IV. ENVIRONMENTAL IMPACT ANALYSIS  
C. TRAFFIC CIRCULATION AND PARKING  

1. INTRODUCTION  

This section is based on the technical report Traffic Impact Study Health Sciences Campus Project University of Southern California, City of Los Angeles, California, prepared by Linscott, Law & Greenspan, Engineers (May 5, 2005). The traffic technical report, contained in Appendix C of this Draft EIR, analyzes the potential impact of the proposed Project on the surrounding street and freeway system. This section evaluates the traffic conditions on the existing street and highway network serving the Project Site and the impact of traffic generated by the proposed Project on the future roadway conditions.  

2. ENVIRONMENTAL SETTING  

a. Regional Network  

The Project Site is located approximately one-half mile north of the San Bernardino Freeway (I-10) and approximately one-half mile east of the Golden State Freeway (I-5). Additional freeways providing indirect access to the Project Site area are the Pasadena Freeway (State Route 110), Long Beach Freeway (I-710), Hollywood Freeway (State Route 101), and the Pomona Freeway (State Route 60). The following are brief descriptions of the San Bernardino and Golden State Freeways.  

San Bernardino Freeway (Interstate-10) is a major east-west freeway connecting Santa Monica to the west to the Inland Empire to the east. In the eastbound direction, an off-ramp is provided at Soto Street/Wabash Avenue and an on-ramp is provided at Marengo Street. In the westbound direction, on- and off-ramps are provided at Soto Street/Charlotte Street.  

Golden State Freeway (Interstate-5) is a major north-south freeway connecting Southern California with Central and Northern California. In the northbound direction, off-ramps from the freeway are provided at Cesar Chavez Avenue and Daly Street and on-ramps to the freeway are provided at Marengo Street and State Street. In the southbound direction, off-ramps from the freeway are provided at Main Street, Mission Road and Cesar Chavez Avenue (via State Street) and on-ramps to the freeway are provided at Mission Road and Cesar Chavez Avenue.
b. Local Street Network

The local streets serving the proposed Project are under the jurisdiction of the City of Los Angeles. Streets adjacent to the Project Site including Eastlake Avenue, Zonal Avenue, San Pablo Street, Norfolk Street and Alcazar Street would provide primary access. The local street network serving the Project Site is a combination of these adjacent streets, as well as other major streets in the Project vicinity. The streets comprising this street network are listed and briefly described as follows:

Eastlake Avenue/Norfolk Street is an east-west oriented roadway that provides access through the HSC. The roadway is identified as Eastlake Avenue, west of San Pablo Street, and as Norfolk Street, east of San Pablo Street. Eastlake Avenue extends from San Pablo Street to the east and Mission Road to the west. Norfolk Street extends from Playground Street and Hazard Park to the east to San Pablo Street to the west. One through travel lane is provided in both directions on Eastlake Avenue/Norfolk Street within the study area. Four-hour metered parking is allowed on both sides of the roadway.

Zonal Avenue is a northwest- to southeast-oriented Secondary Highway which provides access through the HSC and the adjacent County General Hospital site. Zonal Avenue extends between Mission Road to the west and just east of San Pablo Street. North of the Mission Road intersection, the roadway is identified as Griffin Avenue. Two through travel lanes are provided in both directions on Zonal Avenue near the Mission Road intersection, and one through travel lane is provided in each direction east of the intersection where the roadway narrows. Parking is generally prohibited on both sides of Zonal Avenue in the study area.

San Pablo Street is a north-south Secondary Highway that traverses the Project Site between Valley Boulevard to the north and Zonal Avenue to the south. One through travel lane is provided in both directions in the study area. At the Valley Boulevard “T” intersection, one left-turn lane and dual right-turn lanes are provided at the northbound approach on San Pablo Street. At the Alcazar Street and Norfolk Street intersections, one left-turn lane and one shared through/right-turn lane is provided in both directions on San Pablo Street. North of Alcazar Street, ten-hour metered parking is allowed on both sides of San Pablo Street. Between Alcazar Street and Zonal Avenue, four-hour metered parking is allowed on both sides of the roadway.

Alcazar Street is an east-west Collector Street located between Soto Street to the east and Eastlake Avenue to the west. One through travel lane is provided in both directions on Alcazar Street in the Project vicinity. Separate left-turn lanes are provided in both directions on Alcazar Street at the San Pablo Street intersection. At the Soto Street intersection, one left-turn lane, one through lane and one right-turn only lane is provided at the eastbound approach, and one combination left-turn/through/right-turn lane is provided at the westbound approach.
Immediately west of Soto Street, parking is prohibited along both sides of Alcazar Street; however, further west of the intersection ten-hour metered parking is allowed on the north side of the roadway. Parking is generally permitted on both sides of Alcazar Street east of Soto Street.

**Biggy Street** is a local north-south oriented roadway that extends between Eastlake Avenue to the north and Zonal Avenue to the south. One through travel lane is provided in both directions in the study area. Biggy Street forms “T” intersections with both Eastlake Avenue and Zonal Avenue. A driveway to a parking lot forms the north leg of the Biggy Street and Eastlake Avenue intersection, and the County General Hospital loading dock driveway (excluding the adjacent County General Hospital driveways) forms the south leg of the Biggy Street and Zonal Avenue intersection. Four-hour metered parking is allowed on both sides of Biggy Street in the Project vicinity.

**Soto Street** is a north-south Major Highway (Class II) located east of the Project Site. Two through travel lanes are provided in each direction in the Project vicinity and separate left-turn lanes are provided in both directions at major intersections. At the Marengo Street intersection, one left-turn lane, one combination left-turn/through lane, one through lane, and one combination through/right-turn lane are provided in both directions on Soto Street. Parking is prohibited along both sides of Soto Street in the study area.

**Valley Boulevard** is an east-west Major Highway (Class II) that borders the HSC to the north. Three through travel lanes are provided in both directions in the Project vicinity. At the San Pablo Street intersection, an exclusive left-turn lane is provided at the westbound approach on Valley Boulevard. Parking is generally allowed on both sides of the roadway except during the morning or afternoon peak commuter periods. Parking is prohibited on the north side of the roadway (westbound) during the morning peak commuter period and on the south side of the roadway (eastbound) during the afternoon peak commuter period. The Soto Street and Valley Boulevard intersection is grade separated.

**Marengo Street**, located south of the Project Site, is a northwest- to southeast-oriented Major Highway (Class II), between Daly Street and Soto Street, and as a Secondary Highway east of Soto Street. Two through travel lanes are provided in each direction on Marengo Street in the study area. Separate left-turn lanes are provided at both approaches on Marengo Street at major intersections. Additionally, right-turn only lanes are provided in both directions on the roadway at the Mission Street intersection and in the eastbound direction at the Soto Street intersection. Ten-hour parking is allowed along both sides of Marengo Street.

**Mission Road**, located west of the Project Site, is a northeast- to southwest-oriented Major Highway (Class II). Two through travel lanes are provided in each direction in the Project vicinity. Separate left-turn lanes are provided at both approaches on Mission Road at major
intersections. At the Zonal Avenue intersection, one right-turn only lane is also provided at the southbound approach on Mission Road. North of Zonal Avenue, parking is prohibited on both sides of Mission Road with posted Tow Away No Stopping Anytime signs, and four-hour metered parking is allowed on both sides of the roadway from 8:00 A.M. to 6:00 P.M. south of Zonal Avenue.

Wabash Avenue is a northwest- to southeast-oriented Secondary Highway, located southeast of the HSC. Wabash Avenue extends easterly from the Soto Street and I-10 Freeway WB Off-Ramp intersection. Two through travel lanes are provided in each direction on Wabash Avenue in the study area. At the westbound approach to the Soto Street intersection, Wabash Avenue provides one left-turn lane and one right-turn-only lane. Parking is generally allowed along both sides of Wabash Avenue in the study area.

Daly Street is a north-south Secondary Highway located west of the Project Site. Two through travel lanes are provided in both directions in the study area, separate left-turn lanes are provided at major intersections, and parking is generally allowed on both sides of the roadway in the Project vicinity.

Main Street is a north-south Secondary Highway located west of the Project Site. Two through travel lanes are provided in both directions in the Project vicinity. Separate left-turn lanes are provided in both directions on Main Street at major intersections. Parking is generally allowed on both sides of the roadway within the Project area.

Henry Street is designated as a Local Street that is located entirely within Development Site C. While shown on the Northeast Los Angeles Community Plan Generalized Circulation Map Henry Street has been paved and out of circulation for at least twenty years. Henry Street connects to Zonal Avenue and provides no other connection to the street network.

c. Public Transportation

Several public transportation services exist in the Project area. These include the Metropolitan Transit Authority (MTA) Metro Bus Transit Service which provides bus transit service along the following major roadways within the Project vicinity: (1) Marengo Street; (2) Mission Road; (3) Soto Street; (4) Wabash Avenue; (5) Main Street; (6) Valley Boulevard; (7) Griffin Avenue; and (8) State Street, as well as (9) the I-10 Freeway (see MTA Route 484). MTA Routes 254 and 255 operate to and from the HSC and Los Angeles County General Hospital. Most of the MTA local bus transit routes provide headways of 3 to 12 buses per hour during the morning and afternoon peak commuter hours.
Foothill Transit provides service between Downtown Los Angeles and east San Gabriel Valley/Inland Empire communities, with service to/from the Los Angeles County/USC Busway station. Foothill Transit local bus transit service operates along the San Bernardino Freeway (I-10) in the study area. MTA is constructing an extension of the Metro Rail Gold Line Light Rail Transit system to East Los Angeles, with an estimated completion in year 2009. The proposed extension would provide service from Union Station in Downtown Los Angeles to the East Los Angeles community of the County of Los Angeles.

The Applicant currently provides a tram/shuttle service on the HSC, as well as a service between the University Park Campus and HSC. This circuit tram provides headways of three trams/shuttles per hour. The Applicant also provides car and vanpool services.

d. Existing Intersection Level of Service

To determine baseline traffic volumes and intersection Levels of Service (LOS), traffic counts were conducted at the following 18 study intersections in the Project vicinity, as shown in Figure 20 on page 150. In order to identify streets and intersections most likely to be impacted by Project traffic, these intersections were identified in consultation with the LADOT.

1. I-5 Freeway Southbound (SB) Off-Ramp and Avenue 21-Main Street
2. I-5 Freeway SB Ramps and Mission Road
3. I-5 Freeway Northbound (NB) Off-Ramp and Daly Street-Main Street
4. Daly Street and Main Street
5. Mission Road and Daly Street-Marengo Street
6. I-5 Freeway NB On-Ramp and Marengo Street
7. Mission Road and Griffin Avenue-Zonal Avenue
8. Mission Road and Valley Boulevard
9. Mission Road and Main Street
10. Biggy Street and Zonal Avenue
11. San Pablo Street and Valley Boulevard
12. San Pablo Street and Alcazar Street
NOTE: The numbers correspond to the intersections identified in Table 4 in Section IV.C.

Figure 20
Location of Study Intersections

Source: Lincott Law & Greenspan, Engineers; Base: Thomas Guide.
13. San Pablo Street and Eastlake Avenue-Norfolk Street
14. San Pablo Street and Zonal Avenue
15. Soto Street and Alcazar Street
16. Soto Street and I-10 Freeway Westbound (WB) Ramps-Charlotte Street
17. Soto Street and Marengo Street
18. Soto Street and I-10 Freeway Eastbound (EB) Off-Ramp-Wabash Avenue

A total of 11 of the 18 study intersections are currently controlled by traffic signals. The remaining seven study intersections (numbers 1, 3, 6, 10, 12, 13 and 14) are presently two or all-way stop sign controlled. Peak traffic periods at these intersections coincide with the peak commuter traffic periods of between 7:00 and 10:00 A.M. and 3:00 and 6:00 P.M. Manual counts of vehicle turning movements were performed at each of the 18 study intersections for the weekday morning (A.M.) and afternoon (P.M.) commuter periods.

The 18 study intersections were evaluated using the Critical Movement Analysis (CMA) method of analysis, which determines Volume-to-Capacity (V/C) ratios on a critical lane basis. The overall V/C ratio is subsequently assigned a Level of Service (LOS) value to describe intersection operations. Through the use of the CMA methodology, a determination of the LOS at an intersection where traffic volumes are known or have been projected can be obtained through a summation of the critical movement volumes at that intersection. “Capacity” represents the maximum total hourly movement of vehicles in the critical lanes, which has a reasonable expectation of passing through an intersection under prevailing roadway and traffic conditions. In general terms, LOS describes the quality of traffic flow.

