peak hour and 17 trips in the PM peak hour through the CMP arterial monitoring station. The proposed project is not estimated to exceed the arterial analysis criteria of 50 vehicle trips at the above-mentioned location; therefore, no further CMP arterial analysis is required.



## FREEWAY ANALYSIS

Regional access to the project site is provided by the US-101 Freeway located approximately 1.6 miles north of the project site and the I-10 Freeway located approximately 1.7 miles to the south of the project site, respectively. The CMP freeway monitoring stations closest to the project site includes the US-101 Freeway at Normandie Avenue and the I-10 Freeway at Budlong Avenue.

The CMP freeway monitoring station closest to the project site on the US-101 freeway is located at Normandie Avenue. Based on the Project distribution patterns, approximately 7.5% of project traffic is expected to travel through the US-101 freeway monitoring station at Normandie Avenue. According to the trip generation estimates shown in Table 4, the project is projected to result in an increase of 10 trips in the morning and 14 trips in the evening peak hour US-101 at Normandie Avenue.

The CMP freeway monitoring stations closest to the project site on the I-10 freeway are at Budlong Avenue. Approximately 7.5% of project traffic is expected to travel east on the I-10 freeway through Budlong Avenue and approximately 7.5% is expected to travel west on the I-10 freeway towards the City of Santa Monica. The project is projected to result in an increase of 10 trips in the morning and 14 trips in the evening peak hour on eastbound and westbound I-10 freeway.

Since fewer than 150 trips would be added during the AM or PM peak hours in either direction at any of the freeway segments in the vicinity of the study area, no further analysis of the freeway segments is required for CMP purposes.

## REGIONAL TRANSIT IMPACT ANALYSIS

Potential increases in transit person trips generated by the proposed project were estimated. Appendix C-8 of the 2010 CMP provides a methodology for estimating the number of transit trips expected to result from a proposed project based on the projected number of vehicle trips. This methodology assumes an average vehicle ridership (AVR) factor of 1.4 in order to estimate the number of person trips to and from the project and then provides guidance regarding the percentage of person trips assigned to public transit depending on the type of use (commercial/other versus residential) and the proximity to transit services. Appendix C-8 of the 2010 CMP recommends summarizing the fixed-route local bus services within ¼ mile of the project site and express bus routes and rail service within two miles of the project site.

Excluding the transit credit in the trip generation table shown in Table 4, the proposed Project would have an estimated increase in vehicle trip generation of approximately 201 net vehicle trips during the AM peak hour and 310 during the PM peak hour before the transit credit. Applying the AVR factor of 1.4 to the estimated vehicle trips would result in an estimated increase of approximately 281 and 434 person trips during the AM and PM peak hours, respectively.

As discussed in Chapter 3, a 25% transit credit was applied to the Project trip generation estimates to account for trips made to and from the project site using modes other than automobiles. The Project is located within a ¼-mile walking distance of the Metro Purple Line at the Wilshire/Western Station as well as the transit service documented in Table 1. Consistent with this approach, the Project would generate an estimated increase of 70 transit trips during the AM peak hour and 108 transit trips during the PM peak hour. Given the frequency of the high quality transit service in close proximity to the project site, including the Metro Purple Line subway and multiple Metro Rapid and local bus routes, the incremental transit riders resulting from the Project are not anticipated to result in a significant impact on the transit lines serving the area.



## 7. SITE ACCESS

The proposed project would have four driveways:

- A full-access driveway on Mariposa Avenue.
- Two full-access driveways on 7th Street.
- A full-access driveway on Irolo Street.

The loading areas for the project uses will be located in the parking structure on Level 1 and will be accessible from the Mariposa Avenue driveway.

### LEVEL OF SERVICE ANALYSIS FOR PROJECT DRIVEWAYS

A level of service analysis was conducted to evaluate the ability of the project access plan to accommodate the anticipated traffic levels at the driveway access points. The residents will primarily use the Mariposa Avenue driveway and eastern 7th Street driveway, but all other land uses on the site will have access to use each of the driveways, similar to the existing site access. The driveway LOS analysis focuses on the two driveways which will be used by residents.

The driveway locations below will be unsignalized and stop-controlled and were analyzed using the 2-way Stop methodology from the HCM. The HCM methodology determines the average vehicle delay for the stop-controlled approach to find the corresponding LOS based on the definitions presented in Table 2B. Driveway analysis LOS worksheets are included in Appendix D. Table 11 shows the results of the LOS analysis at the unsignalized driveways.

**TABLE 11 – DRIVEWAY SERVICE AND IMPACT ANALYSIS**

Driveway Location	Peak Hour	Existing plus Project (2018)		Future plus Project (2026)	
		Delay (seconds)	LOS	Delay (seconds)	LOS
7 <sup>th</sup> Street Eastern Driveway	AM	13.9	B	14.6	B
	PM	18.4	C	20.2	C
Mariposa Avenue Driveway	AM	21.9	C	24.6	C
	PM	23.2	C	26.0	D

As shown, the driveways are projected to operate at acceptable LOS (LOS D or better) under Existing plus Project (2018) and Future plus Project (2026) conditions.



## 8. CONSTRUCTION PERIOD IMPACT ANALYSIS

### CONSTRUCTION IMPACT CRITERIA

LADOT generally considers construction-related traffic to cause adverse but not significant impacts because, while sometimes inconvenient, construction-related traffic effects are temporary. LADOT requires implementation of worksite traffic control plans to ensure that any construction-related effects are minimized to the greatest extent possible.

The LA CEQA Thresholds Guide provides four categories to be considered in regards to in-street construction impacts: temporary traffic impacts, temporary loss of access, temporary loss of bus stops or rerouting of bus lines, and temporary loss of on-street parking (LA CEQA Threshold Guide, pages L.8-2 through L.8-4). The factors to be considered in each of these categories as established in the LA CEQA Threshold Guide are as follows:

- Temporary Traffic Impacts:
  - The length of time of temporary street closures or closures of two or more traffic lanes;
  - The classification of the street (major arterial, state highway) affected;
  - The existing traffic levels and LOS on the affected street segments and intersections;
  - Whether the affected street directly leads to a freeway on- or off-ramp or other state highway;
  - Potential safety issues involved with street or lane closures;
  - The presence of emergency services (fire, hospital, etc.) located nearby that regularly use the affected street.
- Temporary Loss of Access:
  - The length of time of any loss of vehicular or pedestrian access to a parcel fronting the construction area;
  - The availability of alternative vehicular or pedestrian access within ¼ mile of the lost access;
  - The type of land uses affected, and related safety, convenience, and/or economic issues.
- 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 availability of a nearby location (within ¼ mile) to which the bus stop or route can be temporarily relocated;
  - The existence of other bus stops or routes with similar routes/ destinations within a ¼mile radius of the affected stops or routes;
  - Whether the interruption would occur on a weekday, weekend or holiday, and whether the existing bus route typically provides service that/those day(s).
- Temporary Loss of On-Street Parking:
  - The current utilization of existing on-street parking;
  - The availability of alternative parking locations or public transit options (e.g. bus, train) within ¼ mile of the project site;
  - The length of time that existing parking spaces would be unavailable.



The LAMC provides that construction activities are limited to the hours from 7:00 AM to 9:00 PM on weekdays and from 8:00 AM to 6:00 PM on Saturdays and holidays. No construction is permitted on Sundays.

## CONSTRUCTION IMPACT ASSESSMENT

Construction of the project is anticipated to begin in January 2022 and end in January 2026 for a total construction duration of approximately 48 months to complete. The construction of the two project towers, Tower 1 and Tower 2, will be completed sequentially. Demolition and grading phases for both towers will occur at the same time and the construction and architectural coatings phases of Tower 1 and Tower 2 will occur sequentially. The construction is anticipated to involve four key phases:

- (1) demolition and site preparation – 2 months;
- (2) grading – 3 months;
- (3) construction – 19 months for Tower 1 and 19 months for Tower 2;
- (4) architectural coatings – 5 months for Tower 1 and 5 months for Tower 2.

The assessment of the Project against the construction impact factors established in the *LA CEQA Thresholds Guide* is presented in Table 12 and discussed below.

## TEMPORARY TRAFFIC IMPACTS

Full-time closures to the sidewalk and parking lane are anticipated for the project along Mariposa Avenue and 7<sup>th</sup> Street. Mariposa Avenue is classified as a local street and 7<sup>th</sup> Street is classified as an Avenue II. In addition, there are no emergency services located within the immediate vicinity of the affected streets. The closures during construction would be for the parking lane; therefore, the temporary construction impacts on the roadway network would be considered less than significant.

The sidewalks along Mariposa Avenue and 7<sup>th</sup> Street fronting the project construction will be closed for the duration of the project. Sidewalk and lane closures are not anticipated along Wilshire Boulevard. The sidewalk on the east side of Mariposa Avenue and south side of 7<sup>th</sup> Street will be open and pedestrians are anticipated to use this as a detour throughout construction. As such, the temporary impacts to pedestrians during construction would be less than significant.

The intersection of Mariposa Avenue (South) & Wilshire Boulevard operates at LOS A during both peak hours under existing conditions, and would operate at LOS A during the both peak hours under cumulative conditions. The intersection of Irolo Street & 7<sup>th</sup> Street operates at LOS A during both peak hours under existing conditions, and would operate at LOS B in the AM peak hour and LOS D during the PM peak hour under cumulative conditions.

Worksite traffic control plans would be prepared for any temporary vehicle lane, bicycle lane, or sidewalk closures in accordance with applicable City and MUTCD guidelines.



## TEMPORARY LOSS OF ACCESS

The existing office building located directly north of the construction site will remain open throughout construction. In addition, the parking garage will remain open during construction as well providing parking for both the office building tenants and the construction workers. Pedestrian and vehicular access to properties located to the east and west of the project site will be open and unobstructed for the duration of construction. Since the Project construction would not block any vehicle or pedestrian access to other parcels fronting the construction area, impacts would be less than significant.

## TEMPORARY LOSS OF BUS STOPS OR REROUTING OF BUS LINES

Bus stops are not located along Mariposa Avenue or 7<sup>th</sup> Street where the parking lane closures would occur. A bus only lane is located on the south side of Wilshire Boulevard adjacent to the project site and a bus stop is present directly east of Irolo Street, but construction will not affect bus operations as there are no sidewalk or lane closures anticipated on Wilshire Boulevard along the Project frontage. Therefore, the project construction would not require relocation of bus stops and the construction impacts on transit operations would be less than significant.

## TEMPORARY LOSS OF ON-STREET PARKING

Construction would require temporary removal of well utilized on-street parking spaces along the project frontages of Mariposa Avenue, from Wilshire Boulevard to 7<sup>th</sup> Street, and 7<sup>th</sup> Street, from Irolo Street to Mariposa Avenue, to accommodate the construction area footprint and/or temporary truck staging. This would require the temporary removal of 12 two-hour metered parking spaces along Mariposa Avenue and 16 two-hour metered parking spaces along 7<sup>th</sup> Street for 24 months. Per the provisions in the California Public Resources Code Section 21099, which implements SB 743, parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment. As such, temporary parking impacts would be less than significant.



**TABLE 12**  
**3440 WILSHIRE PROJECT**  
**CONSTRUCTION IMPACT SIGNIFICANCE FACTORS**

Significance Factor [a]	Assessment	Conclusion
<b>Per the LA CEQA Thresholds Guide , the determination of significance shall be made on a case-by-case basis, considering the following factors:</b>		
<b>Temporary Traffic Impacts:</b>		
<ul style="list-style-type: none"> <li>• The length of time of temporary street closures or closures of two or more traffic lanes;</li> <li>• The classification of the street (major arterial, state highway) affected;</li> <li>• The existing traffic levels and level of service (LOS) on the affected street segments and intersections;</li> <li>• Whether the affected street directly leads to a freeway on- or off-ramp or other state highway;</li> <li>• Potential safety issues involved with street or lane closures;</li> <li>• The presence of emergency services (fire, hospital, etc.) located nearby that regularly use the affected street.</li> </ul>	<ul style="list-style-type: none"> <li>• Temporary street closures or closures of two or more traffic lanes are not anticipated.</li> <li>• The streets affected by any temporary lane or sidewalk closures (Mariposa Avenue and 7th Street) local street and Avenue II, respectively.</li> <li>• The Mariposa/Wilshire and Irolo/7th intersections currently operates at LOS A during both peak periods. Mariposa/Wilshire operates at LOS A during both peak periods under cumulative. Irolo/7th operates at LOS B (AM) and LOS D (PM) under cumulative.</li> <li>• None of the affected streets directly lead to a freeway on- or off-ramp or other state highways.</li> <li>• Worksite traffic control plans would be prepared for any temporary lane closures in accordance with applicable City and MUTCD guidelines.</li> <li>• There are no emergency services located within the immediate vicinity of the affected streets.</li> </ul>	<ul style="list-style-type: none"> <li>• Less than significant.</li> </ul>
<b>Temporary Loss of Access:</b>		
<ul style="list-style-type: none"> <li>• The length of time of any loss of vehicular or pedestrian access to a parcel fronting the construction area;</li> <li>• The availability of alternative vehicular or pedestrian access within ¼ mile of the lost access;</li> <li>• The type of land uses affected, and related safety, convenience, and/or economic issues.</li> </ul>	<ul style="list-style-type: none"> <li>• Blockage of existing vehicle or pedestrian access to parcels fronting the construction area is not anticipated. Access to the office building and parking structure will remain throughout construction.</li> </ul>	<ul style="list-style-type: none"> <li>• Less than significant.</li> </ul>
<b>Temporary Loss of Bus Stops or Rerouting of Bus Lines:</b>		
<ul style="list-style-type: none"> <li>• The length of time that an existing bus stop would be unavailable or that existing service would be interrupted;</li> <li>• The availability of a nearby location (within ¼ mile) to which the bus stop or route can be temporarily relocated;</li> <li>• The existence of other bus stops or routes with similar routes/ destinations within a ¼mile radius of the affected stops or routes;</li> <li>• Whether the interruption would occur on a weekday, weekend or holiday, and whether the existing bus route typically provides service that/those day(s).</li> </ul>	<ul style="list-style-type: none"> <li>• There are no bus stops along the Mariposa Avenue and 7th Street. There is one bus lane on the south side of Wilshire Boulevard, with a bus stop located along the project frontage but as lane closures are not anticipated along Wilshire Boulevard, project construction would not require blockage of the bus lane.</li> </ul>	<ul style="list-style-type: none"> <li>• Less than significant.</li> </ul>
<b>Temporary Loss of On-Street Parking:</b>		
<ul style="list-style-type: none"> <li>• The current utilization of existing on-street parking;</li> <li>• The availability of alternative parking locations or public transit options (e.g. bus, train) within ¼ mile of the project site;</li> <li>• The length of time that existing parking spaces would be unavailable.</li> </ul>	<ul style="list-style-type: none"> <li>• The Project could require temporary removal of on-street parking spaces along the Project frontages on Mariposa Avenue and 7th Street to accommodate temporary truck staging or travel lanes. This requires the temporary removal of 28 well utilized, two-hour, metered parking spaces for 24 months.</li> <li>• Public transit options are available within 1/4 mile of the Project site, including: Metro Purple Line Wilshire/Normandie Station and rapid and local bus routes on 6th Street, 8th Street, 9th Street, and Wilshire.</li> </ul>	<ul style="list-style-type: none"> <li>• Less than significant in accordance with SB 743/Public Resources Code Section 21099.</li> </ul>
Note: SB 743 as implemented in California Public Resources Code Section 21099 provides that parking impacts of a residential, mixed- use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment. This guidance supersedes the significance guidance in the LA CEQA Threshold Guide .		

## CONSTRUCTION TRAFFIC

### CONSTRUCTION TRUCKS

#### Haul Trucks

Hauling activity is expected to occur during Phase 1, 2, and 3. Up to 30 haul trucks per day are anticipated on peak haul days in Phase 1 and up to 55 haul trucks per day are anticipated on peak haul days in Phase 2. One haul truck is anticipated in Phase 3.

Hauling hours are anticipated to be 7:00 AM to 5:00 PM. The haul route for the project will most likely be either eastbound on Wilshire Boulevard to the I-101 Freeway, or south on Irolo Street to the I-10 Freeway, to the Manning Pit Landfill in Irwindale. Trucks are expected to be staged off-site and dispatched to the project site as needed.

#### Equipment and Delivery Trucks

In addition to haul trucks, the site is also expected to generate equipment and delivery trucks during each phase of construction. One example would be concrete delivery, which would be required for the parking garage and the buildings on-site. Other materials could include plumbing supplies, electrical fixtures, and items used in furnishing the buildings. These materials would be delivered to the site and stored on-site. These deliveries are expected to occur in variously sized vehicles including small delivery trucks to cement mixer trucks and 18-wheel trucks. Additionally, construction equipment would have to be delivered to the site. This equipment could include cranes, bulldozers, excavators, and other large items of machinery. Most of the heavy equipment is expected to be transported to the site on large trucks such as 18-wheelers or other similar vehicles.

Minimal delivery/equipment trucks are expected to be needed under Phase 1 and Phase 2. Phase 3 is expected to generate up to 20 equipment/delivery trucks per day on peak activity days. Phase 4 is expected to generate up to 40 equipment/delivery trucks per day on peak activity days.

### CONSTRUCTION EMPLOYEES

The number of construction workers would vary throughout the construction period with the building construction phase generating the highest number of trips. Phase 1 is expected to involve a total of 15 workers on site on a daily basis and Phase 2 will involve up to approximately 20 workers on a peak day. Phase 3 is expected to involve a total of 200 workers on site on a daily basis and Phase 4 will involve up to approximately 5 workers on a peak day.

### CONSTRUCTION WORKER PARKING

During the demolition/excavation phase and the first portion of the building construction while the parking garage is under construction, it is anticipated that construction employees would be parked in the 3550 Wilshire parking lot directly next to the project site as well as in nearby buildings along Wilshire Boulevard owned by the project applicant. Once the subterranean parking structure component of the Project is complete, construction workers would also be parked in the additional spaces in the garage.





## CONSTRUCTION PERIOD TRIP GENERATION

Based on the aforementioned information, a construction period trip generation analysis was conducted for each phase of construction to estimate daily, morning and evening peak hour passenger car equivalent (PCE) trips. Construction workers often travel to and from a worksite outside of the typical peak commute hours. For the purpose of the analysis, it was assumed that up to 40% of the construction workers will arrive during the peak morning commute hour and 40% will depart during the peak evening commute hour. For the purposes of the trip generation analysis, the hauling hours were assumed to occur from 7:00 AM to 5:00 PM, a 10-hour period, which would create the highest number of haul trips in the peak hours. The delivery/equipment trucks are anticipated to arrive and depart between 7:00 AM and 5:00 PM, a 10-hour period. A PCE factor of 2.5 was assumed for haul trucks assuming the use of double-belly trailer trucks and a PCE factor of 2.0 was used for delivery trucks.

Table 13 shows a summary of construction period trip generation under each phase of construction. As shown, on a peak construction activity day, a total of up to 196 daily PCE trips are estimated to occur under Phase 1, of which 24 PCE trips would occur during each of the morning and evening peak hours. Phase 2 is estimated to generate a total of 331 daily PCE trips on a day with peak construction activity, of which 38 PCE trips are estimated to occur during each of the morning and evening peak hours. Phase 3 is estimated to generate a total of 485 daily PCE trips on a day with peak construction activity, of which 88 PCE trips are estimated to occur during each of the morning and evening peak hours. Phase 4 is estimated to generate a total of 170 daily PCE trips on a day with peak construction activity, of which 18 PCE trips are estimated to occur during each of the morning and evening peak hours.

At any given time, the peak construction activity is estimated to generate fewer daily and peak hour trips than are projected for the Project once it is completed and occupied (2,040 daily trips, 131 AM peak hour trips, and 186 PM peak hour trips, as shown in Table 4).

Although significant construction impacts are not anticipated, the influx of this material and equipment could create less than significant impacts on the adjacent roadway network based on the following considerations:

- There may be intermittent periods when large numbers of material deliveries are required, such as when concrete trucks will be needed for the parking garage and the buildings.
- Some of the materials and equipment could require the use of large trucks (18-wheelers), which could create additional congestion on the adjacent roadways.
- Delivery vehicles may need to park temporarily on adjacent roadways such as Sunset Place and Hoover Street as they deliver their items. Based on past experience, it is not uncommon for these types of deliveries to result in temporary lane closures.



**TABLE 13**  
**3440 WILSHIRE PROJECT**  
**CONSTRUCTION PERIOD TRIP GENERATION**

**Peak Daily Activity Under Each Phase**

	<b>Demolition &amp; Site Preparation</b>	<b>Grading</b>	<b>Construction</b>	<b>Architectural Coating</b>
<i>Construction Workers</i>	15	20	200	5
Passenger Car Equivalent (PCE) factor	1.0	1.0	1.0	1.0
<i>Haul Trucks</i>	30	55	1	0
Passenger Car Equivalent (PCE) factor	2.5	2.5	2.5	2.5
<i>Delivery/Equipment Trucks</i>	4	4	20	40
Passenger Car Equivalent (PCE) factor	2.0	2.0	2.0	2.0

**CONSTRUCTION PERIOD TRIP GENERATION**

Phase	Daily PCE Trips [1]	Morning Peak Hour PCE Trips			Evening Peak Hour PCE Trips		
		In	Out	Total	In	Out	Total
Phase 1 - Demolition & Site Preparation							
Construction Worker Trips[2]	30	6	0	6	0	6	6
Haul Truck Trips [3]	150	8	8	16	8	8	16
Delivery/Equipment Truck Trips [3]	16	1	1	2	1	1	2
Phase 1 Total	196	15	9	24	9	15	24
Phase 2 - Grading							
Construction Worker Trips[2]	40	8	0	8	0	8	8
Haul Truck Trips [3]	275	14	14	28	14	14	28
Delivery/Equipment Truck Trips [3]	16	1	1	2	1	1	2
Phase 1 Total	331	23	15	38	15	23	38
Phase 3 - Construction							
Construction Worker Trips[2]	400	80	0	80	0	80	80
Haul Truck Trips [3]	5	0	0	0	0	0	0
Delivery/Equipment Truck Trips [3]	80	4	4	8	4	4	8
Phase 3 Total	485	84	4	88	4	84	88
Phase 4 - Architectural Coatings							
Construction Worker Trips[2]	10	2	0	2	0	2	2
Haul Truck Trips [3]	0	0	0	0	0	0	0
Delivery/Equipment Truck Trips [3]	160	8	8	16	8	8	16
Phase 34Total	170	10	8	18	8	10	18

PCE - Passenger car equivalent

Notes:

[1] - Daily trips were calculated by counting two trips, one inbound and one outbound trip for each vehicle

[2] - Up to 40% of the construction workers were assumed to arrive during the morning peak hour of adjacent street traffic. A total of up to 40% worker were assumed to depart during the evening peak hour.

[3] - Daily haul, delivery/equipment, and trash truck trips were assumed to occur evenly throughout an 8-hour construction day in off-peak hours. Therefore, the daily truck trips were divided by 8 hours to calculate morning and evening peak hour truck trips.

## CONSTRUCTION MITIGATION MEASURES

As shown in Table 12, impacts related to construction traffic were found to be less than significant. In addition, the peak construction activity will generate fewer daily and peak hour trips than are projected for the project once it is completed and occupied. While mitigation measures are not required to mitigate significant impacts, to be conservative a Construction Traffic Management Plan and Construction Worker Parking Plan should be implemented.

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

- Provide off-site truck staging in a legal area furnished by the construction truck contractor. Anticipated truck access to the project site will be off Mariposa Avenue and 7<sup>th</sup> Street.
- 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 one parking lane and/or sidewalk closures are anticipated, worksite traffic control plan(s), approved by the City of Los Angeles, 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 will 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 will also be developed by the contractor and approved by the City of Los Angeles to ensure that the parking location requirements for construction workers will be 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 will clearly state that no parking is permitted on residential streets.



## 9. SUMMARY AND CONCLUSIONS

This study was undertaken to analyze the potential traffic impacts of the proposed development on the current site of 3440 Wilshire Boulevard. The following summarizes the results of this analysis:

- The proposed Project involves the construction of 641 multifamily high-rise units and 18,454 square feet of retail space.
- The proposed Project is located on Wilshire Boulevard between Irolo Street and Mariposa Avenue. Inbound and outbound vehicular access will be provided by four separate driveways, one on Mariposa Avenue, two on 7<sup>th</sup> Street, and one on Irolo Street. The loading areas for the project uses will be located in the parking structure on Level 1 and will be accessible from the Mariposa Avenue driveway.
- The Project would generate an estimated net increase of 2,040 daily vehicle trips, including 131 trips during the AM peak hour and 186 trips during the PM peak hour.
- The LOS analysis for the Existing plus Project and Future plus Project determined that the Project would not result in significant impacts at study area intersections.
- Significant CMP arterial, CMP freeway or transit impacts would not be created by the Project; therefore, no mitigation measures would be required.
- Impacts related to construction traffic were found to be less than significant. In addition, the peak construction activity will generate fewer daily and peak hour trips than are projected for the Project once it is completed and occupied. While mitigation measures are not required to mitigate significant impacts, to be conservative, a Construction Traffic Management Plan and Construction Worker Parking Plan should be implemented.



## REFERENCES

*2010 Highway Capacity Manual*, Transportation Research Board, 2010.

City of Los Angeles Municipal Code.

*Congestion Management Program for Los Angeles County*, Metro, 2010.

*Mobility Plan 2035, An Element of the General Plan*, Los Angeles Department of City Planning, adopted by City Council September 7, 2016.

*Transportation Impact Study Guidelines*, LADOT, December 2016.

*Trip Generation, 9<sup>th</sup> Edition*, ITE, 2017.

*Trip Generation, 10<sup>th</sup> Edition*, ITE, 2017.

*Trip Generation Handbook, 2<sup>nd</sup> Edition*, ITE, 2004.

**APPENDIX A:**  
**LADOT MOU**

updated 8/2/18

## TRAFFIC STUDY - MEMORANDUM OF UNDERSTANDING (MOU)

This MOU acknowledges that the traffic study for the following project will be prepared in accordance with the latest version of LADOT's Traffic Study Policies and Procedures:

Project Name: 3440 Wilshire (Central Plaza Project)  
Project Address: 3440 Wilshire Boulevard, Los Angeles, CA 90010  
Project Description: See Figure 1. Project includes 641 apartment units and 18,454 sf retail.

Geographic Distribution: N \_\_\_ % S \_\_\_ % E \_\_\_ % W \_\_\_ % *See Figure 2.*  
Attach graphic illustrating project trip distribution percentages at the studied intersections

Trip Generation Rate(s): ITE 9th Edition / Other *See Table 1.*  
Attach trip generation table with a description of the proposed land uses, ITE rates, estimated morning and afternoon peak hour volumes (ins/out/totals), proposed trip credits, etc.

	<u>in</u>	<u>out</u>	<u>total</u>
AM Trips	<u>19</u>	<u>112</u>	<u>131</u>
PM Trips	<u>125</u>	<u>61</u>	<u>186</u>

Project Buildout Year: 2026  
Ambient or CMP Growth Rate: 1 % Per Yr.  
Related Projects: *See Attached Table 2 and Figure 3.*

Subject to Freeway Impact Analysis in addition to CMP Analysis: YES x NO (See Attachment A)  
(freeway analysis screening filter should be included in this MOU; selecting "yes" implies that at least one criteria was satisfied)

Study Intersections: *See Figure 2.*

1. Western Ave & Wilshire Blvd	6. Irolo St & 7 <sup>th</sup> St	11. Mariposa Ave (S) & Wilshire Blvd
2. Western Ave & 8 <sup>th</sup> St	7. Irolo St & 8 <sup>th</sup> St	12. Mariposa Ave & 8 <sup>th</sup> St
3. Normandie Ave & 3 <sup>rd</sup> St	8. Normandie Ave & Olympic Blvd	13. Vermont Ave & Wilshire Blvd
4. Normandie Ave & 6 <sup>th</sup> St	9. Mariposa Ave & 6 <sup>th</sup> St	14. Vermont Ave & 8 <sup>th</sup> St
5. Normandie Ave & Wilshire Blvd	10. Mariposa Ave (N) & Wilshire Blvd	

Trip Credits: (Exact amount of credit subject to approval by LADOT)

	<b>Yes</b>	<b>No</b>
Transit Usage	X	
Transportation Demand Management		X
Existing Active Land Use	X	
Previous Land Use		X
Internal Trip	X	
Pass-By Trip	X	

### Consultant

Name: Tom Gaul, Fehr & Peers  
Address: 600 Wilshire, Suite 1050, Los Angeles, CA 90017

Phone No.: 213-261-3050

Approved by: [Signature]  
Consultant's Representative

8/9/18  
Date

### Developer

Garrett Lee, Jamison Properties  
3470 Wilshire Blvd, St 700, Los Angeles, CA 90010

213-201-1009

[Signature] 8/2/18  
LADOT Representative Date



Figure 1  
Site Plan and Aerial View





**TABLE 1**  
**3440 WILSHIRE PROJECT**  
**TRIP GENERATION - ITE 10TH EDITION**

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]							Estimated Trip Generation						
			Daily	AM Peak Hour			PM Peak Hour			Daily	AM Peak Hour Trips			PM Peak Hour Trips		
				Rate	In%	Out%	Rate	In%	Out%		In	Out	Total	In	Out	Total
PROPOSED PROJECT																
Retail	820	18.454 ksf	37.75	0.94	62%	38%	3.81	48%	52%	697	11	6	17	34	36	70
Less: Internal Capture [b]			15%		15%			15%		(105)	(2)	(1)	(3)	(5)	(5)	(10)
Less: Transit Credit [c]			25%	25%			25%			(148)	(2)	(1)	(3)	(7)	(8)	(15)
Total Driveway Trips										444	7	4	11	22	23	45
Less: Pass-by [d]			50%	50%			50%			(222)	(3)	(2)	(5)	(11)	(11)	(22)
Net External Vehicle Trips										<u>222</u>	<u>4</u>	<u>2</u>	<u>6</u>	<u>11</u>	<u>12</u>	<u>23</u>
Multifamily Houseing (High-Rise) [e]	222	641 DU	4.45	0.23	12%	88%	0.3	70%	30%	2,852	18	129	147	134	58	192
Internal Capture [b]			15%		15%			15%		(428)	(3)	(19)	(22)	(20)	(9)	(29)
Less: Transit Credit [c]			25%							(606)	0	0	0	0	0	0
Net External Vehicle Trips										<u>1,818</u>	<u>15</u>	<u>110</u>	<u>125</u>	<u>114</u>	<u>49</u>	<u>163</u>
TOTAL DRIVEWAY TRIPS										2,262	22	114	136	136	72	208
NET INCREMENTAL EXTERNAL TRIPS										2,040	19	112	131	125	61	186

Notes:

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 10th Edition*, 2017

[b] Internal capture represents the percentage of trips between land uses that occur within the site. Main Street model calibration of base ITE rates reflecting project & site specific characteristics.

[c] The transit credit is based on LADOT's *Traffic Study Policies and Procedures*, December 2016. The guidelines state that up to 25% transit credit may be taken for projects adjacent to a transit station or Rapid Bus stop.

[d] The pass-by credit is based on Attachment I of LADOT's *Traffic Study Policies and Procedures*, December 2016.

[e] Local high-rise residential data collected for LADOT was used to determine the trip generation for the residential land use. The local data did not include information on daily rates, so the general urban/suburban daily equation was used, making it appropriate to apply a transit credit.



## DRAFT MEMORANDUM

Date: July 17, 2018  
To: Eddie Guerrero and Wes Pringle, LADOT  
From: Tom Gaul and Amanda Heinke, Fehr & Peers  
Subject: **Trip Generation for Multifamily Residential Uses – ITE 10<sup>th</sup> Edition**

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In November 2017, the Institute of Traffic Engineers (ITE) released the 10<sup>th</sup> edition ITE Trip Generation Manual, which provided updated trip generation rates for numerous land uses. In light of the new 10<sup>th</sup> edition rates, a comparison of the 10<sup>th</sup> edition trip generation rates to the 9<sup>th</sup> edition rates as well as to the local trip generation data was conducted for multifamily residential uses. The purpose of this memorandum is twofold: (1) to present a brief summary of the changes in the ITE 10<sup>th</sup> edition multifamily residential trip rates and (2) provide a recommendation for multifamily residential trip generation rates in the City of Los Angeles for dense mixed-use urban areas and city core areas.

### **Key ITE Multifamily Residential Trip Rate Changes**

Both the ITE 9<sup>th</sup> and ITE 10<sup>th</sup> edition manuals include three categories for multifamily housing: low-rise, mid-rise, and high-rise multifamily housing. The definitions of the low-rise, mid-rise, and high-rise categories remain the same as described in the 9<sup>th</sup> edition: low-rise is one or two stories, mid-rise is three to 10 stories, high-rise is greater than 10 stories. The ITE 9<sup>th</sup> edition manual also included generic apartment rates (land use code 220) and generic condominium rates (land use code 230) that were not related to height. The ITE 10<sup>th</sup> edition manual no longer provides this option, only providing rates for low-rise, mid-rise, and high-rise.

