5.9 TRANSPORTATION

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Mercury Lane Residential project to result in transportation and traffic impacts in the City of Brea. The analysis is consistent with the current Congestion Management Program for Orange County. The analysis in this section is based in part on the following technical report(s):

- *Traffic Analysis Report Mercury Apartments*, Linscott, Law, and Greenspan (LLG) Engineers, July 16, 2019.

A complete copy of this study is included as Appendix K to this Draft EIR. The traffic study was developed in conjunction with City of Brea Public Works Department staff. Study intersections under the jurisdiction of the City of Brea and intersections under Caltrans jurisdiction were analyzed using both the Highway Capacity Manual 6 (HCM 6) methodology and the Intersection Capacity Utilization (ICU) methodology. The ICU methodology tells how much the intersection is overcapacity (volume to capacity ratio) but does not predict delay, whereas the HCM methodology measures intersection delay. Therefore, the HCM methodology is used to evaluate potential transportation impacts associated with delay at intersections in the City of Brea while the ICU methodology is used to determine consistency with the transportation goals in the City's 2003 General Plan. Long-term (Year 2040) daily and peak-hour traffic forecasts were projected based on modeled traffic projections prepared using the Orange County Traffic Analysis Model (OCTAM) 4.0 Year 2040 Model.

Terminology

The following terms are used throughout this section.

- **Congestion Management Plan (CMP).** A federally mandated program in metropolitan planning areas to address and manage congestion through the implementation of strategies not calling for major capital investments.

- **Highway Capacity Manual (HCM).** The HCM provides methods for quantifying highway capacity, serving as a fundamental reference on concepts, performance measures, and analysis techniques for evaluating the multimodal operation of streets, highways, freeways, and off-street pathways. The methodology used to assess the operation of intersections is based on the HCM.

- **Intersection Capacity Utilization (ICU).** The ICU methodology is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements. The ICU numerical value represents the percent signal (green) time, and thus capacity, required by existing and/or future traffic, and assumes uniform traffic distribution per intersection approach lane and optimal signal timing.

- **Levels of Service (LOS).** Roadway capacity is generally limited by the ability to move vehicles through intersections. A level of service is a standard performance measurement to describe the operating characteristics of a street system in terms of the level of congestion or delay experienced by motorists. Service levels range from A through F to represent traffic conditions from best (uncongested, free-flowing conditions) to worst (total breakdown with stop-and-go operation).

- **Orange County Transportation Authority (OCTA).** OCTA is the local transportation authority in Orange County that is responsible for transportation planning, programing, and operations and serves as the primary transit operator in the county.

- **Vehicles Miles Traveled (VMT).** The number of vehicle miles of travel is an indicator of the travel levels on the roadway system by motor vehicles. This estimate is based upon traffic volume counts and roadway length.

5.9.1 Environmental Setting

5.9.1.1 REGULATORY FRAMEWORK

State Regulations

Senate Bill 743

On September 27, 2013, SB 743 was signed into law, starting a process that fundamentally changed transportation impact analysis as part of CEQA compliance. The legislature found that with the adoption of the SB 375, the state had signaled its commitment to encourage land use and transportation planning decisions and investments that reduce vehicle miles traveled (VMT) and thereby contribute to the reduction of GHG emissions, as required by the California Global Warming Solutions Act of 2006 (Assembly Bill [AB 32]).

SB 743 eliminates auto delay, LOS, and other similar measures of vehicular capacity or traffic congestion as the sole basis for determining significant impacts under CEQA. As part of the new CEQA Guidelines, the new criteria "shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses" (Public Resources Code Section 21099(b)(1)).

Pursuant to SB 743, the Natural Resources Agency adopted revisions to the CEQA Guidelines to implement SB 743 on December 28, 2018. The revised CEQA Guidelines establish new criteria for determining the significance of transportation impacts. Under the new Guidelines, VMT-related metric(s) that evaluate the significance of transportation-related impacts under CEQA for development projects, land use plans, and transportation infrastructure projects are required beginning on July 1, 2020. The legislation does not preclude the application of local general plan policies, zoning codes, conditions of approval, or any other planning requirements that require evaluation of LOS, but these metrics may no longer constitute the sole basis for determining transportation impacts under CEQA.

