TRANSPORTATION IMPACT STUDY
FOR THE
VERMONT CORRIDOR DEVELOPMENT PLAN
LOS ANGELES, CALIFORNIA

June 2017

Prepared for:

LOS ANGELES COUNTY FACILITIES

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Executive Summary

This study presents the traffic impact analysis for the proposed Vermont Corridor Development Project (the Project) located at 500, 510, 526, and 532 South Vermont Avenue and 523 and 531 Shatto Place (collectively, “Site 1”); at 540, 542, and 550 South Vermont Avenue and 3175 West 6th Street (collectively, “Site 2”); and at 427 and 433 South Vermont Avenue (“Site 3”) (collectively, the “Project Sites”). Los Angeles County Facilities is the Applicant, and the Project Sites are located within the City of Los Angeles (City).

PROJECT DESCRIPTION

The Applicant proposes to redevelop three Project sites that are in close proximity to each other, owned and operated by the County of Los Angeles (County). Each of the three Project Sites are currently developed with County office facilities. Phase 1 of the Project, expected to be completed in Year 2021, includes the redevelopment of Sites 1 and 3. Phase 2, expected to be completed in Year 2023, consists of the reuse and redevelopment of Site 2.

Site 1 is currently developed with a total of 44,113 square feet (sf) of office uses in two buildings (one of which is vacant) and parking in a surface lot and a parking structure located on Shatto Place to the west. The 93 County employees currently working at Site 1 would be displaced. Site 1 would be redeveloped with a 471,000 sf office building over podium parking with 10,000 sf of ground-floor retail and a replacement parking structure on Shatto Place. Site 1 would provide a combined total of 1,733 parking spaces. Upon completion of Phase 1, Site 1 would be occupied by an estimated 2,063 County employees, including 1,223 employees currently working at Site 2. Upon completion of Phase 2, the total employment at Site 1 is expected to increase to 2,166 employees.

Site 2 is currently developed with a total of 206,793 sf of office uses in two buildings. The 1,223 County employees working there would move to Site 1 upon completion of Phase 1. Site 2 parking is provided in the Site 1 parking structure on Shatto Place, in addition to approximately
53 spaces located in a parking structure within Site 2. One Site 2 office building would be adapted for reuse as a 172-unit apartment building. The other would be demolished and redeveloped with a 74-unit apartment building over a 263-space podium parking structure. There would be a total of 7,500 sf of public-serving ground-floor retail in the two buildings.

Site 3 is currently developed with a 29,292 sf office building over surface parking. The 112 County employees currently working there would be displaced. Site 3 would be redeveloped as 72 affordable senior housing units and a 13,200 sf community center open to the public. It would be constructed over three subterranean parking levels containing 116 spaces.

**PROJECT TRIP GENERATION AND DISTRIBUTION**

Project trip generation estimates were prepared based on rates from *Trip Generation, 9th Edition* (Institute of Transportation Engineers [ITE], 2012) (“ITE Trip Generation Report”) and empirical rates developed for office workers. The office worker rates were developed based on four days of driveway counts at Site 2, which currently contains approximately 1,223 office employees who would be moved to Site 1 upon completion of Phase 1. Rates from the ITE Trip Generation Report were used based on the number of residential units and retail and community center square footage for the non-office uses. Appropriate trip generation credits were applied for transit usage, pass-by trips, and internal capture. Trips generated by existing office uses on each site were credited against new Project trips.

Phase 1 of the Project is estimated to generate a net total of 1,553 daily trips, including 186 during the morning peak hour (168 inbound and 18 outbound) and 243 during the afternoon peak hour (31 inbound and 212 outbound). Phases 1 and 2 combined are estimated to generate a net total of 3,215 daily trips, including 320 during the morning peak hour (216 inbound and 104 outbound) and 414 trips during the afternoon peak hour (121 inbound and 293 outbound).

Project trips were distributed throughout the study area based on zip code data for over 1,700 of the employees that would work in Site 1 for the office workers and based on local traffic patterns and locations of employment and commercial centers for the residential uses.
PROJECT LOCATION AND STUDY AREA

The Project Sites are located along Vermont Avenue between 6th Street and 4th Street, in addition to a portion of Site 1 fronting Shatto Place, one block to the east. Vermont Avenue is a primarily commercial north-south corridor north and south of the Project Sites. To the west and east are primarily multi-family residential buildings, along with commercial and institutional uses on 6th Street. Vermont Avenue is generally considered the eastern border of the Koreatown community of the City. Downtown Los Angeles is located just over two miles southeast of the Project Sites and the Hollywood community is located approximately two miles northwest of the Project Sites.

The Project Sites are located between 0.1 and 0.25 miles north of the Wilshire / Vermont Station of the Los Angeles County Metropolitan Transportation Authority (Metro) Red Line and Purple Line subways. The Red Line travels between North Hollywood and Union Station in downtown Los Angeles. The Purple Line travels between Western Avenue & Wilshire Boulevard (approximately one mile west of the Project Sites) to Union Station. The two lines diverge at the Wilshire / Vermont Station. There are also numerous bus routes serving the Project Sites. Metro operates both Rapid and local buses on Vermont Avenue and Wilshire Boulevard and a local bus on 6th Street. Los Angeles Department of Transportation’s (LADOT) Downtown Area Shuttle Wilshire Center / Koreatown route runs in a loop around Koreatown, including adjacent to the Project Sites on Vermont Avenue.

The Project’s Study Area includes a geographic area approximately 3.5 miles (north-south) by two miles (east-west), bounded by US 101 to the north, Alvarado Street to the east, Adams Boulevard to the south, and Western Avenue to the west. Detailed traffic analyses were conducted at 38 key intersections within the Study Area.

INTERSECTION ANALYSIS METHODOLOGY

The scope of intersection analysis for this study was developed in consultation with LADOT. This study analyzes the potential Project-generated traffic impacts on the street system in the vicinity of the Project Site as compared to existing conditions and projected future conditions at the time the Project is expected to be completed (Year 2021 for Phase 1, Year 2023 for Phase 2). Potential
Intersection impacts were evaluated for typical weekday morning (7:00 AM to 10:00 AM) and afternoon (3:00 PM to 6:00 PM) peak periods. Intersection capacity has been analyzed using the “Critical Movement Analysis (CMA) – Planning” (Transportation Research Circular No. 212, Interim Materials on Highway Capacity, Transportation Research Board, 1980) methodology in accordance with Transportation Impact Study Guidelines (LADOT, December 2016). City impact thresholds were used to identify potentially significant impacts based on the level of service (LOS) and volume-to-capacity (V/C) ratio of each intersection:

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<td>V/C</td>
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<tr>
<td>C</td>
<td>0.701 – 0.800</td>
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<td>D</td>
<td>0.801 – 0.900</td>
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Source: City of Los Angeles.

EXISTING AND FUTURE TRAFFIC CONDITIONS

The traffic volumes at the 38 analyzed intersections were collected primarily in November 2016. Under existing conditions (Year 2017), each of the intersections operate at LOS D or better during both the morning and afternoon peak hours.

Future conditions in Years 2021 (for Phase 1) and 2023 (for Phase 2) were developed by increasing the existing traffic volumes in two ways. First, a traffic growth factor of 1% per year was applied to the existing volumes. For Year 2021, the total ambient growth factor was 4.06% and for Year 2023 it was 6.15%. Second, traffic from 115 related projects within approximately two miles of the Project Sites was estimated and distributed throughout the study area. In the Years 2021 and 2023, 23 of the 38 intersections were projected to operate at LOS D or better during both peak hours prior to the addition of Project traffic.
PROJECT TRAFFIC IMPACTS, PRIOR TO MITIGATION

The Project would result in significant impacts, prior to mitigation, at up to six intersections upon completion of Phase 1 and up to 10 intersections upon completion of Phase 2. The impacted locations are shown in Table ES-1 by scenario and peak hour impacted.

TRANSPORTATION MITIGATION AND IMPROVEMENT PROGRAM

The Project’s mitigation program includes a transportation demand management (TDM) program and transportation systems management (TSM) improvements. The TDM program seeks to reduce single-occupant vehicular travel and peak hour vehicular travel through services, incentives, and educational programs for office workers. The TDM program will incorporate a variety of strategies such as provision of TDM-related information in common areas, bicycle amenities, incentives for using alternative travel modes and/or foregoing parking, and contributing to the City’s efforts to develop bicycle infrastructure. The TSM improvement consists of the installation of a new closed circuit television (CCTV) camera, including fiber optic cables and necessary hardware, at the intersection of Vermont Avenue & 5th Street to enhance monitoring ability for LADOT’s Automated Traffic Surveillance and Control (ATSAC) department.

With implementation of the mitigation program, up to four intersections would remain significantly impacted upon completion of Phase 1, including:

10. Vermont Avenue & 3rd Street
18. Vermont Avenue & 6th Street
30. Vermont Avenue & Olympic Boulevard
33. Vermont Avenue & Washington Boulevard

Up to seven intersections would remain significantly impacted upon completion of Phase 2, including:
6. Vermont Avenue & Beverly Boulevard (afternoon peak hour)

10. Vermont Avenue & 3rd Street (afternoon peak hour)

18. Vermont Avenue & 6th Street (morning and afternoon peak hours)

24. Vermont Avenue & Wilshire Boulevard (morning and afternoon peak hours)

30. Vermont Avenue & Olympic Boulevard (morning and afternoon peak hours)

33. Vermont Avenue & Washington Boulevard (afternoon peak hour)

35. Vermont Avenue & I-10 Eastbound Ramps (afternoon peak hour)

An additional mitigation measure was considered, which consisted of increasing the frequency of Metro bus operations on Vermont Avenue. However, it was rejected as it was determined that buses on Vermont Avenue already operate at the maximum possible frequency accommodated by the stops. In addition to the Project mitigation measures described above, the Applicant will make financial contributions to various City transportation initiatives, including the 2010 Bicycle Plan (2010 Bicycle Plan, A Component of the City of Los Angeles Transportation Element, Los Angeles Department of City Planning, adopted March 1, 2011) and Vision Zero (Vision Zero: Eliminating Traffic Deaths in Los Angeles by 2025, City of Los Angeles, August 2015).
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<td>18.</td>
<td>Vermont Avenue &amp; 6th Street</td>
<td>A.M. &amp; P.M.</td>
</tr>
<tr>
<td>24.</td>
<td>Vermont Avenue &amp; Wilshire Boulevard</td>
<td>P.M.</td>
</tr>
<tr>
<td>28.</td>
<td>Vermont Avenue &amp; 8th Street</td>
<td></td>
</tr>
<tr>
<td>30.</td>
<td>Vermont Avenue &amp; Olympic Boulevard</td>
<td></td>
</tr>
<tr>
<td>32.</td>
<td>Vermont Avenue &amp; Venice Boulevard</td>
<td></td>
</tr>
<tr>
<td>33.</td>
<td>Vermont Avenue &amp; Washington Boulevard</td>
<td></td>
</tr>
<tr>
<td>35.</td>
<td>Vermont Avenue &amp; I-10 Eastbound Ramps</td>
<td></td>
</tr>
</tbody>
</table>
This study presents the traffic impact analysis for the proposed Vermont Corridor Development Project (the Project) located at 500, 510, 526, and 532 South Vermont Avenue and 523 and 531 Shatto Place (collectively, “Site 1”); at 540, 542, and 550 South Vermont Avenue and 3175 West 6th Street (collectively, “Site 2”); and at 427 and 433 South Vermont Avenue (“Site 3”) (collectively, the “Project Sites”). The methodology and base assumptions used in the analysis were established in conjunction with the Los Angeles Department of Transportation (LADOT).

PROJECT DESCRIPTION

Los Angeles County Facilities (the Applicant) proposes to redevelop three Project sites that are in close proximity to each other, owned and operated by the County of Los Angeles (County). Each of the three Project Sites are currently developed with County office facilities. Phase 1 of the Project, expected to be completed in Year 2021, includes the redevelopment of Sites 1 and 3. Phase 2, expected to be completed in Year 2023, consists of the reuse and redevelopment of Site 2.

Site 1 is currently developed with a total of 44,113 square feet (sf) of office uses in two buildings (one of which is vacant) and parking in a surface lot and a parking structure located on Shatto Place to the west. Site 1 would be redeveloped with a 471,000 sf office building over podium parking with 10,000 sf of ground-floor retail and a replacement parking structure on Shatto Place. Site 1 would provide a combined total of 1,733 parking spaces.

Site 2 is currently developed with a total of 206,793 sf of office uses in two buildings. Site 2 parking is provided in the Site 1 parking structure on Shatto Place, in addition to approximately 53 spaces located in a parking structure within Site 2. One Site 2 office building would be adapted for reuse as a 172-unit apartment building. The other would be demolished and
redeveloped with a 74-unit apartment building over a 263-space podium parking structure. There would be a total of 7,500 sf of public-serving ground-floor retail in the two buildings.

Site 3 is currently developed with a 29,292 sf office building over surface parking. It would be redeveloped as 72 affordable senior housing units and a 13,200 sf community center open to the public. It would be constructed over three subterranean parking levels containing 116 spaces.

Figure 1 shows the locations of the three Project Sites within the street network. A detailed summary of existing and proposed Project conditions for each Project Site, along with the proposed development phasing, is provided in Chapter 2, Project Description.

PROJECT LOCATION AND STUDY AREA

The Project Sites are located along Vermont Avenue between 6th Street and 4th Street, in addition to a portion of Site 1 fronting Shatto Place, one block to the east. Vermont Avenue is a primarily commercial north-south corridor north and south of the Project Sites. To the west and east are primarily multi-family residential buildings, along with commercial and institutional uses on 6th Street. Vermont Avenue is generally considered the eastern border of the Koreatown community of the City of Los Angeles (City). Downtown Los Angeles is located just over two miles southeast of the Project Sites and the Hollywood community of the City is located approximately two miles northwest of the Project Sites.

Primary vehicular access to and from the Project Sites is provided by Vermont Avenue, 6th Street, and Wilshire Boulevard, which is one block south of 6th Street. Other major streets in the vicinity include Beverly Boulevard, 3rd Street, 8th Street, Olympic Boulevard, and Pico Boulevard in the east-west direction and Normandie Avenue, Virgil Avenue, and Hoover Street in the north-south direction. US 101, a freeway connecting Downtown Los Angeles to Hollywood and the San Fernando Valley, is located approximately one mile north of the Project Sites. I-10, a freeway connecting Santa Monica and Culver City to Downtown Los Angeles, the San Gabriel Valley and beyond, is located approximately two miles south of the Project Sites. I-110, a freeway connecting south Los Angeles to Downtown Los Angeles and Pasadena beyond, is located approximately two miles southwest of the Project Sites.
The Project Sites are also located between 0.1 and 0.25 miles north of the Wilshire / Vermont Station of the Los Angeles County Metropolitan Transportation Authority (Metro) Red Line and Purple Line subways. The Red Line travels between North Hollywood and Union Station in Downtown Los Angeles. The Purple Line travels between Western Avenue & Wilshire Boulevard (approximately one mile west of the Project Sites) to Union Station. The two lines diverge at the Wilshire / Vermont Station.

There are also numerous bus routes serving the Project Sites. Metro operates both Rapid and local buses on Vermont Avenue and Wilshire Boulevard and a local bus on 6th Street. LADOT’s Downtown Area Shuttle (DASH) Wilshire Center / Koreatown route runs in a loop around Koreatown, including adjacent to the Project Sites on Vermont Avenue.

As shown in Figure 2, the Project’s Study Area includes a geographic area approximately 3.5 miles (north-south) by two miles (east-west), bounded by US 101 to the north, Alvarado Street to the east, Adams Boulevard to the south, and Western Avenue to the west. Detailed traffic analyses were conducted at 38 key intersections within the Study Area.

**INTERSECTION ANALYSIS METHODOLOGY**

The scope of intersection analysis for this study was developed in consultation with LADOT. The base assumptions and technical methodologies (i.e., trip generation, study locations, analysis methodology, etc.) were identified as part of the study approach and were outlined in a Memorandum of Understanding (MOU) reviewed and approved by LADOT. A copy of the signed MOU is provided in Appendix A.

This study analyzes the potential Project-generated traffic impacts on the street system in the vicinity of the Project Site as compared to existing conditions and projected future conditions at the time the Project is expected to be completed (Year 2021 for Phase 1, Year 2023 for Phase 2). Potential intersection impacts were evaluated for typical weekday morning (7:00 AM to 10:00 AM) and afternoon (3:00 PM to 6:00 PM) peak periods. A total of 38 signalized intersections in the vicinity of the Project Site were selected for detailed traffic analysis. They are listed in Table 1 and shown in Figure 2.
This traffic study evaluates the potential for impacts caused by the Project on the street system surrounding the Project Site. Consistent with *Transportation Impact Study Guidelines* (LADOT, December 2016), the following traffic conditions were developed and analyzed as part of this study:

- **Existing Year 2017 Conditions** – The analysis of existing traffic conditions provides a basis for the assessment of future traffic conditions. The Existing Conditions analysis includes a description of key area streets and highways, traffic volumes and current operating conditions, and transit service in the Study Area. Intersection turning movement counts were collected in November 2016 (except for three locations that were counted in November 2015 and one that was counted in December 2016), and for the purposes of this analysis are considered to represent Year 2017 conditions. Lane configurations and signal phasing for the analyzed intersections were also collected in November 2016. Intersection lane configurations are provided in Appendix B and traffic count worksheets are provided in Appendix C.

- **Existing Year 2017 with Project Phase 1 Conditions** – This analysis condition projects the potential intersection operating conditions that could be expected if Phase 1 of the Project were built under existing conditions. This analysis evaluates the potential Project-related traffic impacts as compared to Existing Conditions.

- **Existing Year 2017 with Project Phases 1 and 2 Conditions** – This analysis condition projects the potential intersection operating conditions that could be expected if Phases 1 and 2 of the Project were built under existing conditions. This analysis evaluates the potential Project-related traffic impacts as compared to Existing Conditions.

- **Interim Year 2021 without Project Conditions** – This analysis projects the future traffic growth and intersection operating conditions that could be expected as a result of regional growth and related project traffic in the Study Area by Year 2021, corresponding to the anticipated completion of Phase 1 of the Project. The Interim Year 2021 without Project traffic conditions are projected by adding ambient traffic growth and traffic from related projects to Existing Conditions. This analysis provides the conditions by which the Phase 1 Project impacts are evaluated in the future.

- **Interim Year 2021 with Project Phase 1 Conditions** – This analysis projects the potential intersection operating conditions that could be expected if Phase 1 of the Project were completed in Year 2021 as anticipated. The analysis identifies the potential incremental impacts of the Project, prior to mitigation, by adding the Project-generated traffic to the Interim Year 2021 without Project traffic forecasts.

- **Buildout Year 2023 without Project Conditions** – This analysis projects the future traffic growth and intersection operating conditions that could be expected as a result of regional growth and related project traffic in the Study Area by Year 2023, corresponding to the anticipated completion of Phase 2 of the Project. Like the Interim Year 2021 without Project Conditions, the Buildout Year 2023 without Project traffic conditions are projected by adding ambient traffic growth and traffic from related projects to Existing Conditions. This analysis provides the conditions by which the full Project (Phases 1 and 2) impacts are evaluated in the future.
• **Buildout Year 2023 with Project Phases 1 and 2 Conditions** – This analysis projects the potential intersection operating conditions that could be expected if Phase 2 of the Project were completed in Year 2023 as anticipated. The analysis identifies the potential incremental impacts of the Project, prior to mitigation, by adding the Project-generated traffic to the Buildout Year 2023 without Project traffic forecasts. These conditions assume completion of both Phases 1 and 2 as a single combined development.

In addition to these conditions, additional analysis was conducted to show the effects of the Project’s transportation mitigation program on the study intersections. These scenarios are referred to as follows:

- Existing Year 2017 with Project Phase 1 with Mitigation Conditions
- Existing Year 2017 with Project Phases 1 and 2 with Mitigation Conditions
- Interim Year 2021 with Project Phase 1 with Mitigation Conditions
- Buildout Year 2023 with Project Phases 1 and 2 with Mitigation Conditions

**Analysis Methodology**

Intersection capacity has been analyzed using the “Critical Movement Analysis (CMA) – Planning” (Transportation Research Circular No. 212, Interim Materials on Highway Capacity, Transportation Research Board, 1980) methodology in accordance with Transportation Impact Study Guidelines. The CMA methodology was implemented using LADOT’s Calcadb Lite spreadsheet application to analyze intersection operating conditions. The methodology calculates the volume-to-capacity (V/C) ratio, which is used to determine the intersection level of service (LOS) according to the LOS definitions provided in Table 2. LOS worksheets for each analysis scenario are provided in Appendix D.

The significance of the potential impacts of Project generated traffic at the signalized study intersections was determined using criteria identified in Transportation Impact Study Guidelines. These guidelines indicate that a project is considered to have a significant traffic impact on a signalized intersection if the increase in the V/C ratio attributable to the project exceeds a specific threshold depending on the final intersection LOS. LADOT has developed a sliding scale methodology in which the minimum allowable increase in the V/C ratio attributable to a project decreases as the V/C ratio of the intersection increases:
### Intersection Conditions with Project Traffic

<table>
<thead>
<tr>
<th>LOS</th>
<th>V/C</th>
<th>Significant Impact Threshold for Project-related Increase in V/C Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.701 – 0.800</td>
<td>Equal to or greater than 0.04</td>
</tr>
<tr>
<td>D</td>
<td>0.801 – 0.900</td>
<td>Equal to or greater than 0.02</td>
</tr>
<tr>
<td>E, F</td>
<td>&gt; 0.900</td>
<td>Equal to or greater than 0.01</td>
</tr>
</tbody>
</table>

*Source: City of Los Angeles.*

The relative impact of the added traffic volumes to be generated by the Project was evaluated based on analysis of existing and future operating conditions at the study intersections, with and without the Project.

### Traffic Signal Automation

The CMA analysis for signalized study intersections accounts for the use of advanced automation in the traffic signal controllers. Each signalized intersection in Los Angeles is equipped with the Automated Traffic Surveillance and Control (ATSAC) system and the Adaptive Traffic Control System (ATCS), which together provide a computer-based traffic signal control program that automatically and continually adjusts and optimizes traffic signal timing based on real-time traffic conditions. The automation system seeks to minimize the amount of delay and the number of vehicle stops throughout the transportation network. It also provides real-time video monitoring capabilities to LADOT engineers. LADOT estimates that this system improves intersection capacity by 10% over a traffic signal without the ATSAC and ATCS system. This capacity increase is applied to each intersection within the Calcadb Lite software and, therefore, is inherent in the analysis results.

### ADDITIONAL TRAFFIC ANALYSES

#### California Department of Transportation (Caltrans) Facilities

Caltrans facilities were evaluated according to the guidelines found in *Guide for the Preparation of Traffic Impact Studies* (Caltrans, 2002) (“Caltrans TIS Guide”). The analysis included selected freeway mainline segments, on-ramps, off-ramps, and ramp terminus intersections within the Study Area. The full Caltrans analysis is presented in Chapter 8.
**Residential Street Impacts**

Chapter 9 contains an analysis of nearby residential streets that could potentially experience cut-through traffic as a result of the Project. As outlined in *Transportation Impact Study Guidelines*, a local residential street shall be deemed significantly impacted based on an increase in the projected average daily traffic (ADT) volumes as follows:

<table>
<thead>
<tr>
<th>Projected ADT with Project (Final ADT)</th>
<th>Project-Related Increase in ADT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 999</td>
<td>120 trips or more</td>
</tr>
<tr>
<td>1,000 to 1,999</td>
<td>12% or more of Final ADT</td>
</tr>
<tr>
<td>2,000 to 2,999</td>
<td>10% or more of Final ADT</td>
</tr>
<tr>
<td>3,000 or more</td>
<td>8% or more of Final ADT</td>
</tr>
</tbody>
</table>

*Source: City of Los Angeles.*

**Congestion Management Program**

An analysis also was conducted according to *2010 Los Angeles County Congestion Management Program* (Metro, 2010) (CMP) guidelines. The CMP is a State-mandated program that serves as the monitoring and analytical basis for transportation funding decisions in the County made through the Regional Transportation Improvement Program and State Transportation Improvement Program processes. The CMP requires that a traffic impact analysis be performed (1) for all CMP arterial monitoring intersections where a project would add 50 or more trips during either the morning or afternoon weekday peak hours and (2) all mainline freeway monitoring locations where a project would add 150 or more trips (in either direction) during the morning or afternoon weekday peak hours. In addition, it requires a review of potential impacts to the regional transit system.

The required CMP analyses were performed, as detailed in Chapter 10, in accordance with the guidelines referenced in the CMP.
Additional Review and Analysis

In addition to the analyses introduced above, this study includes a review of various other features and conditions related to the Project. These include a review of Project access and circulation, parking requirements and proposed supply, and an analysis of potential traffic impacts associated with the Project’s construction.

ORGANIZATION OF REPORT

This report is divided into 13 chapters, including this introduction. Chapter 2 provides a detailed summary of the Project and proposed phases of development. Chapter 3 describes the existing circulation system, traffic volumes, and traffic conditions in the Study Area. Chapter 4 forecasts the Interim Year 2021 without Project Conditions and Buildout Year 2023 without Project Conditions. Chapter 5 describes the procedure used to forecast Project traffic volumes and distribution through the Study Area. Chapter 6 presents the intersection operating conditions and potential traffic impacts associated with the Project. Chapter 7 introduces the Project's transportation mitigation program and assesses its effectiveness at reducing significant impacts. Chapter 8 presents the analysis of Caltrans facilities. Chapter 9 presents a residential street segment analysis. Chapter 10 presents the regional CMP analysis. Chapter 11 describes site access and internal circulation. Chapter 12 reviews Project parking supply and requirements. Chapter 13 presents the impacts associated with the construction phase of the Project. The Appendices contain supporting documentation and additional details of the technical analyses.
FIGURE 2

STUDY AREA AND ANALYZED INTERSECTIONS

LEGEND
- Project Site
- Analyzed Intersection

Not to Scale
# TABLE 1
LIST OF ANALYZED INTERSECTIONS

<table>
<thead>
<tr>
<th>No.</th>
<th>North/South Street</th>
<th>East/West Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Vermont Avenue</td>
<td>US 101 Northbound On-ramp</td>
</tr>
<tr>
<td>2.</td>
<td>Vermont Avenue</td>
<td>US 101 Northbound Off-ramp</td>
</tr>
<tr>
<td>3.</td>
<td>US 101 SB Off-ramp / New Hampshire Avenue</td>
<td>Rosewood Avenue</td>
</tr>
<tr>
<td>4.</td>
<td>Vermont Avenue</td>
<td>Rosewood Avenue</td>
</tr>
<tr>
<td>5.</td>
<td>Vermont Avenue</td>
<td>Oakwood Avenue / US 101 SB On-ramp</td>
</tr>
<tr>
<td>6.</td>
<td>Vermont Avenue</td>
<td>Beverly Boulevard</td>
</tr>
<tr>
<td>7.</td>
<td>Vermont Avenue</td>
<td>1st Street</td>
</tr>
<tr>
<td>8.</td>
<td>Western Avenue</td>
<td>3rd Street</td>
</tr>
<tr>
<td>9.</td>
<td>Normandie Avenue</td>
<td>3rd Street</td>
</tr>
<tr>
<td>10.</td>
<td>Vermont Avenue</td>
<td>3rd Street</td>
</tr>
<tr>
<td>11.</td>
<td>Virgil Avenue</td>
<td>3rd Street</td>
</tr>
<tr>
<td>12.</td>
<td>Rampart Boulevard</td>
<td>3rd Street</td>
</tr>
<tr>
<td>13.</td>
<td>Vermont Avenue</td>
<td>4th Street</td>
</tr>
<tr>
<td>14.</td>
<td>Shatto Place</td>
<td>4th Street</td>
</tr>
<tr>
<td>15.</td>
<td>Vermont Avenue</td>
<td>5th Street</td>
</tr>
<tr>
<td>16.</td>
<td>Western Avenue</td>
<td>6th Street</td>
</tr>
<tr>
<td>17.</td>
<td>Normandie Avenue</td>
<td>6th Street</td>
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<tr>
<td>18.</td>
<td>Vermont Avenue</td>
<td>6th Street</td>
</tr>
<tr>
<td>19.</td>
<td>Shatto Place</td>
<td>6th Street</td>
</tr>
<tr>
<td>20.</td>
<td>Rampart Boulevard</td>
<td>6th Street</td>
</tr>
<tr>
<td>21.</td>
<td>Alvarado Street</td>
<td>6th Street</td>
</tr>
<tr>
<td>22.</td>
<td>Western Ave</td>
<td>Wilshire Boulevard</td>
</tr>
<tr>
<td>23.</td>
<td>Normandie Avenue</td>
<td>Wilshire Boulevard</td>
</tr>
<tr>
<td>24.</td>
<td>Vermont Avenue</td>
<td>Wilshire Boulevard</td>
</tr>
<tr>
<td>25.</td>
<td>Hoover Stret</td>
<td>Wilshire Boulevard</td>
</tr>
<tr>
<td>26.</td>
<td>Alvarado Street</td>
<td>Wilshire Boulevard</td>
</tr>
<tr>
<td>27.</td>
<td>Vermont Avenue</td>
<td>7th Street</td>
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<td>28.</td>
<td>Vermont Avenue</td>
<td>8th Street</td>
</tr>
<tr>
<td>29.</td>
<td>Hoover Street</td>
<td>8th Street</td>
</tr>
<tr>
<td>30.</td>
<td>Vermont Ave</td>
<td>Olympic Boulevard</td>
</tr>
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<td>31.</td>
<td>Vermont Ave</td>
<td>Pico Ave</td>
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<td>32.</td>
<td>Vermont Avenue</td>
<td>Venice Boulevard</td>
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<td>Vermont Avenue</td>
<td>Washington Boulevard</td>
</tr>
<tr>
<td>34.</td>
<td>Vermont Avenue</td>
<td>I-10 Westbound Ramps</td>
</tr>
<tr>
<td>35.</td>
<td>Vermont Avenue</td>
<td>I-10 Eastbound Ramps</td>
</tr>
<tr>
<td>36.</td>
<td>Vermont Avenue</td>
<td>Adams Boulevard</td>
</tr>
<tr>
<td>37.</td>
<td>Hoover Street</td>
<td>Olympic Boulevard</td>
</tr>
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<td>38.</td>
<td>Alvarado Street</td>
<td>Olympic Boulevard</td>
</tr>
<tr>
<td>Level of Service</td>
<td>Signalized V/C Ratio</td>
<td>Definition</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------</td>
<td>------------</td>
</tr>
<tr>
<td>A</td>
<td>0.000 - 0.600</td>
<td>EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.</td>
</tr>
<tr>
<td>B</td>
<td>0.601 - 0.700</td>
<td>VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.</td>
</tr>
<tr>
<td>C</td>
<td>0.701 - 0.800</td>
<td>GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.</td>
</tr>
<tr>
<td>D</td>
<td>0.801 - 0.900</td>
<td>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.</td>
</tr>
<tr>
<td>E</td>
<td>0.901 - 1.000</td>
<td>POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.</td>
</tr>
<tr>
<td>F</td>
<td>&gt; 1.000</td>
<td>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.</td>
</tr>
</tbody>
</table>

Notes:
Chapter 2
Project Description

This chapter describes the Project in detail, including what uses are currently developed and in operation on each Project Site, how each Project Site would change, how the users of each Project Site would be shifted, and how the Project is proposed to be phased. Table 3 provides a summary of the information presented below, and the ground floor plans for each Project Site are shown in Figures 3A through 3C, respectively.

EXISTING USES ON PROJECT SITES

Each of the Project Sites is currently developed with County office space and employee parking.

Site 1 has two office buildings, surface parking, and structured parking. The first office building, located at 510 S. Vermont Avenue, is 30,788 sf in two levels occupied by approximately 93 employees of the County Department of Parks and Recreation (DPR). The second building, located at 532 S. Vermont Avenue, is 13,325 sf in two levels but has been closed and unused for several years. There are approximately 45 surface parking spaces located at 510 S. Vermont Avenue and approximately 79 surface parking spaces located at 526 S. Vermont Avenue, between the two office buildings. There are also approximately 864 spaces in a seven-story parking structure located at 523 Shatto Place (“Existing Shatto Structure”) that serve the office employees at Site 2.

Site 2 also has two office buildings along with minimal parking. The first office building, located at 550 S. Vermont Avenue, is 154,793 sf in 12 levels (“Site 2 Tower”) occupied by approximately 973 employees of the County Department of Mental Health (DMH). The second building, located at 3175 W. 6th Street, is 52,000 sf in four levels occupied by approximately 250 employees of the County Workforce Development, Aging, and Community Services (WDACS). Most of the employee and visitor parking for Site 2 is provided in the Existing Shatto Structure.
There are approximately 53 parking spaces in a two-level parking structure on Site 2. The lower level is accessed via Vermont Avenue through the ground level of the Site 2 Tower and the upper level is accessed through the Existing Shatto Structure.

Site 3, located at 433 S. Vermont Avenue, has a single 29,292 sf four-level office building occupied by approximately 112 DPR employees. It provides approximately 65 surface lot parking spaces.

PROPOSED USES ON PROJECT SITES

Site 1

Site 1 would be redeveloped with a 471,000 sf office building (“Site 1 Office Tower”) over podium parking (“Site 1 Podium Structure”) along with a replacement parking structure located at 523 Shatto Place (“Replacement Shatto Structure”). The Site 1 Office Tower would be 13 levels over an eight-level podium parking structure. The Replacement Shatto Structure would be 11 levels, including nine above-grade levels and two below-grade levels. The Site 1 Podium Structure would provide approximately 965 parking spaces and the Replacement Shatto Structure would provide approximately 768 spaces. In addition to the office space, there would be up to 10,000 sf of ground-floor, public-serving commercial space.

Access would be provided via two driveways on Vermont Avenue – an entry-only driveway at the southern end of Site 1 and an exit-only driveway on the northern end of Site 1 – and two driveways to the Replacement Shatto Structure on Shatto Place, located in approximately the same locations as the driveways for the Existing Shatto Structure. There would also be an internal vehicular connection between the Site 1 Podium Structure and the Replacement Shatto Structure, allowing drivers access to all Site 1 parking and driveway locations. Due to the proximity of the northern driveway on Vermont Avenue to 5th Street, this driveway would be limited to right-turns-out only (onto northbound Vermont Avenue) in order to avoid left-turns across the northbound left-turn pocket.

The Site 1 Office Tower would be occupied by an estimated 2,063 County employees upon completion of Phase 1 in Year 2021. This would include the 973 DMH employees currently in
the Site 2 Tower, the 250 WDACS employees currently in the office located at 3175 W. 6th Street, and approximately 840 additional DMH employees that would move to this new facility from other existing County office buildings that are not a part of this Project. In total, 2,063 employees are expected to work in the Site 1 Office Tower after Phase 1 is completed. By the time Phase 2 of the Project is completed, total employee count at the Site 1 Office Tower is expected to grow to 2,166 workers. Existing DPR employees displaced by the redevelopment of Site 1 would move to other County office buildings that are not a part of this Project.

Site 2

Site 2 would be partially adapted for reuse and partly redeveloped. The Site 2 Tower would be modified under the Los Angeles Municipal Code (City, updated December 2016) (LAMC) Adaptive Reuse Ordinance (LAMC Section 12.22A.26) to accommodate 172 apartment units with up to 4,100 sf of ground-floor, public-serving commercial space. The office building at 3175 W. 6th Street would be demolished and a new five-level, 74-unit apartment building would be constructed over a five-level podium parking structure. Because two of the parking levels would be below grade, the overall structure would have eight above-grade levels including parking and apartments. The podium parking would provide 263 spaces to serve residents of both Site 2 apartment buildings. In addition to the residential units, the new building would have up to 3,400 sf of ground-floor, public-serving commercial space.

Site 2 parking would be accessed by a single driveway to 6th Street, limited to right-turns-in and out to prevent vehicles from crossing over the left-turn pocket from westbound 6th Street to southbound Vermont Avenue. As noted above, all of the existing DMH and WDACS employees at the existing Site 2 office buildings would relocate to the proposed Site 1 Office Tower.