In addition, the ITE 10<sup>th</sup> edition introduces geographic setting for four different settings/locations: Rural, Urban/Suburban, Dense Multi-Use Urban, and City Core. The ITE 10<sup>th</sup> edition manual definitions for each of the geographic setting terms are shown in Attachment A.

Table 1 provides a comparison between the 9<sup>th</sup> edition and 10<sup>th</sup> edition rates for residential land uses by each geographical setting.



## Locally Available Trip Data

For mid-rise and high-rise multifamily housing sites in dense multi-use urban and center city core areas, trip generations rates from properties within the City of Los Angeles area are available as a secondary data source to the ITE trip rates. Table 2 provides data obtained from local trip generation surveys conducted as part of the *Measuring the Miles/Infill and Complete Streets* project for LADOT<sup>1</sup>, further categorized into properties that were mid-rise and high-rise as well as general urban/suburban, dense multi-use urban, or city center core areas to mirror the category distinctions in the ITE 10<sup>th</sup> edition trip generation manual. Table 2 provides the average trip generation for mid-rise and high-rise residential properties in the City of Los Angeles.

The local data reveals that mid-rise and high-rise multifamily average trip rates for the AM and PM peak hours in dense multi-use urban areas are lower than the ITE 9<sup>th</sup> edition rates, but higher than the ITE 10<sup>th</sup> edition peak hour rates. As the local data reveals a higher trip generation rates than the ITE 10<sup>th</sup> edition rates, the local data should be used for the purposes of estimating trip generation for mid-rise and high-rise projects in dense multi-use urban areas in the City of Los Angeles.

However, local data was not available for low-rise multifamily or for daily trip rates for mid-rise and high-rise multifamily sites. In the absence of local data, the 10<sup>th</sup> edition general urban/suburban trip rates may be used. Transit credits may be considered according to LADOT transportation guidelines.

## Summary of Recommendations

- For multifamily uses located in general urban/suburban areas, the ITE 10<sup>th</sup> edition residential trip rates for all multifamily housing types are statistically valid and are representative of recent travel patterns. These rates are acceptable to use as an estimate for residential vehicle trip generation.
- For multifamily mid-rise and multifamily high-rise uses located in dense multi-use urban areas, the local mid-rise and high-rise data should be applied to properties that meet the ITE definitions of location in dense multi-use urban areas since the local data reveals higher trip generation than the 10<sup>th</sup> edition ITE rates for the same uses. The following summarizes these rates:

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<sup>1</sup> Memorandum from Tom Gaul & Cary Bearn, Fehr & Peers, to Claire Bowin & David Somers, Los Angeles Department of City Planning, "Infill and Complete Streets Study, Tasks 2.1B & 2.1C Local Trip Generation Studies", April 20, 2017.



**Local Trip Generation Rates for  
Multifamily Mid-Rise and High-Rise Residential Land Uses in Dense Multi-Use Urban Areas**

<b>Land Use</b>	<b>AM Peak Hour (trips per DU)</b>	<b>PM Peak Hour (trips per DU)</b>
Multifamily Mid-Rise	0.31	0.30
Multifamily High-Rise	0.23	0.30

- For multifamily mid-rise uses located in city center core areas, the ITE 10<sup>th</sup> edition trip rates should be used in the absence of sufficient local data points. For the multifamily high-rise uses in city center core areas, as both the ITE data and the local data are low in sample size, the local trip data for the dense multi-use areas should be used.
- For low-rise multifamily housing in dense multi-use urban and center city core areas, the low-rise trip rates for the general urban/suburban geographic setting should be used due to the lack of readily available local daily data. Transit credits may be considered for daily trip generation if using these rates under this scenario.

TABLE 1  
ITE MULTIFAMILY RESIDENTIAL VEHICLE TRIP GENERATION RATES (10th versus 9th)

ITE 9th Edition Vehicle Rates				ITE 10th Edition Vehicle Rates						ITE 10th vs. 9th Comparable			
	Comparison to Apartment 220				General Urban/ Suburban		Dense Multi-Use Urban		Center City Core		General Urban/ Suburban	Dense Multi-Use Urban	Center City Core
	Rate per DU	Sample Size			Rate per DU	Sample Size	Rate per DU	Sample Size	Rate per DU	Sample Size			
ITE 9th Land Use [a]				ITE 10th Land Use [a]									
Daily													
220 Apartment	6.65	88		220 Multifamily Low-Rise	7.32	29	4.41	2 [b]	n/a		11%	-33%	n/a
221 Low-Rise Apartment	6.59	22 [b]	-1%	221 Multifamily Mid-Rise	5.44	27	2.59	1	3.74	3 [b]	n/a	n/a	n/a
223 Mid-Rise Apartment	n/a		n/a	222 Multifamily High-Rise	4.45	11	2.07	11	2.16	2	6%	-51%	-49%
222 High-Rise Apartment	4.20	9	-37%										
AM Peak Hour													
220 Apartment	0.51	78		220 Multifamily Low-Rise	0.46	42	0.36	3 [b]	n/a		0%	-22%	n/a
221 Low-Rise Apartment	0.46	27 [b]	-10%	221 Multifamily Mid-Rise	0.36	53	0.20	4	0.31	8 [b]	20%	-33%	3%
223 Mid-Rise Apartment	0.30	7	-41%	222 Multifamily High-Rise	0.31	25	0.21	11	0.22	2	3%	-30%	-27%
222 High-Rise Apartment	0.30	17	-41%										
PM Peak Hour													
220 Apartment	0.62	90		220 Multifamily Low-Rise	0.56	50	0.33	2 [b]	n/a		-3%	-43%	n/a
221 Low-Rise Apartment	0.58	27 [b]	-6%	221 Multifamily Mid-Rise	0.44	60	0.18	4	0.28	8 [b]	13%	-54%	-28%
223 Mid-Rise Apartment	0.39	7	-37%	222 Multifamily High-Rise	0.36	25	0.19	11	0.23	2	3%	-46%	-34%
222 High-Rise Apartment	0.35	17	-44%										

Notes:

- a. Low-rise = 1 or 2 stories  
Mid-rise = 3 to 10 stories  
High-rise = > 10 stories
- b. Available rates are per occupied DU, not per DU.

TABLE 2  
Vehicle Trips and Generation Rates for Market Rate Housing Study Locations  
Organized by ITE 10th Edition Residential Categories

Site #	# of Floors	ITE Setting/ Location	Name	Address	Source	Land Use	Located Within TPA?	Daily Vehicle Trips	AM Peak Hour Vehicle Trips	PM Peak Hour Vehicle Trips	Daily Trip Rate (Trips per DU)	AM Peak Hour Trip Rate (Trips per DU)	PM Peak Hour Trip Rate (Trips per DU)
<b>Multifamily Housing (High-Rise)</b>													
10	29	Gen Urban/Suburban	Blair House	10490 Wilshire Blvd, Los Angeles, CA 90024	Fehr & Peers Trip Generation Rate Study	128 Residential Units;	Yes	[a]	[b]	[b]	[a]	0.24	0.53
8	24	Gen Urban/Suburban	Remington	10727 Wilshire Blvd, Los Angeles, CA 90024	Fehr & Peers Trip Generation Rate Study	93 Residential Units;	Yes	[a]	[b]	[b]	[a]	0.30	0.41
9	23	Gen Urban/Suburban	Wilshire Regent	10501 Wilshire Blvd, Los Angeles, CA 90024	Fehr & Peers Trip Generation Rate Study	208 Residential Units;	Yes	[a]	[b]	[b]	[a]	0.17	0.16
											<b>AVERAGE</b>	<b>0.24</b>	<b>0.37</b>
<b>Multifamily Housing (High-Rise)</b>													
7	21	Dense Multi-Use Urban	2160/2170 Century Park East	2160 Century Park E, Los Angeles, CA 90067	Fehr & Peers Trip Generation Rate Study	496 Residential Units;	Yes	[a]	[b]	[b]	[a]	0.29	0.28
1	13	Dense Multi-Use Urban	Hollywood Ardmore	1850 Whitley Ave, Los Angeles, CA 90028	Counted Fall 2016	206 Residential Units;	No	695	36	52	3.37	0.17	0.25
19	14	Dense Multi-Use Urban	NoHo 14 Apartment Building	5440 Tujunga Ave, North Hollywood, CA 91601	California Strategic Growth Phase 2	180 Residential Units;	Yes	[a]	42	66	[a]	0.23	0.37
											<b>AVERAGE</b>	<b>0.23</b>	<b>0.30</b>
<b>Multifamily Housing (Mid-Rise)</b>													
2	9	Dense Multi-Use Urban	3075 Wilshire	3075 Wilshire Blvd, Los Angeles, CA 90010	Counted Fall 2016	127 Residential Units;	Yes	352	25	36	2.77	0.20	0.28
18	6	Dense Multi-Use Urban	Gardens at Wilshire	3675 Wilshire Blvd, Los Angeles, CA 90010	California Strategic Growth Phase 2	159 Residential Units;	Yes	[a]	44	47	[a]	0.28	0.30
13	4	Dense Multi-Use Urban	Victor on Venice	10001 Venice Blvd, Los Angeles, CA 90034	California Strategic Growth Phase 1	116 Residential Units;	Yes	[a]	44	50	[a]	0.38	0.43
20	4	Dense Multi-Use Urban	Gallery at NoHo Commons	5416 Fair Avenue, North Hollywood, CA 91601	California Strategic Growth Phase 2	438 Residential Units;	Yes	[a]	150	146	[a]	0.34	0.33
6	4	Dense Multi-Use Urban	Palazzo East at Park La Brea	340 Hauser Blvd, Los Angeles, CA 90036	Fehr & Peers Trip Generation Rate Study	610 Residential Units;	Yes	[a]	[b]	[b]	[a]	0.27	0.28
12	4	Dense Multi-Use Urban	Artisan on 2nd	601 E 2nd St, Los Angeles, CA 90012	California Strategic Growth Phase 1	118 Residential Units;	Yes	[a]	32	31	[a]	0.27	0.26
21	4	Dense Multi-Use Urban	AMLI Warner Center Apartments	21200 Kittridge Street, Woodland Hills, CA 91303	California Strategic Growth Phase 2	522 Residential Units;	Yes	[a]	227	182	[a]	0.43	0.35
5	3	Dense Multi-Use Urban	Skyline Terrace	930 Figueroa Terrace, Los Angeles, CA 90012	Fehr & Peers Trip Generation Rate Study	198 Residential Units;	Yes	[a]	[b]	[b]	[a]	0.33	0.20
											<b>AVERAGE</b>	<b>0.35</b>	<b>0.27</b>
<b>Multifamily Housing (High-Rise)</b>													
14	13	Center City Core	Pegasus Apartments	612 S Flower St, Los Angeles, CA 90017	California Strategic Growth Phase 1	322 Residential Units;	Yes	[a]	36	[a]	[a]	0.11	[a]
											<b>AVERAGE</b>	<b>0.11</b>	<b>--</b>
<b>Multifamily Housing (Mid-Rise)</b>													
4	6	Center City Core	The Medici	725 S Bixel St, Los Angeles, CA 90017	Fehr & Peers Trip Generation Rate Study	632 Residential Units;	Yes	[a]	[b]	[b]	[a]	0.15	0.15
11	6	Center City Core	Sakura Crossing	235 S San Pedro St, Los Angeles, CA 90012	California Strategic Growth Phase 1	230 Residential Units;	Yes	[a]	77	61	[a]	0.33	0.27
											<b>AVERAGE</b>	<b>0.24</b>	<b>0.21</b>

Notes

[a] Data not provided.

[b] Source presents trip generation information in rates only.



## Attachment A

The following presents the definitions of the setting/location for City Center Core, Dense Multi-Use Urban, General Urban/Suburban, and Rural areas for use in the ITE Trip Generation Manual, 10<sup>th</sup> edition.

**Center City Core** – the downtown area for a major metropolitan region at the focal point of a regional light- or heavy-rail transit system. This area type is typified by multi-storied buildings, a wide range of land uses, an extensive pedestrian sidewalk network, and shared and priced parking both on-street and in structured garages or surface lots. The area typically has more jobs than residents and therefore is typically an employment destination. The area also includes the immediate vicinity of the commercial core.

**Dense Multi-Use Urban** – a fully developed area (or nearly so), with diverse and interacting complementary land uses, good pedestrian connectivity, and convenient and frequent transit. This area type can be a well-developed urban area outside a major metropolitan downtown or moderate size urban area downtown. The land use mix typically includes office, retail, residential, and often entertainment, hotel, and other commercial uses. The residential uses are typically multifamily or single-family on lots no larger than one-fourth acre. The commercial uses often have little or no setback from the sidewalk. Because the motor vehicle still represents the primary mode of travel to and from the area, there typically is on-street parking and often off-street public parking. The complementary land uses provide the opportunity for short trips within the Dense Multi-Use Urban area, made convenient by walking, biking, or transit. The area is served by significant transit (either rail or bus) that enables a high level of transit usage to and from the area of development.

**General Urban/Suburban** – an area associated with almost homogeneous vehicle-centered access. Nearly all person trips that enter or exist a development site are by personal passenger or commercial vehicle. The area can be fully developed (or nearly so) at low-medium density with a mix of residential and commercial uses. The commercial land uses are typically concentrated at intersections or spread along commercial corridors, often surrounded by low-density, almost entirely residential development. Most commercial buildings are located behind the parking area or surrounded by parking. The mixing of land uses is only in terms of their proximity, not in terms of function. A retail land use may focus on service a regional clientele whereas a service land use may target motorists or pass-by vehicle trips for its customers. Even if the land uses are complementary, a lack of pedestrian, bicycling, and transit facilities or services limit non-vehicle travel.

**Rural** – agricultural or undeveloped except for scattered parcels and at very low densities.



**Table 1**  
**3440 Wilshire Project**  
**Related Project List**

No.	Project Location [a]	Land Use	Size	Estimated Trip Generation [b]						
				Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
					In	Out	Total	In	Out	Total
1	3323 W Olympic Bl	Condominiums Office	208 du 3.5 ksf	409	-13	49	36	39	-7	32
2	805 S Catalina St	Condominiums Retail	300 du 5 ksf	1935	24	119	143	110	57	167
3	100 N Western Ave	Retail Apartments	30 ksf 98 du	940	17	40	57	54	38	92
4	2755 W 15th Street	School	300 enrollment	486	68	57	125	24	24	48
5	3640 W Wilshire Blvd	Apartments	209 du	1182	18	72	90	73	40	113
6	940 S Western Avenue	Apartments Retail	79 du 8 ksf	380	6	31	37	26	11	37
7	535 S Kingsley Dr	Apartments	85 du	543	8	31	39	36	19	55
8	2850 W 7th St	Condominiums Other Retail	160 du 40 rooms 3.6 ksf	1057	20	72	92	72	42	114
9	800 S Harvard Blvd	Apartments Retail	131 du 7 ksf	827	14	32	46	44	33	77
10	2929 W Leeward Ave	Condominiums	80 du	476	7	33	40	44	21	65
11	2968 W 6th St	Apartments Commercial Commercial	399 du 12 ksf 8 ksf	2943	73	154	227	168	93	261
12	241 N Vermont	Apartments Retail	100 du 5 ksf	510	7	38	45	33	16	49
13	4110 W 3rd Street	Hotel Retail	174 rooms 27.8 ksf	1186	45	35	80	46	40	86
14	1011 S Serrano Ave	Apartments	91 du	545	8	33	41	32	18	50
15	3076 W Olympic Blvd	Apartments Retail	226 du 16.907 ksf	1567	25	78	103	90	56	146
16	3875 W Wilshire Bl	Apartments	196 du	1114	17	68	85	69	37	106
17	3350 W Wilshire Bl	Apartments	121 du	728	11	43	54	47	25	72
18	3545 W Wilshire Blvd	Apartments Retail	433 du 49.849 ksf	917	-42	83	41	84	10	94
19	605 S Vermont Ave	Apartments Museum	103 du 30.937 ksf	755	17	39	56	42	37	79
20	1011 S Park View St	Apartments	108 du	594	9	38	47	38	19	57
21	2965 W 6th St	Hotel	99 rooms	688	26	18	44	25	25	50
22	1255 E Elden Ave	Apartments	93 du	376	0	32	32	28	10	38
23	2972 W 7th St	Apartments Retail	180 du 15 ksf	486	7	59	66	43	8	51
24	1017 S Mariposa Ave	Apartments	79 du	373	5	23	28	23	12	35
25	2859 W Francis Ave	Apartments	81 du	492	7	28	35	31	5	36
26	700 S Manhattan pl	Apartments Restaurant Retail	162 du 6.5 ksf 3.5 ksf	1260	19	57	76	71	46	117
27	411 S Normandie Ave	Apartments	224 du	1407	22	86	108	87	47	134
28	3525 W 8th Street	Apartments Supermarket	367 du 22.906 ksf	1214	8	121	129	83	25	108
29	2870 W Olympic Blvd	Hotel Retail	78 rooms 16.384 ksf	834	22	14	36	30	28	58
30	815 S Kingsley Dr	Apartments	90 du	542	8	33	41	33	17	50
31	616 S Westmoreland Ave	Apartments Restaurant Retail	72 du 2.765 ksf 1.043 ksf	461	2	29	31	30	5	35
32	2525 Wilshire Bl	Condominiums Retail	160 du 7.5 ksf	1160	16	60	76	61	36	97
33	3330 W Beverly Bl	Apartments Childcare	40 du 4.237 ksf	495	26	34	63	35	32	67
34	2405 W 8th Street	Apartments Retail	144 du 4.406 ksf	333	-20	48	28	42	-15	27
35	422 Lake St	Apartments	80 du	532	8	33	41	33	17	50
36	1929 W Pico Bl	School	480 enrollment	821	140	66	206	20	42	62
37	235 N Hoover	Apartments	214 du	1423	22	87	109	86	47	133
38	3240 W Wilshire Bl	Hotel Apartments Retail	162 rooms 545 du 5222 ksf	1,353	15	173	188	89	23	112
39	1930 W Wilshire Bl	Apartments Theatre Classroom Hotel	478 du 850 seats 50 enrollment 220 rooms	1355	-44	128	84	103	-41	62

**Table 1**  
**3440 Wilshire Project**  
**Related Project List**

40	888 S Vermont Avenue	Office Retail	4.4 47.208	ksf ksf	2526	45	19	64	171	169	340
41	1000 S Vermont Ave	Apartments Retail	236 60.3	du ksf	2655	39	94	133	137	102	239
42	257 S Mariposa Avenue	Retail Apartments	3.94 140	ksf du	1036	14	58	94	61	33	72
43	2501 W Olympic Blvd	Apartments Retail	173 184.56	du ksf	1911	27	72	99	100	73	173
44	3170 W Olympic Blvd	Retail	32.3	ksf	1624	24	89	113	94	56	150
45	631 S Vermont Av	Hotel Condominiums Office Retail	200 250 49.22 21.32	rooms du ksf ksf	2599	95	95	190	115	120	235
46	621 S Catalina St	Apartments Retail Restaurant Banquet Hall	165 8.5 15 15	du ksf ksf ksf	2776	26	55	81	180	95	275
47	668 S Coronado St	Apartments Retail	122 1182	du ksf	947	14	48	62	56	34	90
48	1009 S Crenshaw Blvd	Apartments Retail	206 23.585	ksf du	587	-14	48	34	33	23	56
49	966 Dewey Av	Hotel	99	rooms	677	28	15	43	24	24	48
50	2005 W James M Wood Blvd	Hotel	100	rooms	545	24	18	42	20	18	38
51	510 S Vermont Ave	Office Retail Sr. Housing Community Center Apartments	2166 17.5 72 13.2 246	employees ksf du ksf ksf	3215	216	104	320	121	293	414
52	3751 W 6th Street	Apartments Hotel rooms Retail Restaurant	44 200 10 8	du rooms ksf ksf	1183	39	31	70	36	21	57
53	1030 S Lake St	Assisted Living	203	rooms	939	39	23	62	49	48	97
54	500 S Oxford Ave	Condominiums	89	du	439	6	27	33	26	13	39
55	800 S Western Av	Apartments Retail Restaurant Hotel	96 29.73 30 148	du ksf ksf rooms	3908	127	98	225	149	111	260
56	923 S Kenmore Avenue	Apartments	69	du	432	7	26	33	26	15	40
57	600 N Vermont Av	Apartments Retail	120 14.6	du ksf	320	8	46	54	12	18	30
58	3800 W 6th St	Condominiums Hotel Retail	122 192 23.549	du rooms ksf	1966	34	50	84	73	51	124
59	2515 W Beverly Blvd	School	650	students	527	131	126	257	40	22	62
60	3216 W 8th St	Condominiums Hotel Retail Entertainment	8 60 4.808 2.465	du rooms ksf ksf	694	24	18	42	42	32	74
61	840 S Mariposa Av	Apartments	173	du	978	15	60	75	61	31	92
62	2900 Wilshire	Apartments Retail Restaurant	644 10 5.5	DU ksf ksf	3482	81	135	216	137	81	218
63	3600 Wilshire	Apartments Retail	810 30	DU ksf	3307	47	202	249	202	107	309
64	3700 Wilshire	Office	103.719	DU	858	108	14	122	20	96	116
65	3700 Wilshire	Apartments Retail	510 64.296	DU ksf	3500	49	153	202	178	81	259
66	2806 W 7th St	Apartments	158	du	1051	16	64	81	64	34	98
67	300 S Harvard Blvd	Hotel Restaurant	171 2.8	rooms ksf	447	69	64	133	65	52	117
68	601 S Ardmore Ave	Apartments Commercial	428 31.689	du ksf	4199	63	187	248	228	154	383
69	1041 S Menlo Ave	Apartments Commercial	228 53.41	du ksf	3797	55	112	167	187	152	339
70	1006 S Serrano Ave	Apartments Commercial	252 33.28	du ksf	3097	46	115	161	161	119	279
71	837 Harvard Blvd	Apartments	65	du	432	7	27	33	26	14	40
72	636 S Manhattan Pl	Apartments Retail	132 0.9	du ksf	916	14	54	68	55	31	85
73	1021 1/2 Catalina St	Commercial Apartments	5.289 70	ksf du	692	10	31	41	37	25	63
74	352 S Alexandria Ave	Apartments	59	du	392	6	24	30	24	13	37
75	3418 W 8th St	Apartments	131	du	871	13	53	67	53	28	81
76	2867 W Sunset Pl	Apartments	60	du	399	6	24	31	24	13	37
77	3200 Temple St	Apartments	59	du	392	6	24	30	24	13	37

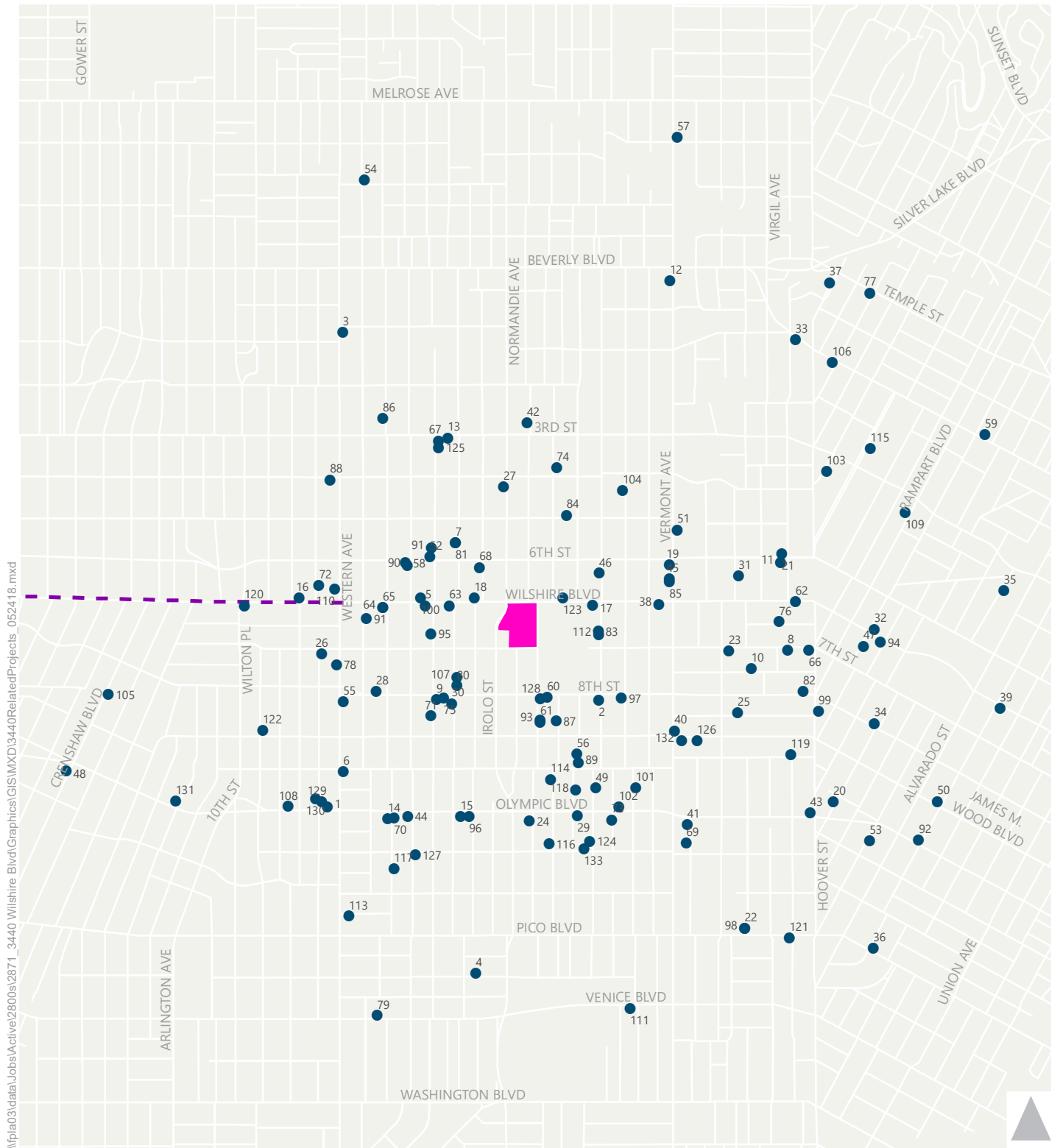
**Table 1**  
**3440 Wilshire Project**  
**Related Project List**

78	721 S Western Ave	Apartments Retail	160 10.282	du ksf	1503	22	69	92	82	55	137
79	2229 W Venice Blvd	Office	120	ksf	1324	165	22	187	30	148	179
80	762 S Kingsley Dr	Apartments	67	du	446	7	27	34	27	15	42
81	535 S Kingsley Dr	Condominiums	72	du	418	5	26	32	25	12	37
82	2723 W 8th St	School	450	students	581	111	91	203	33	34	68
83	685 S Catalina St	Apartments	120	du	798	12	49	61	48	26	74
84	3551 W 5th St	Apartments	69	du	459	7	28	35	28	15	43
85	635 S Vermont Ave	Apartments	179	du	1702	25	77	103	93	62	156
		Commercial	12	ksf							
86	245 S Serrano Ave	Apartments	54	du	359	6	22	28	22	12	33
87	839 Fedora St	Condominium	75	du	436	6	27	33	26	13	39
88	4250 W 4th St	Apartments	57	du	688	10	26	36	36	26	62
		Commercial	7.228	ksf							
89	933 1/2 S Kenmore Ave	Apartments	68	du	452	7	28	35	27	15	42
90	601 S Hobart Ave	Retail	15.2	ksf	1460	77	107	184	124	96	219
		Hotel	192	rooms							
		Condominiums	122	du							
91	672 Oxford Ave	Apartments	506	du	6014	89	229	318	314	230	544
		Commercial	62.035	ksf							
91	547 S Harvard Blvd	Apartments	44	du	7872	169	141	310	386	396	780
		Hotel	200	rooms							
		Commercial	175	ksf							
92	2001 W Olympic Blvd	Hotel Retail	150 6.917	rooms ksf	375	50	47	97	54	49	104
93	836 S Mariposa Ave	Condominium	98	du	569	7	36	43	34	17	51
94	2500 W Wilshire Blvd	Office	12.5	ksf	1787	42	103	146	103	69	173
		Apartments	248	du							
95	687 S Harvard Blvd	Hotel	110	rooms	292	45	41	86	42	33	75
		Restaurant	1.84	ksf							
96	3060 W Olympic Blvd	Retail	17.768	ksf	2262	34	98	132	123	83	206
		Apartments	226	du							
97	3100 W 8th St	Apartments	98	du	805	12	41	53	45	28	74
		Retail	3.575	ksf							
98	1255 S Elden Ave	Apartments	93	du	618	9	38	47	37	20	58
99	820 S Hoover St	Condominiums	32	du	414	7	15	22	18	14	32
		Retail	4.5	ksf							
100	3663 W Wilshire Blvd	Office	55.38	ksf	825	94	44	138	20	3	23
		School	216	seats							
		School	420	seats							
101	968 S Berendo St	Church	85.308	ksf	535	23	8	31	3	9	12
102	2789 W Olympic Bl	Office	27.81	ksf	612	16	8	24	25	29	54
		Retail	20.607	ksf							
103	326 S Reno St	Apartments	65	du	326	5	20	25	20	11	31
104	427 S Berendo St	Apartments	85	du	288	5	17	22	17	10	27
105	850 S Crenshaw	Apartments	44	du	293	4	18	22	18	10	28
106	3200 W Beverly Bl	Apartments	32	du	632	4	16	20	39	32	71
		Retail	5.867	ksf							
107	748 S Kingsley Drive	Apartments	67	du	406	6	25	31	24	14	38
108	3377 W Olympic Blvd	Assisted Living	146	du	358	13	0	13	8	28	36
		Office	8.682	ksf							
		Restaurant	4.454	ksf							
109	329 S Rampart Blvd	Apartments	45	du	279	6	17	23	17	9	26
		Affordable Housing	8	du							
110	635 S Western Av	Apartments	220	du	672	6	17	23	17	9	26
		Retail	0.9	ksf							
111	1810 W Venice Blvd	Storage	15.4	ksf	385	12	10	22	20	20	40
112	689 S Catalina St	Apartments	61	du	406	0	0	22	0	0	40
113	3062 W 12th Pl	Condominiums	51	du	439	6	20	25	24	15	39
		Retail	3.35	ksf							
114	955 S Fedora St	Apartments	40	du	266	4	16	20	16	9	25
115	228 S Occidental Blvd	Apartments	48	du	319	5	20	24	19	10	30
116	1053 S Fedora St	Apartments	40	du	266	4	16	20	16	9	25
117	1124 S Serrano Ave	Apartments	42	du	279	4	17	21	17	9	26
118	968 S Kenmore Ave	Apartments	41	du	273	4	17	21	17	9	25
119	2649 W San Marino Ave	Apartments	46	du	306	5	19	23	19	10	29
120	3986 W Wilshire	Apartments	228	du	503	-50	6	-44	53	25	78
		Coffee Shop	1.75	ksf							
		Restaurant	3.5	ksf							
		Retail	12	ksf							
121	2250 W Pico Blvd	Hotel	125	rooms	409	26	19	45	10	9	19
122	870 S Gramercy Dr	Apartments	53	du	352	5	22	27	21	12	33
123	3377 W Wilshire Blvd	Restaurant	11.971	ksf	1077	0	10	10	60	30	90

**Table 1**  
**3440 Wilshire Project**  
**Related Project List**

124	1045 S Dewey Ave	Apartments	67	du	446	7	27	34	27	15	42
125	314 S Harvard Blvd	Apartments	20	du	133	2	8	10	8	4	12
126	2842 W James M. Wood Blvd	Apartments Retail	193 19.544	du ksf	2118	32	85	117	113	80	193
127	1100 S Hobart Ave[d]	Apartments	39	du	259	6	15	21	16	10	26
128	800 S Mariposa Ave	Hotel Apartments Commercial	80 8 7.181	rooms du ksf	1014	30	23	53	40	40	80
129	986 S Manhattan Pl	Apartments	114	du	758	18	45	63	47	29	76
130	981 S Manhattan Pl[d]	Apartments	95	du	632	15	37	52	39	25	64
131	991 S 3rd Ave	Apartments	51	du	339	5	21	26	21	11	32
132	2878 W James M. Wood Blvd	Apartments	50	du	333	5	21	26	20	11	31
133	2755 W 11th Street	Apartments	67	du	446	7	27	34	27	15	42
134	Metro Purple Line	Light Rail Transit	--	--	--	--	--	--	--	--	--

Note:  
DU = dwelling units  
ksf = one thousand square feet  
[a] Related projects list is based on information provided from LADOT in on May 1, 2018, and LADCP April 26,2018.  
[b]Trip Generation Estimates based on the ITE Trip Generation Manual.