Regional Regulations

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is a council of governments representing Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. SCAG is the federally recognized metropolitan planning organization for this region, which encompasses over 38,000 square miles. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the

economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs.

2016 Regional Transportation Plan / Sustainable Communities Strategy

The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted in April 2016 (SCAG 2016). Major themes in the 2016 RTP/SCS include integrating strategies for land use and transportation; striving for sustainability; protecting and preserving existing transportation infrastructure; increase capacity through improved systems managements; providing more transportation choices; leveraging technology; responding to demographic and housing market changes; supporting commerce, economic growth and opportunity; promoting the links between public health, environmental protection and economic opportunity; and incorporating the principles of social equity and environmental justice into the plan.

The SCS outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement). The SCS is meant to provide growth strategies that would achieve the regional GHG emissions reduction targets identified by the California Air Resources Board. However, the SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS; instead, it provides incentives to governments and developers for consistency.

Orange County Transportation Authority Congestion Management Plan

The Orange County Transportation Authority (OCTA) is the subregional planning agency for Orange County. In June 1990, the Proposition 111 gas tax increase required California's urbanized areas (areas with populations of 50,000 or more), to adopt a Congestion Management Program (CMP). The CMP is intended to link transportation, land use, and air quality decisions and to address the impact of local growth on the regional transportation system. Compliance with CMP requirements ensures a city's eligibility to compete for state gas tax funds for local transportation projects. The Orange County CMP was established in 1991, and the most recent CMP was adopted in 2017. The CMP requires that a traffic impact analysis (TIA) be conducted for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that directly access the CMP Highway System. Per the CMP guidelines, this number is based on the desire to analyze any impacts that comprise 3 percent or more of the existing CMP highway system facilities' capacity. The CMP highway system includes specific roadways—including state highways and super streets (now known as smart streets)—and CMP arterial monitoring locations/intersections. Therefore, the CMP TIA requirements relate only to the designated CMP highway system. There are two roadways in the project study area that are on OCTA's CMP Highway System: #1, State College Boulevard at Imperial highway; and #13, SR-57 NB Ramps at Imperial.

California Department of Transportation

Intersections within the City of Brea associated with freeway on-ramps and off-ramps fall under Caltrans jurisdiction. Caltrans is the primary state agency responsible for transportation issues. Caltrans approves the planning, design, and construction of improvements for all state-controlled facilities, including Imperial

Highway and State Route 57 (SR-57). Caltrans has established standards for roadway traffic flow and developed procedures to determine if state-controlled facilities require improvements. Caltrans utilizes the Highway Capacity Manual 6 (HCM 6) methodology to evaluate intersections within its jurisdiction. LOS criteria for unsignalized intersections differ from LOS criteria for signalized intersections as signalized intersections are designed for heavier traffic and therefore a greater delay. Unsignalized intersections are also associated with more uncertainty for users, as delays are less predictable, which can reduce users' delay tolerance. Table 5.9-1, *HCM Intersection Level of Service*, provides a description of the LOS associated with the delay in seconds per vehicle (sec/veh).

Table 5.9-1 HCM Intersection Level of Service

LOS	LOS Description – Detailed LOS Description for Signalized Intersections	Signalized Intersections Control Delay (sec/veh)	Unsignalized Intersections Control Delay (sec/veh)
A	**Little or no delay –** This level of service occurs when the v/c ratio is low and either progression is exceptionally favorable or the cycle length is very short.	0-10	0-10
B	**Short traffic delay –** This level generally occurs when the v/c ratio is low and either progression is highly favorable or the cycle length is short.	>10-20	>10-15
C	**Average traffic delays –** These higher delays may result when progression is favorable or the cycle length is moderate. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.	>25-35	>15-20
D	**Long traffic delays –** At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop and individual cycle failures are noticeable.	>35-55	>25-35
E	**Very long traffic delays –** This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.	>55-80	>35-50
F	**Severe congestion –** This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high *v/c* ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels	>80	>50