Site 3

Site 3 would be redeveloped with a six-story, 72-unit affordable senior housing complex over three levels of subterranean parking (“Site 3 Senior Housing”) providing 116 spaces. There would also be a 13,200 sf Community Center, intended to be available for reservation by community groups and other members of the public, on the ground floor. Site 3 parking would
be accessed via a single full-access driveway to Vermont Avenue. The existing DPR employees displaced by the redevelopment of Site 3 would move to other County office buildings that are not a part of this Project.

PROJECT PHASING

The Project is proposed to be constructed in two phases. Phase 1 would include the redevelopment of Site 1 and the redevelopment of Site 3. Site 1 redevelopment will begin with the parcels on Vermont Avenue, because the Existing Shatto Structure must be maintained for the employees at Site 2. Upon completion of the Site 1 Office Tower (which includes approximately 965 spaces in the Site 1 Podium Structure), the Site 2 office employees can park at the Site 1 Podium Structure while the Existing Shatto Structure is demolished and the Replacement Shatto Structure is constructed. The Site 3 redevelopment is independent of the other two sites, as none of the employees from that Project Site are relocating to or from other Project Sites. Upon completion of Phase 1, anticipated in Year 2021, the Site 2 office employees would relocate to the Site 1 Office Tower, and other DMH employees would be moved from other County office buildings to the Site 1 Office Tower.

Phase 2, anticipated to be completed in Year 2023, would include the reuse and redevelopment of Site 2. It is also expected that the total number of employees in the Site 1 Office Tower would increase from 2,063 employees to 2,166 employees.
GROUND FLOOR SITE PLAN - SITE 2

Source: Steinberg Architects, January 13, 2017
<table>
<thead>
<tr>
<th>Address</th>
<th>Use</th>
<th>Size</th>
<th>User</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Site 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>510 S Vermont</td>
<td>Office</td>
<td>30,788 sf</td>
<td>LACDPR - 93 employees</td>
<td>Employees to be relocated elsewhere</td>
</tr>
<tr>
<td>532 S Vermont</td>
<td>Office</td>
<td>13,325 sf</td>
<td>Vacant for 3+ years</td>
<td></td>
</tr>
<tr>
<td>500 S Vermont</td>
<td>Surface Parking</td>
<td>45 spaces</td>
<td>Site 1 office workers</td>
<td></td>
</tr>
<tr>
<td>526 S Vermont</td>
<td>Surface Parking</td>
<td>79 spaces</td>
<td>Site 1 office workers</td>
<td></td>
</tr>
<tr>
<td>523 Shatto Place</td>
<td>Parking Structure</td>
<td>864 spaces</td>
<td>Site 2 office workers</td>
<td></td>
</tr>
<tr>
<td>Constructed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tbd</td>
<td>Office</td>
<td>471,000 sf</td>
<td>LACDMH - 2,063 employees</td>
<td>13 levels; 1,223 employees to be relocated from Site 2 [a]</td>
</tr>
<tr>
<td>(under office)</td>
<td>Retail</td>
<td>10,000 sf</td>
<td>Open to public</td>
<td></td>
</tr>
<tr>
<td>(under office)</td>
<td>Podium parking</td>
<td>965 spaces</td>
<td>Site 1 office workers</td>
<td>8 levels to be located under proposed office building</td>
</tr>
<tr>
<td>523 Shatto Place</td>
<td>Parking Structure</td>
<td>768 spaces</td>
<td>Site 1 office workers</td>
<td>9 levels above grade and 2 subterranean levels</td>
</tr>
<tr>
<td><strong>Site 3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>433 S Vermont</td>
<td>Office</td>
<td>29,292 sf</td>
<td>LACDPR - 112 employees</td>
<td>Employees to be relocated elsewhere</td>
</tr>
<tr>
<td></td>
<td>Surface Parking</td>
<td>85 spaces</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constructed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>433 S Vermont</td>
<td>Senior Housing</td>
<td>72 units</td>
<td>to be leased to the public</td>
<td>6 levels</td>
</tr>
<tr>
<td>(under housing)</td>
<td>Community Center</td>
<td>13,200 sf</td>
<td>for public use</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parking Structure</td>
<td>116 spaces</td>
<td>Site 2 office workers</td>
<td>3 subterranean levels</td>
</tr>
<tr>
<td><strong>Phase 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Site 1</strong></td>
<td>Office tower to increase employee total from 2,063 to 2,166</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Site 2</strong></td>
<td></td>
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</tr>
<tr>
<td>Removed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>550 S Vermont</td>
<td>Office</td>
<td>154,793 sf</td>
<td>LACDMH - 973 employees</td>
<td>Employees relocated to Site 1 at completion of Phase 1</td>
</tr>
<tr>
<td>3175 W 6th</td>
<td>Office</td>
<td>52,000 sf</td>
<td>LACWDACS - 250 employees</td>
<td>Employees relocated to Site 1 at completion of Phase 1</td>
</tr>
<tr>
<td></td>
<td>Parking Structure</td>
<td>53 spaces</td>
<td>Site 2 office workers</td>
<td></td>
</tr>
<tr>
<td>Adaptive Reuse</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>550 S Vermont</td>
<td>Apartments</td>
<td>172 units</td>
<td>to be leased to the public</td>
<td>12 levels</td>
</tr>
<tr>
<td>(under apartments)</td>
<td>Retail</td>
<td>4,100 sf</td>
<td>Open to public</td>
<td></td>
</tr>
<tr>
<td>Constructed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3175 W 6th</td>
<td>Apartments</td>
<td>74 units</td>
<td>to be leased to the public</td>
<td>5 levels above parking</td>
</tr>
<tr>
<td>(under apartments)</td>
<td>Retail</td>
<td>3,400 sf</td>
<td>Open to public</td>
<td></td>
</tr>
<tr>
<td>(under apartments)</td>
<td>Podium parking</td>
<td>263 spaces</td>
<td>All Site 2 residents</td>
<td>3 levels above grade and 2 subterranean levels</td>
</tr>
</tbody>
</table>

**Notes:**

LAC = Los Angeles County; DPR = Department of Parks & Recreation; DMH = Department of Mental Health; WDACS = Workforce Development, Aging, and Community Services.
[a] The 471,000 sf office building is proposed to hold 2,063 employees in Phase 1, including 1,223 employees relocated from Site 2.
[b] This structure would not be demolished but would be renovated for use as apartments.
Chapter 3
Existing Conditions

A comprehensive data collection effort was undertaken to develop a detailed description of existing conditions in the Project Study Area. The Existing Conditions analysis includes an assessment of the existing freeway and street systems, an analysis of traffic volumes and current operating conditions, and an assessment of the existing public transit service, as well as pedestrian and bicycle circulation.

STUDY AREA

The Project's Study Area, shown in Figure 2, includes a geographic area approximately 3.5 miles (north-south) by two miles (east-west), bounded by US 101 to the north, Alvarado Street to the east, Adams Boulevard to the south, and Western Avenue to the west.

A total of 38 signalized intersections were identified for detailed analysis. A traffic analysis study area generally comprises all intersections that have potential to experience significant traffic impacts from Project traffic as defined by the City’s impact criteria. The Study Area was established in consultation with the City, taking into consideration the Project's peak hour trip generation estimates, the anticipated distribution of Project traffic, and the existing operations of nearby intersections and corridors.

EXISTING STREET SYSTEM

The existing roadway system in the Study Area includes Freeways, Boulevards, Avenues, Collectors and Local Streets that provide regional, sub-regional, or local access and circulation within the Study Area. Street classifications are designated in Mobility Plan 2035: An Element of
the General Plan (Los Angeles Department of City Planning, January 2016) (“Mobility Plan 2035”). The available facilities in the Study Area are defined by the following:

- **Freeways** are high-volume, high-speed roadways with limited access provided by interchanges that carry regional traffic through and do not provide local access to adjacent land uses.

- **Boulevards** are arterial streets that provide primary through traffic routes with limited access to adjacent properties. Boulevards are divided into two categories:
  - **Boulevard I** typically provides 100 feet of paved width within 136 feet of right-of-way.
  - **Boulevard II** typically provides 80 feet of paved width within 110 feet of right-of-way.

- **Avenues** are arterial streets that serve through traffic, as well as provide access to major commercial activity centers. Avenues are divided into three categories:
  - **Avenue I** typically provides 70 feet of paved width within 100 feet of right-of-way.
  - **Avenue II** typically provides 56 feet of paved width within 86 feet of right-of-way.
  - **Avenue III** typically provides 46 feet of paved width within 72 feet of right-of-way.

- **Collector Streets** are intended to assist local traffic flow to Avenues and are typically located at quarter-mile intervals in a grid system.

- **Local Streets** provide circulation for local adjacent neighborhoods and do not typically serve commercial uses. Local streets provide connections to collector streets, which in turn, connect to the arterial street network.

The following is a brief description of the major roadways in the Study Area, including their classifications under Mobility Plan 2035:

**Freeways**

- **US 101** – US 101 runs along the northern border of the Study Area in a northwest and southeast orientation. It provides four lanes in each direction. Access to and from US 101 is available via interchanges at Vermont Avenue, Normandie Avenue / Melrose Avenue, Silver Lake Boulevard, Benton Way / Rampart Boulevard, and Alvarado Street within or near the Study Area.

- **I-10** – I-10 runs east and west near the southern border of the Study Area approximately 2 miles south of the Project Sites. It provides four lanes in each direction along with
auxiliary lanes between interchanges. Access to and from I-10 is provided at Vermont Avenue nearest the Project Site, and also at Western Avenue, Normandie Avenue, and Hoover Street within the Study Area.

**Roadways**

- **Rosewood Avenue** – Rosewood Avenue is a designated Collector Street between Vermont Avenue and Normandie Avenue and a Local Street west of Normandie Avenue. It runs east-west one mile north of 6th Street. It provides one lane in each direction and on-street parking on both sides. The total paved width is 48 feet with a centerline between Vermont Avenue and Normandie Avenue. The total paved width is 36 feet with a solid double yellow centerline west of Normandie Avenue.

- **Oakwood Avenue** – Oakwood Avenue is a designated Local Street running east-west one mile north of 6th Street. It provides one lane in each direction, with left-turn pockets at most intersections and on-street parking on both sides. The total paved width is 36 feet with a solid double yellow centerline.

- **Beverly Boulevard** – Beverly Boulevard is a designated Avenue II running east-west 0.9 miles north of 6th Street. It provides two lanes in each direction and on-street metered parking. There is no center left-turn lane, but there are left-turn pockets at most intersections. Inside lanes are generally 10 feet wide and the total paved width is typically 56 feet.

- **3rd Street** – 3rd Street is a designated Avenue II running east-west about 0.33 miles north of 6th Street. It provides two lanes in each direction and on-street metered parking. There is generally no center left-turn lane, but there are left-turn pockets at most intersections. Inside lanes are generally 10 feet wide and the total paved width is typically 66 feet.

- **4th Street** – 4th Street is a designated Collector Street running east-west 0.25 miles north of 6th Street. It provides one lane in each direction and on-street unmetered parking. There is a center left-turn lane between Vermont Avenue and Westmoreland Avenue, where the total paved width is 56 feet. Elsewhere, there is no center left-turn lane and the total paved width is 36 feet.

- **5th Street** – 5th Street is a designated Collector Street west of Vermont Avenue and local street running east-west one block north of 6th Street. It provides one lane in each direction and on-street parking on both sides. The total paved width is 36 feet.

- **6th Street** – 6th Street is a designated Avenue II running east-west adjacent to the Project Sites. It provides two lanes in each direction and on-street metered parking with peak hour restrictions on the north side of the street. There is no center left-turn lane, but there are left-turn pockets at most intersections. Inside lanes are generally 10 feet wide and the total paved width is 56 feet.

- **Wilshire Boulevard** – Wilshire Boulevard is a designated Avenue I running east-west one block south of 6th Street. It generally provides four travel lanes, left-turn lanes at intersections, and an exclusive bus rapid transit lane in each direction. Metered parking
with peak hour restrictions is generally available on both sides of the street. Inside lanes are generally 10 feet wide and the total paved width is 70 feet.

- **7th Street** – 7th Street is a designated Avenue II running east-west 0.25 miles south of 6th Street. It provides one lane in each direction and Class II bike lines east of Catalina Street. On-street metered and unmetered parking is available on both sides of the street. There are left-turn pockets at most intersections. Inner lanes are generally 10 feet wide, while bike lanes are five feet wide and the total paved width is 56 feet.

- **8th Street** – 8th Street is a designated Avenue II running east-west 0.4 miles south of 6th Street. It provides two lanes in each direction and on-street metered parking. There is no center left-turn lane, but there are left-turn pockets at some intersections. Inside lanes are generally 10 feet wide and the total paved width is 56 feet.

- **Olympic Boulevard** – Olympic Boulevard is a designated Boulevard II running east-west 0.75 miles south of 6th Street. It provides three lanes in each direction, with left-turn lanes at intersections and on-street unmetered parking with peak hour restrictions on both sides of the street. Inside lanes are generally 10 feet wide and the total paved width is approximately 72 feet.

- **Pico Boulevard** – Pico Boulevard is a designated Avenue II running east-west approximately one mile south of 6th Street. It provides two lanes in each direction with left-turn lanes at intersections and metered on-street parking with afternoon peak hour restrictions on the north side of the street and morning peak hour restrictions on the south side of the street. Inside lanes are generally 10 feet wide and the total paved width is 56 feet.

- **Venice Boulevard** – Venice Boulevard is a designated Avenue II running east-west 1.3 miles south of 6th Street. It generally provides four travel lanes, with left-turn lanes at intersections. There is one-hour unmetered parking with afternoon peak hour restrictions on the north side of the street. There is no center left-turn lane, but there are left-turn pockets at most intersections. Inside lanes are generally 10 feet wide and the total paved width is 56 feet.

- **Washington Boulevard** – Washington Boulevard is a designated Avenue I west of Hoover Street and Boulevard II east of Hoover Street running east-west 1.6 miles south of 6th Street. It provides two lanes in each direction with left-turn lanes at intersections. On-street unmetered parking is generally available, with afternoon peak hour restrictions on the north side of the street and morning peak hour restrictions on the south side of the street. Inside lanes are generally 10 feet wide and the total paved width is 72 feet.

- **Adams Boulevard** – Adams Boulevard is a designated Avenue I running east-west two miles south of 6th Street. It provides two lanes in each direction with left-turn lanes at intersections. On-street unmetered parking is generally available on both sides of the street. Inside lanes are generally 10 feet wide and the total paved width is 60 feet.

- **Western Avenue** – Western Avenue is a designated Avenue II running north-south one mile west of Vermont Avenue. It provides two lanes in each direction and on-street metered parking. There is no center left-turn lane, but there are left-turn pockets at most intersections. Inside lanes are generally 10 feet wide and the total paved width is 56 feet.
Normandie Avenue – Normandie Avenue is a designated Avenue III north of Pico Boulevard and Avenue II south of Pico Boulevard running north-south 0.5 miles west of Vermont Avenue. It diverges from Irolo Street north of Olympic Boulevard and continues from Irolo Street north of Wilshire Boulevard. It provides four travel lanes, with left-turn lanes at intersections, north of Wilshire Boulevard and south of Olympic Boulevard. North of Wilshire Boulevard metered and unmetered parking is generally available, with morning peak hour restrictions on the west side of the street and afternoon peak hour restrictions on the east side of the street. South of Olympic Boulevard, free parking is generally available with morning peak hour restrictions on the east side of the street and afternoon peak hour restrictions on the west side of the street. Inside lanes are generally 10 feet wide and the total paved width is 40 feet north of Pico Boulevard and 60 feet south of Pico Boulevard.

Berendo Street – Berendo Street is a Local Street running north-south two blocks west of Vermont Avenue. It provides one lane in each direction and on-street parking on both sides. The total paved width is 28 feet.

New Hampshire Avenue – New Hampshire Avenue is a Local Street running north-south one block west of Vermont Avenue. It provides one lane in each direction and on-street parking on both sides. The total paved width is 36 feet with a dashed centerline.

Vermont Avenue – Vermont Avenue is a designated Avenue I running north-south adjacent to the Project Sites. It provides two lanes in each direction and left-turn lanes at intersections. Metered parking with peak hour restrictions is generally available on the west side of the street and metered and unmetered parking with peak hour restrictions is generally available on the east side of the street. Inside lanes are generally 10 feet wide and the total paved width is 60 feet south of Wilshire Boulevard and 70 feet north of Wilshire Boulevard.

Shatto Place – Shatto Place is a designated Local Street running north-south one block east of Vermont Avenue. It provides one lane in each direction and on-street unmetered parking. There is a center left-turn lane, and left-turn pockets at most intersections. The total paved width is 50 feet.

Westmoreland Avenue – Westmoreland Avenue is a designated Collector Street running north-south two blocks east of Vermont Avenue. It provides one lane in each direction and on-street unmetered parking on both sides. The total paved width is 50 feet with a dashed centerline.

Virgil Avenue – Virgil Avenue is a designated Avenue II running north-south 0.25 miles east of Vermont Avenue. It provides two lanes in each direction and on-street unmetered parking. There is no center left-turn lane, but there are left-turn pockets at most intersections. Inside lanes are generally 10 feet wide and the total paved width is 60 feet.

Hoover Street – Hoover Street is a designated Local Street north of Wilshire Boulevard and Avenue II running north-south 0.4 miles east of Vermont Avenue. It provides two lanes in each direction, with left-turn lanes at intersections. Unmetered parking is generally available on both sides of the street. Inside lanes are generally 10 feet wide and the total paved width is 60 feet.
- **Rampart Boulevard** – Rampart Boulevard is a designated Avenue I between Beverly Boulevard and 6th Street and Avenue II south of 6th Street running northeast-southwest approximately 0.5 miles east of Vermont Avenue. It provides two lanes in each direction, with left-turn lanes at intersections and Class II bike lanes between Beverly Boulevard and 6th Street. On-street unmetered parking is available on both sides of the street. Inside lanes are generally 10 feet wide and the total paved width is 40 feet south of 6th Street and 76 feet north of 6th Street.

- **Alvarado Street** – Alvarado Street is a designated Avenue II running northeast-southwest approximately 0.5 miles east of Vermont Avenue. It provides two lanes in each direction, with left-turn lanes at intersections. Metered parking is generally available on both sides of the street with morning peak hour restrictions north of Olympic Boulevard on the west side of the street and afternoon peak hour restrictions north of Olympic Boulevard on the east side of the street. Inside lanes are generally 10 feet wide and the total paved width varies between 60 feet and 72 feet.

**EXISTING TRANSIT SYSTEM**

The Project vicinity is served by bus and rail lines operated by Metro, DASH, and Foothill Transit, as shown in Figure 4. The following provides a brief description of each route that passes near enough to the Project Sites to be usable by Project residents, employees, and visitors:

- **Metro Local Line 16** – Route 16 is a local bus line that travels from Downtown Los Angeles to Century City via 3rd Street and provides service to Koreatown, Beverly Grove, and Beverly Hills. It provides a stop at 3rd Street & Vermont Avenue in the vicinity of the Project Sites. It has headways of five minutes during the weekday morning and afternoon peak hours.

- **Metro Local Line 17** – Route 17 is a local bus line that travels from Downtown Los Angeles to Culver City via 3rd Street and provides service to Koreatown, Beverly Grove, and Palms. It provides a stop at 3rd Street & Vermont Avenue in the vicinity of the Project Sites. It has headways of five minutes during the weekday morning and afternoon peak hours.

- **Metro Local 18** – Route 18 is a local bus line that travels from Wilshire Center (at Western Avenue & Wilshire Boulevard) to the Montebello Metrolink station. It provides service through Downtown Los Angeles, Boyle Heights, and East Los Angeles. It provides a stop at Vermont Avenue & 6th Street adjacent to the Project Site. It has headways of between five and 12 minutes during the peak periods, depending on direction.

- **Metro Local Line 20** – Route 20 is a local bus line that travels from Downtown Los Angeles to Santa Monica via Wilshire Boulevard and provides service to Koreatown, Westwood, and the Metro Purple Line. It provides a stop at Vermont Avenue & Wilshire Boulevard in the vicinity of the Project Sites. It has headways of 6 to 15 minutes during the weekday morning and afternoon peak hours.
• **Metro Local 66** – Route 66 is a local bus line that travels from Montebello to the Wilshire Center via 6th Street and Olympic Boulevard. This line provides service to Koreatown, Downtown Los Angeles, West Lake, Boyle Heights, East Los Angeles, the city of Commerce and Montebello, and travels along Olympic Boulevard with a stop at Vermont Avenue and 8th Street south of the Project Sites. It has average headways of 5 to 15 minutes during the weekday morning and afternoon peak hours.

• **Metro Local 201** – Route 201 is a local line that travels from Glendale to Koreatown via Vermont Avenue and provides service to Koreatown, Silver Lake, and Atwater Village. It provides a stop at Vermont Avenue & 6th Street adjacent to the Project Sites. It travels once per hour during the weekday morning and afternoon peak hours.

• **Metro Local 204** – Route 204 is a local line that travels from Hollywood to Athens via Vermont Avenue and provides service to Koreatown, Exposition Park, and Westmont. It provides a stop at Vermont Avenue & 6th Street adjacent to the Project Sites. It has average headways of 10 minutes during the weekday morning and afternoon peak hours.

• **Metro Local 206** – Route 206 is a local line that travels from Hollywood to Athens via Normandie Avenue and provides service to Koreatown and Westmont. It provides a stop at Normandie Avenue & 6th Street in the vicinity of the Project Sites. It has average headways of 10 minutes during the weekday morning and afternoon peak hours.

• **Metro Local Line 316** – Route 316 is a local bus line that travels from Downtown Los Angeles to Century City via 3rd Street and provides service to Koreatown, Beverly Grove, and Beverly Hills. It provides a stop at 3rd Street & Vermont Avenue in the vicinity of the Project Sites. It has headways of 5 minutes during the weekday morning and afternoon peak hours.

• **Metro Rapid 603** – Route 603 is a shuttle bus line that travels from Downtown Los Angeles to Glendale, providing service through Echo Park and Westlake on the way. It provides a stop at Hoover Street & 8th Street in the vicinity of the Project Sites. It has headways of between 10 and 12 minutes during the peak periods, depending on direction.

• **Metro Rapid 720** – Route 720 is a limited-stop bus line that travels from Santa Monica to Commerce, providing service through Westwood and Los Angeles on the way. It provides a stop at Vermont Avenue & Wilshire Boulevard in the vicinity of the Project Sites. It has headways of between 3 and 10 minutes during the peak periods, depending on direction.

• **Metro Rapid 754** – Route 754 is a rapid line that travels from Hollywood to Athens via Vermont Avenue and provides service to Vermont Knolls and Koreatown. It provides a stop at Vermont Avenue & Wilshire Boulevard in the vicinity of the Project Sites. It has average headways of 6 minutes during the weekday morning and afternoon peak hours.

• **LADOT DASH Wilshire Center / Koreatown** – DASH Wilshire Center/Koreatown is a local line that travels in a loop through Wilshire Center / Koreatown. It generally travels on 3rd Street and 1st Street, Vermont Avenue, 9th Street / James M. Wood Boulevard, and Western Avenue, with average headways of 20 minutes during the weekday morning and afternoon peak hours. It provides a direct connection to the Metro Purple Line Wilshire / Western Station and Metro Purple Line and Red Line Wilshire / Vermont Station.
• **Foothill Transit 481** – Route 481 is a local line that travels from El Monte to Downtown Los Angeles and provides service to Monterey Park, Downtown Los Angeles, and Koreatown. It provides a stop at Vermont Avenue & Wilshire Boulevard near the Project Sites. It has average headways of 15 minutes in the westbound direction during the weekday morning peak hour and in the eastbound direction during the afternoon peak hour.

• **Metro Red Line and Purple Line Subways** – The Red Line and Purple Line subways stop at the Wilshire / Vermont Metro Station one block south of the Project Site. The Red Line travels between North Hollywood and Union Station in Downtown Los Angeles. The Purple Line travels between the Wilshire / Western Station and Union Station. Each has headways of 10 minutes in each direction throughout the day; therefore, there is subway service to and from Downtown Los Angeles every five minutes, and to or from North Hollywood or the Wilshire / Western Metro Station every 10 minutes.

Table 4 summarizes the transit lines operating in the vicinity of the Project Sites. It shows the routes organized by service provider, the type of service (peak vs. off-peak, express vs. local), and frequency of service, as described above. The average headways during the peak hour were estimated using detailed trip and ridership data from October 2016 provided by Metro.

Tables 5A and 5B summarize the total available capacity of the Metro transit system (no data was readily available for the LADOT DASH or Foothill Transit bus systems) near the Project Sites during the morning and afternoon peak hours, respectively, based on the frequency of service of each line, the standing capacity of each bus or train, and the average peak hour load in each direction. As shown in Tables 5A and 5B, the Metro bus and rail lines within the Study Area have available capacity for approximately 14,140 additional riders during the morning peak hour and approximately 12,300 riders during the afternoon peak hour.

**BICYCLE NETWORK**

Within the Study Area, there are various bicycle facilities, including on-street bicycle lanes and sharrows (shared lanes between bicycles and vehicles). There are on-street bicycle lanes in the following locations:

- 1st Street between Vermont Avenue and Beverly Boulevard
- 7th Street between Catalina Street (three blocks west of Vermont Avenue) to Downtown Los Angeles.
- 11th Street between Hoover Street and Alvarado Street
- Oxford Avenue between Beverly Boulevard and 3rd Street
- Hoover Street south of Venice Boulevard
- Rampart Boulevard between Beverly Boulevard and 6th Street

Additionally, there are sharrows on the following streets:

- 4th Street west of Hoover Street
- Adams Boulevard east of Vermont Avenue
- New Hampshire Avenue north of 6th Street (and extending north of US 101 via a jog on Rosewood Avenue to Heliotrope Drive)
- Rampart Boulevard south of 6th Street and north of Beverly Boulevard

**PEDESTRIAN NETWORK**

The walkability of existing facilities for pedestrians is based on the availability of pedestrian routes necessary to accomplish daily tasks without the use of an automobile. These attributes are quantified by WalkScore.com and assigned a score out of 100 points. The walkability of the vicinity of the Project Sites is rated at 97 points compared with a citywide score of 66 points. There are wide sidewalks lining the streets, crosswalks available at the intersections, and many shops, restaurants, and other services within walking distance of the Project Site.

**VISION ZERO**

As described in *Vision Zero: Eliminating Traffic Deaths in Los Angeles by 2025* (City of Los Angeles, August 2015), Vision Zero is a traffic safety policy that promotes strategies to eliminate collisions that result in severe injury or death. Vision Zero has identified the High Injury Network, a network of streets based on the collision data from the last five years, where strategic investments will have the biggest impact in reducing death and severe injury. Within the Study Area, nearly all of the arterial streets (Avenues and Boulevards), many of the collector streets, and some of the local streets have been identified in the High Injury Network. Both Vermont Avenue and 6th Street have been identified along their entire lengths through the Study Area.
EXISTING TRAFFIC VOLUMES AND LEVELS OF SERVICE

This section presents the existing peak hour turning movement traffic volumes for the intersections analyzed in the study, describes the methodology used to assess the traffic conditions at each intersection, and analyzes the resulting operating conditions at each intersection indicating V/C ratios or delay and LOS.

**Existing Traffic Volumes**

Intersection turning movement counts were conducted at the 38 study intersections during the weekday morning (7:00 AM to 10:00 AM) and afternoon (3:00 PM to 6:00 PM) peak periods in November 2016 (except for three locations that were counted in November 2015 and one counted in December 2016) and represent Existing Year 2017 conditions for the purposes of this analysis. The existing intersection peak hour traffic volumes are illustrated in Figure 5. Traffic count worksheets are provided in Appendix B.

**Existing Intersection Levels of Service – Signalized Intersections**

Table 6 summarizes the weekday morning and afternoon peak hour LOS results for each of the study intersections under Existing Year 2017 Conditions. As shown, all of the study intersections currently operate at LOS D or better during both the morning and afternoon peak hours.
### EXISTING YEAR 2017 CONDITIONS

**PEAK HOUR TRAFFIC VOLUMES**

<table>
<thead>
<tr>
<th>Site Description</th>
<th>AM Traffic Volumes</th>
<th>PM Traffic Volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shatto Place &amp; 6th Street</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rampart Boulevard &amp; 6th Street</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alvarado Street &amp; 6th Street</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Western Avenue &amp; Wilshire Boulevard</td>
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<td></td>
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<td>Normandie Ave / Irolo St &amp; Wilshire Boulevard</td>
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<td>Vermont Avenue &amp; Wilshire Boulevard</td>
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</tr>
<tr>
<td>Hoover Street &amp; Wilshire Boulevard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alvarado Street &amp; 7th Street</td>
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<td></td>
</tr>
<tr>
<td>Vermont Avenue &amp; 7th Street</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Legend:**
- Project Site
- #(#) AM(PM) Peak Hour Traffic Volumes
- Analyzed Intersection
- Negligible Volume

*FIGURE 5 (CONT..)*
### TABLE 4
**EXISTING TRANSIT SERVICE SERVING PROJECT SITES**

<table>
<thead>
<tr>
<th>Provider, Route, and Service Area</th>
<th>Service Type</th>
<th>Hours of Operation in Study Area</th>
<th>Approximate Headway (minutes) [a]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Metro Rail Service</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red Line Downtown Los Angeles - North Hollywood</td>
<td>Subway</td>
<td>4:00 A.M. - 1:00 A.M.</td>
<td>10</td>
</tr>
<tr>
<td>Purple Line Downtown Los Angeles - Western &amp; Wilshire</td>
<td>Subway</td>
<td>4:00 A.M. - 1:00 A.M.</td>
<td>10</td>
</tr>
<tr>
<td><strong>Metro Bus Service</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16/17/316 Downtown Los Angeles - Century City/Culver City via 3rd Street</td>
<td>Local</td>
<td>4:00 A.M. - 1:00 A.M.</td>
<td>5</td>
</tr>
<tr>
<td>18 Downtown Los Angeles - Montebello/Wilshire/Western Station via 6th Street &amp; Whittier Bl</td>
<td>Local</td>
<td>4:30 A.M. - 12:30 A.M.</td>
<td>5</td>
</tr>
<tr>
<td>20 Downtown Los Angeles - Downtown LA/Santa Monica via Wilshire Bl</td>
<td>Local</td>
<td>24 - Hour</td>
<td>15</td>
</tr>
<tr>
<td>66 Downtown Los Angeles - Montebello/Wilshire Center via 8th Street &amp; Olympic Bl</td>
<td>Local</td>
<td>4:30 A.M. - 1:30 A.M.</td>
<td>5</td>
</tr>
<tr>
<td>201 Glendale to Koreatown via Vermont Avenue &amp; Silver Lake Boulevard</td>
<td>Local</td>
<td>6:00 A.M. - 9:00 P.M.</td>
<td>60</td>
</tr>
<tr>
<td>204 Hollywood - Athens via Vermont Ave</td>
<td>Local</td>
<td>24 - Hour</td>
<td>10</td>
</tr>
<tr>
<td>206 Hollywood - Athens via Normandie Ave</td>
<td>Local</td>
<td>4:30 A.M. - 1:30 A.M.</td>
<td>10</td>
</tr>
<tr>
<td>603 Glendale Galleria - Grand Station via Hoover Street, Rampart Bl &amp; Wilshire Bl</td>
<td>Shuttle</td>
<td>5:00 A.M. - 11:00 P.M.</td>
<td>10</td>
</tr>
<tr>
<td>720 LA/Commerce - Santa Monica via Wilshire Bl &amp; Whittier Bl</td>
<td>Express</td>
<td>4:00 A.M. - 1:00 A.M.</td>
<td>10</td>
</tr>
<tr>
<td>754 Hollywood - Athens via Vermont Ave</td>
<td>Express</td>
<td>5:00 A.M. - 9:00 P.M.</td>
<td>6</td>
</tr>
<tr>
<td><strong>LADOT DASH Bus Service</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WCK Wilshire Center/Koreatown</td>
<td>Local</td>
<td>7:00 A.M. - 7:30 P.M.</td>
<td>20</td>
</tr>
<tr>
<td><strong>Foothill Transit</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>481 Downtown Los Angeles - El Monte</td>
<td>Express</td>
<td>6:00 A.M. - 6:00 P.M.</td>
<td>15</td>
</tr>
</tbody>
</table>

**Notes**

- Metro: Los Angeles County Metropolitan Transportation Authority
- LADOT DASH: Los Angeles Department of Transportation Downtown Area Shuttle
- Headway information based on operating and ridership data from Metro for October 2016.

---

37
### TABLE 5A
TRANSIT SYSTEM CAPACITY SERVING PROJECT SITES - MORNING PEAK HOUR

<table>
<thead>
<tr>
<th>Provider, Route, and Stop Location</th>
<th>Capacity per Trip [a]</th>
<th>Peak Hour Ridership [b]</th>
<th>Average Remaining Capacity per Trip</th>
<th>Remaining Peak Hour Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Peak Load</td>
<td>Average Load</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NB/EB</td>
<td>SB/WB</td>
<td>NB/EB</td>
</tr>
<tr>
<td><strong>Metro Rail Service</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red Line Wilshire / Vermont</td>
<td>750</td>
<td>n/a</td>
<td>n/a</td>
<td>405</td>
</tr>
<tr>
<td>Purple Line Wilshire / Vermont</td>
<td>500</td>
<td>n/a</td>
<td>n/a</td>
<td>101</td>
</tr>
<tr>
<td><strong>Metro Bus Service</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16/17/316 Vermont Avenue at 3rd Street</td>
<td>50</td>
<td>37</td>
<td>35</td>
<td>27</td>
</tr>
<tr>
<td>18 Vermont Avenue at 6th Street</td>
<td>50</td>
<td>25</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>20 Vermont Avenue at Wilshire Boulevard</td>
<td>50</td>
<td>34</td>
<td>34</td>
<td>30</td>
</tr>
<tr>
<td>66 Vermont Avenue at 8th Street</td>
<td>50</td>
<td>31</td>
<td>20</td>
<td>26</td>
</tr>
<tr>
<td>201 Vermont Avenue at 6th Street</td>
<td>50</td>
<td>16</td>
<td>5</td>
<td>16</td>
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<tr>
<td>204 Vermont Avenue at 6th Street</td>
<td>50</td>
<td>45</td>
<td>25</td>
<td>37</td>
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<tr>
<td>206 Normandie Avenue at 6th Street</td>
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<td>29</td>
<td>36</td>
<td>25</td>
</tr>
<tr>
<td>603 Hoover Street at 8th Street</td>
<td>50</td>
<td>24</td>
<td>21</td>
<td>17</td>
</tr>
<tr>
<td>720 Vermont Avenue at Wilshire Boulevard</td>
<td>75</td>
<td>41</td>
<td>59</td>
<td>30</td>
</tr>
<tr>
<td>754 Vermont Avenue at Wilshire Boulevard</td>
<td>75</td>
<td>51</td>
<td>46</td>
<td>34</td>
</tr>
</tbody>
</table>

| LADOT DASH Bus Service            |                       |                   |                                    |                             |
| WCK Wilshire Center/Koreatown     | 30                    | no data provided  |                                    |                             |

| Foothill Transit                  |                       |                   |                                    |                             |
| 481 Downtown Los Angeles - El Monte| 50               | no data provided  |                                    |                             |

| Total Rail Service Capacity       | 9,384                 |
| Total Bus Service Capacity        | 4,758                 |
| Total Transit System Capacity     | 14,142                |

**Notes**
- Metro: Los Angeles County Metropolitan Transportation Authority
- LADOT DASH: Los Angeles Department of Transportation Downtown Area Shuttle
- [a] Capacity assumptions:
  - Metro Regular Bus - 40 seated / 50 standing.
  - Metro Articulated Bus (for Rapid routes) - 66 seated / 75 standing.
  - Metro Red Line - 55 seats / car, 6 cars / run during peak periods. Metro assumes a maximum capacity of 230% of seated capacity, or approximately 125 / car.
  - Metro Purple Line - 55 seats / car, 4 cars / run during peak periods. Metro assumes a maximum capacity of 230% of seated capacity, or approximately 125 / car.
  - LADOT DASH - 25 seated / 30 standing.
- [b] Ridership information based on data from Metro for October 2016.
### TABLE 5B
TRANSIT SYSTEM CAPACITY SERVING PROJECT SITES - AFTERNOON PEAK HOUR

<table>
<thead>
<tr>
<th>Provider, Route, and Stop Location</th>
<th>Capacity per Trip [a]</th>
<th>Peak Hour Ridership [b]</th>
<th>Average Remaining Capacity per Trip</th>
<th>Remaining Peak Hour Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Peak Load</td>
<td>Average Load</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NB/EB</td>
<td>SB/WB</td>
<td>NB/EB</td>
</tr>
<tr>
<td><strong>Metro Rail Service</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red Line Wilshire / Vermont</td>
<td>750</td>
<td>n/a</td>
<td>n/a</td>
<td>392</td>
</tr>
<tr>
<td>Purple Line Wilshire / Vermont</td>
<td>500</td>
<td>n/a</td>
<td>n/a</td>
<td>163</td>
</tr>
<tr>
<td><strong>Metro Bus Service</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16/17/316 Vermont Avenue at 3rd Street</td>
<td>50</td>
<td>43</td>
<td>40</td>
<td>33</td>
</tr>
<tr>
<td>18 Vermont Avenue at 6th Street</td>
<td>50</td>
<td>26</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>20 Vermont Avenue at Wilshire Boulevard</td>
<td>50</td>
<td>34</td>
<td>37</td>
<td>23</td>
</tr>
<tr>
<td>66 Vermont Avenue at 8th Street</td>
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<td>201 Vermont Avenue at 6th Street</td>
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<td>204 Vermont Avenue at 6th Street</td>
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</tr>
<tr>
<td>206 Normandie Avenue at 6th Street</td>
<td>50</td>
<td>37</td>
<td>36</td>
<td>30</td>
</tr>
<tr>
<td>603 Hoover Street at 8th Street</td>
<td>50</td>
<td>19</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>720 Vermont Avenue at Wilshire Boulevard</td>
<td>75</td>
<td>46</td>
<td>51</td>
<td>26</td>
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<tr>
<td>754 Vermont Avenue at Wilshire Boulevard</td>
<td>75</td>
<td>45</td>
<td>52</td>
<td>37</td>
</tr>
<tr>
<td><strong>LADOT DASH Bus Service</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WCK Wilshire Center/Koreatown</td>
<td>30</td>
<td>no data provided</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Foothill Transit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>481 Downtown Los Angeles - El Monte</td>
<td>50</td>
<td>no data provided</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Total Rail Service Capacity        | 7,950                  |
| Total Bus Service Capacity         | 4,349                  |
| Total Transit System Capacity      | 12,299                 |

**Notes**

Metro: Los Angeles County Metropolitan Transportation Authority

LADOT DASH: Los Angeles Department of Transportation Downtown Area Shuttle

[a] Capacity assumptions:

- Metro Regular Bus - 40 seated / 50 standing.
- Metro Articulated Bus (for Rapid routes) - 66 seated / 75 standing.
- Metro Red Line - 55 seats / car, 6 cars / run during peak periods. Metro assumes a maximum capacity of 230% of seated capacity, or approximately 125 / car.
- Metro Purple Line - 55 seats / car, 4 cars / run during peak periods. Metro assumes a maximum capacity of 230% of seated capacity, or approximately 125 / car.
- LADOT DASH - 25 seated / 30 standing.