The procedures used to analyze the LOS for unsignalized intersections are conducted according to the Highway Capacity Manual published by the Transportation Research Board. For signalized and unsignalized intersections, the LOS is a qualitative measure relating to the delay experienced at an intersection as a result of the prevailing traffic volumes and the effect of such factors as speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience. There are six LOS grades for unsignalized intersections, A through F, which correspond to traffic operating conditions ranging from best to worst, respectively. In general, LOS A represents free-flow conditions with no congestion. On the other hand, LOS F corresponds to severe congestion with stop-and-go conditions. Descriptions of LOS levels and their operating characteristics are provided in Table 3 on page 152.
Table 3

LEVEL OF SERVICE AS A FUNCTION OF CMA VALUES
CITY OF LOS ANGELES

<table>
<thead>
<tr>
<th>LOS</th>
<th>Description of Operating Characteristics</th>
<th>Range of CMA Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Uncongested operations; all vehicles clear in a single cycle.</td>
<td>0.00 to 0.60</td>
</tr>
<tr>
<td>B</td>
<td>Same as above.</td>
<td>&gt; 0.60 to 0.70</td>
</tr>
<tr>
<td>C</td>
<td>Light congestion; occasional backups on critical approaches.</td>
<td>&gt; 0.70 to 0.80</td>
</tr>
<tr>
<td>D</td>
<td>Congestion on critical approaches, but intersection functional. Vehicles required to wait through more than one cycle during short peaks. No long-standing lines formed.</td>
<td>&gt; 0.80 to 0.90</td>
</tr>
<tr>
<td>E</td>
<td>Severe congestion with some long-standing lines on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements.</td>
<td>&gt; 0.90 to 1.00</td>
</tr>
<tr>
<td>F</td>
<td>Forced flow with stoppages of long duration.</td>
<td>&gt; 1.00</td>
</tr>
</tbody>
</table>


Measured Level of Service (LOS) values for existing (2004) A.M. and P.M. peak-hour conditions are summarized in Table 4 on page 153. Sixteen of the 18 study intersections are presently operating at LOS D or better during the A.M. and P.M. peak commuter hours under existing conditions. As shown in Table 4, intersection congestion currently exists in the Project vicinity at two study intersections operating at LOS E during the peak hours. Currently congested intersections include the I-5 Freeway Southbound Off-Ramp and Mission Road intersection (LOS E during the A.M. peak hour only) and the Soto Street and I-10 Freeway Westbound Ramp–Charlotte Street intersection (LOS E during the A.M. peak hour only).

e. Existing Parking Supply and Demand

The existing parking supply at the HSC was documented through an inventory of the spaces in each HSC parking structure and lot. A total of 3,798 parking spaces are provided on the existing campus and available for HSC patrons. The existing baseline required parking for the HSC under the LAMC is 3,638 spaces. The existing actual parking demand was determined by conducting parking accumulation surveys of the HSC off-street parking facilities (i.e., surface parking lots and parking structures) and adjacent on-street spaces provided within the campus. The existing parking demand also accounts for USC spaces allocated in the University Hospital parking structure and spaces USC was leasing from the County of Los Angeles in its Marengo Street Parking Structure. At the time of the parking surveys, a total of 3,942 spaces were available for the HSC, including surface lots, structures and leased spaces. The parking accumulation surveys were conducted on an hourly basis in December 2003 and April 2004.
Table 4

2004 EXISTING VOLUME-TO-CAPACITY RATIOS AND LEVELS OF SERVICE
A.M. AND P.M. PEAK HOURS

<table>
<thead>
<tr>
<th>No.</th>
<th>Intersection</th>
<th>Peak Hour</th>
<th>V/C</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I-5 Freeway SB Off-Ramp/Avenue 21-Main Street</td>
<td>A.M.</td>
<td>0.764</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.542</td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>I-5 Freeway SB Ramps/Mission Road</td>
<td>A.M.</td>
<td>0.980</td>
<td>E</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.689</td>
<td>B</td>
</tr>
<tr>
<td>3</td>
<td>I-5 Freeway NB Off-Ramp/Daly Street-Main Street</td>
<td>A.M.</td>
<td>0.585</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.465</td>
<td>A</td>
</tr>
<tr>
<td>4</td>
<td>Daly Street/Main Street</td>
<td>A.M.</td>
<td>0.705</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.593</td>
<td>A</td>
</tr>
<tr>
<td>5</td>
<td>Mission Road/Daly Street-Marengo Street</td>
<td>A.M.</td>
<td>0.754</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.849</td>
<td>D</td>
</tr>
<tr>
<td>6</td>
<td>I-5 Freeway NB On-Ramp/Marengo Street</td>
<td>A.M.</td>
<td>0.624</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.730</td>
<td>C</td>
</tr>
<tr>
<td>7</td>
<td>Mission Road/Griffin Avenue-Zonal Avenue</td>
<td>A.M.</td>
<td>0.601</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.507</td>
<td>A</td>
</tr>
<tr>
<td>8</td>
<td>Mission Road/Valley Boulevard</td>
<td>A.M.</td>
<td>0.588</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.639</td>
<td>B</td>
</tr>
<tr>
<td>9</td>
<td>Mission Road/Main Street</td>
<td>A.M.</td>
<td>0.692</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.543</td>
<td>A</td>
</tr>
<tr>
<td>10</td>
<td>Biggy Street/Zonal Avenue</td>
<td>A.M.</td>
<td>0.717</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.698</td>
<td>B</td>
</tr>
<tr>
<td>11</td>
<td>San Pablo Street/Valley Boulevard</td>
<td>A.M.</td>
<td>0.241</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.198</td>
<td>A</td>
</tr>
<tr>
<td>12</td>
<td>San Pablo Street/Alcazar Street</td>
<td>A.M.</td>
<td>0.478</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.511</td>
<td>A</td>
</tr>
<tr>
<td>13</td>
<td>San Pablo Street/Eastlake Avenue-Norfolk Street</td>
<td>A.M.</td>
<td>0.470</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.379</td>
<td>A</td>
</tr>
<tr>
<td>14</td>
<td>San Pablo Street/Zonal Avenue</td>
<td>A.M.</td>
<td>0.782</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.643</td>
<td>B</td>
</tr>
<tr>
<td>15</td>
<td>Soto Street/Alcazar Street</td>
<td>A.M.</td>
<td>0.788</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.576</td>
<td>A</td>
</tr>
<tr>
<td>16</td>
<td>Soto Street/I-10 Freeway WB Ramps-Charlotte Street</td>
<td>A.M.</td>
<td>0.971</td>
<td>E</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.855</td>
<td>D</td>
</tr>
<tr>
<td>17</td>
<td>Soto Street/Marengo Street</td>
<td>A.M.</td>
<td>0.727</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.751</td>
<td>C</td>
</tr>
<tr>
<td>18</td>
<td>Soto Street/I-10 Freeway EB Off-Ramp-Wabash Avenue</td>
<td>A.M.</td>
<td>0.624</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.588</td>
<td>A</td>
</tr>
</tbody>
</table>

On a campus-wide basis, the peak demand for parking on the HSC occurred at 11:00 A.M. when 2,707 parking spaces of the 3,942 total available spaces were occupied (i.e., approximately 69 percent of the spaces were occupied). This total includes the 253 spaces allocated to USC in the University Hospital parking structure and the 200 spaces that were being leased from the County of Los Angeles in its Marengo Street parking structure. Thus, roughly 1,235 parking spaces were available during the peak hour of the observations. In addition, peak use of 566 on-street parking spaces within the HSC occurred at 11:00 A.M. (i.e., 100 percent utilization), with similarly high levels of use throughout other periods of the day.

In order to calculate a conservative analysis of actual parking demand, it was assumed that 75 percent of the on-street parking demand within the HSC area is associated with the HSC. Thus, a peak existing parking demand of 3,132 spaces is calculated for the HSC, as shown below:

- \( (566 \text{ SP} \times 0.75 = 425 \text{ SP}) + 2,707 \text{ SP} = 3,132 \text{ Spaces} \)

The actual existing parking demand was measured to determine the adequacy of the existing parking supply to accommodate the peak parking demand generated by the existing facilities at the HSC. Additionally, the parking demand surveys were used as a basis to forecast future parking demand at the HSC following build-out and occupancy of the proposed new facilities, irrespective of the City Code parking requirements.

A generalized parking demand model was prepared based on the current ratio of parking demand to building facilities at the HSC. The factors considered in development of the HSC parking demand model include the total existing HSC parking demand of 3,132 spaces as described above, and the total existing HSC building facilities of 1,286,620 square feet at the time of the parking surveys. The parking demand model for the HSC is calculated at 2.79 parking spaces for every 1,000 square feet of building floor area as shown below:

- \( 3,132 \text{ parking spaces} \div 1,286.62 \text{ square feet} = 2.43 \text{ spaces/1,000 square feet} \)
- \( 2.43 \times 1.15 \text{ (15\% for circulation)} = 2.79 \text{ spaces/1,000 square feet} \)

This parking rate can be considered conservative in that it is based on the following: (1) 75 percent of area on-street parking is assumed to be related to the HSC; (2) all of the USC allocated spaces in the University Hospital parking structure are assumed to be fully utilized; (3) all of the spaces previously leased from the County were accounted for in the parking demand; and (4) demand at the dialysis center (TRC Lot) is included in the existing demand. In addition, this parking rate considers the interaction of parking demand generated by the teaching, outpatient, and research facilities provided at the HSC.
3. PROJECT IMPACTS

a. Methodology

(1) Traffic and Circulation

The methodology by which traffic impacts are evaluated involves several steps including the identification of existing traffic conditions, the calculation of Project traffic, the assumed distribution of Project traffic, and a comparison of Project traffic with future traffic conditions. Due to the synergy between the HSC land uses and the proposed Project, an internal capture adjustment was applied to the Project’s trip-generation forecast. Internal capture trips are those trips made internal to the HSC between buildings within the campus. The internal capture adjustment was applied only to the Project’s Research and Development land use component in order to provide a conservative forecast. Based on consultation with LADOT staff, a 15 percent internal capture trip reduction has been applied to the Project’s Research and Development land use component in the A.M. and P.M. peak-hour traffic volume forecasts, as well as to the daily traffic volume forecast.

(a) Trip Generation

As previously discussed, the Applicant is proposing to develop between approximately 585,000 and 765,000 gross square feet of additional academic and medical-related (e.g., research, clinic, etc.) facilities within its existing HSC. A maximum of 765,000 square feet of development may occur, consisting of a maximum of 720,000 gross square feet of academic and medical research facilities, with the remaining 45,000 square feet dedicated to medical clinic facilities. Should additional medical clinic facilities be developed in lieu of academic and medical research facilities, a maximum of 120,000 gross square feet of medical clinic floor area would be developed. Should this occur, the amount of academic and medical research facilities would be reduced to 465,000 gross square feet, for an overall total of 585,000 gross square feet of development. Through the application of a trip-generation equivalency program, the environmental analysis conducted for the Project addresses the development of the full range of floor area (i.e., 585,000 to 765,000 gross square feet) and uses (i.e., academic, medical research and medical clinic) as the above scenarios are equivalent from a peak-hour trip-generation perspective.

Traffic volumes expected to be generated by the proposed Project were estimated for the weekday commuter A.M. and P.M. peak hours, as well as over a 24-hour daily period, using trip-generation rates published in the Institute of Transportation Engineers’ (ITE) *Trip Generation Manual, 7th Edition*, 2003. Projected traffic volumes for the Project’s Research and Development land use component and the Medical Office component were forecasted based on
rates per thousand square feet (gross) of building floor area. ITE trip-generation equation rates for Research and Development centers were used to forecast the daily traffic volumes for the research and development land use component.\textsuperscript{22} In addition, the A.M. and P.M. peak hour of generator trip rates were utilized for the peak-hour trip-generation forecasts. Trip-generation equation rates were used to forecast the daily and P.M. peak-hour traffic volumes for the Project’s Medical Office land use component.\textsuperscript{23} Average trip-generation rates were used to forecast the A.M. peak-hour traffic volumes as no equation rate is provided in the ITE \textit{Trip Generation Manual} for the A.M. peak hour.

The proposed Project’s trip-generation forecast is summarized in Table 5 on page 157. The Project trip-generation forecast was submitted for review and approval by LADOT staff. As presented in Table 5, the proposed Project is expected to generate 753 vehicle trips (613 inbound trips and 140 outbound trips) during the A.M. peak hour. During the P.M. peak hour, the proposed Project is expected to generate 774 vehicle trips (161 inbound trips and 613 outbound trips). Over a 24-hour period, the proposed Project is forecast to generate 7,715 daily trips during a typical weekday (approximately 3,858 inbound trips and 3,858 outbound trips).