Source: LLG 2019
Notes: HCM: highway capacity manual; v/c: volume-to-capacity ratio; sec: seconds; veh: vehicle

For state-controlled intersections, LOS standards and impact criteria specified by Caltrans will apply. Caltrans endeavors to maintain a target LOS at the transition between LOS 'C' and LOS 'D' on State highway facilities; it does not require that LOS "D" (shall) be maintained. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. Caltrans has determined that all state-owned facilities that operate below LOS D should be identified and improved to an acceptable LOS. The Caltrans Traffic Impact Study Guidelines does state that if an existing state-owned facility operates at less than LOS D, the existing service level should be maintained.

Local Regulations

City of Brea General Plan

The Circulation section of the City of Brea General Plan provides goals and policies for efficient regional transportation facilities, the local circulation system, the public transportation system, pedestrian and bicycle facilities (Brea 2003). Applicable policies from the General Plan include:

- **Policy CD-10.1.** Work continually with Caltrans to improve access to and from State Route 57.
- **Policy CD-10.4.** Work with Caltrans, the Orange County Transportation Authority, and surrounding jurisdictions to provide adequate capacity on regional routes for through traffic and to minimize cut-through traffic on the local street system.
- **Policy CD-11.2.** Establish Level of Service goals for designated City streets, and ensure that new development maintains these service levels.
- **Policy CD-13.4.** Require new developments to provide for the use of alternative modes of transit via internal trails or travel ways—public or private—for pedestrians and vehicles other than cars. New developments shall include such features as well-designed sidewalks and parkways, bike lanes and paths, and dedicated bus turn-outs.

Per the City, intersections under the sole jurisdiction of the City of Brea are to be analyzed using the Highway Capacity Manual 6 (HCM 6) methodology and ICU methodology, as described below.

HCM Methodology – Intersection Delay

Based on the HCM operations method of analysis, LOS for signalized intersections and approaches is defined in terms of control delay, which is a measure of the increase in travel time due to traffic signal control, driver discomfort, and fuel consumption. Control delay includes the delay associated with vehicles slowing in advance of an intersection, the time spent stopped on an intersection approach, the time spent as vehicles move up in the queue, and the time needed for vehicles to accelerate to their desired speed. LOS criteria for traffic signals are stated in terms of the control delay in seconds per vehicle (sec/veh). According to City of Brea criteria, LOS D (see Table 5.9-1) is the minimum acceptable condition that should be maintained during the morning (AM) and evening (PM) peak commute hours at intersections.

ICU Methodology – General Plan Consistency

The ICU methodology estimates the V/C relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements. The ICU numerical value represents the percent signal (green) time, and thus capacity, required by existing and/or future traffic, and assumes uniform traffic distribution per intersection approach lane and optimal signal timing. Per City of Brea requirements, the ICU calculations use a lane capacity of 1,700 vehicles per hour (vph) for through and all turn lanes. A clearance adjustment factor of 0.05 was added to each LOS calculation. The ICU value translates to a LOS estimate, which is a relative measure of the intersection performance. The ICU value is the sum of the critical volume to capacity ratios at an intersection; it is not intended to be indicative of the LOS of each of the individual turning movements.

The six qualitative categories of LOS have been defined along with the corresponding ICU value range and are shown in Table 5.9-2, *ICU Intersection Level of Service*. For the ICU analysis, an impact is considered to be significant if the project causes an intersection at LOS D or better to degrade to LOS E or F, or if the project increases traffic demand at a signalized study intersection by 0.020 or greater and the intersection is forecast to operate at LOS E or F.