[b] Ridership information based on data from Metro for October 2016.
# TABLE 6
EXISTING YEAR 2017 CONDITIONS
INTERSECTION LEVELS OF SERVICE

<table>
<thead>
<tr>
<th>No.</th>
<th>Intersection</th>
<th>Peak Hour</th>
<th>Existing Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A.M.</td>
<td>P.M.</td>
</tr>
<tr>
<td>1.</td>
<td>Vermont Avenue &amp; US 101 Northbound On-ramp</td>
<td>0.509</td>
<td>0.476</td>
</tr>
<tr>
<td>2.</td>
<td>Vermont Avenue &amp; US 101 Northbound Off-ramp</td>
<td>0.417</td>
<td>0.464</td>
</tr>
<tr>
<td>3.</td>
<td>US 101 Southbound Off-ramp / New Hampshire Street &amp; Rosewood Avenue</td>
<td>0.269</td>
<td>0.290</td>
</tr>
<tr>
<td>4.</td>
<td>Vermont Avenue &amp; Rosewood Avenue</td>
<td>0.536</td>
<td>0.577</td>
</tr>
<tr>
<td>5.</td>
<td>Vermont Avenue &amp; Oakwood Avenue / US 101 Southbound On-ramp</td>
<td>0.571</td>
<td>0.558</td>
</tr>
<tr>
<td>6.</td>
<td>Vermont Avenue &amp; Beverly Boulevard</td>
<td>0.678</td>
<td>0.744</td>
</tr>
<tr>
<td>7.</td>
<td>Vermont Avenue &amp; 1st Street</td>
<td>0.540</td>
<td>0.660</td>
</tr>
<tr>
<td>8.</td>
<td>Western Avenue &amp; 3rd Street</td>
<td>0.749</td>
<td>0.744</td>
</tr>
<tr>
<td>9.</td>
<td>Normandie Avenue &amp; 3rd Street</td>
<td>0.641</td>
<td>0.618</td>
</tr>
<tr>
<td>10.</td>
<td>Vermont Avenue &amp; 3rd Street</td>
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<td>0.752</td>
</tr>
<tr>
<td>11.</td>
<td>Virgil Avenue &amp; 3rd Street</td>
<td>0.734</td>
<td>0.735</td>
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<td>12.</td>
<td>Rampart Boulevard &amp; 3rd Street</td>
<td>0.622</td>
<td>0.707</td>
</tr>
<tr>
<td>13.</td>
<td>Vermont Avenue &amp; 4th Street</td>
<td>0.579</td>
<td>0.573</td>
</tr>
<tr>
<td>14.</td>
<td>Shatto Place &amp; 4th Street</td>
<td>0.431</td>
<td>0.388</td>
</tr>
<tr>
<td>15.</td>
<td>Vermont Avenue &amp; 5th Street</td>
<td>0.424</td>
<td>0.437</td>
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<tr>
<td>16.</td>
<td>Western Avenue &amp; 6th Street</td>
<td>0.501</td>
<td>0.537</td>
</tr>
<tr>
<td>17.</td>
<td>Normandie Avenue &amp; 6th Street</td>
<td>0.590</td>
<td>0.585</td>
</tr>
<tr>
<td>18.</td>
<td>Vermont Avenue &amp; 6th Street</td>
<td>0.701</td>
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</tr>
<tr>
<td>19.</td>
<td>Shatto Place &amp; 6th Street</td>
<td>0.519</td>
<td>0.527</td>
</tr>
</tbody>
</table>
### TABLE 6 (continued)
**EXISTING YEAR 2017 CONDITIONS**
**INTERSECTION LEVELS OF SERVICE**

<table>
<thead>
<tr>
<th>No.</th>
<th>Intersection</th>
<th>Peak Hour</th>
<th>Existing Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>V/C</td>
</tr>
<tr>
<td>20.</td>
<td>Rampart Boulevard &amp; 6th Street</td>
<td>A.M.</td>
<td>0.651</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.771</td>
</tr>
<tr>
<td>21.</td>
<td>Alvarado Street &amp; 6th Street</td>
<td>A.M.</td>
<td>0.577</td>
</tr>
<tr>
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<td></td>
<td>P.M.</td>
<td>0.512</td>
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<tr>
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<td>0.836</td>
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<tr>
<td></td>
<td></td>
<td>P.M.</td>
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</tr>
<tr>
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<td>Normandie Avenue &amp; Wilshire Boulevard</td>
<td>A.M.</td>
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</tr>
<tr>
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<td></td>
<td>P.M.</td>
<td>0.678</td>
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<td>P.M.</td>
<td>0.791</td>
</tr>
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<td>0.632</td>
</tr>
<tr>
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<td></td>
<td>P.M.</td>
<td>0.607</td>
</tr>
<tr>
<td>26.</td>
<td>Alvarado Street &amp; Wilshire Boulevard</td>
<td>A.M.</td>
<td>0.599</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.581</td>
</tr>
<tr>
<td>27.</td>
<td>Vermont Avenue &amp; 7th Street</td>
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<td>0.627</td>
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<tr>
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<td>P.M.</td>
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<td>A.M.</td>
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<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.673</td>
</tr>
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<td>29.</td>
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<td>A.M.</td>
<td>0.763</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.810</td>
</tr>
<tr>
<td>30.</td>
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<td>A.M.</td>
<td>0.866</td>
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<tr>
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<td></td>
<td>P.M.</td>
<td>0.841</td>
</tr>
<tr>
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<td>A.M.</td>
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<tr>
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<td>P.M.</td>
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<tr>
<td>32.</td>
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<td>A.M.</td>
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<tr>
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<td>P.M.</td>
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</tr>
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<td>P.M.</td>
<td>0.880</td>
</tr>
<tr>
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<td>Vermont Avenue &amp; I-10 Westbound Ramps</td>
<td>A.M.</td>
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<td>P.M.</td>
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<td>Vermont Avenue &amp; I-10 Eastbound Ramps</td>
<td>A.M.</td>
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</tr>
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<td>P.M.</td>
<td>0.802</td>
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<td>P.M.</td>
<td>0.831</td>
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<td>38.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.832</td>
</tr>
</tbody>
</table>
Chapter 4
Future Conditions without Project

Estimates of future traffic conditions without the Project were developed to represent a baseline against which to evaluate the potential impacts of the Project on the local street system. This discussion details the assumptions used to develop the Interim Year 2021 without Project Conditions and the Buildout Year 2023 without Project Conditions, which corresponds to the anticipated completion of Phase 1 (Year 2021) and Phase 2 (Year 2023).

The existing traffic volumes were factored by an annual ambient growth rate to approximate regional growth and development. In addition to the ambient growth, for purposes of providing a conservative analysis of potential cumulative traffic impacts, the traffic generated by proposed, approved, and under construction projects in and around the Study Area was also added to estimate Interim Year 2021 and Buildout Year 2023 without Project traffic conditions.

AMBIENT TRAFFIC GROWTH

Traffic levels are expected to increase over time as a result of regional growth and development in and around the Study Area. Based on discussions with LADOT through the MOU process, an ambient growth factor of 1% per year compounded annually was used to adjust the existing traffic volumes to reflect the effects of the regional growth and development. The total adjustment applied over the four-year period from Year 2017 to Year 2021 was 4.06%. The total adjustment over the six-year period from Year 2017 to Year 2023 was 6.15%. These growth factors account for increases in traffic due to potential projects not yet proposed or projects outside the Study Area.
RELATED PROJECTS

This study also considers growth in traffic due to other projects proposed, approved, or under construction in and around the Study Area, known as the Related Projects. The list of Related Projects is based on information provided by LADOT, as well as recent studies of projects in the area. The Related Projects are detailed in Table 7 and shown in Figure 6 and include all projects within a one-mile radius of any study intersections, which is generally at least two miles in all directions from the Project Site.

The development of estimated traffic volumes added to the Study Area as a result of Related Projects involves the use of a three-step process: trip generation, trip distribution, and trip assignment.

**Trip Generation**

Trip generation estimates for the Related Projects were provided by LADOT, and are generally based on previous study findings and the trip generation rates contained in *Trip Generation, 9th Edition* (Institute of Transportation Engineers [ITE], 2012) (“ITE Trip Generation Report”). Table 7 summarizes the Related Project trip generation for typical weekdays, including daily trips, morning peak hour trips, and afternoon peak hour trips. These projections are very conservative in that they do not in every case account for either the trips generated by the existing uses to be removed or the likely use of other travel modes (transit, bicycle, walk, etc.)

**Trip Distribution**

The geographic distribution of the traffic generated by the Related Projects is dependent on several factors. These include the type and density of the proposed land uses, the geographic distribution of the population from which the employees/residents and potential patrons of the proposed developments are drawn, and the location of these projects in relation to the surrounding street system. These factors are considered along with logical travel routes through the street system to develop a reasonable pattern of trip distribution.
**Trip Assignment**

The trip generation estimates for the Related Projects were assigned to the local street system using the trip distribution pattern described above. These volumes were then added to the existing traffic volumes after adjustment for ambient growth through the future analysis years of 2021 and 2023. As discussed above, this is a conservative approach as many of the Related Projects may be reflected in the ambient growth rate. The Related Project traffic volumes are shown in Figure 7 for the morning and afternoon peak hours.

**FUTURE INFRASTRUCTURE IMPROVEMENTS**

The roadway network for the Interim Year 2021 without Project Conditions and Buildout Year 2023 without Project Conditions within the Study Area could also be affected by regional improvement plans, local specific plans, and programmed improvements. In particular, Mobility Plan 2035 and 2010 Bicycle Plan, A Component of the City of Los Angeles Transportation Element (Los Angeles Department of City Planning, adopted March 1, 2011) (“2010 Bicycle Plan”) provide guidelines for long-range improvements to streets within the Study Area. Also, Metro’s long-range planning includes the potential for exclusive rapid transit – by bus or by rail – on Vermont Avenue.

**Mobility Plan 2035**

In Mobility Plan 2035, the City identifies key corridors as components of various “mobility-enhanced networks.” Each network is intended to focus on improving a particular aspect of urban mobility, including transit, neighborhood connectivity, bicycles, pedestrians, and vehicles. The specific improvements that may be implemented in those networks have not yet been identified and there is no schedule for implementation. The following mobility-enhanced networks include corridors within the Study Area:

**Transit Enhanced Network.** 3rd Street was identified as a Moderate Transit-Enhanced Street. Beverly Boulevard, Western Avenue, and Alvarado Street were identified as Moderate Plus Transit-Enhanced Streets. Wilshire Boulevard, Washington Boulevard and Vermont Avenue
were identified as Comprehensive Transit-Enhanced Streets. Each of these designations
denotes an escalating level of priority for future transit service.

**Neighborhood Enhanced Network.** Portions of numerous smaller streets within the Study
Area were identified as part of the Priority Neighborhood Enhanced Network. These streets are
intended to provide a calm and safe environment for walking, biking, and slower travel modes.
Nearest the Project Sites, these include: 6th Street east of Virgil Avenue, New Hampshire
Avenue, Westmoreland Avenue south of 8th Street, Hoover Street south of 8th Street,
Commonwealth Avenue north of 6th Street, 4th Street, and Reno Street.

**Bicycle Enhanced Network / Bicycle Lane Network.** Near the Project Sites, New Hampshire
Avenue and 4th Street are designated bicycle-enhanced segments from the Neighborhood
Enhanced Network (and are equipped with sharrows) and 7th Street (east of New Hampshire
Avenue) and Rampart Boulevard have Tier 1 bicycle lanes installed. 7th Street west of Alvarado
Street, Hoover Street, and Virgil Avenue are designated for Tier 2 bicycle lanes and Vermont
Avenue and Alvarado Street are designated for Tier 3 bicycle lanes.

**Vehicle Enhanced Network.** Olympic Boulevard was identified as part of the Vehicle Enhanced
Network.

**Pedestrian.** All of the major streets in the immediate vicinity of the Project Sites were identified
for pedestrian analysis, which are intended to lead to pedestrian safety improvements on arterial
corridors. The identified streets include Normandie Avenue, Vermont Avenue, Virgil Avenue,
Hoover Street, Rampart Boulevard, Alvarado Street, 3rd Street, 6th Street, Wilshire Boulevard, 7th
Street, 8th Street, and Olympic Boulevard.

The goals of Mobility Plan 2035 within the Study Area would not generally affect the physical
configuration of the streets or intersections.

**2010 Bicycle Plan**

The 2010 Bicycle Plan identifies the City’s vision for a more integrated bicycle network
throughout the City, including within the Study Area. It proposes bicycle lanes on Beverly
Boulevard, 6th Street east of Virgil Avenue, Wilshire Boulevard west of Alvarado Street, 7th Street east of New Hampshire Avenue, Pico Boulevard, Venice Boulevard, Washington Boulevard, Vermont Avenue, Hoover Street, Rampart Boulevard, and Alvarado Street. It also proposes a bicycle route on Adams Boulevard and that the following streets would be configured as bicycle friendly streets (lower-volume residential or collector streets that receive traffic-calming features, signage, and shared-lane markings indicating that bicycles and vehicles should share the road) near the Project Sites: 4th Street, New Hampshire Avenue, and Commonwealth Avenue north of 6th Street.

**High-Capacity Transit on Vermont**

Metro is exploring the possibility of accelerating long-range plans to bring high-capacity transit to Vermont Avenue. The current proposal under study is to incorporate bus rapid transit – likely through exclusively designated bus lanes – up and down Vermont Avenue, including within the Study Area. The design process is temporarily delayed due to the need for additional study to support the potential ultimate conversion of the route into a rail line in the future. Prior to the delay, the earliest construction may begin is estimated to be Year 2024, with operation of designated bus lanes beginning in year 2028 – well after completion of the proposed Project. A potential conversion to rail would not occur for many years following the bus route. Therefore, no changes have been incorporated into the Study Area for the purposes of future traffic analysis in this report.

**Pedestrian Scramble Crosswalks**

LADOT has approved and funded plans to implement pedestrian scramble crosswalks at Intersection #21, Alvarado Street & 6th Street, and Intersection #26, Alvarado Street & Wilshire Boulevard. Scramble crosswalks provide an all-pedestrian phase – when all vehicles are stopped – and allow diagonal crossings. These improvements are expected to be installed by the end of Year 2018. They were, therefore, accounted for in the analysis of Interim Year and Buildout Year conditions as a reduction of intersection capacity to 1,200 vehicles per hour per lane, in accordance with direction from LADOT.
INTERIM YEAR 2021 WITHOUT PROJECT CONDITIONS

The ambient growth (4.06% to Year 2021) and Related Project traffic from Figure 7 were added to the Existing peak hour traffic volumes from Figure 4 to estimate the Interim Year 2021 without Project peak hour traffic volumes, shown in Figure 8. Table 8 summarizes the weekday morning and afternoon peak hour LOS results for each of the study intersections under Interim Year 2021 without Project Conditions. As shown, 23 of the 38 study intersections are projected to operate at LOS D or better during both the weekday morning and afternoon peak hours. The remaining 15 study intersections are projected to operate at LOS E or F during one or both peak hours:

6. Vermont Avenue & Beverly Boulevard (LOS E during the afternoon peak hour)
10. Vermont Avenue & 3rd Street (LOS E during the morning peak hour)
20. Rampart Boulevard & 6th Street (LOS E during the afternoon peak hour)
22. Western Avenue & Wilshire Boulevard (LOS F during both peak hours)
23. Normandie Avenue & Wilshire Boulevard (LOS F during the afternoon peak hour)
24. Vermont Avenue & Wilshire Boulevard (LOS F during both peak hours)
26. Alvarado Street & Wilshire Boulevard (LOS E during the afternoon peak hour)
29. Hoover Street & 8th Street (LOS E during both peak hours)
30. Vermont Avenue & Olympic Boulevard (LOS E during the morning peak hour, LOS F during the afternoon peak hour)
32. Vermont Avenue & Venice Boulevard (LOS E during the afternoon peak hour)
33. Vermont Avenue & Washington Boulevard (LOS E during the morning peak hour, LOS F during the afternoon peak hour)
35. Vermont Avenue & I-10 Eastbound Ramps (LOS E during the afternoon peak hour)
36. Vermont Avenue & Adams Boulevard (LOS E during the morning peak hour)
37. Hoover Street & Olympic Boulevard (LOS F during both peak hours)
38. Alvarado Street & Olympic Boulevard (LOS E during the afternoon peak hour)
BUILDOUT YEAR 2023 WITHOUT PROJECT CONDITIONS

The ambient growth (6.15% to Year 2023) and Related Project traffic from Figure 7 were added to the Existing peak hour traffic volumes from Figure 5 to estimate the Buildout Year 2023 without Project peak hour traffic volumes, shown in Figure 9. Table 9 summarizes the weekday morning and afternoon peak hour LOS results for each of the study intersections under Buildout Year 2023 without Project Conditions. As shown, 23 of the 38 study intersections are projected to operate at LOS D or better during both the weekday morning and afternoon peak hours. The remaining 15 study intersections are projected to operate at LOS E or F during one or both peak hours:

6. Vermont Avenue & Beverly Boulevard (LOS E during the afternoon peak hour)
10. Vermont Avenue & 3rd Street (LOS E during the morning peak hour)
20. Rampart Boulevard & 6th Street (LOS E during the afternoon peak hour)
22. Western Avenue & Wilshire Boulevard (LOS F during both peak hours)
23. Normandie Avenue & Wilshire Boulevard (LOS E during the morning peak hour, LOS F during the afternoon peak hour)
24. Vermont Avenue & Wilshire Boulevard (LOS F during both peak hours)
26. Alvarado Street & Wilshire Boulevard (LOS E during both peak hours)
29. Hoover Street & 8th Street (LOS E during the morning peak hour, LOS F during the afternoon peak hour)
30. Vermont Avenue & Olympic Boulevard (LOS F during both peak hours)
32. Vermont Avenue & Venice Boulevard (LOS E during the afternoon peak hour)
33. Vermont Avenue & Washington Boulevard (LOS E during the morning peak hour, LOS F during the afternoon peak hour)
35. Vermont Avenue & I-10 Eastbound Ramps (LOS F during the afternoon peak hour)
36. Vermont Avenue & Adams Boulevard (LOS E during the morning peak hour)
37. Hoover Street & Olympic Boulevard (LOS F during both peak hours)
38. Alvarado Street & Olympic Boulevard (LOS E during the afternoon peak hour)
INTERIM YEAR 2021 WITHOUT PROJECT CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

FIGURE 8
INTERIM YEAR 2021 WITHOUT PROJECT CONDITIONS
PEAK HOUR TRAFFIC VOLUMES
INTERIM YEAR 2021 WITHOUT PROJECT CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

FIGURE 8 (CONT.)
INTERIM YEAR 2021 WITHOUT PROJECT CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

FIGURE 8 (CONT.)
INTERIM YEAR 2021 WITHOUT PROJECT CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

FIGURE 8 (CONT.)
BUILDOUT YEAR 2023 WITHOUT PROJECT CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

1. Vermont Avenue & US 101 NB On-ramp
2. Vermont Avenue & US 101 NB Off-ramp
3. US 101 SB Off-ramp / New Hampshire St & Rosewood Ave
4. Vermont Avenue & Rosewood Avenue
5. Vermont Avenue & Oakwood Avenue / US 101 SB On-ramp
6. Vermont Avenue & Beverly Boulevard
7. Vermont Avenue & 1st Street
8. Western Avenue & 3rd Street
9. Normandie Avenue & 3rd Street
Buildout Year 2023 Without Project Conditions

Peak Hour Traffic Volumes
<table>
<thead>
<tr>
<th>No.</th>
<th>Project Description</th>
<th>Address</th>
<th>Description</th>
<th>Daily</th>
<th>Morning Peak Hour</th>
<th>Afternoon Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>In</td>
<td>Out</td>
<td>Total</td>
</tr>
<tr>
<td>1.</td>
<td>Office &amp; Apartments</td>
<td>3323 W Olympic Blvd</td>
<td>40 apartment units and 277,720 sf office</td>
<td>1,267</td>
<td>57</td>
<td>30</td>
</tr>
<tr>
<td>2.</td>
<td>Gaju Marketplace (The &quot;G&quot;)</td>
<td>450 S Western Ave</td>
<td>130,500 sf retail market</td>
<td>3,019</td>
<td>47</td>
<td>29</td>
</tr>
<tr>
<td>3.</td>
<td>Mixed-Use</td>
<td>3670 W Wilshire Blvd</td>
<td>378 condominium units and 8,000 sf commercial</td>
<td>2,480</td>
<td>55</td>
<td>142</td>
</tr>
<tr>
<td>4.</td>
<td>Wilshire Coronado</td>
<td>2525 Wilshire Blvd</td>
<td>160 condominium units and 7,500 sf retail</td>
<td>1,160</td>
<td>16</td>
<td>60</td>
</tr>
<tr>
<td>5.</td>
<td>Mixed-Use</td>
<td>3033 W Wilshire Blvd</td>
<td>189 condominium units and 5,500 sf retail</td>
<td>816</td>
<td>12</td>
<td>49</td>
</tr>
<tr>
<td>6.</td>
<td>Tenten Wilshire Expansion</td>
<td>1027 W Wilshire Blvd</td>
<td>402 condominium units and 7,428 sf retail</td>
<td>1,498</td>
<td>21</td>
<td>92</td>
</tr>
<tr>
<td>7.</td>
<td>Shopping Center / Mixed-Use</td>
<td>3060 W Olympic Blvd</td>
<td>109,006 sf retail</td>
<td>4,134</td>
<td>60</td>
<td>26</td>
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<tr>
<td>8.</td>
<td>Mixed-Use</td>
<td>805 S Catalina St</td>
<td>224 condominium units and 7,000 sf retail</td>
<td>1,935</td>
<td>24</td>
<td>119</td>
</tr>
<tr>
<td>9.</td>
<td>Mixed-Use</td>
<td>3200 W Beverly Blvd</td>
<td>32 condominium units and 5,870 sf retail</td>
<td>632</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>11.</td>
<td>Mixed-Use</td>
<td>820 S Hoover St</td>
<td>32 condominium units and 4,500 sf retail</td>
<td>414</td>
<td>7</td>
<td>15</td>
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<tr>
<td>12.</td>
<td>3-story Retail and Office Building</td>
<td>2789 W Olympic Blvd</td>
<td>20,607 sf retail and 2,781 sf office</td>
<td>612</td>
<td>16</td>
<td>8</td>
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<tr>
<td>13.</td>
<td>Condominiums</td>
<td>742 S Hartford Ave</td>
<td>58 condominium units</td>
<td>333</td>
<td>5</td>
<td>21</td>
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<tr>
<td>14.</td>
<td>Office Building</td>
<td>1130 W Wilshire Blvd</td>
<td>95,847 sf office building</td>
<td>964</td>
<td>92</td>
<td>12</td>
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### TABLE 7 (cont'd)
**RELATED PROJECT TRIP GENERATION ESTIMATES**

<table>
<thead>
<tr>
<th>No.</th>
<th>Project</th>
<th>Address</th>
<th>Description</th>
<th>Daily</th>
<th>Trip Generation Estimates</th>
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<th></th>
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<th></th>
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<tr>
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<td></td>
<td></td>
<td></td>
<td>Morning Peak Hour</td>
<td>Afternoon Peak Hour</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>In</td>
<td>Out</td>
<td>Total</td>
<td>In</td>
<td>Out</td>
<td>Total</td>
<td>In</td>
</tr>
<tr>
<td>15.</td>
<td>Oak Village Residences</td>
<td>902 W Washington Blvd</td>
<td>142 townhome / condominium units</td>
<td>482</td>
<td>2</td>
<td>25</td>
<td>27</td>
<td>35</td>
<td>16</td>
<td>51</td>
<td></td>
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<tr>
<td>16.</td>
<td>Affordable Housing and Assisted</td>
<td>2924 W 8th St</td>
<td>42 affordable apartment units and 43 assisted living units</td>
<td>416</td>
<td>6</td>
<td>17</td>
<td>23</td>
<td>18</td>
<td>10</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Living</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>17.</td>
<td>Laborers Local 300 Headquarters</td>
<td>2005 W Pico Blvd</td>
<td>30,300 sf office space</td>
<td>224</td>
<td>28</td>
<td>4</td>
<td>32</td>
<td>5</td>
<td>25</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>Pacific Charter Middle School</td>
<td>1371 W 35th St</td>
<td>300 students, 6th-8th grade</td>
<td>81</td>
<td>15</td>
<td>12</td>
<td>27</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>19.</td>
<td>USC University Park Master Plan</td>
<td>3301 S Hoover St</td>
<td>University expansion master plan</td>
<td>13,574</td>
<td>469</td>
<td>264</td>
<td>733</td>
<td>490</td>
<td>567</td>
<td>1,057</td>
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<td>20.</td>
<td>Western Galleria Market</td>
<td>100 N Western Ave</td>
<td>98 apartment units and 30,000 sf retail</td>
<td>940</td>
<td>17</td>
<td>40</td>
<td>57</td>
<td>54</td>
<td>38</td>
<td>92</td>
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<tr>
<td>22.</td>
<td>Wilshire Temple Master Plan</td>
<td>3663 W Wilshire Blvd</td>
<td>School and office improvements</td>
<td>825</td>
<td>94</td>
<td>44</td>
<td>138</td>
<td>20</td>
<td>3</td>
<td>23</td>
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<td>23.</td>
<td>South LA Redevelopment 3A</td>
<td>3671 S Vermont Ave</td>
<td>80 apartment units and 50,000 sf retail</td>
<td>1,744</td>
<td>24</td>
<td>42</td>
<td>66</td>
<td>85</td>
<td>73</td>
<td>158</td>
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<td>24.</td>
<td>Westlake Theater Apartments</td>
<td>619 S Westlake Ave</td>
<td>52 apartment units and public parking</td>
<td>254</td>
<td>3</td>
<td>17</td>
<td>20</td>
<td>16</td>
<td>8</td>
<td>24</td>
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<tr>
<td>25.</td>
<td>Pacific Charter Elementary School</td>
<td>1700 W Pico Blvd</td>
<td>Relocation of 450 student K-5 charter school</td>
<td>492</td>
<td>106</td>
<td>89</td>
<td>195</td>
<td>31</td>
<td>29</td>
<td>60</td>
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<tr>
<td>26.</td>
<td>Camino Nuevo Charter School Relocation</td>
<td>3400 W 3rd St</td>
<td>656-student K-8 charter school</td>
<td>764</td>
<td>146</td>
<td>120</td>
<td>266</td>
<td>43</td>
<td>45</td>
<td>88</td>
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<tr>
<td>27.</td>
<td>15th St Charter School</td>
<td>2755 W 15th St</td>
<td>300 student middle school</td>
<td>486</td>
<td>68</td>
<td>57</td>
<td>125</td>
<td>24</td>
<td>24</td>
<td>48</td>
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<td>28.</td>
<td>Health Club</td>
<td>3470 W Wilshire Blvd</td>
<td>20,178 sf health club</td>
<td>231</td>
<td>-13</td>
<td>6</td>
<td>-7</td>
<td>22</td>
<td>-1</td>
<td>21</td>
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<tr>
<td>No.</td>
<td>Project Description</td>
<td>Address</td>
<td>Description</td>
<td>Daily In</td>
<td>Daily Out</td>
<td>Daily Total</td>
<td>Morning Peak Hour In</td>
<td>Morning Peak Hour Out</td>
<td>Morning Peak Hour Total</td>
<td>Afternoon Peak Hour In</td>
<td>Afternoon Peak Hour Out</td>
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<tr>
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</tr>
<tr>
<td>29.</td>
<td>Berendo Apartments (688)</td>
<td>688 S Berendo St</td>
<td>136 apartment units</td>
<td>678</td>
<td>10</td>
<td>42</td>
<td>52</td>
<td>41</td>
<td>22</td>
<td>63</td>
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<tr>
<td>30.</td>
<td>Mixed-Use</td>
<td>1435 W 3rd St</td>
<td>122 apartment units and 5,000 sf retail</td>
<td>711</td>
<td>11</td>
<td>42</td>
<td>53</td>
<td>41</td>
<td>25</td>
<td>66</td>
<td></td>
</tr>
<tr>
<td>31.</td>
<td>Berendo Apartments (680)</td>
<td>680 S Berendo St</td>
<td>174 apartment units</td>
<td>1,000</td>
<td>15</td>
<td>61</td>
<td>76</td>
<td>61</td>
<td>32</td>
<td>93</td>
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<tr>
<td>32.</td>
<td>Valencia Project</td>
<td>1501 W Wilshire Blvd</td>
<td>217 apartment units, 2,400 sf retail, 4,450 sf restaurant</td>
<td>1,163</td>
<td>-11</td>
<td>18</td>
<td>7</td>
<td>38</td>
<td>23</td>
<td>61</td>
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<tr>
<td>33.</td>
<td>Apartment Project</td>
<td>685 S New Hampshire Ave</td>
<td>177 apartment units</td>
<td>1,000</td>
<td>15</td>
<td>61</td>
<td>76</td>
<td>61</td>
<td>32</td>
<td>93</td>
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<td>34.</td>
<td>Church</td>
<td>968 S Berendo St</td>
<td>85,308 sf church</td>
<td>535</td>
<td>23</td>
<td>8</td>
<td>31</td>
<td>3</td>
<td>9</td>
<td>12</td>
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<tr>
<td>35.</td>
<td>1020 Fedora Street Hotel</td>
<td>1020 S Fedora St</td>
<td>86-room hotel</td>
<td>616</td>
<td>28</td>
<td>14</td>
<td>42</td>
<td>23</td>
<td>21</td>
<td>44</td>
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<tr>
<td>36.</td>
<td>Mixed-Use</td>
<td>1329 W 7th St</td>
<td>94 apartment units and 2,000 sf retail</td>
<td>662</td>
<td>16</td>
<td>37</td>
<td>53</td>
<td>39</td>
<td>22</td>
<td>61</td>
<td></td>
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<tr>
<td>37.</td>
<td>Residential</td>
<td>3640 W Wilshire Blvd</td>
<td>209 apartment units</td>
<td>1,182</td>
<td>18</td>
<td>72</td>
<td>90</td>
<td>73</td>
<td>40</td>
<td>113</td>
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<tr>
<td>38.</td>
<td>Restaurants</td>
<td>135 N Western Ave</td>
<td>11,904 sf restaurants</td>
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<td>2</td>
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<td>Mixed-Use</td>
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<td>6th &amp; Virgil</td>
<td>2968 W 6th St</td>
<td>399 apartment units and 20,000 sf commercial space</td>
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<td>1550 W 8th St</td>
<td>Replace existing 12,000 sf office building with 34,000 sf office building</td>
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<td>AMCAL - Meridian Apartments</td>
<td>241 N Vermont Ave</td>
<td>100 apartment units and 5,000 sf retail</td>
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<td>49.</td>
<td>Hotel and Restaurant</td>
<td>2965 W 6th St</td>
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<td>80</td>
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<td>37</td>
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<td>Hotel and Apartments</td>
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<td>Restaurants and Bar</td>
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<td>9,600 sf restaurants and 3,500 sf bar</td>
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<td>Morning Peak Hour</td>
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<td>2716 S Severence St</td>
<td>9,955 sf child-care center expansion</td>
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<td>2900 W Wilshire Blvd</td>
<td>644 apartment units and 15,500 sf commercial space</td>
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<td>44</td>
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<td>32</td>
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<td>Apartment Project</td>
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<td>616 S Westmoreland Ave</td>
<td>77 apartment units, 2,360 sf restaurant, and 745 sf retail</td>
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### TABLE 7 (cont'd)
**RELATED PROJECT TRIP GENERATION ESTIMATES**