- Related Projects
- Purple Line Extension
- Project Site



Figure 3  
Related Projects



## **MOU ATTACHMENT A**

### **FREEWAY SCREENING FOR 3440 WILSHIRE PROJECT IN ACCORDANCE WITH SCREENING CRITERIA DESCRIBED IN SECTION 3 OF THE "AGREEMENT BETWEEN CITY OF LOS ANGELES AND CALTRANS DISTRICT 7 ON FREEWAY IMPACT ANALYSIS PROCEDURES" (DECEMBER 2015)**

#### **INTRODUCTION**

Section 3.1 of the "Agreement Between City of Los Angeles and Caltrans District 7 On Freeway Impact Analysis Procedures" originally dated October 2013 specifies the freeway mainline and ramp screening criteria for development projects in the City of Los Angeles. Section 3.1 was amended in December of 2015 with the following threshold criteria:

"City will require Project applicants to work with Caltrans and prepare a Freeway Impact Analysis, utilizing Caltrans' "Guide for the Preparation of Traffic Impact Studies" ("TIS Guide"), for land use proposals that meet any of the following criteria:

- The project's peak hour trips would result in a 1-percent or more increase to the freeway mainline capacity of a freeway segment operating at level-of-service (LOS) E or F (based on an assumed capacity of 2,000 vehicles per hour per lane); or
- The project's peak hour trips would result in a 2-percent or more increase to the freeway mainline capacity of a freeway segment operating at LOS D (based on an assumed capacity of 2,000 vehicles per hour per lane); or
- The project's peak hour trips would result in a 1-percent or more increase to the capacity of a freeway off-ramp operating at LOS E or F (based on an assumed ramp capacity of 850 vehicles per hour per lane); or
- The project's peak hour trips would result in a 2-percent or more increase to the capacity of a freeway off-ramp operating at LOS D (based on an assumed ramp capacity of 850 vehicles per hour per lane)."

The purpose of this analysis is to apply the screening criteria to determine whether a Freeway Impact Analysis would be required for the 3440 Wilshire project. The methodologies used to conduct the screening analysis for the project, and the results of the screening, are described below.

#### **FREEWAY MAINLINE SEGMENT SCREENING**

The 3440 Wilshire project is located at 3440 Wilshire Boulevard, Los Angeles, CA 90010 with regional access provided by the Interstate 10 (I-10) freeway and US Route 101 (US-101). Five sections of freeways were selected for a freeway screening analysis:

- I-10 Freeway west of Normandie Avenue – 4 lanes in each direction
- I-10 Freeway east of Normandie Avenue – 4 lanes in each direction
- US-101 north of Western Avenue – 4 lanes in each directions
- US-101 south of Silverlake Boulevard (north of Rampart Boulevard) – 4 lanes in each directions
- US-101 south of Rampart Boulevard – 4 lanes in each directions

Project trips on the freeway facilities are shown in Table A1 and the mainline screening analysis is shown in Table A2. As shown in Table A2, the freeway capacity is 8,000 vph for 4 lanes. The most rigorous trigger criteria for LOS E/F operations was used for the screening analysis. For LOS E or F operations, the threshold test is whether the project would use 1% of the available capacity (80 vph for 4 lanes). Because no more

than 19 project trips are expected to occur in any analyzed peak hour on any particular segment, the mainline screening threshold is not met and therefore a Freeway Impact Analysis is not required.

#### **FREEWAY RAMP SCREENING**

Project trips on the freeway off-ramp facilities are shown in Table A1 and the freeway off-ramp screening analysis is shown in Table A3. Six freeway off-ramps were selected for a freeway screening analysis. The most rigorous trigger criteria for LOS E/F operations was used for the screening analysis. For LOS E or F operations, the threshold test is whether the project would use 1% of the capacity (based on an assumed ramp capacity of 850 vehicles per hour per lane), or approximately 9 vph for 1-lane and 17 vph for 2-lanes. Because no more than 4 project trips are expected to occur in any analyzed peak hour on 1-lane ramps and no more than 9 project trips are expected to occur in any analyzed peak hour on 2-lane ramps, the freeway off-ramp screening thresholds are not met and therefore a Freeway Impact Analysis is not required.

**TABLE A1**  
**3440 WILSHIRE PROJECT**  
**TRIP GENERATION AND FREEWAY SEGMENT AND RAMP TRIPS**

Freeway Trip Percentage		Freeway Trips					
		AM Peak Hour			PM Peak Hour		
Direction	%	In	Out	Total	In	Out	Total
<b>PROPOSED PROJECT TRIPS</b>		19	112	131	125	61	186
Freeway Ramps							
I-10 EB Normandie Ave Off	7.5%	1	8	9	9	5	14
I-10 WB Normandie Ave Off	7.5%	1	8	9	9	5	14
US-101 SB Western Ave Off	7.5%	1	8	9	9	5	14
US-101 SB Melrose Ave Off	3.0%	1	3	4	4	2	6
US-101 NB Silverlake Blvd Off	7.5%	1	8	9	9	5	14
US-101 NB Rampart Blvd Off	3.0%	1	3	4	4	2	6
Freeway Segments							
I-10 w/o Normandie Ave	7.5%	1	8	9	9	5	14
I-10 e/o Normandie Ave	7.5%	1	8	9	9	5	14
US-101 n/o Western Ave	10.5%	2	12	14	13	6	19
US-101 s/o Silverlake Blvd and n/o Rampart Blvd	7.5%	1	8	9	9	5	14
US-101 s/o Rampart Blvd	10.5%	2	12	14	13	6	19



**TABLE A2**  
**3440 WILSHIRE PROJECT**

**PROJECT TRIP GENERATION**

	AM Peak Hour		PM Peak Hour	
	In	Out	In	Out
Project Trip Generation	19	112	125	61

**MAINLINE SCREENING**

Freeway Segment	AM Peak Hour		PM Peak Hour	
	In	Out	In	Out
<b><i>I-10 w/o Normandie Ave</i></b>	<b>EB</b>	<b>WB</b>	<b>EB</b>	<b>WB</b>
# of Lanes [a]	4	4	4	4
Capacity	8,000	8,000	8,000	8,000
Worst-case LOS	<b>E/F</b>	<b>E/F</b>	<b>E/F</b>	<b>E/F</b>
Trigger % [b]	1%	1%	1%	1%
Trigger	80	80	80	80
Project Trips	1	8	9	5
Exceed Trigger?	no	no	no	no
<b><i>I-10 e/o Normandie Ave</i></b>	<b>WB</b>	<b>EB</b>	<b>WB</b>	<b>EB</b>
# of Lanes [a]	4	4	4	4
Capacity	8,000	8,000	8,000	8,000
Worst-case LOS	<b>E/F</b>	<b>E/F</b>	<b>E/F</b>	<b>E/F</b>
Trigger % [b]	1%	1%	1%	1%
Trigger	80	80	80	80
Project Trips	1	8	9	5
Exceed Trigger?	no	no	no	no
<b><i>US-101 n/o Western Ave</i></b>	<b>SB</b>	<b>NB</b>	<b>SB</b>	<b>NB</b>
# of Lanes [a]	4	4	4	4
Capacity	8,000	8,000	8,000	8,000
Worst-case LOS	<b>E/F</b>	<b>E/F</b>	<b>E/F</b>	<b>E/F</b>
Trigger % [b]	1%	1%	1%	1%
Trigger	80	80	80	80
Project Trips	2	12	13	6
Exceed Trigger?	no	no	no	no
<b><i>US-101 s/o Silverlake Blvd and n/o Rampart Blvd</i></b>	<b>NB</b>	<b>SB</b>	<b>NB</b>	<b>SB</b>
# of Lanes [a]	4	4	4	4
Capacity	8,000	8,000	8,000	8,000
Worst-case LOS	<b>E/F</b>	<b>E/F</b>	<b>E/F</b>	<b>E/F</b>
Trigger % [b]	1%	1%	1%	1%
Trigger	80	80	80	80
Project Trips	1	8	9	5
Exceed Trigger?	no	no	no	no
<b><i>US-101 s/o Rampart Blvd</i></b>	<b>NB</b>	<b>SB</b>	<b>NB</b>	<b>SB</b>
# of Lanes [a]	4	4	4	4
Capacity	8,000	8,000	8,000	8,000
Worst-case LOS	<b>E/F</b>	<b>E/F</b>	<b>E/F</b>	<b>E/F</b>
Trigger % [b]	1%	1%	1%	1%
Trigger	80	80	80	80
Project Trips	2	12	13	6
Exceed Trigger?	no	no	no	no

Notes:

- # of lanes does not include auxiliary or HOV lanes.
- The worst-case assumption of LOS was used with the most stringent trigger thresholds: LOS E/F  
Threshold: 1% of capacity if LOS E or F, 2% of capacity if LOS D, using 2,000 vphpl capacity

**TABLE A3**  
**3440 WILSHIRE PROJECT**

**PROJECT TRIP GENERATION**

	AM Peak Hour		PM Peak Hour	
	In	Out	In	Out
Project Trip Generation	19	112	125	61

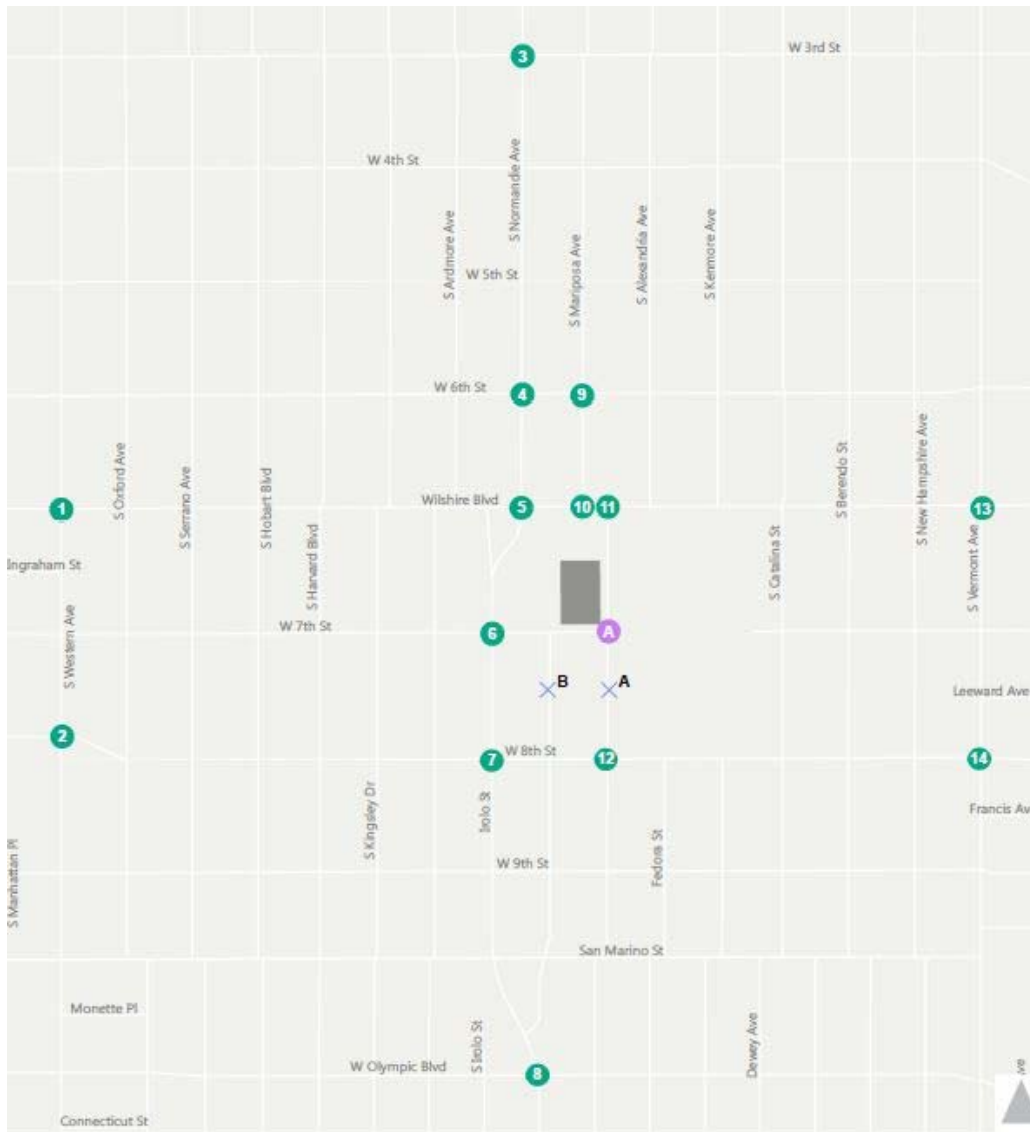
**RAMP SCREENING**

Off-Ramp	Peak Hour	Worst-Case Off-Ramp LOS [a]	Ramp Terminus		Project Trips	Exceed Trigger?
			# of Lanes	Trigger		
<i>I-10 EB Normandie Ave Off</i>	AM	E/F	2	17	1	no
	PM	E/F		17	9	no
<i>I-10 WB Normandie Ave Off</i>	AM	E/F	2	17	1	no
	PM	E/F		17	9	no
<i>US-101 SB Western Ave Off</i>	AM	E/F	2	17	1	no
	PM	E/F		17	9	no
<i>US-101 SB Melrose Ave Off</i>	AM	E/F	1	9	1	no
	PM	E/F		9	4	no
<i>US-101 NB Silverlake Blvd Off</i>	AM	E/F	2	17	1	no
	PM	E/F		17	9	no
<i>US-101 NB Rampart Blvd Off</i>	AM	E/F	1	9	1	no
	PM	E/F		9	4	no

Notes:

- a. The worst-case assumption of LOS was used with the most stringent trigger thresholds: LOS E/F  
Threshold: 1% of capacity if ramp at LOS E or F, 2% if ramp at LOS D, using HCM intersection methodology at ramp terminus

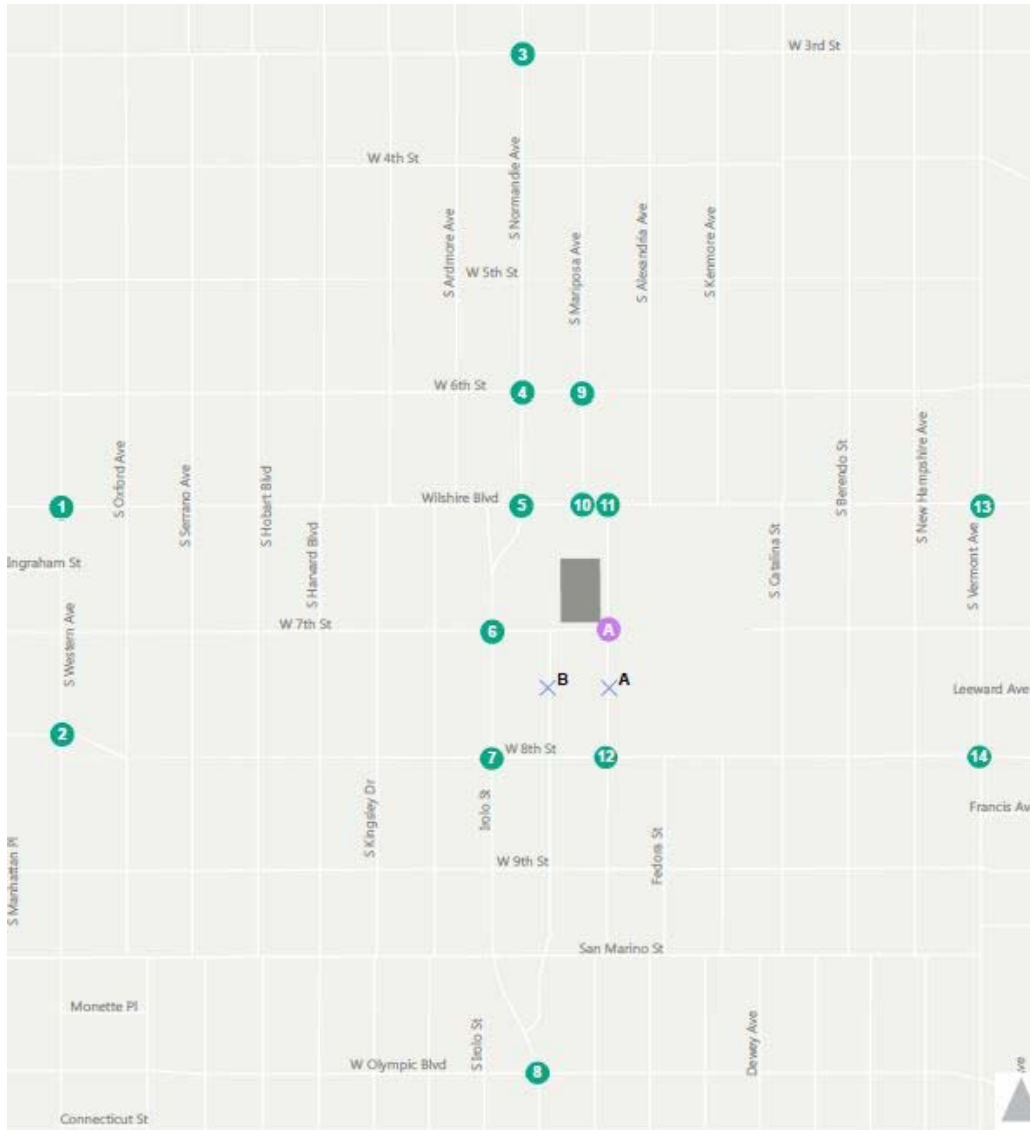
**APPENDIX B:**  
**LANE CONFIGURATIONS AND TRAFFIC VOLUMES**



<b>1. Western Ave/Wilshire Blvd</b> 	<b>2. Western Ave/8th St</b> 	<b>3. Normandie Ave/3rd St</b> 
<b>4. Normandie Ave/6th St</b> 	<b>5. Irolo St/Normandie Ave/Wilshire Blvd</b> 	<b>6. Irolo St/7th St</b> 
<b>7. Irolo St/8th St</b> 	<b>8. Irolo St/Normandie Ave/Olympic Blvd</b> 	<b>9. Mariposa Ave/6th St</b> 
<b>10. Mariposa Ave (North)/Wilshire Blvd</b> 	<b>11. Mariposa Ave (South)/Wilshire Blvd</b> 	<b>12. Mariposa Ave/8th St</b> 
<b>13. Vermont Ave/Wilshire Blvd</b> 	<b>14. Vermont Ave/8th St</b> 	

Figure 1  
Peak Hour Traffic Volumes and Lane Configurations  
Existing 2018 Conditions

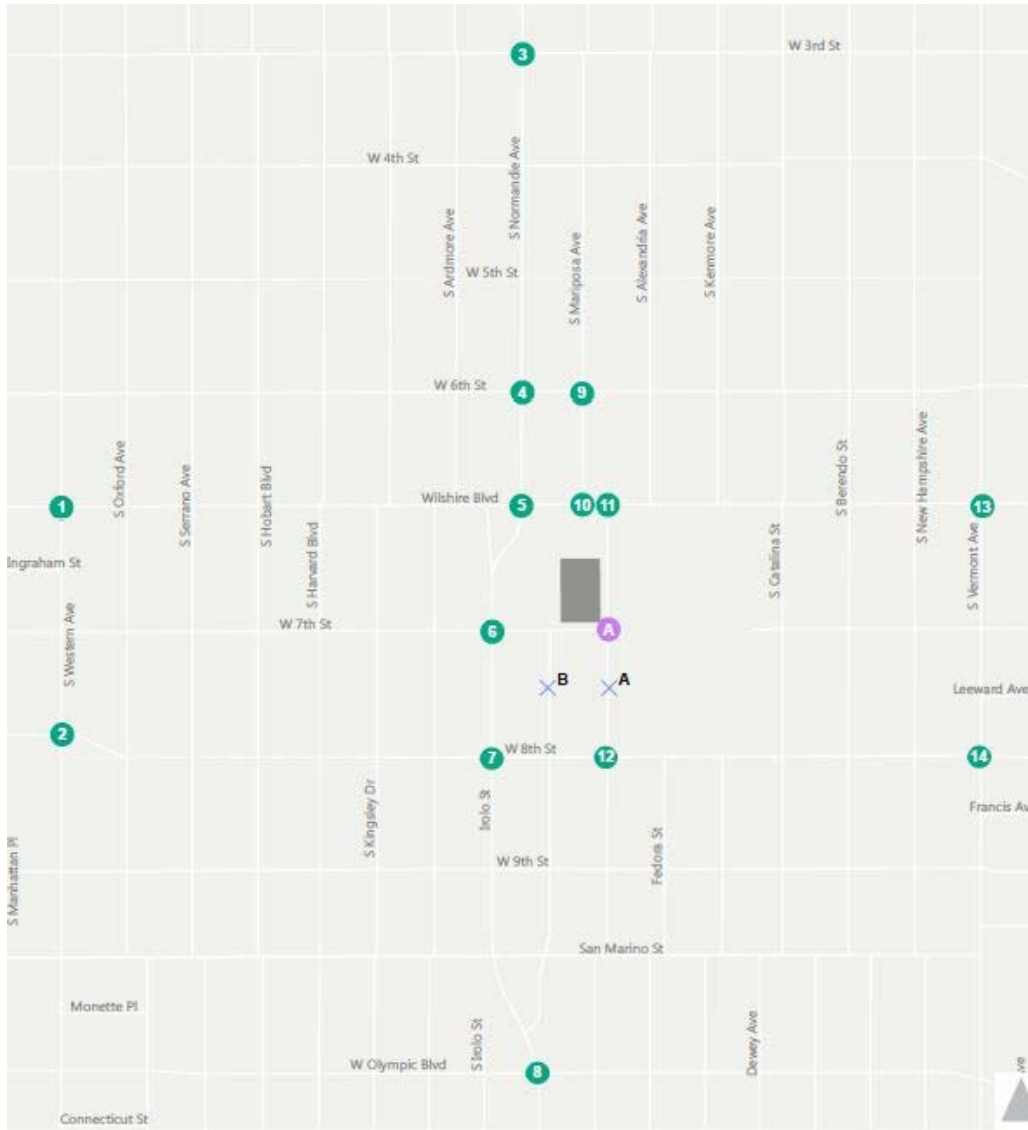




<b>1. Western Ave/Wilshire Blvd</b> 	<b>2. Western Ave/8th St</b> 	<b>3. Normandie Ave/3rd St</b> 
<b>4. Normandie Ave/6th St</b> 	<b>5. Irolo St/Normandie Ave/Wilshire Blvd</b> 	<b>6. Irolo St/7th St</b> 
<b>7. Irolo St/8th St</b> 	<b>8. Irolo St/Normandie Ave/Olympic Blvd</b> 	<b>9. Mariposa Ave/6th St</b> 
<b>10. Mariposa Ave (North)/Wilshire Blvd</b> 	<b>11. Mariposa Ave (South)/Wilshire Blvd</b> 	<b>12. Mariposa Ave/8th St</b> 
<b>13. Vermont Ave/Wilshire Blvd</b> 	<b>14. Vermont Ave/8th St</b> 	

Figure 1  
Peak Hour Traffic Volumes and Lane Configurations  
Existing plus Project Conditions

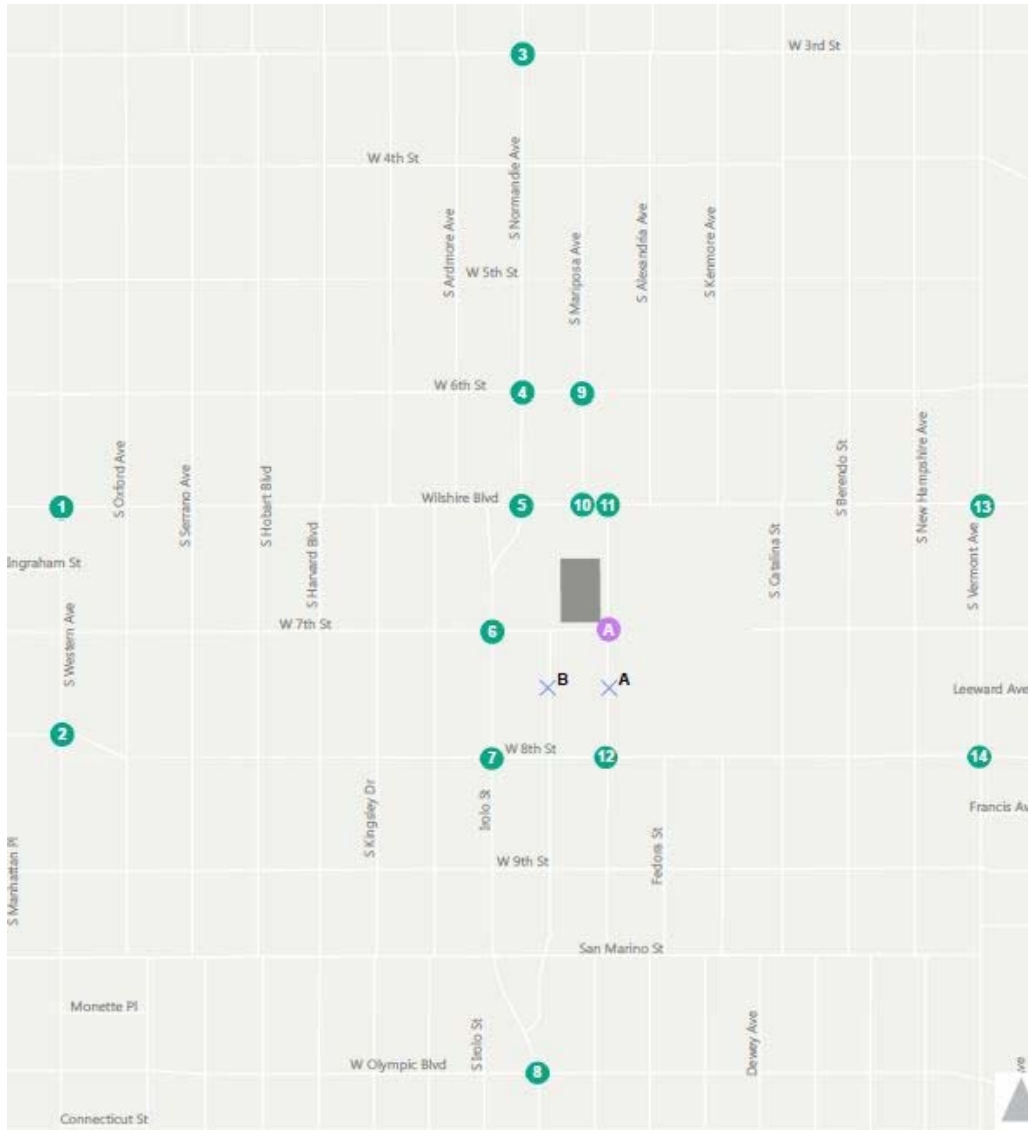




<b>1. Western Ave/Wilshire Blvd</b> 	<b>2. Western Ave/8th St</b> 	<b>3. Normandie Ave/3rd St</b> 
<b>4. Normandie Ave/6th St</b> 	<b>5. Irolo St/Normandie Ave/Wilshire Blvd</b> 	<b>6. Irolo St/7th St</b> 
<b>7. Irolo St/8th St</b> 	<b>8. Irolo St/Normandie Ave/Olympic Blvd</b> 	<b>9. Mariposa Ave/6th St</b> 
<b>10. Mariposa Ave (North)/Wilshire Blvd</b> 	<b>11. Mariposa Ave (South)/Wilshire Blvd</b> 	<b>12. Mariposa Ave/8th St</b> 
<b>13. Vermont Ave/Wilshire Blvd</b> 	<b>14. Vermont Ave/8th St</b> 	

Figure 1  
Peak Hour Traffic Volumes and Lane Configurations  
Future Base 2026 Conditions

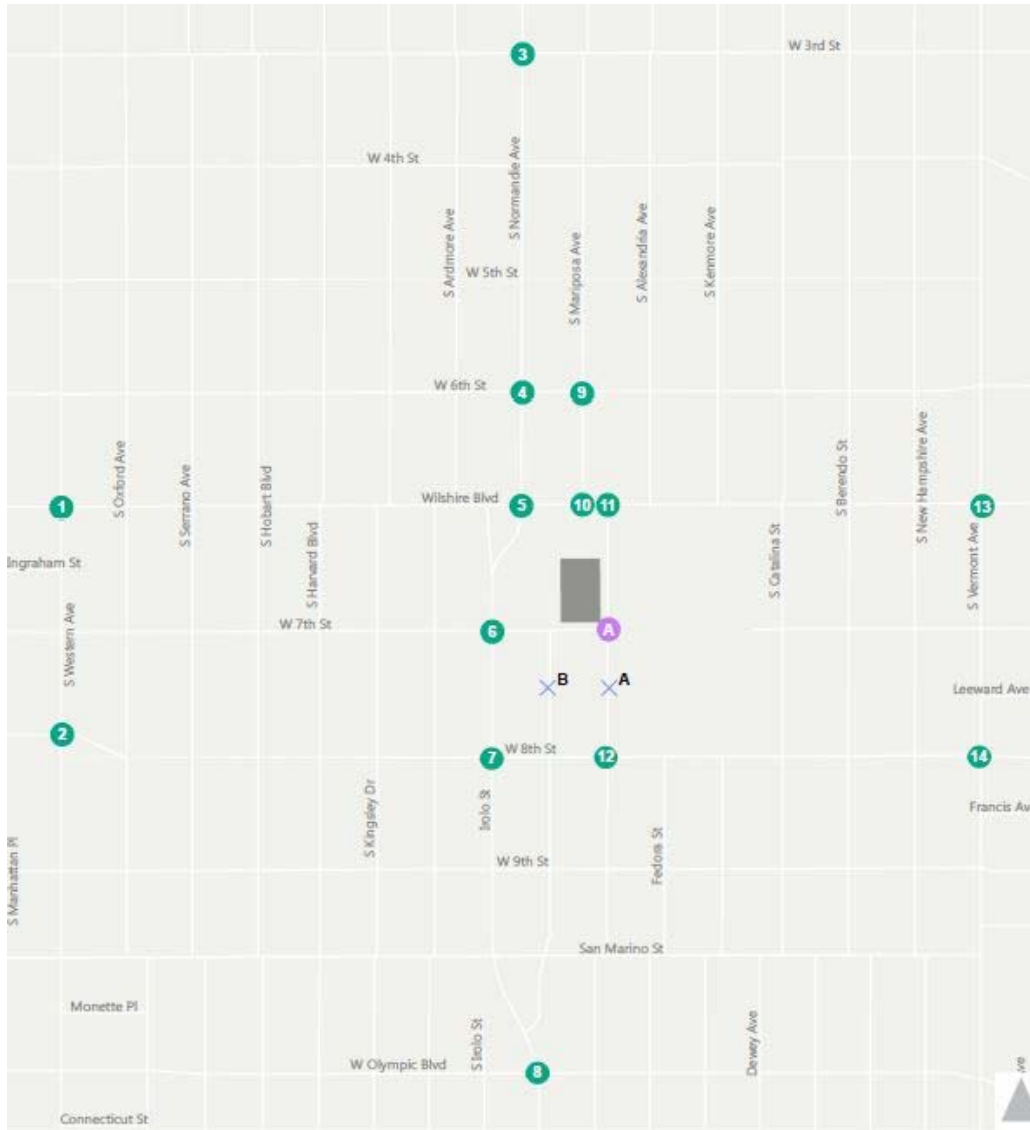




<b>1. Western Ave/Wilshire Blvd</b> 	<b>2. Western Ave/8th St</b> 	<b>3. Normandie Ave/3rd St</b> 
<b>4. Normandie Ave/6th St</b> 	<b>5. Irolo St/Normandie Ave/Wilshire Blvd</b> 	<b>6. Irolo St/7th St</b> 
<b>7. Irolo St/8th St</b> 	<b>8. Irolo St/Normandie Ave/Olympic Blvd</b> 	<b>9. Mariposa Ave/6th St</b> 
<b>10. Mariposa Ave (North)/Wilshire Blvd</b> 	<b>11. Mariposa Ave (South)/Wilshire Blvd</b> 	<b>12. Mariposa Ave/8th St</b> 
<b>13. Vermont Ave/Wilshire Blvd</b> 	<b>14. Vermont Ave/8th St</b> 	

Figure 1  
Peak Hour Traffic Volumes and Lane Configurations  
Future plus Project 2026 Conditions





<b>1. Western Ave/Wilshire Blvd</b> 	<b>2. Western Ave/8th St</b> 	<b>3. Normandie Ave/3rd St</b> 
<b>4. Normandie Ave/6th St</b> 	<b>5. Irolo St/Normandie Ave/Wilshire Blvd</b> 	<b>6. Irolo St/7th St</b> 
<b>7. Irolo St/8th St</b> 	<b>8. Irolo St/Normandie Ave/Olympic Blvd</b> 	<b>9. Mariposa Ave/6th St</b> 
<b>10. Mariposa Ave (North)/Wilshire Blvd</b> 	<b>11. Mariposa Ave (South)/Wilshire Blvd</b> 	<b>12. Mariposa Ave/8th St</b> 
<b>13. Vermont Ave/Wilshire Blvd</b> 	<b>14. Vermont Ave/8th St</b> 	

Figure 1  
Peak Hour Traffic Volumes and Lane Configurations  
Project Only





**APPENDIX C:**  
**COUNT SHEETS**

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Western Ave & Wilshire Blvd  
**City:** Los Angeles  
**Control:** Signalized