Table 5.9-2 ICU Intersection Level of Service

LOS	LOS Description – Detailed LOS Description for Signalized Intersections	ICU Value (V/C)
A	**Excellent –** No vehicle waits longer than one red light, and no approach phase is fully used.	≤ 0.600
B	**Very Good –** An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles..	≤ 0.6.01 – 0.700
C	**Good –** Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.	≤ 0.7.01 – 0.800
D	**Fair –** Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.	≤ 0.801 – 0.900
E	**Poor –** Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.	≤ 0.901 – 1.000
F	**Failure –** Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Potentially very long delays with continuously increasing queue lengths.	> 1.000

Source: LLG 2019
Notes: ICU: Intersection Capacity Utilization; v/c: volume-to-capacity ratio;

City of Brea Municipal Code

The Municipal Code includes regulations and standards that govern traffic, parking and loading, encroachments on the public right-of-way, and development in the City of Brea. Title 10, *Vehicles and Traffic*, includes general traffic regulations, traffic-control devices, operation of vehicles and bicycles, pedestrian regulations, and truck routes and terminals regulations.

Any modifications to the roadway networks, which includes driveways, curbs, and sidewalks, would be subject to approval by the City of Brea, and any construction work within the right-of-way of any public roadway would require the issuance of a permit by the City of Brea.

5.9.1.2 EXISTING CONDITIONS

Traffic Study Area

Intersections

Fourteen key study intersections were evaluated and provide regional and local access to the study area. These intersection define the extent of the boundaries for this traffic impact investigation. Figure 5.9-1, *Traffic Study Area*, depicts the study locations and surrounding street system.

1. Puente Street at Lambert Road
2. Berry Street at Lambert Road

3. Brea Boulevard at Lambert Road
4. State College Boulevard at Lambert Road
5. SR-57 SB Ramps at Lambert Road
6. SR-57 NB Ramps at Lambert Road
7. Berry Street at Mercury Lane
8. Brea Boulevard at Birch Street
9. Puente Street at Imperial Highway
10. Berry Street at Imperial Highway
11. Brea Boulevard at Imperial Highway
12. State College Boulevard at Imperial highway
13. SR-57 SB Ramps at Imperial Highway
14. SR-57 NB Ramps at Imperial Highway

The LOS investigations at these key locations were used to evaluate the potential traffic-related impacts associated with area growth, cumulative projects and the proposed project.

Existing Roadways

The principal local network of streets serving the project site includes Lambert Road, Imperial Highway, Puente Street, Berry Street, Brea Boulevard, and State College Boulevard. The following discussion provides a brief synopsis of these key area streets. The descriptions are based on an inventory of existing roadway conditions.

- **Lambert Road** is a six-lane, divided roadway oriented in the east-west direction. The posted speed limit on Lambert Road is 45 miles per hour (mph) west of the SR-57 freeway and 50 mph east of the SR-57 freeway. On-street parking is not permitted along this roadway. Traffic signals control the study intersections of Lambert Road at Puente Street, Berry Street, Brea Boulevard, State College Boulevard, and SR-57 ramps.

- **Imperial Highway** is a six-lane, divided roadway oriented in the east-west direction. The posted speed limit on Imperial Highway is 45 mph west of the SR-57 freeway and 50 mph east of the SR-57 freeway. On-street parking is not permitted along this roadway. A traffic signal controls the study intersections of Imperial Highway at Puente Street, Berry Street, Brea Boulevard, State College Boulevard, and SR-57 ramps.

- **Puente Street** is a four-lane, divided roadway north of Imperial Highway and a two-lane, undivided roadway south of Imperial Highway. The posted speed limit is 40 mph with no on-street parking north of Imperial Highway. The posted speed limit is 25 mph with on-street parking on both sides of the roadway, south of Imperial Highway. Traffic signals control the study intersections of Puente Street at Lambert Road and Imperial Highway.

- **Berry Street** is a four-lane, divided roadway that borders the project site to the west, oriented in the north-south direction. The posted speed limit is 40 mph and parking is not permitted on either side of

the roadway. Traffic signals control the study intersections of Berry Street at Lambert Road, Mercury Lane, and Imperial Highway.