\textbf{(b) Trip Equivalency Program}

The Equivalency Program defines a framework within which certain land uses can be exchanged for other land uses without increasing transportation impacts. The Project ultimately may be developed with a range of building sizes (i.e., there may be increases in the square footage of one land use in exchange for corresponding decreases in the square footage of the other land use). The equivalency program ensures that, although the final land uses and sizes may be different from the assumptions upon which the analysis is based, the maximum transportation impacts that are addressed and mitigated by this analysis are not exceeded.

In order to implement the equivalency program, a set of equivalency factors have been developed. The equivalency factor for each land use is derived based on the total P.M. peak-hour trip generation, as it is higher than the A.M. peak hour. Equivalency factors have been established for both the research and development land use and the medical office land use areas, as the educational/academic space is not anticipated to be enrollment enhancing.

\textsuperscript{22} ITE trip generation Land Use Code 760 (Research and Development Center).
\textsuperscript{23} ITE trip generation Land Use Code 720 (Medical-Dental Office Building).
Equivalency factors have been established on a number of trips per 1,000 square feet of floor area and are based on a review of ITE trip rates. For example, 100,000 square feet of research and development use is equivalent to 27,900 square feet of medical office space in terms of trip generation. Therefore, 0.279 square foot of medical office use has the same trip generation as 1.0 square foot of research and development use. Thus, the research and development equivalency factor is 0.279. Additionally, 100,000 square feet of medical office use is equivalent to 358,400 square feet of research and development space in terms of trip generation. Therefore, 3.584 square feet of research and development use has the same trip generation of 1.0 square foot of medical office use. Thus, the medical office equivalency factor is 3.584. Application of the equivalency program would occur within the 585,000 to 765,000 square foot range. The equivalency factors for the proposed land uses are summarized in Table 6 on page 158.

(c) Project Trip Distribution

In order to determine the volume of Project traffic at specific intersections, the calculated trips generated by the proposed Project are assigned to the local roadway system based on a traffic distribution pattern developed in consultation with LADOT staff. The traffic distribution...
The principal ingress routes for the HSC were determined based on the accessibility via the nearby freeway ramp system and appropriate arterial routes. Principal freeway routes in the vicinity of the Project Site include the I-10 (San Bernardino) Freeway and the I-5 (Golden State) Freeway. Key arterials providing access include: Daly Street, Mission Road, San Pablo Street, Soto Street, Valley Boulevard, Main Street, Alcazar Street, and Marengo Street, as well as others.

Access to the Project site would be based on the location of parking structures. Two parking scenarios, including: (1) the location of all parking at the west end of campus on Development Site C; and (2) the location of all parking on the northeast side of the campus on Development Site E (or a combination of Development Sites E and F), have been evaluated in order to provide a conservative analysis of the Project’s potential transportation impacts. These two scenarios reflect the greatest concentration of Project-related traffic on the local roadway system. As such, should parking be proposed for any other combination of sites (i.e., including sites from the east end or west end of the campus), off-site impacts would be within the range identified under the two parking scenarios.

Parking Scenario No. 1 assumes that access to the parking structure in Development Site C would be provided via Zonal Avenue. Traffic distribution percentages forecast for the 18 study intersections under Parking Scenario No. 1 are provided in Figure 21 on page 159. The forecast for Parking Scenario No. 1 identifies the greatest off-site traffic near the western portion of the HSC.

Table 6

<table>
<thead>
<tr>
<th>From this land use</th>
<th>To this land use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Medical Research/Laboratory/Academic Support</td>
</tr>
<tr>
<td>Medical Research/Laboratory/Academic Support</td>
<td>N/A</td>
</tr>
<tr>
<td>Medical Office</td>
<td>3.584</td>
</tr>
</tbody>
</table>

Source: Linscott, Law & Greenspan, Engineers Inc., May 2005
Parking Scenario No. 2 assumes that access to the parking structure on Development Site E (or a combination of Development Sites E and F) would be via San Pablo Street and Alcazar Street. Traffic distribution percentages forecast for the 18 study intersections under Parking Scenario No. 2 are provided in Figure 22 on page 161. Under Parking Scenario No. 2, the greatest traffic would occur near the northern/eastern portion of the HSC.

(d) Critical Movement Analysis (CMA)

The forecasted traffic volumes in each intersection are applied to future conditions in the study area using the Critical Movement Analysis (CMA) described previously. The determination of LOS at an intersection is based on a summation of the critical movement volumes, i.e., the highest combination of conflicting movements that must be accommodated at the intersection. The CMA values for the Project area are calculated by dividing the sum of the critical movement traffic volumes by the capacity value of the intersection.

The relative impact of the added Project traffic volumes expected to be generated by the proposed Project during the A.M. and P.M. peak hours were evaluated based on analysis of future operating conditions at the 18 intersections, without and then with the proposed Project for both Parking Scenario No. 1 and Parking Scenario No. 2. The previously discussed capacity analysis procedures were utilized to evaluate the future volume-to-capacity relationships and service level characteristics at each study intersection.

An annual one percent ambient growth rate was assumed so as to account for unknown related projects in the vicinity of the proposed Project. Additionally, it was assumed that the build-out of the proposed Project would be complete and the buildings fully occupied by the end of 2015.

(2) Parking

In accordance with the City of Los Angeles Draft CEQA Thresholds Guide, parking impacts are analyzed according to land use, size, the Project’s maximum parking requirements, and existing and proposed parking supply. Factors applied to parking demand include displacement of existing parking, average vehicle occupancy, and transportation mode (transit, bicycle, walking). Although the Guidelines are concerned with the application of code-required parking, an impact could also occur if an insufficient parking supply to serve a project results in the spillover of Project parking demands to nearby land uses not associated with the Project. Parking impacts are also evaluated according to queuing time at the proposed parking structure, since excessive queuing time could result in the underutilization of the facility.
b. Thresholds of Significance

(1) Traffic and Circulation

The significance of the potential impacts of the proposed Project at each of the study intersections is identified using the traffic criteria set forth in the LADOT Traffic Study Policies and Procedures, March 2002. According to the City’s published traffic study guidelines, a significant transportation impact is based on the following criteria:

<table>
<thead>
<tr>
<th>LOS</th>
<th>Final CMA Value</th>
<th>Project-Related Increase in CMA Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>&gt;0.700 to 0.800</td>
<td>Equal or greater than 0.040</td>
</tr>
<tr>
<td>D</td>
<td>&gt;0.800 to 0.900</td>
<td>Equal or greater than 0.020</td>
</tr>
<tr>
<td>E, F</td>
<td>&gt;0.900</td>
<td>Equal or greater than 0.010</td>
</tr>
</tbody>
</table>

The criteria for determining the study area for Congestion Management Program (CMP) arterial monitoring intersections and for freeway monitoring locations are:

- All CMP arterial monitoring intersections where the proposed Project would add 50 or more trips during either the A.M. or P.M. weekday peak hours of adjacent street traffic.

- All CMP mainline freeway monitoring locations where the proposed Project would add 150 or more trips, in either direction, during either the A.M. or P.M. weekday peak hours.

Freeway segment Levels of Service are defined in accordance with the definitions included in the 2004 Congestion Management Program for Los Angeles County, Los Angeles County Metropolitan Transportation Authority, July, 2004. The demand to capacity (D/C) ratios and Level of Service relationships are defined in the CMP document and are:

<table>
<thead>
<tr>
<th>D/C</th>
<th>LOS</th>
<th>D/C</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00 to 0.35</td>
<td>A</td>
<td>&gt;1.00 to 1.25</td>
<td>F(0)</td>
</tr>
<tr>
<td>&gt;0.35 to 0.54</td>
<td>B</td>
<td>&gt;1.25 to 1.35</td>
<td>F(1)</td>
</tr>
<tr>
<td>&gt;0.54 to 0.77</td>
<td>C</td>
<td>&gt;1.35 to 1.45</td>
<td>F(2)</td>
</tr>
<tr>
<td>&gt;0.77 to 0.93</td>
<td>D</td>
<td>&gt;1.45</td>
<td>F(3)</td>
</tr>
<tr>
<td>&gt;0.93 to 1.00</td>
<td>E</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>
A significant impact on the freeway system is defined as follows:

- “For purposes of the CMP, a significant impact occurs when the proposed Project increases demand on a CMP facility 2 percent of capacity \((V/C)\) greater than or equal to 0.02, causing LOS F \((V/C > 1.00)\); if the facility is already LOS F, a significant impact occurs when the proposed Project increases traffic demand on a CMP facility by 2 percent of capacity \((V/C > 0.02)\).”

The CMP document also states the following:

- “Calculation of LOS based on D/C ratios is a surrogate for speed based LOS used by Caltrans for traffic operational analysis. LOS F(1) through F(3) designations are assigned where severely congested (less than 25 mph) conditions prevail for more than one hour, converted to an estimate of peak hour demand in the table above. Note that calculated LOS F traffic demands may therefore be greater than observed traffic volumes.”

(2) Project Construction

According to the City of Los Angeles CEQA Thresholds Guide, construction of the proposed Project would have significant on-street construction impacts, if:

- The Proposed Project would cause a substantial temporary inconvenience to auto travelers, bus riders, pedestrians or parkers, due to an increase in congestion, relocation of bus stops, rerouting of bus lines, restrictions of vehicular and pedestrian access and circulation and restrictions on parking during the times of construction.

- The Proposed Project would cause hazardous conditions for auto travelers, pedestrians, or bus riders.

(3) Parking

According to the City of Los Angeles CEQA Thresholds Guide, a project would have a significant impact on parking if the project provides less parking than is needed to meet the Project’s parking demand.
(4) Project Access

According to the *City of Los Angeles Draft LA Thresholds Guide*, May 14, 1998, a project would normally have a significant project access impact if the intersection(s) nearest the primary site access is/are projected to operate at LOS E or F during the A.M. or P.M. peak hour, under cumulative plus project conditions.

(5) Public Transit

According to the *City of Los Angeles CEQA Thresholds Guide*, the proposed Project would have a significant impact on transit system capacity, if the seating capacity of the transit system serving the Project study area would be exceeded.

(6) Neighborhood Streets

According to the *City of Los Angeles CEQA Thresholds Guide*, the proposed Project would have a significant impact if:

- The proposed Project would add 120 or more trips per day to a low-volume (i.e., less than 1,000 ADT) local residential street within a local neighborhood.
- The proposed Project would add more than 12 percent, 10 percent, or 8 percent to local neighborhood streets with final ADT levels of 1000 to 1,999 trips, 2000 to 2,999 trips, or 3,000 or more trips, respectively.

c. Analysis of Project Impacts

(1) Traffic and Circulation

(a) Project Design Features

To reduce traffic in and around the HSC, the Applicant would continue operating a tram/shuttle service that runs from approximately 9:00 A.M. to 4:00 P.M., Monday through Friday, with stops at the Norris Cancer Center, University Hospital, Doheny Eye Institute, HCC I, Ambulatory Care Center, Clinical Sciences, IGM, Outpatient Clinic at LAC+USC, LAC+USC main entrance and the Women and Children Hospital on Mission Road and Zonal Avenue. This circuit tram provides headways of three trams/shuttles per hour and would provide transportation to and from the proposed parking structure(s) located at the perimeter of the HSC.
In addition, sidewalks and pedestrian walkways would connect the Project’s proposed parking facilities with the proposed and existing buildings within the HSC.

**Construction Design Features**

The following design features would be implemented during the construction phase of the Proposed Project.

- Maintain existing access for land uses in proximity of the Project Site;
- Limit any potential lane closures to off-peak travel periods;
- Schedule receipt of construction materials to non-peak travel periods, to the extent possible;
- Coordinate deliveries to reduce the potential of trucks waiting to unload for protracted periods of time; and
- Prohibit parking by construction workers on adjacent streets and direct construction workers to available parking within the HSC.

**(b) Traffic Impact Analysis Scenarios**

Pursuant to LADOT’s traffic study guidelines, Level of Service calculations have been prepared for the following scenarios:

- Existing Traffic Conditions;
- Existing Traffic Conditions plus one percent ambient traffic growth up through 2015;
- Existing Traffic Conditions plus one percent ambient traffic growth up through 2015 and occupancy of the related projects;
- Existing Traffic Conditions plus one percent ambient traffic growth up through 2015, occupancy of the related projects and the provision of parking per Parking Scenario No. 1 (Development Site C) through 2015;
- Existing Traffic Conditions plus one percent ambient traffic growth up through 2015, occupancy of the related projects and the provision of parking per Parking Scenario No. 2 (Development Site E or Development Sites E and F) through 2015; and
• Existing Traffic Conditions plus one percent ambient traffic growth up through year 2015, occupancy of the related projects and the provisions of parking per Parking Scenarios No. 1 and No. 2 with implementation of Project mitigation measures, where necessary.