**Project ID:** 18-05236-001  
**Date:** 4/17/2018

### Total

NS/EW Streets:	Western Ave				Western Ave				Wilshire Blvd				Wilshire Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	2 ET	0 ER	0 EU	0 WL	2 WT	1 WR	0 WU	
7:00 AM	37	246	7	0	9	137	16	0	0	146	8	0	0	241	8	0	855
7:15 AM	36	221	12	0	23	178	16	0	1	165	14	0	0	260	13	0	939
7:30 AM	17	252	14	0	18	191	12	0	0	213	17	0	0	256	9	0	999
7:45 AM	21	261	17	0	29	225	9	0	1	239	24	0	0	251	16	0	1093
8:00 AM	19	237	17	0	30	213	15	0	0	247	25	0	0	255	14	0	1072
8:15 AM	14	206	20	0	31	210	15	0	1	233	16	0	2	246	14	0	1008
8:30 AM	19	185	20	0	30	203	17	0	1	224	26	0	0	181	16	0	922
8:45 AM	15	215	16	0	25	213	16	0	1	228	32	0	0	190	15	0	966
9:00 AM	14	204	19	0	37	184	17	0	0	214	10	0	1	187	14	0	901
9:15 AM	14	214	19	0	27	172	13	0	0	177	10	0	0	192	21	0	859
9:30 AM	17	205	30	0	25	182	9	0	0	134	10	0	3	177	15	0	807
9:45 AM	24	194	21	0	25	189	14	0	0	151	8	0	4	180	12	0	822
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	247	2640	212	0	309	2297	169	0	5	2371	200	0	10	2616	167	0	11243
	7.97%	85.19%	6.84%	0.00%	11.14%	82.77%	6.09%	0.00%	0.19%	92.04%	7.76%	0.00%	0.36%	93.66%	5.98%	0.00%	
<b>PEAK HR :</b>	07:30 AM - 08:30 AM																TOTAL
<b>PEAK HR VOL :</b>	71	956	68	0	108	839	51	0	2	932	82	0	2	1008	53	0	4172
<b>PEAK HR FACTOR :</b>	0.845	0.916	0.850	0.000	0.871	0.932	0.850	0.000	0.500	0.943	0.820	0.000	0.250	0.984	0.828	0.000	0.954
	0.916				0.949				0.934				0.988				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	2 ET	0 ER	0 EU	0 WL	2 WT	1 WR	0 WU	
3:00 PM	15	203	28	0	20	174	21	0	0	210	29	0	6	150	17	0	873
3:15 PM	21	234	21	0	23	219	9	0	0	222	17	0	2	168	21	0	957
3:30 PM	16	196	22	0	30	222	13	0	0	208	18	0	3	169	31	0	928
3:45 PM	22	210	22	0	33	233	17	0	1	249	16	0	1	174	25	0	1003
4:00 PM	20	184	22	0	24	218	10	0	0	214	21	0	2	184	21	0	920
4:15 PM	17	174	18	0	30	206	20	0	2	226	22	0	2	194	34	0	945
4:30 PM	20	212	23	0	26	215	6	0	0	218	16	0	1	191	19	0	947
4:45 PM	17	190	22	0	21	238	14	0	0	251	14	0	1	210	22	0	1000
5:00 PM	19	216	20	0	15	246	11	0	0	226	17	0	1	201	19	0	991
5:15 PM	14	202	24	0	26	231	11	0	0	238	25	0	0	217	28	0	1016
5:30 PM	26	202	26	0	27	225	12	0	1	232	20	0	1	203	22	0	997
5:45 PM	18	214	13	0	26	250	12	0	1	235	20	0	3	227	21	0	1040
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	225	2437	261	0	301	2677	156	0	5	2729	235	0	23	2288	280	0	11617
	7.70%	83.37%	8.93%	0.00%	9.60%	85.42%	4.98%	0.00%	0.17%	91.92%	7.92%	0.00%	0.89%	88.31%	10.81%	0.00%	
<b>PEAK HR :</b>	05:00 PM - 06:00 PM																TOTAL
<b>PEAK HR VOL :</b>	77	834	83	0	94	952	46	0	2	931	82	0	5	848	90	0	4044
<b>PEAK HR FACTOR :</b>	0.740	0.965	0.798	0.000	0.870	0.952	0.958	0.000	0.500	0.978	0.820	0.000	0.417	0.934	0.804	0.000	0.972
	0.975				0.948				0.965				0.939				

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Western Ave & 8th St  
**City:** Los Angeles  
**Control:** Signalized

**Project ID:** 18-05236-002  
**Date:** 4/17/2018

### Total

NS/EW Streets:	Western Ave				Western Ave				8th St				8th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
7:00 AM	9	252	6	0	10	144	8	0	18	58	6	0	18	210	29	0	768
7:15 AM	8	245	5	0	12	195	12	0	21	91	8	0	20	215	31	0	863
7:30 AM	12	288	3	0	12	230	7	0	25	102	5	0	16	262	19	0	981
7:45 AM	11	281	10	0	16	242	18	0	23	133	14	0	27	175	17	0	967
8:00 AM	13	275	6	0	22	236	8	0	16	141	12	0	27	185	21	0	962
8:15 AM	7	247	8	0	24	235	4	0	15	149	16	0	21	162	14	0	902
8:30 AM	9	252	10	0	25	222	9	0	15	163	3	0	21	144	16	0	889
8:45 AM	14	250	16	0	14	258	3	0	14	149	10	0	27	153	13	0	921
9:00 AM	5	252	7	0	15	219	8	0	24	133	11	0	29	146	4	0	853
9:15 AM	8	226	6	0	15	213	3	0	23	119	11	0	26	146	20	0	816
9:30 AM	8	258	5	0	14	191	7	0	8	95	13	0	24	134	27	0	784
9:45 AM	10	216	4	0	20	202	4	0	16	99	11	0	31	113	28	0	754
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	114	3042	86	0	199	2587	91	0	218	1432	120	0	287	2045	239	0	10460
	3.52%	93.83%	2.65%	0.00%	6.92%	89.92%	3.16%	0.00%	12.32%	80.90%	6.78%	0.00%	11.16%	79.54%	9.30%	0.00%	
<b>PEAK HR :</b>	07:30 AM - 08:30 AM																TOTAL
<b>PEAK HR VOL :</b>	43	1091	27	0	74	943	37	0	79	525	47	0	91	784	71	0	3812
<b>PEAK HR FACTOR :</b>	0.827	0.947	0.675	0.000	0.771	0.974	0.514	0.000	0.790	0.881	0.734	0.000	0.843	0.748	0.845	0.000	0.971
	0.958				0.955				0.904				0.796				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
3:00 PM	7	232	7	0	13	238	7	0	13	85	12	0	29	91	21	0	755
3:15 PM	7	247	8	0	15	241	12	0	21	113	11	0	29	93	21	0	818
3:30 PM	5	231	11	0	21	246	10	0	22	153	7	0	29	96	24	0	855
3:45 PM	8	249	10	0	14	282	6	0	27	121	14	0	48	101	16	0	896
4:00 PM	11	232	9	0	23	243	8	0	16	144	8	0	27	118	13	0	852
4:15 PM	5	207	9	0	18	250	4	0	13	130	12	0	31	110	19	0	808
4:30 PM	6	233	10	0	11	255	17	0	17	129	11	0	27	110	28	0	854
4:45 PM	9	212	15	0	23	249	10	0	14	144	7	0	24	130	19	0	856
5:00 PM	8	241	8	0	23	278	8	0	20	180	14	0	33	140	28	0	981
5:15 PM	6	221	4	0	30	271	10	0	21	157	9	0	30	131	17	0	907
5:30 PM	11	252	13	0	25	266	17	0	14	182	8	0	26	152	19	0	985
5:45 PM	8	219	6	0	24	263	18	0	14	169	6	0	28	152	28	0	935
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	91	2776	110	0	240	3082	127	0	212	1707	119	0	361	1424	253	0	10502
	3.06%	93.25%	3.69%	0.00%	6.96%	89.36%	3.68%	0.00%	10.40%	83.76%	5.84%	0.00%	17.71%	69.87%	12.41%	0.00%	
<b>PEAK HR :</b>	05:00 PM - 06:00 PM																TOTAL
<b>PEAK HR VOL :</b>	33	933	31	0	102	1078	53	0	69	688	37	0	117	575	92	0	3808
<b>PEAK HR FACTOR :</b>	0.750	0.926	0.596	0.000	0.850	0.969	0.736	0.000	0.821	0.945	0.661	0.000	0.886	0.946	0.821	0.000	0.966
	0.903				0.991				0.928				0.942				

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Normandie Ave & 3rd St  
**City:** Los Angeles  
**Control:** Signalized

**Project ID:** 18-05236-003  
**Date:** 4/17/2018

### Total

NS/EW Streets:	Normandie Ave				Normandie Ave				3rd St				3rd St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
7:00 AM	0	120	4	0	1	188	21	0	13	260	9	0	6	236	7	0	865
7:15 AM	1	120	12	0	0	209	22	0	12	275	7	0	10	261	8	0	937
7:30 AM	0	117	15	0	2	177	36	0	17	225	4	0	12	207	8	1	821
7:45 AM	0	137	11	0	2	230	20	0	17	243	3	0	8	230	9	0	910
8:00 AM	1	119	11	0	0	229	43	0	12	262	15	0	5	244	11	0	952
8:15 AM	0	88	13	0	2	221	39	0	9	270	6	0	13	229	10	0	900
8:30 AM	0	133	6	0	0	172	29	0	9	256	4	0	10	212	11	0	842
8:45 AM	1	146	16	0	2	151	30	0	19	203	12	0	11	244	12	0	847
9:00 AM	1	122	8	0	1	144	26	0	6	249	6	0	11	192	12	0	778
9:15 AM	0	111	13	0	0	152	22	0	12	203	12	0	5	251	11	0	792
9:30 AM	0	102	12	0	2	131	27	0	17	217	9	0	10	224	15	0	766
9:45 AM	2	97	10	0	3	150	26	0	18	224	7	0	11	201	16	0	765
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	6	1412	131	0	15	2154	341	0	161	2887	94	0	112	2731	130	1	10175
	0.39%	91.16%	8.46%	0.00%	0.60%	85.82%	13.59%	0.00%	5.12%	91.88%	2.99%	0.00%	3.77%	91.83%	4.37%	0.03%	
<b>PEAK HR :</b>	07:15 AM - 08:15 AM																TOTAL
<b>PEAK HR VOL :</b>	2	493	49	0	4	845	121	0	58	1005	29	0	35	942	36	1	3620
<b>PEAK HR FACTOR :</b>	0.500	0.900	0.817	0.000	0.500	0.918	0.703	0.000	0.853	0.914	0.483	0.000	0.729	0.902	0.818	0.250	0.951
		0.919				0.892				0.929				0.909			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 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	133	15	0	0	134	18	0	18	243	16	0	11	181	20	0	790
3:15 PM	1	152	16	0	0	128	31	0	22	235	4	0	11	220	18	0	838
3:30 PM	0	129	24	0	0	135	18	0	30	231	14	0	12	233	16	0	842
3:45 PM	2	167	16	0	0	138	10	0	20	241	11	0	12	218	14	0	849
4:00 PM	2	155	14	0	1	143	16	0	23	219	12	0	9	218	18	0	830
4:15 PM	0	206	21	0	1	131	23	0	26	240	11	0	8	217	18	1	903
4:30 PM	0	169	18	0	0	113	19	0	29	237	15	0	9	233	14	0	856
4:45 PM	0	193	22	0	0	131	28	0	22	236	15	1	6	220	19	0	893
5:00 PM	1	183	11	0	0	123	16	0	17	196	14	0	9	239	16	0	825
5:15 PM	0	198	14	0	4	133	25	0	20	208	6	0	15	238	12	0	873
5:30 PM	1	177	15	0	1	138	16	0	16	197	12	0	10	221	17	0	821
5:45 PM	0	176	12	0	0	121	19	0	18	240	14	0	7	237	12	0	856
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	8	2038	198	0	7	1568	239	0	261	2723	144	1	119	2675	194	1	10176
	0.36%	90.82%	8.82%	0.00%	0.39%	86.44%	13.18%	0.00%	8.34%	87.02%	4.60%	0.03%	3.98%	89.49%	6.49%	0.03%	
<b>PEAK HR :</b>	04:00 PM - 05:00 PM																TOTAL
<b>PEAK HR VOL :</b>	2	723	75	0	2	518	86	0	100	932	53	1	32	888	69	1	3482
<b>PEAK HR FACTOR :</b>	0.250	0.877	0.852	0.000	0.500	0.906	0.768	0.000	0.862	0.971	0.883	0.250	0.889	0.953	0.908	0.250	0.964
		0.881				0.947				0.966				0.967			

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Normandie Ave & 6th St  
**City:** Los Angeles  
**Control:** Signalized

**Project ID:** 18-05236-004  
**Date:** 4/17/2018

### Total

NS/EW Streets:	Normandie Ave				Normandie Ave				6th St				6th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	1 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
7:00 AM	5	97	9	0	13	139	14	0	8	149	8	0	9	209	5	0	665
7:15 AM	3	110	6	0	14	138	22	0	6	187	5	0	8	238	7	0	744
7:30 AM	8	107	8	0	18	181	21	0	10	238	13	0	11	224	6	0	845
7:45 AM	7	106	18	0	29	125	24	0	8	261	13	0	4	242	5	0	842
8:00 AM	9	120	10	0	23	140	27	0	10	225	6	0	8	252	8	0	838
8:15 AM	6	94	12	0	24	191	27	0	10	245	21	0	16	227	6	0	879
8:30 AM	9	82	7	0	19	166	23	0	6	228	14	0	14	253	6	0	827
8:45 AM	9	115	7	0	13	142	27	0	3	226	12	0	13	212	7	0	786
9:00 AM	10	134	16	0	9	131	12	0	5	212	14	0	14	197	7	0	761
9:15 AM	10	110	16	0	14	138	20	0	9	199	11	0	14	188	10	0	739
9:30 AM	8	99	13	0	9	141	10	0	5	185	13	0	8	171	7	0	669
9:45 AM	12	93	17	0	15	118	12	0	11	174	17	0	15	178	15	0	677
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	96	1267	139	0	200	1750	239	0	91	2529	147	0	134	2591	89	0	9272
	6.39%	84.35%	9.25%	0.00%	9.14%	79.95%	10.92%	0.00%	3.29%	91.40%	5.31%	0.00%	4.76%	92.08%	3.16%	0.00%	
<b>PEAK HR :</b>	07:30 AM - 08:30 AM																TOTAL
<b>PEAK HR VOL :</b>	30	427	48	0	94	637	99	0	38	969	53	0	39	945	25	0	3404
<b>PEAK HR FACTOR :</b>	0.833	0.890	0.667	0.000	0.810	0.834	0.917	0.000	0.950	0.928	0.631	0.000	0.609	0.938	0.781	0.000	0.968
	0.908				0.857				0.940				0.941				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	1 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
3:00 PM	8	115	21	1	10	118	8	0	4	231	11	0	10	149	11	0	697
3:15 PM	7	110	19	0	11	121	9	0	15	207	13	0	13	159	9	0	693
3:30 PM	8	123	7	0	5	138	15	0	8	220	13	0	18	161	9	0	725
3:45 PM	4	123	21	0	9	128	13	0	11	248	12	0	11	198	11	0	789
4:00 PM	3	135	13	0	1	142	10	0	18	271	12	0	14	200	15	0	834
4:15 PM	3	140	19	0	1	139	6	0	17	251	15	0	18	198	17	0	824
4:30 PM	1	175	20	0	2	121	8	0	17	250	15	0	21	238	15	0	883
4:45 PM	4	162	16	0	1	114	11	0	28	218	13	0	11	226	15	0	819
5:00 PM	3	164	24	0	2	118	13	0	25	246	14	0	16	239	24	0	888
5:15 PM	2	157	21	0	2	119	13	0	20	257	11	0	9	265	23	0	899
5:30 PM	0	173	17	0	0	121	7	0	27	234	9	0	9	253	18	0	868
5:45 PM	3	167	19	0	2	110	12	0	22	247	17	0	13	243	18	0	873
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	46	1744	217	1	46	1489	125	0	212	2880	155	0	163	2529	185	0	9792
	2.29%	86.85%	10.81%	0.05%	2.77%	89.70%	7.53%	0.00%	6.53%	88.70%	4.77%	0.00%	5.67%	87.90%	6.43%	0.00%	
<b>PEAK HR :</b>	05:00 PM - 06:00 PM																TOTAL
<b>PEAK HR VOL :</b>	8	661	81	0	6	468	45	0	94	984	51	0	47	1000	83	0	3528
<b>PEAK HR FACTOR :</b>	0.667	0.955	0.844	0.000	0.750	0.967	0.865	0.000	0.870	0.957	0.750	0.000	0.734	0.943	0.865	0.000	0.981
	0.982				0.968				0.980				0.951				

## National Data &amp; Surveying Services

## Intersection Turning Movement Count

**Location:** Normandie Ave/Irolo St & Wilshire Blvd  
**City:** Los Angeles  
**Control:** Signalized

**Project ID:** 18-05236-005  
**Date:** 4/17/2018

## Total

NS/EW Streets:	Normandie Ave/Irolo St				Normandie Ave/Irolo St				Wilshire Blvd				Wilshire Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	1 NR	0 NU	0 SL	2 ST	1 SR	0 SU	1 EL	3 ET	0 ER	0 EU	1 WL	3 WT	0 WR	0 WU	
7:00 AM	12	96	18	0	11	134	20	0	6	193	10	0	16	280	11	0	807
7:15 AM	9	104	23	0	23	121	16	0	10	223	14	0	13	289	3	0	848
7:30 AM	9	103	26	0	21	148	16	0	10	286	21	0	19	266	8	0	933
7:45 AM	12	108	26	0	23	127	19	0	6	300	20	1	31	309	9	0	991
8:00 AM	8	120	30	0	16	116	18	0	10	292	28	0	25	318	11	0	992
8:15 AM	13	90	32	0	12	150	37	0	6	293	18	0	34	278	15	0	978
8:30 AM	17	90	31	0	24	165	19	0	5	269	23	0	39	254	10	0	946
8:45 AM	11	88	37	0	25	141	22	0	14	254	23	0	45	284	11	0	955
9:00 AM	10	136	31	0	23	126	16	0	13	235	22	1	21	216	17	0	867
9:15 AM	10	114	24	0	26	123	19	0	10	204	19	0	24	263	15	0	851
9:30 AM	14	114	32	0	18	114	25	0	7	180	15	0	29	275	5	0	828
9:45 AM	12	86	41	0	22	106	30	0	7	186	22	0	28	245	11	0	796
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	137	1249	351	0	244	1571	257	0	104	2915	235	2	324	3277	126	0	10792
	7.89%	71.91%	20.21%	0.00%	11.78%	75.82%	12.40%	0.00%	3.19%	89.53%	7.22%	0.06%	8.69%	87.93%	3.38%	0.00%	
<b>PEAK HR :</b>	07:45 AM - 08:45 AM																TOTAL
<b>PEAK HR VOL :</b>	50	408	119	0	75	558	93	0	27	1154	89	1	129	1159	45	0	3907
<b>PEAK HR FACTOR :</b>	0.735	0.850	0.930	0.000	0.781	0.845	0.628	0.000	0.675	0.962	0.795	0.250	0.827	0.911	0.750	0.000	0.985
	0.913				0.873				0.963				0.941				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	1 NR	0 NU	0 SL	2 ST	1 SR	0 SU	1 EL	3 ET	0 ER	0 EU	1 WL	3 WT	0 WR	0 WU	
3:00 PM	13	107	32	1	16	118	11	0	18	247	14	0	26	218	22	0	843
3:15 PM	17	94	23	0	11	121	14	0	19	248	21	0	28	206	16	0	818
3:30 PM	10	118	29	0	12	134	23	0	12	285	19	2	23	231	9	0	907
3:45 PM	8	124	27	0	15	124	11	0	20	244	25	0	34	243	12	0	887
4:00 PM	13	105	28	0	21	143	20	0	22	257	22	0	31	226	19	0	907
4:15 PM	10	121	21	0	16	130	24	0	22	228	25	0	25	223	18	0	863
4:30 PM	8	140	15	0	15	142	11	0	25	264	28	0	24	249	20	0	941
4:45 PM	13	158	3	0	18	108	12	0	24	300	19	0	21	262	16	0	954
5:00 PM	15	134	25	0	15	114	22	0	24	292	17	0	20	236	18	0	932
5:15 PM	18	121	35	0	19	112	25	0	25	283	15	0	30	287	19	0	989
5:30 PM	6	153	26	0	15	118	22	0	28	286	21	1	23	283	13	0	995
5:45 PM	10	132	21	0	20	99	24	0	27	283	18	0	25	311	25	0	995
6:00 PM	15	127	20	0	26	121	18	0	21	301	18	0	33	257	22	0	979
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	156	1634	305	1	219	1584	237	0	287	3518	262	3	343	3232	229	0	12010
	7.44%	77.96%	14.55%	0.05%	10.74%	77.65%	11.62%	0.00%	7.05%	86.44%	6.44%	0.07%	9.02%	84.96%	6.02%	0.00%	
<b>PEAK HR :</b>	05:15 PM - 06:15 PM																TOTAL
<b>PEAK HR VOL :</b>	49	533	102	0	80	450	89	0	101	1153	72	1	111	1138	79	0	3958
<b>PEAK HR FACTOR :</b>	0.681	0.871	0.729	0.000	0.769	0.930	0.890	0.000	0.902	0.958	0.857	0.250	0.841	0.915	0.790	0.000	0.994
	0.924				0.938				0.976				0.920				

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Irolo St & 7th St  
**City:** Los Angeles  
**Control:** Signalized

**Project ID:** 18-05236-006  
**Date:** 4/17/2018

### Total

NS/EW Streets:	Irolo St				Irolo St				7th St				7th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	1 SR	0 SU	1 EL	1 ET	0 ER	0 EU	1 WL	1 WT	0 WR	0 WU	
7:00 AM	12	120	2	0	3	113	7	0	9	11	12	0	4	6	14	0	313
7:15 AM	16	130	3	0	10	129	12	0	11	16	13	0	3	17	2	0	362
7:30 AM	9	136	7	0	7	129	17	0	6	17	12	0	4	15	12	0	371
7:45 AM	16	132	10	0	12	123	14	0	12	26	24	0	4	22	10	0	405
8:00 AM	21	140	13	0	7	121	25	0	15	27	15	0	5	16	19	0	424
8:15 AM	23	139	10	0	6	138	28	0	13	29	17	0	4	17	14	0	438
8:30 AM	23	116	11	0	9	154	24	0	16	28	15	0	5	14	9	0	424
8:45 AM	36	129	11	0	8	114	21	0	12	20	16	0	5	27	20	0	419
9:00 AM	28	163	12	0	8	100	26	0	10	29	12	0	6	26	21	0	441
9:15 AM	23	135	7	0	7	118	23	0	13	23	11	0	3	15	6	0	384
9:30 AM	19	129	6	0	8	133	23	0	7	20	9	0	6	16	18	0	394
9:45 AM	22	143	5	0	5	104	17	0	4	9	15	0	2	10	14	0	350
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	248	1612	97	0	90	1476	237	0	128	255	171	0	51	201	159	0	4725
	12.67%	82.37%	4.96%	0.00%	4.99%	81.86%	13.14%	0.00%	23.10%	46.03%	30.87%	0.00%	12.41%	48.91%	38.69%	0.00%	
<b>PEAK HR :</b>	08:15 AM - 09:15 AM																TOTAL
<b>PEAK HR VOL :</b>	110	547	44	0	31	506	99	0	51	106	60	0	20	84	64	0	1722
<b>PEAK HR FACTOR :</b>	0.764	0.839	0.917	0.000	0.861	0.821	0.884	0.000	0.797	0.914	0.882	0.000	0.833	0.778	0.762	0.000	0.976
	0.863				0.850				0.919				0.792				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	1 SR	0 SU	1 EL	1 ET	0 ER	0 EU	1 WL	1 WT	0 WR	0 WU	
3:00 PM	6	95	8	0	16	138	17	0	2	24	13	0	8	18	15	0	360
3:15 PM	13	120	5	0	12	140	24	0	8	25	24	0	11	17	22	0	421
3:30 PM	11	106	6	0	13	135	23	0	5	31	20	0	8	23	16	0	397
3:45 PM	10	114	13	0	8	151	33	0	11	39	11	0	5	17	13	0	425
4:00 PM	21	100	10	0	26	135	43	0	9	37	24	0	9	19	17	0	450
4:15 PM	10	113	9	0	18	145	35	0	12	41	13	0	7	15	15	0	433
4:30 PM	12	120	8	0	18	128	64	0	7	40	21	0	7	37	19	0	481
4:45 PM	12	126	5	0	13	117	40	0	7	51	14	0	7	29	20	0	441
5:00 PM	18	124	8	0	19	139	25	0	20	44	24	0	6	31	10	0	468
5:15 PM	12	121	15	0	13	103	52	0	7	61	31	0	6	26	18	0	465
5:30 PM	13	141	10	0	31	120	48	0	5	51	25	0	7	22	14	2	489
5:45 PM	11	111	12	0	18	100	61	0	7	57	26	0	8	33	20	0	464
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	149	1391	109	0	205	1551	465	0	100	501	246	0	89	287	199	2	5294
	9.04%	84.35%	6.61%	0.00%	9.23%	69.83%	20.94%	0.00%	11.81%	59.15%	29.04%	0.00%	15.42%	49.74%	34.49%	0.35%	
<b>PEAK HR :</b>	05:00 PM - 06:00 PM																TOTAL
<b>PEAK HR VOL :</b>	54	497	45	0	81	462	186	0	39	213	106	0	27	112	62	2	1886
<b>PEAK HR FACTOR :</b>	0.750	0.881	0.750	0.000	0.653	0.831	0.762	0.000	0.488	0.873	0.855	0.000	0.844	0.848	0.775	0.250	0.964
	0.909				0.916				0.904				0.832				

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Irolo St & 8th St  
**City:** Los Angeles  
**Control:** Signalized

**Project ID:** 18-05236-007  
**Date:** 4/17/2018

### Total

NS/EW Streets:	Irolo St				Irolo St				8th St				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	2 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
7:00 AM	13	124	3	0	6	122	6	0	3	98	17	0	4	227	8	0	631
7:15 AM	16	132	5	0	6	127	10	0	6	144	9	0	7	236	4	0	702
7:30 AM	20	145	5	0	8	142	8	0	2	141	20	0	11	197	12	0	711
7:45 AM	7	123	5	0	15	132	5	0	11	167	16	0	10	203	15	0	709
8:00 AM	12	145	10	0	12	118	10	1	13	187	25	0	11	174	18	0	736
8:15 AM	15	154	5	0	18	135	6	0	8	165	15	0	12	175	13	0	721
8:30 AM	19	120	2	0	14	150	10	0	11	176	15	0	8	180	12	0	717
8:45 AM	15	148	6	0	13	127	8	0	15	154	13	0	5	192	16	0	712
9:00 AM	11	171	10	0	8	104	12	0	11	123	13	0	3	168	15	0	649
9:15 AM	15	151	8	0	7	114	9	0	6	121	16	0	12	183	11	0	653
9:30 AM	15	130	6	0	11	131	6	0	9	120	12	0	9	155	18	0	622
9:45 AM	8	157	8	0	6	111	7	0	6	126	16	0	9	153	7	0	614
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>
<b>APPROACH %'s :</b>	166	1700	73	0	124	1513	97	1	101	1722	187	0	101	2243	149	0	8177
	8.56%	87.67%	3.76%	0.00%	7.15%	87.20%	5.59%	0.06%	5.02%	85.67%	9.30%	0.00%	4.05%	89.97%	5.98%	0.00%	
<b>PEAK HR :</b>	08:00 AM - 09:00 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	61	567	23	0	57	530	34	1	47	682	68	0	36	721	59	0	2886
<b>PEAK HR FACTOR :</b>	0.803	0.920	0.575	0.000	0.792	0.883	0.850	0.250	0.783	0.912	0.680	0.000	0.750	0.939	0.819	0.000	0.980
		0.935				0.894				0.886				0.958			

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	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
3:00 PM	10	89	9	0	10	139	9	0	7	129	18	0	10	126	7	0	563
3:15 PM	15	119	11	0	10	149	11	0	4	154	19	0	8	152	17	0	669
3:30 PM	13	111	14	0	16	125	10	0	7	181	25	1	17	144	13	0	677
3:45 PM	13	110	11	0	9	148	12	0	7	142	19	0	13	142	13	0	639
4:00 PM	8	124	15	0	12	153	9	0	5	144	14	0	13	172	8	0	677
4:15 PM	11	113	8	0	16	131	6	0	7	206	19	0	14	157	19	0	707
4:30 PM	12	121	11	0	11	138	4	0	9	166	18	0	19	145	9	0	663
4:45 PM	13	131	9	0	10	134	10	0	3	196	18	0	14	164	16	0	718
5:00 PM	14	127	8	0	8	139	11	0	10	206	17	0	10	164	10	0	724
5:15 PM	14	131	8	0	10	115	8	0	7	191	19	0	17	164	18	0	702
5:30 PM	13	132	8	0	10	131	9	0	7	230	15	0	15	177	18	0	765
5:45 PM	14	107	7	0	11	112	8	0	10	220	23	0	15	189	19	0	735
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>
<b>APPROACH %'s :</b>	150	1415	119	0	133	1614	107	0	83	2165	224	1	165	1896	167	0	8239
	8.91%	84.03%	7.07%	0.00%	7.17%	87.06%	5.77%	0.00%	3.36%	87.55%	9.06%	0.04%	7.41%	85.10%	7.50%	0.00%	
<b>PEAK HR :</b>	05:00 PM - 06:00 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	55	497	31	0	39	497	36	0	34	847	74	0	57	694	65	0	2926
<b>PEAK HR FACTOR :</b>	0.982	0.941	0.969	0.000	0.886	0.894	0.818	0.000	0.850	0.921	0.804	0.000	0.838	0.918	0.855	0.000	0.956
		0.953				0.905				0.944				0.915			



# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Normandie Ave & Olympic Blvd  
**City:** Los Angeles  
**Control:** Signalized

**Project ID:** 18-05236-008  
**Date:** 4/17/2018

### Total

NS/EW Streets:	Normandie Ave				Normandie Ave				Olympic Blvd				Olympic Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	1 NR	0 NU	1 SL	2 ST	1 SR	0 SU	1 EL	3 ET	0 ER	0 EU	1 WL	3 WT	0 WR	0 WU	
7:00 AM	34	177	24	0	14	142	17	0	8	182	11	0	5	364	17	0	995
7:15 AM	48	194	15	0	20	129	18	0	11	284	16	0	7	369	9	0	1120
7:30 AM	31	224	21	0	19	167	20	0	10	325	16	0	14	344	20	0	1211
7:45 AM	27	189	12	0	26	145	12	0	17	395	19	0	13	370	20	0	1245
8:00 AM	29	237	32	0	18	160	21	0	9	404	23	0	10	293	9	0	1245
8:15 AM	34	192	26	0	24	157	12	0	12	468	23	0	11	373	14	0	1346
8:30 AM	31	204	19	0	20	192	20	0	12	441	29	0	15	342	18	0	1343
8:45 AM	44	249	16	0	20	144	21	0	16	427	38	0	17	318	22	0	1332
9:00 AM	29	261	18	0	16	126	14	0	13	371	29	0	8	248	10	0	1143
9:15 AM	23	166	18	0	24	109	18	0	11	345	25	0	11	296	22	0	1068
9:30 AM	35	181	19	0	20	164	25	0	9	307	23	0	12	267	15	0	1077
9:45 AM	33	175	26	0	26	116	19	0	16	315	23	0	7	292	13	0	1061
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>
<b>APPROACH %'s :</b>	398	2449	246	0	247	1751	217	0	144	4264	275	0	130	3876	189	0	14186
	12.87%	79.18%	7.95%	0.00%	11.15%	79.05%	9.80%	0.00%	3.07%	91.05%	5.87%	0.00%	3.10%	92.40%	4.51%	0.00%	
<b>PEAK HR :</b>	08:00 AM - 09:00 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	138	882	93	0	82	653	74	0	49	1740	113	0	53	1326	63	0	5266
<b>PEAK HR FACTOR :</b>	0.784	0.886	0.727	0.000	0.854	0.850	0.881	0.000	0.766	0.929	0.743	0.000	0.779	0.889	0.716	0.000	0.978
	0.900				0.872				0.945				0.906				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	1 NR	0 NU	1 SL	2 ST	1 SR	0 SU	1 EL	3 ET	0 ER	0 EU	1 WL	3 WT	0 WR	0 WU	
3:00 PM	27	137	31	0	27	186	12	0	13	351	31	0	15	245	11	0	1086
3:15 PM	23	140	29	0	22	187	22	0	10	349	25	0	19	279	26	0	1131
3:30 PM	22	149	39	0	24	202	18	0	19	378	23	0	14	283	18	0	1189
3:45 PM	23	147	35	0	19	219	16	0	20	361	30	0	20	270	13	0	1173
4:00 PM	22	151	25	0	29	203	18	0	16	417	30	0	16	292	14	0	1233
4:15 PM	17	159	36	0	24	203	19	0	17	422	31	0	18	258	14	0	1218
4:30 PM	21	153	28	0	16	216	17	0	16	421	23	0	14	314	18	0	1257
4:45 PM	18	159	21	0	29	208	19	0	16	456	29	0	9	283	17	0	1264
5:00 PM	24	165	33	0	25	243	17	0	14	455	32	0	13	334	16	0	1371
5:15 PM	21	171	25	0	24	226	13	0	12	431	26	0	19	289	24	0	1281
5:30 PM	26	170	33	0	23	205	10	0	15	418	23	0	14	366	18	0	1321
5:45 PM	15	147	24	0	19	221	16	0	15	460	29	0	17	370	19	0	1352
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>
<b>APPROACH %'s :</b>	259	1848	359	0	281	2519	197	0	183	4919	332	0	188	3583	208	0	14876
	10.50%	74.94%	14.56%	0.00%	9.38%	84.05%	6.57%	0.00%	3.37%	90.52%	6.11%	0.00%	4.72%	90.05%	5.23%	0.00%	
<b>PEAK HR :</b>	05:00 PM - 06:00 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	86	653	115	0	91	895	56	0	56	1764	110	0	63	1359	77	0	5325
<b>PEAK HR FACTOR :</b>	0.827	0.955	0.871	0.000	0.910	0.921	0.824	0.000	0.933	0.959	0.859	0.000	0.829	0.918	0.802	0.000	0.971
	0.932				0.914				0.957				0.923				