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<th>No.</th>
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<th>Address</th>
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<th>Morning Peak Hour</th>
<th>Afternoon Peak Hour</th>
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<td>85.</td>
<td>2649 San Marino Apartments</td>
<td>2649 W San Marino Ave</td>
<td>45 apartment units</td>
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<td>1322 Linwood Apartments</td>
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<td>87.</td>
<td>1633 W 11th Charter School</td>
<td>1633 W 11th St</td>
<td>460 K-5 students</td>
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<td>88.</td>
<td>Mixed-Use</td>
<td>2870 W Olympic Blvd</td>
<td>78-room hotel and 16,384 sf retail/restaurant</td>
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<td>22</td>
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<td>Postpartum Extended Care and Retail</td>
<td>257 S Mariposa Ave</td>
<td>140 apartment units for postpartum care and 3,490 sf retail</td>
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<td>Mixed-Use</td>
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<td>228 apartment units, 5,000 sf coffee shop, 5,000 sf restaurant, and 12,000 sf retail</td>
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<td>103 apartment units and 30,937 sf museum</td>
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<td>Sapphire Mixed-Use</td>
<td>1111 W 6th St</td>
<td>369 apartment units, 18,600 sf shopping center, 2,200 sf restaurant, and 3,490 sf retail</td>
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<td>-71</td>
<td>117</td>
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<tr>
<td>94.</td>
<td>Apartment Project</td>
<td>1322 W Jefferson Blvd</td>
<td>80 residential units and 1,400 sf commercial space</td>
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<td>95.</td>
<td>Lifan Tower Mixed-Use</td>
<td>1235 W 7th St</td>
<td>303 condominium units and 5,959 sf retail</td>
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<tr>
<td>96.</td>
<td>Mixed-Use</td>
<td>3700 W Wilshire Blvd</td>
<td>506 condominium units, 40,323 sf retail, and 21,712 sf restaurant</td>
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<td>49</td>
<td>152</td>
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<td>97.</td>
<td>Mixed-Use</td>
<td>1000 S Vermont Ave</td>
<td>236 apartment units and 60,300 sf commercial space</td>
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<td>98.</td>
<td>Mixed-Use</td>
<td>3240 W Wilshire Blvd</td>
<td>162-room hotel and 545 apartment units</td>
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<td>Afternoon Peak Hour</td>
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<td>Out</td>
</tr>
<tr>
<td>99.</td>
<td>Zion Market</td>
<td>888 S Vermont Ave</td>
<td>4,400 sf office and 47,208 sf market</td>
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<td>45</td>
<td>19</td>
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<tr>
<td>100.</td>
<td>K-8 Charter School</td>
<td>1342 W Adams Blvd</td>
<td>500 K-8 students</td>
<td>993</td>
<td>239</td>
<td>196</td>
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<td>Mixed-Use</td>
<td>3170 W Olympic Blvd</td>
<td>252 apartment units and 32,300 sf retail</td>
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<td>102.</td>
<td>Harvard Boulevard Hotel</td>
<td>679 S Harvard Blvd</td>
<td>110-room hotel and 1,000 sf commercial space</td>
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<td>103.</td>
<td>The Nest on Catalina</td>
<td>621 S Catalina St</td>
<td>165 apartment units, 8,000 sf retail, 15,000 sf nightclub, and 15,000 sf hall</td>
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<td>Apartment Project</td>
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<td>196 apartment units</td>
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<td>105.</td>
<td>Mixed-Use</td>
<td>1930 W Wilshire Blvd</td>
<td>478 apartment units, 850-seat theater, 50-student classroom, and 220-room hotel</td>
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<td>106.</td>
<td>Mixed-Use</td>
<td>2972 W 7th St</td>
<td>304 apartment units and 9,735 sf retail</td>
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<td>17</td>
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<td>107.</td>
<td>Urban View Lofts Project</td>
<td>495 S Hartford Ave</td>
<td>218 apartment units</td>
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<td>16</td>
<td>63</td>
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<tr>
<td>108.</td>
<td>Olympic &amp; Hoover Mixed- Use</td>
<td>2501 W Olympic Blvd</td>
<td>173 apartment units and 36,180 sf commercial space</td>
<td>1,911</td>
<td>27</td>
<td>72</td>
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<tr>
<td>109.</td>
<td>Medical Office Building</td>
<td>1122 W Washington Blvd</td>
<td>60,000 sf medical office building</td>
<td>2,060</td>
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<td>29</td>
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<tr>
<td>110.</td>
<td>Mixed-Use</td>
<td>4914 W Melrose Ave</td>
<td>45 live/work units and 3,760 sf retail</td>
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<td>111.</td>
<td>Mixed-Use</td>
<td>668 S Coronado St</td>
<td>122 apartment units and 1,182 sf retail</td>
<td>947</td>
<td>14</td>
<td>48</td>
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<tr>
<td>112.</td>
<td>Urban Commons Gramercy</td>
<td>3377 W Olympic Blvd</td>
<td>142 assisted living units, 9,246 sf medical office, and 3,179 sf retail</td>
<td>254</td>
<td>12</td>
<td>-3</td>
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## TABLE 7 (cont'd)
### RELATED PROJECT TRIP GENERATION ESTIMATES

<table>
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<tr>
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<th>Address</th>
<th>Description</th>
<th>Daily</th>
<th>Morning Peak Hour</th>
<th>Afternoon Peak Hour</th>
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<tr>
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<td></td>
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<td></td>
<td>In</td>
<td>Out</td>
</tr>
<tr>
<td>113.</td>
<td>Hollywood Presbyterian Hospital Seismic Retrofit</td>
<td>1300 N Vermont Ave</td>
<td>Replace existing hospital and ancillary uses and build 30,933 sf office</td>
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<td>290</td>
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<tr>
<td>114.</td>
<td>Wilshire Gate Project</td>
<td>631 S Vermont Ave</td>
<td>200-room hotel, 250 condominium units, 49,227 sf office, and 21,320 sf retail</td>
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<td>2,599</td>
<td>95</td>
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<tr>
<td>115.</td>
<td>1620 Cordova St Charter School</td>
<td>1620 W Cordova St</td>
<td>400 students</td>
<td></td>
<td>527</td>
<td>105</td>
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**Notes:**  
Source: LADOT, December, 2016.
### TABLE 8
INTERIM YEAR 2021 WITHOUT PROJECT CONDITIONS
INTERSECTION LEVELS OF SERVICE

<table>
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<tr>
<th>No.</th>
<th>Intersection</th>
<th>Peak Hour</th>
<th>Interim without Project Conditions</th>
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</tr>
<tr>
<td>1.</td>
<td>Vermont Avenue &amp; US 101 Northbound On-ramp</td>
<td>A.M.</td>
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</tr>
<tr>
<td></td>
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<td>P.M.</td>
<td>0.641</td>
</tr>
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<td>3.</td>
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<td>---------------------------------------------------</td>
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TABLE 9
BUILDOUT YEAR 2023 WITHOUT PROJECT CONDITIONS
INTERSECTION LEVELS OF SERVICE

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<thead>
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<th>No.</th>
<th>Intersection</th>
<th>Peak Hour</th>
<th>Buildout without Project Conditions</th>
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<td></td>
<td></td>
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<tr>
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<td></td>
<td></td>
<td>P.M.</td>
<td>0.833</td>
</tr>
<tr>
<td>13.</td>
<td>Vermont Avenue &amp; 4th Street</td>
<td>A.M.</td>
<td>0.707</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.695</td>
</tr>
<tr>
<td>14.</td>
<td>Shatto Place &amp; 4th Street</td>
<td>A.M.</td>
<td>0.489</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.445</td>
</tr>
<tr>
<td>15.</td>
<td>Vermont Avenue &amp; 5th Street</td>
<td>A.M.</td>
<td>0.510</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.589</td>
</tr>
<tr>
<td>16.</td>
<td>Western Avenue &amp; 6th Street</td>
<td>A.M.</td>
<td>0.615</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.654</td>
</tr>
<tr>
<td>17.</td>
<td>Normandie Avenue &amp; 6th Street</td>
<td>A.M.</td>
<td>0.793</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.735</td>
</tr>
<tr>
<td>18.</td>
<td>Vermont Avenue &amp; 6th Street</td>
<td>A.M.</td>
<td>0.851</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.820</td>
</tr>
<tr>
<td>19.</td>
<td>Shatto Place &amp; 6th Street</td>
<td>A.M.</td>
<td>0.593</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.611</td>
</tr>
<tr>
<td>No.</td>
<td>Intersection</td>
<td>Peak Hour</td>
<td>Buildout without Project Conditions</td>
</tr>
<tr>
<td>-----</td>
<td>---------------------------------------</td>
<td>-----------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>V/C</td>
</tr>
<tr>
<td>20.</td>
<td>Rampart Boulevard &amp; 6th Street</td>
<td>A.M.</td>
<td>0.861</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.962</td>
</tr>
<tr>
<td>21.</td>
<td>Alvarado Street &amp; 6th Street</td>
<td>A.M.</td>
<td>0.877</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.782</td>
</tr>
<tr>
<td>22.</td>
<td>Western Avenue &amp; Wilshire Boulevard</td>
<td>A.M.</td>
<td>1.052</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>1.161</td>
</tr>
<tr>
<td>23.</td>
<td>Normandie Avenue &amp; Wilshire Boulevard</td>
<td>A.M.</td>
<td>0.912</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>1.019</td>
</tr>
<tr>
<td>24.</td>
<td>Vermont Avenue &amp; Wilshire Boulevard</td>
<td>A.M.</td>
<td>1.083</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>1.069</td>
</tr>
<tr>
<td>25.</td>
<td>Hoover Street &amp; Wilshire Boulevard</td>
<td>A.M.</td>
<td>0.844</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.821</td>
</tr>
<tr>
<td>26.</td>
<td>Alvarado Street &amp; Wilshire Boulevard</td>
<td>A.M.</td>
<td>0.909</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.929</td>
</tr>
<tr>
<td>27.</td>
<td>Vermont Avenue &amp; 7th Street</td>
<td>A.M.</td>
<td>0.737</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.809</td>
</tr>
<tr>
<td>28.</td>
<td>Vermont Avenue &amp; 8th Street</td>
<td>A.M.</td>
<td>0.781</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.822</td>
</tr>
<tr>
<td>29.</td>
<td>Hoover Street &amp; 8th Street</td>
<td>A.M.</td>
<td>0.956</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>1.012</td>
</tr>
<tr>
<td>30.</td>
<td>Vermont Avenue &amp; Olympic Boulevard</td>
<td>A.M.</td>
<td>1.006</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>1.053</td>
</tr>
<tr>
<td>31.</td>
<td>Vermont Avenue &amp; Pico Boulevard</td>
<td>A.M.</td>
<td>0.888</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.875</td>
</tr>
<tr>
<td>32.</td>
<td>Vermont Avenue &amp; Venice Boulevard</td>
<td>A.M.</td>
<td>0.897</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.944</td>
</tr>
<tr>
<td>33.</td>
<td>Vermont Avenue &amp; Washington Boulevard</td>
<td>A.M.</td>
<td>0.971</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>1.088</td>
</tr>
<tr>
<td>34.</td>
<td>Vermont Avenue &amp; I-10 Westbound Ramps</td>
<td>A.M.</td>
<td>0.862</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.793</td>
</tr>
<tr>
<td>35.</td>
<td>Vermont Avenue &amp; I-10 Eastbound Ramps</td>
<td>A.M.</td>
<td>0.885</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>1.002</td>
</tr>
<tr>
<td>36.</td>
<td>Vermont Avenue &amp; Adams Boulevard</td>
<td>A.M.</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.847</td>
</tr>
<tr>
<td>37.</td>
<td>Hoover Street &amp; Olympic Boulevard</td>
<td>A.M.</td>
<td>1.041</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>1.079</td>
</tr>
<tr>
<td>38.</td>
<td>Alvarado Street &amp; Olympic Boulevard</td>
<td>A.M.</td>
<td>0.843</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.930</td>
</tr>
</tbody>
</table>
This chapter describes the assumptions and methodology used in developing the traffic volumes associated with the proposed Project within the Study Area.

PROJECT TRIP GENERATION

As described in Chapter 2, the Project includes the redevelopment and/or reuse of three County office sites into new office, parking, residential, community-serving, and commercial uses. To estimate the traffic that would be removed and added to the Project Sites with the Project, trip generation rates were applied to the number of office employees for each office building, the number of residential units for each residential building, and the square footage of each community-serving or commercial use. Parking lots and structures do not generate traffic and, thus, were not considered in the trip generation estimates.

Trips generated by a development project are typically estimated using rates published in the ITE Trip Generation Report, with various adjustments as allowed by LADOT. These rates are based on surveys of similar land uses at sites around the country and are provided as both daily rates and morning and afternoon peak hour rates. For the Project, however, various sources were used to estimate trip generation as described below.

Office Employee Trip Generation Rate

Although the ITE Trip Generation Report provides rates for offices (including rates based on square footage and based on employee totals), the Project is particularly suited for the use of a trip generation rate developed directly for the Project. Because more than half of the specific
employees that will work in the Site 1 Office Tower currently work at Site 2, the trips currently generated by those 1,223 employees can be used to develop an empirical trip generation for estimating Project trips. This rate inherently accounts for the unique features of the Project Sites, such as proximity to public transit and availability of structured parking.

Trip generation data was collected on four different weekdays at the Site 2 driveways (including the two driveways at the Existing Shatto Structure and one driveway on Vermont Avenue\(^1\)). The results of the daily and peak hour counts are summarized in Table 10, and the counts are provided in Appendix E. The two days with the higher results (especially during the afternoon peak hour, which is generally the most congested period of the day within the Study Area) were averaged, and that average trip generation was divided by 1,223 employees to calculate the empirical office trip generation rate per employee. As shown in Table 10, each office worker generates approximately 1.46 daily trips, including 0.24 trips during the morning peak hour and 0.30 trips during the afternoon peak hour.

**Trip Generation Rates for Other Uses**

ITE rates were used for the proposed residential, retail, and community center uses at the Project Sites. The Apartment trip generation rate was applied to the number of residential apartment units proposed for Site 2. The Shopping Center trip generation rate was applied to the commercial retail space proposed on the ground floor of each Project Site. The Recreational Community Center trip generation rate was applied to the proposed community center at Site 3. For the affordable senior housing units proposed at Site 3, trip generation rates provided by LADOT were used. These rates are based on driveway trip count data collected at affordable housing sites in the City in 2016.

The trip generation rates for each land use on the Project Sites are summarized in Table 11.

\(^1\) The driveway on Vermont Avenue was counted on one day in November 2016, and that count was added to the totals on the three days counted in March 2017. This driveway accounted for less than 2% of the total peak hour trips at Site 2.
Trip Generation Credits

Credits were applied to the Project trip generation estimates in accordance with Transportation Impact Study Guidelines accounting for the types and mix of land uses and the location of the Project. Because the Project Sites are located within 0.25 miles of a major transit stop (the Wilshire / Vermont Metro Station, served by two Metro subway routes, two Metro Rapid bus routes, and several other local routes), the Project land uses are eligible for a 15% transit credit. For the office uses, however, because the empirical rate inherently accounts for current rates of transit usage, no additional transit credit was applied. Also, the affordable senior housing rates provided by LADOT are assumed to include transit usage. Therefore, the 15% transit credit allowed by LADOT was applied to the residential, retail, and community center uses.

The commercial retail uses on the ground floor of Sites 1 and 2 are eligible for a pass-by trip credit of 50%, which accounts for the fact that many of the people who drive to those uses are already driving on the adjacent street, rather than making a separate trip for the express purpose of patronizing those uses. Additionally, the ground-floor commercial retail spaces are assumed to receive a portion of their patronage from employees or residents of the Project Sites themselves and, therefore, a 10% internal capture credit was applied. Finally, the community center at Site 3 is expected to serve the local community, including many nearby residents close enough to walk and, therefore, a 10% walk-in credit was applied.

Net Project Trip Generation Estimates – Phase 1

Phase 1 includes the redevelopment of Sites 1 and 3. Upon completion, the Site 1 Office Tower would host 2,063 employees (including the 1,223 employees moving from Site 2 as described above) and 10,000 sf of ground-floor commercial space. It would include a total of 840 employees that are new to the Project Sites and, therefore, the net office trip generation estimate is based on the increase from 1,223 to 2,063 employees. A total of 93 employees would be removed from Site 1 with the demolition of the existing structures on Site 1.

Site 3 would be developed with a 72-unit affordable senior housing complex, in which would be located a 13,200 sf community center. A total of 112 employees would be removed from Site 3 with the demolition of the existing office building on Site 3.
The trip generation estimates for Phase 1 are summarized in Table 12. As shown, Phase 1 would generate a net total of 1,553 daily trips, including 186 during the morning peak hour (168 inbound and 18 outbound) and 243 during the afternoon peak hour (31 inbound and 212 outbound).

**Net Project Trip Generation Estimates – Phase 2**

Phase 2 includes the redevelopment and reuse of Site 2 and an assumed increase in employees at Site 1. The Site 1 Office Tower would increase from 2,063 employees to 2,166 employees, an increase of 103 employees. At Site 2, the Site 2 Tower would be adapted for use as a 172-unit apartment building with 4,100 sf of ground-floor commercial retail space. Also, a 74-unit apartment building would be constructed with 3,400 sf of ground-floor commercial retail space. All of the employees currently working at Site 2 would have moved to Site 1 upon completion of Phase 1.

The trip generation estimates for Phase 2 are summarized in Table 13. As shown, Phase 2 would generate a net total of 1,662 daily trips, including 134 trips during the morning peak hour (48 inbound and 86 outbound) and 171 trips during the afternoon peak hour (90 inbound and 81 outbound).

In total, between Phases 1 and 2, the Project would generate a net total of 3,215 daily trips, including 320 during the morning peak hour (216 inbound and 104 outbound) and 414 trips during the afternoon peak hour (121 inbound and 293 outbound).

**PROJECT TRIP DISTRIBUTION**

The geographic distribution of traffic to and from the Project Site is based on locations where office employees live and where residents at the Project Site may be employed. Trips associated with the ground floor commercial space at Sites 1 and 2 are assumed to follow the same distribution pattern as the office or residential trips that make up the heavy majority of each Site’s trip generation. Trips to and from the community center proposed at Site 3 are also assumed to follow the residential trip distribution pattern.
Office Employee Trip Distribution

Because the County has identified the specific divisions of DMH employees that would move to Site 1, it was possible to estimate trip distribution using residential zip code data for those employees. Zip code data was obtained for over 1,700 employees who would work at Site 1, and this data was used to prepare much more precise regional distribution estimates than would otherwise be possible. Based on this data, the local office trip distribution pattern used in this analysis is generally:

- 10% to/from the north on US 101
- 23% to/from the south on US 101
- 3% to/from the west on I-10
- 10% to/from the east on I-10
- 8% to/from the north on local streets
- 23% to/from the east on local streets
- 9% to/from the south on local streets
- 8% to/from the west on local streets
- 6% internal to the Study Area

Figure 10 details the trip distribution pattern at each of the study intersections for office employees traveling to and from the Replacement Shatto Structure. Minor variations of this distribution pattern (to account for different access points) were used for employees accessing Site 1 via Vermont Avenue and for those employees removed from Site 3.

Residential Trip Distribution

The residential distribution was based primarily on the assumption that many of the peak hour trips are home-to-work or work-to-home trips and, therefore, was based on the locations of employment centers in the region. The residential trip distribution pattern used in this analysis is generally:
- 12% to/from the north on US 101
- 13% to/from the south on US 101
- 4% to/from the west on I-10
- 8% to/from the east on I-10
- 9% to/from the north on local streets
- 19% to/from the east on local streets
- 8% to/from the south on local streets
- 19% to/from the west on local streets
- 8% internal to the Study Area

Figure 11 details the trip distribution pattern at each of the study intersections for residential employees traveling to and from Site 2 on 6th Street. This distribution includes various U-turn movements (such as on 6th Street at Shatto Place and at Vermont Avenue) that are necessary as a result of restrictions on Site 2 driveway turning movements. A minor variation of this distribution pattern was used for Site 3 trips, which access Site 3 on Vermont Avenue.

PROJECT TRIP ASSIGNMENT

The Project trip generation estimates summarized in Tables 12 and 13 and the trip distribution patterns shown in Figures 10 and 11 were used to assign the Project-generated traffic through the study intersections. Figure 12 details the Phase 1 Project-only traffic volumes at the study intersections during typical weekday morning and afternoon peak hours. Figure 13 details the Phases 1 and 2 Project-only traffic volumes at the study intersections.
TRIP DISTRIBUTION
OFFICE

FIGURE 10 (CONT.)
PHASE 1 PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE 12 (CONT.)
LEGEND

Project Sites
#(#) AM(PM) Peak Hour Traffic Volumes
Analyzed Intersection

PHASE 1 PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE 12 (CONT.)
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Vermont Avenue &amp; 1st Street</td>
<td>8. Western Avenue &amp; 3rd Street</td>
<td>9. Normandie Avenue &amp; 3rd Street</td>
</tr>
</tbody>
</table>

**Legend**

- Project Sites
- (#) AM(PM) Peak Hour Traffic Volumes
- # Analyzed Intersection

**Figure 13**

**Phases 1 and 2 Project-Only**

**Peak Hour Traffic Volumes**
PHASES 1 AND 2 PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE 13 (CONT.)
LEGEND

- Project Sites
- #(#) AM(PM) Peak Hour Traffic Volumes
- Analyzed Intersection

PHASES 1 AND 2 PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE 13 (CONT.)
<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>Daily</th>
<th>Morning Peak Hour</th>
<th>Afternoon Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>In</td>
<td>Out</td>
</tr>
<tr>
<td>1.</td>
<td>Tuesday, November 29, 2016</td>
<td>n/a</td>
<td>263</td>
<td>1</td>
</tr>
<tr>
<td>2. [b]</td>
<td>Tuesday, March 21, 2017</td>
<td>1,619</td>
<td>282</td>
<td>0</td>
</tr>
<tr>
<td>3. [b]</td>
<td>Wednesday, March 22, 2017</td>
<td>1,789</td>
<td>302</td>
<td>5</td>
</tr>
<tr>
<td>4. [b]</td>
<td>Thursday, March 23, 2017</td>
<td>1,776</td>
<td>281</td>
<td>4</td>
</tr>
</tbody>
</table>

**Average Driveway Traffic Count**

Average of Days 3 and 4 [c] | 1,783 | 292 | 5 | 296 | 6 | 361 | 367 |

**Empirical Office Trip Generation Rate**

Empirical Office Rate per Employee [d] | 1.46 | 98% | 2% | 0.24 | 2% | 98% | 0.30 |

**Notes:**

[a] Includes two driveways to Existing Parking Structure on Shatto Place and one driveway on Vermont Avenue to the Site 2 Office Tower.
[b] Includes peak traffic volumes counted on 11/29/2016 at Vermont Avenue driveway (50 daily, 4 inbound AM, 3 outbound PM).
[c] Days 3 and 4 produced higher traffic volumes than Days 1 and 2, and were conservatively used to develop the empirical trip generation rate.
[d] Based on 1,223 existing employees at Site 2, including 973 LACDMH employees at Site 2 Office Tower and 250 LACWDACS employees at 3175 W. 6th Street.
### TABLE 11
PROJECT TRIP GENERATION RATES

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Rate or Size</th>
<th>Daily</th>
<th>Morning Peak Hour</th>
<th>Afternoon Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office [a]</td>
<td>per employee</td>
<td>1.46</td>
<td>98% 2% 0.24</td>
<td>2% 98% 0.30</td>
</tr>
<tr>
<td>Apartments (ITE 220)</td>
<td>per unit</td>
<td>6.65</td>
<td>20% 80% 0.51</td>
<td>65% 35% 0.62</td>
</tr>
<tr>
<td>Senior Affordable Housing [b]</td>
<td>per unit</td>
<td>1.70</td>
<td>38% 62% 0.12</td>
<td>52% 48% 0.15</td>
</tr>
<tr>
<td>Recreational Community Center (ITE 495)</td>
<td>per 1,000 square feet</td>
<td>33.82</td>
<td>66% 34% 2.05</td>
<td>49% 51% 2.74</td>
</tr>
<tr>
<td>Retail (ITE 820)</td>
<td>per 1,000 square feet</td>
<td>42.94</td>
<td>61% 39% 1.00</td>
<td>49% 51% 3.73</td>
</tr>
</tbody>
</table>

Notes:
Rates source: *Trip Generation, 9th Edition* (Institute of Transportation Engineers [ITE], 2012), except as noted.
[a] Empirical office trip generation rate as shown in Table 10.
[b] Rate provided by LADOT based on empirical trip count data collected at affordable housing sites in the City of Los Angeles in 2016. Per LADOT policy, no additional trip generation credit is to be applied to this rate.
## TABLE 12
PROJECT TRIP GENERATION ESTIMATES
PHASE 1

<table>
<thead>
<tr>
<th>Land Use</th>
<th>ITE Land Use</th>
<th>Size</th>
<th>Daily</th>
<th>Morning Peak Hour</th>
<th>Afternoon Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>In</td>
<td>Out</td>
</tr>
<tr>
<td>Proposed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>471,000 sf office building</td>
<td>[a]</td>
<td>2,063 employees</td>
<td>3,012</td>
<td>485</td>
<td>10</td>
</tr>
<tr>
<td>10,000 sf ground-floor retail</td>
<td>820</td>
<td>10,000 sf</td>
<td>429</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Internal Capture Adjustment - 10%</td>
<td></td>
<td></td>
<td>-43</td>
<td>-1</td>
<td>0</td>
</tr>
<tr>
<td>Transit/HOV Adjustment - 15%</td>
<td></td>
<td></td>
<td>-58</td>
<td>-1</td>
<td>0</td>
</tr>
<tr>
<td>Pass-by Trip Adjustment - 50%</td>
<td></td>
<td></td>
<td>-164</td>
<td>-2</td>
<td>-2</td>
</tr>
<tr>
<td>Site 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>72-unit senior housing</td>
<td>252</td>
<td>72 units</td>
<td>122</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>13,200 sf community center</td>
<td>495</td>
<td>13,200 sf</td>
<td>446</td>
<td>18</td>
<td>9</td>
</tr>
<tr>
<td>Transit/HOV Adjustment - 15%</td>
<td></td>
<td></td>
<td>-67</td>
<td>-3</td>
<td>-1</td>
</tr>
<tr>
<td>Walk-In Adjustment - 10%</td>
<td></td>
<td></td>
<td>-38</td>
<td>-1</td>
<td>-1</td>
</tr>
<tr>
<td>Removed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>510 S Vermont Avenue (30,788 sf)</td>
<td>[a]</td>
<td>93 employees</td>
<td>136</td>
<td>22</td>
<td>0</td>
</tr>
<tr>
<td>523 S Vermont Avenue (13,325 sf)</td>
<td>[a]</td>
<td>(vacant)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Site 2 (employees moved to Site 1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>550 S Vermont Avenue (154,793 sf)</td>
<td>[a]</td>
<td>973 employees</td>
<td>1,421</td>
<td>229</td>
<td>5</td>
</tr>
<tr>
<td>3175 W 6th Street (52,000 sf)</td>
<td>[a]</td>
<td>250 employees</td>
<td>365</td>
<td>59</td>
<td>1</td>
</tr>
<tr>
<td>Site 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>433 S Vermont Avenue (29,292 sf)</td>
<td>[a]</td>
<td>112 employees</td>
<td>164</td>
<td>26</td>
<td>1</td>
</tr>
<tr>
<td>Removed Total</td>
<td></td>
<td></td>
<td></td>
<td>2,086</td>
<td>336</td>
</tr>
<tr>
<td>Net Phase 1 Trip Generation</td>
<td></td>
<td></td>
<td></td>
<td>1,553</td>
<td>168</td>
</tr>
</tbody>
</table>

Notes:
[a] Empirical office trip generation rate as shown in Table 10.
<table>
<thead>
<tr>
<th>Land Use</th>
<th>ITE Land Use</th>
<th>Size</th>
<th>Daily</th>
<th>Morning Peak Hour</th>
<th>Afternoon Peak Hour</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>In</td>
<td>Out</td>
<td>Total</td>
</tr>
<tr>
<td>Site 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additional employees at office building</td>
<td>[a]</td>
<td>103 employees</td>
<td>150</td>
<td>25</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>Site 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>172-unit apartment (adapted from office)</td>
<td>220</td>
<td>172 units</td>
<td>1,144</td>
<td>18</td>
<td>70</td>
<td>88</td>
</tr>
<tr>
<td>Transit/HOV Adjustment - 15%</td>
<td>-172</td>
<td>-3</td>
<td>-10</td>
<td>-13</td>
<td>-11</td>
<td>-5</td>
</tr>
<tr>
<td>4,100 sf ground-floor retail</td>
<td>820</td>
<td>4,100 sf</td>
<td>176</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Internal Capture Adjustment - 10%</td>
<td>-18</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-1</td>
<td>-1</td>
</tr>
<tr>
<td>Transit/HOV Adjustment - 15%</td>
<td>-24</td>
<td>-1</td>
<td>0</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
</tr>
<tr>
<td>Pass-by Trip Adjustment - 50%</td>
<td>-67</td>
<td>-1</td>
<td>-1</td>
<td>-2</td>
<td>-3</td>
<td>-3</td>
</tr>
<tr>
<td>74-unit apartment building</td>
<td>220</td>
<td>74 units</td>
<td>492</td>
<td>8</td>
<td>30</td>
<td>38</td>
</tr>
<tr>
<td>Transit/HOV Adjustment - 15%</td>
<td>-74</td>
<td>-1</td>
<td>-5</td>
<td>-6</td>
<td>-5</td>
<td>-2</td>
</tr>
<tr>
<td>3,400 sf ground-floor retail</td>
<td>820</td>
<td>3,400 sf</td>
<td>146</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Internal Capture Adjustment - 10%</td>
<td>-15</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-1</td>
</tr>
<tr>
<td>Transit/HOV Adjustment - 15%</td>
<td>-20</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-1</td>
<td>-1</td>
</tr>
<tr>
<td>Pass-by Trip Adjustment - 50%</td>
<td>-56</td>
<td>-1</td>
<td>-1</td>
<td>-2</td>
<td>-2</td>
<td>-3</td>
</tr>
<tr>
<td>Phase 2 Net Trip Generation</td>
<td>1,662</td>
<td>48</td>
<td>86</td>
<td>134</td>
<td>90</td>
<td>81</td>
</tr>
<tr>
<td>[b] Phase 1 Net Trip Generation</td>
<td>1,553</td>
<td>168</td>
<td>18</td>
<td>186</td>
<td>31</td>
<td>212</td>
</tr>
<tr>
<td>Total Project Net Trip Generation</td>
<td>3,215</td>
<td>216</td>
<td>104</td>
<td>320</td>
<td>121</td>
<td>293</td>
</tr>
</tbody>
</table>

Notes:
[a] Empirical office trip generation rate as shown in Table 10.
Chapter 6

Intersection Operating Conditions with Project

This chapter describes the results of the analysis of intersection operating conditions associated with the Project when compared to Existing Year 2017 Conditions, Interim Year 2021 without Project Condition, and Buildout Year 2023 without Project Conditions. It also assesses potential significant Project impacts, prior to mitigation, under each scenario. Mitigation measures and their effects are discussed in Chapter 7.

EXISTING YEAR 2017 WITH PROJECT PHASE 1 CONDITIONS

The Project Phase 1 morning and afternoon peak hour traffic volumes from Figure 12 were added to the Existing Year 2017 traffic volumes from Figure 5 to project the Existing Year 2017 with Project Phase 1 Conditions, shown in Figure 14. Table 14 summarizes the results of the corresponding LOS analysis for the 38 study intersections. As shown, all 38 study intersections would continue to operate at LOS D or better with the addition of Phase 1 traffic.

Phase 1 would result in a significant impact at Intersection #24, Vermont Avenue & Wilshire Boulevard, during the afternoon peak hour, prior to mitigation.

EXISTING YEAR 2017 WITH PROJECT PHASES 1 AND 2 CONDITIONS

The Project Phases 1 and 2 morning and afternoon peak hour traffic volumes from Figure 13 were added to the Existing Year 2017 traffic volumes from Figure 5 to project the Existing Year 2017 with Project Phases 1 and 2 Conditions, shown in Figure 15. Table 15 summarizes the results of the corresponding LOS analysis for the 38 study intersections. As shown, all 38 study intersections would continue to operate at LOS D or better with the addition of Phase 1 and 2 traffic.
Phases 1 and 2 would result in significant impacts at Intersection #18, Vermont Avenue & 6\textsuperscript{th} Street, during both the morning and afternoon peak hours and Intersection #24, Vermont Avenue & Wilshire Boulevard, during the afternoon peak hour, prior to mitigation.

**INTERIM YEAR 2021 WITH PROJECT PHASE 1 CONDITIONS**

The Project Phase 1 morning and afternoon peak hour traffic volumes from Figure 12 were added to the Interim Year 2021 without Project traffic volumes from Figure 8 to project the Interim Year 2021 with Project Phase 1 Conditions, shown in Figure 16. Table 16 summarizes the results of the corresponding LOS analysis for the 38 study intersections. As shown, Phase 1 would cause the intersection operating condition to worsen from LOS D to LOS E at Intersection #10, Vermont Avenue & 3\textsuperscript{rd} Street, during the afternoon peak hour.