The traffic volumes for each new condition were added to the volumes in the prior condition to determine the change in capacity utilization at the study intersections. Summaries of the V/C ratios and LOS values for the study intersections during the A.M. and P.M. peak hours are shown in Table 7 on page 167 for Parking Scenario No. 1 and Table 8 on page 169 for Parking Scenario No. 2.

2015 With Ambient Growth Conditions

Growth in traffic due to the combined effects of continuing development, intensification of existing developments and other factors are assumed to be 1.0 percent per year, through 2015. This ambient growth incrementally increases the CMA ratios at all of the study intersections. As shown in Tables 7 and 8 on pages 167 through 170, 15 of the 18 study intersections are expected to continue operating at LOS D or better during the A.M. and P.M. peak commuter hours with the addition of ambient growth traffic. The following three intersections are anticipated to operate at LOS E or F during the peak hours with the addition of ambient growth traffic:

• Intersection No. 2: I-5 Freeway, SB Ramps and Mission Road
  A.M. Peak-Hour CMA Ratio = 1.099, LOS F;

• Intersection No. 5: Mission Road and Daly Street–Marengo Street
  P.M. Peak-Hour CMA Ratio = 0.944, LOS E; and

• Intersection No. 16: Soto Street and I-10 Freeway WB Ramps–Charlotte Street
  A.M. Peak-Hour CMA Ratio = 1.089, LOS F
  P.M. Peak-Hour CMA Ratio = 0.960, LOS E.

2015 with Related Projects

As presented in Tables 7 and 8, 14 of the 18 study intersections are forecasted to operate at LOS D or better during the A.M. and P.M. peak commuter hours with the addition of ambient growth traffic and the traffic due to the related projects. The following four intersections are anticipated to operate at LOS E or F during the peak hours shown below with the addition of ambient growth traffic and traffic due to the related projects:

• Intersection No. 2: I-5 Freeway SB Ramps and Mission Road
  A.M. Peak-Hour CMA Ratio = 1.160’, LOS F;
### Table 7

#### PARKING SCENARIO NO. 1 SUMMARY OF VOLUME-TO-CAPACITY RATIOS

**AND LEVELS OF SERVICE A.M. AND P.M. PEAK HOURS**

<table>
<thead>
<tr>
<th>No</th>
<th>Intersection</th>
<th>Peak Hour</th>
<th>2004 Existing</th>
<th>2015 w/Ambient Growth</th>
<th>2015 w/Related Projects</th>
<th>2015 w/ Parking Scenario No. 1 and Project Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>V/C LOS</td>
<td>V/C LOS</td>
<td>V/C LOS</td>
<td>V/C LOS</td>
</tr>
<tr>
<td>1</td>
<td>I-5 Freeway SB Off-Ramp/ Avenue 21-Main Street</td>
<td>A.M.</td>
<td>0.764 C</td>
<td>0.848 D</td>
<td>0.879 D</td>
<td>0.893 D</td>
</tr>
<tr>
<td>2</td>
<td>I-5 Freeway SB Ramps/ Mission Road</td>
<td>A.M.</td>
<td>0.980 E</td>
<td>1.099 F</td>
<td>1.160 F</td>
<td>1.213 F</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.689 B</td>
<td>0.776 C</td>
<td>0.831 D</td>
<td>0.869 D</td>
</tr>
<tr>
<td>3</td>
<td>I-5 Freeway NB Off-Ramp/ Mission Road</td>
<td>A.M.</td>
<td>0.585 A</td>
<td>0.655 B</td>
<td>0.699 B</td>
<td>0.776 C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.465 A</td>
<td>0.520 A</td>
<td>0.553 A</td>
<td>0.577 A</td>
</tr>
<tr>
<td>4</td>
<td>Daly Street/ Main Street</td>
<td>P.M.</td>
<td>0.593 A</td>
<td>0.669 B</td>
<td>0.733 C</td>
<td>0.754 C</td>
</tr>
<tr>
<td>5</td>
<td>Mission Road/ Mission Road Marengo Street</td>
<td>A.M.</td>
<td>0.754 C</td>
<td>0.840 D</td>
<td>0.904 E</td>
<td>0.911 E</td>
</tr>
<tr>
<td>6</td>
<td>I-5 Freeway NB On-Ramp/ Mission Road Marengo Street</td>
<td>A.M.</td>
<td>0.624 B</td>
<td>0.692 B</td>
<td>0.735 C</td>
<td>0.752 C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.730 C</td>
<td>0.811 D</td>
<td>0.840 D</td>
<td>0.914 E</td>
</tr>
<tr>
<td>7</td>
<td>Mission Road/ Mission Road Griffin Avenue-Zonal Avenue</td>
<td>A.M.</td>
<td>0.601 B</td>
<td>0.678 B</td>
<td>0.723 C</td>
<td>0.807 D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.507 A</td>
<td>0.573 A</td>
<td>0.583 A</td>
<td>0.778 C</td>
</tr>
<tr>
<td>8</td>
<td>Mission Road/ Mission Road Valley Boulevard</td>
<td>A.M.</td>
<td>0.588 A</td>
<td>0.664 B</td>
<td>0.706 C</td>
<td>0.731 C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.639 B</td>
<td>0.720 C</td>
<td>0.749 C</td>
<td>0.753 C</td>
</tr>
<tr>
<td>9</td>
<td>Mission Road/ Mission Road Main Street</td>
<td>A.M.</td>
<td>0.692 B</td>
<td>0.779 C</td>
<td>0.812 D</td>
<td>0.822 D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.543 A</td>
<td>0.614 B</td>
<td>0.647 B</td>
<td>0.653 B</td>
</tr>
<tr>
<td>10</td>
<td>Biggy Street/ Mission Road Zonal Avenue</td>
<td>A.M.</td>
<td>0.717 C</td>
<td>0.796 C</td>
<td>0.724 C</td>
<td>0.836 D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.698 B</td>
<td>0.775 C</td>
<td>0.703 C</td>
<td>0.753 C</td>
</tr>
<tr>
<td>11</td>
<td>San Pablo Street/ Mission Road Valley Boulevard</td>
<td>A.M.</td>
<td>0.241 A</td>
<td>0.278 A</td>
<td>0.301 A</td>
<td>0.315 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.198 A</td>
<td>0.231 A</td>
<td>0.301 A</td>
<td>0.325 A</td>
</tr>
<tr>
<td>12</td>
<td>San Pablo Street/ Alcazar Street</td>
<td>A.M.</td>
<td>0.478 A</td>
<td>0.531 A</td>
<td>0.650 B</td>
<td>0.727 C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.M.</td>
<td>0.511 A</td>
<td>0.567 A</td>
<td>0.705 C</td>
<td>0.737 C</td>
</tr>
<tr>
<td>No</td>
<td>Intersection</td>
<td>Peak Hour</td>
<td>2004 Existing</td>
<td>2015 w/Ambient Growth</td>
<td>2015 w/Related Projects</td>
<td>2015 w/ Parking Scenario No. 1 and Project Mitigation</td>
</tr>
<tr>
<td>----</td>
<td>-----------------------------------</td>
<td>-----------</td>
<td>---------------</td>
<td>-----------------------</td>
<td>-------------------------</td>
<td>------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>V/C LOS</td>
<td>V/C LOS</td>
<td>V/C LOS</td>
<td>Change V/C LOS</td>
</tr>
<tr>
<td>13</td>
<td>San Pablo Street/</td>
<td>A.M.</td>
<td>0.470 A</td>
<td>0.508 A</td>
<td>0.524 A</td>
<td>0.601 B</td>
</tr>
<tr>
<td></td>
<td>Eastlake Avenue-Norfolk Street</td>
<td>P.M.</td>
<td>0.379 A</td>
<td>0.410 A</td>
<td>0.503 A</td>
<td>0.580 A</td>
</tr>
<tr>
<td>14</td>
<td>San Pablo Street/</td>
<td>A.M.</td>
<td>0.782 C</td>
<td>0.868 D</td>
<td>0.508 A</td>
<td>0.692 B</td>
</tr>
<tr>
<td></td>
<td>Zonal Avenue</td>
<td>P.M.</td>
<td>0.643 B</td>
<td>0.713 C</td>
<td>0.648 B</td>
<td>0.754 C</td>
</tr>
<tr>
<td>15</td>
<td>Soto Street/</td>
<td>A.M.</td>
<td>0.788 C</td>
<td>0.886 D</td>
<td>0.860 D</td>
<td>0.878 D</td>
</tr>
<tr>
<td></td>
<td>Alcazar Street</td>
<td>P.M.</td>
<td>0.576 A</td>
<td>0.651 B</td>
<td>0.738 C</td>
<td>0.759 C</td>
</tr>
<tr>
<td>16</td>
<td>Soto Street/ I-10 Freeway WB</td>
<td>A.M.</td>
<td>0.971 E</td>
<td>1.089 F</td>
<td>1.206 F</td>
<td>1.262 F</td>
</tr>
<tr>
<td></td>
<td>Ramps-Charlotte Street</td>
<td>P.M.</td>
<td>0.855 D</td>
<td>0.960 E</td>
<td>1.051 F</td>
<td>1.149 F</td>
</tr>
<tr>
<td>17</td>
<td>Soto Street/</td>
<td>A.M.</td>
<td>0.727 C</td>
<td>0.818 D</td>
<td>0.837 D</td>
<td>0.860 D</td>
</tr>
<tr>
<td></td>
<td>Marengo Street</td>
<td>P.M.</td>
<td>0.751 C</td>
<td>0.844 D</td>
<td>0.948 E</td>
<td>1.000 E</td>
</tr>
<tr>
<td>18</td>
<td>Soto Street/ I-10 Freeway EB</td>
<td>A.M.</td>
<td>0.624 B</td>
<td>0.703 C</td>
<td>0.780 C</td>
<td>0.803 D</td>
</tr>
<tr>
<td></td>
<td>Off-Ramp-Wabash Avenue</td>
<td>P.M.</td>
<td>0.588 A</td>
<td>0.664 B</td>
<td>0.716 C</td>
<td>0.722 C</td>
</tr>
</tbody>
</table>