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Mariposa Ave & 6th St  
**City:** Los Angeles  
**Control:** Signalized

**Project ID:** 18-05236-009  
**Date:** 4/17/2018

### Total

NS/EW Streets:	Mariposa Ave				Mariposa Ave				6th St				6th St				
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	11	10	6	0	9	28	15	0	1	164	6	0	11	208	3	0	472
7:15 AM	3	12	5	0	10	29	15	0	4	201	11	0	10	231	3	0	534
7:30 AM	8	14	4	0	11	43	9	0	3	246	14	0	11	237	4	0	604
7:45 AM	3	23	12	0	10	49	6	0	2	282	24	0	13	246	2	0	672
8:00 AM	15	16	7	0	6	33	4	0	1	239	14	0	16	246	2	1	600
8:15 AM	9	17	13	0	6	44	12	0	6	247	31	0	20	247	1	0	653
8:30 AM	6	18	12	0	6	36	15	0	4	224	26	0	20	237	2	0	606
8:45 AM	10	25	7	0	6	35	14	0	4	238	12	0	14	210	3	0	578
9:00 AM	8	10	15	0	5	32	13	0	7	212	21	0	11	196	5	0	535
9:15 AM	4	15	11	0	6	35	9	0	4	215	13	0	17	196	4	0	529
9:30 AM	7	18	20	0	6	26	10	0	3	188	12	0	19	168	6	0	483
9:45 AM	11	10	12	0	1	22	13	0	4	192	14	0	11	171	5	1	467
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>
<b>APPROACH %'s :</b>	95	188	124	0	82	412	135	0	43	2648	198	0	173	2593	40	2	6733
	23.34%	46.19%	30.47%	0.00%	13.04%	65.50%	21.46%	0.00%	1.49%	91.66%	6.85%	0.00%	6.16%	92.34%	1.42%	0.07%	
<b>PEAK HR :</b>	07:45 AM - 08:45 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	33	74	44	0	28	162	37	0	13	992	95	0	69	976	7	1	2531
<b>PEAK HR FACTOR :</b>	0.550	0.804	0.846	0.000	0.700	0.827	0.617	0.000	0.542	0.879	0.766	0.000	0.863	0.988	0.875	0.250	0.942
	0.968				0.873				0.893				0.982				

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	7	21	31	0	6	27	4	0	7	229	26	0	17	159	6	0	540
3:15 PM	11	18	20	1	6	28	11	1	5	216	23	0	15	159	3	0	517
3:30 PM	6	29	21	0	4	25	10	0	6	215	17	0	15	166	2	0	516
3:45 PM	9	25	20	0	6	15	8	1	3	255	24	0	18	194	8	0	586
4:00 PM	8	34	26	0	5	31	10	0	5	256	23	0	18	219	6	0	641
4:15 PM	12	28	29	0	6	18	7	0	7	255	21	0	16	211	5	0	615
4:30 PM	11	41	18	0	10	33	7	0	14	237	18	0	21	251	7	1	669
4:45 PM	7	28	24	0	5	25	6	0	9	213	19	0	14	241	2	0	593
5:00 PM	13	27	30	0	3	23	4	0	4	251	15	0	22	260	15	0	667
5:15 PM	13	28	29	0	4	38	9	0	14	249	17	0	20	272	9	0	702
5:30 PM	13	39	20	0	9	30	5	0	10	220	17	0	18	258	9	0	648
5:45 PM	15	43	36	0	6	36	12	0	8	228	20	0	28	252	11	0	695
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>
<b>APPROACH %'s :</b>	125	361	304	1	70	329	93	2	92	2824	240	0	222	2642	83	1	7389
	15.80%	45.64%	38.43%	0.13%	14.17%	66.60%	18.83%	0.40%	2.92%	89.48%	7.60%	0.00%	7.53%	89.62%	2.82%	0.03%	
<b>PEAK HR :</b>	05:00 PM - 06:00 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	54	137	115	0	22	127	30	0	36	948	69	0	88	1042	44	0	2712
<b>PEAK HR FACTOR :</b>	0.900	0.797	0.799	0.000	0.611	0.836	0.625	0.000	0.643	0.944	0.863	0.000	0.786	0.958	0.733	0.000	0.966
	0.814				0.829				0.940				0.975				

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Mariposa Ave & Wilshire Blvd  
**City:** Los Angeles  
**Control:** Signalized

**Project ID:** 18-05236-010  
**Date:** 4/17/2018

### Total

NS/EW Streets:	Mariposa Ave				Mariposa Ave				Wilshire Blvd				Wilshire Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	0 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	3 ET	0 ER	0 EU	1 WL	3 WT	0 WR	0 WU	
7:00 AM	17	0	21	0	0	0	0	0	0	207	21	0	21	299	0	0	586
7:15 AM	27	0	33	0	0	0	0	0	0	238	42	0	26	289	0	0	655
7:30 AM	37	0	48	0	0	0	0	0	0	304	54	0	22	278	0	0	743
7:45 AM	35	0	59	0	0	0	0	0	0	331	53	0	23	329	0	0	830
8:00 AM	42	0	69	0	0	0	0	0	0	338	51	0	22	324	0	0	846
8:15 AM	41	0	55	0	0	0	0	0	0	309	52	0	30	328	0	0	815
8:30 AM	29	0	44	0	0	0	0	0	0	302	52	0	23	307	0	0	757
8:45 AM	33	0	40	0	0	0	0	0	0	276	61	0	22	308	0	0	740
9:00 AM	26	0	26	0	0	0	0	0	0	237	50	0	14	278	0	0	631
9:15 AM	18	0	32	0	0	0	0	0	0	218	43	0	22	279	0	0	612
9:30 AM	20	0	26	0	0	0	0	0	0	189	43	0	29	276	0	0	583
9:45 AM	19	0	31	0	0	0	0	0	0	215	45	0	28	305	0	0	643
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>
<b>APPROACH %'s :</b>	41.55%	0.00%	58.45%	0.00%	0	0	0	0	0	3164	567	0	282	3600	0	0	8441
<b>PEAK HR :</b>	07:45 AM - 08:45 AM								0.00% 84.80% 15.20% 0.00%				7.26% 92.74% 0.00% 0.00%				<b>TOTAL</b>
<b>PEAK HR VOL :</b>	147	0	227	0	0	0	0	0	0	1280	208	0	98	1288	0	0	3248
<b>PEAK HR FACTOR :</b>	0.875	0.000	0.822	0.000	0.000	0.000	0.000	0.000	0.000	0.947	0.981	0.000	0.817	0.979	0.000	0.000	0.960
	0.842								0.956				0.968				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	0 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	3 ET	0 ER	0 EU	1 WL	3 WT	0 WR	0 WU	
3:00 PM	37	0	49	0	0	0	0	0	0	243	33	0	24	257	0	0	643
3:15 PM	42	0	51	0	0	0	0	0	0	251	34	0	19	235	0	0	632
3:30 PM	43	0	50	0	0	0	0	0	0	266	46	0	20	252	0	0	677
3:45 PM	41	0	51	0	0	0	0	0	0	252	43	1	27	235	0	0	650
4:00 PM	40	0	62	0	0	0	0	0	0	305	49	0	24	246	0	0	726
4:15 PM	40	0	49	0	0	0	0	0	0	255	27	0	22	266	0	0	659
4:30 PM	38	0	39	0	0	0	0	0	0	291	36	0	20	266	0	0	690
4:45 PM	31	0	35	0	0	0	0	0	0	320	30	0	16	276	0	0	708
5:00 PM	41	0	44	0	0	0	0	0	0	284	48	0	26	302	0	0	745
5:15 PM	37	0	36	0	0	0	0	0	0	270	72	0	26	291	0	0	732
5:30 PM	49	0	59	0	0	0	0	0	0	309	40	0	19	300	0	2	778
5:45 PM	44	0	52	0	0	0	0	0	0	295	49	0	28	327	0	0	795
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>
<b>APPROACH %'s :</b>	45.57%	0.00%	54.43%	0.00%	0	0	0	0	0	3341	507	1	271	3253	0	2	8435
<b>PEAK HR :</b>	05:00 PM - 06:00 PM								0.00% 86.80% 13.17% 0.03%				7.69% 92.26% 0.00% 0.06%				<b>TOTAL</b>
<b>PEAK HR VOL :</b>	171	0	191	0	0	0	0	0	0	1158	209	0	99	1220	0	2	3050
<b>PEAK HR FACTOR :</b>	0.872	0.000	0.809	0.000	0.000	0.000	0.000	0.000	0.000	0.937	0.726	0.000	0.884	0.933	0.000	0.250	0.959
	0.838								0.979				0.930				

## National Data &amp; Surveying Services

## Intersection Turning Movement Count

**Location:** Mariposa Ave & Wilshire Blvd  
**City:** Los Angeles  
**Control:** Signalized

**Project ID:** 18-05236-011  
**Date:** 4/17/2018

**Total**

NS/EW Streets:	Mariposa Ave				Mariposa Ave				Wilshire Blvd				Wilshire Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	0 WL	3 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	16	0	15	0	10	208	0	0	0	295	20	0	564
7:15 AM	0	0	0	0	27	0	16	0	10	261	0	0	0	294	27	0	635
7:30 AM	0	0	0	0	41	0	22	0	9	317	0	0	0	266	33	0	688
7:45 AM	0	0	0	0	51	0	15	0	11	332	0	0	0	334	49	0	792
8:00 AM	0	0	0	0	48	0	20	1	16	324	0	0	0	336	42	0	787
8:15 AM	0	0	0	0	48	0	28	0	18	324	0	0	0	301	41	0	760
8:30 AM	0	0	0	0	45	0	25	0	14	309	0	0	0	283	41	0	717
8:45 AM	0	0	0	0	39	0	20	0	24	294	0	0	0	325	47	0	749
9:00 AM	0	0	0	0	24	0	17	0	20	265	0	1	0	232	47	0	606
9:15 AM	0	0	0	0	25	0	21	0	13	241	0	0	0	284	34	0	618
9:30 AM	0	0	0	0	28	0	25	0	17	206	0	0	0	281	38	0	595
9:45 AM	0	0	0	0	23	0	21	0	19	241	0	0	0	261	29	0	594
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	415	0	245	1	181	3322	0	1	0	3492	448	0	8105
PEAK HR :	07:45 AM - 08:45 AM				192	0	88	1	59	1289	0	0	0	1254	173	0	3056
PEAK HR VOL :	0	0	0	0	0.941	0.000	0.786	0.250	0.819	0.971	0.000	0.000	0.000	0.933	0.883	0.000	0.965
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.924				0.983				0.931				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	0 WL	3 WT	0 WR	0 WU	
3:00 PM	0	0	0	0	29	0	16	0	13	266	0	0	0	254	37	0	615
3:15 PM	0	0	0	0	26	0	19	0	24	254	0	0	0	234	47	0	604
3:30 PM	0	0	0	0	24	0	17	0	19	292	0	0	0	237	36	0	625
3:45 PM	0	0	0	0	29	0	28	0	18	275	0	0	0	265	34	0	649
4:00 PM	0	0	0	0	40	0	21	0	11	316	0	0	0	265	47	0	700
4:15 PM	0	0	0	0	23	0	17	0	21	253	0	0	0	247	33	0	594
4:30 PM	0	0	0	0	31	0	26	0	20	277	0	0	0	262	52	0	668
4:45 PM	0	0	0	0	42	0	22	0	18	328	0	0	0	282	37	0	729
5:00 PM	0	0	0	0	34	0	25	0	23	289	0	0	0	278	46	0	695
5:15 PM	0	0	0	0	48	0	26	0	17	289	0	0	0	271	46	0	697
5:30 PM	0	0	0	0	33	0	30	0	19	329	0	0	0	325	32	0	768
5:45 PM	0	0	0	0	42	0	26	0	21	289	0	0	0	313	64	0	755
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	401	0	273	0	224	3457	0	0	0	3233	511	0	8099
PEAK HR :	05:00 PM - 06:00 PM				157	0	107	0	80	1196	0	0	0	1187	188	0	2915
PEAK HR VOL :	0	0	0	0	0.818	0.000	0.892	0.000	0.870	0.909	0.000	0.000	0.000	0.913	0.734	0.000	0.949
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.892				0.917				0.912				

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Mariposa Ave & 8th St  
**City:** Los Angeles  
**Control:** Signalized

**Project ID:** 18-05236-012  
**Date:** 4/17/2018

### Total

NS/EW Streets:	Mariposa Ave				Mariposa Ave				8th St				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	2 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
7:00 AM	3	5	1	0	10	7	10	0	3	117	4	0	2	226	24	0	412
7:15 AM	5	16	3	0	22	10	12	0	6	162	2	0	3	239	23	0	503
7:30 AM	6	18	1	0	25	4	11	0	6	151	2	0	4	199	40	0	467
7:45 AM	4	24	4	0	26	7	22	0	6	184	5	0	10	212	46	0	550
8:00 AM	0	28	3	0	31	11	17	0	9	221	2	0	7	182	40	0	551
8:15 AM	1	19	2	0	24	7	15	0	5	185	4	0	9	185	54	0	510
8:30 AM	0	17	1	0	18	9	9	0	5	193	4	0	3	196	23	0	478
8:45 AM	1	27	1	0	26	4	8	0	11	175	1	0	1	194	43	0	492
9:00 AM	0	23	2	0	20	3	7	0	9	143	0	0	1	178	31	0	417
9:15 AM	1	17	3	0	19	6	13	0	6	125	1	0	3	203	30	0	427
9:30 AM	1	13	3	0	17	8	7	0	6	136	3	0	3	176	21	0	394
9:45 AM	0	16	3	0	18	5	13	0	10	136	3	0	4	155	18	0	381
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	22	223	27	0	256	81	144	0	82	1928	31	0	50	2345	393	0	5582
	8.09%	81.99%	9.93%	0.00%	53.22%	16.84%	29.94%	0.00%	4.02%	94.46%	1.52%	0.00%	1.79%	84.11%	14.10%	0.00%	
<b>PEAK HR :</b>	07:45 AM - 08:45 AM																TOTAL
<b>PEAK HR VOL :</b>	5	88	10	0	99	34	63	0	25	783	15	0	29	775	163	0	2089
<b>PEAK HR FACTOR :</b>	0.313	0.786	0.625	0.000	0.798	0.773	0.716	0.000	0.694	0.886	0.750	0.000	0.725	0.914	0.755	0.000	0.948
	0.805				0.831				0.887				0.902				

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	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
3:00 PM	1	7	4	0	30	20	15	0	4	145	2	0	6	144	27	0	405
3:15 PM	4	6	1	0	29	16	14	0	6	164	3	0	4	177	23	0	447
3:30 PM	2	14	1	0	33	17	20	0	5	212	7	0	2	169	32	0	514
3:45 PM	3	11	0	0	49	19	20	0	7	162	2	0	8	160	17	0	458
4:00 PM	0	9	2	0	48	24	25	0	6	181	2	0	4	180	21	0	502
4:15 PM	1	13	5	0	43	22	7	0	7	218	0	0	3	186	24	0	529
4:30 PM	2	10	3	0	41	25	9	0	6	197	5	0	2	193	26	0	519
4:45 PM	1	8	1	0	42	21	14	0	11	210	3	0	3	178	21	0	513
5:00 PM	0	15	6	0	46	15	14	0	6	230	0	0	6	187	19	0	544
5:15 PM	0	8	0	1	41	24	25	0	4	226	3	0	5	195	16	0	548
5:30 PM	4	15	4	0	53	23	14	0	13	240	5	0	6	204	21	0	602
5:45 PM	1	24	6	0	45	17	14	0	8	230	8	0	5	226	45	0	629
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	19	140	33	1	500	243	191	0	83	2415	40	0	54	2199	292	0	6210
	9.84%	72.54%	17.10%	0.52%	53.53%	26.02%	20.45%	0.00%	3.27%	95.15%	1.58%	0.00%	2.12%	86.40%	11.47%	0.00%	
<b>PEAK HR :</b>	05:00 PM - 06:00 PM																TOTAL
<b>PEAK HR VOL :</b>	5	62	16	1	185	79	67	0	31	926	16	0	22	812	101	0	2323
<b>PEAK HR FACTOR :</b>	0.313	0.646	0.667	0.250	0.873	0.823	0.670	0.000	0.596	0.965	0.500	0.000	0.917	0.898	0.561	0.000	0.923
	0.677				0.919				0.943				0.847				

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Vermont Ave & Wilshire Blvd  
**City:** Los Angeles  
**Control:** Signalized

**Project ID:** 18-05236-013  
**Date:** 4/17/2018

### Total

NS/EW Streets:	Vermont Ave				Vermont Ave				Wilshire Blvd				Wilshire Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	0 NR	0 NU	1 SL	3 ST	0 SR	0 SU	1 EL	3 ET	0 ER	0 EU	1 WL	3 WT	0 WR	0 WU	
7:00 AM	16	303	11	0	17	259	30	0	28	173	29	0	29	255	17	1	1168
7:15 AM	20	306	16	0	19	244	25	0	34	223	26	0	29	247	19	0	1208
7:30 AM	30	270	19	0	18	258	18	0	34	302	52	0	17	277	12	0	1307
7:45 AM	37	240	20	0	32	237	25	0	35	266	54	0	28	318	10	0	1302
8:00 AM	19	263	22	0	22	274	25	0	23	266	69	0	36	262	19	0	1300
8:15 AM	30	255	21	0	23	196	32	0	24	277	54	0	30	279	21	0	1242
8:30 AM	36	236	25	0	23	257	34	0	28	261	50	0	39	245	21	0	1255
8:45 AM	17	231	26	0	25	237	26	0	26	204	38	0	30	236	12	0	1108
9:00 AM	32	241	26	0	28	237	19	0	23	235	30	0	41	240	15	0	1167
9:15 AM	35	248	20	0	18	239	44	4	24	180	28	0	37	231	20	0	1128
9:30 AM	25	238	21	0	34	243	33	0	18	168	27	0	33	236	24	0	1100
9:45 AM	22	233	29	0	36	250	24	0	28	179	25	0	28	220	18	2	1094
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>
<b>APPROACH %'s :</b>	319	3064	256	0	295	2931	335	4	325	2734	482	0	377	3046	208	3	14379
	8.77%	84.20%	7.03%	0.00%	8.27%	82.22%	9.40%	0.11%	9.18%	77.21%	13.61%	0.00%	10.37%	83.82%	5.72%	0.08%	
<b>PEAK HR :</b>	07:30 AM - 08:30 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	116	1028	82	0	95	965	100	0	116	1111	229	0	111	1136	62	0	5151
<b>PEAK HR FACTOR :</b>	0.784	0.952	0.932	0.000	0.742	0.880	0.781	0.000	0.829	0.920	0.830	0.000	0.771	0.893	0.738	0.000	0.985
	0.961				0.903				0.938				0.919				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	0 NR	0 NU	1 SL	3 ST	0 SR	0 SU	1 EL	3 ET	0 ER	0 EU	1 WL	3 WT	0 WR	0 WU	
3:00 PM	28	280	24	2	21	256	27	0	41	230	28	0	36	174	23	0	1170
3:15 PM	32	248	22	0	30	248	22	0	27	235	35	0	40	188	25	1	1153
3:30 PM	27	242	27	0	31	272	20	0	25	232	28	0	29	190	19	1	1143
3:45 PM	24	249	24	0	30	252	20	0	33	241	34	0	33	194	20	0	1154
4:00 PM	24	260	35	0	30	212	14	0	31	225	43	0	42	210	25	0	1151
4:15 PM	26	239	36	0	33	277	28	0	29	234	19	0	41	205	17	0	1184
4:30 PM	18	279	28	0	22	233	17	0	31	247	24	0	32	230	20	0	1181
4:45 PM	29	239	22	0	35	258	15	0	40	243	33	0	45	219	25	0	1203
5:00 PM	19	262	27	0	31	241	24	0	21	209	48	0	31	224	16	1	1154
5:15 PM	24	246	30	0	34	243	26	0	35	246	22	0	41	244	24	0	1215
5:30 PM	24	251	33	0	30	248	22	0	21	248	23	0	32	248	25	1	1206
5:45 PM	27	268	27	0	39	217	28	0	22	236	29	0	34	288	25	0	1240
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>
<b>APPROACH %'s :</b>	302	3063	335	2	366	2957	263	0	356	2826	366	0	436	2614	264	4	14154
	8.16%	82.74%	9.05%	0.05%	10.21%	82.46%	7.33%	0.00%	10.03%	79.65%	10.32%	0.00%	13.14%	78.78%	7.96%	0.12%	
<b>PEAK HR :</b>	05:00 PM - 06:00 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	94	1027	117	0	134	949	100	0	99	939	122	0	138	1004	90	2	4815
<b>PEAK HR FACTOR :</b>	0.870	0.958	0.886	0.000	0.859	0.957	0.893	0.000	0.707	0.947	0.635	0.000	0.841	0.872	0.900	0.500	0.971
	0.961				0.976				0.957				0.889				

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Vermont Ave & 8th St  
**City:** Los Angeles  
**Control:** Signalized

**Project ID:** 18-05236-014  
**Date:** 4/17/2018

### Total

NS/EW Streets:	Vermont Ave				Vermont Ave				8th St				8th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	2 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
7:00 AM	27	332	5	0	9	244	21	0	1	91	8	0	0	187	15	0	940
7:15 AM	25	326	10	0	7	266	19	0	0	124	27	0	0	208	22	0	1034
7:30 AM	26	316	11	0	9	283	25	0	1	142	24	0	1	200	10	0	1048
7:45 AM	26	316	9	0	12	308	18	0	0	161	19	0	0	218	15	0	1102
8:00 AM	21	309	13	0	12	299	18	0	1	176	28	0	0	165	16	0	1058
8:15 AM	22	303	12	0	13	295	19	0	0	198	28	0	1	153	14	0	1058
8:30 AM	29	296	23	0	14	235	17	0	2	187	26	0	0	138	5	0	972
8:45 AM	24	273	12	0	17	281	16	0	1	153	27	0	0	177	13	0	994
9:00 AM	20	315	9	0	15	268	13	0	0	135	30	0	0	162	13	0	980
9:15 AM	12	310	18	0	12	255	19	0	1	126	30	0	0	171	16	0	970
9:30 AM	17	293	15	0	12	280	12	0	0	126	24	0	1	153	13	0	946
9:45 AM	21	284	9	0	11	282	11	0	1	109	22	0	1	130	18	0	899
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>
<b>APPROACH %'s :</b>	270	3673	146	0	143	3296	208	0	8	1728	293	0	4	2062	170	0	12001
	6.60%	89.83%	3.57%	0.00%	3.92%	90.38%	5.70%	0.00%	0.39%	85.17%	14.44%	0.00%	0.18%	92.22%	7.60%	0.00%	
<b>PEAK HR :</b>	07:30 AM - 08:30 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	95	1244	45	0	46	1185	80	0	2	677	99	0	2	736	55	0	4266
<b>PEAK HR FACTOR :</b>	0.913	0.984	0.865	0.000	0.885	0.962	0.800	0.000	0.500	0.855	0.884	0.000	0.500	0.844	0.859	0.000	0.968
	0.980				0.970				0.861				0.851				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	2 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
3:00 PM	18	290	15	0	10	290	16	0	1	153	33	0	0	99	17	0	942
3:15 PM	16	281	18	0	13	299	20	0	0	153	18	0	1	123	19	0	961
3:30 PM	11	257	21	0	19	305	22	0	0	194	21	0	0	116	20	0	986
3:45 PM	17	260	18	0	20	278	18	0	2	201	31	0	0	93	18	0	956
4:00 PM	19	275	12	0	12	274	26	0	2	180	31	0	1	122	23	0	977
4:15 PM	17	274	14	0	20	277	21	0	3	196	36	0	0	123	17	0	998
4:30 PM	16	281	12	0	14	283	18	0	1	220	39	0	1	138	19	0	1042
4:45 PM	15	258	14	0	20	294	17	0	1	190	34	0	0	127	19	0	989
5:00 PM	14	282	14	0	18	299	15	0	0	190	43	0	0	153	14	0	1042
5:15 PM	16	261	13	0	17	257	21	0	1	222	42	0	2	169	16	0	1037
5:30 PM	14	257	15	0	14	288	15	1	0	196	33	0	2	192	29	0	1056
5:45 PM	18	289	14	0	12	251	26	0	0	196	36	0	0	176	21	0	1039
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>
<b>APPROACH %'s :</b>	191	3265	180	0	189	3395	235	1	11	2291	397	0	7	1631	232	0	12025
	5.25%	89.80%	4.95%	0.00%	4.95%	88.87%	6.15%	0.03%	0.41%	84.88%	14.71%	0.00%	0.37%	87.22%	12.41%	0.00%	
<b>PEAK HR :</b>	05:00 PM - 06:00 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	62	1089	56	0	61	1095	77	1	1	804	154	0	4	690	80	0	4174
<b>PEAK HR FACTOR :</b>	0.861	0.942	0.933	0.000	0.847	0.916	0.740	0.250	0.250	0.905	0.895	0.000	0.500	0.898	0.690	0.000	0.988
	0.940				0.929				0.905				0.868				

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Mariposa Ave & 7th St  
**City:** Los Angeles  
**Control:** 4-Way Stop (NB/SB/EB/WB)

**Project ID:** 18-05236-015  
**Date:** 4/17/2018

### Total

NS/EW Streets:		Mariposa Ave				Mariposa Ave				7th St				7th 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	5	25	0	0	0	12	12	0	30	0	9	0	0	0	0	93	
	7:15 AM	3	43	0	0	0	25	18	0	33	0	11	0	0	0	0	133	
	7:30 AM	4	51	0	0	0	27	18	0	41	0	12	0	0	0	0	153	
	7:45 AM	8	67	0	0	0	44	23	0	63	0	12	0	0	0	0	217	
	8:00 AM	13	72	0	0	0	40	23	1	47	0	18	0	0	0	0	214	
	8:15 AM	11	62	2	0	0	28	19	0	46	1	10	0	0	0	1	180	
	8:30 AM	6	44	0	0	0	19	18	0	35	0	15	0	0	0	0	137	
	8:45 AM	12	61	0	1	0	19	23	0	44	0	14	0	0	0	0	174	
	9:00 AM	12	57	0	0	0	18	26	0	51	0	7	0	0	0	0	171	
	9:15 AM	7	44	0	1	0	22	15	0	33	0	11	1	0	0	0	134	
	9:30 AM	7	33	0	0	0	20	17	0	30	0	6	0	0	0	0	113	
	9:45 AM	4	38	0	1	0	26	17	0	22	0	9	0	0	0	0	117	
TOTAL VOLUMES :		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :		92	597	2	3	0	300	229	1	475	1	134	1	0	0	0	1	1836
PEAK HR :		07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :		36	252	2	0	0	139	83	1	197	1	52	0	0	0	0	1	764
PEAK HR FACTOR :		0.692	0.875	0.250	0.000	0.000	0.790	0.902	0.250	0.782	0.250	0.722	0.000	0.000	0.000	0.000	0.250	0.880
		0.853				0.832				0.833				0.250				

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	8	34	0	0	0	43	26	1	35	0	22	0	0	0	0	169	
	3:15 PM	2	34	0	0	0	46	27	0	35	0	16	0	0	0	0	160	
	3:30 PM	10	34	0	0	0	55	31	0	32	0	23	1	0	0	2	188	
	3:45 PM	6	37	0	0	0	55	25	0	32	0	22	0	1	1	3	182	
	4:00 PM	11	26	0	1	0	62	37	1	30	0	35	0	0	0	1	204	
	4:15 PM	8	34	0	0	0	49	30	2	35	0	27	0	0	0	2	187	
	4:30 PM	10	33	0	0	0	53	49	0	35	0	28	0	0	0	0	208	
	4:45 PM	9	24	0	1	0	34	29	1	28	0	31	0	0	0	2	159	
	5:00 PM	12	27	0	0	0	54	34	0	27	0	24	0	0	0	0	178	
	5:15 PM	4	29	0	0	0	51	40	0	40	0	36	0	0	0	0	200	
	5:30 PM	15	30	0	1	0	46	41	1	36	0	38	0	0	0	0	208	
	5:45 PM	18	49	0	0	0	48	39	0	37	0	38	0	0	0	0	229	
TOTAL VOLUMES :		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :		113	391	0	3	0	596	408	6	402	0	340	1	1	1	10	0	2272
PEAK HR :		05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :		49	135	0	1	0	199	154	1	140	0	136	0	0	0	0	0	815
PEAK HR FACTOR :		0.681	0.689	0.000	0.250	0.000	0.921	0.939	0.250	0.875	0.000	0.895	0.000	0.000	0.000	0.000	0.000	0.890
		0.690				0.973				0.908								



**VOLUME**

Mariposa Ave Bet. 7th St &amp; 8th St

Day: Tuesday

Date: 4/17/2018

City: Los Angeles

Project #: CA18\_5237\_001

DAILY TOTALS					NB	SB					EB	WB	Total
					2,389	3,142					0	0	5,531
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL		
00:00	6	5			11	12:00	31	42			73		
00:15	4	15			19	12:15	29	40			69		
00:30	9	6			15	12:30	30	45			75		
00:45	7	26	7	33	14	12:45	26	116	48	175	74	291	
01:00	5	9			14	13:00	44	49			93		
01:15	2	9			11	13:15	51	42			93		
01:30	3	4			7	13:30	38	44			82		
01:45	5	15	7	29	12	13:45	27	160	23	158	50	318	
02:00	1	9			10	14:00	24	42			66		
02:15	1	7			8	14:15	28	45			73		
02:30	1	3			4	14:30	39	54			93		
02:45	3	6	3	22	6	14:45	45	136	55	196	100	332	
03:00	3	0			3	15:00	36	64			100		
03:15	0	3			3	15:15	28	48			76		
03:30	0	4			4	15:30	40	62			102		
03:45	1	4	4	11	5	15:45	40	144	53	227	93	371	
04:00	4	3			7	16:00	30	81			111		
04:15	1	1			2	16:15	32	75			107		
04:30	2	5			7	16:30	39	63			102		
04:45	1	8	2	11	3	16:45	32	133	73	292	105	425	
05:00	3	7			10	17:00	33	63			96		
05:15	3	5			8	17:15	24	69			93		
05:30	1	3			4	17:30	34	73			107		
05:45	7	14	9	24	16	17:45	57	148	68	273	125	421	
06:00	5	7			12	18:00	47	55			102		
06:15	16	14			30	18:15	51	65			116		
06:30	14	16			30	18:30	46	56			102		
06:45	22	57	15	52	37	18:45	30	174	47	223	77	397	
07:00	32	19			51	19:00	33	51			84		
07:15	31	35			66	19:15	32	45			77		
07:30	42	40			82	19:30	31	47			78		
07:45	70	175	45	139	115	19:45	28	124	35	178	63	302	
08:00	76	57			133	20:00	28	56			84		
08:15	76	40			116	20:15	12	42			54		
08:30	40	29			69	20:30	25	31			56		
08:45	68	260	34	160	102	20:45	19	84	34	163	53	247	
09:00	62	31			93	21:00	23	60			83		
09:15	52	30			82	21:15	13	36			49		
09:30	38	36			74	21:30	17	31			48		
09:45	44	196	26	123	70	21:45	14	67	32	159	46	226	
10:00	22	36			58	22:00	16	21			37		
10:15	33	31			64	22:15	13	24			37		
10:30	35	38			73	22:30	12	25			37		
10:45	34	124	31	136	65	22:45	7	48	17	87	24	135	
11:00	23	47			70	23:00	5	21			26		
11:15	31	57			88	23:15	18	23			41		
11:30	45	49			94	23:30	9	24			33		
11:45	36	135	39	192	75	23:45	3	35	11	79	14	114	
TOTALS	1020	932			1952	TOTALS	1369	2210			3579		
SPLIT %	52.3%	47.7%			35.3%	SPLIT %	38.3%	61.7%			64.7%		