- **Brea Boulevard** is a four-lane, divided roadway south of Imperial Highway and north of Lambert Road, and a six-lane divided roadway between Imperial Highway and Lambert Road, oriented in the northeast-southwest direction. The posted speed limit is 40 mph south of Imperial Highway and 35 mph north of Imperial Highway. On-street parking is not permitted on either side of the roadway. Traffic signals control the study intersections of Brea Boulevard at Lambert Road, Birch Street, and Imperial Highway.

- **State College Boulevard** is a four-lane, divided roadway oriented in the north-south direction. The posted speed limit on State College Boulevard is 40 mph. On-street parking is not permitted along this roadway in the vicinity of the Project. Traffic signals control the study intersections of State College Boulevard at Lambert Road and Imperial Highway.

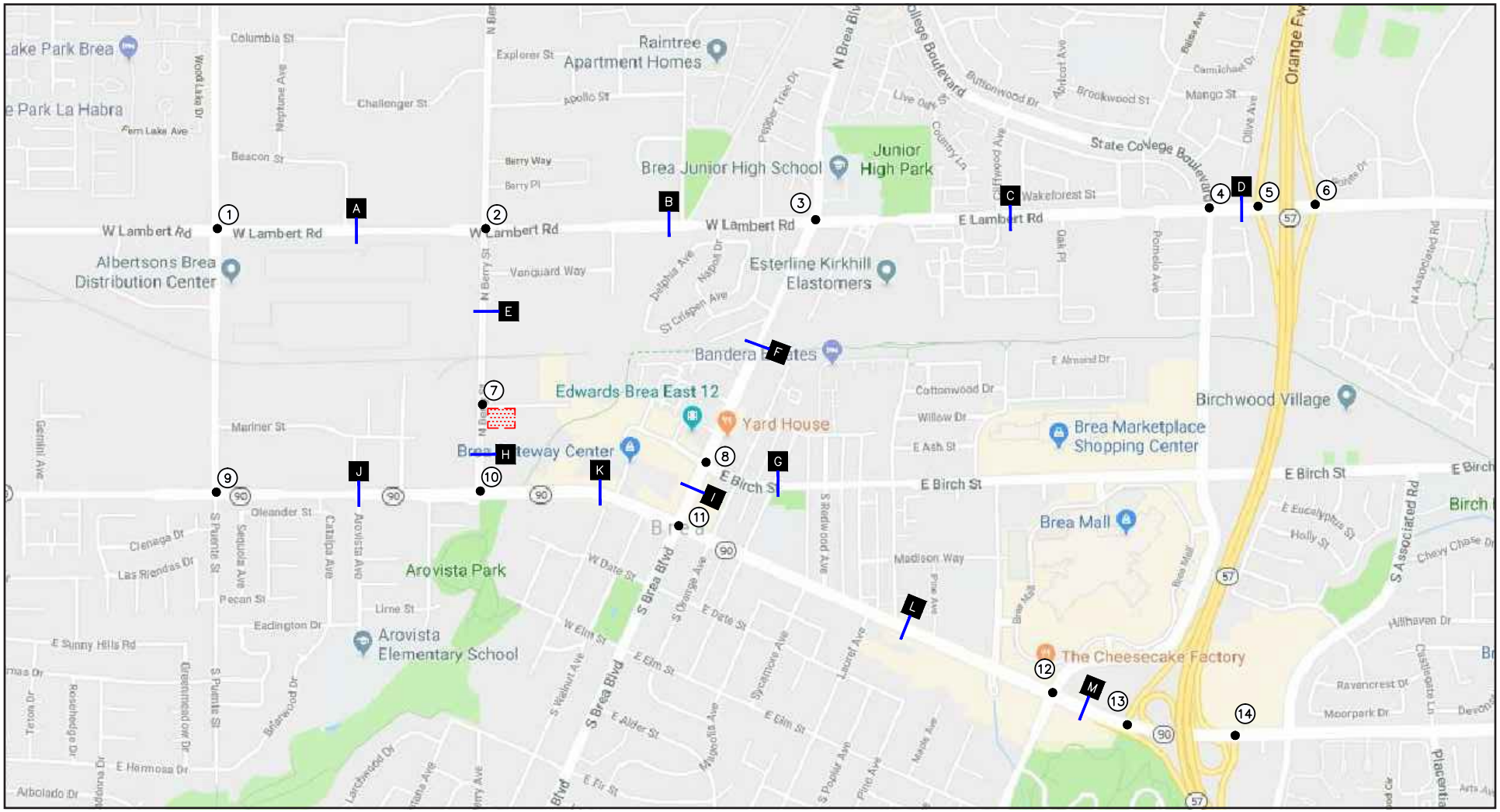
Figure 5.9-2, *Existing Roadway Conditions*, presents an inventory of the existing roadway conditions for the arterials and intersections evaluated. This figure identifies the number of travel lanes for key arterials as well as intersection configurations and controls for the key area study intersections.