Source: Linscott, Law & Greenspan, Engineers, 2005.
### Table 8

**PARKING SCENARIO NO. 2 SUMMARY OF VOLUME-TO-CAPACITY RATIOS AND LEVELS OF SERVICE A.M. AND P.M. PEAK HOURS**

<table>
<thead>
<tr>
<th>No</th>
<th>Intersection</th>
<th>Peak Hour</th>
<th>2004 Existing</th>
<th>2015 w/Ambient Growth</th>
<th>2015 w/Related Projects</th>
<th>2015 w/Parking Scenario No. 2</th>
<th>2015 w/ Parking Scenario No. 2 and Project Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>V/C LOS</td>
<td>V/C LOS</td>
<td>V/C LOS</td>
<td>V/C LOS Change V/C Signif Impact</td>
<td>V/C LOS Change V/C Signif Impact</td>
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<td>1</td>
<td>I-5 Freeway SB Off-Ramp/ Avenue 21-Main Street</td>
<td>A.M.</td>
<td>0.764 C</td>
<td>0.848 D</td>
<td>0.879 D</td>
<td>0.893 D 0.014 No</td>
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<td>P.M.</td>
<td>0.542 A</td>
<td>0.602 B</td>
<td>0.642 B</td>
<td>0.648 B 0.006 No</td>
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<td>2</td>
<td>I-5 Freeway SB Ramps/ Mission Road</td>
<td>A.M.</td>
<td>0.980 E</td>
<td>1.099 F</td>
<td>1.160 F</td>
<td>1.213 F 0.053 Yes</td>
<td>0.905 E -0.255 No</td>
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<tr>
<td></td>
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<td>P.M.</td>
<td>0.689 B</td>
<td>0.776 C</td>
<td>0.831 D</td>
<td>0.869 D 0.038 Yes</td>
<td>0.735 C -0.096 No</td>
</tr>
<tr>
<td>3</td>
<td>I-5 Freeway NB Off-Ramp/ Daly Street-Main Street</td>
<td>A.M.</td>
<td>0.585 A</td>
<td>0.655 B</td>
<td>0.699 B</td>
<td>0.755 C 0.056 Yes</td>
<td>0.604 B -0.095 No</td>
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<td>P.M.</td>
<td>0.465 A</td>
<td>0.520 A</td>
<td>0.553 A</td>
<td>0.572 A 0.019 No</td>
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<tr>
<td>4</td>
<td>Daly Street/ Main Street</td>
<td>A.M.</td>
<td>0.705 C</td>
<td>0.794 C</td>
<td>0.863 D</td>
<td>0.865 D 0.002 No</td>
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<tr>
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<td>P.M.</td>
<td>0.593 A</td>
<td>0.669 B</td>
<td>0.733 C</td>
<td>0.749 C 0.016 No</td>
<td>0.749 C 0.016 --</td>
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<td>5</td>
<td>Mission Road/ Daly Street-Marengo Street</td>
<td>A.M.</td>
<td>0.754 C</td>
<td>0.840 D</td>
<td>0.904 E</td>
<td>0.911 E 0.007 No</td>
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<td>P.M.</td>
<td>0.849 D</td>
<td>0.944 E</td>
<td>0.986 E</td>
<td>1.039 F 0.053 Yes</td>
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<td>6</td>
<td>I-5 Freeway NB On-Ramp/ Marengo Street</td>
<td>A.M.</td>
<td>0.624 B</td>
<td>0.692 B</td>
<td>0.735 C</td>
<td>0.747 C 0.012 No</td>
<td>0.666 B -0.069 --</td>
</tr>
<tr>
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<td></td>
<td>P.M.</td>
<td>0.730 C</td>
<td>0.811 D</td>
<td>0.840 D</td>
<td>0.891 D 0.051 Yes</td>
<td>0.753 C -0.087 No</td>
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<td>7</td>
<td>Mission Road/ Griffin Avenue-Zonal Avenue</td>
<td>A.M.</td>
<td>0.601 B</td>
<td>0.678 B</td>
<td>0.723 C</td>
<td>0.734 C 0.011 No</td>
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<td></td>
<td>P.M.</td>
<td>0.507 A</td>
<td>0.573 A</td>
<td>0.583 A</td>
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<td>8</td>
<td>Mission Road/ Valley Boulevard</td>
<td>A.M.</td>
<td>0.588 A</td>
<td>0.664 B</td>
<td>0.706 B</td>
<td>0.749 C 0.043 Yes</td>
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<td></td>
<td>P.M.</td>
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<td>0.720 C</td>
<td>0.749 C</td>
<td>0.760 C 0.011 No</td>
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<td>9</td>
<td>Mission Road/ Main Street</td>
<td>A.M.</td>
<td>0.692 B</td>
<td>0.779 C</td>
<td>0.812 D</td>
<td>0.820 D 0.008 No</td>
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<td></td>
<td>P.M.</td>
<td>0.543 A</td>
<td>0.614 B</td>
<td>0.647 B</td>
<td>0.666 B 0.019 No</td>
<td>0.666 B 0.019 --</td>
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<td>10</td>
<td>Biggy Street/ Zonal Avenue</td>
<td>A.M.</td>
<td>0.717 C</td>
<td>0.796 C</td>
<td>0.724 C</td>
<td>0.724 C 0.000 No</td>
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<td>P.M.</td>
<td>0.698 B</td>
<td>0.775 C</td>
<td>0.703 C</td>
<td>0.703 C 0.000 No</td>
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<td>San Pablo Street/ Valley Boulevard</td>
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<td>0.278 A</td>
<td>0.301 A</td>
<td>0.355 A 0.054 No</td>
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<td>P.M.</td>
<td>0.198 A</td>
<td>0.231 A</td>
<td>0.301 A</td>
<td>0.403 A 0.102 No</td>
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<td>12</td>
<td>San Pablo Street/ Alcazar Street</td>
<td>A.M.</td>
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<td>0.531 A</td>
<td>0.650 B</td>
<td>0.804 D 0.154 Yes</td>
<td>0.643 B -0.007 No</td>
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<td></td>
<td>P.M.</td>
<td>0.511 A</td>
<td>0.567 A</td>
<td>0.705 C</td>
<td>0.832 D 0.127 Yes</td>
<td>0.666 B -0.039 No</td>
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<td>No</td>
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<td>Peak Hour</td>
<td>2004 Existing</td>
<td>2015 w/Ambient Growth</td>
<td>2015 w/Related Projects</td>
<td>2015 w/Parking Scenario No. 2</td>
<td>2015 w/ Parking Scenario No. 2 and Project Mitigation</td>
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<td>----</td>
<td>-------------------------------</td>
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<td>-----------------------------------------------------</td>
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<td>A.M.</td>
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<td>V/C LOS</td>
<td>V/C LOS</td>
<td>V/C LOS</td>
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<td>13</td>
<td>San Pablo Street/</td>
<td>A.M.</td>
<td>0.470 A</td>
<td>0.508 A</td>
<td>0.524 A</td>
<td>0.542 A 0.018 No</td>
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<td>14</td>
<td>Eastlake Avenue-Norfolk Street</td>
<td>P.M.</td>
<td>0.379 A</td>
<td>0.410 A</td>
<td>0.503 A</td>
<td>0.545 A 0.042 No</td>
<td>0.545 A 0.042 --</td>
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<td>15</td>
<td>Soto Street/</td>
<td>A.M.</td>
<td>0.782 C</td>
<td>0.868 D</td>
<td>0.508 A</td>
<td>0.553 A 0.045 No</td>
<td>0.443 A -0.065 --</td>
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<td>16</td>
<td>Zonal Avenue</td>
<td>P.M.</td>
<td>0.643 B</td>
<td>0.713 C</td>
<td>0.648 B</td>
<td>0.724 C 0.076 Yes</td>
<td>0.580 A -0.068 No</td>
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<td>17</td>
<td>Alcazar Street</td>
<td>P.M.</td>
<td>0.576 A</td>
<td>0.651 B</td>
<td>0.738 C</td>
<td>0.800 C 0.062 Yes</td>
<td>0.732 C -0.006 No</td>
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<td>18</td>
<td>Soto Street/ I-10 Freeway WB</td>
<td>A.M.</td>
<td>0.971 E</td>
<td>1.089 F</td>
<td>1.206 F</td>
<td>1.299 F 0.093 Yes</td>
<td>1.106 F -0.100 No</td>
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<td>19</td>
<td>Ramps-Charlotte Street</td>
<td>P.M.</td>
<td>0.855 D</td>
<td>0.960 E</td>
<td>1.051 F</td>
<td>1.111 F 0.060 Yes</td>
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<tr>
<td>20</td>
<td>Soto Street/</td>
<td>A.M.</td>
<td>0.727 C</td>
<td>0.818 D</td>
<td>0.837 D</td>
<td>0.877 D 0.040 Yes</td>
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<td>21</td>
<td>Marengo Street</td>
<td>P.M.</td>
<td>0.751 C</td>
<td>0.844 D</td>
<td>0.948 E</td>
<td>1.016 F 0.068 Yes</td>
<td>1.016 F 0.068 Yes</td>
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<tr>
<td>22</td>
<td>Soto Street/ I-10 Freeway EB</td>
<td>A.M.</td>
<td>0.624 B</td>
<td>0.703 C</td>
<td>0.780 C</td>
<td>0.826 D 0.046 Yes</td>
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<td>23</td>
<td>Off-Ramp-Wabash Avenue</td>
<td>P.M.</td>
<td>0.588 A</td>
<td>0.664 B</td>
<td>0.716 C</td>
<td>0.728 C 0.012 No</td>
<td>0.625 B -0.091 --</td>
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</table>

Source: Linscott, Law & Greenspan, Engineers, 2005.
Year 2015 with Parking Scenario No. 1

As shown in Table 7 on page 167, the application of LADOT’s threshold criteria to 2015 “With Parking Scenario No. 1” conditions indicates that the proposed Project would create significant impacts at 11 of the 18 study intersections during the A.M. and/or P.M. peak commuter hours. The proposed Project is anticipated to create significant impacts at the following eleven intersections:

- **Intersection No. 2: I-5 Freeway SB Ramps and Mission Road**
  A.M. Peak-Hour CMA Ratio increase of 0.053 [1.160 to 1.213 (LOS F)]
  P.M. Peak-Hour CMA Ratio increase of 0.038 [0.831 to 0.869 (LOS D)];

- **Intersection No. 3: I-5 Freeway NB Off-Ramp and Daly Street–Main Street**
  A.M. Peak-Hour CMA Ratio increase of 0.077 [0.699 to 0.776 (LOS C)];

- **Intersection No. 5: Mission Road and Daly Street–Marengo Street**
  P.M. Peak-Hour CMA Ratio increase of 0.138 [0.986 to 1.124 (LOS F)];

- **Intersection No. 6: I-5 Freeway NB On-Ramp and Marengo Street**
  P.M. Peak-Hour CMA Ratio increase of 0.074 [0.840 to 0.914 (LOS E)];

- **Intersection No. 7: Mission Road and Griffin Avenue–Zonal Avenue**
  A.M. Peak-Hour CMA Ratio increase of 0.084 [0.723 to 0.807 (LOS D)]
  P.M. Peak-Hour CMA Ratio increase of 0.195 [0.583 to 0.778 (LOS C)];

- **Intersection No. 10: Biggy Street and Zonal Avenue**
  A.M. Peak-Hour CMA Ratio increase of 0.112 [0.724 to 0.836 (LOS D)]
  P.M. Peak-Hour CMA Ratio increase of 0.050 [0.703 to 0.753 (LOS C)];

- **Intersection No. 12: San Pablo Street and Alcazar Street**
  A.M. Peak-Hour CMA Ratio increase of 0.077 [0.650 to 0.727 (LOS C)];
• **Intersection No. 14:** San Pablo Street and Zonal Avenue  
  P.M. Peak-Hour CMA Ratio increase of 0.106 [0.648 to 0.754 (LOS C)];

• **Intersection No. 16:** Soto Street and I-10 Freeway WB Ramps–Charlotte Street  
  A.M. Peak-Hour CMA Ratio increase of 0.056 [1.206 to 1.262 (LOS F)]  
  P.M. Peak-Hour CMA Ratio increase of 0.098 [1.051 to 1.149 (LOS F)];

• **Intersection No. 17:** Soto Street and Marengo Street  
  A.M. Peak-Hour CMA Ratio increase of 0.023 [0.837 to 0.860 (LOS D)]  
  P.M. Peak-Hour CMA Ratio increase of 0.052 [0.948 to 1.000 (LOS E)]; and

• **Intersection No. 18:** Soto Street and I-10 Freeway EB Off-Ramp–Wabash Avenue  
  A.M. Peak-Hour CMA Ratio increase of 0.023 [0.780 to 0.803 (LOS D)]

As shown in Table 7 on page 167, incremental but less than significant impacts are forecasted to occur at the remaining seven study intersections due to development of the proposed Project under Parking Scenario No. 1.

**Year 2015 with Parking Scenario No. 2**

As shown in Table 8 on page 169, the application of LADOT’s threshold criteria to 2015 “With Parking Scenario No. 2” conditions indicate that the proposed Project would create significant impacts at 11 of the 18 study intersections during the A.M. and/or P.M. peak commuter hours. The proposed Project is anticipated to create significant impacts at the following eleven intersections:

• **Intersection No. 2:** I-5 Freeway SB Ramps and Mission Road  
  A.M. Peak-Hour CMA Ratio increase of 0.053 [1.160 to 1.213 (LOS F)]  
  P.M. Peak-Hour CMA Ratio increase of 0.038 [0.831 to 0.869 (LOS D)];

• **Intersection No. 3:** I-5 Freeway NB Off-Ramp and Daly Street–Main Street  
  A.M. Peak-Hour CMA Ratio increase of 0.056 [0.699 to 0.755 (LOS C)];

• **Intersection No. 5:** Mission Road and Daly Street–Marengo Street  
  P.M. Peak-Hour CMA Ratio increase of 0.053 [0.986 to 1.039 (LOS F)];

• **Intersection No. 6:** I-5 Freeway NB On-Ramp and Marengo Street  
  P.M. Peak-Hour CMA Ratio increase of 0.051 [0.840 to 0.891 (LOS D)];

• **Intersection No. 8:** Mission Road and Valley Boulevard  
  A.M. Peak-Hour CMA Ratio increase of 0.043 [0.706 to 0.749 (LOS C)];
IV.C Traffic Circulation and Parking

- **Intersection No. 12: San Pablo Street and Alcazar Street**
  A.M. Peak-Hour CMA Ratio increase of 0.154 [0.650 to 0.804 (LOS D)]
  P.M. Peak-Hour CMA Ratio increase of 0.127 [0.705 to 0.832 (LOS D)];

- **Intersection No. 14: San Pablo Street and Zonal Avenue**
  P.M. Peak-Hour CMA Ratio increase of 0.076 [0.648 to 0.724 (LOS C)];

- **Intersection No. 15: Soto Street and Alcazar Street**
  A.M. Peak-Hour CMA Ratio increase of 0.157 [0.860 to 1.017 (LOS F)]
  P.M. Peak-Hour CMA Ratio increase of 0.062 [0.738 to 0.800 (LOS C)];

- **Intersection No. 16: Soto Street and I-10 Freeway WB Ramps–Charlotte Street**
  A.M. Peak-Hour CMA Ratio increase of 0.093 [1.206 to 1.299 (LOS F)]
  P.M. Peak-Hour CMA Ratio increase of 0.060 [1.051 to 1.111 (LOS F)];

- **Intersection No. 17: Soto Street and Marengo Street**
  A.M. Peak-Hour CMA Ratio increase of 0.040 [0.837 to 0.877 (LOS D)]
  P.M. Peak-Hour CMA Ratio increase of 0.068 [0.948 to 1.016 (LOS F)]; and

- **Intersection No. 18: Soto Street and I-10 Freeway EB Off-Ramp–Wabash Avenue**
  A.M. Peak-Hour CMA Ratio increase of 0.046 [0.780 to 0.826 (LOS D)].