Additionally, Phase 1 would result in significant impacts at six intersections prior to mitigation:

6. Vermont Avenue & Beverly Boulevard (afternoon peak hour)
10. Vermont Avenue & 3\textsuperscript{rd} Street (afternoon peak hour)
18. Vermont Avenue & 6\textsuperscript{th} Street (afternoon peak hour)
24. Vermont Avenue & Wilshire Boulevard (afternoon peak hour)
30. Vermont Avenue & Olympic Boulevard (morning peak hour)
33. Vermont Avenue & Washington Boulevard (afternoon peak hour)

**BUILDOUT YEAR 2023 WITH PROJECT PHASES 1 AND 2 CONDITIONS**

The Project Phases 1 and 2 morning and afternoon peak hour traffic volumes from Figure 12 were added to the Buildout Year 2023 without Project traffic volumes from Figure 9 to project the Buildout Year 2023 with Project Phases 1 and 2 Conditions, shown in Figure 17. Table 17 summarizes the results of the corresponding LOS analysis for the 38 study intersections. As shown, Phases 1 and 2 would cause the intersection operating condition to worsen to LOS E or F at three locations:
10. Vermont Avenue & 3rd Street (LOS D to LOS E during the afternoon peak hour)
32. Vermont Avenue & Venice Boulevard (LOS D to LOS E during the morning peak hour)
36. Vermont Avenue & Adams Boulevard (LOS E to LOS F during the morning peak hour)

Additionally, Phases 1 and 2 would result in significant impacts at 10 intersections prior to mitigation:

6. Vermont Avenue & Beverly Boulevard (afternoon peak hour)
10. Vermont Avenue & 3rd Street (morning and afternoon peak hours)
13. Vermont Avenue & 4th Street (afternoon peak hour)
18. Vermont Avenue & 6th Street (morning and afternoon peak hours)
24. Vermont Avenue & Wilshire Boulevard (morning and afternoon peak hours)
28. Vermont Avenue & 8th Street (afternoon peak hour)
30. Vermont Avenue & Olympic Boulevard (morning and afternoon peak hours)
32. Vermont Avenue & Venice Boulevard (morning peak hour)
33. Vermont Avenue & Washington Boulevard (afternoon peak hour)
35. Vermont Avenue & I-10 Eastbound Ramps (afternoon peak hour)

SIGNIFICANT IMPACT SUMMARY

A summary of which intersections are impacted, prior to mitigation, under each analysis scenario is provided in Table 18. Intersections beyond those analyzed in this traffic study would not be significantly impacted by Project traffic. Intersections of minor streets with major streets, such as Vermont Avenue & San Marino Street located just north of Intersection #30, Vermont Avenue & Olympic Boulevard, would not be impacted because the relatively low volume of minor street traffic results in better intersection operating condition than the intersection of two major streets (as most of the analyzed intersections are). Some major intersections east and west of impacted locations on Vermont Avenue (such as the intersection of Normandie Avenue
& Beverly Boulevard, which is approximately one half mile west of Intersection #6, Vermont Avenue & Beverly Boulevard) would not be impacted because the amount of Project traffic headed in that direction at the nearest analyzed intersections is too low to possibly result in a significant impact. As described in Chapter 2, the Study Area was carefully considered and approved by LADOT, and includes all intersections with the possibility of being impacted by Project traffic.
EXISTING YEAR 2017 WITH PROJECT PHASE 1 CONDITIONS
PEAK HOUR TRAFFIC VOLUMES
EXISTING YEAR 2017 WITH PROJECT PHASE 1 CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

FIGURE 14 (CONT.)
EXISTING YEAR 2017 WITH PROJECT PHASES 1 AND 2 CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

FIGURE 15 (CONT.)
INTERIM YEAR 2021 WITH PROJECT PHASE 1 CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

LEGEND

Project Sites  AM(PM) Peak Hour Traffic Volumes
(Analyzed Intersection  Negligible Volume

10. Vermont Avenue & 3rd Street
11. Virgil Avenue & 3rd Street
12. Rampart Boulevard & 3rd Street
13. Vermont Avenue & 4th Street
14. Shatto Place & 4th Street
15. Vermont Avenue & 5th Street
16. Western Avenue & 6th Street
17. Normandie Avenue & 6th Street
18. Vermont Avenue & 6th Street

FIGURE 16 (CONT.)
INTERIM YEAR 2021 WITH PROJECT PHASE 1 CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

FIGURE 16 (CONT.)
INTERIM YEAR 2021 WITH PROJECT PHASE 1 CONDITIONS
PEAK HOUR TRAFFIC VOLUMES
INTERIM YEAR 2021 WITH PROJECT PHASE 1 CONDITIONS
PEAK HOUR TRAFFIC VOLUMES
BUILDOUT YEAR 2023 WITH PROJECT PHASES 1 AND 2 CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

FIGURE 17
BUILDOUT YEAR 2023 WITH PROJECT PHASES 1 AND 2 CONDITIONS
PEAK HOUR TRAFFIC VOLUMES

FIGURE 17 (CONT.)
### Buildout Year 2023 with Project Phases 1 and 2 Conditions
#### Peak Hour Traffic Volumes

<table>
<thead>
<tr>
<th>Sequence</th>
<th>Location</th>
<th>AM(PM) Peak Hour Traffic Volumes</th>
<th>Analyzed Intersection</th>
<th>Negligible Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>Shatto Place &amp; 6th Street</td>
<td>124(115)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,113(1,263)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>200(104)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Rampart Boulevard &amp; 6th Street</td>
<td>162(209)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>967(830)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>43(52)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Alvarado Street &amp; 6th Street</td>
<td>74(92)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>948(715)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>90(86)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Western Avenue &amp; Wilshire Blvd</td>
<td>167(188)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,212(1,467)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>78(121)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Normandie Ave / Irolo St &amp; Wilshire Blvd</td>
<td>126(127)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,331(1,473)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>122(100)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Vermont Avenue &amp; Wilshire Blvd</td>
<td>258(223)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,273(1,227)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>308(162)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Hoover Street &amp; Wilshire Blvd</td>
<td>1,329(1,188)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>888(912)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Alvarado Street &amp; Wilshire Blvd</td>
<td>125(165)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,226(1,128)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>56(50)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Vermont Avenue &amp; 7th Street</td>
<td>101(116)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,117(1,038)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Legend**
- **Project Sites**
- **(#/#)** AM(PM) Peak Hour Traffic Volumes
- **Analyzed Intersection**
- **Negligible Volume**

**Figure 17 (Cont.)**
**TABLE 14**  
EXISTING YEAR 2017 WITH PROJECT PHASE 1 CONDITIONS  
INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

<table>
<thead>
<tr>
<th>No.</th>
<th>Intersection</th>
<th>Peak Hour</th>
<th>Existing Conditions</th>
<th>Existing with Phase 1 Conditions</th>
<th>V/C</th>
<th>LOS</th>
<th>Δ V/C</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Vermont Avenue &amp; US 101 Northbound On-ramp</td>
<td>A.M.</td>
<td>0.509 A</td>
<td>0.509 A</td>
<td>0.511 A</td>
<td>A</td>
<td>0.002 NO</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.476 A</td>
<td>0.476 A</td>
<td>0.491 A</td>
<td>A</td>
<td>0.015 NO</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Vermont Avenue &amp; US 101 Northbound Off-ramp</td>
<td>A.M.</td>
<td>0.417 A</td>
<td>0.417 A</td>
<td>0.424 A</td>
<td>A</td>
<td>0.007 NO</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.464 A</td>
<td>0.464 A</td>
<td>0.465 A</td>
<td>A</td>
<td>0.001 NO</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>US 101 Southbound Off-ramp / New Hampshire Street &amp; Rosewood Avenue</td>
<td>A.M.</td>
<td>0.269 A</td>
<td>0.269 A</td>
<td>0.274 A</td>
<td>A</td>
<td>0.005 NO</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.290 A</td>
<td>0.290 A</td>
<td>0.291 A</td>
<td>A</td>
<td>0.001 NO</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Vermont Avenue &amp; Rosewood Avenue</td>
<td>A.M.</td>
<td>0.536 A</td>
<td>0.536 A</td>
<td>0.548 A</td>
<td>A</td>
<td>0.012 NO</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.577 A</td>
<td>0.577 A</td>
<td>0.580 A</td>
<td>A</td>
<td>0.003 NO</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Vermont Avenue &amp; Oakwood Avenue / US 101 Southbound On-ramp</td>
<td>A.M.</td>
<td>0.571 A</td>
<td>0.571 A</td>
<td>0.581 A</td>
<td>A</td>
<td>0.010 NO</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.558 A</td>
<td>0.558 A</td>
<td>0.560 A</td>
<td>A</td>
<td>0.002 NO</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Vermont Avenue &amp; Beverly Boulevard</td>
<td>A.M.</td>
<td>0.678 B</td>
<td>0.678 B</td>
<td>0.689 B</td>
<td>B</td>
<td>0.011 NO</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.744 C</td>
<td>0.744 C</td>
<td>0.757 C</td>
<td>C</td>
<td>0.013 NO</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Vermont Avenue &amp; 1st Street</td>
<td>A.M.</td>
<td>0.540 A</td>
<td>0.540 A</td>
<td>0.551 A</td>
<td>A</td>
<td>0.011 NO</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.660 B</td>
<td>0.660 B</td>
<td>0.663 B</td>
<td>B</td>
<td>0.003 NO</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Western Avenue &amp; 3rd Street</td>
<td>A.M.</td>
<td>0.749 C</td>
<td>0.749 C</td>
<td>0.750 C</td>
<td>C</td>
<td>0.001 NO</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.744 C</td>
<td>0.744 C</td>
<td>0.745 C</td>
<td>C</td>
<td>0.001 NO</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Normandie Avenue &amp; 3rd Street</td>
<td>A.M.</td>
<td>0.641 B</td>
<td>0.641 B</td>
<td>0.643 B</td>
<td>B</td>
<td>0.002 NO</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.618 B</td>
<td>0.618 B</td>
<td>0.620 B</td>
<td>B</td>
<td>0.002 NO</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Vermont Avenue &amp; 3rd Street</td>
<td>A.M.</td>
<td>0.784 C</td>
<td>0.784 C</td>
<td>0.791 C</td>
<td>C</td>
<td>0.007 NO</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.752 C</td>
<td>0.752 C</td>
<td>0.776 C</td>
<td>C</td>
<td>0.024 NO</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Virgil Avenue &amp; 3rd Street</td>
<td>A.M.</td>
<td>0.734 C</td>
<td>0.734 C</td>
<td>0.737 C</td>
<td>C</td>
<td>0.003 NO</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.735 C</td>
<td>0.735 C</td>
<td>0.738 C</td>
<td>C</td>
<td>0.003 NO</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Rampart Boulevard &amp; 3rd Street</td>
<td>A.M.</td>
<td>0.622 B</td>
<td>0.622 B</td>
<td>0.623 B</td>
<td>B</td>
<td>0.001 NO</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.707 C</td>
<td>0.707 C</td>
<td>0.715 C</td>
<td>C</td>
<td>0.008 NO</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Vermont Avenue &amp; 4th Street</td>
<td>A.M.</td>
<td>0.579 A</td>
<td>0.579 A</td>
<td>0.580 A</td>
<td>A</td>
<td>0.001 NO</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.573 A</td>
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### TABLE 15
EXISTING YEAR 2017 WITH PROJECT PHASES 1 AND 2 CONDITIONS
INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

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<th>No.</th>
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EXISTING YEAR 2017 WITH PROJECT PHASES 1 AND 2 CONDITIONS
INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

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## TABLE 16 (continued)

**INTERIM YEAR 2021 WITH PROJECT PHASE 1 CONDITIONS**

**INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS**

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<td></td>
<td></td>
<td>P.M.</td>
<td>0.793 C</td>
<td>0.802 D 0.009 NO</td>
</tr>
<tr>
<td>7.</td>
<td>Vermont Avenue &amp; 1st Street</td>
<td>A.M.</td>
<td>0.853 D</td>
<td>0.854 D 0.001 NO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.880 D</td>
<td>0.882 D 0.002 NO</td>
</tr>
<tr>
<td>8.</td>
<td>Western Avenue &amp; 3rd Street</td>
<td>A.M.</td>
<td>0.772 C</td>
<td>0.775 C 0.003 NO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.769 C</td>
<td>0.771 C 0.002 NO</td>
</tr>
<tr>
<td>9.</td>
<td>Normandie Avenue &amp; 3rd Street</td>
<td>A.M.</td>
<td>0.948 E</td>
<td>0.962 E 0.014 NO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
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<td>0.929 E 0.031 NO</td>
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<td>0.858 D</td>
<td>0.874 D 0.016 NO</td>
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<td>11.</td>
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<td>0.754 C 0.002 NO</td>
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<tr>
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<td></td>
<td>P.M.</td>
<td>0.833 D</td>
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<tr>
<td>12.</td>
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<td>A.M.</td>
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<td>0.724 C 0.017 NO</td>
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<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.695 B</td>
<td>0.749 C 0.054 YES</td>
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<tr>
<td>13.</td>
<td>Vermont Avenue &amp; 4th Street</td>
<td>A.M.</td>
<td>0.489 A</td>
<td>0.495 A 0.006 NO</td>
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<td>P.M.</td>
<td>0.445 A</td>
<td>0.475 A 0.030 NO</td>
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<tr>
<td>14.</td>
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<td>A.M.</td>
<td>0.510 A</td>
<td>0.529 A 0.019 NO</td>
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<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.589 A</td>
<td>0.606 B 0.017 NO</td>
</tr>
<tr>
<td>15.</td>
<td>Vermont Avenue &amp; 5th Street</td>
<td>A.M.</td>
<td>0.615 B</td>
<td>0.617 B 0.002 NO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.654 B</td>
<td>0.655 B 0.001 NO</td>
</tr>
<tr>
<td>16.</td>
<td>Western Avenue &amp; 6th Street</td>
<td>A.M.</td>
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<td>0.799 C 0.006 NO</td>
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<tr>
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<td></td>
<td>P.M.</td>
<td>0.735 C</td>
<td>0.737 C 0.002 NO</td>
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<tr>
<td>17.</td>
<td>Normandie Avenue &amp; 6th Street</td>
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<td>0.899 D 0.048 YES</td>
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<tr>
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<td>P.M.</td>
<td>0.820 D</td>
<td>0.876 D 0.056 YES</td>
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<tr>
<td>18.</td>
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<td>0.618 B 0.025 NO</td>
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<td></td>
<td>P.M.</td>
<td>0.611 B</td>
<td>0.673 B 0.062 NO</td>
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<tr>
<td>19.</td>
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<td>P.M.</td>
<td>0.653 B</td>
<td>0.675 B 0.022 NO</td>
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<td>No.</td>
<td>Intersection</td>
<td>Peak Hour</td>
<td>Buildout without Project Conditions</td>
<td>Buildout with Phases 1 and 2 Conditions</td>
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<tr>
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<td>A.M.</td>
<td>V/C LOS</td>
<td>V/C LOS △ V/C Impact</td>
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<td>P.M.</td>
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<td>0.867 D</td>
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<tr>
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<td></td>
<td>P.M.</td>
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<td>0.965 E</td>
</tr>
<tr>
<td>21.</td>
<td>Alvarado Street &amp; 6th Street</td>
<td>A.M.</td>
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<td>0.879 D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.782 C</td>
<td>0.785 C</td>
</tr>
<tr>
<td>22.</td>
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<td>1.052 F</td>
<td>1.055 F</td>
</tr>
<tr>
<td></td>
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<td>P.M.</td>
<td>1.161 F</td>
<td>1.166 F</td>
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<tr>
<td>23.</td>
<td>Normandie Avenue &amp; Wilshire Boulevard</td>
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<td>0.914 E</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>1.019 F</td>
<td>1.022 F</td>
</tr>
<tr>
<td>24.</td>
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<td>1.083 F</td>
<td>1.101 F</td>
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<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>1.069 F</td>
<td>1.105 F</td>
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<tr>
<td>25.</td>
<td>Hoover Street &amp; Wilshire Boulevard</td>
<td>A.M.</td>
<td>0.844 D</td>
<td>0.849 D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.821 D</td>
<td>0.828 D</td>
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<tr>
<td>26.</td>
<td>Alvarado Street &amp; Wilshire Boulevard</td>
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<td>0.909 E</td>
<td>0.912 E</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.929 E</td>
<td>0.933 E</td>
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<td>27.</td>
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<td>0.747 C</td>
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<td>P.M.</td>
<td>0.809 D</td>
<td>0.817 D</td>
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<tr>
<td>28.</td>
<td>Vermont Avenue &amp; 8th Street</td>
<td>A.M.</td>
<td>0.781 C</td>
<td>0.799 C</td>
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<tr>
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<td></td>
<td>P.M.</td>
<td>0.822 D</td>
<td>0.847 D</td>
</tr>
<tr>
<td>29.</td>
<td>Hoover Street &amp; 8th Street</td>
<td>A.M.</td>
<td>0.956 E</td>
<td>0.958 E</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>1.012 F</td>
<td>1.014 F</td>
</tr>
<tr>
<td>30.</td>
<td>Vermont Avenue &amp; Olympic Boulevard</td>
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<td>1.006 F</td>
<td>1.020 F</td>
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<td>P.M.</td>
<td>1.053 F</td>
<td>1.069 F</td>
</tr>
<tr>
<td>31.</td>
<td>Vermont Avenue &amp; Pico Boulevard</td>
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<td>0.899 D</td>
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<tr>
<td></td>
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<td>P.M.</td>
<td>0.875 D</td>
<td>0.883 D</td>
</tr>
<tr>
<td>32.</td>
<td>Vermont Avenue &amp; Venice Boulevard</td>
<td>A.M.</td>
<td>0.897 D</td>
<td>0.908 E</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.944 E</td>
<td>0.950 E</td>
</tr>
<tr>
<td>33.</td>
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<td>0.971 E</td>
<td>0.976 E</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>1.088 F</td>
<td>1.104 F</td>
</tr>
<tr>
<td>34.</td>
<td>Vermont Avenue &amp; I-10 Westbound Ramps</td>
<td>A.M.</td>
<td>0.882 D</td>
<td>0.879 D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.793 C</td>
<td>0.810 D</td>
</tr>
<tr>
<td>35.</td>
<td>Vermont Avenue &amp; I-10 Eastbound Ramps</td>
<td>A.M.</td>
<td>0.885 D</td>
<td>0.896 D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>1.002 F</td>
<td>1.017 F</td>
</tr>
<tr>
<td>36.</td>
<td>Vermont Avenue &amp; Adams Boulevard</td>
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<td>1.000 E</td>
<td>1.004 F</td>
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<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.847 D</td>
<td>0.848 D</td>
</tr>
<tr>
<td>37.</td>
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<td>A.M.</td>
<td>1.041 F</td>
<td>1.044 F</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>1.079 F</td>
<td>1.083 F</td>
</tr>
<tr>
<td>38.</td>
<td>Alvarado Street &amp; Olympic Boulevard</td>
<td>A.M.</td>
<td>0.843 D</td>
<td>0.843 D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.930 E</td>
<td>0.931 E</td>
</tr>
</tbody>
</table>
### TABLE 18
SUMMARY OF SIGNIFICANT INTERSECTION IMPACTS, PRIOR TO MITIGATION

<table>
<thead>
<tr>
<th>No.</th>
<th>Intersection</th>
<th>Significant Peak Hour Traffic Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Existing with Phase 1 Conditions [a]</td>
</tr>
<tr>
<td>6.</td>
<td>Vermont Avenue &amp; Beverly Boulevard</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Vermont Avenue &amp; 3rd Street</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Vermont Avenue &amp; 4th Street</td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>Vermont Avenue &amp; 6th Street</td>
<td></td>
</tr>
<tr>
<td>24.</td>
<td>Vermont Avenue &amp; Wilshire Boulevard</td>
<td>P.M.</td>
</tr>
<tr>
<td>28.</td>
<td>Vermont Avenue &amp; 8th Street</td>
<td></td>
</tr>
<tr>
<td>30.</td>
<td>Vermont Avenue &amp; Olympic Boulevard</td>
<td></td>
</tr>
<tr>
<td>32.</td>
<td>Vermont Avenue &amp; Venice Boulevard</td>
<td></td>
</tr>
<tr>
<td>33.</td>
<td>Vermont Avenue &amp; Washington Boulevard</td>
<td></td>
</tr>
<tr>
<td>35.</td>
<td>Vermont Avenue &amp; I-10 Eastbound Ramps</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
[a] See Table 14.
[b] See Table 15.
[c] See Table 16.
[d] See Table 17.
Chapter 7

Transportation Mitigation and Improvement Program

This chapter describes the transportation improvement measures that are proposed in order to mitigate the Project’s traffic impacts identified in the preceding chapter. In particular, significant impacts were identified based on LADOT thresholds at up to ten intersections, depending on analysis year and Project Phase. The mitigation measures proposed in this chapter were identified in consultation with LADOT and were prioritized based on LADOT’s mitigation guidelines.

TRANSPORTATION MITIGATION MEASURES

The mitigation program for the Project includes the following major components:

1. Implementation of a transportation demand management (TDM) program for the Project Site to promote peak period trip reduction; and,

2. Transportation Systems Management (TSM) improvements, specifically consisting of the installation of a traffic monitoring camera and fiber optic data transmission line to allow additional video monitoring of the traffic signal system in Hollywood.

These mitigation measures are consistent with the City’s policies that support improvements that reduce greenhouse gas emissions by reducing the use of single-occupant vehicle trips, encourage developers to construct transit and pedestrian-friendly projects with safe and walkable sidewalks, and provide efficient and effective traffic control and management.

TRANSPORTATION DEMAND MANAGEMENT PROGRAM

The Project shall develop and implement a TDM program to promote non-auto travel and reduce the use of single-occupant vehicle trips among the office workers on Site 1. The TDM
program would be subject to review and approval by the City (Department of City Planning and LADOT) prior to receiving a certificate of occupancy for the Project. The strategies in the TDM program may include, but are not necessarily limited to, the following:

- TDM-related information available in common area
- Bicycle amenities such as racks and showers
- Incentives for using alternative travel modes
- Parking incentives
- Contribution to the City’s Bicycle Plan Trust Fund for implementation of bicycle improvements in the Project area

The following provides further information and description of the various TDM program strategies that may be incorporated into the Project’s TDM program.

**Educational Programs.** A key component of a successful TDM program is to make Project residents aware of the various programs offered. To this end, a transportation management coordinator (TMC) on the building management staff would reach out to employees directly to promote the benefits of TDM.

**Project Design Features to Promote Bicycling and Walking.** A significant and growing number of people in Los Angeles prefer to ride bicycles or walk to their employment given sufficient facilities to make the commute feel safe and convenient. The Project would incorporate features for bicyclists and pedestrians, such as exclusive access points, secured bicycle parking facilities, or a bicycle valet system. Additionally, the Project Site would be designed to be a friendly and convenient environment for pedestrians.

As described in Chapter 3, the 2010 Bicycle Plan identifies several streets within the Study Area as sites for future bicycle lanes and bicycle routes. It proposes bicycle lanes on Beverly Boulevard, 6th Street east of Virgil Avenue, Wilshire Boulevard west of Alvarado Street, 7th Street east of New Hampshire Avenue, Pico Boulevard, Venice Boulevard, Washington Boulevard, Vermont Avenue, Hoover Street, Rampart Boulevard, and Alvarado Street. It also proposes a bicycle route on Adams Boulevard and that the following streets would be
configured as bicycle friendly streets (lower-volume residential or collector streets that receive traffic-calming features, signage, and shared-lane markings indicating that bicycles and vehicles should share the road) near the Project Sites: 4th Street, New Hampshire Avenue, and Commonwealth Avenue north of 6th Street. To support these efforts, the Project would contribute a one-time payment of $50,000 to be deposited into the City’s Bicycle Plan Trust Fund to implement bicycle improvements in the Study Area.

Incentives for Using Alternative Travel Modes. The Project TMC could incorporate various incentives for use of its programs. For example, employees could be provided with discounted monthly transit passes for Metro rail and bus service. Employees who choose not to park a car at the Project Site could receive a “parking cash-out” subsidy, receiving a rebate that would otherwise cover the cost of parking. Unbundled parking is a program wherein parking spaces are rented separately from the building space, which allows for a separate charge for parking and the flexibility to vary the number of spaces rented. Unbundling parking is an essential first step towards getting people to understand the economic cost of parking. Without unbundled parking, employees often assume that parking is free.

Project Trip Reduction from the TDM Program

The combined effect of the various strategies implemented as part of the TDM program would result in a reduction in peak hour trip generation by offering services, actions, specific facilities, etc., aimed at encouraging use of alternative transportation modes. Trip Generation Handbook, 2nd Edition (Institute of Transportation Engineers, June 2004) provides a summary of research of TDM programs at many different employers. At places that had the most comprehensive programs, including both economic incentives (e.g., transit passes, etc.) and support services, the programs resulting in an average 24% reduction in commuter vehicles. For the Project, a TDM trip reduction credit of 10% for Site 1 office workers was assumed as an achievable but conservative estimate.

Table 19 summarizes the estimated trip reduction from Site 1 during the peak hours. As shown, the TDM program is expected to result in a reduction of 301 daily trips under Phase 1, including 50 during the morning peak hour and 61 during the afternoon peak hour. The TDM program is
expected to result in a reduction of 316 daily trips upon completion of Phase 2, including 52 during the morning peak hour and 65 during the afternoon peak hour.

TRANSPORTATION SYSTEMS MANAGEMENT IMPROVEMENTS

The Project would also fund the installation of a new closed circuit television (CCTV) camera, including fiber optic cables and all required hardware to make the CCTV camera operational, at the intersection of Vermont Avenue & 5th Street. The new high-capacity fiber optic video cables would be installed in existing conduits, if feasible, along Vermont Avenue between 5th Street and Beverly Boulevard, a distance of approximately 4,000 feet. Upon completion, the improvement will enhance the ability to monitor traffic and adapt the signal system to real-time conditions along Vermont Avenue between 3rd Street and 6th Street. LADOT’s ATSAC department has identified this improvement as a high priority for the area to allow for more immediate response to traffic conditions. The Applicant would implement this improvement through the City’s B-Permit process.

For the improvement to the ability to manage the traffic systems, LADOT would allow a 1% increase in intersection capacity (reflected as a 0.01 improvement in intersection V/C ratio) at four study intersections on Vermont Avenue between 3rd Street and 6th Street:

10. Vermont Avenue & 3rd Street
13. Vermont Avenue & 4th Street
15. Vermont Avenue & 5th Street
18. Vermont Avenue & 6th Street

Three of those intersections (all except for Intersection #15, Vermont Avenue & 5th Street) would be significantly impacted by Project traffic, prior to mitigation.
OTHER MITIGATION MEASURES CONSIDERED

During preparation of this study, one potential mitigation measure that was considered would consist of funding the procurement and operating costs of an additional Metro bus on Vermont Avenue. Metro Local 204 and Metro Rapid 754 both travel up and down Vermont Avenue and pass through each of the intersections significantly impacted by Project traffic. An additional bus on one of these two routes would increase peak period transit frequency and capacity and in so doing would have the potential to increase transit usage (and thereby reduce automobile usage) on Vermont Avenue. This measure was ultimately determined infeasible, as both Metro Local 204 and Metro Rapid 754 already operate at the highest frequency that the roadway and bus stops can accommodate (10 minutes and six minutes, respectively, during the peak periods). Therefore, no additional bus can be accommodated. No further feasible mitigation measures were identified.

OTHER TRANSPORTATION IMPROVEMENTS

In addition to the measures designed to reduce the significant impacts resulting from the Project, the Applicant will make financial contributions to various City transportation initiatives, including the 2010 Bicycle Plan and Vision Zero. These contributions may be used at the City's discretion to fund infrastructure and safety improvements in and around the Study Area. While the funding of these improvements do not reduce the significance of transportation impacts on intersections based on City analysis methodology and impact criteria, they do help to advance the City’s policies and goals relating to overall mobility for all travel modes.

MITIGATION EFFECTIVENESS

The mitigation program described in this chapter would result in peak hour trip reductions from the implementation of the TDM program and capacity improvements from the installation of the traffic monitoring camera and fiber optic data line. The effectiveness of the proposed traffic mitigation program was analyzed by applying the appropriate trip generation reductions and capacity enhancements to the analysis of the impacted study intersection.
**Existing Year 2017 with Project Phase 1 with Mitigation Conditions**

Table 20 shows the Existing Year 2017 with Project Phase 1 with Mitigation Conditions at the study intersections. As shown, no significant impacts would occur after implementation of the mitigation program. The significant impact identified at Intersection #24, Vermont Avenue & Wilshire Boulevard, under Existing with Project Phase 1 Conditions would be fully mitigated.

**Existing Year 2017 with Project Phases 1 and 2 with Mitigation Conditions**

Table 21 shows the Existing Year 2017 with Project Phases 1 and 2 with Mitigation Conditions at the study intersections. As shown, the mitigation program would reduce the impact identified at Intersection #18, Vermont Avenue & 6th Street, below the level of significance. However, a significant impact would remain at Intersection #24, Vermont Avenue & Wilshire Boulevard. While the impact at this intersection would be reduced by the mitigation program, it would remain significantly impacted. No further feasible mitigation was identified at that location and, therefore, the impact would be unavoidable.

**Interim Year 2021 with Project Phase 1 with Mitigation Conditions**

Table 22 shows the Interim Year 2021 with Project Phase 1 with Mitigation Conditions at the study intersections. As shown, the mitigation program would reduce the impacts identified at four intersections below the level of significance:

10. Vermont Avenue & 3rd Street  
18. Vermont Avenue & 6th Street  
30. Vermont Avenue & Olympic Boulevard  
33. Vermont Avenue & Washington Boulevard

However, significant impacts would remain at Intersection #6, Vermont Avenue & Beverly Boulevard, and Intersection #24, Vermont Avenue & Wilshire Boulevard. While the impact at these intersections would be reduced by the mitigation program, they would remain significantly
impacted. No further feasible mitigation was identified at these locations and, therefore, these two impacts would be unavoidable.

**Buildout Year 2023 with Project Phases 1 and 2 with Mitigation Conditions**

Table 23 shows the Buildout with Project Phases 1 and 2 with Mitigation Conditions at the study intersections. As shown, the mitigation program would reduce the impacts identified at three intersections below the level of significance:

- 13. Vermont Avenue & 4th Street
- 28. Vermont Avenue & 8th Street
- 32. Vermont Avenue & Venice Boulevard

However, significant impacts would remain at seven intersections:

- 6. Vermont Avenue & Beverly Boulevard (afternoon peak hour)
- 10. Vermont Avenue & 3rd Street (afternoon peak hour)
- 18. Vermont Avenue & 6th Street (morning and afternoon peak hours)
- 24. Vermont Avenue & Wilshire Boulevard (morning and afternoon peak hours)
- 30. Vermont Avenue & Olympic Boulevard (morning and afternoon peak hours)
- 33. Vermont Avenue & Washington Boulevard (afternoon peak hour)
- 35. Vermont Avenue & I-10 Eastbound Ramps (afternoon peak hour)

While the impact at these intersections would be reduced by the mitigation program, they would remain significantly impacted. No further feasible mitigation was identified at these locations and, therefore, these seven impacts would be unavoidable.
<table>
<thead>
<tr>
<th>Description</th>
<th>Daily</th>
<th>Morning Peak Hour</th>
<th>Afternoon Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>In</td>
<td>Out</td>
</tr>
<tr>
<td><strong>Phase 1</strong></td>
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</tr>
<tr>
<td>[a] Site 1 Office Trips, Before TDM Program</td>
<td>3,012</td>
<td>485</td>
<td>10</td>
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<td>Office Trips Reduced by TDM Program (10%)</td>
<td>(301)</td>
<td>(49)</td>
<td>(1)</td>
</tr>
<tr>
<td>Site 1 Office Trips, After TDM Program</td>
<td>2,711</td>
<td>436</td>
<td>9</td>
</tr>
<tr>
<td>[a] Net Total Phase 1 Trips, Before TDM Program</td>
<td>1,553</td>
<td>168</td>
<td>18</td>
</tr>
<tr>
<td>Net Total Phase 1 Trips, After TDM Program</td>
<td>1,252</td>
<td>119</td>
<td>17</td>
</tr>
<tr>
<td><strong>Phases 1 and 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[b] Site 1 Office Trips, Before TDM Program</td>
<td>3,162</td>
<td>510</td>
<td>10</td>
</tr>
<tr>
<td>Office Trips Reduced by TDM Program (10%)</td>
<td>(316)</td>
<td>(51)</td>
<td>(1)</td>
</tr>
<tr>
<td>Site 1 Office Trips, After TDM Program</td>
<td>2,846</td>
<td>459</td>
<td>9</td>
</tr>
<tr>
<td>[b] Net Total Phases 1 and 2 Trips, Before TDM Program</td>
<td>3,215</td>
<td>216</td>
<td>104</td>
</tr>
<tr>
<td>Net Total Phases 1 and 2 Trips, After TDM Program</td>
<td>2,899</td>
<td>165</td>
<td>103</td>
</tr>
</tbody>
</table>

**Notes**

[a] See Table 12.
### TABLE 20
EXISTING YEAR 2017 WITH PROJECT PHASE 1 WITH MITIGATION CONDITIONS
INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

<table>
<thead>
<tr>
<th>No.</th>
<th>Intersection</th>
<th>Peak Hour</th>
<th>Existing Conditions</th>
<th>Existing with Phase 1 Conditions</th>
<th>Existing with Phase 1 with Mitigation Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>V/C</td>
<td>LOS</td>
<td>∆ V/C</td>
</tr>
<tr>
<td>1.</td>
<td>Vermont Avenue &amp; US 101 Northbound On-ramp</td>
<td>A.M.</td>
<td>0.509</td>
<td>A</td>
<td>0.511</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.476</td>
<td>A</td>
<td>0.491</td>
</tr>
<tr>
<td>2.</td>
<td>Vermont Avenue &amp; US 101 Northbound Off-ramp</td>
<td>A.M.</td>
<td>0.417</td>
<td>A</td>
<td>0.424</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.464</td>
<td>A</td>
<td>0.465</td>
</tr>
<tr>
<td>3.</td>
<td>US 101 Southbound Off-ramp / New Hampshire Street &amp; Rosewood Avenue</td>
<td>A.M.</td>
<td>0.289</td>
<td>A</td>
<td>0.274</td>
</tr>
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<td>P.M.</td>
<td>0.290</td>
<td>A</td>
<td>0.291</td>
</tr>
<tr>
<td>4.</td>
<td>Vermont Avenue &amp; Rosewood Avenue</td>
<td>A.M.</td>
<td>0.536</td>
<td>A</td>
<td>0.548</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.577</td>
<td>A</td>
<td>0.580</td>
</tr>
<tr>
<td>5.</td>
<td>Vermont Avenue &amp; Oakwood Avenue / US 101 Southbound On-ramp</td>
<td>A.M.</td>
<td>0.571</td>
<td>A</td>
<td>0.581</td>
</tr>
<tr>
<td></td>
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<td>P.M.</td>
<td>0.558</td>
<td>A</td>
<td>0.560</td>
</tr>
<tr>
<td>6.</td>
<td>Vermont Avenue &amp; Beverly Boulevard</td>
<td>A.M.</td>
<td>0.678</td>
<td>B</td>
<td>0.689</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.744</td>
<td>C</td>
<td>0.757</td>
</tr>
<tr>
<td>7.</td>
<td>Vermont Avenue &amp; 1st Street</td>
<td>A.M.</td>
<td>0.540</td>
<td>A</td>
<td>0.551</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.660</td>
<td>B</td>
<td>0.663</td>
</tr>
<tr>
<td>8.</td>
<td>Western Avenue &amp; 3rd Street</td>
<td>A.M.</td>
<td>0.749</td>
<td>C</td>
<td>0.750</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.744</td>
<td>C</td>
<td>0.745</td>
</tr>
<tr>
<td>9.</td>
<td>Normandie Avenue &amp; 3rd Street</td>
<td>A.M.</td>
<td>0.641</td>
<td>B</td>
<td>0.643</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.618</td>
<td>B</td>
<td>0.620</td>
</tr>
<tr>
<td>10.</td>
<td>Vermont Avenue &amp; 3rd Street</td>
<td>A.M.</td>
<td>0.784</td>
<td>C</td>
<td>0.791</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.752</td>
<td>C</td>
<td>0.776</td>
</tr>
<tr>
<td>11.</td>
<td>Virgil Avenue &amp; 3rd Street</td>
<td>A.M.</td>
<td>0.734</td>
<td>C</td>
<td>0.737</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.735</td>
<td>C</td>
<td>0.738</td>
</tr>
<tr>
<td>12.</td>
<td>Rampart Boulevard &amp; 3rd Street</td>
<td>A.M.</td>
<td>0.622</td>
<td>B</td>
<td>0.623</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.707</td>
<td>C</td>
<td>0.715</td>
</tr>
<tr>
<td>13.</td>
<td>Vermont Avenue &amp; 4th Street</td>
<td>A.M.</td>
<td>0.579</td>
<td>A</td>
<td>0.580</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.573</td>
<td>A</td>
<td>0.599</td>
</tr>
<tr>
<td>14.</td>
<td>Shatto Place &amp; 4th Street</td>
<td>A.M.</td>
<td>0.431</td>
<td>A</td>
<td>0.432</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.388</td>
<td>A</td>
<td>0.393</td>
</tr>
<tr>
<td>15.</td>
<td>Vermont Avenue &amp; 5th Street</td>
<td>A.M.</td>
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<td>A</td>
<td>0.443</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.437</td>
<td>A</td>
<td>0.495</td>
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<tr>
<td>16.</td>
<td>Western Avenue &amp; 6th Street</td>
<td>A.M.</td>
<td>0.501</td>
<td>A</td>
<td>0.502</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.537</td>
<td>A</td>
<td>0.537</td>
</tr>
<tr>
<td>17.</td>
<td>Normandie Avenue &amp; 6th Street</td>
<td>A.M.</td>
<td>0.590</td>
<td>A</td>
<td>0.593</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.585</td>
<td>A</td>
<td>0.586</td>
</tr>
<tr>
<td>18.</td>
<td>Vermont Avenue &amp; 6th Street</td>
<td>A.M.</td>
<td>0.701</td>
<td>C</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.655</td>
<td>B</td>
<td>0.683</td>
</tr>
<tr>
<td>19.</td>
<td>Shatto Place &amp; 6th Street</td>
<td>A.M.</td>
<td>0.519</td>
<td>A</td>
<td>0.525</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.527</td>
<td>A</td>
<td>0.554</td>
</tr>
</tbody>
</table>