Existing Traffic Level of Service

HCM Methodology – Intersection Delay

Existing daily, AM peak hour, and PM peak hour traffic volumes for the 14 key study intersections and 13 key roadway segments evaluated in this report were obtained from manual turning movement counts conducted by National Data and Surveying Services in April 2018. Figures 3-5, *Existing AM Peak Hour and Daily Traffic Volume*s, and 3-6, *Existing PM Peak Hour Peak Hour and Daily Traffic Volume*s, of the traffic analysis (Appendix K of this DEIR) illustrate the existing AM and PM peak hour traffic volumes, respectively, at the 14 key study intersections evaluated in this report. Appendix B in the traffic impact analysis (see Appendix K to this DEIR) contains the detailed peak hour and daily traffic count sheets for the key intersections and roadway segments evaluated in this report.

Figure 5.9-1 - Traffic Study Area
5. Environmental Analysis

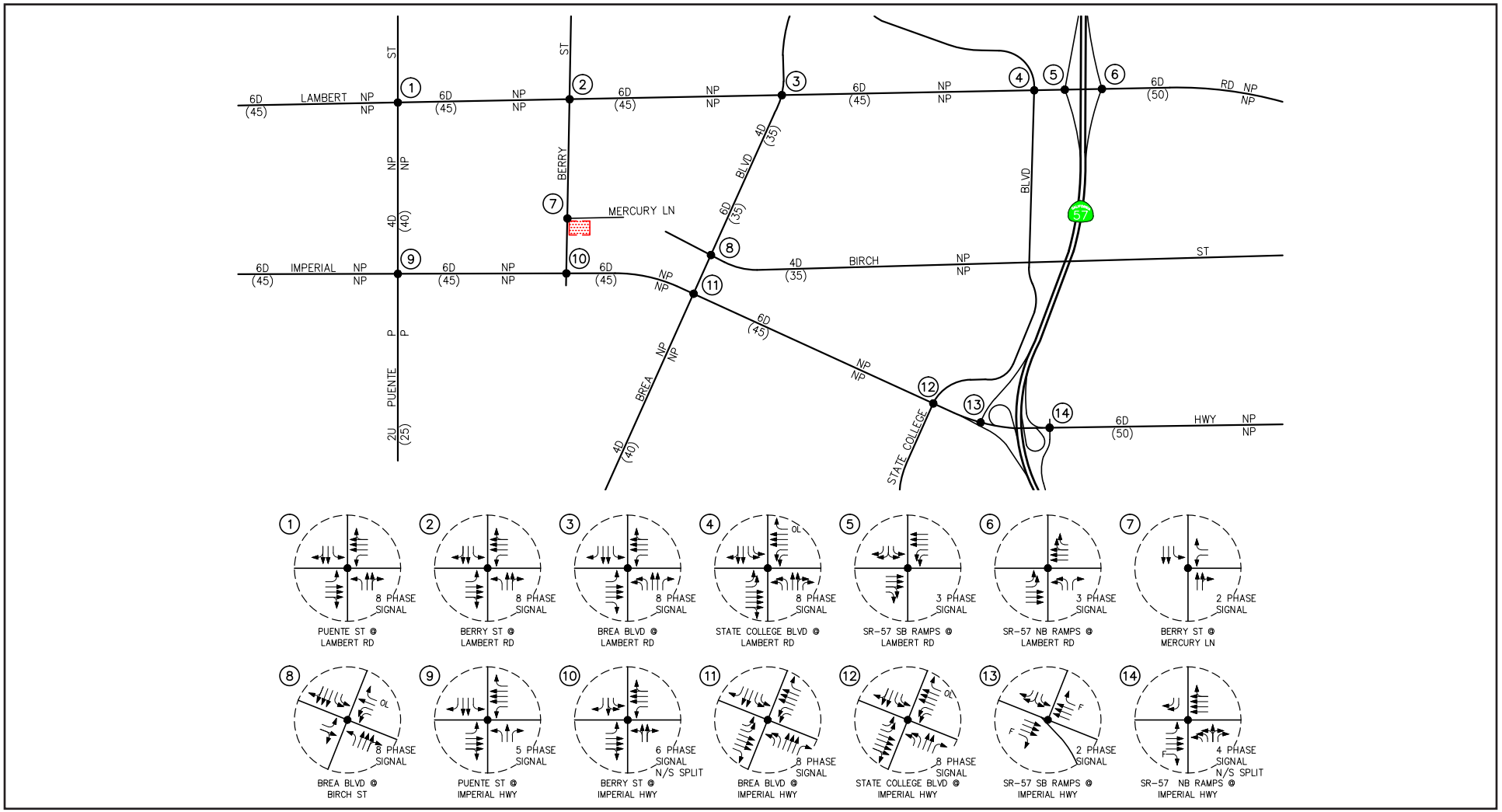


Source: Linscott Law & Greenspan Engineers, 2019

5. Environmental Analysis
TRANSPORTATION

This page intentionally left blank.

Figure 5.9-2 - Existing Roadway Conditions
5. Environmental Analysis



= APPROACH LANE ASSIGNMENT
= TRAFFIC SIGNAL, = STOP SIGN
P = PARKING, NP = NO PARKING

U = UNDIVIDED, D = DIVIDED
2 = NUMBER OF TRAVEL LANES
(XX)= POSTED SPEED LIMIT (MPH)

F = FREE-RIGHT, OL = OVERLAP
= PROJECT SITE

NOT TO SCALE

Source: Linscott Law & Greenspan Engineers, 2019

5. Environmental Analysis
TRANSPORTATION

This page intentionally left blank.