As shown in Table 8, incremental but less than significant impacts are forecasted at the remaining seven study intersections due to development of the proposed Project under Parking Scenario No. 2.

**c) CMP Analysis**

The Congestion Management Program (CMP) is a state-mandated program enacted by the State Legislature with the passage of Proposition 111 in 1990. The program is intended to address the impact of local growth on the regional transportation system. The intent of the CMP is to provide the analytical basis for transportation decisions through the State Transportation Improvement Program (STIP) process. The MTA, the Local CMP agency, has established a countywide approach to implement the statutory requirements of the CMP. The Countywide approach includes designating a highway network that includes all state highways and principal arterials within the County and monitoring the network’s LOS standards. This monitoring of the CMP network is one of the responsibilities of local jurisdictions. If LOS standards deteriorate, then local jurisdictions must prepare a deficiency plan to demonstrate conformance with the Countywide plan. All development projects, which are required to prepare an EIR, are subject to the Land Use Analysis program of the CMP. This requirement is to provide decision-makers with the project-specific traffic impacts created by projects on the CMP highway network.
Impacts on Freeways

As required by the 2004 Congestion Management Program for Los Angeles County, Linscott, Law and Greenspan, Engineers conducted a review of the designated monitoring locations on the CMP highway system to identify potential impacts. A significant CMP traffic impact is deemed to occur if the proposed Project increases traffic demand on a CMP facility by two percent of its capacity and/or causes or worsens a LOS F condition, as demonstrated by a Traffic Impact Analysis (TIA). A TIA must be considered if the proposed Project adds 150 or more peak-hour trips on any freeway segment, in either direction. Additionally, an analysis is required at all CMP arterial intersections where the proposed Project would add 50 or more trips during either the A.M. or P.M. peak hour. The I-10 Santa Monica Freeway at the East Los Angeles City Limit is the only CMP monitoring station located within the Project vicinity:

The proposed Project would add more than 150 trips (in either direction) during either the A.M. or P.M. weekday peak hours to the CMP freeway monitoring location. Therefore, a review of potential impacts to freeway monitoring locations which are part of the CMP highway system is required.

The impact of the proposed Project on the regional mainline freeway system has been determined based in part on the existing peak-hour traffic volumes data published in the 2003 Traffic Volumes on California State Highways, State of California Department of Transportation (Caltrans, June 2004). The year 2003 traffic volumes were increased by Caltrans’ annual average growth rate of 2.3 percent per year to reflect year 2004 existing conditions. This conservative growth rate is higher than the general traffic growth factors provided in the CMP and those approved by LADOT for the intersection analysis. The freeway impact analysis is based on a number of mainline lanes, including High Occupancy Vehicle lanes. Along some freeway segments, auxiliary lanes are provided to facilitate entering and exiting freeway traffic to and from the freeway mainline. Although some of the freeway auxiliary lanes accommodate through traffic, these have not been considered in the analysis so as to provide a conservative analysis of potential freeway impacts due to the proposed Project.

The freeway lane capacity has been assumed at 2,000 vehicles per lane per hour, although it is stated in the Highway Capacity Manual, published by the Transportation Research Board, 2000, that recent research indicates a capacity of 2,200 vehicles per hour for four lane freeways and 2,300 vehicles per lane per hour for six or more lane freeways. The analysis can therefore be considered conservative in that the lower capacity has been assumed.

In reviewing the following analysis, the following important factors must be considered:

- Freeway conditions would be largely controlled by the operation of the off-ramp intersections and the adjacent arterial streets. Based on a review of the capacity...
calculations during the A.M. or P.M. peak hours, arterial roadway capacity exists at several locations. Operationally, the street system surrounding the HSC is already equipped with the City’s Automated Traffic Surveillance and Control (ATSAC) system. The ATSAC system optimizes traffic operations on a system-wide basis at the area’s signalized intersections.

- Mainline freeway improvements (e.g., physical improvements to add additional mainline freeway travel lanes) are difficult in that limited freeway right-of-way is currently available and in many cases has been maximized. Tremendous costs would be incurred to acquire additional right-of-way, which in most locations is not feasible.

The Caltrans traffic volume data referenced above is presented in several ways. First, the total daily peak-hour traffic volumes for various freeway segments statewide are noted (i.e., non-directional). In addition, factors are included in the Caltrans document which indicate the direction and magnitude of the peak-hour traffic volumes. These factors are then utilized to convert the Annual Average Daily Traffic (AADT) volumes to directional peak-hour traffic volumes for each freeway segment in the vicinity of the Project site.

The results of the freeway impact analysis during the A.M. and P.M. peak hours associated with the Project are summarized in Table 9 on page 176. As presented in Table 9, these increases in overall mainline freeway traffic volumes correspond to a D/C ratio increase ranging from 0.002 to 0.010, or equal to or less than one percent of the total capacity of the segments included in the analysis. This conclusion applies to both the 765,000 square foot and 585,000 square foot development scenarios, as well as any development that falls within this range of development. Thus, based on the CMP threshold criteria, no significant project-related mainline freeway impacts are anticipated along the I-10 Freeway.

**Impacts at Intersections**

The CMP TIA guidelines require that intersection monitoring locations must be examined if the proposed Project would add 50 or more trips during either the A.M. or P.M. weekday peak period. The proposed Project is not forecasted to add 50 or more trips during either the A.M. or P.M. peak hours at any CMP intersection monitoring locations which is the threshold for preparing a traffic impact assessment. Therefore, no further review of potential impacts to intersection monitoring locations which are part of the CMP highway system is required. The Project’s impacts on CMP intersection monitoring locations are therefore considered less than significant.
### Table 9

**CMP FREEWAY IMPACT ANALYSIS A.M. AND P.M. PEAK HOURS**

**USC HEALTH SCIENCES CAMPUS PROJECT**

<table>
<thead>
<tr>
<th>No.</th>
<th>Freeway Segment</th>
<th>Peak Hour</th>
<th>Dir.</th>
<th>Peak-Hour Capacity</th>
<th>Demand a</th>
<th>D/C b</th>
<th>LOS c</th>
<th>Demand d</th>
<th>D/C b</th>
<th>LOS c</th>
<th>Project Trip Ends e</th>
<th>Demand f</th>
<th>D/C b</th>
<th>LOS c</th>
<th>D/C Increase With Project g</th>
<th>Significant Project Impact h</th>
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<tbody>
<tr>
<td>1</td>
<td>I-10 Freeway at East Los Angeles City Limit (R19.67)</td>
<td>A.M.</td>
<td>EB</td>
<td>12,000</td>
<td>6,440</td>
<td>0.54</td>
<td>B</td>
<td>7,150</td>
<td>0.60</td>
<td>C</td>
<td>28</td>
<td>7,178</td>
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<td>C</td>
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<td>WB</td>
<td>12,000</td>
<td>10,430</td>
<td>0.87</td>
<td>D</td>
<td>11,580</td>
<td>0.97</td>
<td>E</td>
<td>123</td>
<td>11,703</td>
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<td>P.M.</td>
<td>EB</td>
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<td>10,420</td>
<td>0.87</td>
<td>D</td>
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<td>E</td>
<td>123</td>
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<td>C</td>
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<td>C</td>
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</tbody>
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**Notes:**

- a Source: “2003 Traffic Volumes on California State Highways,” Caltrans, June 2004. The year 2003 volumes were increased by Caltrans’ annual average growth rate of 2.3% per year to reflect year 2004 existing conditions.
- b Demand-to-Capacity ratio (D/C) calculated based on a capacity of 2,000 vehicles per lane per hour applied to the through freeway lanes, including HOV lanes. Auxiliary lanes are excluded.
- c Freeway mainline Levels of Service were based on the following D/C scale:

<table>
<thead>
<tr>
<th>D/C Ratio</th>
<th>LOS</th>
<th>D/C Ratio</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000 to 0.350</td>
<td>A</td>
<td>1.001 to 1.250</td>
<td>F(0)</td>
</tr>
<tr>
<td>0.351 to 0.540</td>
<td>B</td>
<td>1.251 to 1.350</td>
<td>F(1)</td>
</tr>
<tr>
<td>0.541 to 0.770</td>
<td>C</td>
<td>1.351 to 1.450</td>
<td>F(2)</td>
</tr>
<tr>
<td>0.771 to 0.936</td>
<td>D</td>
<td>&gt;1.450</td>
<td>F(3)</td>
</tr>
<tr>
<td>0.936 to 1.000</td>
<td>E</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- d An ambient growth rate of one percent (1%) per year was utilized to calculate the 2015 future pre-Project traffic volumes based on general traffic growth factors provide in the CMP.
- e Based on the Project trip generation and trip distribution for the proposed USC Health Sciences Campus Project.
- f The 2015 Future With Project traffic volumes were derived by adding the Future Pre-Project traffic volumes with the Proposed Project volumes.
- g Derived by subtracting the D/C ratio of the future Pre-Project conditions from the Future With Project conditions.
- h Per the “2004 Congestion Management Program for Los Angeles County,” July, 2004, a significant impact occurs when the proposed project increases traffic demand on the freeway system by 2% of capacity (D/C > 0.02).

(2) Construction Traffic-Related Impacts

Traffic impacts from construction activities would be expected to occur as a result of the following three types of activities:

- Increases in truck traffic associated with the removal or import of fill materials and delivery of construction materials;
- Increases in automobile traffic associated with construction workers traveling to and from the site; and
- Reductions in existing street capacity from temporary lane closures necessary for the construction of roadway improvements, utility relocation and drainage facilities.

Temporary lane closures are anticipated during Project construction only on those streets located within the HSC. As such, it is anticipated that temporary lane closures may occur on San Pablo Street, Alacazar Street, Eastlake Avenue and Zonal Avenue. Construction for this type of street work is normally limited to between 9:00 A.M. and 3:00 P.M. Detours around the construction site(s) as a result of lane closures would not be required. Flag men, however would be used to control traffic movement during ingress or egress of trucks and heavy equipment from the construction site(s).

Depending upon the specific nature of the construction activity (e.g., demolition, excavation, or concrete pouring), it is forecasted that the majority of truck traffic would be distributed evenly across the workday. Approvals required by the City of Los Angeles for implementation of the proposed Project include a Truck Haul Route program approved by LADOT. Based on preliminary review, haul trucks and delivery trucks would generally travel along the I-5 Freeway, I-10 Freeway, Mission Road, Soto Street, Valley Boulevard, and Marengo Street to access and depart the Project Site.

The estimated number of trucks needed for hauling and delivery are generalized according to the following three construction phases: (1) demolition, (2) site grading, and (3) building construction. The numbers of off-site trucks (i.e., haul trucks, concrete trucks and delivery trucks) are assumed for a peak construction day. It is forecasted that the maximum number of construction trips would be 448 trips per day. In general, it is anticipated that construction workers would arrive and depart the Project site during off-peak hours and that construction-related traffic would be largely freeway oriented. Construction workers would arrive and depart via nearby on-off-ramps serving the I-5 Freeway and the I-10 Freeway. The most commonly used freeway would be nearest the Project site, including the northbound and southbound on/off-ramps at Mission Road and Avenue 21, and the eastbound and westbound on/off ramps at Soto Street. The construction work force would likely be from all parts of the...
Los Angeles region and are, thereby assumed to arrive from all directions. The majority of construction workers are expected to arrive and depart the Project site during off-peak hours (i.e. arrive prior to 7:00 A.M. and depart between 3:00 and 4:00 P.M.), thereby avoiding generating trips during the 7:00 to 9:00 A.M. and 4:00 to 6:00 P.M. peak periods. Consequently, their impact on peak-hour traffic in the vicinity of the Project site would be limited. Given the off-peak nature of construction worker traffic, a less than significant impact is anticipated with regard to the local roadway network as well as the freeway mainline.

With the required haul route approval and other construction management practices described above, construction activities would not create any substantial temporary inconvenience to auto travelers, bus riders, and pedestrians during construction. Therefore, Project impacts with regard to construction traffic would be less than significant. Impacts would be further reduced with the implementation of the following design features:

- Maintain existing access for land uses in proximity of the Project site;
- Limit any potential lane closures to off-peak travel periods;
- Schedule receipt of construction materials to non-peak travel periods, to the extent possible;
- Coordinate deliveries to reduce the potential of trucks waiting to unload for protracted periods of time; and
- Prohibit parking by construction workers on adjacent streets and direct construction workers to available parking within the Health Sciences Campus.