[a] Conditions with mitigation include 0.01 V/C credit at this location for implementation of Transportation Systems Management (TSM) improvements as described in Chapter 7.
<table>
<thead>
<tr>
<th>No.</th>
<th>Intersection</th>
<th>Peak Hour</th>
<th>Existing Conditions</th>
<th>Existing with Phase 1 Conditions</th>
<th>Existing with Phase 1 with Mitigation Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>V/C LOS</td>
<td>V/C LOS △ V/C Impact</td>
<td>V/C LOS △ V/C Impact</td>
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<tr>
<td>20.</td>
<td>Rampart Boulevard &amp; 6th Street</td>
<td>A.M.</td>
<td>0.651 B</td>
<td>0.657 B 0.006 NO</td>
<td>0.655 B 0.004 NO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.771 C</td>
<td>0.772 C 0.001 NO</td>
<td>0.772 C 0.001 NO</td>
</tr>
<tr>
<td>21.</td>
<td>Alvarado Street &amp; 6th Street</td>
<td>A.M.</td>
<td>0.577 A</td>
<td>0.578 A 0.001 NO</td>
<td>0.578 A 0.001 NO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.512 A</td>
<td>0.513 A 0.001 NO</td>
<td>0.513 A 0.001 NO</td>
</tr>
<tr>
<td>22.</td>
<td>Western Avenue &amp; Wilshire Boulevard</td>
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<td>0.836 D</td>
<td>0.837 D 0.001 NO</td>
<td>0.837 D 0.001 NO</td>
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<td></td>
<td>P.M.</td>
<td>0.882 D</td>
<td>0.884 D 0.002 NO</td>
<td>0.884 D 0.002 NO</td>
</tr>
<tr>
<td>23.</td>
<td>Normandie Avenue &amp; Wilshire Boulevard</td>
<td>A.M.</td>
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<td>0.590 A 0.002 NO</td>
<td>0.589 A 0.001 NO</td>
</tr>
<tr>
<td></td>
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<td>P.M.</td>
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<td>0.680 B 0.002 NO</td>
<td>0.680 B 0.002 NO</td>
</tr>
<tr>
<td>24.</td>
<td>Vermont Avenue &amp; Wilshire Boulevard</td>
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<td>0.828 D</td>
<td>0.835 D 0.007 NO</td>
<td>0.834 D 0.006 NO</td>
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<tr>
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<td>P.M.</td>
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<td>0.814 D 0.023 YES</td>
<td>0.808 D 0.017 NO</td>
</tr>
<tr>
<td>25.</td>
<td>Hoover Street &amp; Wilshire Boulevard</td>
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<td>0.632 B</td>
<td>0.633 B 0.001 NO</td>
<td>0.632 B 0.000 NO</td>
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<tr>
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<td>P.M.</td>
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<td>0.609 B 0.002 NO</td>
<td>0.608 B 0.001 NO</td>
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<tr>
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<td>Alvarado Street &amp; Wilshire Boulevard</td>
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<td>P.M.</td>
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<td>0.581 A 0.000 NO</td>
<td>0.581 A 0.000 NO</td>
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<tr>
<td>27.</td>
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<td>0.637 B 0.010 NO</td>
</tr>
<tr>
<td></td>
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<td>P.M.</td>
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<td>0.671 B 0.002 NO</td>
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</tr>
<tr>
<td>28.</td>
<td>Vermont Avenue &amp; 8th Street</td>
<td>A.M.</td>
<td>0.656 B</td>
<td>0.671 B 0.015 NO</td>
<td>0.667 B 0.011 NO</td>
</tr>
<tr>
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<td>P.M.</td>
<td>0.673 B</td>
<td>0.692 B 0.019 NO</td>
<td>0.686 B 0.013 NO</td>
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<td>29.</td>
<td>Hoover Street &amp; 8th Street</td>
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<td>0.764 C 0.001 NO</td>
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<td>0.810 D 0.000 NO</td>
<td>0.810 D 0.000 NO</td>
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<td>0.877 D 0.011 NO</td>
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<td>31.</td>
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</tr>
<tr>
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<td>P.M.</td>
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<td>0.691 B 0.002 NO</td>
<td>0.691 B 0.002 NO</td>
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<td>0.776 C 0.006 NO</td>
</tr>
<tr>
<td></td>
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<td>P.M.</td>
<td>0.778 C</td>
<td>0.779 C 0.001 NO</td>
<td>0.779 C 0.001 NO</td>
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<tr>
<td>33.</td>
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<td>0.781 C 0.010 NO</td>
<td>0.778 C 0.007 NO</td>
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<tr>
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<td>P.M.</td>
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<td>0.883 D 0.003 NO</td>
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<tr>
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<td>0.720 C 0.014 NO</td>
<td>0.715 C 0.009 NO</td>
</tr>
<tr>
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<td>P.M.</td>
<td>0.573 A</td>
<td>0.584 A 0.011 NO</td>
<td>0.581 A 0.008 NO</td>
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<td>0.726 C 0.000 NO</td>
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<tr>
<td>37.</td>
<td>Hoover Street &amp; Olympic Boulevard</td>
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<td>38.</td>
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<td>P.M.</td>
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<td>Peak Hour</td>
<td>Existing Conditions</td>
<td>Existing with Phases 1 and 2 Conditions</td>
<td>Existing with Phases 1 and 2 with Mitigation Conditions</td>
</tr>
<tr>
<td>-----</td>
<td>--------------------------------------------------</td>
<td>-----------</td>
<td>---------------------</td>
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<td></td>
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<td>V/C</td>
<td>LOS</td>
<td>Δ V/C</td>
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<tr>
<td>1.</td>
<td>Vermont Avenue &amp; US 101 Northbound On-ramp</td>
<td>A.M.</td>
<td>0.509</td>
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<td>0.518</td>
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<tr>
<td></td>
<td></td>
<td>P.M.</td>
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<td>A</td>
<td>0.497</td>
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<tr>
<td>2.</td>
<td>Vermont Avenue &amp; US 101 Northbound Off-ramp</td>
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<td>0.464</td>
<td>A</td>
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</tr>
<tr>
<td>3.</td>
<td>US 101 Southbound Off-ramp / New Hampshire Street &amp; Rosewood Avenue</td>
<td>A.M.</td>
<td>0.289</td>
<td>A</td>
<td>0.276</td>
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<td>A</td>
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<td></td>
<td>P.M.</td>
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<td>0.586</td>
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<tr>
<td>5.</td>
<td>Vermont Avenue &amp; Oakwood Avenue / US 101 Southbound On-ramp</td>
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</tr>
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<td>6.</td>
<td>Vermont Avenue &amp; Beverly Boulevard</td>
<td>A.M.</td>
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<td>B</td>
<td>0.693</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.744</td>
<td>C</td>
<td>0.762</td>
</tr>
<tr>
<td>7.</td>
<td>Vermont Avenue &amp; 1st Street</td>
<td>A.M.</td>
<td>0.540</td>
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[a] Conditions with mitigation include 0.01 V/C credit at this location for implementation of Transportation Systems Management (TSM) improvements as described in Chapter 7.
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[a] Conditions with mitigation include 0.01 V/C credit at this location for implementation of Transportation Systems Management (TSM) improvements as described in Chapter 7.
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[a] Conditions with mitigation include 0.01 V/C credit at this location for implementation of Transportation Systems Management (TSM) improvements as described in Chapter 7.
## TABLE 23 (continued)

**BUILDOUT YEAR 2023 WITH PROJECT PHASES 1 AND 2 WITH MITIGATION CONDITIONS**

**INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS**

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<th>Buildout with Phases 1 and 2 Conditions</th>
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<td>A.M.</td>
<td>0.843 D</td>
<td>0.000 NO</td>
<td>0.843 D</td>
</tr>
</tbody>
</table>

**Notes:**
- A.M. = AM Peak Hour
- P.M. = PM Peak Hour
- ∆ V/C represents the change in LOS from Buildout without Project Conditions to Buildout with Phases 1 and 2 Conditions.
- Impact: NO = No Impacts, YES = Significant Impacts.
This chapter presents an analysis of Caltrans facilities, including freeway mainline segments, Caltrans intersections, off-ramp queuing, and on-ramp capacity to provide further information to the decision makers. This analysis is required because the Project would meet one or more of the screening thresholds identified in Transportation Impact Study Guidelines. In accordance with Caltrans guidelines, Future Year 2035 Conditions were analyzed corresponding to the analysis year of Mobility 2035, along with Existing Year 2017 Conditions, Interim Year 2021 Conditions, and Buildout Year 2023 Conditions.

ANALYZED FACILITIES

As discussed above, four types of analysis were conducted on Caltrans facilities. Eight freeway mainline segments (three on US 101, three on I-10, and two on I-110) were analyzed using 2010 Highway Capacity Manual (Transportation Research Board, 2010) (HCM 2010) methodology to determine density, speed, and LOS. Eight freeway ramp intersections were analyzed using the HCM 2010 methodology to identify average vehicle delay and LOS. Seven freeway off-ramps were analyzed for ramp queue lengths using the HCM 2010 methodology to estimate queues. Six freeway on-ramps were reviewed to determine whether the ramp volumes exceed 900 vehicles per hour per lane (vphpl). In addition to facilities within the Study Area shown in Figure 2, this analysis included several facilities along I-110 in downtown Los Angeles, east of the Project Site. The analyzed facilities are listed in Table 24. Appendix F contains the LOS worksheets for each type of analysis.
IMPACT THRESHOLDS

The Caltrans TIS Guide states that Caltrans’ target LOS is “at the transition between LOS C and LOS D,” which is generally interpreted to mean in the lower half of the range of LOS D (where the LOS is determined based on the freeway mainline density or the intersection delay). When that threshold has already been exceeded, the existing condition (or projected future condition) should be maintained with the addition of Project traffic.

However, Caltrans does not identify specific incremental criteria by which to measure the significance of impacts to freeway mainline segments or intersections and, therefore, it is not possible to identify whether a specific facility would be significantly impacted under Caltrans criteria. In the absence of specific Caltrans criteria for evaluating impacts, the analysis results are presented for information purposes.

CALTRANS FACILITY TRAFFIC VOLUMES

For Caltrans intersection and ramp analysis, the existing traffic volumes were used from the peak hour intersection turning movement counts shown in Figure 6, along with available recent traffic counts and published data from Caltrans for the I-110 ramps. Existing freeway mainline segment volumes were collected from Caltrans’ Performance Measurement System (PeMS) and Year 2015 published traffic volumes. Peak hour freeway segment volumes were gathered from PeMS based on the average weekday volumes between January 2, 2017 and February 3, 2017. Daily freeway mainline segment volumes were gathered from the 2015 published traffic volumes.

In order to estimate Future Year 2035 traffic volumes for Caltrans facilities, a process similar to that used in developing Interim Year 2021 and Buildout Year 2023 conditions for the intersection analysis was used. It would be too conservative to assume 1% annual growth on Caltrans facilities over the 18-year period from 2017 to 2035. Therefore, CMP growth forecasts were used to estimate the ambient growth between Buildout Year 2023 and Future Year 2035. The CMP estimates 2.0% total growth in the Study Area between Years 2025 and 2035, a non-compounded growth rate of approximately 0.2% per year. This rate was applied for the 12-year period between Years 2023 and 2035 (2.4% total) and added to the City ambient growth.
estimate of 6.15% between Years 2017 and 2023. In total, the Future Year 2035 traffic volumes assumed 8.55% total ambient growth from Existing Year 2017 Conditions, along with the Related Project traffic identified in Figure 7.

For freeway mainline segments, the peak hour and daily traffic volumes used in these analyses are identified in Tables 25 and 26, respectively.

**FREEWAY MAINLINE SEGMENTS**

Eight freeway mainline segments were analyzed using the HCM 2010 methodology. Table 27 summarizes the LOS definitions for freeway mainline segments based on traffic density, measured in vehicles per mile per lane. It is important to note that the HCM 2010 analysis depends heavily on the measured peak hour traffic volume past a particular point (referred to as flow). However, under congested conditions, flow can decrease, resulting in lower measured traffic volumes and, therefore, better calculated LOS than actual conditions. Qualitative observation of the facilities analyzed, along with a review of the hourly PeMS data throughout the day, suggests that measured flow at each analyzed location may not reflect the true vehicular demand due to congestion. The results reported below are based on the HCM 2010 calculation, and may indicate better LOS than actual conditions.

**Existing Year 2017 Conditions**

Table 28 summarizes the results of the HCM 2010 analysis for Existing Year 2017 Conditions, Existing Year 2017 with Project Phase 1 Conditions, and Existing Year 2017 with Project Phases 1 and 2 Conditions. As shown, based on the analysis, each segment operates at LOS D or better, without and with Project traffic. Either Project Phase would cause the LOS to worsen from LOS C to LOS D at Segment FS-2, US 101 South of Vermont Avenue, in the northbound direction during the afternoon peak hour. However, that is due to the fact that the existing condition density is precisely at the threshold between LOS C and LOS D, and the small amount of additional density added by the Project (0.1 passenger car per mile per lane under either Phase 1 or Phases 1 and 2 combined) pushes it above the threshold.
Interim Year 2021 Conditions

Table 29 summarizes the results of the HCM 2010 analysis for Interim Year 2021 without Project Conditions and Interim Year 2021 with Project Phase 1 Conditions. As shown, each segment would operate at LOS D or better under both Interim without Project and Interim with Project Phase 1 Conditions. Phase 1 would not cause the LOS to worsen at any segment and would only result in minor increases to traffic density at each segment.

Buildout Year 2023 Conditions

Table 30 summarizes the results of the HCM 2010 analysis for Buildout Year 2023 without Project Conditions and Buildout Year 2023 with Project Phases 1 and 2 Conditions. As shown, each segment would operate at LOS D or better under both Buildout without Project and Buildout with Project Phases 1 and 2 Conditions. The Project would not cause the LOS to worsen at any segment and would only result in minor increases to traffic density at each segment.

Future Year 2035 Conditions

Table 31 summarizes the results of the HCM 2010 analysis for Future Year 2035 without Project Conditions, Future Year 2035 with Project Phase 1 Conditions, and Future Year 2035 with Project Phases 1 and 2 Conditions. As shown, each segment would operate at LOS D or better, without and with Project traffic. The Project would not cause the LOS to worsen at any segment under either Phase 1 or Phases 1 and 2 combined, and would only result in minor increases to traffic density at each segment.
INTERSECTIONS

Eight Caltrans ramp intersections were analyzed using the HCM 2010 methodology. Table 32 summarizes the LOS definitions for signalized intersections using that methodology.

Existing Year 2017 Conditions

Table 33 summarizes the results of the HCM 2010 analysis for Existing Year 2017 Conditions, Existing Year 2017 with Project Phase 1 Conditions, and Existing Year 2017 with Project Phases 1 and 2 Conditions. As shown, each of the eight intersections operate at LOS C or better during both peak hours, without and with Project traffic. The Project would only result in small changes to delay at each location under either Phase 1 or Phases 1 and 2 combined.

Interim Year 2021 Conditions

Table 34 summarizes the results of the HCM 2010 analysis for Interim Year 2021 without Project Conditions and Interim Year 2021 with Project Phase 1 Conditions. As shown, seven of the eight intersections would operate at LOS D or better during both peak hours, both under Interim without Project and Interim with Project Phase 1 Conditions. Intersection #92, Vermont Avenue & I-10 Eastbound Ramps, would operate at LOS E during the afternoon peak hour, without and with Phase 1 traffic. Phase 1 would only result in small changes to delay at the eight intersections, and would have a negligible effect at Intersection #92.

Buildout Year 2023 Conditions

Table 35 summarizes the results of the HCM 2010 analysis for Buildout Year 2023 without Project Conditions and Buildout Year 2023 with Project Phases 1 and 2 Conditions. As shown, seven of the eight intersections would operate at LOS D or better during both peak hours, both under Buildout without Project and Buildout with Project Phases 1 and 2 Conditions. Intersection #92, Vermont Avenue & I-10 Eastbound Ramps, would operate at LOS E during the afternoon peak hour, without and with Phase 1 and 2 traffic. The Project would only result in small
changes to delay at the six of the eight intersections, including Intersection #92, where it would have a negligible effect. At Intersections #34 and #35, Vermont Avenue and the I-10 Westbound and Eastbound ramps, respectively, the Project would add up to 2.7 seconds of delay, though it would not worsen the LOS at either location.

The Project would also cause Intersection #2, Vermont Avenue & US 101 Northbound Off-ramp, to worsen from LOS B to LOS C during the morning peak hour. However, the change in LOS is primarily due to the fact that the intersection would operate just below the LOS C threshold under Buildout without Project Conditions, and was pushed over the threshold by a small increase in delay caused by the Project (either Project Phase). Additionally, LOS C is an acceptable operating condition.

**Future Year 2035 Conditions**

Table 36 summarizes the results of the HCM 2010 analysis for Future Year 2035 without Project Conditions, Future Year 2035 with Project Phase 1 Conditions, and Future Year 2035 with Project Phases 1 and 2 Conditions. As shown, seven of the eight intersections would operate at LOS D or better during both peak hours, without and with either Project Phase. Intersection #92, Vermont Avenue & I-10 Eastbound Ramps, would operate at LOS E during the afternoon peak hour, without and with Project traffic. Either Project Phase would only result in small changes to delay at the six of the eight intersections, including Intersection #92, where it would have a negligible effect. At Intersections #34 and #35, Vermont Avenue and the I-10 Westbound and Eastbound ramps, respectively, the Project would add up to 4.6 seconds of delay. Additionally, it would cause Intersection #34 to worsen from LOS C to LOS D during the morning peak hour.

The Project would also cause Intersection #2, Vermont Avenue & US 101 Northbound Off-ramp, to worsen from LOS B to LOS C during the morning peak hour. However, the change in LOS is primarily due to the fact that the intersection would operate just below the LOS C threshold under Future without Project Conditions, and was pushed over the threshold by a small increase in delay caused by the Project (either Project Phase). Additionally, LOS C is an acceptable operating condition.
OFF-RAMP QUEUES

Seven freeway off-ramps were analyzed to determine whether the lengths of the ramps were sufficient to accommodate vehicle queue lengths. PTV Vistro reports the 95th percentile queue length, in feet, for each approach lane on the off-ramp based on the HCM 2010 intersection analysis. Caltrans' primary concern at off-ramps is that queued vehicles may extend past the back of the ramp onto the mainline. To this end, the queuing analysis looks at two separate components of ramp capacity:

1. The length of each approach lane to the intersection (which, if exceeded, is noted in the tables as “LANE”); and,

2. The remaining length of the ramp to the point where the ramp diverges from the freeway mainline (which, if exceeded, would be noted in the tables as “YES”. However, none of the ramps in this analysis are projected to queue beyond their capacity).

The queue may exceed the striped length of a given approach lane, but as long as there is sufficient additional queuing capacity on the ramp, it will not spill over onto the mainline.

For Off-ramp Q-2, US 101 Southbound Off-ramp to Vermont Avenue at New Hampshire Avenue / Rosewood Avenue, the off-ramp leads directly to a short street segment (New Hampshire Avenue) and the first control point is at Rosewood Avenue (Intersection #3). Therefore, this intersection was analyzed as the ramp terminus. Additionally, Off-ramps Q-6, I-110 Northbound Off-ramp to westbound 3rd Street, and Q-7, I-110 Southbound Off-ramp to Wilshire Boulevard, freely flow onto the local streets, and are not delayed or controlled until reaching downstream intersections. Therefore, no queue would form at these locations, and in lieu of a queue analysis, the existing and forecast traffic volumes, without and with Project traffic, are provided in the tables.

Existing Year 2017 Conditions

Table 37 summarizes the results of the queuing analysis for Existing Year 2017 Conditions and Existing Year 2017 with Project Phase 1 Conditions. As shown, four of the off-ramps would have queues exceeding the capacity of one or more approach lanes during either the morning or afternoon peak hours, without and with Project traffic. However, none of these queues would
exceed the available storage on the ramps and, therefore, they would not affect the mainline freeway operations. The Project’s effect on queue lengths at off-ramps under Existing with Project Phase 1 Conditions would be minor.

Table 38 summarizes the results of the queuing analysis for Existing Year 2017 Conditions and Existing Year 2017 with Project Phases 1 and 2 Conditions. As shown, four of the off-ramps would have queues exceeding the capacity of one or more approach lanes during either the morning or afternoon peak hours, without and with Project traffic. However, none of these queues would exceed the available storage on the ramps and, therefore, they would not affect the mainline freeway operations. The Project’s effect on queue lengths at off-ramps under Existing with Project Phases 1 and 2 Conditions would be minor.

**Interim Year 2021 Conditions**

Table 39 summarizes the results of the queuing analysis for Interim Year 2021 without Project Conditions and Interim Year 2021 with Project Phase 1 Conditions. As shown, all five controlled off-ramps would have queues exceeding the capacity of the approach lanes during either the morning or afternoon peak hours, without and with Phase 1 traffic. However, none of these queues would exceed the available storage on the ramps and, therefore, they would not affect the mainline freeway operations. Phase 1’s effect on queue lengths at off-ramps under Interim with Project Phase 1 Conditions would be minor.

**Buildout Year 2023 Conditions**

Table 40 summarizes the results of the queuing analysis for Buildout Year 2023 without Project Conditions and Buildout Year 2023 with Project Phases 1 and 2 Conditions. As shown, all five controlled off-ramps would have queues exceeding the capacity of the approach lanes during either the morning or afternoon peak hours, without and with Project traffic. However, none of these queues would exceed the available storage on the ramps and, therefore, they would not affect the freeway mainline operations. The Project’s effect on queue lengths at off-ramps under Buildout with Project Phases 1 and 2 Conditions would be minor.
**Future Year 2035 Conditions**

Table 41 summarizes the results of the queuing analysis for Future Year 2035 without Project Conditions and Future Year 2035 with Project Phase 1 Conditions. As shown, all five controlled off-ramps would have queues exceeding the capacity of the approach lanes during either the morning or afternoon peak hours, without and with Project traffic. However, none of these queues would exceed the available storage on the ramps and, therefore, they would not affect the freeway mainline operations. The Project's effect on queue lengths at off-ramps under Future with Project Phase 1 Conditions would be minor.

Table 42 summarizes the results of the queuing analysis for Future Year 2035 without Project Conditions and Future Year 2035 with Project Phases 1 and 2 Conditions. As shown, all five controlled off-ramps would have queues exceeding the capacity of the approach lanes during either the morning or afternoon peak hours, without and with Project traffic. However, none of these queues would exceed the available storage on the ramps and, therefore, they would not affect the freeway mainline operations. The Project's effect on queue lengths at off-ramps under Future with Project Conditions would be minor.

**ON-RAMP CAPACITY**

Six on-ramps were analyzed to determine whether the existing or projected volumes would exceed the maximum capacity of 900 vphpl established by Caltrans. It is important to note that each of these on-ramps is equipped with a signal-controlled metering system and, therefore, the peak hour volume each ramp discharges onto the freeway mainline can be controlled by Caltrans as necessary.

**Existing Year 2017 Conditions**

Table 43 summarizes the results of the on-ramp analysis for Existing Year 2017 Conditions, Existing Year 2017 with Project Phase 1 Conditions, and Existing Year 2017 with Project Phases 1 and 2 Conditions. As shown, three of the six on-ramps currently operate over capacity during one or both peak hours, both without and with Project traffic. These include On-ramps
R-2, US 101 Southbound On-ramp from Vermont Avenue, during the morning peak hour, R-5, I-110 Southbound On-ramp from Bixel Street / 8th Street, during both the morning and afternoon peak hours, and R-6, I-110 Northbound On-ramp from 5th Street / Figueroa Street, during the afternoon peak hour. Phase 1 would add between zero and 10 vehicular trips to these on-ramps during the affected peak hours and Phases 1 and 2 would add between two and 13 vehicular trips during the affected peak hours.

**Interim Year 2021 Conditions**

Table 44 summarizes the results of the on-ramp analysis for Interim Year 2021 without Project Conditions and Interim Year 2021 with Project Phase 1 Conditions. As shown, only one of the six on-ramps would operate under capacity during both peak hours (On-ramp R-3, I-10 Westbound On-ramp from Vermont Avenue). The remaining five on-ramps would operate above capacity during one or both peak hours, both without and with Phase 1 traffic. Phase 1 would add between 0 and 29 trips to these on-ramps during the affected peak hours.

**Buildout Year 2023 Conditions**

Table 45 summarizes the results of the on-ramp analysis for Buildout Year 2023 without Project Conditions and Buildout Year 2023 with Project Phases 1 and 2 Conditions. As shown, only one of the six on-ramps would operate under capacity during both peak hours (On-ramp R-3, I-10 Westbound On-ramp from Vermont Avenue). The remaining five on-ramps would operate above capacity during one or both peak hours, both without and with Project traffic. Phases 1 and 2 would add between two and 37 trips to these on-ramps during the affected peak hours.

**Future Year 2035 Conditions**

Table 46 summarizes the results of the on-ramp analysis for Future Year 2035 without Project Conditions, Future Year 2035 with Project Phase 1 Conditions, and Future Year 2035 with Project Phases 1 and 2 Conditions. As shown, only one of the six on-ramps would operate under capacity during both peak hours. The remaining five on-ramps would operate above
capacity during one or both peak hours, both without and with Project traffic. Phase 1 would add between zero and 29 trips to these on-ramps during the affected peak hours and Phases 1 and 2 would add between two and 37 trips during the affected peak hours.
### TABLE 24
ANALYZED CALTRANS FACILITIES

<table>
<thead>
<tr>
<th>ID</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freeway Mainline Segments</strong></td>
<td></td>
</tr>
<tr>
<td>FS-1.</td>
<td>US 101 north of Vermont Avenue</td>
</tr>
<tr>
<td>FS-2.</td>
<td>US 101 south of Vermont Avenue</td>
</tr>
<tr>
<td>FS-3.</td>
<td>US 101 south of Alvarado Street</td>
</tr>
<tr>
<td>FS-4.</td>
<td>I-10 west of Vermont Avenue</td>
</tr>
<tr>
<td>FS-5.</td>
<td>I-10 between Vermont Avenue and Hoover Street</td>
</tr>
<tr>
<td>FS-6.</td>
<td>I-10 east of Hoover Street</td>
</tr>
<tr>
<td>FS-7.</td>
<td>I-110 north of 3rd Street</td>
</tr>
<tr>
<td>FS-8.</td>
<td>I-110 south of 8th Street</td>
</tr>
<tr>
<td><strong>Intersections</strong></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Vermont Avenue &amp; US 101 Northbound On-ramp</td>
</tr>
<tr>
<td>2.</td>
<td>Vermont Avenue &amp; US 101 Northbound Off-ramp</td>
</tr>
<tr>
<td>3.</td>
<td>US 101 SB Off-ramp / New Hampshire Avenue &amp; Rosewood Avenue</td>
</tr>
<tr>
<td>5.</td>
<td>Vermont Avenue &amp; Oakwood Avenue / US 101 Southbound On-ramp</td>
</tr>
<tr>
<td>34.</td>
<td>Vermont Avenue &amp; I-10 Westbound Ramps</td>
</tr>
<tr>
<td>35.</td>
<td>Vermont Avenue &amp; I-10 Eastbound Ramps</td>
</tr>
<tr>
<td>91.</td>
<td>Beaudry Avenue &amp; I-110 Southbound Off-ramp</td>
</tr>
<tr>
<td>92.</td>
<td>Bixel Street / I-110 Southbound On-ramp &amp; 8th Street</td>
</tr>
<tr>
<td><strong>Off-ramp Queues</strong></td>
<td></td>
</tr>
<tr>
<td>Q-1.</td>
<td>US 101 Northbound Off-ramp to Vermont Avenue (Intersection #2)</td>
</tr>
<tr>
<td>Q-2.</td>
<td>US 101 Southbound Off-ramp to New Hampshire Avenue / Rosewood Avenue (Intersection #3)</td>
</tr>
<tr>
<td>Q-3.</td>
<td>I-10 Westbound Off-ramp to Vermont Avenue (Intersection #34)</td>
</tr>
<tr>
<td>Q-4.</td>
<td>I-10 Eastbound Off-ramp to Vermont Avenue (Intersection #35)</td>
</tr>
<tr>
<td>Q-5.</td>
<td>I-110 Southbound Off-ramp to Beaudry Avenue (Intersection #91)</td>
</tr>
<tr>
<td>Q-6.</td>
<td>I-110 Northbound Off-ramp to westbound 3rd Street</td>
</tr>
<tr>
<td>Q-7.</td>
<td>I-110 Southbound Off-ramp to Wilshire Boulevard</td>
</tr>
<tr>
<td><strong>On-ramp Capacity</strong></td>
<td></td>
</tr>
<tr>
<td>R-1.</td>
<td>US 101 Northbound On-ramp from Vermont Avenue (Intersection #1)</td>
</tr>
<tr>
<td>R-2.</td>
<td>US 101 Southbound On-ramp from Vermont Avenue (Intersection #5)</td>
</tr>
<tr>
<td>R-3.</td>
<td>I-10 Westbound On-ramp from Vermont Avenue (Intersection #34)</td>
</tr>
<tr>
<td>R-4.</td>
<td>I-10 Eastbound On-ramp from Vermont Avenue (Intersection #35)</td>
</tr>
<tr>
<td>R-5.</td>
<td>I-110 Southbound On-ramp from Bixel Street / 8th Street (Intersection #92)</td>
</tr>
<tr>
<td>R-6.</td>
<td>I-110 Northbound On-ramp from 5th Street / Figueroa Street</td>
</tr>
</tbody>
</table>

**Notes:**

[a] Intersection only analyzed using Caltrans methodology.
[b] Off-ramp free-flows onto local street, and therefore no queue is measured.
### TABLE 25
FREEWAY MAINLINE SEGMENT PEAK HOUR TRAFFIC VOLUMES

<table>
<thead>
<tr>
<th>ID</th>
<th>Freeway Segment</th>
<th>Peak Hour</th>
<th>Direction</th>
<th>Existing Year 2017 Conditions</th>
<th>Existing Year 2017 with Project Phase 1 Conditions</th>
<th>Existing Year 2017 with Project Phases 1 and 2 Conditions</th>
<th>Interim Year 2021 without Project Conditions</th>
<th>Interim Year 2021 with Project Phase 1 Conditions</th>
<th>Buildout Year 2023 without Project Conditions</th>
<th>Buildout Year 2023 with Project Phases 1 and 2 Conditions</th>
<th>Future Year 2035 without Project Conditions</th>
<th>Future Year 2035 with Project Phases 1 and 2 Conditions</th>
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<tr>
<td>FS-1</td>
<td>US 101 north of Vermont Avenue</td>
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<td>NB</td>
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<td>5,573</td>
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<td></td>
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<td>4,485</td>
<td>4,512</td>
<td>4,517</td>
<td>4,847</td>
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<td>4,934</td>
<td>4,983</td>
<td>5,042</td>
<td>5,065</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>4,934</td>
<td>4,956</td>
<td>4,965</td>
<td>5,377</td>
<td>5,399</td>
<td>5,481</td>
<td>5,512</td>
<td>5,596</td>
<td>5,621</td>
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</tr>
<tr>
<td>FS-2</td>
<td>US 101 south of Vermont Avenue</td>
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<td>NB</td>
<td>6,709</td>
<td>6,732</td>
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<td>5,962</td>
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<td></td>
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<td>P.M.</td>
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<td></td>
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<td></td>
<td>P.M.</td>
<td>5,452</td>
<td>5,457</td>
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<tr>
<td>FS-4</td>
<td>I-10 west of Vermont Avenue</td>
<td>A.M.</td>
<td>EB</td>
<td>4,677</td>
<td>4,682</td>
<td>4,684</td>
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<td></td>
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<td>WB</td>
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<th>Existing Year 2017 with Project Phases 1 and 2 Conditions</th>
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<th>Interim Year 2021 with Project Phase 1 Conditions</th>
<th>Buildout Year 2023 without Project Conditions</th>
<th>Buildout Year 2023 with Project Phases 1 and 2 Conditions</th>
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<th>Future Year 2035 with Project Phase 1 Conditions</th>
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### TABLE 27
LEVEL OF SERVICE DEFINITIONS FOR FREEWAY SEGMENTS

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<th>Level of Service</th>
<th>Description</th>
<th>Density</th>
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<tr>
<td>A</td>
<td>Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.</td>
<td>≤ 11</td>
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<tr>
<td>B</td>
<td>Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.</td>
<td>&gt; 11 and ≤ 18</td>
</tr>
<tr>
<td>C</td>
<td>Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.</td>
<td>&gt; 18 and ≤ 26</td>
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<tr>
<td>D</td>
<td>Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.</td>
<td>&gt; 26 and ≤ 35</td>
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<tr>
<td>E</td>
<td>Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.</td>
<td>&gt; 35 and ≤ 45</td>
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<tr>
<td>F</td>
<td>Represents a breakdown in flow and oversaturated conditions.</td>
<td>&gt; 45</td>
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**Notes:**

[a] Density is defined in vehicles per mile per lane and describes the proximity to other vehicles and is related to the freedom to maneuver within the traffic stream (*2010 Highway Capacity Manual*, Transportation Research Board, 2010).
<table>
<thead>
<tr>
<th>ID</th>
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<th>Existing Conditions</th>
<th>Existing with Project Phase 1 Conditions</th>
<th>Existing with Project Phases 1 and 2 Conditions</th>
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Notes:
[a] Mean speed measured in miles per hour (mph) based on the methodology from *Highway Capacity Manual 2010* (Transportation Research Board, 2010).
[b] Measured in passenger cars per mile per lane (pc/mi/ln) for freeways assuming a free-flow speed of 65 mph.
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Notes:

[a] Mean speed measured in miles per hour (mph) based on the methodology from *Highway Capacity Manual 2010* (Transportation Research Board, 2010).

[b] Measured in passenger cars per mile per lane (pc/mi/ln) for freeways assuming a free-flow speed of 65 mph.
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<th>Direction</th>
<th>Buildout without Project Conditions</th>
<th>Buildout with Project Phases 1 and 2 Conditions</th>
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Notes:
[a] Mean speed measured in miles per hour (mph) based on the methodology from *Highway Capacity Manual 2010* (Transportation Research Board, 2010).
[b] Measured in passenger cars per mile per lane (pc/mi/ln) for freeways assuming a free-flow speed of 65 mph.
## TABLE 31
FUTURE YEAR 2035 CONDITIONS
CALTRANS FREEWAY MAINLINE SEGMENT LEVELS OF SERVICE

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<th>ID</th>
<th>Freeway Segment</th>
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</table>

**Notes**

[a] Mean speed measured in miles per hour (mph) based on the methodology from *Highway Capacity Manual 2010* (Transportation Research Board, 2010).