Intersections under the jurisdiction of the City and Caltrans were analyzed based on the Highway Capacity Manual 6 (HCM 6) methodology.[1] Table 5.9-3, *Existing Intersection Level of Service – HCM*, shows the existing peak hour LOS calculations for the 14 key study intersections based on existing traffic volumes and current street geometrics.

Table 5.9-3 Existing Intersection Level of Service – HCM

#	Key Intersection	Control Type	Time Period	HCM sec/veh	LOS
1	Puente Street at Lambert Road	Traffic Signal	AM	38.5	D
			PM	38.0	D
2	Berry Street at Lambert Road	Traffic Signal	AM	36.2	D
			PM	35.9	D
3	Brea Boulevard at Lambert Road	Traffic Signal	AM	42.8	D
			PM	40.8	D
4	State College Blvd. at Lambert Road	Traffic Signal	AM	37.0	D
			PM	**55.9**	**E**
5	SR-57 SB Ramps at Lambert Road	Traffic Signal	AM	20.3	C
			PM	30.0	C
6	SR-57 NB Ramps at Lambert Road	Traffic Signal	AM	24.4	C
			PM	37.6	D
7	Berry Street at Mercury Lane	Traffic Signal	AM	2.5	A
			PM	5.9	A
8	Brea Boulevard at Birch Street	Traffic Signal	AM	33.6	C
			PM	36.4	D
9	Puente Street at Imperial Highway	Traffic Signal	AM	21.9	C
			PM	35.8	D
10	Berry Street at Imperial Highway	Traffic Signal	AM	48.7	D
			PM	38.9	D
11	Brea Boulevard at Imperial Highway	Traffic Signal	AM	33.0	C
			PM	53.4	D
12	State College Blvd. at Imperial Highway	Traffic Signal	AM	44.3	D
			PM	**77.0**	**E**
13	SR-57 SB Ramps at Imperial Highway	Traffic Signal	AM	17.1	B
			PM	29.6	C
14	SR-57 NB Ramps at Imperial Highway	Traffic Signal	AM	39.6	D
			PM	35.8	D