(3) Union Pacific Railroad Crossing

An at-grade Union Pacific Railroad (UPRR) crossing currently exists on San Pablo Street, immediately south of Valley Boulevard. This rail crossing is equipped with advance warning signals and control gates situated north and south of the tracks. The rail line that is protected by these controls extends from Downtown Los Angeles easterly to the Inland Empire and points east. Trains currently slow or stop at this crossing, causing vehicle queuing and occasionally rerouting of local traffic, for periods as long as 18 minutes based on field observations.

Based on the trip distribution and assignment of Project-related trips for both Parking Scenario No.1 and Parking Scenario No. 2, it is anticipated that additional vehicle queuing and the rerouting of Project traffic may occur due to UPRR trains periodically blocking north-south traffic at this location.
The redistribution of traffic under existing conditions as well as future without Project conditions is anticipated to result temporarily in increased traffic volumes at other intersections. The proposed Project is anticipated to contribute additional incremental traffic volumes at these other intersections during these temporary periods. As such, it is conservatively concluded that a Project-related potentially significant impact could occur during the periods of time when traffic is diverted due to train(s) blocking San Pablo Street. This potential impact is very temporary in nature (i.e., occurring approximately 12 times per day and lasting in duration between less than one and three minutes about half the time and occasionally lasting up to 18 minutes) and would be alleviated once San Pablo Street is available as a through traffic route. Based on recent observations, the railroad crossing gates are engaged approximately 12 times per day for train crossing and track service activities. San Pablo Street is typically blocked for a duration ranging from a few minutes to as long as approximately twenty minutes.

Public Utilities Commission (PUC) ordinance limits the duration that trains can block at-grade crossings. PUC General Order No. 135\textsuperscript{24} states the following:

1. TRAIN MOVEMENTS—Except as provided in Paragraph 5, a public grade crossing which is blocked by a stopped train, other than a passenger train, must be opened within 10 minutes, unless no vehicle or pedestrian is waiting at the crossing. Such a cleared crossing must be left open until it is known that the train is ready to depart. When recoupling such a train at the crossing, movement must be made promptly, consistent with safety.”

It is recommended that enforcement of the ordinance be actively pursued and that efforts be made to relocate the location of train stoppages to a point east or west of San Pablo Street. The UPRR crossings immediately west of San Pablo Street are grade separated; however, crossings to the east (i.e., east of Soto Street) are at-grade. Additionally, it is acknowledged that enforcement of this ordinance is outside the authority of decision-makers associated with the proposed Project. Thus, absent either enforcement of the PUC ordinance or a relocation of the train stoppage point, the Project would potentially contribute to an existing significant impact.

In addition, the subject crossing is included in the Alameda Corridor East (ACE) project.\textsuperscript{25} The ACE project is located in the San Gabriel Valley between East Los Angeles and the City of Pomona. The ACE project is intended to improve mobility, enhance safety and mitigate the effects of increased freight rail traffic from the Ports of Long Beach and Los Angeles. The ACE project is being implemented in two phases and consists of improvements at


\textsuperscript{25} Source: www.theaceproject.org.
55 crossings. The first phase includes safety upgrades, traffic signal control measures, roadway widening at the railroad crossings and ten grade separation projects to physically separate rail and vehicular traffic. The San Pablo Street crossing was identified for potential safety and/or traffic signal control measure improvements. The second phase of the ACE project includes ten additional grade separation projects. Both phases of the ACE project are planned to be completed in 2008.

(4) Parking Impacts

(a) Design Features

Project parking could be satisfied by parking facilities within Development Sites B, C, D, E, and F, as well as within existing HSC parking facilities. Although parking may be provided in any combination on Development Sites B, C, D, E and F, in order to provide a conservative analysis of the project’s potential transportation impacts, two parking scenarios (Parking Scenario No. 1 and Parking Scenario No. 2) have been analyzed that reflect the greatest concentration of Project-related traffic on the local roadway system. As such, should parking be proposed for any other combination of sites (i.e., including sites from the east end or west end of the campus), off-site impacts would be within the range identified under the two Parking Scenarios.

The City of Los Angeles generally determines parking requirements for an environment such as the HSC on a campus-wide basis, rather than on a building-by-building or lot-by-lot basis. For example, a parking space on one block at the HSC may be considered to satisfy the LAMC parking requirement for a building located across the street.

(b) Future Parking Demand

The parking supply on the HSC would be modified based on the mix of Research and Development and Medical Office uses. Parking demand for two examples is forecast by multiplying the building floor area by the calculated parking demand rate of 2.79 spaces per 1,000 square feet of floor area. In order to describe the range of potential future parking demand, the development descriptions as previously described were utilized and are summarized below:
765,000 Square Foot Development Scenario Example

**Research & Development**

- \[ \frac{(720,000 \, \text{SF} \times 0.93^{3b} = 669,600 \, \text{SF})}{1,000 \, \text{SF}} = 669.6 \times 2.79 \, \text{SP} = 1,868 \, \text{Spaces} \]

**Medical Office**

- \[ \frac{(45,000 \, \text{SF} \times 0.93 = 41,850)}{1,000 \, \text{SF}} = 41.85 \times 2.79 \, \text{SP} = 117 \, \text{Spaces} \]

Future parking demand for this example: 1,985 Spaces

585,000 Square Foot Development Scenario Example

**Research & Development**

- \[ \frac{(465,000 \, \text{SF} \times 0.93 = 432,450 \, \text{SF})}{1,000 \, \text{SF}} = 432.45 \times 2.79 \, \text{SP} = 1,207 \, \text{Spaces} \]

**Medical Office**

- \[ \frac{(120,000 \, \text{SF} \times 0.93 = 111,600 \, \text{SF})}{1,000 \, \text{SF}} = 111.6 \times 2.79 \, \text{SP} = 311 \, \text{Spaces} \]

Future parking demand for this example: 1,518 Spaces

Based on a peak existing demand of 3,132 spaces and a future peak demand of up to approximately 1,985 spaces, a total future peak parking demand of 5,117 spaces (3,132 + 1,985 = 5,117 spaces) is calculated. This peak parking demand can be considered conservative in that the existing demand includes 75 percent of area on-street parking as part of the rate, as well as all of the USC allocated spaces in the University Hospital parking structure, the leased spaces from the County and demand at the dialysis center (TRC Lot). The Project’s forecasted demand also exceeds the LAMC parking requirement which results in a maximum requirement of 1,548 spaces for the proposed Project.27 As it is anticipated that the Project would provide an increase

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26 LAMC (Section 12.21) parking requirements are based on “gross” floor areas excluding elevator shafts, mechanical rooms, stairwells, storage. On the basis of the review of previous HSC building plans by the Department of Building and Safety, the Project’s floor area is multiplied by 0.93 to reflect excluded areas.

27 Under the LAMC, 720,000 square feet Research and Development = 1,339 spaces and 45,000 square feet of Medical Office = 209 spaces (total = 1,548 spaces); 465,000 square feet of Research and Development = 865 spaces; and 120,000 square feet of Medical Office = 558 spaces (total =1,423 spaces).
of at least 2,072 spaces, the Project would exceed both the parking requirements set forth in the LAMC as well as future parking demand and as such, a less than significant impact would occur.

Project parking demand could be satisfied by parking facilities within Development Sites B, C, D, E, and F, as well as within existing HSC parking facilities. For example, some existing parking on the Eastlake Lot may be removed to accommodate future development on Development Site A while the spaces in the San Pablo Lot may be removed to accommodate future development on Development Site B.

Under Project Scenario No. 1, parking may be provided on the site of Development Site C (access via Zonal). Development Site C could accommodate a parking structure containing 2,800 spaces. Under Project Scenario No. 2, parking may be provided on Development Site E (access via San Pablo Street and Alcazar Street) and Development Site F (access via San Pablo Street). It is anticipated that Development Site E and/or Development Site F could accommodate parking facilities that would provide a parking supply similar to the net increase anticipated should a parking structure be developed on Development Site C (i.e., 2,800 future spaces less 548 existing spaces equals 2,252). Thus, a net increase of 2,252 spaces is calculated for future parking facilities under both parking scenarios for the provision of parking for the proposed Project. In addition, it is assumed that this net increase in Project parking may be provided in parking facilities within a combination of Development Sites B, C, D, E, and F, as well as within existing HSC parking facilities. As the distances between the proposed Development Sites and the parking facilities may be greater than 750 feet, a variance with regard to Section 12.21.A.4(g) of the Los Angeles Municipal Code may be required.

With the forecasted increase in parking of 2,072 spaces, the future parking supply for the USC Health Sciences Campus would increase to approximately 5,870 spaces (i.e., 3,798 existing + 2,072 net future = 5,870 spaces). Thus, the future parking supply of 5,870 spaces is anticipated to satisfy and, in fact, substantially exceed the peak future parking demand of 5,117 spaces at the HSC.

Therefore, the impact of the Project relative to parking demand would be less than significant.

(5) Project Access

The following four key intersections provide primary Project Site access to the HSC under either of the two parking scenarios

- Int. No. 7: Mission Road/Griffin Avenue–Zonal Avenue;
• Int. No. 11: San Pablo Street/Valley Boulevard;
• Int. No. 14: San Pablo Street/Zonal Avenue; and
• Int. No. 15: Soto Street/Alcazar Street.

All of these intersections are projected to operate at LOS D or better under the future cumulative analysis conditions (i.e., future with Project and Project mitigation conditions). Thus, Project development would result in a less than significant Project access impact. In addition, the Applicant may propose the vacation of Henry Street, which is shown on the Northeast Los Angeles Community Plan Generalized Circulation Map, but has been paved and out of circulation for at least twenty years. The deletion of this street would not impact intersection operations, as Henry Street does not exist. Furthermore, if Henry Street were available, it would not change Project impacts at any of the studied intersections. In addition, LADOT did not require the analysis of Henry Street as it does not currently connect to Zonal Avenue, nor is it proposed as part of the potential development of Development Site C. As the vacation of Henry Street would have no impact on the Project area or the existing street network, a less than significant transportation impact would result from the vacation of Henry Street.

(6) Public Transit

As required by the 2004 Congestion Management Program for Los Angeles County, an analysis of potential Project impacts on existing transit service has been conducted. Impacts on public transit would occur if the seating capacity of the transit system serving the Project study area were exceeded.

The Project’s trip-generation forecast was adjusted by values set forth in the CMP (i.e., person trips equal 1.4 times vehicle trips and transit trips equals 3.5 percent of the total person trips) to estimate number of transit trips generated by the Proposed Project. Pursuant to the CMP guidelines, the proposed Project is forecast to generate a demand for 37 transit trips (30 inbound trips and 7 outbound trips) during the weekday A.M. peak hour. Similarly, during the weekday P.M. peak hour, the proposed Project is anticipated to generate a demand for 38 transit trips (8 inbound trips and 30 outbound trips). Over a 24-hour period the proposed Project is forecast to generate a demand for 378 daily transit trips. The calculations are as follows:

- A.M. Peak-Hour Trips = 753 x 1.4 x 0.035 = 37 Transit trips
- P.M. Peak-Hour Trips = 774 x 1.4 x 0.035 = 38 Transit Trips
- Daily Trips = 7,715 x 1.4 x 0.035 = 378 Transit Trips

It is anticipated that the existing transit service in the Project area would be able to adequately accommodate the transit trips generated by the Project. Thus, given the relatively
few number of transit trips generated, less than significant impacts on existing and future transit service in the Project area are expected to occur as a result of the proposed Project.

(7) Neighborhood Streets

As Project traffic is anticipated to utilize the major and secondary highways adjacent to the HSC as well as internal streets within the campus, a formal neighborhood street segment analysis was not deemed necessary by LADOT. As such, Project development would result in a less than significant impact with regard to Project traffic traveling on neighborhood streets.

(8) Additional Development Scenarios

The analysis of Parking Scenario Nos. 1 and 2, as described above, identify the range of intersection and freeway impacts that could result at buildout of the proposed Project. As such, all development scenarios that could be developed under the Project would fall within the range established by Parking Scenario Nos. 1 and 2. As such, the implementation of development scenarios other than Parking Scenario Nos. 1 and 2 could result in a significant impacts at the intersections identified as such in Tables 7 and 8 on pages 167 through 170. The CMP analysis presented above is reflective of conditions under either Parking Scenario No.1 or 2. As these Parking Scenarios define the range of Project impacts, implementation of any development scenario would result in impacts that are equal to, or less than, those identified above. As such, implementation of all potential development scenarios would have a less than significant impact with regard to the CMP.