DAILY TOTALS					NB	SB					EB	WB	Total
					2,389	3,142					0	0	5,531

AM Peak Hour	07:30	11:00			07:30	PM Peak Hour	17:45	16:00			17:30
AM Pk Volume	264	192			446	PM Pk Volume	201	292			450
Pk Hr Factor	0.868	0.842			0.838	Pk Hr Factor	0.882	0.901			0.900
7 - 9 Volume	435	299	0	0	734	4 - 6 Volume	281	565	0	0	846
7 - 9 Peak Hour	07:30	07:30			07:30	4 - 6 Peak Hour	17:00	16:00			16:00
7 - 9 Pk Volume	264	182	0	0	446	4 - 6 Pk Volume	148	292	0	0	425
Pk Hr Factor	0.868	0.798	0.000	0.000	0.838	Pk Hr Factor	0.649	0.901	0.000	0.000	0.957

**VOLUME**

Normandie Ave Bet. 7th St &amp; 8th St

Day: Tuesday  
Date: 4/17/2018City: Los Angeles  
Project #: CA18\_5237\_002

DAILY TOTALS					NB	SB	EB					WB	Total
					2,473	1,691						0	0
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL		
00:00	1	2			3	12:00	22	16			38		
00:15	3	1			4	12:15	24	18			42		
00:30	5	2			7	12:30	24	21			45		
00:45	3	12	1	6	4	12:45	27	97	23	78	50		
01:00	1	0			1	13:00	30	21			51		
01:15	4	1			5	13:15	39	23			62		
01:30	0	1			1	13:30	35	16			51		
01:45	3	8	1	3	4	13:45	17	121	21	81	38		
02:00	3	0			3	14:00	18	20			38		
02:15	2	0			2	14:15	26	19			45		
02:30	5	0			5	14:30	33	31			64		
02:45	0	10	1	1	1	14:45	36	113	33	103	69		
03:00	0	0			0	15:00	40	39			79		
03:15	3	1			4	15:15	35	34			69		
03:30	1	0			1	15:30	40	37			77		
03:45	1	5	1	2	2	15:45	32	147	42	152	74		
04:00	2	3			5	16:00	28	37			65		
04:15	3	1			4	16:15	38	47			85		
04:30	1	0			1	16:30	29	42			71		
04:45	2	8	2	6	4	16:45	40	135	54	180	94		
05:00	0	3			3	17:00	39	61			100		
05:15	1	2			3	17:15	36	61			97		
05:30	5	1			6	17:30	31	46			77		
05:45	7	13	4	10	11	17:45	48	154	52	220	100		
06:00	15	3			18	18:00	60	61			121		
06:15	12	13			25	18:15	52	35			87		
06:30	29	9			38	18:30	54	46			100		
06:45	32	88	11	36	43	18:45	53	219	33	175	86		
07:00	30	23			53	19:00	39	25			64		
07:15	49	15			64	19:15	28	22			50		
07:30	56	24			80	19:30	34	14			48		
07:45	77	212	26	88	103	19:45	28	129	23	84	51		
08:00	81	27			108	20:00	21	23			44		
08:15	61	18			79	20:15	22	18			40		
08:30	51	13			64	20:30	30	26			56		
08:45	54	247	9	67	63	20:45	23	96	10	77	33		
09:00	64	11			75	21:00	26	17			43		
09:15	52	19			71	21:15	20	19			39		
09:30	49	20			69	21:30	16	14			30		
09:45	45	210	30	80	75	21:45	24	86	9	59	33		
10:00	30	11			41	22:00	11	11			22		
10:15	49	16			65	22:15	13	11			24		
10:30	29	14			43	22:30	11	11			22		
10:45	42	150	17	58	59	22:45	10	45	5	38	15		
11:00	45	16			61	23:00	11	6			17		
11:15	32	13			45	23:15	15	3			18		
11:30	23	20			43	23:30	9	8			17		
11:45	24	124	15	64	39	23:45	9	44	6	23	15		
TOTALS	1087	421			1508	TOTALS	1386	1270			2656		
SPLIT %	72.1%	27.9%			36.2%	SPLIT %	52.2%	47.8%			63.8%		

DAILY TOTALS					NB	SB	EBWB					Total
					2,473	1,691						0
AM Peak Hour	07:30	07:30			07:30	PM Peak Hour	18:00	16:45			17:45	
AM Pk Volume	275	95			370	PM Pk Volume	219	222			408	
Pk Hr Factor	0.849	0.880			0.856	Pk Hr Factor	0.913	0.910			0.843	
7 - 9 Volume	459	155	0	0	614	4 - 6 Volume	289	400	0	0	689	
7 - 9 Peak Hour	07:30	07:30			07:30	4 - 6 Peak Hour	17:00	16:45			17:00	
7 - 9 Pk Volume	275	95	0	0	370	4 - 6 Pk Volume	154	222	0	0	374	
Pk Hr Factor	0.849	0.880	0.000	0.000	0.856	Pk Hr Factor	0.802	0.910	0.000	0.000	0.935	

**APPENDIX D:**  
**LOS ANALYSIS SHEETS**

# Level of Service Worksheet (Circular 212 Method)



I/S #: **1**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Western Ave

East-West Street: Wilshire Blvd

Scenario: Existing 2018

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases		4			4		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	71	1	71	77	1	77
	Left-Through		0			0	
	Through	956	1	512	834	1	459
	Through-Right		1			1	
	Right	68	0	68	83	0	83
	Left-Through-Right		0			0	
SOUTHBOUND	Left	108	1	108	94	1	94
	Left-Through		0			0	
	Through	839	1	445	952	1	499
	Through-Right		1			1	
	Right	51	0	51	46	0	46
	Left-Through-Right		0			0	
EASTBOUND	Left	2	1	2	2	1	2
	Left-Through		0			0	
	Through	932	2	466	931	2	466
	Through-Right		0			0	
	Right	82	1	47	82	1	44
	Left-Through-Right		0			0	
WESTBOUND	Left	2	1	2	5	1	5
	Left-Through		0			0	
	Through	1008	2	504	848	2	424
	Through-Right		0			0	
	Right	53	1	0	90	1	43
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 620			North-South: 576		
		East-West: 506			East-West: 471		
		SUM: 1126			SUM: 1047		
VOLUME/CAPACITY (V/C) RATIO:		0.819			0.761		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.719			0.661		
LEVEL OF SERVICE (LOS):		C			B		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **2**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Western Ave

East-West Street: 8th St

Scenario: Existing 2018

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	43	1	43	33	1	33
	Left-Through		0			0	
	Through	1091	1	559	933	1	482
	Through-Right		1			1	
	Right	27	0	27	31	0	31
	Left-Through-Right		0			0	
SOUTHBOUND	Left	74	1	74	102	1	102
	Left-Through		0			0	
	Through	943	1	490	1078	1	566
	Through-Right		1			1	
	Right	37	0	37	53	0	53
	Left-Through-Right		0			0	
EASTBOUND	Left	79	1	79	69	1	69
	Left-Through		0			0	
	Through	525	1	286	688	1	363
	Through-Right		1			1	
	Right	47	0	47	37	0	37
	Left-Through-Right		0			0	
WESTBOUND	Left	91	1	91	117	1	117
	Left-Through		0			0	
	Through	784	1	428	575	1	334
	Through-Right		1			1	
	Right	71	0	71	92	0	92
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 633			North-South: 599		
		East-West: 507			East-West: 480		
		SUM: 1140			SUM: 1079		
VOLUME/CAPACITY (V/C) RATIO:		0.760			0.719		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.660			0.619		
LEVEL OF SERVICE (LOS):		B			B		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **3**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Normandie Ave

East-West Street: 3rd St

Scenario: Existing 2018

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases		3			3		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	2	0	0	2	0	0
	Left-Through		0			0	
	Through	493	1	271	723	1	399
	Through-Right		1			1	
	Right	49	0	49	75	0	75
	Left-Through-Right		0			0	
SOUTHBOUND	Left	4	0	0	2	0	0
	Left-Through		0			0	
	Through	845	1	483	518	1	302
	Through-Right		1			1	
	Right	121	0	121	86	0	86
	Left-Through-Right		0			0	
EASTBOUND	Left	58	1	58	101	1	101
	Left-Through		0			0	
	Through	1005	1	517	932	1	493
	Through-Right		1			1	
	Right	29	0	29	53	0	53
	Left-Through-Right		0			0	
WESTBOUND	Left	36	1	36	33	1	33
	Left-Through		0			0	
	Through	942	1	489	888	1	479
	Through-Right		1			1	
	Right	36	0	36	69	0	69
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 483			North-South: 399		
		East-West: 553			East-West: 580		
		SUM: 1036			SUM: 979		
VOLUME/CAPACITY (V/C) RATIO:		0.727			0.687		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.627			0.587		
LEVEL OF SERVICE (LOS):		B			A		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **4**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Normandie Ave

East-West Street: 6th St

Scenario: Existing 2018

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	30	0	30	8	0	0
	Left-Through		1			0	
	Through	427	0	298	661	1	371
	Through-Right		1			1	
	Right	48	0	298	81	0	81
	Left-Through-Right		0			0	
SOUTHBOUND	Left	94	0	94	6	0	0
	Left-Through		1			0	
	Through	637	1	413	468	2	234
	Through-Right		0			0	
	Right	99	1	80	45	1	0
	Left-Through-Right		0			0	
EASTBOUND	Left	38	1	38	94	1	94
	Left-Through		0			0	
	Through	969	1	511	984	1	518
	Through-Right		1			1	
	Right	53	0	53	51	0	51
	Left-Through-Right		0			0	
WESTBOUND	Left	39	1	39	47	1	47
	Left-Through		0			0	
	Through	945	1	485	1000	1	542
	Through-Right		1			1	
	Right	25	0	25	83	0	83
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 443			North-South: 371		
		East-West: 550			East-West: 636		
		SUM: 993			SUM: 1007		
VOLUME/CAPACITY (V/C) RATIO:		0.662			0.671		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.562			0.571		
LEVEL OF SERVICE (LOS):		A			A		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **5**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Normandie Ave

East-West Street: Wilshire Blvd

Scenario: Existing 2018

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases		3			3		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	50	0	50	49	0	49
	Left-Through		1			1	
	Through	408	1	304	533	1	316
	Through-Right		0			0	
	Right	119	1	55	102	1	47
	Left-Through-Right		0			0	
SOUTHBOUND	Left	75	0	75	80	0	80
	Left-Through		1			1	
	Through	558	1	354	450	1	385
	Through-Right		0			0	
	Right	93	1	79	89	1	38
	Left-Through-Right		0			0	
EASTBOUND	Left	28	1	28	102	1	102
	Left-Through		0			0	
	Through	1154	2	577	1153	2	577
	Through-Right		0			0	
	Right	89	1	89	72	1	72
	Left-Through-Right		0			0	
WESTBOUND	Left	129	1	129	111	1	111
	Left-Through		0			0	
	Through	1159	2	580	1138	2	569
	Through-Right		0			0	
	Right	45	1	45	79	1	79
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 404			North-South: 434		
		East-West: 706			East-West: 688		
		SUM: 1110			SUM: 1122		
VOLUME/CAPACITY (V/C) RATIO:		0.779			0.787		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.679			0.687		
LEVEL OF SERVICE (LOS):		B			B		



# Level of Service Worksheet (Circular 212 Method)



I/S #: **6**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Normandie Ave

East-West Street: 7th St

Scenario: Existing 2018

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0	0	NB-- 0	SB-- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0	0	EB-- 0	WB-- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	110	0	110	54	0	54
	Left-Through		0			0	
	Through	547	0	701	497	0	596
	Through-Right		0			0	
	Right	44	0	0	45	0	0
	Left-Through-Right		1			1	
SOUTHBOUND	Left	31	0	31	81	0	81
	Left-Through		1			1	
	Through	506	0	537	462	0	543
	Through-Right		0			0	
	Right	99	1	74	186	1	167
	Left-Through-Right		0			0	
EASTBOUND	Left	51	1	51	39	1	39
	Left-Through		0			0	
	Through	106	0	166	213	0	319
	Through-Right		1			1	
	Right	60	0	0	106	0	0
	Left-Through-Right		0			0	
WESTBOUND	Left	20	1	20	29	1	29
	Left-Through		0			0	
	Through	84	0	148	112	0	174
	Through-Right		1			1	
	Right	64	0	0	62	0	0
	Left-Through-Right		0			0	
CRITICAL VOLUMES				North-South: 732 East-West: 199 SUM: 931			North-South: 677 East-West: 348 SUM: 1025
VOLUME/CAPACITY (V/C) RATIO:				0.621			0.683
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.521			0.583
LEVEL OF SERVICE (LOS):				A			A

# Level of Service Worksheet (Circular 212 Method)



I/S #: **7**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Normandie Ave

East-West Street: 8th St

Scenario: Existing 2018

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
		No. of Phases			No. of Phases		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?				0			0
ATSAC-1 or ATSAC+ATCS-2?				0			0
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	61	0	61	55	0	55
	Left-Through		0			0	
	Through	567	0	651	497	0	583
	Through-Right		0			0	
	Right	23	0	0	31	0	0
	Left-Through-Right		1			1	
SOUTHBOUND	Left	58	0	58	39	0	39
	Left-Through		0			0	
	Through	530	0	622	497	0	572
	Through-Right		0			0	
	Right	34	0	0	36	0	0
	Left-Through-Right		1			1	
EASTBOUND	Left	47	0	47	34	0	34
	Left-Through		1			1	
	Through	682	0	469	847	0	529
	Through-Right		1			1	
	Right	68	0	469	74	0	529
	Left-Through-Right		0			0	
WESTBOUND	Left	36	0	36	57	0	57
	Left-Through		1			1	
	Through	721	0	462	694	0	494
	Through-Right		1			1	
	Right	59	0	462	65	0	494
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South:		709	North-South:		627
		East-West:		509	East-West:		586
		SUM:		1218	SUM:		1213
VOLUME/CAPACITY (V/C) RATIO:				0.812			0.809
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.712			0.709
LEVEL OF SERVICE (LOS):				C			C

# Level of Service Worksheet (Circular 212 Method)



I/S #: **8**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Normandie Ave

East-West Street: Olympic Blvd

Scenario: Existing 2018

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	138	1	138	86	1	86
	Left-Through		0			0	
	Through	882	2	441	653	2	327
	Through-Right		0			0	
	Right	93	1	67	115	1	84
	Left-Through-Right		0			0	
SOUTHBOUND	Left	82	1	82	91	1	91
	Left-Through		0			0	
	Through	653	2	327	895	2	448
	Through-Right		0			0	
	Right	74	1	50	56	1	28
	Left-Through-Right		0			0	
EASTBOUND	Left	49	1	49	56	1	56
	Left-Through		0			0	
	Through	1740	2	618	1764	2	625
	Through-Right		1			1	
	Right	113	0	113	110	0	110
	Left-Through-Right		0			0	
WESTBOUND	Left	53	1	53	63	1	63
	Left-Through		0			0	
	Through	1326	2	463	1359	2	479
	Through-Right		1			1	
	Right	63	0	63	77	0	77
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 523			North-South: 534		
		East-West: 671			East-West: 688		
		SUM: 1194			SUM: 1222		
VOLUME/CAPACITY (V/C) RATIO:		0.796			0.815		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.696			0.715		
LEVEL OF SERVICE (LOS):		B			C		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **9**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Mariposa Ave

**East-West Street:** 6th St

**Scenario:** Existing 2018

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	33	0	33	54	0	54
	Left-Through		0			0	
	Through	74	0	151	137	0	306
	Through-Right		0			0	
	Right	44	0	0	115	0	0
	Left-Through-Right		1			1	
SOUTHBOUND	Left	28	0	28	22	0	22
	Left-Through		0			0	
	Through	162	0	227	127	0	179
	Through-Right		0			0	
	Right	37	0	0	30	0	0
	Left-Through-Right		1			1	
EASTBOUND	Left	13	1	13	36	1	36
	Left-Through		0			0	
	Through	992	1	544	948	1	509
	Through-Right		1			1	
	Right	95	0	95	69	0	69
	Left-Through-Right		0			0	
WESTBOUND	Left	70	1	70	88	1	88
	Left-Through		0			0	
	Through	976	1	492	1042	1	543
	Through-Right		1			1	
	Right	7	0	7	44	0	44
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 260			North-South: 328		
		East-West: 614			East-West: 597		
		SUM: 874			SUM: 925		
VOLUME/CAPACITY (V/C) RATIO:		0.583			0.617		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.483			0.517		
LEVEL OF SERVICE (LOS):		A			A		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **10**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Mariposa Ave (N)

**Scenario:** Existing 2018

**Count Date:** 4/17/2018

**East-West Street:** Wilshire Blvd

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
SOUTHBOUND	Left	193	0	193	157	0	157
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	88	0	281	107	0	264
	Left-Through-Right		0			0	
EASTBOUND	Left	59	1	59	80	1	80
	Left-Through		0			0	
	Through	1289	2	645	1196	2	598
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1254	2	627	1187	2	594
	Through-Right		0			0	
	Right	173	1	173	188	1	188
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 281			North-South: 264		
		East-West: 686			East-West: 674		
		SUM: 967			SUM: 938		
VOLUME/CAPACITY (V/C) RATIO:		0.645			0.625		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.545			0.525		
LEVEL OF SERVICE (LOS):		A			A		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **11**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Mariposa Ave (S)

**East-West Street:** Wilshire Blvd

**Scenario:** Existing 2018

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	147	1	147	171	1	171
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	227	1	178	191	1	141
	Left-Through-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1280	2	640	1158	2	579
	Through-Right		0			0	
	Right	208	1	135	209	1	124
	Left-Through-Right		0			0	
WESTBOUND	Left	98	1	98	101	1	101
	Left-Through		0			0	
	Through	1288	2	644	1220	2	610
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 178			North-South: 171		
		East-West: 738			East-West: 680		
		SUM: 916			SUM: 851		
VOLUME/CAPACITY (V/C) RATIO:		0.611			0.567		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.511			0.467		
LEVEL OF SERVICE (LOS):		A			A		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **12**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Mariposa Ave

**East-West Street:** 8th St

**Scenario:** Existing 2018

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	5	0	5	6	0	6
	Left-Through		0			0	
	Through	88	0	103	62	0	84
	Through-Right		0			0	
	Right	10	0	0	16	0	0
	Left-Through-Right		1			1	
SOUTHBOUND	Left	99	0	99	185	0	185
	Left-Through		1			1	
	Through	34	0	133	79	0	264
	Through-Right		0			0	
	Right	63	1	63	67	1	67
	Left-Through-Right		0			0	
EASTBOUND	Left	25	0	25	31	0	31
	Left-Through		1			1	
	Through	783	0	449	926	0	533
	Through-Right		1			1	
	Right	15	0	449	16	0	533
	Left-Through-Right		0			0	
WESTBOUND	Left	29	0	29	22	0	22
	Left-Through		1			1	
	Through	775	0	527	812	0	501
	Through-Right		1			1	
	Right	163	0	527	101	0	501
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 202			North-South: 270		
		East-West: 552			East-West: 555		
		SUM: 754			SUM: 825		
VOLUME/CAPACITY (V/C) RATIO:		0.503			0.550		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.403			0.450		
LEVEL OF SERVICE (LOS):		A			A		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **13**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Vermont Ave

East-West Street: Wilshire Blvd

Scenario: Existing 2018

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
		No. of Phases			No. of Phases		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			4
Right Turns: FREE-1, NRTOR-2 or OLA-3?				0			0
ATSAC-1 or ATSAC+ATCS-2?				0			0
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	116	1	116	94	1	94
	Left-Through		0			0	
	Through	1028	2	370	1027	2	381
	Through-Right		1			1	
	Right	82	0	82	117	0	117
	Left-Through-Right		0			0	
SOUTHBOUND	Left	95	1	95	134	1	134
	Left-Through		0			0	
	Through	965	2	483	949	2	475
	Through-Right		0			0	
	Right	100	1	42	100	1	51
	Left-Through-Right		0			0	
EASTBOUND	Left	116	1	116	99	1	99
	Left-Through		0			0	
	Through	1111	2	556	939	2	470
	Through-Right		0			0	
	Right	229	1	171	122	1	75
	Left-Through-Right		0			0	
WESTBOUND	Left	111	1	111	140	1	140
	Left-Through		0			0	
	Through	1136	2	568	1004	2	502
	Through-Right		0			0	
	Right	62	1	15	90	1	23
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South:		599	North-South:		569
		East-West:		684	East-West:		610
		SUM:		1283	SUM:		1179
VOLUME/CAPACITY (V/C) RATIO:				0.933			0.857
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.833			0.757
LEVEL OF SERVICE (LOS):				D			C



# Level of Service Worksheet (Circular 212 Method)



I/S #: **14**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Vermont Ave

East-West Street: 8th St

Scenario: Existing 2018

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0	0	NB-- 0	SB-- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0	0	EB-- 0	WB-- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	95	1	95	62	1	62
	Left-Through		0			0	
	Through	1244	1	645	1089	1	573
	Through-Right		1			1	
	Right	45	0	45	56	0	56
	Left-Through-Right		0			0	
SOUTHBOUND	Left	46	1	46	62	1	62
	Left-Through		0			0	
	Through	1185	1	633	1095	1	586
	Through-Right		1			1	
	Right	80	0	80	77	0	77
	Left-Through-Right		0			0	
EASTBOUND	Left	2	0	0	1	0	0
	Left-Through		0			0	
	Through	677	1	388	804	1	479
	Through-Right		1			1	
	Right	99	0	99	154	0	154
	Left-Through-Right		0			0	
WESTBOUND	Left	2	0	0	4	0	0
	Left-Through		0			0	
	Through	736	1	396	690	1	385
	Through-Right		1			1	
	Right	55	0	55	80	0	80
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South:		728	North-South:		648
		East-West:		396	East-West:		479
		SUM:		1124	SUM:		1127
VOLUME/CAPACITY (V/C) RATIO:				0.749			0.751
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.649			0.651
LEVEL OF SERVICE (LOS):				B			B

# Level of Service Worksheet (Circular 212 Method)



I/S #: **1**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Western Ave

**East-West Street:** Wilshire Blvd

**Scenario:** Existing plus Project

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases		4			4		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	71	1	71	77	1	77
	Left-Through		0			0	
	Through	956	1	512	834	1	459
	Through-Right		1			1	
	Right	68	0	68	83	0	83
	Left-Through-Right		0			0	
SOUTHBOUND	Left	108	1	108	97	1	97
	Left-Through		0			0	
	Through	839	1	445	952	1	499
	Through-Right		1			1	
	Right	51	0	51	46	0	46
	Left-Through-Right		0			0	
EASTBOUND	Left	2	1	2	2	1	2
	Left-Through		0			0	
	Through	933	2	467	940	2	470
	Through-Right		0			0	
	Right	82	1	47	82	1	44
	Left-Through-Right		0			0	
WESTBOUND	Left	2	1	2	5	1	5
	Left-Through		0			0	
	Through	1016	2	508	852	2	426
	Through-Right		0			0	
	Right	55	1	1	91	1	43
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 620			North-South: 576		
		East-West: 510			East-West: 475		
		SUM: 1130			SUM: 1051		
VOLUME/CAPACITY (V/C) RATIO:		0.822			0.764		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.722			0.664		
LEVEL OF SERVICE (LOS):		C			B		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **2**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Western Ave

**East-West Street:** 8th St

**Scenario:** Existing plus Project

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	43	1	43	33	1	33
	Left-Through		0			0	
	Through	1091	1	560	933	1	484
	Through-Right		1			1	
	Right	28	0	28	35	0	35
	Left-Through-Right		0			0	
SOUTHBOUND	Left	74	1	74	102	1	102
	Left-Through		0			0	
	Through	943	1	490	1078	1	566
	Through-Right		1			1	
	Right	37	0	37	53	0	53
	Left-Through-Right		0			0	
EASTBOUND	Left	79	1	79	69	1	69
	Left-Through		0			0	
	Through	525	1	286	691	1	364
	Through-Right		1			1	
	Right	47	0	47	37	0	37
	Left-Through-Right		0			0	
WESTBOUND	Left	95	1	95	119	1	119
	Left-Through		0			0	
	Through	787	1	429	577	1	335
	Through-Right		1			1	
	Right	71	0	71	92	0	92
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 634			North-South: 599		
		East-West: 508			East-West: 483		
		SUM: 1142			SUM: 1082		
VOLUME/CAPACITY (V/C) RATIO:		0.761			0.721		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.661			0.621		
LEVEL OF SERVICE (LOS):		B			B		

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**3**

**PROJECT TITLE:** 3440 Wilshire Project  
**North-South Street:** Normandie Ave  
**Scenario:** Existing plus Project  
**Count Date:** 4/17/2018

**East-West Street:** 3rd St

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0	0	NB-- 0	SB-- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0	0	EB-- 0	WB-- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	2	0	0	2	0	0
	Left-Through		0			0	
	Through	497	1	273	725	1	400
	Through-Right		1			1	
	Right	49	0	49	75	0	75
	Left-Through-Right		0			0	
SOUTHBOUND	Left	4	0	0	2	0	0
	Left-Through		0			0	
	Through	846	1	484	523	1	305
	Through-Right		1			1	
	Right	121	0	121	86	0	86
	Left-Through-Right		0			0	
EASTBOUND	Left	58	1	58	101	1	101
	Left-Through		0			0	
	Through	1005	1	517	933	1	493
	Through-Right		1			1	
	Right	29	0	29	53	0	53
	Left-Through-Right		0			0	
WESTBOUND	Left	36	1	36	33	1	33
	Left-Through		0			0	
	Through	943	1	490	889	1	479
	Through-Right		1			1	
	Right	36	0	36	69	0	69
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South:		484	North-South:		400
		East-West:		553	East-West:		580
		SUM:		1037	SUM:		980
VOLUME/CAPACITY (V/C) RATIO:				0.728			0.688
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.628			0.588
LEVEL OF SERVICE (LOS):				B			A

# Level of Service Worksheet (Circular 212 Method)



I/S #: **4**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Normandie Ave

East-West Street: 6th St

Scenario: Existing plus Project

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	30	0	30	8	0	0
	Left-Through		1			0	
	Through	431	0	300	663	1	372
	Through-Right		1			1	
	Right	48	0	300	81	0	81
	Left-Through-Right		0			0	
SOUTHBOUND	Left	94	0	94	6	0	0
	Left-Through		1			0	
	Through	638	1	413	473	2	237
	Through-Right		0			0	
	Right	99	1	80	45	1	0
	Left-Through-Right		0			0	
EASTBOUND	Left	38	1	38	94	1	94
	Left-Through		0			0	
	Through	970	1	512	990	1	521
	Through-Right		1			1	
	Right	53	0	53	51	0	51
	Left-Through-Right		0			0	
WESTBOUND	Left	39	1	39	47	1	47
	Left-Through		0			0	
	Through	951	1	488	1003	1	543
	Through-Right		1			1	
	Right	25	0	25	83	0	83
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 443			North-South: 372		
		East-West: 551			East-West: 637		
		SUM: 994			SUM: 1009		
VOLUME/CAPACITY (V/C) RATIO:		0.663			0.673		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.563			0.573		
LEVEL OF SERVICE (LOS):		A			A		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **5**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Normandie Ave

East-West Street: Wilshire Blvd

Scenario: Existing plus Project

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases		3			3		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	50	0	50	49	0	49
	Left-Through		1			1	
	Through	409	1	305	534	1	316
	Through-Right		0			0	
	Right	119	1	55	102	1	47
	Left-Through-Right		0			0	
SOUTHBOUND	Left	75	0	75	83	0	83
	Left-Through		1			1	
	Through	558	1	354	453	1	393
	Through-Right		0			0	
	Right	93	1	79	89	1	38
	Left-Through-Right		0			0	
EASTBOUND	Left	28	1	28	102	1	102
	Left-Through		0			0	
	Through	1156	2	578	1166	2	583
	Through-Right		0			0	
	Right	89	1	89	72	1	72
	Left-Through-Right		0			0	
WESTBOUND	Left	129	1	129	111	1	111
	Left-Through		0			0	
	Through	1170	2	585	1144	2	572
	Through-Right		0			0	
	Right	48	1	48	81	1	81
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 404			North-South: 442		
		East-West: 707			East-West: 694		
		SUM: 1111			SUM: 1136		
VOLUME/CAPACITY (V/C) RATIO:		0.780			0.797		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.680			0.697		
LEVEL OF SERVICE (LOS):		B			B		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **6**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Normandie Ave

**East-West Street:** 7th St

**Scenario:** Existing plus Project

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	110	0	110	54	0	54
	Left-Through		0			0	
	Through	547	0	702	497	0	601
	Through-Right		0			0	
	Right	45	0	0	50	0	0
	Left-Through-Right		1			1	
SOUTHBOUND	Left	31	0	31	84	0	84
	Left-Through		1			1	
	Through	506	0	537	462	0	546
	Through-Right		0			0	
	Right	99	1	74	186	1	167
	Left-Through-Right		0			0	
EASTBOUND	Left	51	1	51	39	1	39
	Left-Through		0			0	
	Through	108	0	168	229	0	335
	Through-Right		1			1	
	Right	60	0	0	106	0	0
	Left-Through-Right		0			0	
WESTBOUND	Left	24	1	24	31	1	31
	Left-Through		0			0	
	Through	99	0	164	120	0	183
	Through-Right		1			1	
	Right	65	0	0	63	0	0
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 733			North-South: 685		
		East-West: 215			East-West: 366		
		SUM: 948			SUM: 1051		
VOLUME/CAPACITY (V/C) RATIO:		0.632			0.701		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.532			0.601		
LEVEL OF SERVICE (LOS):		A			B		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **7**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Normandie Ave

East-West Street: 8th St

Scenario: Existing plus Project

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	61	0	61	55	0	55
	Left-Through		0			0	
	Through	568	0	652	502	0	588
	Through-Right		0			0	
	Right	23	0	0	31	0	0
	Left-Through-Right		1			1	
SOUTHBOUND	Left	58	0	58	39	0	39
	Left-Through		0			0	
	Through	534	0	626	499	0	574
	Through-Right		0			0	
	Right	34	0	0	36	0	0
	Left-Through-Right		1			1	
EASTBOUND	Left	47	0	47	34	0	34
	Left-Through		1			1	
	Through	684	0	470	857	0	534
	Through-Right		1			1	
	Right	68	0	470	74	0	534
	Left-Through-Right		0			0	
WESTBOUND	Left	36	0	36	57	0	57
	Left-Through		1			1	
	Through	730	0	467	699	0	496
	Through-Right		1			1	
	Right	59	0	467	65	0	496
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 710			North-South: 629		
		East-West: 514			East-West: 591		
		SUM: 1224			SUM: 1220		
VOLUME/CAPACITY (V/C) RATIO:		0.816			0.813		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.716			0.713		
LEVEL OF SERVICE (LOS):		C			C		



# Level of Service Worksheet (Circular 212 Method)



I/S #: **8**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Normandie Ave

East-West Street: Olympic Blvd

Scenario: Existing plus Project

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0	0	NB-- 0	SB-- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0	0	EB-- 0	WB-- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	138	1	138	86	1	86
	Left-Through		0			0	
	Through	883	2	442	658	2	329
	Through-Right		0			0	
	Right	93	1	67	115	1	84
	Left-Through-Right		0			0	
SOUTHBOUND	Left	82	1	82	91	1	91
	Left-Through		0			0	
	Through	657	2	329	897	2	449
	Through-Right		0			0	
	Right	74	1	50	56	1	28
	Left-Through-Right		0			0	
EASTBOUND	Left	49	1	49	56	1	56
	Left-Through		0			0	
	Through	1741	2	618	1773	2	628
	Through-Right		1			1	
	Right	113	0	113	110	0	110
	Left-Through-Right		0			0	
WESTBOUND	Left	53	1	53	63	1	63
	Left-Through		0			0	
	Through	1334	2	466	1363	2	480
	Through-Right		1			1	
	Right	63	0	63	77	0	77
	Left-Through-Right		0			0	
CRITICAL VOLUMES				North-South: 524 East-West: 671 SUM: 1195			North-South: 535 East-West: 691 SUM: 1226
VOLUME/CAPACITY (V/C) RATIO:				0.797			0.817
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.697			0.717
LEVEL OF SERVICE (LOS):				B			C