[b] Measured in passenger cars per mile per lane (pc/mi/ln) for freeways assuming a free-flow speed of 65 mph.
<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Description</th>
<th>Seconds of Delay</th>
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</thead>
<tbody>
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<td>A</td>
<td>EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.</td>
<td>≤ 10</td>
</tr>
<tr>
<td>B</td>
<td>VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.</td>
<td>&gt; 10 and ≤ 20</td>
</tr>
<tr>
<td>C</td>
<td>GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.</td>
<td>&gt; 20 and ≤ 35</td>
</tr>
<tr>
<td>D</td>
<td>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.</td>
<td>&gt; 35 and ≤ 55</td>
</tr>
<tr>
<td>E</td>
<td>POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.</td>
<td>&gt; 55 and ≤ 80</td>
</tr>
<tr>
<td>F</td>
<td>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.</td>
<td>&gt; 80</td>
</tr>
</tbody>
</table>

**Notes**

### TABLE 33
EXISTING YEAR 2017 CONDITIONS
CALTRANS INTERSECTION PEAK HOUR LEVELS OF SERVICE

<table>
<thead>
<tr>
<th>ID</th>
<th>Intersection</th>
<th>Peak Hour</th>
<th>Existing Conditions</th>
<th>Existing with Project Phase 1 Conditions</th>
<th>Existing with Project Phases 1 and 2 Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Delay</td>
<td>LOS</td>
<td>Delay</td>
</tr>
<tr>
<td>1.</td>
<td>Vermont Avenue &amp; US 101 Northbound On-ramp</td>
<td>A.M.</td>
<td>3.3</td>
<td>A</td>
<td>3.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>2.2</td>
<td>A</td>
<td>2.6</td>
</tr>
<tr>
<td>2.</td>
<td>Vermont Avenue &amp; US 101 Northbound Off-ramp</td>
<td>A.M.</td>
<td>18.6</td>
<td>B</td>
<td>18.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>18.9</td>
<td>B</td>
<td>18.9</td>
</tr>
<tr>
<td>3.</td>
<td>US 101 Southbound Off-ramp / New Hampshire Street &amp; Rosewood Avenue</td>
<td>A.M.</td>
<td>29.6</td>
<td>C</td>
<td>29.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>26.6</td>
<td>C</td>
<td>26.6</td>
</tr>
<tr>
<td>5.</td>
<td>Vermont Avenue &amp; Oakwood Avenue / US 101 Southbound On-ramp</td>
<td>A.M.</td>
<td>17.3</td>
<td>B</td>
<td>17.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>14.3</td>
<td>B</td>
<td>14.3</td>
</tr>
<tr>
<td>34.</td>
<td>Vermont Avenue &amp; I-10 Westbound Ramps</td>
<td>A.M.</td>
<td>20.7</td>
<td>C</td>
<td>21.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>15.3</td>
<td>B</td>
<td>15.4</td>
</tr>
<tr>
<td>35.</td>
<td>Vermont Avenue &amp; I-10 Eastbound Ramps</td>
<td>A.M.</td>
<td>20.6</td>
<td>C</td>
<td>20.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>25.9</td>
<td>C</td>
<td>26.0</td>
</tr>
<tr>
<td>91.</td>
<td>Beaudry Avenue &amp; I-110 Southbound Off-ramp</td>
<td>A.M.</td>
<td>12.9</td>
<td>B</td>
<td>13.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>13.0</td>
<td>B</td>
<td>13.0</td>
</tr>
<tr>
<td>92.</td>
<td>Bixel Street / I-110 Southbound On-ramp &amp; 8th Street</td>
<td>A.M.</td>
<td>22.8</td>
<td>C</td>
<td>22.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>29.7</td>
<td>C</td>
<td>29.6</td>
</tr>
</tbody>
</table>

**Notes:**
Delay is measured in average seconds per vehicle; LOS = Level of service.
[a] Intersection only analyzed using Caltrans methodology.
# TABLE 34
**INTERIM YEAR 2021 CONDITIONS**
**CALTRANS INTERSECTION PEAK HOUR LEVELS OF SERVICE**

<table>
<thead>
<tr>
<th>ID</th>
<th>Intersection</th>
<th>Peak Hour</th>
<th>Interim without Project Conditions</th>
<th>Interim with Project Phase 1 Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Delay</td>
<td>LOS</td>
</tr>
<tr>
<td>1.</td>
<td>Vermont Avenue &amp; US 101 Northbound On-ramp</td>
<td>A.M.</td>
<td>10.3</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>7.0</td>
<td>A</td>
</tr>
<tr>
<td>2.</td>
<td>Vermont Avenue &amp; US 101 Northbound Off-ramp</td>
<td>A.M.</td>
<td>19.5</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>21.1</td>
<td>C</td>
</tr>
<tr>
<td>3.</td>
<td>US 101 Southbound Off-ramp / New Hampshire Street &amp; Rosewood Avenue</td>
<td>A.M.</td>
<td>27.7</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>25.8</td>
<td>C</td>
</tr>
<tr>
<td>5.</td>
<td>Vermont Avenue &amp; Oakwood Avenue / US 101 Southbound On-ramp</td>
<td>A.M.</td>
<td>20.5</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>17.0</td>
<td>B</td>
</tr>
<tr>
<td>34.</td>
<td>Vermont Avenue &amp; I-10 Westbound Ramps</td>
<td>A.M.</td>
<td>30.2</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>23.2</td>
<td>C</td>
</tr>
<tr>
<td>35.</td>
<td>Vermont Avenue &amp; I-10 Eastbound Ramps</td>
<td>A.M.</td>
<td>25.6</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>39.6</td>
<td>D</td>
</tr>
<tr>
<td>91.</td>
<td>Beaudry Avenue &amp; I-110 Southbound Off-ramp</td>
<td>A.M.</td>
<td>13.0</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>14.3</td>
<td>B</td>
</tr>
<tr>
<td>92.</td>
<td>Bixel Street / I-110 Southbound On-ramp &amp; 8th Street</td>
<td>A.M.</td>
<td>24.6</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>61.9</td>
<td>E</td>
</tr>
</tbody>
</table>

**Notes:**
Delay is measured in average seconds per vehicle; LOS = Level of service.
[a] Intersection only analyzed using Caltrans methodology.
## TABLE 35
BUILDOUT YEAR 2023 CONDITIONS
CALTRANS INTERSECTION PEAK HOUR LEVELS OF SERVICE

<table>
<thead>
<tr>
<th>ID</th>
<th>Intersection</th>
<th>Peak Hour</th>
<th>Buildout without Project Conditions</th>
<th>Buildout with Project Phases 1 and 2 Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Delay</td>
<td>LOS</td>
</tr>
<tr>
<td>1.</td>
<td>Vermont Avenue &amp; US 101 Northbound On-ramp</td>
<td>A.M.</td>
<td>10.6</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>7.3</td>
<td>A</td>
</tr>
<tr>
<td>2.</td>
<td>Vermont Avenue &amp; US 101 Northbound Off-ramp</td>
<td>A.M.</td>
<td>19.7</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>21.3</td>
<td>B</td>
</tr>
<tr>
<td>3.</td>
<td>US 101 Southbound Off-ramp / New Hampshire Street &amp; Rosewood Avenue</td>
<td>A.M.</td>
<td>27.5</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>25.7</td>
<td>C</td>
</tr>
<tr>
<td>5.</td>
<td>Vermont Avenue &amp; Oakwood Avenue / US 101 Southbound On-ramp</td>
<td>A.M.</td>
<td>21.0</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>17.4</td>
<td>B</td>
</tr>
<tr>
<td>34.</td>
<td>Vermont Avenue &amp; I-10 Westbound Ramps</td>
<td>A.M.</td>
<td>31.9</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>23.7</td>
<td>C</td>
</tr>
<tr>
<td>35.</td>
<td>Vermont Avenue &amp; I-10 Eastbound Ramps</td>
<td>A.M.</td>
<td>26.5</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>41.8</td>
<td>D</td>
</tr>
<tr>
<td>91.</td>
<td>Beaudry Avenue &amp; I-110 Southbound Off-ramp</td>
<td>A.M.</td>
<td>13.2</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>14.5</td>
<td>B</td>
</tr>
<tr>
<td>92.</td>
<td>Bixel Street / I-110 Southbound On-ramp &amp; 8th Street</td>
<td>A.M.</td>
<td>24.9</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>66.9</td>
<td>E</td>
</tr>
</tbody>
</table>

Notes:
- Delay is measured in average seconds per vehicle; LOS = Level of service.
- [a] Intersection only analyzed using Caltrans methodology.
## TABLE 36
FUTURE YEAR 2035 CONDITIONS
CALTRANS INTERSECTION PEAK HOUR LEVELS OF SERVICE

<table>
<thead>
<tr>
<th>ID</th>
<th>Intersection</th>
<th>Peak Hour</th>
<th>Future without Project Conditions</th>
<th>Future with Project Phase 1 Conditions</th>
<th>Future with Project Phases 1 and 2 Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Delay</td>
<td>LOS</td>
<td>Delay</td>
</tr>
<tr>
<td>1.</td>
<td>Vermont Avenue &amp; US 101 Northbound On-ramp</td>
<td>A.M.</td>
<td>10.9</td>
<td>B</td>
<td>11.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>7.6</td>
<td>A</td>
<td>8.0</td>
</tr>
<tr>
<td>2.</td>
<td>Vermont Avenue &amp; US 101 Northbound Off-ramp</td>
<td>A.M.</td>
<td>19.9</td>
<td>B</td>
<td>20.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>21.6</td>
<td>C</td>
<td>21.6</td>
</tr>
<tr>
<td>3.</td>
<td>US 101 Southbound Off-ramp / New Hampshire Street &amp; Rosewood Avenue</td>
<td>A.M.</td>
<td>27.3</td>
<td>C</td>
<td>27.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>25.6</td>
<td>C</td>
<td>25.6</td>
</tr>
<tr>
<td>5.</td>
<td>Vermont Avenue &amp; Oakwood Avenue / US 101 Southbound On-ramp</td>
<td>A.M.</td>
<td>21.5</td>
<td>C</td>
<td>21.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>17.8</td>
<td>B</td>
<td>18.0</td>
</tr>
<tr>
<td>34.</td>
<td>Vermont Avenue &amp; I-10 Westbound Ramps</td>
<td>A.M.</td>
<td>33.8</td>
<td>C</td>
<td>36.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>24.4</td>
<td>C</td>
<td>24.9</td>
</tr>
<tr>
<td>35.</td>
<td>Vermont Avenue &amp; I-10 Eastbound Ramps</td>
<td>A.M.</td>
<td>27.6</td>
<td>C</td>
<td>28.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>44.7</td>
<td>D</td>
<td>48.2</td>
</tr>
<tr>
<td>91.</td>
<td>Beaudry Avenue &amp; I-110 Southbound Off-ramp</td>
<td>A.M.</td>
<td>13.3</td>
<td>B</td>
<td>13.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>14.8</td>
<td>B</td>
<td>14.8</td>
</tr>
<tr>
<td>92.</td>
<td>Bixel Street / I-110 Southbound On-ramp &amp; 8th Street</td>
<td>A.M.</td>
<td>25.3</td>
<td>C</td>
<td>25.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>72.9</td>
<td>E</td>
<td>72.8</td>
</tr>
</tbody>
</table>

**Notes:**
Delay is measured in average seconds per vehicle; LOS = Level of service.
[a] Intersection only analyzed using Caltrans methodology.
## TABLE 37
EXISTING YEAR 2017 WITH PROJECT PHASE 1 CONDITIONS
CALTRANS FREEWAY OFF-RAMP QUEUE EVALUATION

<table>
<thead>
<tr>
<th>ID</th>
<th>Freeway Off-ramp</th>
<th>Ramp &amp; Lane Description</th>
<th>Storage Capacity (ft)</th>
<th>Existing Conditions</th>
<th>Existing with Project Phase 1 Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Morning Peak Hour</td>
<td>Afternoon Peak Hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vehicles per Hour</td>
<td>Queue Length (ft)</td>
</tr>
<tr>
<td>Q-1</td>
<td>US 101 Northbound Off-ramp to Vermont Avenue (Intersection #2)</td>
<td>Left-Turn Lane</td>
<td>790</td>
<td>538</td>
<td>236</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Left-Turn / Right-Turn Lane</td>
<td>790</td>
<td>n/a</td>
<td>242</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Right-Turn Lane</td>
<td>280</td>
<td>618</td>
<td>246</td>
</tr>
<tr>
<td>Q-2</td>
<td>US 101 Southbound Off-ramp to Vermont Avenue (at New Hampshire / Rosewood) (Intersection #3)</td>
<td>New Hampshire Avenue</td>
<td>210</td>
<td>849</td>
<td>352</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>375</td>
<td>n/a</td>
<td>142</td>
</tr>
<tr>
<td>Q-3</td>
<td>I-10 Westbound Off-ramp to Vermont Avenue (Intersection #34)</td>
<td>Shared Left-Turn / Through Lane</td>
<td>250</td>
<td>267</td>
<td>193</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Right-Turn Lane</td>
<td>250</td>
<td>482</td>
<td>394</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>470</td>
<td>n/a</td>
<td>144</td>
</tr>
<tr>
<td>Q-4</td>
<td>I-10 Eastbound Off-ramp to Vermont Avenue (Intersection #35)</td>
<td>Left-Turn Lane</td>
<td>450</td>
<td>259</td>
<td>248</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Through / Right-Turn Lane</td>
<td>450</td>
<td>194</td>
<td>188</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>500</td>
<td>n/a</td>
<td>0</td>
</tr>
<tr>
<td>Q-5</td>
<td>I-110 Southbound Off-ramp to Beaudry Avenue (Intersection #91)</td>
<td>Left-Turn Lane</td>
<td>50</td>
<td>317</td>
<td>163</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Left-Turn / Through Lane</td>
<td>110</td>
<td>n/a</td>
<td>163</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Through / Right-Turn Lane</td>
<td>110</td>
<td>112</td>
<td>111</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>270</td>
<td>n/a</td>
<td>167</td>
</tr>
<tr>
<td>Q-6</td>
<td>I-110 Northbound Off-ramp to westbound 3rd Street</td>
<td>Ramp ends in exclusive lane on westbound 3rd Street; there is no queue.</td>
<td>511</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Q-7</td>
<td>I-110 Southbound Off-ramp to Wilshire Boulevard</td>
<td>Ramp merges directly with Beaudry Avenue, leading to Wilshire Boulevard; there is no queue.</td>
<td>806</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Notes:
[a] Measured from the intersection limit line to the gore point where the ramp diverges from the freeway mainline.
[b] "LANE" indicates that the queue at a particular approach lane exceeds the striped length of that lane. "YES" indicates that the overall ramp queue exceeds the capacity of the ramp such that it extends onto the mainline freeway lanes.
[c] Because the ramp does not lead to any controlled location (traffic signal, stop sign, or yield sign), vehicles flow freely and no queue would form. The ramp volume, without and with Project traffic, is reported.
### Table 38
**EXISTING YEAR 2017 WITH PROJECT PHASES 1 AND 2 CONDITIONS**
**CALTRANS FREEWAY OFF-RAMP QUEUE EVALUATION**

<table>
<thead>
<tr>
<th>ID</th>
<th>Freeway Off-ramp</th>
<th>Ramp &amp; Lane Description</th>
<th>Storage Capacity (ft) [a]</th>
<th>Existing Conditions</th>
<th>Existing with Project Phases 1 and 2 Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Morning Peak Hour</td>
<td>Afternoon Peak Hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vehicles per Hour</td>
<td>Queue Length (ft)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Morning Peak Hour</td>
<td>Afternoon Peak Hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vehicles per Hour</td>
<td>Queue Length (ft)</td>
</tr>
<tr>
<td>Q-1</td>
<td>US 101 Northbound Off-ramp to Vermont Avenue (Intersection #2)</td>
<td>Left-Turn Lane</td>
<td>790</td>
<td>538</td>
<td>236</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Left-Turn / Right-Turn Lane</td>
<td>790</td>
<td>n/a</td>
<td>242</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Right-Turn Lane</td>
<td>280</td>
<td>618</td>
<td>246</td>
</tr>
<tr>
<td>Q-2</td>
<td>US 101 Southbound Off-ramp to Vermont Avenue (at New Hampshire / Rosewood) (Intersection #3)</td>
<td>New Hampshire Avenue</td>
<td>210</td>
<td>849</td>
<td>352</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>375</td>
<td>n/a</td>
<td>142</td>
</tr>
<tr>
<td>Q-3</td>
<td>I-10 Westbound Off-ramp to Vermont Avenue (Intersection #34)</td>
<td>Shared Left-Turn / Through Lane</td>
<td>250</td>
<td>267</td>
<td>193</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Right-Turn Lane</td>
<td>250</td>
<td>482</td>
<td>394</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>470</td>
<td>n/a</td>
<td>144</td>
</tr>
<tr>
<td>Q-4</td>
<td>I-10 Eastbound Off-ramp to Vermont Avenue (Intersection #35)</td>
<td>Left-Turn Lane</td>
<td>450</td>
<td>259</td>
<td>248</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Through / Right-Turn Lane</td>
<td>450</td>
<td>194</td>
<td>188</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>500</td>
<td>n/a</td>
<td>0</td>
</tr>
<tr>
<td>Q-5</td>
<td>I-110 Southbound Off-ramp to Beaudry Avenue (Intersection #91)</td>
<td>Left-Turn Lane</td>
<td>50</td>
<td>317</td>
<td>163</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Left-Turn / Through Lane</td>
<td>110</td>
<td>n/a</td>
<td>163</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Through / Right-Turn Lane</td>
<td>110</td>
<td>112</td>
<td>111</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>270</td>
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<td>167</td>
</tr>
<tr>
<td>Q-6</td>
<td>I-110 Northbound Off-ramp to westbound 3rd Street</td>
<td>Ramp ends in exclusive lane on westbound 3rd Street; there is no queue.</td>
<td>511</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Q-7</td>
<td>I-110 Southbound Off-ramp to Wilshire Boulevard</td>
<td>Ramp merges directly with Beaudry Avenue leading to Wilshire Boulevard; there is no queue.</td>
<td>806</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

**Notes:**
- [a] Measured from the intersection limit line to the gore point where the ramp diverges from the freeway mainline.
- [b] "LANE" indicates that the queue at a particular approach lane exceeds the striped length of that lane. "YES" indicates that the overall ramp queue exceeds the capacity of the ramp such that it extends onto the mainline freeway lanes.
- [c] Because the ramp does not lead to any controlled location (traffic signal, stop sign, or yield sign), vehicles flow freely and no queue would form. The ramp volume, without and with Project traffic, is reported.
<table>
<thead>
<tr>
<th>ID</th>
<th>Freeway Off-ramp</th>
<th>Ramp &amp; Lane Description</th>
<th>Storage Capacity (ft)</th>
<th>Interim without Project Conditions</th>
<th>Interim with Project Phase 1 Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Morning Peak Hour</td>
<td>Afternoon Peak Hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vehicles per Hour</td>
<td>Queue Length (ft)</td>
</tr>
<tr>
<td>Q-1</td>
<td>US 101 Northbound Off-ramp</td>
<td>Left-Turn Lane</td>
<td>790</td>
<td>649</td>
<td>274</td>
</tr>
<tr>
<td></td>
<td>to Vermont Avenue (Intersection #2)</td>
<td>Shared Left-Turn / Right-Turn Lane</td>
<td>790</td>
<td>n/a</td>
<td>280</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Right-Turn Lane</td>
<td>280</td>
<td>649</td>
<td>287</td>
</tr>
<tr>
<td>Q-2</td>
<td>US 101 Southbound Off-ramp to Vermont Avenue (at New Hampshire / Rosewood) (Intersection #3)</td>
<td>New Hampshire Avenue</td>
<td>210</td>
<td>1,043</td>
<td>409</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>375</td>
<td>n/a</td>
<td>199</td>
</tr>
<tr>
<td>Q-3</td>
<td>I-10 Westbound Off-ramp to Vermont Avenue (Intersection #34)</td>
<td>Shared Left-Turn / Through Lane</td>
<td>250</td>
<td>300</td>
<td>205</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Right-Turn Lane</td>
<td>250</td>
<td>563</td>
<td>543</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>470</td>
<td>n/a</td>
<td>293</td>
</tr>
<tr>
<td>Q-4</td>
<td>I-10 Eastbound Off-ramp to Vermont Avenue (Intersection #35)</td>
<td>Left-Turn Lane</td>
<td>450</td>
<td>310</td>
<td>319</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Through / Right-Turn Lane</td>
<td>450</td>
<td>224</td>
<td>212</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>500</td>
<td>n/a</td>
<td>0</td>
</tr>
<tr>
<td>Q-5</td>
<td>I-110 Southbound Off-ramp to Beaudry Avenue (Intersection #91)</td>
<td>Left-Turn Lane</td>
<td>50</td>
<td>344</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Left-Turn / Through Lane</td>
<td>110</td>
<td>n/a</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Through / Right-Turn Lane</td>
<td>110</td>
<td>116</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>270</td>
<td>n/a</td>
<td>197</td>
</tr>
<tr>
<td>Q-6</td>
<td>I-110 Northbound Off-ramp to westbound 3rd Street</td>
<td>Ramp ends in exclusive lane on westbound 3rd Street; there is no queue.</td>
<td>566</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Q-7</td>
<td>I-110 Southbound Off-ramp to Wilshire Boulevard</td>
<td>Ramp merges directly with Beaudry Avenue leading to Wilshire Boulevard; there is no queue.</td>
<td>861</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Notes:
[a] Measured from the intersection limit line to the gore point where the ramp diverges from the freeway mainline.
[b] "LANE" indicates that the queue at a particular approach lane exceeds the striped length of that lane. "YES" indicates that the overall ramp queue exceeds the capacity of the ramp such that it extends onto the mainline freeway lanes.
[c] Because the ramp does not lead to any controlled location (traffic signal, stop sign, or yield sign), vehicles flow freely and no queue would form. The ramp volume, without and with Project traffic, is reported.

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### Table 40
**Buildout Year 2023 with Project Phases 1 and 2 Conditions**
**Caltrans Freeway Off-ramp Queue Evaluation**

<table>
<thead>
<tr>
<th>ID</th>
<th>Freeway Off-ramp</th>
<th>Ramp &amp; Lane Description</th>
<th>Storage Capacity (ft)</th>
<th>Buildout without Project Conditions</th>
<th>Buildout with Project Phases 1 and 2 Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Morning Peak Hour</td>
<td>Afternoon Peak Hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vehicles per Hour</td>
<td>Queue Length (ft)</td>
</tr>
<tr>
<td>Q-1</td>
<td>US 101 Northbound Off-ramp to Vermont Avenue (Intersection #2)</td>
<td>Left-Turn Lane</td>
<td>790</td>
<td>660</td>
<td>280</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Left-Turn / Right-Turn Lane</td>
<td>790</td>
<td>n/a</td>
<td>286</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Right-Turn Lane</td>
<td>280</td>
<td>662</td>
<td>294</td>
</tr>
<tr>
<td>Q-2</td>
<td>US 101 Southbound Off-ramp to Vermont Avenue (at New Hampshire / Rosewood) (Intersection #3)</td>
<td>New Hampshire Avenue</td>
<td>210</td>
<td>1,061</td>
<td>415</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>375</td>
<td>n/a</td>
<td>205</td>
</tr>
<tr>
<td>Q-3</td>
<td>I-10 Westbound Off-ramp to Vermont Avenue (Intersection #34)</td>
<td>Shared Left-Turn / Through Lane</td>
<td>250</td>
<td>305</td>
<td>207</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Right-Turn Lane</td>
<td>250</td>
<td>573</td>
<td>559</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>470</td>
<td>n/a</td>
<td>309</td>
</tr>
<tr>
<td>Q-4</td>
<td>I-10 Eastbound Off-ramp to Vermont Avenue (Intersection #35)</td>
<td>Left-Turn Lane</td>
<td>450</td>
<td>315</td>
<td>325</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Through / Right-Turn Lane</td>
<td>450</td>
<td>228</td>
<td>216</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>500</td>
<td>n/a</td>
<td>0</td>
</tr>
<tr>
<td>Q-5</td>
<td>I-110 Southbound Off-ramp to Beaudry Avenue (Intersection #91)</td>
<td>Left-Turn Lane</td>
<td>50</td>
<td>351</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Left-Turn / Through Lane</td>
<td>110</td>
<td>n/a</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Through / Right-Turn Lane</td>
<td>110</td>
<td>119</td>
<td>116</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>270</td>
<td>n/a</td>
<td>206</td>
</tr>
<tr>
<td>Q-6</td>
<td>I-110 Northbound Off-ramp to westbound 3rd Street</td>
<td>Ramp ends in exclusive lane on westbound 3rd Street; there is no queue.</td>
<td>576</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Q-7</td>
<td>I-110 Southbound Off-ramp to Wilshire Boulevard</td>
<td>Ramp merges directly with Beaudry Avenue leading to Wilshire Boulevard; there is no queue.</td>
<td>878</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

**Notes:**

[a] Measured from the intersection line limit to the gore point where the ramp diverges from the freeway mainline.

[b] "LANE" indicates that the queue at a particular approach lane exceeds the striped length of that lane. "YES" indicates that the overall ramp queue exceeds the capacity of the ramp such that it extends onto the mainline freeway lanes.

[c] Because the ramp does not lead to any controlled location (traffic signal, stop sign, or yield sign), vehicles flow freely and no queue would form. The ramp volume, without and with Project traffic, is reported.
<table>
<thead>
<tr>
<th>ID</th>
<th>Freeway Off-ramp</th>
<th>Ramp &amp; Lane Description</th>
<th>Storage Capacity (ft)</th>
<th>Future without Project Conditions</th>
<th>Future with Project Phase 1 Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Morning Peak Hour</td>
<td>Afternoon Peak Hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vehicles per Hour</td>
<td>Queue Length (ft)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q-1.</td>
<td>US 101 Northbound Off-ramp to Vermont Avenue (Intersection #2)</td>
<td>Left-Turn Lane</td>
<td>790</td>
<td>673</td>
<td>286</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Left-Turn / Right-Turn Lane</td>
<td>790</td>
<td>n/a</td>
<td>294</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Right-Turn Lane</td>
<td>280</td>
<td>677</td>
<td>302</td>
</tr>
<tr>
<td>Q-2.</td>
<td>US 101 Southbound Off-ramp to Vermont Avenue (at New Hampshire / Rosewood) (Intersection #3)</td>
<td>New Hampshire Avenue</td>
<td>210</td>
<td>1,082</td>
<td>420</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>375</td>
<td>n/a</td>
<td>210</td>
</tr>
<tr>
<td>Q-3.</td>
<td>I-10 Westbound Off-ramp to Vermont Avenue (Intersection #34)</td>
<td>Shared Left-Turn / Through Lane</td>
<td>250</td>
<td>312</td>
<td>211</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Right-Turn Lane</td>
<td>250</td>
<td>584</td>
<td>590</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>470</td>
<td>n/a</td>
<td>340</td>
</tr>
<tr>
<td>Q-4.</td>
<td>I-10 Eastbound Off-ramp to Vermont Avenue (Intersection #35)</td>
<td>Left-Turn Lane</td>
<td>450</td>
<td>321</td>
<td>332</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Through / Right-Turn Lane</td>
<td>450</td>
<td>232</td>
<td>219</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>500</td>
<td>n/a</td>
<td>0</td>
</tr>
<tr>
<td>Q-5.</td>
<td>I-110 Southbound Off-ramp to Beaudry Avenue (Intersection #91)</td>
<td>Left-Turn Lane</td>
<td>50</td>
<td>358</td>
<td>183</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Left-Turn / Through Lane</td>
<td>110</td>
<td>n/a</td>
<td>183</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Through / Right-Turn Lane</td>
<td>110</td>
<td>121</td>
<td>118</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>270</td>
<td>n/a</td>
<td>214</td>
</tr>
<tr>
<td>Q-6.</td>
<td>I-110 Northbound Off-ramp to westbound 3rd Street</td>
<td>Ramp ends in exclusive lane on westbound 3rd Street; there is no queue.</td>
<td>589</td>
<td>n/a</td>
<td>871</td>
</tr>
<tr>
<td>Q-7.</td>
<td>I-110 Southbound Off-ramp to Wilshire Boulevard</td>
<td>Ramp merges directly with Beaudry Avenue leading to Wilshire Boulevard; there is no queue.</td>
<td>897</td>
<td>n/a</td>
<td>697</td>
</tr>
</tbody>
</table>

**Notes:**
[a] Measured from the intersection limit line to the gore point where the ramp diverges from the freeway mainline.
[b] "LANE" indicates that the queue at a particular approach lane exceeds the striped length of that lane. "YES" indicates that the overall ramp queue exceeds the capacity of the ramp such that it extends onto the mainline freeway lanes.
[c] Because the ramp does not lead to any controlled location (traffic signal, stop sign, or yield sign), vehicles flow freely and no queue would form. The ramp volume, without and with Project traffic, is reported.
<table>
<thead>
<tr>
<th>ID</th>
<th>Freeway Off-ramp</th>
<th>Ramp &amp; Lane Description</th>
<th>Storage Capacity (ft) [a]</th>
<th>Future without Project Conditions</th>
<th>Future with Project Phases 1 and 2 Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Morning Peak Hour</td>
<td>Afternoon Peak Hour</td>
</tr>
<tr>
<td>Q-1.</td>
<td>US 101 Northbound Off-ramp to Vermont Avenue (Intersection #2)</td>
<td>Left-Turn Lane</td>
<td>790</td>
<td>673</td>
<td>286</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Left-Turn / Right-Turn Lane</td>
<td>790</td>
<td>n/a</td>
<td>294</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Right-Turn Lane</td>
<td>280</td>
<td>677</td>
<td>302</td>
</tr>
<tr>
<td>Q-2.</td>
<td>US 101 Southbound Off-ramp to Vermont Avenue (at New Hampshire / Rosewood) (Intersection #3)</td>
<td>New Hampshire Avenue</td>
<td>210</td>
<td>1,082</td>
<td>420</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>375</td>
<td>n/a</td>
<td>210</td>
</tr>
<tr>
<td>Q-3.</td>
<td>I-10 Westbound Off-ramp to Vermont Avenue (Intersection #34)</td>
<td>Shared Left-Turn / Through Lane</td>
<td>250</td>
<td>312</td>
<td>211</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Right-Turn Lane</td>
<td>250</td>
<td>584</td>
<td>590</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>470</td>
<td>n/a</td>
<td>340</td>
</tr>
<tr>
<td>Q-4.</td>
<td>I-10 Eastbound Off-ramp to Vermont Avenue (Intersection #35)</td>
<td>Left-Turn Lane</td>
<td>450</td>
<td>321</td>
<td>332</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Through / Right-Turn Lane</td>
<td>450</td>
<td>232</td>
<td>219</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>500</td>
<td>n/a</td>
<td>0</td>
</tr>
<tr>
<td>Q-5.</td>
<td>I-110 Southbound Off-ramp to Beaudry Avenue (Intersection #91)</td>
<td>Left-Turn Lane</td>
<td>50</td>
<td>358</td>
<td>183</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Left-Turn / Through Lane</td>
<td>110</td>
<td>n/a</td>
<td>183</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared Through / Right-Turn Lane</td>
<td>110</td>
<td>121</td>
<td>118</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillover to Ramp</td>
<td>270</td>
<td>n/a</td>
<td>214</td>
</tr>
<tr>
<td>Q-6.</td>
<td>I-110 Northbound Off-ramp to westbound 3rd Street</td>
<td>Ramp ends in exclusive lane on westbound 3rd Street; there is no queue.</td>
<td>589</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Q-7.</td>
<td>I-110 Southbound Off-ramp to Wilshire Boulevard</td>
<td>Ramp merges directly with Beaudry Avenue leading to Wilshire Boulevard; there is no queue.</td>
<td>897</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Notes:
[a] Measured from the intersection limit line to the gore point where the ramp diverges from the freeway mainline.
[b] “LANE” indicates that the queue at a particular approach lane exceeds the striped length of that lane. “YES” indicates that the overall ramp queue exceeds the capacity of the ramp such that it extends onto the mainline freeway lanes.
[c] Because the ramp does not lead to any controlled location (traffic signal, stop sign, or yield sign), vehicles flow freely and no queue would form. The ramp volume, without and with Project traffic, is reported.
### TABLE 43
EXISTING YEAR 2017 CONDITIONS
CALTRANS FREEWAY ON-RAMP CAPACITY EVALUATION

<table>
<thead>
<tr>
<th>ID</th>
<th>Freeway On-ramp</th>
<th>Number of Lanes</th>
<th>Peak Hour</th>
<th>Existing Conditions</th>
<th>Existing with Project Phase 1 Conditions</th>
<th>Existing with Project Phases 1 and 2 Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vehicles per Hour</td>
<td>Exceeds Capacity?</td>
<td>Vehicles per Hour</td>
</tr>
<tr>
<td>R-1</td>
<td>US 101 Northbound On-ramp from Vermont Avenue (Intersection #1)</td>
<td>1</td>
<td>A.M.</td>
<td>706</td>
<td>NO</td>
<td>708</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>475</td>
<td>NO</td>
<td>497</td>
</tr>
<tr>
<td>R-2</td>
<td>US 101 Southbound On-ramp from Vermont Avenue (Intersection #5)</td>
<td>1</td>
<td>A.M.</td>
<td>987</td>
<td>YES</td>
<td>989</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>760</td>
<td>NO</td>
<td>789</td>
</tr>
<tr>
<td>R-3</td>
<td>I-10 Westbound On-ramp from Vermont Avenue (Intersection #34)</td>
<td>1</td>
<td>A.M.</td>
<td>197</td>
<td>NO</td>
<td>198</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>579</td>
<td>NO</td>
<td>586</td>
</tr>
<tr>
<td>R-4</td>
<td>I-10 Eastbound On-ramp from Vermont Avenue (Intersection #35)</td>
<td>1</td>
<td>A.M.</td>
<td>792</td>
<td>NO</td>
<td>793</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>340</td>
<td>NO</td>
<td>357</td>
</tr>
<tr>
<td>R-5</td>
<td>I-110 Southbound On-ramp from Bixel Street / 8th Street (Intersection #92)</td>
<td>1</td>
<td>A.M.</td>
<td>1,238</td>
<td>YES</td>
<td>1,238</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>1,397</td>
<td>YES</td>
<td>1,405</td>
</tr>
<tr>
<td>R-6</td>
<td>I-110 Northbound On-ramp from 5th Street / Figueroa Street</td>
<td>1</td>
<td>A.M.</td>
<td>807</td>
<td>NO</td>
<td>808</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>1,076</td>
<td>YES</td>
<td>1,086</td>
</tr>
</tbody>
</table>

**Notes:**

- On-ramp capacity is 900 vehicles per hour per lane.
TABLE 44
INTERIM YEAR 2021 CONDITIONS
CALTRANS FREEWAY ON-RAMP CAPACITY EVALUATION

<table>
<thead>
<tr>
<th>ID</th>
<th>Freeway On-ramp</th>
<th>Number of Lanes</th>
<th>Peak Hour</th>
<th>Interim without Project Conditions</th>
<th>Interim with Project Phase 1 Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vehicles per Hour</td>
<td>Exceeds Capacity?</td>
</tr>
<tr>
<td>R-1</td>
<td>US 101 Northbound On-ramp from Vermont Avenue (Intersection #1)</td>
<td>1</td>
<td>A.M.</td>
<td>1,041</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>NO</td>
</tr>
<tr>
<td>R-2</td>
<td>US 101 Southbound On-ramp from Vermont Avenue (Intersection #92)</td>
<td>1</td>
<td>A.M.</td>
<td>1,213</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>YES</td>
</tr>
<tr>
<td>R-3</td>
<td>I-10 Westbound On-ramp from Vermont Avenue (Intersection #34)</td>
<td>1</td>
<td>A.M.</td>
<td>306</td>
<td>NO</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>NO</td>
</tr>
<tr>
<td>R-4</td>
<td>I-10 Eastbound On-ramp from Vermont Avenue (Intersection #35)</td>
<td>1</td>
<td>A.M.</td>
<td>950</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>NO</td>
</tr>
<tr>
<td>R-5</td>
<td>I-110 Southbound On-ramp from Bixel Street / 8th Street (Intersection #92)</td>
<td>1</td>
<td>A.M.</td>
<td>1,563</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>YES</td>
</tr>
<tr>
<td>R-6</td>
<td>I-110 Northbound On-ramp from 5th Street / Figueroa Street</td>
<td>1</td>
<td>A.M.</td>
<td>1,014</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>YES</td>
</tr>
</tbody>
</table>

Notes:
On-ramp capacity is 900 vehicles per hour per lane.
# TABLE 45
**BUILDOUT YEAR 2023 CONDITIONS**  
CALTRANS FREEWAY ON-RAMP CAPACITY EVALUATION

<table>
<thead>
<tr>
<th>ID</th>
<th>Freeway On-ramp</th>
<th>Number of Lanes</th>
<th>Peak Hour</th>
<th>Buildout without Project Conditions</th>
<th>Buildout with Project Phases 1 and 2 Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>A.M.</td>
<td>Vehicles per Hour</td>
<td>Exceeds Capacity?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-1</td>
<td>US 101 Northbound On-ramp from Vermont Avenue (Intersection #1)</td>
<td>1</td>
<td>A.M.</td>
<td>1,055</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>715</td>
<td>NO</td>
</tr>
<tr>
<td>R-2</td>
<td>US 101 Southbound On-ramp from Vermont Avenue (Intersection #92)</td>
<td>1</td>
<td>A.M.</td>
<td>1,234</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>959</td>
<td>YES</td>
</tr>
<tr>
<td>R-3</td>
<td>I-10 Westbound On-ramp from Vermont Avenue (Intersection #34)</td>
<td>1</td>
<td>A.M.</td>
<td>310</td>
<td>NO</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>709</td>
<td>NO</td>
</tr>
<tr>
<td>R-4</td>
<td>I-10 Eastbound On-ramp from Vermont Avenue (Intersection #34)</td>
<td>1</td>
<td>A.M.</td>
<td>966</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>478</td>
<td>NO</td>
</tr>
<tr>
<td>R-5</td>
<td>I-110 Southbound On-ramp from Bixel Street / 8th Street (Intersection #92)</td>
<td>1</td>
<td>A.M.</td>
<td>1,588</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>1,847</td>
<td>YES</td>
</tr>
<tr>
<td>R-6</td>
<td>I-110 Northbound On-ramp from 5th Street / Figueroa Street</td>
<td>1</td>
<td>A.M.</td>
<td>1,031</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>1,301</td>
<td>YES</td>
</tr>
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</table>

**Notes:**

On-ramp capacity is 900 vehicles per hour per lane.
### TABLE 46
**FUTURE YEAR 2035 CONDITIONS**
**CALTRANS FREEWAY ON-RAMP CAPACITY EVALUATION**

<table>
<thead>
<tr>
<th>ID</th>
<th>Freeway On-ramp</th>
<th>Number of Lanes</th>
<th>Peak Hour</th>
<th>Future without Project Conditions</th>
<th>Future with Project Phase 1 Conditions</th>
<th>Future with Project Phases 1 and 2 Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vehicles per Hour</td>
<td>Exceeds Capacity?</td>
<td>Vehicles per Hour</td>
</tr>
<tr>
<td>R-1</td>
<td>US 101 Northbound On-ramp from Vermont Avenue (Intersection #1)</td>
<td>1</td>
<td>A.M.</td>
<td>1,072</td>
<td>YES</td>
<td>1,074</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>726</td>
<td>NO</td>
</tr>
<tr>
<td>R-2</td>
<td>US 101 Southbound On-ramp from Vermont Avenue (Intersection #5)</td>
<td>1</td>
<td>A.M.</td>
<td>1,257</td>
<td>YES</td>
<td>1,259</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>977</td>
<td>YES</td>
</tr>
<tr>
<td>R-3</td>
<td>I-10 Westbound On-ramp from Vermont Avenue (Intersection #34)</td>
<td>1</td>
<td>A.M.</td>
<td>315</td>
<td>NO</td>
<td>316</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>723</td>
<td>NO</td>
</tr>
<tr>
<td>R-4</td>
<td>I-10 Eastbound On-ramp from Vermont Avenue (Intersection #35)</td>
<td>1</td>
<td>A.M.</td>
<td>984</td>
<td>YES</td>
<td>985</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>486</td>
<td>NO</td>
</tr>
<tr>
<td>R-5</td>
<td>I-110 Southbound On-ramp from Bixel Street / 8th Street (Intersection #92)</td>
<td>1</td>
<td>A.M.</td>
<td>1,618</td>
<td>YES</td>
<td>1,618</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>1,880</td>
<td>YES</td>
</tr>
<tr>
<td>R-6</td>
<td>I-110 Northbound On-ramp from 5th Street / Figueroa Street</td>
<td>1</td>
<td>A.M.</td>
<td>1,050</td>
<td>YES</td>
<td>1,051</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P.M.</td>
<td>1,327</td>
<td>YES</td>
</tr>
</tbody>
</table>

**Notes:**
On-ramp capacity is 900 vehicles per hour per lane.
Chapter 9

Residential Street Segments

This chapter presents an analysis of the Project’s potential impacts on residential streets in the vicinity of the Project Sites, in accordance with the methodology identified in Transportation Impact Study Guidelines.