Peak construction levels would be the same regardless of the mix of land uses that is developed. As such, the construction impacts identified above would be applicable to any development scenario that may be developed under the proposed Project. Therefore, construction impacts attributable to any permitted development scenario would result in less than significant impacts.

As intersection impacts under the additional development scenarios would be within the range established by Parking Scenario Nos. 1 and 2, impacts of the additional development scenarios relative to the Union Pacific Railroad Crossing would be similarly significant. As the availability of parking under the additional development scenarios would be comparable to that available under the proposed Project, potential parking impacts with regard to LAMC requirements and parking demand, as is the case with the proposed Project, would be less than significant.
Overall tripmaking by any permitted development scenario would be comparable, although not exceeding, that of the Project as analyzed above. As such, impacts of any permitted development scenario on Project access, as is concluded above, would be less than significant.

Transit trip generation is based on total vehicle trips. Thus, transit impacts resulting from the development of any permitted development scenario would be less than significant since the impacts of the Project, as concluded above, would be less than significant and the number of vehicle trips generated by any additional permitted development scenario would not exceed those of the Project as analyzed above.

4. CUMULATIVE IMPACTS

a. Traffic and Circulation

All of the identified related projects have been considered for the purpose of assessing cumulative traffic impacts. Cumulative construction traffic impacts would only occur during periods when construction of one or more of the related projects is occurring at the same time that Project construction is anticipated to occur and then only to the extent that construction traffic is traveling on the same streets at the same time. Since this type of concurrent activity is anticipated to be limited in its occurrence, cumulative construction impacts are concluded to be less than significant.

Cumulative effects on intersection operations attributable to traffic from ambient growth and related projects have been incorporated into the above analysis of the future baseline condition. A comparison of 2015 with related project conditions (see Table 7 on page 167 and Table 8 on page 169) indicates that cumulative development would result in four intersections operating at LOS E or F. Based on the stated significance thresholds, cumulative development would result in impacts to 13 of the 18 study intersections. Since no guarantee exists that mitigation measures would be implemented with those projects, it is conservatively concluded that cumulative development would yield a significant cumulative traffic impact on intersection operations.

Cumulative growth in the Project area would result in increases in traffic on street and freeway segments in the Project vicinity. However, it is anticipated that related projects contributing to cumulative growth would be required on an individual basis to mitigate any significant traffic impacts to the extent possible to less than significant levels.
b. Parking

The Project in combination with the related projects would not result in any adverse impacts to parking. The related projects, as identified in Section III.B. of this Draft EIR, would be required, through Los Angeles Municipal Code requirements and mitigation measures required by environmental clearances, to include sufficient parking to accommodate their own parking demand. No significant cumulative impacts to parking are anticipated.

5. MITIGATION MEASURES

a. Intersections

Mitigation measures are identified below which would reduce the Project’s significant traffic impacts at buildout to the extent feasible. Implementation of the mitigation measures would be phased commensurate with the development of an individual building or buildings. The process for implementing the Project’s mitigation measures would be determined by LADOT as individual building plans are submitted to the City of Los Angeles. At that time, LADOT would be consulted to determine the appropriate mitigation measures to be implemented based on the square footage proposed for development and the location of the parking that would support the development. The phasing program for the mitigation measures identified below for both Parking Scenarios is presented in Appendix F of the Traffic Impact Analysis (see Appendix B of this Draft EIR).

In summary, eleven of the 18 study intersections would be significantly impacted by the development of the proposed Project under Project Scenario No. 1 and Project Scenario No. 2. To reduce the proposed Project’s significant transportation impacts to the extent feasible the following mitigation measures are proposed.

(1) Parking Scenario No. 1 Mitigation

Mitigation Measure C-1: Intersection No. 2: I-5 Freeway Southbound and Mission Road—Widen the southbound off-ramp to provide an additional lane. The off-ramp would provide one left-turn only lane, one combination left-turn/through lane and one right-turn only lane. Modify the existing traffic signal to facilitate traffic flow.

Mitigation Measure C-2: Intersection No. 3: I-5 Freeway Northbound Off-Ramp and Daly Street–Main Street—Install a traffic signal at this location to facilitate traffic flow during the A.M. peak commuter hour.
**Mitigation Measure C-3:** Intersection No. 6: I-5 Freeway Northbound On-Ramp and Marengo Street—Lengthen the red curb along the south side of Marengo Street, west of the on-ramp, and install an eastbound right-turn-only lane.

**Mitigation Measure C-4:** Intersection No. 10: Biggy Street and Zonal Avenue—Restripe the southbound approach to provide one left turn/through lane and one right-turn-only lane. Re-stripe the eastbound approach to provide one left-turn lane and one optional through/right-turn-only lane.

**Mitigation Measure C-5:** Intersection No. 12: San Pablo Street and Alcazar Street—Install a traffic signal at this location.

**Mitigation Measure C-6** Intersection No. 14: San Pablo Street and Zonal Avenue—Install a traffic signal at this location.

**Mitigation Measure C-7:** Intersection No. 16: Soto Street and I-10 Freeway Westbound Ramps–Charlotte Street—Implement the LADOT-approved mitigation measure associated with the HNRT project, including widening of the I-10 Freeway Westbound Off-ramp to provide an additional right-turn only lane.

**Mitigation Measure C-8:** Intersection No. 17: Soto Street and Marengo Street—Remove the raised median islands on Soto Street, north and south of Marengo Street. Re-stripe the northbound and southbound approaches to provide dual left-turn lanes, two through lanes and one combination through/right-turn lane. Provide traffic signal modification at this intersection. This measure has only received conceptual approval at this time.

**Mitigation Measure C-9:** Intersection No. 18: Soto Street and I-10 Freeway Eastbound Off-Ramp–Wabash Avenue—Restripe Soto Street, south of Wabash Avenue, within the existing roadway pavement width, to provide an additional northbound through lane.

**(2) Parking Scenario No. 2 Mitigation**

**Mitigation Measure C-10:** Intersection No. 2: I-5 Freeway SB and Mission Road—Widen the southbound off-ramp to provide an additional lane. The off-ramp would provide one left-turn only lane, one combination left-turn/through lane and one right-turn only lane. Modify the existing traffic signal to facilitate traffic flow.

**Mitigation Measure C-11:** No. 3: I-5 Freeway NB Off-Ramp and Daly Street–Main Street—Install a traffic signal at this location.
Mitigation Measure C-12: Intersection No. 6: I-5 Freeway NB On-Ramp and Marengo Street—Lengthen the red curb along the south side of Marengo Street, west of the on-ramp, and install an eastbound right-turn-only lane.

Mitigation Measure C-13: Intersection No. 12: San Pablo Street and Alcazar Street—Install a traffic signal at this location.

Mitigation Measure C-14: Intersection No. 14: San Pablo Street and Zonal Avenue—Install a traffic signal at this location.

Mitigation Measure C-15: Intersection No. 15: Soto Street and Alcazar Street—Install a second northbound left-turn lane and widen along the south side of Alcazar Street, west of Soto Street, to provide a fourth eastbound approach lane (i.e., the eastbound approach would provide one left-turn lane, one combination left-through lane and two right-turn only lanes). Modify the traffic signal.

Mitigation Measure C-16: Intersection No. 16: Soto Street and I-10 Freeway WB Ramps–Charlotte Street—Implement the LADOT-approved mitigation measure associated with the HNRT project, including widening of the I-10 Freeway Westbound Off-ramp to provide an additional right-turn only lane.

Mitigation Measure C-17: Intersection No. 17: Soto Street and Marengo Street—Remove the raised median islands on Soto Street, north and south of Marengo Street. Re-stripe the northbound and southbound approaches to provide dual left-turn lanes, two through lanes and one combination through/right-turn lane. Provide traffic signal modification at this intersection. This measure has only received conceptual approval at this time.

Mitigation Measure C-18: Intersection No. 18: Soto Street and I-10 Freeway EB Off-Ramp–Wabash Avenue—Re-stripe Soto Street, south of Wabash Avenue, within the existing roadway pavement width to provide an additional northbound through lane.

6. SIGNIFICANCE AFTER MITIGATION

After implementation of the recommended mitigation measures, the impact of the proposed Project under Project Scenario No. 1 on study intersections during the A.M. and P.M. peak commuter hour would be reduced to less than significant levels for all but four locations (see Table 7 on page 167). Under Project Scenario No. 1, no feasible mitigation measures are available to reduce the traffic impact to a less than significant level at the Soto Street and I-10 Freeway Westbound Ramps/Charlotte Street intersection during the P.M. peak commuter hour; at the Mission Road and Griffin Avenue-Zonal Avenue intersection during the A.M. and P.M. peak commuter hours, and at the Mission Road/Daly Street-Marengo Street intersection during the
IV.C Traffic Circulation and Parking

The fourth location where a significant impact has been identified is the Soto Street and Marengo Street intersection. Project impacts at this intersection would be significant during the A.M. and P.M. peak commuter hours. The mitigation for the Soto Street and Marengo Street intersection, which is elevated above the I-10 Freeway and is entirely on a bridge structure, consists of the removal of the raised median islands on Soto Street, north and south of Marengo Street, restriping the northbound and southbound approaches to provide dual left-turn lanes, two through lanes and one combination through/right-turn lane, as well as a traffic signal modification. While these improvements would reduce the Project’s significant impact at the Soto Street/Marengo Street intersection to a less than significant level, these improvements have only been conceptually approved by LADOT. As formal approval of the improvements has not occurred as of the publication of the Draft EIR, it is conservatively concluded that Project development would result in a significant traffic impact at the Soto Street/Marengo Street intersection. In the event the proposed improvements are approved by LADOT, the Project’s significant impact at the Soto Street/Marengo Street intersection would be reduced to less than significant levels during both the A.M. and P.M. peak commuter hours. While the proposed Soto Street/Marengo Street intersection improvements would reduce the Project’s traffic impacts to less than significant levels, the implementation of these measures may result in secondary construction impacts that are of note.

The intersection, including the traffic signals, is elevated above the I-10 Freeway and is entirely on a bridge structure. As a result, the implementation of the traffic signal modifications would require a special foundation. The installation of the special foundation may require a structural modification to the bridge structure itself. In the event that structural modifications to the bridge are not required, implementation of the proposed intersection improvements would consist of removing the raised medians on Soto Street and lane restriping in addition to the improvements to the traffic signal itself. It is anticipated that removal of the raised median islands on Soto Street would require the temporary closure of the nearest southbound and northbound travel lanes. Construction of all proposed intersection improvements would only occur during weekday, non-peak hours (between 9:00 A.M. and 3:00 P.M.). As these mid-day lane closures would not occur during either the A.M. or P.M. peak commuter travel periods and would be short-term in nature (i.e., one to two weeks), potential impacts are concluded to be less than significant. If it is determined through the design process that a special foundation for the traffic signal poles requires a structural modification to the bridge, the construction of measure would involve median removal, roadway restriping, traffic signal modification and potentially the closure of some I-10 Freeway mainline travel lanes during the off-peak periods. As the bridge reconstruction would likely take several months to complete, the potential closure of some mainline freeway travel lanes for this period of time is concluded to constitute a significant secondary impact.

Mitigation measures would reduce impacts to less than significant levels at all but three of the study intersections with implementation of Parking Scenario No. 2 (see Table 8 on page
No feasible mitigation measures are available to reduce the traffic impacts to a less than significant level at the Mission Road and Valley Boulevard intersection during the A.M. peak commuter hour, and at the Mission Road/Daly Street-Marengo Street intersection during the P.M. peak hour. The third location where a significant impact has been identified is the Soto Street and Marengo Street intersection. As is the case with Parking Scenario No. 1, Project impacts at this intersection would be significant during the A.M. and P.M. peak commuter hours. The mitigation, as well as the secondary impacts attributable to the implementation of the mitigation, would be the same as those identified above. As a result, implementation of the proposed mitigation may result in a significant secondary impact as a result of the potential need to close mainline freeway lanes during off-peak hours for a period of time that could last as long as several months.

Trains currently slow or stop at the existing at-grade Union Pacific Railroad crossing of San Pablo Street, immediately south of Valley Boulevard, causing vehicle queuing and occasionally rerouting of local traffic. An existing Public Utilities Commission ordinance limits the duration that trains can block at-grade crossings. However, it is acknowledged that enforcement of this ordinance is outside the authority of decision-makers associated with the proposed USC HSC project. Thus, absent either enforcement of the PUC ordinance or a relocation of the train stoppage point, the Project would potentially contribute to an existing significant impact. Project impacts on the balance of the traffic issues analyzed in this Section of the Draft EIR would be less than significant.