# Level of Service Worksheet (Circular 212 Method)



I/S #: **9**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Mariposa Ave

**East-West Street:** 6th St

**Scenario:** Existing plus Project

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	39	0	39	57	0	57
	Left-Through		0			0	
	Through	80	0	163	140	0	312
	Through-Right		0			0	
	Right	44	0	0	115	0	0
	Left-Through-Right		1			1	
SOUTHBOUND	Left	28	0	28	22	0	22
	Left-Through		0			0	
	Through	163	0	228	133	0	185
	Through-Right		0			0	
	Right	37	0	0	30	0	0
	Left-Through-Right		1			1	
EASTBOUND	Left	13	1	13	36	1	36
	Left-Through		0			0	
	Through	992	1	544	948	1	512
	Through-Right		1			1	
	Right	96	0	96	75	0	75
	Left-Through-Right		0			0	
WESTBOUND	Left	70	1	70	88	1	88
	Left-Through		0			0	
	Through	976	1	492	1042	1	543
	Through-Right		1			1	
	Right	7	0	7	44	0	44
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 267			North-South: 334		
		East-West: 614			East-West: 600		
		SUM: 881			SUM: 934		
VOLUME/CAPACITY (V/C) RATIO:		0.587			0.623		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.487			0.523		
LEVEL OF SERVICE (LOS):		A			A		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **10**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Mariposa Ave (N)

**Scenario:** Existing plus Project

**Count Date:** 4/17/2018

**East-West Street:** Wilshire Blvd

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0	0	NB-- 0	SB-- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0	0	EB-- 0	WB-- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
SOUTHBOUND	Left	195	0	195	170	0	170
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	88	0	283	107	0	277
	Left-Through-Right		0			0	
EASTBOUND	Left	59	1	59	80	1	80
	Left-Through		0			0	
	Through	1291	2	646	1211	2	606
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1269	2	635	1195	2	598
	Through-Right		0			0	
	Right	184	1	184	194	1	194
	Left-Through-Right		0			0	
CRITICAL VOLUMES				North-South: 283 East-West: 694 SUM: 977			North-South: 277 East-West: 678 SUM: 955
VOLUME/CAPACITY (V/C) RATIO:				0.651			0.637
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.551			0.537
LEVEL OF SERVICE (LOS):				A			A

# Level of Service Worksheet (Circular 212 Method)



I/S #: **11**

**PROJECT TITLE:** 3440 Wilshire Project  
**North-South Street:** Mariposa Ave (S)  
**Scenario:** Existing plus Project  
**Count Date:** 4/17/2018

**East-West Street:** Wilshire Blvd

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
		No. of Phases			No. of Phases		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?				0			0
ATSAC-1 or ATSAC+ATCS-2?				0			0
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	173	1	173	185	1	185
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	249	1	198	203	1	140
	Left-Through-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1280	2	640	1158	2	579
	Through-Right		0			0	
	Right	212	1	126	237	1	145
	Left-Through-Right		0			0	
WESTBOUND	Left	102	1	102	126	1	126
	Left-Through		0			0	
	Through	1288	2	644	1220	2	610
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South:		198	North-South:		185
		East-West:		742	East-West:		705
		SUM:		940	SUM:		890
VOLUME/CAPACITY (V/C) RATIO:				0.627			0.593
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.527			0.493
LEVEL OF SERVICE (LOS):				A			A

# Level of Service Worksheet (Circular 212 Method)



I/S #: **12**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Mariposa Ave

**East-West Street:** 8th St

**Scenario:** Existing plus Project

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0	0	NB-- 0	SB-- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0	0	EB-- 0	WB-- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	5	0	5	6	0	6
	Left-Through		0			0	
	Through	92	0	107	86	0	108
	Through-Right		0			0	
	Right	10	0	0	16	0	0
	Left-Through-Right		1			1	
SOUTHBOUND	Left	112	0	112	192	0	192
	Left-Through		1			1	
	Through	55	0	167	91	0	283
	Through-Right		0			0	
	Right	72	1	72	72	1	72
	Left-Through-Right		0			0	
EASTBOUND	Left	27	0	27	41	0	41
	Left-Through		1			1	
	Through	783	0	453	926	0	553
	Through-Right		1			1	
	Right	15	0	453	16	0	553
	Left-Through-Right		0			0	
WESTBOUND	Left	29	0	29	22	0	22
	Left-Through		1			1	
	Through	775	0	528	812	0	508
	Through-Right		1			1	
	Right	165	0	528	116	0	508
	Left-Through-Right		0			0	
CRITICAL VOLUMES				North-South: 219 East-West: 555 SUM: 774			North-South: 300 East-West: 575 SUM: 875
VOLUME/CAPACITY (V/C) RATIO:				0.516			0.583
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.416			0.483
LEVEL OF SERVICE (LOS):				A			A

# Level of Service Worksheet (Circular 212 Method)



I/S #: **13**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Vermont Ave

East-West Street: Wilshire Blvd

Scenario: Existing plus Project

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0	0	NB-- 0	SB-- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0	0	EB-- 0	WB-- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	116	1	116	94	1	94
	Left-Through		0			0	
	Through	1028	2	370	1027	2	381
	Through-Right		1			1	
	Right	82	0	82	117	0	117
	Left-Through-Right		0			0	
SOUTHBOUND	Left	95	1	95	134	1	134
	Left-Through		0			0	
	Through	965	2	483	949	2	475
	Through-Right		0			0	
	Right	101	1	40	108	1	57
	Left-Through-Right		0			0	
EASTBOUND	Left	123	1	123	103	1	103
	Left-Through		0			0	
	Through	1121	2	561	944	2	472
	Through-Right		0			0	
	Right	229	1	171	122	1	75
	Left-Through-Right		0			0	
WESTBOUND	Left	111	1	111	140	1	140
	Left-Through		0			0	
	Through	1138	2	569	1015	2	508
	Through-Right		0			0	
	Right	62	1	15	90	1	23
	Left-Through-Right		0			0	
CRITICAL VOLUMES				North-South: 599 East-West: 692 SUM: 1291			North-South: 569 East-West: 612 SUM: 1181
VOLUME/CAPACITY (V/C) RATIO:				0.939			0.859
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.839			0.759
LEVEL OF SERVICE (LOS):				D			C

# Level of Service Worksheet (Circular 212 Method)



I/S #: 14

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Vermont Ave

East-West Street: 8th St

Scenario: Existing plus Project

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	96	1	96	68	1	68
	Left-Through		0			0	
	Through	1244	1	645	1089	1	573
	Through-Right		1			1	
	Right	45	0	45	56	0	56
	Left-Through-Right		0			0	
SOUTHBOUND	Left	46	1	46	62	1	62
	Left-Through		0			0	
	Through	1185	1	633	1095	1	586
	Through-Right		1			1	
	Right	80	0	80	77	0	77
	Left-Through-Right		0			0	
EASTBOUND	Left	2	0	0	1	0	0
	Left-Through		0			0	
	Through	685	1	395	808	1	483
	Through-Right		1			1	
	Right	105	0	105	157	0	157
	Left-Through-Right		0			0	
WESTBOUND	Left	2	0	0	4	0	0
	Left-Through		0			0	
	Through	737	1	396	699	1	390
	Through-Right		1			1	
	Right	55	0	55	80	0	80
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 729 East-West: 396 SUM: 1125			North-South: 654 East-West: 483 SUM: 1137		
VOLUME/CAPACITY (V/C) RATIO:		0.750			0.758		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.650			0.658		
LEVEL OF SERVICE (LOS):		B			B		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **1**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Western Ave

East-West Street: Wilshire Blvd

Scenario: Future Year 2026

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
		No. of Phases			No. of Phases		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			4
Right Turns: FREE-1, NRTOR-2 or OLA-3?				0			0
ATSAC-1 or ATSAC+ATCS-2?				0			0
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	87	1	87	92	1	92
	Left-Through		0			0	
	Through	1292	1	697	1126	1	634
	Through-Right		1			1	
	Right	101	0	101	141	0	141
	Left-Through-Right		0			0	
SOUTHBOUND	Left	134	1	134	123	1	123
	Left-Through		0			0	
	Through	1058	1	556	1325	1	693
	Through-Right		1			1	
	Right	54	0	54	60	0	60
	Left-Through-Right		0			0	
EASTBOUND	Left	9	1	9	7	1	7
	Left-Through		0			0	
	Through	1117	2	559	1219	2	610
	Through-Right		0			0	
	Right	103	1	60	107	1	61
	Left-Through-Right		0			0	
WESTBOUND	Left	42	1	42	35	1	35
	Left-Through		0			0	
	Through	1268	2	634	1073	2	537
	Through-Right		0			0	
	Right	73	1	6	118	1	57
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South:		831	North-South:		785
		East-West:		643	East-West:		645
		SUM:		1474	SUM:		1430
VOLUME/CAPACITY (V/C) RATIO:				1.072			1.040
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.972			0.940
LEVEL OF SERVICE (LOS):				E			E



# Level of Service Worksheet (Circular 212 Method)



I/S #: **2**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Western Ave

East-West Street: 8th St

Scenario: Future Year 2026

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	68	1	68	62	1	62
	Left-Through		0			0	
	Through	1390	1	737	1250	1	731
	Through-Right		1			1	
	Right	83	0	83	212	0	212
	Left-Through-Right		0			0	
SOUTHBOUND	Left	120	1	120	204	1	204
	Left-Through		0			0	
	Through	1209	1	625	1414	1	736
	Through-Right		1			1	
	Right	40	0	40	57	0	57
	Left-Through-Right		0			0	
EASTBOUND	Left	86	1	86	75	1	75
	Left-Through		0			0	
	Through	657	1	361	946	1	505
	Through-Right		1			1	
	Right	65	0	65	63	0	63
	Left-Through-Right		0			0	
WESTBOUND	Left	265	1	265	223	1	223
	Left-Through		0			0	
	Through	1017	1	587	766	1	466
	Through-Right		1			1	
	Right	157	0	157	165	0	165
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 857			North-South: 935		
		East-West: 673			East-West: 728		
		SUM: 1530			SUM: 1663		
VOLUME/CAPACITY (V/C) RATIO:		1.020			1.109		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.920			1.009		
LEVEL OF SERVICE (LOS):		E			F		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **3**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Normandie Ave

East-West Street: 3rd St

Scenario: Future Year 2026

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases		3			3		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	2	0	0	2	0	0
	Left-Through		0			0	
	Through	706	1	423	950	1	574
	Through-Right		1			1	
	Right	139	0	139	198	0	198
	Left-Through-Right		0			0	
SOUTHBOUND	Left	4	0	0	2	0	0
	Left-Through		0			0	
	Through	1018	1	575	780	1	437
	Through-Right		1			1	
	Right	131	0	131	93	0	93
	Left-Through-Right		0			0	
EASTBOUND	Left	63	1	63	109	1	109
	Left-Through		0			0	
	Through	1182	1	628	1136	1	637
	Through-Right		1			1	
	Right	74	0	74	138	0	138
	Left-Through-Right		0			0	
WESTBOUND	Left	120	1	120	163	1	163
	Left-Through		0			0	
	Through	1109	1	580	1081	1	582
	Through-Right		1			1	
	Right	51	0	51	82	0	82
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 575 East-West: 748 SUM: 1323			North-South: 574 East-West: 800 SUM: 1374		
VOLUME/CAPACITY (V/C) RATIO:		0.928			0.964		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.828			0.864		
LEVEL OF SERVICE (LOS):		D			D		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **4**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Normandie Ave

East-West Street: 6th St

Scenario: Future Year 2026

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	32	0	32	9	0	0
	Left-Through		1			0	
	Through	620	0	401	933	1	511
	Through-Right		1			1	
	Right	53	0	401	88	0	88
	Left-Through-Right		0			0	
SOUTHBOUND	Left	102	0	102	6	0	0
	Left-Through		1			0	
	Through	887	1	648	800	2	400
	Through-Right		0			0	
	Right	107	1	87	49	1	0
	Left-Through-Right		0			0	
EASTBOUND	Left	41	1	41	102	1	102
	Left-Through		0			0	
	Through	1165	1	611	1221	1	638
	Through-Right		1			1	
	Right	57	0	57	55	0	55
	Left-Through-Right		0			0	
WESTBOUND	Left	42	1	42	52	1	52
	Left-Through		0			0	
	Through	1136	1	582	1247	1	669
	Through-Right		1			1	
	Right	27	0	27	90	0	90
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 680 East-West: 653 SUM: 1333			North-South: 511 East-West: 771 SUM: 1282		
VOLUME/CAPACITY (V/C) RATIO:		0.889			0.855		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.789			0.755		
LEVEL OF SERVICE (LOS):		C			C		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **5**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Normandie Ave

East-West Street: Wilshire Blvd

Scenario: Future Year 2026

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases		3			3		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	67	0	67	86	0	86
	Left-Through		1			1	
	Through	521	1	395	721	1	533
	Through-Right		0			0	
	Right	153	1	64	155	1	76
	Left-Through-Right		0			0	
SOUTHBOUND	Left	151	0	151	215	0	215
	Left-Through		1			1	
	Through	712	1	658	610	1	610
	Through-Right		0			0	
	Right	120	1	85	138	1	68
	Left-Through-Right		0			0	
EASTBOUND	Left	70	1	70	140	1	140
	Left-Through		0			0	
	Through	1432	2	716	1429	2	715
	Through-Right		0			0	
	Right	133	1	133	103	1	103
	Left-Through-Right		0			0	
WESTBOUND	Left	179	1	179	159	1	159
	Left-Through		0			0	
	Through	1451	2	726	1523	2	762
	Through-Right		0			0	
	Right	90	1	90	129	1	22
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 725			North-South: 748		
		East-West: 895			East-West: 902		
		SUM: 1620			SUM: 1650		
VOLUME/CAPACITY (V/C) RATIO:		1.137			1.158		
V/C LESS ATSAC/ATCS ADJUSTMENT:		1.037			1.058		
LEVEL OF SERVICE (LOS):		F			F		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **6**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Normandie Ave

East-West Street: 7th St

Scenario: Future Year 2026

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	126	0	126	76	0	76
	Left-Through		0			0	
	Through	708	0	882	760	0	885
	Through-Right		0			0	
	Right	48	0	0	49	0	0
	Left-Through-Right		1			1	
SOUTHBOUND	Left	34	0	34	88	0	88
	Left-Through		1			1	
	Through	732	0	766	687	0	775
	Through-Right		0			0	
	Right	107	1	80	201	1	180
	Left-Through-Right		0			0	
EASTBOUND	Left	55	1	55	42	1	42
	Left-Through		0			0	
	Through	122	0	197	237	0	359
	Through-Right		1			1	
	Right	75	0	0	122	0	0
	Left-Through-Right		0			0	
WESTBOUND	Left	22	1	22	31	1	31
	Left-Through		0			0	
	Through	95	0	164	129	0	196
	Through-Right		1			1	
	Right	69	0	0	67	0	0
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 916			North-South: 973		
		East-West: 219			East-West: 390		
		SUM: 1135			SUM: 1363		
VOLUME/CAPACITY (V/C) RATIO:		0.757			0.909		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.657			0.809		
LEVEL OF SERVICE (LOS):		B			D		

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**7**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Normandie Ave

**East-West Street:** 8th St

**Scenario:** Future Year 2026

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0	0	NB-- 0	SB-- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0	0	EB-- 0	WB-- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	83	0	83	134	0	134
	Left-Through		0			0	
	Through	722	0	871	767	0	1044
	Through-Right		0			0	
	Right	66	0	0	143	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	68	0	68	58	0	58
	Left-Through		0			0	
	Through	762	0	868	715	0	814
	Through-Right		0			0	
	Right	38	0	0	41	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
EASTBOUND	Left	52	0	52	38	0	38
	Left-Through		1			1	
	Through	927	0	696	1185	0	767
	Through-Right		1			1	
	Right	152	0	696	120	0	767
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	134	0	134	131	0	131
	Left-Through		1			1	
	Through	977	0	930	992	0	929
	Through-Right		1			1	
	Right	78	0	930	80	0	929
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES		North-South: 951		North-South: 1102			
		East-West: 982		East-West: 967			
		SUM: 1933		SUM: 2069			
VOLUME/CAPACITY (V/C) RATIO:		1.289		1.379			
V/C LESS ATSAC/ATCS ADJUSTMENT:		1.189		1.279			
LEVEL OF SERVICE (LOS):		F		F			

# Level of Service Worksheet (Circular 212 Method)



I/S #: **8**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Normandie Ave

**East-West Street:** Olympic Blvd

**Scenario:** Future Year 2026

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	191	1	191	161	1	161
	Left-Through		0			0	
	Through	1102	2	551	1054	2	527
	Through-Right		0			0	
	Right	130	1	76	185	1	130
	Left-Through-Right		0			0	
SOUTHBOUND	Left	129	1	129	120	1	120
	Left-Through		0			0	
	Through	999	2	500	1214	2	607
	Through-Right		0			0	
	Right	148	1	87	146	1	72
	Left-Through-Right		0			0	
EASTBOUND	Left	122	1	122	149	1	149
	Left-Through		0			0	
	Through	2200	2	794	2341	2	840
	Through-Right		1			1	
	Right	182	0	182	178	0	178
	Left-Through-Right		0			0	
WESTBOUND	Left	108	1	108	111	1	111
	Left-Through		0			0	
	Through	1783	2	620	1858	2	659
	Through-Right		1			1	
	Right	77	0	77	120	0	120
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 691			North-South: 768		
		East-West: 902			East-West: 951		
		SUM: 1593			SUM: 1719		
VOLUME/CAPACITY (V/C) RATIO:		1.062			1.146		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.962			1.046		
LEVEL OF SERVICE (LOS):		E			F		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **9**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Mariposa Ave

East-West Street: 6th St

Scenario: Future Year 2026

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	36	0	36	58	0	58
	Left-Through		0			0	
	Through	80	0	164	148	0	331
	Through-Right		0			0	
	Right	48	0	0	125	0	0
	Left-Through-Right		1			1	
SOUTHBOUND	Left	30	0	30	24	0	24
	Left-Through		0			0	
	Through	175	0	245	138	0	194
	Through-Right		0			0	
	Right	40	0	0	32	0	0
	Left-Through-Right		1			1	
EASTBOUND	Left	14	1	14	39	1	39
	Left-Through		0			0	
	Through	1191	1	647	1182	1	629
	Through-Right		1			1	
	Right	103	0	103	75	0	75
	Left-Through-Right		0			0	
WESTBOUND	Left	76	1	76	95	1	95
	Left-Through		0			0	
	Through	1170	1	589	1292	1	670
	Through-Right		1			1	
	Right	8	0	8	48	0	48
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 281			North-South: 355		
		East-West: 723			East-West: 724		
		SUM: 1004			SUM: 1079		
VOLUME/CAPACITY (V/C) RATIO:		0.669			0.719		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.569			0.619		
LEVEL OF SERVICE (LOS):		A			B		



# Level of Service Worksheet (Circular 212 Method)



I/S #: **10**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Mariposa Ave (N)

East-West Street: Wilshire Blvd

Scenario: Future Year 2026

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0	0	NB-- 0	SB-- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0	0	EB-- 0	WB-- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
SOUTHBOUND	Left	209	0	209	170	0	170
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	95	0	304	116	0	286
	Left-Through-Right		0			0	
EASTBOUND	Left	64	1	64	87	1	87
	Left-Through		0			0	
	Through	1672	2	836	1648	2	824
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1633	2	817	1657	2	829
	Through-Right		0			0	
	Right	187	1	187	204	1	204
	Left-Through-Right		0			0	
CRITICAL VOLUMES				North-South: 304 East-West: 881 SUM: 1185			North-South: 286 East-West: 916 SUM: 1202
VOLUME/CAPACITY (V/C) RATIO:				0.790			0.801
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.690			0.701
LEVEL OF SERVICE (LOS):				B			C

# Level of Service Worksheet (Circular 212 Method)



I/S #: **11**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Mariposa Ave (S)

East-West Street: Wilshire Blvd

Scenario: Future Year 2026

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	159	1	159	185	1	185
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	249	1	194	210	1	154
	Left-Through-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1662	2	831	1607	2	804
	Through-Right		0			0	
	Right	225	1	146	226	1	134
	Left-Through-Right		0			0	
WESTBOUND	Left	110	1	110	113	1	113
	Left-Through		0			0	
	Through	1670	2	835	1693	2	847
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 194			North-South: 185		
		East-West: 941			East-West: 917		
		SUM: 1135			SUM: 1102		
VOLUME/CAPACITY (V/C) RATIO:		0.757			0.735		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.657			0.635		
LEVEL OF SERVICE (LOS):		B			B		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **12**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Mariposa Ave

**East-West Street:** 8th St

**Scenario:** Future Year 2026

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	5	0	5	6	0	6
	Left-Through		0			0	
	Through	95	0	111	67	0	90
	Through-Right		0			0	
	Right	11	0	0	17	0	0
	Left-Through-Right		1			1	
SOUTHBOUND	Left	114	0	114	206	0	206
	Left-Through		1			1	
	Through	41	0	155	90	0	296
	Through-Right		0			0	
	Right	68	1	68	73	1	73
	Left-Through-Right		0			0	
EASTBOUND	Left	30	0	30	37	0	37
	Left-Through		1			1	
	Through	1079	0	638	1393	0	816
	Through-Right		1			1	
	Right	16	0	638	17	0	816
	Left-Through-Right		0			0	
WESTBOUND	Left	31	0	31	24	0	24
	Left-Through		1			1	
	Through	1144	0	756	1198	0	730
	Through-Right		1			1	
	Right	181	0	756	117	0	730
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 225			North-South: 302		
		East-West: 786			East-West: 840		
		SUM: 1011			SUM: 1142		
VOLUME/CAPACITY (V/C) RATIO:		0.674			0.761		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.574			0.661		
LEVEL OF SERVICE (LOS):		A			B		

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**13**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Vermont Ave

**East-West Street:** Wilshire Blvd

**Scenario:** Future Year 2026

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0	0	NB-- 0	SB-- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0	0	EB-- 0	WB-- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	172	1	172	192	1	192
	Left-Through		0			0	
	Through	1319	2	481	1368	2	521
	Through-Right		1			1	
	Right	124	0	124	196	0	196
	Left-Through-Right		0			0	
SOUTHBOUND	Left	124	1	124	190	1	190
	Left-Through		0			0	
	Through	1262	2	631	1289	2	645
	Through-Right		0			0	
	Right	175	1	54	238	1	125
	Left-Through-Right		0			0	
EASTBOUND	Left	242	1	242	226	1	226
	Left-Through		0			0	
	Through	1422	2	711	1228	2	614
	Through-Right		0			0	
	Right	326	1	240	211	1	115
	Left-Through-Right		0			0	
WESTBOUND	Left	185	1	185	191	1	191
	Left-Through		0			0	
	Through	1371	2	686	1342	2	671
	Through-Right		0			0	
	Right	109	1	47	122	1	27
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 803		North-South: 837			
		East-West: 928		East-West: 897			
		SUM: 1731		SUM: 1734			
VOLUME/CAPACITY (V/C) RATIO:		1.259		1.261			
V/C LESS ATSAC/ATCS ADJUSTMENT:		1.159		1.161			
LEVEL OF SERVICE (LOS):		F		F			

I/S #: 14

PROJECT TITLE: 3440 Wilshire Project  
 North-South Street: Vermont Ave  
 Scenario: Future Year 2026  
 Count Date: 4/17/2018

East-West Street: 8th St

Analyst: Fehr & Peers

Date:

		AM			PM		
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?							
Right Turns: FREE-1, NRTOR-2 or OLA-3?							
ATSAC-1 or ATSAC+ATCS-2?							
Override Capacity							
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	124	1	124	130	1	130
	Left-Through		0			0	
	Through	1674	1	862	1776	1	919
	Through-Right		1			1	
	Right	49	0	49	61	0	61
	Left-Through-Right		0			0	
SOUTHBOUND	Left	70	1	70	114	1	114
	Left-Through		0			0	
	Through	1797	1	942	1652	1	868
	Through-Right		1			1	
	Right	87	0	87	84	0	84
	Left-Through-Right		0			0	
EASTBOUND	Left	2	0	0	1	0	0
	Left-Through		0			0	
	Through	957	1	561	1166	1	686
	Through-Right		1			1	
	Right	164	0	164	205	0	205
	Left-Through-Right		0			0	
WESTBOUND	Left	2	0	0	4	0	0
	Left-Through		0			0	
	Through	1008	1	553	1033	1	576
	Through-Right		1			1	
	Right	98	0	98	118	0	118
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South:		1066	North-South:		1033
		East-West:		561	East-West:		686
		SUM:		1627	SUM:		1719
VOLUME/CAPACITY (V/C) RATIO:				1.085			1.146
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.985			1.046
LEVEL OF SERVICE (LOS):				E			F

# Level of Service Worksheet (Circular 212 Method)



I/S #: **1**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Western Ave

**East-West Street:** Wilshire Blvd

**Scenario:** Future plus Project

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases		4			4		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	87	1	87	92	1	92
	Left-Through		0			0	
	Through	1292	1	697	1126	1	634
	Through-Right		1			1	
	Right	101	0	101	141	0	141
	Left-Through-Right		0			0	
SOUTHBOUND	Left	134	1	134	126	1	126
	Left-Through		0			0	
	Through	1058	1	556	1325	1	693
	Through-Right		1			1	
	Right	54	0	54	60	0	60
	Left-Through-Right		0			0	
EASTBOUND	Left	9	1	9	7	1	7
	Left-Through		0			0	
	Through	1118	2	559	1228	2	614
	Through-Right		0			0	
	Right	103	1	60	107	1	61
	Left-Through-Right		0			0	
WESTBOUND	Left	42	1	42	35	1	35
	Left-Through		0			0	
	Through	1276	2	638	1077	2	539
	Through-Right		0			0	
	Right	75	1	8	119	1	56
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 831			North-South: 785		
		East-West: 647			East-West: 649		
		SUM: 1478			SUM: 1434		
VOLUME/CAPACITY (V/C) RATIO:		1.075			1.043		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.975			0.943		
LEVEL OF SERVICE (LOS):		E			E		

# Level of Service Worksheet (Circular 212 Method)



I/S #: **2**

PROJECT TITLE: 3440 Wilshire Project

North-South Street: Western Ave

East-West Street: 8th St

Scenario: Future plus Project

Count Date: 4/17/2018

Analyst: Fehr & Peers

Date:

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	68	1	68	62	1	62
	Left-Through		0			0	
	Through	1390	1	737	1250	1	733
	Through-Right		1			1	
	Right	84	0	84	216	0	216
	Left-Through-Right		0			0	
SOUTHBOUND	Left	120	1	120	204	1	204
	Left-Through		0			0	
	Through	1209	1	625	1414	1	736
	Through-Right		1			1	
	Right	40	0	40	57	0	57
	Left-Through-Right		0			0	
EASTBOUND	Left	86	1	86	75	1	75
	Left-Through		0			0	
	Through	657	1	361	949	1	506
	Through-Right		1			1	
	Right	65	0	65	63	0	63
	Left-Through-Right		0			0	
WESTBOUND	Left	269	1	269	225	1	225
	Left-Through		0			0	
	Through	1020	1	589	768	1	467
	Through-Right		1			1	
	Right	157	0	157	165	0	165
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 857			North-South: 937		
		East-West: 675			East-West: 731		
		SUM: 1532			SUM: 1668		
VOLUME/CAPACITY (V/C) RATIO:		1.021			1.112		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.921			1.012		
LEVEL OF SERVICE (LOS):		E			F		

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**3**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Normandie Ave

**East-West Street:** 3rd St

**Scenario:** Future plus Project

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
		No. of Phases			No. of Phases		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				3			3
Right Turns: FREE-1, NRTOR-2 or OLA-3?				0			0
ATSAC-1 or ATSAC+ATCS-2?				0			0
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	2	0	0	2	0	0
	Left-Through		0			0	
	Through	710	1	425	952	1	575
	Through-Right		1			1	
	Right	139	0	139	198	0	198
	Left-Through-Right		0			0	
SOUTHBOUND	Left	4	0	0	2	0	0
	Left-Through		0			0	
	Through	1019	1	575	785	1	439
	Through-Right		1			1	
	Right	131	0	131	93	0	93
	Left-Through-Right		0			0	
EASTBOUND	Left	63	1	63	109	1	109
	Left-Through		0			0	
	Through	1182	1	628	1137	1	638
	Through-Right		1			1	
	Right	74	0	74	138	0	138
	Left-Through-Right		0			0	
WESTBOUND	Left	120	1	120	163	1	163
	Left-Through		0			0	
	Through	1110	1	581	1082	1	582
	Through-Right		1			1	
	Right	51	0	51	82	0	82
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South:		575	North-South:		575
		East-West:		748	East-West:		801
		SUM:		1323	SUM:		1376
VOLUME/CAPACITY (V/C) RATIO:				0.928			0.966
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.828			0.866
LEVEL OF SERVICE (LOS):				D			D



# Level of Service Worksheet (Circular 212 Method)



I/S #: **4**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Normandie Ave

**East-West Street:** 6th St

**Scenario:** Future plus Project

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?				0			0
ATSAC-1 or ATSAC+ATCS-2?				0			0
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	32	0	32	9	0	0
	Left-Through		1			0	
	Through	624	0	403	935	1	512
	Through-Right		1			1	
	Right	53	0	403	88	0	88
	Left-Through-Right		0			0	
SOUTHBOUND	Left	102	0	102	6	0	0
	Left-Through		1			0	
	Through	888	1	648	805	2	403
	Through-Right		0			0	
	Right	107	1	87	49	1	0
	Left-Through-Right		0			0	
EASTBOUND	Left	41	1	41	102	1	102
	Left-Through		0			0	
	Through	1166	1	612	1227	1	641
	Through-Right		1			1	
	Right	57	0	57	55	0	55
	Left-Through-Right		0			0	
WESTBOUND	Left	42	1	42	52	1	52
	Left-Through		0			0	
	Through	1142	1	585	1250	1	670
	Through-Right		1			1	
	Right	27	0	27	90	0	90
	Left-Through-Right		0			0	
CRITICAL VOLUMES							
				North-South: 680			North-South: 512
				East-West: 654			East-West: 772
				SUM: 1334			SUM: 1284
VOLUME/CAPACITY (V/C) RATIO:				0.889			0.856
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.789			0.756
LEVEL OF SERVICE (LOS):				C			C

# Level of Service Worksheet (Circular 212 Method)



I/S #: **5**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Normandie Ave

**East-West Street:** Wilshire Blvd

**Scenario:** Future plus Project

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0	0	NB-- 0	SB-- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0	0	EB-- 0	WB-- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	67	0	67	86	0	86
	Left-Through		1			1	
	Through	522	1	395	722	1	533
	Through-Right		0			0	
	Right	153	1	64	155	1	76
	Left-Through-Right		0			0	
SOUTHBOUND	Left	151	0	151	218	0	218
	Left-Through		1			1	
	Through	712	1	658	613	1	613
	Through-Right		0			0	
	Right	120	1	85	138	1	68
	Left-Through-Right		0			0	
EASTBOUND	Left	70	1	70	140	1	140
	Left-Through		0			0	
	Through	1434	2	717	1442	2	721
	Through-Right		0			0	
	Right	133	1	133	103	1	103
	Left-Through-Right		0			0	
WESTBOUND	Left	179	1	179	159	1	159
	Left-Through		0			0	
	Through	1462	2	731	1529	2	765
	Through-Right		0			0	
	Right	93	1	93	131	1	22
	Left-Through-Right		0			0	
CRITICAL VOLUMES				North-South: 725 East-West: 896 SUM: 1621			North-South: 751 East-West: 905 SUM: 1656
VOLUME/CAPACITY (V/C) RATIO:				1.138			1.162
V/C LESS ATSAC/ATCS ADJUSTMENT:				1.038			1.062
LEVEL OF SERVICE (LOS):				F			F

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**6**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Normandie Ave

**East-West Street:** 7th St

**Scenario:** Future plus Project

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
		No. of Phases			No. of Phases		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?				0			0
ATSAC-1 or ATSAC+ATCS-2?				0			0
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	126	0	126	76	0	76
	Left-Through		0			0	
	Through	708	0	883	760	0	890
	Through-Right		0			0	
	Right	49	0	0	54	0	0
	Left-Through-Right		1			1	
SOUTHBOUND	Left	34	0	34	91	0	91
	Left-Through		1			1	
	Through	732	0	766	687	0	778
	Through-Right		0			0	
	Right	107	1	80	201	1	180
	Left-Through-Right		0			0	
EASTBOUND	Left	55	1	55	42	1	42
	Left-Through		0			0	
	Through	124	0	199	253	0	375
	Through-Right		1			1	
	Right	75	0	0	122	0	0
	Left-Through-Right		0			0	
WESTBOUND	Left	26	1	26	33	1	33
	Left-Through		0			0	
	Through	110	0	180	137	0	205
	Through-Right		1			1	
	Right	70	0	0	68	0	0
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South:		917	North-South:		981
		East-West:		235	East-West:		408
		SUM:		1152	SUM:		1389
VOLUME/CAPACITY (V/C) RATIO:				0.768			0.926
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.668			0.826
LEVEL OF SERVICE (LOS):				B			D