RESIDENTIAL STREET SEGMENT SELECTION

As described in Transportation Impact Study Guidelines, a local residential street that provides a viable alternative to a congested arterial street would be potentially impacted by Project traffic if ADT traffic volumes exceed the thresholds identified in Chapter 1. Analysis is required at residential street segments if all of the following conditions are met:

1. The proposed project is a non-residential development and not a school.

2. The arterial that would normally be used for project access is sufficiently congested, such that motorists traveling on the arterial may opt to divert to a parallel route through a residential street. The congestion level of the arterial can be determined based on the estimated LOS under project conditions of the study intersection(s); LOS E and F are considered to represent congested conditions.

3. The project is projected to add a significant amount of traffic to the congested arterial that can potentially shift to an alternative route. Project traffic on a local residential street would need to exceed the daily minimum significance thresholds listed in the following Section under “Project-Related Increase in ADT.”

4. The local residential street(s) provides motorists with a viable alternative route.
The Project includes primarily office and residential uses, along with ground-floor commercial space and a community center. Based on the Project trip generation estimates in Tables 12 and 13, the non-residential uses represent approximately 1,750 daily trips, which is about 50% of the total daily Project trip generation. Based on historical guidance from LADOT, up to 10% of Project traffic traveling on congested segments could be assumed to use a viable alternative route.

To the west of the Project Sites, all of the east-west streets are designated Collector or higher and, therefore, do not qualify for this analysis. East of the Project Sites, 5th Street is classified as a Local Street. Many of the north-south streets in the vicinity are Local Streets, including Berendo Street and New Hampshire Avenue to the west of Vermont Avenue and Shatto Place and Westmoreland Avenue to the east of Vermont Avenue. Because Shatto Place provides direct access to the Replacement Shatto Structure and is primarily non-residential, it was not selected as a candidate for this analysis. The other four Local Streets, however, were selected for analysis.

Existing ADT data was collected on Wednesday, February 1, 2017 at seven specific locations along the four streets. These locations include:

1. Berendo Street between 4th Street and 5th Street
2. New Hampshire Avenue north of 3rd Street
3. New Hampshire Avenue between 4th Street and 5th Street
4. New Hampshire Avenue south of 8th Street
5. Westmoreland Avenue between 4th Street and 5th Street
6. Westmoreland Avenue south of 8th Street
7. 5th Street between Westmoreland Avenue and Virgil Avenue

Figure 18 shows the locations on a map and summarizes the current ADT volumes at each segment.
RESIDENTIAL STREET SEGMENT ANALYSIS

The seven residential street segments may be divided into two categories: those that provide potential cut-through bypass routes for arterial streets and those that provide cut-through bypass routes for Project access. New Hampshire Avenue and Berendo Street (Segments #1 through #4), as well as Segment #6, Westmoreland Avenue between 7th Street and Venice Boulevard, provide potential alternative routes for Vermont Avenue traffic. Segments #5 (Westmoreland Avenue between 4th Street and 5th Street) and #7 (5th Street between Westmoreland Avenue and Virgil Avenue) are too short to provide a bypass to any arterial streets, but provide convenient travel routes between Sites 1 and 2 and the area northeast of the Project Sites as alternatives to Shatto Place and 4th Street.

Project Trips Distributed on Residential Streets

A portion of Project traffic is explicitly assumed to use some of the residential street segments on New Hampshire Avenue or Berendo Street. At Site 1, traffic departing onto Vermont Avenue is forced to turn right (north), so a portion of the traffic desiring to head south or west is assumed to make a left-turn on 4th Street or 5th Street, and ultimately would return south via Berendo Street or New Hampshire Avenue. In total, approximately 6.5% of departing traffic from Site 1 on Vermont Avenue is expected to drive around the block via Berendo Street or New Hampshire Avenue. This corresponds to a total of approximately 41 daily trips between the two streets on Segments #1 and #3. This traffic is expected to travel on these residential streets regardless of whether any of the factors described above, such as congestion on an arterial street, are met.

Cut-Through Traffic Bypassing Vermont Avenue

Based on the Buildout Year 2023 with Project Conditions shown in Table 17, several sections of Vermont Avenue are projected to operate at LOS E or F during the peak hours upon completion of the Project. These include the stretch north and south of 3rd Street (based on Intersection #10, Vermont Avenue & 3rd Street, which is projected to operate at LOS E during the morning and afternoon peak hours) and the stretch between Olympic Boulevard and Washington
Boulevard (based on Intersections #30 through #33, all of which operate at LOS E or F during one or both peak hours). New Hampshire Avenue provides a potential bypass in the southbound direction for both of those segments, and Westmoreland Avenue provides a potential northbound bypass in the section between Olympic Boulevard and Washington Boulevard. The directionality of each street’s bypass potential is due to the fact that bypassing in the opposite direction would require left turns both off of and back onto Vermont Avenue, which would in many cases cause more delay to a driver than just remaining on a congested corridor.

**Vermont Avenue North and South of 3rd Street.** Based on the distribution pattern shown in Figure 10, approximately 30% of inbound office traffic is assumed to travel south on Vermont Avenue through 3rd Street. In total, considering all non-residential traffic, approximately 430 daily trips are expected southbound on Vermont Avenue at 3rd Street. If 10% of those trips were to divert to an alternative route, approximately 43 trips would travel on New Hampshire Avenue (at Segment #2) each day as a result of Project cut-through traffic.

**Vermont Avenue Southbound between Olympic Boulevard and Washington Boulevard.** Based on the distribution pattern shown in Figure 10, approximately 19% of outbound office traffic is assumed to travel south on Vermont Avenue past Olympic Boulevard. In total, considering all non-residential traffic, approximately 120 daily trips are expected southbound on Vermont Avenue at this location. If 10% of those trips were to divert to an alternative route, approximately 12 trips would travel on New Hampshire Avenue (at Segment #4) each day as a result of Project cut-through traffic.

**Vermont Avenue Northbound between Washington Boulevard and Olympic Boulevard.** Based on the distribution pattern shown in Figure 10, approximately 19% of inbound office traffic is assumed to travel north on Vermont Avenue up to Olympic Boulevard. In total, considering all non-residential traffic, approximately 120 daily trips are expected northbound on Vermont Avenue at this location. If 10% of those trips were to divert to an alternative route, approximately 12 trips would travel on Westmoreland Avenue (at Segment #6) each day as a result of Project cut-through traffic.

Other than the round-the-block traffic previously summarized for Berendo Street and New Hampshire Avenue, no other Project cut-through traffic would be expected on Segments #1 or
#3 because they are approximately “perpendicular” to the Project Sites and don’t provide direct access to the Project Sites.

**Cut-Through Traffic Bypassing Shatto Place and 4th Street**

There is little reason to expect that congestion on Shatto Place or 4th Street in the neighborhood immediately east and northeast of Sites 1 and 2 would cause motorists to seek alternative routes to Virgil Avenue. However, Westmoreland Avenue (Segment #5) and 5th Street (Segment #7) provide similar levels of accessibility as Shatto Place and 4th Street and, therefore, it is expected that drivers could choose those routes as a simple matter of preference. In total, based on the distribution pattern shown in Figure 10, approximately 16% of office traffic is assumed to travel on Shatto Place to 4th Street and vice versa. Considering all non-residential traffic, approximately seven net daily trips are expected on this route. (Because the Replacement Shatto Structure is only marginally larger than the Existing Shatto Structure, the net increase in trips along this route is small). If 50% of those trips were to divert to Westmoreland Avenue and/or 5th Street, then approximately four new trips would travel on either of those residential streets each day with the Project.

**Cut-Through Traffic Summary and Impact Analysis**

Table 47 summarizes the Project traffic (cut-through or directly distributed) at each of the analyzed street segments. It also shows the existing traffic volumes on each street and the Project traffic thresholds that would be required to result in a significant impact. As shown, none of the streets would be significantly impacted by Project cut-through traffic. Therefore, no mitigation is required.
### TABLE 47
RESIDENTIAL STREET CUT-THROUGH TRAFFIC ANALYSIS

<table>
<thead>
<tr>
<th>ID</th>
<th>Freeway Segment</th>
<th>Existing Daily Volume</th>
<th>Percentage Increase for Significant Impact</th>
<th>Volume Increase for Significant Impact</th>
<th>Project Traffic</th>
<th>Significant Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Distributed</td>
<td>Cut-Through</td>
</tr>
<tr>
<td>1.</td>
<td>Berendo Street between 4th Street and 5th Street</td>
<td>4,064</td>
<td>8%</td>
<td>325</td>
<td>41</td>
<td>-</td>
</tr>
<tr>
<td>2.</td>
<td>New Hampshire Avenue north of 5th Street</td>
<td>6,677</td>
<td>8%</td>
<td>534</td>
<td>-</td>
<td>43</td>
</tr>
<tr>
<td>3.</td>
<td>New Hampshire Avenue between 4th Street and 5th Street</td>
<td>6,427</td>
<td>8%</td>
<td>514</td>
<td>41</td>
<td>-</td>
</tr>
<tr>
<td>4.</td>
<td>New Hampshire Avenue south of 8th Street</td>
<td>4,387</td>
<td>8%</td>
<td>351</td>
<td>-</td>
<td>12</td>
</tr>
<tr>
<td>5.</td>
<td>Westmoreland Avenue between 4th Street and 5th Street</td>
<td>3,420</td>
<td>8%</td>
<td>274</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>6.</td>
<td>Westmoreland Avenue south of 8th Street</td>
<td>7,448</td>
<td>8%</td>
<td>596</td>
<td>-</td>
<td>12</td>
</tr>
<tr>
<td>7.</td>
<td>5th Street between Westmoreland Avenue and Virgil Avenue</td>
<td>1,950</td>
<td>12%</td>
<td>234</td>
<td>-</td>
<td>4</td>
</tr>
</tbody>
</table>
Chapter 10
Congestion Management Program Analysis

This chapter presents an analysis of the regional transportation facilities in the vicinity of the Project Site, in accordance with the procedures outlined in the CMP.

TRAFFIC IMPACT ANALYSIS (TIA) GUIDELINES

The CMP requires that TIAs be performed on three types of facilities:

- Arterial intersections
- Mainline freeway segments
- The public transit system

The CMP identifies specific arterial and freeway mainline locations for analysis.

Arterial Intersections

The CMP requires that a TIA be performed for all CMP arterial monitoring intersections where a project would add 50 or more trips during either the weekday morning or afternoon peak hours. A detailed analysis is not required if the project adds fewer than 50 trips to an arterial monitoring intersection. The CMP analysis uses the same CMA methodology as used in earlier chapters for City intersections to determine intersection V/C ratio and LOS. A significant impact requiring mitigation occurs if project traffic causes an incremental increase in intersection V/C ratio of 0.02 or greater to a facility projected to operate at LOS F (V/C > 1.00) after the addition of project traffic.
Mainline Freeway Segments

The CMP requires that a TIA be performed for all CMP mainline freeway monitoring locations where a project would add 150 or more trips (in either direction) during the weekday AM or PM peak hours. A detailed analysis is not required if the project adds fewer than 150 trips to a mainline freeway monitoring location (in either direction) during either the weekday AM or PM peak hour. The CMP analysis uses a demand-to-capacity (D/C) ratio to determine facility LOS based on capacity identified in Appendix A of the CMP. Similar to arterial monitoring intersections, a significant impact requiring mitigation occurs if project traffic causes an incremental increase in freeway segment D/C ratio of 0.02 or greater to a facility projected to operate at LOS F (D/C > 1.00) after the addition of project traffic.

Public Transit System

The CMP requires that a transit system analysis be performed to determine whether a project would increase transit ridership beyond the current capacity of the transit system.

ARTERIAL INTERSECTION ANALYSIS

The CMP identifies three arterial monitoring intersections within the Study Area, including two study intersections:

1. Intersection #22: Western Avenue & Wilshire Boulevard
2. Intersection #26: Alvarado Street & Wilshire Boulevard
3. Western Avenue & 9th Street

As demonstrated in Figure 12, Phases 1 and 2 combined would not generate 50 peak hour trips at either of the two study intersections during either the morning or afternoon peak hour. The intersection of Western Avenue & 9th Street would have even less Project traffic than either of the two study intersections. Therefore, no further analysis is required on CMP arterial monitoring intersections.
MAINLINE FREEWAY SEGMENT ANALYSIS

The CMP identifies one mainline freeway monitoring location within the Study Area and three other freeway monitoring locations within three miles of the Project Site:

1. I-10 at Budlong Avenue (0.25 miles west of Vermont Avenue)
2. US 101 south of Santa Monica Boulevard (0.8 miles northwest of Vermont Avenue)
3. I-110 south of US 101 (2.25 miles east of the Project Sites)
4. I-110 at Alpine Street (2.8 miles east of the Project Sites)

Based on the Project-only traffic volumes shown in Figure 12 for Phases 1 and 2, and as shown also in the freeway mainline analysis conducted for Caltrans in Chapter 8, the Project would not add 150 trips in a single direction to any freeway segment during either peak hour. Therefore, no further analysis is required.

PUBLIC TRANSIT SYSTEM ANALYSIS

The CMP prescribes a methodology for estimating the number of transit trips to be generated by a development Project. First, the Project’s trip generation is converted to person-trips by multiplying by a factor of 1.4 persons per vehicle. Second, for a primarily commercial project within one quarter mile of a transit center (including the Wilshire / Vermont station of the Metro Red Line), 15% of the person-trips are assumed to be made by transit. Table 48 summarizes this calculation based on the vehicle trip generation estimates in Table 13. As shown, the Project would generate approximately 67 transit person-trips during the morning peak hour and 87 transit person-trips during the afternoon peak hour.

As detailed in Chapter 3, the Project Sites are served by numerous established transit routes. Based on Metro ridership data from October 2016, there is capacity within the system to accommodate an additional 14,140 riders during the morning peak hour and 12,300 riders during the afternoon peak hour. Even with potential growth in transit ridership by Year 2023, the Project’s peak hour transit ridership of approximately 67 trips during the morning peak hour and 87 trips during the afternoon peak hour may be easily accommodated within the available
capacity of the system. Therefore, the Project is not anticipated to result in regional transit impacts.
### TABLE 48
CONGESTION MANAGEMENT PROGRAM TRANSIT TRIP GENERATION ESTIMATES

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Daily</th>
<th>Morning Peak Hour</th>
<th>Afternoon Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>In</td>
<td>Out</td>
</tr>
<tr>
<td>Phases 1 and 2 Net Trip Generation [a]</td>
<td>3,215</td>
<td>216</td>
<td>104</td>
</tr>
<tr>
<td>Conversion to Person-Trips (1.4 persons per vehicle)</td>
<td>4,501</td>
<td>302</td>
<td>146</td>
</tr>
<tr>
<td>Persons Using Transit (15% of person-trips)</td>
<td>675</td>
<td>45</td>
<td>22</td>
</tr>
</tbody>
</table>

Notes:

[a] Based on the vehicular trip generation estimates in Table 13.
This chapter presents a summary of how vehicles, pedestrians, and bicycles would access and circulate the Project Sites.

SITE 1

Vehicular access to Site 1 would be provided at two driveways on Vermont Avenue to the Site 1 Podium Structure and two driveways on Shatto Place to the Replacement Shatto Structure. On Vermont Avenue, a driveway at the northern edge of Site 1 would provide right-turn-out egress only (left-turn egress would be restricted because it would require crossing the northbound left-turn pocket from Vermont Avenue to 5th Street). A driveway at the southern edge of Site 1 would allow left-turns and right-turns into the Site. Once in Site 1, vehicles could circulate up to the various parking levels using internal ramps.

Access to the Replacement Shatto Structure would be essentially unchanged from current access to the Existing Shatto Structure. Two one-way driveways (one ingress and one egress) would be provided to Shatto Place. Each would allow both left-turns and right-turns in or out. There would also be an internal vehicular connection between the Site 1 Podium Structure on the west side of Site 1 and the Replacement Shatto Structure on the east side of Site 1. Therefore, drivers could enter on Shatto Place and exit on Vermont Avenue or vice versa, and in the event that parking is at capacity in one or the other structure, drivers could travel to the other structure without driving on public roads.

Access to Site 1 was designed to help accommodate the goals of the City’s Vision Zero program discussed in Chapter 3. Vermont Avenue is part of the High Injury Network (HIN), and it is preferable to limit access on HIN streets. Therefore, the egress driveway onto Vermont Avenue is limited to right-turns only rather than allowing unsafe left turns across a turn pocket.
Additionally, the design encourages the use of Shatto Place (which is not a HIN street) as the primary access point in three ways. First, the Replacement Shatto Structure provides a substantial percentage of the overall Site 1 parking supply (768 spaces out of 1,733 total spaces). Second, an internal connection allows vehicles to pass between the Replacement Shatto Structure and the Site 1 Podium Structure. Third, the driveways on Shatto Place allow left-turns and right-turns, whereas egress onto Vermont Avenue is only allowed toward the north.

Pedestrian access to Site 1 would be provided via a dedicated lobby entry on Vermont Avenue and pedestrian gates to the Replacement Shatto Structure on Shatto Place. There would also be direct pedestrian access into the ground-floor retail spaces from Vermont Avenue. Bicycle storage would be provided on the ground level, accessible from the sidewalk or from within the parking lanes off of Vermont Avenue. Additional bicycle storage would be provided on the ground level of the Replacement Shatto Structure, and would be accessible through the vehicular driveways. There are no dedicated bicycle facilities on Vermont Avenue nor Shatto Place. Vermont Avenue is designated for eventual Tier 3 bicycle lanes under Mobility Plan 2035, and the Project would not preclude installation of those lanes.

SITE 2

Vehicular access to Site 2 would be provided at a single right-turn-in / right-turn-out driveway on 6th Street at the eastern edge of the Site. As with Site 1, access to Site 2 was designed to help accommodate the goals of the City’s Vision Zero program. No access to Site 2 would be provided on Vermont Avenue, for two reasons. First, though both Vermont Avenue and 6th Street are part of the HIN, Vermont Avenue has more lanes, higher traffic volumes, and travel speeds than 6th Street and, therefore, access was provided on 6th Street. Second, a driveway on Vermont Avenue would be too close to the proposed Site 1 ingress driveway (to be located at the southern edge of Site 1) to allow for safe operation of both driveways.

Pedestrian access to Site 2 would be provided via a dedicated residential lobby entrance on Vermont Avenue, along with direct access to the ground-floor retail spaces from Vermont Avenue and 6th Street. Bicycle storage would be provided on the ground level, accessible from
the sidewalk or from within the parking entry on 6th Street. There are no existing or planned bicycle lanes on 6th Street.

SITE 3

Vehicular access to Site 3 would be provided via a single full-access driveway on Vermont Avenue providing access to subterranean parking. Pedestrian access would be provided directly to a residential lobby and a community center lobby off of Vermont Avenue. Primary bicycle storage would be provided along the southern edge of Site 3 at ground level, and would be accessed from within the building setback area. Secondary bicycle storage would be provided in subterranean parking levels, accessed via the vehicular driveway. As with Site 1, the design of access at Site 3 would not preclude the proposed installation of Tier 3 bicycle lanes on Vermont Avenue.
Chapter 12
Parking

This chapter provides an analysis of the vehicular and bicycle parking requirements for the Project set forth in the Los Angeles County Code of Ordinances (County, updated December, 2016) (County Code), the LAMC, and California state law as applicable. Each ordinance identifies parking requirements in relation to the Project’s proposed development.

PARKING SUPPLY

The Project proposes to provide structured vehicular parking at each of the three Project Sites:

- Site 1 would provide a total of 1,733 parking spaces. The Site 1 Podium Structure would provide 965 spaces in eight levels with access to Vermont Avenue. The Replacement Shatto Structure would provide 768 spaces in 11 levels with access to Shatto Place. The two structures would be connected at ground level, allowing both vehicles and pedestrians to pass between.
- Site 2 would provide 263 parking spaces in five levels (including two subterranean levels) with access to 6th Street.
- Site 3 would provide 116 spaces in a three-level subterranean structure accessed from Vermont Avenue.

Additionally, the Project would provide short-term and long-term bicycle parking at each Site as required:

- Site 1 would provide six short-term and 128 long-term bicycle parking spaces.
- Site 2 would provide 30 short-term and 260 long-term bicycle parking spaces.
- Site 3 would provide 21 short-term and 81 long-term bicycle parking spaces.
VEHICULAR PARKING REQUIREMENTS

Because the Project is located within the City’s jurisdiction, LAMC parking requirements must be generally met. However, the County Code also sets parking requirements for developments in County jurisdiction, and as the owner of the Project, the County chooses to apply County Code requirements at several of the Project components. The County Code requirements are generally equal to or more stringent than the LAMC requirements. Also, California Assembly Bill 744 (AB 744) states that housing projects with exclusively affordable units (as is the case with the Site 3 senior apartment units) cannot be required to provide more than 0.5 parking spaces per unit.

Site 1 Parking Requirement

Site 1 development consists primarily of an office tower for County employees, along with associated parking. The LAMC requires office uses to provide 1 parking space for every 500 sf of floor area. However, the County Code requires 1 parking space for every 400 sf of floor area, which is more stringent, and was, therefore, used to assess Site 1 office parking requirements. Additionally, both the LAMC and County Code require parking for the ground-floor commercial space at a rate of 1 space per 250 sf of floor area. Therefore, as shown in Table 49, Site 1 is required to provide 1,218 spaces. A total of 1,733 parking spaces would be provided on Site 1, more than required, in order to satisfy County employee and visitor parking needs.

Site 2 Parking Requirement

Site 2 development consists of the adaptive reuse of the Site 2 Tower and the construction of an additional apartment building over a podium parking structure. Under the Adaptive Reuse Ordinance, the conversion of the Site 2 Tower from office to residential use (along with 4,100 sf of ground-floor commercial space) need only provide the amount of parking that was previously provided at the Site. Because the Site 2 Tower currently provides approximately 53 spaces in an adjacent 2-level parking structure, only 53 spaces would be required upon reuse.

The new apartment building, located at 3175 W. 6th Street, must provide parking in accordance with new development requirements. The LAMC and County Code each require 1 parking space per studio unit, 1.5 spaces per 1-bedroom unit, and 2 parking spaces per 2-bedroom unit.
3,400 sf of ground-floor commercial space must provide 1 space per 250 sf under both the LAMC and County Code.

Therefore, as shown in Table 49, the new apartment building requires a total of 115 parking spaces. Adding the 53 spaces required to be replaced under the Adaptive Reuse Ordinance, Site 2 requires a total of 168 parking spaces, which is accommodated by the 263 spaces proposed to be provided.

**Site 3 Parking Requirement**

As noted above, AB 744 limits the parking requirement for affordable housing like that proposed at Site 3 to 0.5 spaces per unit. For the community center included at Site 3, the County Code requires one parking space for every three occupants based on maximum allowable occupancy. Table 49 summarizes the parking requirements for Site 3. As shown, the residential uses would require 36 parking spaces and the community center would require 80 spaces based on a 240-person maximum occupancy for a total requirement of 116 spaces. This would be accommodated by the 116 spaces proposed to be provided at Site 3.

**BICYCLE PARKING CODE REQUIREMENTS**

The County Code also requires bicycle parking to be provided. Office buildings must provide one short-term space for each 20,000 sf of floor area and one long-term space for each 10,000 sf of floor area. Residential apartment units must provide one short-term space for each 10 dwelling units and one long-term space for each two dwelling units. Retail space must provide one short-term space for each 5,000 sf of floor area and one long-term space for each 12,000 sf of floor area. For the community center, one short-term space must be provided for each 50 people based on maximum occupancy and one long-term space must be provided for each 100 people based on maximum occupancy.

Table 50 summarizes the bicycle parking requirement for each Project Site. As shown, Site 1 would require a total of 26 short-term and 49 long-term bicycle parking spaces. While Site 1 would only provide six short-term bicycle parking spaces, it would provide 128 long-term spaces for a total of 134 spaces, well over the total requirement of 75 spaces. Site 2 would require a
total of 28 short-term and 129 long-term spaces, which would be satisfied by the proposed supply. Site 3 would require a total of 13 short-term and 39 long-term spaces, which would be satisfied by the proposed supply.
TABLE 49
CODE VEHICLE PARKING REQUIREMENT

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Units or Size</th>
<th>Requirement</th>
<th>Parking Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Site 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td>471,000 sf</td>
<td>1 space per 400 sf [a]</td>
<td>1,178</td>
</tr>
<tr>
<td>Retail</td>
<td>10,000 sf</td>
<td>1 space per 250 sf [a]</td>
<td>40</td>
</tr>
<tr>
<td><strong>Site 1 Total</strong></td>
<td></td>
<td></td>
<td>1,218</td>
</tr>
<tr>
<td><strong>Site 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adaptive Reuse of Site 2 Tower</td>
<td>n/a</td>
<td>Existing Supply [b]</td>
<td>53</td>
</tr>
<tr>
<td>Studio Apartment (New Development)</td>
<td>28 units</td>
<td>1 space per unit [a]</td>
<td>28</td>
</tr>
<tr>
<td>One-bedroom Apartment (New Development)</td>
<td>38 units</td>
<td>1.5 spaces per unit [a]</td>
<td>57</td>
</tr>
<tr>
<td>Two-bedroom Apartment (New Development)</td>
<td>8 units</td>
<td>2 spaces per unit [a]</td>
<td>16</td>
</tr>
<tr>
<td>Retail</td>
<td>4,100 sf</td>
<td>1 space per 250 sf [a]</td>
<td>14</td>
</tr>
<tr>
<td><strong>Site 2 Total</strong></td>
<td></td>
<td></td>
<td>168</td>
</tr>
<tr>
<td><strong>Site 3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affordable Apartments</td>
<td>72 units</td>
<td>0.5 spaces per unit [c]</td>
<td>36</td>
</tr>
<tr>
<td>Commercial Space (Community Center)</td>
<td>240 max occ.</td>
<td>1 space per 3 occupants[a]</td>
<td>80</td>
</tr>
<tr>
<td><strong>Site 3 Total</strong></td>
<td></td>
<td></td>
<td>116</td>
</tr>
</tbody>
</table>

Notes:
- sf = square feet
- [a] Per Los Angeles County Code.
- [b] Adaptive Reuse Ordinance of the City of Los Angeles Municipal Code allows existing parking supply to be maintained.
- 53 spaces are currently provided at Site 2 in a 2-level parking structure.
- [c] California Assembly Bill 744 limits the maximum parking requirement for a residential building with all affordable units to 0.5 spaces per unit.
<table>
<thead>
<tr>
<th>Land Use</th>
<th>Units or Size</th>
<th>Long-Term Spaces</th>
<th>Short-Term Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Los Angeles County Code Requirement</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td></td>
<td>1 space per 20,000 sf</td>
<td>1 space per 10,000 sf</td>
</tr>
<tr>
<td>Residential</td>
<td></td>
<td>1 space per 10 units</td>
<td>1 space per 2 units</td>
</tr>
<tr>
<td>Retail</td>
<td></td>
<td>1 space per 5,000 sf</td>
<td>1 space per 12,000 sf</td>
</tr>
<tr>
<td>Community Center</td>
<td></td>
<td>1 space per 50 occupants</td>
<td>1 space per 100 occupants</td>
</tr>
<tr>
<td><strong>Site 1 Bicycle Parking Requirement</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td>471,000 sf</td>
<td>24</td>
<td>48</td>
</tr>
<tr>
<td>Retail</td>
<td>10,000 sf</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>Site 1 Total</strong></td>
<td>26</td>
<td></td>
<td>49</td>
</tr>
<tr>
<td><strong>Site 2 Bicycle Parking Requirement</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td>256 units</td>
<td>26</td>
<td>128</td>
</tr>
<tr>
<td>Retail</td>
<td>7,400 sf</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>Site 2 Total</strong></td>
<td>28</td>
<td></td>
<td>129</td>
</tr>
<tr>
<td><strong>Site 3 Bicycle Parking Requirement</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td>72 units</td>
<td>8</td>
<td>36</td>
</tr>
<tr>
<td>Community Center</td>
<td>240 occupants</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td><strong>Site 3 Total</strong></td>
<td>13</td>
<td></td>
<td>39</td>
</tr>
</tbody>
</table>

**Notes:**

sf = square feet
Chapter 13

Construction Impact Analysis

This chapter summarizes the construction schedule and construction impact analysis for the Project. The construction impact analysis relates to the temporary impacts that may result from the construction activities of the Project, which may include safety, operational, or capacity impacts, and was performed in accordance with L.A. CEQA Thresholds Guide: Your Resource for Preparing CEQA Analyses in Los Angeles (City of Los Angeles, 2006).

TYPES OF CONSTRUCTION IMPACTS

L.A. CEQA Thresholds Guide identifies four types of in-street construction impacts. Each of the four types of impacts refers to a particular population that could be inconvenienced by construction activities. The four types of impacts and related populations are:

1. Temporary traffic impacts – potential impacts on vehicular travelers on roadways
2. Temporary loss of access – potential impacts on visitors entering and leaving sites
3. Temporary loss of bus stops or rerouting of bus lines – potential impacts on bus travelers
4. Temporary loss of on-street parking – potential impacts on parkers

The factors used to determine the significance of a project’s impacts involve the likelihood and extent to which an impact might occur, the potential inconvenience caused to a population, and consideration for public safety. Traffic impacts from construction activities could occur as a result of the following types of activities:

- Increases in truck traffic associated with export or import of fill materials and delivery of construction materials
- Increases in automobile traffic associated with construction workers traveling to and from the Project Site
• Reductions in existing street capacity or on-street parking from temporary lane closures necessary for the construction of roadway improvements, utility relocation, and drainage facilities
• Blocking existing vehicle or pedestrian access to other parcels fronting streets

The impact of construction traffic (including haul trucks) would be a lessening of the capacities of access streets and haul routes due to slower movements and larger turning radii of trucks.

PROPOSED CONSTRUCTION SCHEDULE

The Project is anticipated to be constructed over an approximately five-year period between Years 2018 and 2023. Phase 1 would begin in 2018 and last approximately three years, during which Sites 1 and 3 would be redeveloped. The Site 1 construction, including construction of the Replacement Shatto Structure, would last throughout that period. The Site 3 construction would last approximately 20 months beginning in 2018 and concluding in 2020. Phase 2 construction, which is the reuse and redevelopment of Site 2, would begin in Year 2021 after completion of Phase 1 and conclude in Year 2023.

Typical construction activity would occur between 7:00 AM and 3:30 PM on weekdays, along with occasional Saturday activity during the same hours. Some staging activities would occur outside of these hours, including from 5:00 AM to 7:00 AM or in the evening. Generally, construction workers would arrive to the Project Sites prior to 7:00 AM and, therefore, would arrive prior to the morning peak hour. While the traffic counts collected for this study were between 3:00 PM and 6:00 PM in the afternoon, the peak hour within that period began at 4:30 PM or later at almost every intersection. Because worker shifts would generally end at 3:30 PM, workers would depart prior to the afternoon peak hour. Construction haul truck and delivery truck trips would typically arrive and depart throughout the workday, including during the morning peak hours.

POTENTIAL OFF-SITE CONSTRUCTION IMPACTS

Site 1, as the largest of the three Project Sites and proposed for the most demolition and redevelopment, would require the most workers and trucks and, therefore, would have the highest
effect on traffic on surrounding streets during construction. Therefore, this analysis focuses on Site 1 trips.

Based on construction plans prepared for the Project, there could be a maximum of 225 construction workers at Site 1 at the peak when finishing of the Site 1 Tower overlaps with the construction of the Replacement Shatto Structure. However, as noted above, construction worker trips would occur almost exclusively outside of the morning and afternoon peak hours and, therefore, would not cause peak hour traffic impacts.

**Truck Trips and Routes**

There could also be a maximum of 75 daily truck trips on major concrete pour days. These trips would occur regularly throughout the work day, for an average of approximately 10 per hour. On concrete pour days, other truck trips (i.e., deliveries) would be restricted. On days without concrete pouring, the number of daily delivery trucks is expected to average between 20 and 30, the majority of which would arrive prior to 7:00 AM or between 10:00 AM and 2:00 PM.

Haul trucks would travel north and south on Vermont Avenue to US 101 or I-10 (depending on the location of the dump site or landfill accepting the excavated material). Concrete and delivery trucks would also likely follow the same routes, depending on their points of origin. The numbers of hourly truck trips are substantially lower than the peak hour trip generation estimates for the Project shown in Tables 12 and 13. Additionally, the effects of these trips are temporary and, therefore, do not result in a significant traffic impact on nearby intersections. Nonetheless, the Construction Management Plan described at the end of this chapter would contain measures to further reduce the effects of construction traffic on nearby intersections.

**POTENTIAL IMPACTS ON ACCESS, TRANSIT, AND PARKING**

Most construction activities will be primarily contained within the Project Site boundaries. However, it is expected that construction fences will encroach into the public right-of-way (e.g., sidewalk and roadways) adjacent to the Project Sites on Vermont Avenue, Shatto Place, and 6th Street. These encroachments would require temporary closure of the curb lanes on northbound
Vermont Avenue (adjacent to Sites 1 and 2), southbound Vermont Avenue (adjacent to Site 3), and westbound 6th Street (adjacent to Site 2). Additionally, during construction of the Replacement Shatto Structure, construction would encroach onto Shatto Place, though this will only result in a loss of on-street parking, and not restrict traffic flow. On certain rare occasions, such as during major concrete pours, additional encroachment into those streets may be necessary for short periods.

Additionally, the closure of a lane on westbound 6th Street will require the temporary relocation of an existing Metro bus stop on the northeast corner of Vermont Avenue & 6th Street. All encroachment onto the street will require a corresponding closure of the pedestrian sidewalks, requiring pedestrian detours to the opposite sides of streets or the provision of pedestrian pathways around the construction fences.

Construction worker parking would be provided in nearby surface lots or parking structures, or in remote lots with shuttle transportation provide to the construction site, until parking facilities constructed as part of the Project are available for use on-site.

Temporary traffic controls, including signage and flag men as necessary, would be provided to direct traffic around any closures as required in the Construction Management Plan. No traffic movements would be restricted in the vicinity of the Project Sites at any time during Project construction, with the possible exception of a very brief duration on Shatto Place if allowed by LADOT. Therefore, Project construction is not expected to create hazards for roadway travelers, bus riders, or pedestrians, so long as commonly practiced safety procedures for construction are followed. Such procedures and other measures (e.g., to address temporary traffic control, lane closures, sidewalk closures, etc.) have been incorporated into the Construction Management Plan. The construction-related impacts associated with access and transit are anticipated to be less than significant, and the implementation of the Construction Management Plan described below would further reduce those impacts.

CONSTRUCTION MANAGEMENT PLAN

A detailed Construction Management Plan, including street closure information, a detour plan, haul routes, and a staging plan would be prepared and submitted to the City for review and
approval. The Construction Management Plan would formalize how construction would be carried out and identify specific actions that would be required to reduce effects on the surrounding community.

The Construction Management Plan shall be based on the nature and timing of the specific construction activities and other projects in the vicinity of the Project Site, and shall include, but not be limited to, the following elements, as appropriate:

- Prohibition of construction worker parking on nearby residential streets.
- Construction-related vehicles shall not park on surrounding public streets.
- Temporary traffic control during all construction activities adjacent to public rights-of-way to improve traffic flow on public roadways (e.g., flag men).
- Scheduling of construction activities to reduce the effect on traffic flow on surrounding arterial streets.
- Scheduling of construction-related deliveries, haul trips, etc., so as to occur outside the commuter peak hours to the extent feasible.
- Safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers as appropriate.
- Workers will be required to participate in a carpool registry with the goal of reducing single-occupant automobile trips by construction workers.
References

2010 Bicycle Plan, Los Angeles Department of City Planning, adopted March 1, 2011.


2010 Los Angeles County Congestion Management Program, Los Angeles County Metropolitan Transportation Authority, 2010.


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

Transportation Impact Study Guidelines, Los Angeles Department of Transportation, December 2016.


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