# Level of Service Worksheet (Circular 212 Method)



I/S #: **7**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Normandie Ave

**East-West Street:** 8th St

**Scenario:** Future plus Project

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0	0	NB-- 0	SB-- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0	0	EB-- 0	WB-- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	83	0	83	134	0	134
	Left-Through		0			0	
	Through	723	0	872	772	0	1049
	Through-Right		0			0	
	Right	66	0	0	143	0	0
	Left-Through-Right		1			1	
SOUTHBOUND	Left	68	0	68	58	0	58
	Left-Through		0			0	
	Through	766	0	872	717	0	816
	Through-Right		0			0	
	Right	38	0	0	41	0	0
	Left-Through-Right		1			1	
EASTBOUND	Left	52	0	52	38	0	38
	Left-Through		1			1	
	Through	929	0	697	1195	0	772
	Through-Right		1			1	
	Right	152	0	697	120	0	772
	Left-Through-Right		0			0	
WESTBOUND	Left	134	0	134	131	0	131
	Left-Through		1			1	
	Through	986	0	934	997	0	932
	Through-Right		1			1	
	Right	78	0	934	80	0	932
	Left-Through-Right		0			0	
CRITICAL VOLUMES				North-South: 955 East-West: 986 SUM: 1941			North-South: 1107 East-West: 970 SUM: 2077
VOLUME/CAPACITY (V/C) RATIO:				1.294			1.385
V/C LESS ATSAC/ATCS ADJUSTMENT:				1.194			1.285
LEVEL OF SERVICE (LOS):				F			F

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**8**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Normandie Ave

**East-West Street:** Olympic Blvd

**Scenario:** Future plus Project

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
		No. of Phases			No. of Phases		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?				0			0
ATSAC-1 or ATSAC+ATCS-2?				0			0
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	191	1	191	161	1	161
	Left-Through		0			0	
	Through	1103	2	552	1059	2	530
	Through-Right		0			0	
	Right	130	1	76	185	1	130
	Left-Through-Right		0			0	
SOUTHBOUND	Left	129	1	129	120	1	120
	Left-Through		0			0	
	Through	1003	2	502	1216	2	608
	Through-Right		0			0	
	Right	148	1	87	146	1	72
	Left-Through-Right		0			0	
EASTBOUND	Left	122	1	122	149	1	149
	Left-Through		0			0	
	Through	2201	2	794	2350	2	843
	Through-Right		1			1	
	Right	182	0	182	178	0	178
	Left-Through-Right		0			0	
WESTBOUND	Left	108	1	108	111	1	111
	Left-Through		0			0	
	Through	1791	2	623	1862	2	661
	Through-Right		1			1	
	Right	77	0	77	120	0	120
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South:		693	North-South:		769
		East-West:		902	East-West:		954
		SUM:		1595	SUM:		1723
VOLUME/CAPACITY (V/C) RATIO:				1.063			1.149
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.963			1.049
LEVEL OF SERVICE (LOS):				E			F

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**9**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Mariposa Ave

**East-West Street:** 6th St

**Scenario:** Future plus Project

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0	0	NB-- 0	SB-- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0	0	EB-- 0	WB-- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	42	0	42	61	0	61
	Left-Through		0			0	
	Through	86	0	176	151	0	337
	Through-Right		0			0	
	Right	48	0	0	125	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	30	0	30	24	0	24
	Left-Through		0			0	
	Through	176	0	246	144	0	200
	Through-Right		0			0	
	Right	40	0	0	32	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
EASTBOUND	Left	14	1	14	39	1	39
	Left-Through		0			0	
	Through	1191	1	648	1182	1	632
	Through-Right		1			1	
	Right	104	0	104	81	0	81
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	76	1	76	95	1	95
	Left-Through		0			0	
	Through	1170	1	589	1292	1	670
	Through-Right		1			1	
	Right	8	0	8	48	0	48
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES		North-South: 288		North-South: 361			
		East-West: 724		East-West: 727			
		SUM: 1012		SUM: 1088			
VOLUME/CAPACITY (V/C) RATIO:		0.675		0.725			
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.575		0.625			
LEVEL OF SERVICE (LOS):		A		B			

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**10**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Mariposa Ave (N)

**Scenario:** Future plus Project

**Count Date:** 4/17/2018

**East-West Street:** Wilshire Blvd

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
		No. of Phases			No. of Phases		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?				0			0
ATSAC-1 or ATSAC+ATCS-2?				0			0
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
SOUTHBOUND	Left	211	0	211	183	0	183
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	95	0	306	116	0	299
	Left-Through-Right		0			0	
EASTBOUND	Left	64	1	64	87	1	87
	Left-Through		0			0	
	Through	1674	2	837	1663	2	832
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1648	2	824	1665	2	833
	Through-Right		0			0	
	Right	198	1	198	210	1	210
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South:		306	North-South:		299
		East-West:		888	East-West:		920
		SUM:		1194	SUM:		1219
VOLUME/CAPACITY (V/C) RATIO:				0.796			0.813
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.696			0.713
LEVEL OF SERVICE (LOS):				B			C

# Level of Service Worksheet (Circular 212 Method)



I/S #: **11**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Mariposa Ave (S)

**Scenario:** Future plus Project

**Count Date:** 4/17/2018

**East-West Street:** Wilshire Blvd

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases		2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	185	1	185	199	1	199
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	271	1	214	222	1	153
	Left-Through-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1662	2	831	1607	2	804
	Through-Right		0			0	
	Right	229	1	137	254	1	155
	Left-Through-Right		0			0	
WESTBOUND	Left	114	1	114	138	1	138
	Left-Through		0			0	
	Through	1670	2	835	1693	2	847
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 214			North-South: 199		
		East-West: 945			East-West: 942		
		SUM: 1159			SUM: 1141		
VOLUME/CAPACITY (V/C) RATIO:		0.773			0.761		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.673			0.661		
LEVEL OF SERVICE (LOS):		B			B		



# Level of Service Worksheet (Circular 212 Method)



I/S #: **12**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Mariposa Ave

**East-West Street:** 8th St

**Scenario:** Future plus Project

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0	0	NB-- 0	SB-- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0	0	EB-- 0	WB-- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	5	0	5	6	0	6
	Left-Through		0			0	
	Through	99	0	115	91	0	114
	Through-Right		0			0	
	Right	11	0	0	17	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	127	0	127	213	0	213
	Left-Through		1			1	
	Through	62	0	189	102	0	315
	Through-Right		0			0	
	Right	77	1	77	78	1	78
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	32	0	32	47	0	47
	Left-Through		1			1	
	Through	1079	0	644	1393	0	846
	Through-Right		1			1	
	Right	16	0	644	17	0	846
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	31	0	31	24	0	24
	Left-Through		1			1	
	Through	1144	0	757	1198	0	737
	Through-Right		1			1	
	Right	183	0	757	132	0	737
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES		North-South: 242		North-South: 327			
		East-West: 789		East-West: 870			
		SUM: 1031		SUM: 1197			
VOLUME/CAPACITY (V/C) RATIO:		0.687		0.798			
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.587		0.698			
LEVEL OF SERVICE (LOS):		A		B			

# Level of Service Worksheet (Circular 212 Method)



I/S #: **13**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Vermont Ave

**East-West Street:** Wilshire Blvd

**Scenario:** Future plus Project

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0	0	NB-- 0	SB-- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0	0	EB-- 0	WB-- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	172	1	172	192	1	192
	Left-Through		0			0	
	Through	1319	2	481	1368	2	521
	Through-Right		1			1	
	Right	124	0	124	196	0	196
	Left-Through-Right		0			0	
SOUTHBOUND	Left	124	1	124	190	1	190
	Left-Through		0			0	
	Through	1262	2	631	1289	2	645
	Through-Right		0			0	
	Right	176	1	52	246	1	131
	Left-Through-Right		0			0	
EASTBOUND	Left	249	1	249	230	1	230
	Left-Through		0			0	
	Through	1432	2	716	1233	2	617
	Through-Right		0			0	
	Right	326	1	240	211	1	115
	Left-Through-Right		0			0	
WESTBOUND	Left	185	1	185	191	1	191
	Left-Through		0			0	
	Through	1373	2	687	1353	2	677
	Through-Right		0			0	
	Right	109	1	47	122	1	27
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South: 803		North-South: 837			
		East-West: 936		East-West: 907			
		SUM: 1739		SUM: 1744			
VOLUME/CAPACITY (V/C) RATIO:		1.265		1.268			
V/C LESS ATSAC/ATCS ADJUSTMENT:		1.165		1.168			
LEVEL OF SERVICE (LOS):		F		F			

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**14**

**PROJECT TITLE:** 3440 Wilshire Project

**North-South Street:** Vermont Ave

**East-West Street:** 8th St

**Scenario:** Future plus Project

**Count Date:** 4/17/2018

**Analyst:** Fehr & Peers

**Date:**

		AM			PM		
		No. of Phases			No. of Phases		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?				0			0
ATSAC-1 or ATSAC+ATCS-2?				0			0
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	125	1	125	136	1	136
	Left-Through		0			0	
	Through	1674	1	862	1776	1	919
	Through-Right		1			1	
	Right	49	0	49	61	0	61
	Left-Through-Right		0			0	
SOUTHBOUND	Left	70	1	70	114	1	114
	Left-Through		0			0	
	Through	1797	1	942	1652	1	868
	Through-Right		1			1	
	Right	87	0	87	84	0	84
	Left-Through-Right		0			0	
EASTBOUND	Left	2	0	0	1	0	0
	Left-Through		0			0	
	Through	965	1	568	1170	1	689
	Through-Right		1			1	
	Right	170	0	170	208	0	208
	Left-Through-Right		0			0	
WESTBOUND	Left	2	0	0	4	0	0
	Left-Through		0			0	
	Through	1009	1	554	1042	1	580
	Through-Right		1			1	
	Right	98	0	98	118	0	118
	Left-Through-Right		0			0	
CRITICAL VOLUMES		North-South:		1067	North-South:		1033
		East-West:		568	East-West:		689
		SUM:		1635	SUM:		1722
VOLUME/CAPACITY (V/C) RATIO:				1.090			1.148
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.990			1.048
LEVEL OF SERVICE (LOS):				E			F

**APPENDIX E:**  
**MAIN STREET ANALYSIS**

## Appendix E – 3440 Wilshire MainStreet Analysis

### Trip Generation Methodology

Current accepted methodologies, such as the Institute of Transportation Engineers (ITE) Trip Generation methodology, are primarily based on data collected at suburban, single-use, freestanding sites. These defining characteristics limit their applicability to mixed-use or multi-use development projects, such as the proposed project, which is in a high density walkable urban setting with frequent and nearby local and regional transit service. The land use mix, design features, and setting of the proposed project include characteristics that influence travel behavior differently from typical single-use suburban developments. Thus, traditional data and methodologies, such as ITE, would not accurately estimate the project vehicle trip generation. In response to the limitations in the ITE methodology, and to provide a straightforward and empirically validated method of estimating vehicle trip generation at mixed-use developments, the US Environmental Protection Agency (EPA) sponsored a national study of the trip generation characteristics of multi-use sites. Travel survey data was gathered from 239 mixed-use developments in six major metropolitan regions, and correlated with the characteristics of the sites and their surroundings. The findings indicate that the amount of external traffic generated is affected by a wide variety of factors, each pertaining to one or more of the following characteristics:

- **The relative numbers of residents and jobs on the site** – the better the site jobs/ housing balance, the greater the proportion of commute trips that remain internal.
- **The amount of retail and service use on the site relative to the number of residences** – the greater the degree to which retail and service opportunities match the needs generated by site residents, the greater the internalization of household-generated shopping, personal services and entertainment travel.
- **The amount of retail and service use relative to the number of employees** – the better the balance of employee-oriented retail and service opportunities, the greater the internal capture of lunchtime and after-work dining, shopping and errands by site employees.
- **The overall size of the development** – the larger the scale of the development in terms of acreage and total amounts of residential and commercial use, the greater the likelihood that travel destinations can be satisfied within the site as a whole.
- **The density of development** – the greater the concentration of dwellings and commercial space per acre, the greater the likelihood that the interacting land uses will be near enough together to encourage walking or short-distance internal driving.
- **The internal connectivity for walking or driving among different activities** – measured in terms of the ratio of intersections to total land area within the site directly influences trip internalization and the number of trips made by walking instead of driving.
- **The availability of transit** – the greater the number of jobs within a reasonable travel time via transit, the greater the share of travel likely to occur by transit, and the lower the traffic generation.
- **The number of convenient trip destinations within the immediate area** – the number of retail and other jobs in neighborhoods immediately surrounding the multi-use site increases the amount of walking to/from the site and reduces vehicular traffic generation. These characteristics were

related statistically to the trip behavior observed at the study development sites using Hierarchical Linear Modeling (HLM) techniques. This quantified relationships between characteristics of the mixed-use developments and the likelihood that trips generated by those mixed-use developments will stay internal and/or use modes of transportation other than the private vehicle.

These statistical relationships produced equations, known as the EPA MXD model, that allows predicting external vehicle trip reduction as a function of the mixed-use development characteristics. Applying the external vehicle trip reduction percentage to "raw trips", as predicted by ITE, produces an estimate for the number of vehicle trips traveling in or out of the site.

### **Validation of MXD/MainStreet Model**

Since the conclusion of the EPA sponsored study, Fehr & Peers has been actively enhancing the MXD model to improve sensitivity to various site characteristics, improve peak hour performance, and continue to validate the model against mixed-use sites where data is available. A set of 28 independent mixed-use sites across the country that were not included in the initial EPA model development have been tested to validate the model. These sites represent locations where it is expected that traditional data and methodologies, such as ITE, would not accurately estimate the project vehicle trip generation. Table 1 presents the performance of the MXD model against ITE and ITE internalization procedures.

Based on all statistical measurements, the MXD model performs better than the ITE recommended procedures for these types of sites. The MXD model has been approved for use by the EPA<sup>1</sup>. It has also been peer-reviewed in the ASCE Journal of Urban Planning and Development<sup>2</sup>, peer-reviewed in a 2012 TRB paper evaluating various smart growth trip generation methodologies<sup>3</sup>, recommended by SANDAG for use on mixed-use smart growth developments<sup>4</sup>, and has been used successfully in multiple certified EIRs in California. Fehr & Peers has incorporated the MXD model into its MainStreet model. Appendix A presents certified EIRs that have used the Main Street model or its predecessors.

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<sup>1</sup> Trip Generation Tool for Mixed-Use Developments (2012). [www.epa.gov/dced/mxd\\_tripgeneration.html](http://www.epa.gov/dced/mxd_tripgeneration.html)

<sup>2</sup> "Traffic Generated by Mixed-Use Developments – Six-Region Study Using Consistent Built Environmental Measures." Journal of Urban Planning and Development, 137(3), 248-261.

<sup>3</sup> Shafizadeh, Kevan et al. "Evaluation of the Operation and Accuracy of Available Smart Growth Trip Generation Methodologies for Use in California". Presented at 91<sup>st</sup> Annual Meeting of the Transportation Research Board, Washington D.C., 2012.

<sup>4</sup> SANDAG Smart Growth Trip Generation and Parking Study.

<http://www.sandag.org/index.asp?projectid=378&fuseaction=projects.detail>

**TABLE 1**  
**3440 WILSHIRE PROJECT**  
**VALIDATION STATISTICS COMPARISON**

Validation Statistic	ITE Raw	ITE with Internalization	Main Street Model
<b>Daily</b>			
Average Model Error <sup>1</sup>	30%	17%	4%
% RSME <sup>2</sup>	42%	28%	17%
R-Squared <sup>3</sup>	0.72	0.87	0.95
<b>AM Peak Hour</b>			
Average Model Error <sup>1</sup>	57%	53%	3%
% RSME <sup>2</sup>	58%	76%	34%
R-Squared <sup>3</sup>	56%	56%	91%
<b>PM Peak Hour</b>			
Average Model Error <sup>1</sup>	56%	41%	22%
% RSME <sup>2</sup>	96%	81%	59%
R-Squared <sup>3</sup>	-56%	-11%	41%

Notes:

1. Average model error measures the difference between the estimated trip generation and the counted trip generation of 28 survey sites.
2. RMSE stands for percent root mean squared error is a demand assessment of performance of transportation models in that it does not apply average that would allow over-estimates and under-estimates to cancel one another out and it penalizes proportionally more for large errors. A % RMSE of less than 40% is generally considered acceptable in transportation modeling.
3. R-squared is a statistical measure that indicates, in this case, the degree to which each method explains the variation in trip generation among the 28 survey sites. A R-Squared value closer to 1.0 indicates that the method fully explains the variation in trip generation amongst the survey sites and would be suitable to be used for that set of site types.

## MainStreet Analysis

Table 2 summarizes the input values and data sources for the MainStreet model for the project and surrounding neighborhood. The MainStreet model uses both internal project land uses and local and regional demographic data. Table 3 summarizes the estimated trip generation for project neighborhood using the MXD/MainStreet methodology.

As shown in Tables 2, the MainStreet methodology accounts for the following:

- Internal Capture trips – are defined as trips made internal to the project area. The MainStreet methodology reduces the ITE-based automobile trip generation by about 8 percent for the daily and 12 and 13 percent for the AM and PM peak hours to account for internal trips within the neighborhood. Considering the expected shortage of parking, traffic congestion, available transit service, and walkability of the project area, most internal trips are expected to be non-auto trips. Adjusting for non-auto trips between compatible land uses within the site, the final internal capture for non-auto trips is expected to be between 8 and 13 percent.
- External Walk, Bike, and Transit trips - are defined as external trips made using non-automobile modes. The Main Street methodology reduces the ITE-based automobile trip generation by about 24 to 32 percent to account for external walk, bike, or transit trips.

Overall, the Project is estimated to generate up to 44 percent fewer trips than estimated by the unadjusted ITE methodology. In consultation with LADOT, 15% was used as the internalization capture for daily, AM, and PM peak hours and 25% transit for a total credit of 40% on project trips.



**TABLE 2**  
**3440 WILSHIRE PROJECT**  
**MAIN STREET NEIGHBORHOOD ANALYSIS**

Land Use	ITE Code	Quantity	Units	Daily	AM PEAK HOUR			PM PEAK HOUR		
					In	Out	Total	In	Out	Total
Neighborhood Land Uses										
Apartments	220	1,594	du	10,600	163	650	813	642	346	988
General Office Building	710	2700	Empl.	8,964	1,140	156	1,296	211	1,031	1,242
Shopping Center	820	53.5	ksf	2,284	32	19	51	95	103	198
High-Turnover Restaurant	932	8	ksf	1,017	47	39	86	47	32	79
Fast-Food w/o Drive-Through Window	933	8	ksf	5,728	211	140	351	107	102	209
Net Raw Project Trips				28,593	1,593	1,004	2,597	1,102	1,614	2,716
REDUCTIONS										
Internal Capture				-2,304	-198	-124	-322	-149	-217	-366
External Walk, Bike, and Transit				-6,938	-509	-321	-830	-298	-437	-735
Total Reductions				-9,242	-707	-445	-1,152	-447	-654	-1,101
Net New Project Trips				19,351	886	559	1,445	655	960	1,615
PERCENT REDUCTIONS										
Internal Capture Percentage Reductions				8%	12%	12%	12%	14%	13%	13%
External Walk, Bike, and Transit Percentage Reductions				24%	32%	32%	32%	27%	27%	27%
Total Percent Reductions				32%	44%	44%	44%	41%	41%	41%

**TABLE 3**  
**3440 WILSHIRE PROJECT**  
**MAIN STREET MODEL INPUTS**

Input Variable	Input Value	Source
<b><i>Main Street Specific Inputs</i></b>		
Project Area (Acres)	48.28	Project site plan
Intersections per Square Mile	100	EPA Smart Location Database (2013) - 2010 Scenario
Employment within 1 mile of Project site	36,000	SCAG Model 2035
Employment within a 30 minute trip by transit	0.04	SCAG Model 2035
Average Household Size within Project area	2.31	ACS 2012 (5-year) - All Housing Types
Average Vehicles Owned per Dwelling Unit within Project site	1.1	ACS 2012 (5-year) - All Housing Types
Average Household Size near Project site	2.31	ACS 2012 (5-year) - All Housing Types
Average Vehicle Ownership near Project site	1.1	ACS 2012 (5-year) - All Housing Types
<b><i>Land Use Inputs</i></b>		
Apartments	1,594	Project Neighborhood TAZ & Project Land Uses
General Office Building	2,700	Project Neighborhood TAZ & Project Land Uses
Shopping Center	53,500	Project Neighborhood TAZ & Project Land Uses
High-Turnover Restaurant	8,000	Project Neighborhood TAZ & Project Land Uses
Fast-Food w/o Drive-Through Window	8,000	Project Neighborhood TAZ & Project Land Uses

## Comparisons with Mode Share Data

US Census data were used to check the reasonability of the MainStreet model results presented above. Table 4 shows journey to work mode share data for the census tracts in the project area based on the 2012 American Community Survey (ACS) data. The data shows that nearly half of the area residents' journey to work is by non-automobile modes. Table 7 also compares the project area mode share with journey to work data for residents throughout all of the City of Los Angeles, all of the County of Los Angeles, and the entire Southern California Association of Governments (SCAG) region. City of Los Angeles, County of Los Angeles, and SCAG residents have higher automobile mode shares because of more suburban development patterns.

The current project area residents' automobile mode share is about 18 percent lower than City of Los Angeles, 25 percent lower than County of Los Angeles, and about 26 percent lower than SCAG mode share.

**TABLE 4 – AMERICAN COMMUNITY SURVEY (ACS) (2012) – DAILY JOURNEY TO WORK MODE SHARE**

<b>Mode</b>	<b>MPO SCAG</b>	<b>County Los Angeles</b>	<b>City Los Angeles</b>	<b>Tracts Project Area</b>
Auto	80%	79%	72%	54%
Transit	6%	6%	11%	24%
Walk	13%	13%	16%	17%
Bike	1%	1%	1%	4%

## **APPENDIX A – CERTIFIED EIRS – MAIN STREET**



**APPENDIX A  
BROADWAY-VALDEZ DISTRICT SPECIFIC PLAN  
CERTIFIED EIRS USING MXD (4Ds) MODEL**

Name	Date Published	Jurisdiction	Description	% Reduction
<b>Treasure Island DEIR<sup>1</sup></b>	July 2010	City of San Francisco	8,000 DUs 140,000 SF retail 100,000 SF office 311,000 SF commercial flex 274,000 SF other	56-61% reduction
<b>Candlestick Point / Hunters Point DEIR<sup>2</sup></b>	November 2009	City of San Francisco	10,500 DUs 885,000 SF retail 2,650,000 SF office/R&D	44-50% reduction
<b>Parkmerced DEIR<sup>3</sup></b>	May 2010	City of San Francisco	8,900 DUs 230,000 SF retail 105,000 SF office 164,000 SF other	34-38% reduction
<b>Fairfield Train Station DEIR<sup>4</sup></b>	December 2010	City of Fairfield	6,790 DUs 150,000 SF retail	25% reduction
<b>Redwood City Downtown Precise Plan DEIR<sup>5</sup></b>	August 2010	Redwood City	2,500 DUs 221,000 SF retail 275,000 SF office	21-29% reduction
<b>Pittsburg/Bay Point BART Station Master Plan DEIR<sup>6</sup></b>	June 2011	City of Pittsburg	1,168 DU 95,000 SF retail 50,000 SF office	26-32% reduction
<b>Newhall Ranch Draft EIS/EIR<sup>7</sup></b>	April 2009	Los Angeles County U.S. Army Corps of Engineers	21,000 DUs 5,500,000 SF commercial	29-33% reduction
<b>Broadway-Valdez District Specific Plan</b>		City of Oakland	1,796 DUs 1,118,345 SF retail 694,730 SF office 180 Hotel rooms	27-34% reduction

1. [http://sfplanning.org/index.aspx?page=1828#2007\\_0903E](http://sfplanning.org/index.aspx?page=1828#2007_0903E)

2. [http://sfplanning.org/index.aspx?page=1828#2007\\_0946E](http://sfplanning.org/index.aspx?page=1828#2007_0946E)

3. [http://sfplanning.org/index.aspx?page=1828#2008\\_0021E](http://sfplanning.org/index.aspx?page=1828#2008_0021E)

4. [http://www.fairfield.ca.gov/gov/depts/cd/planning/train\\_station\\_deir.asp](http://www.fairfield.ca.gov/gov/depts/cd/planning/train_station_deir.asp)

5. <http://www.redwoodcity.org/phed/planning/precise/FINAL-DTPP/EIR.htm>

6. <http://www.ci.pittsburg.ca.us/index.aspx?page=225>

7. <http://www.dfg.ca.gov/regions/5/newhall/final/>

Source: Fehr and Peers, 2012.

**APPENDIX F:**  
**SIGNAL WARRANT**

**TRAFFIC SIGNAL WARRANTS**  
**PEAK HOUR VEHICULAR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)**

Major Street: Mariposa			
Minor Street: 7th St			
Scenario: Existing 2018 AM			
Urban/Rural: u (U=urban, R=rural [a])			
<b>PEAK HOUR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)</b>			
Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (Peak Hour)			
Major Street (Approach 1):	223	Major Street Left Turn (see note [b]):	36
Major Street (Approach 2):	<u>290</u>	Minor Street (Higher Volume App.):	<u>250</u>
Major Street Total (Both Approaches):	513	Minor Street Total:	286
Minimum Volume on Major Street to Satisfy Warrant (see note [d]): 450		Minimum Volume on Minor Street to Satisfy Warrant (see note [d]): 410	
PEAK HOUR VOLUME WARRANT SATISFIED?		<b>NO</b>	

## Notes:

- a. May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.
- b. Heavier left-turn movement from the major street may be included with minor street volume if a separate signal phase is proposed for left-turn movements.
- c. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-1.
- d. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-3.

Adopted from: U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices, Millennium Edition," 2001; and Caltrans, "Traffic Manual," 2002.

**TRAFFIC SIGNAL WARRANTS**  
**PEAK HOUR VEHICULAR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)**

Major Street: Mariposa			
Minor Street: 7th St			
Scenario: Existing 2018 PM			
Urban/Rural: u (U=urban, R=rural [a])			
<b>PEAK HOUR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)</b>			
Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (Peak Hour)			
Major Street (Approach 1):	354	Major Street Left Turn (see note [b]):	50
Major Street (Approach 2):	<u>185</u>	Minor Street (Higher Volume App.):	<u>276</u>
Major Street Total (Both Approaches):	539	Minor Street Total:	326
Minimum Volume on Major Street to Satisfy Warrant (see note [d]): 450		Minimum Volume on Minor Street to Satisfy Warrant (see note [d]): 390	
PEAK HOUR VOLUME WARRANT SATISFIED?		<b>NO</b>	

## Notes:

- a. May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.
- b. Heavier left-turn movement from the major street may be included with minor street volume if a separate signal phase is proposed for left-turn movements.
- c. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-1.
- d. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-3.

Adopted from: U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices, Millennium Edition," 2001; and Caltrans, "Traffic Manual," 2002.



**TRAFFIC SIGNAL WARRANTS**  
**PEAK HOUR VEHICULAR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)**

Major Street: Mariposa			
Minor Street: 7th St			
Scenario: Existing plus Project AM			
Urban/Rural: u (U=urban, R=rural [a])			
<b>PEAK HOUR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)</b>			
Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (Peak Hour)			
Major Street (Approach 1):	258	Major Street Left Turn (see note [b]):	40
Major Street (Approach 2):	<u>298</u>	Minor Street (Higher Volume App.):	<u>296</u>
Major Street Total (Both Approaches):	556	Minor Street Total:	336
Minimum Volume on Major Street to Satisfy Warrant (see note [d]): 450		Minimum Volume on Minor Street to Satisfy Warrant (see note [d]): 380	
PEAK HOUR VOLUME WARRANT SATISFIED?		<b>NO</b>	

## Notes:

- a. May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.
- b. Heavier left-turn movement from the major street may be included with minor street volume if a separate signal phase is proposed for left-turn movements.
- c. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-1.
- d. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-3.

Adopted from: U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices, Millennium Edition," 2001; and Caltrans, "Traffic Manual," 2002.

**TRAFFIC SIGNAL WARRANTS**  
**PEAK HOUR VEHICULAR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)**

Major Street: Mariposa			
Minor Street: 7th St			
Scenario: Existing plus project PM			
Urban/Rural: u (U=urban, R=rural [a])			
<b>PEAK HOUR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)</b>			
Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (Peak Hour)			
Major Street (Approach 1):	397	Major Street Left Turn (see note [b]):	74
Major Street (Approach 2):	<u>234</u>	Minor Street (Higher Volume App.):	<u>312</u>
Major Street Total (Both Approaches):	631	Minor Street Total:	386
Minimum Volume on Major Street to Satisfy Warrant (see note [d]): 450		Minimum Volume on Minor Street to Satisfy Warrant (see note [d]): 340	
PEAK HOUR VOLUME WARRANT SATISFIED?		<b>YES</b>	

## Notes:

- a. May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.
- b. Heavier left-turn movement from the major street may be included with minor street volume if a separate signal phase is proposed for left-turn movements.
- c. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-1.
- d. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-3.

Adopted from: U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices, Millennium Edition," 2001; and Caltrans, "Traffic Manual," 2002.

**TRAFFIC SIGNAL WARRANTS**  
**PEAK HOUR VEHICULAR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)**

Major Street: Mariposa			
Minor Street: 7th St			
Scenario: Future Base AM			
Urban/Rural: u (U=urban, R=rural [a])			
<b>PEAK HOUR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)</b>			
Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (Peak Hour)			
Major Street (Approach 1):	246	Major Street Left Turn (see note [b]):	43
Major Street (Approach 2):	<u>321</u>	Minor Street (Higher Volume App.):	<u>277</u>
Major Street Total (Both Approaches):	567	Minor Street Total:	320
Minimum Volume on Major Street to Satisfy Warrant (see note [d]): 450		Minimum Volume on Minor Street to Satisfy Warrant (see note [d]): 380	
PEAK HOUR VOLUME WARRANT SATISFIED?		<b>NO</b>	

## Notes:

- a. May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.
- b. Heavier left-turn movement from the major street may be included with minor street volume if a separate signal phase is proposed for left-turn movements.
- c. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-1.
- d. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-3.

Adopted from: U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices, Millennium Edition," 2001; and Caltrans, "Traffic Manual," 2002.

**TRAFFIC SIGNAL WARRANTS**  
**PEAK HOUR VEHICULAR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)**

Major Street: Mariposa			
Minor Street: 7th St			
Scenario: Future Base PM			
Urban/Rural: u (U=urban, R=rural [a])			
<b>PEAK HOUR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)</b>			
Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (Peak Hour)			
Major Street (Approach 1):	387	Major Street Left Turn (see note [b]):	62
Major Street (Approach 2):	<u>211</u>	Minor Street (Higher Volume App.):	<u>305</u>
Major Street Total (Both Approaches):	598	Minor Street Total:	367
Minimum Volume on Major Street to Satisfy Warrant (see note [d]): 450		Minimum Volume on Minor Street to Satisfy Warrant (see note [d]): 360	
PEAK HOUR VOLUME WARRANT SATISFIED?		<b>YES</b>	

## Notes:

- a. May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.
- b. Heavier left-turn movement from the major street may be included with minor street volume if a separate signal phase is proposed for left-turn movements.
- c. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-1.
- d. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-3.

Adopted from: U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices, Millennium Edition," 2001; and Caltrans, "Traffic Manual," 2002.

**TRAFFIC SIGNAL WARRANTS**  
**PEAK HOUR VEHICULAR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)**

Major Street: Mariposa			
Minor Street: 7th St			
Scenario: Future plus Project AM			
Urban/Rural: u (U=urban, R=rural [a])			
<b>PEAK HOUR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)</b>			
Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (Peak Hour)			
Major Street (Approach 1):	281	Major Street Left Turn (see note [b]):	47
Major Street (Approach 2):	<u>329</u>	Minor Street (Higher Volume App.):	<u>323</u>
Major Street Total (Both Approaches):	610	Minor Street Total:	370
Minimum Volume on Major Street to Satisfy Warrant (see note [d]): 450		Minimum Volume on Minor Street to Satisfy Warrant (see note [d]): 360	
PEAK HOUR VOLUME WARRANT SATISFIED?		<b>YES</b>	

## Notes:

- a. May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.
- b. Heavier left-turn movement from the major street may be included with minor street volume if a separate signal phase is proposed for left-turn movements.
- c. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-1.
- d. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-3.

Adopted from: U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices, Millennium Edition," 2001; and Caltrans, "Traffic Manual," 2002.

**TRAFFIC SIGNAL WARRANTS**  
**PEAK HOUR VEHICULAR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)**

Major Street: Mariposa			
Minor Street: 7th St			
Scenario: Future plus Project PM			
Urban/Rural: u (U=urban, R=rural [a])			
<b>PEAK HOUR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)</b>			
Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (Peak Hour)			
Major Street (Approach 1):	430	Major Street Left Turn (see note [b]):	86
Major Street (Approach 2):	<u>260</u>	Minor Street (Higher Volume App.):	<u>341</u>
Major Street Total (Both Approaches):	690	Minor Street Total:	427
Minimum Volume on Major Street to Satisfy Warrant (see note [d]): 450		Minimum Volume on Minor Street to Satisfy Warrant (see note [d]): 320	
PEAK HOUR VOLUME WARRANT SATISFIED?		<b>YES</b>	

## Notes:

- a. May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.
- b. Heavier left-turn movement from the major street may be included with minor street volume if a separate signal phase is proposed for left-turn movements.
- c. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-1.
- d. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-3.

Adopted from: U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices, Millennium Edition," 2001; and Caltrans, "Traffic Manual," 2002.