Source: LLG 2019.
Notes: HCM: highway capacity manual; sec: seconds; veh: vehicle; SB: southbound; NB: northbound; SR: State Route
Shade: Caltrans Jurisdiction; **Bold**: exceeds minimum acceptable LOS D based on the City and Caltrans LOS standards.

As shown in this table, the intersections of State College Boulevard at Lambert Road and State College Boulevard at Imperial Highway currently operate at an unacceptable LOS during the AM and/or PM peak

[1] Existing AM and PM peak hour operating conditions for the key study intersections under Caltrans jurisdiction were evaluated using the methodology outlined in Chapter 19 of the Highway Capacity Manual 6 (HCM 6) for signalized intersections and the methodology outlined in Chapter 20 of the HCM 6 for two-way stop-controlled intersections.

hours. The remaining 12 key study intersections currently operate at an acceptable LOS D or better during the AM and PM peak hours.

ICU Methodology – General Plan Consistency

Existing AM and PM peak hour operating conditions for the 14 key study intersections were also evaluated using the ICU methodology for signalized intersections in order to ensure consistency with the transportation goals identified in the City's 2003 General Plan. As identified in Table 5.9-4, *Existing Intersection Level of Service – ICU*, all 14 key study intersections currently operate at an acceptable LOS C or better during the AM and PM peak hours.

Table 5.9-4 Existing Intersection Level of Service – ICU

#	Key Intersection	Control Type	Time Period	ICU (V/C)	LOS
1	Puente Street at Lambert Road	Traffic Signal	AM	0.447	A
			PM	0.579	A
2	Berry Street at Lambert Road	Traffic Signal	AM	0.478	A
			PM	0.601	B
3	Brea Boulevard at Lambert Road	Traffic Signal	AM	0.625	B
			PM	0.638	B
4	State College Blvd. at Lambert Road	Traffic Signal	AM	0.660	B
			PM	0.793	C
5	SR-57 SB Ramps at Lambert Road	Traffic Signal	AM	0.707	C
			PM	0.680	B
6	SR-57 NB Ramps at Lambert Road	Traffic Signal	AM	0.690	B
			PM	0.725	C
7	Berry Street at Mercury Lane	Traffic Signal	AM	0.212	A
			PM	0.240	A
8	Brea Boulevard at Birch Street	Traffic Signal	AM	0.368	A
			PM	0.540	A
9	Puente Street at Imperial Highway	Traffic Signal	AM	0.562	A
			PM	0.569	A
10	Berry Street at Imperial Highway	Traffic Signal	AM	0.635	B
			PM	0.663	B
11	Brea Boulevard at Imperial Highway	Traffic Signal	AM	0.767	C
			PM	0.762	C
12	State College Blvd. at Imperial Highway	Traffic Signal	AM	0.712	C
			PM	0.783	C
13	SR-57 SB Ramps at Imperial Highway	Traffic Signal	AM	0.594	A
			PM	0.739	C
14	SR-57 NB Ramps at Imperial Highway	Traffic Signal	AM	0.605	B
			PM	0.707	C

Source: LLG 2019.
Notes: ICU Intersection Capacity Utilization; V/C: volume to Capacity Ratio; SB: southbound; NB: northbound; SR: State Route
Shade: Caltrans Jurisdiction; **Bold**: exceeds minimum acceptable LOS D based on the City LOS standards.

Alternative Modes of Transportation

Transit

Public transit bus service is provided in the project area by OCTA. Five OCTA bus routes operate in the vicinity of the project site on Brea Boulevard and Birch Street:

- **OCTA Route 57 (Brea to Newport Beach).** Route 57 is a local bus route serving the cities of Brea, Fullerton, Anaheim, Orange, Santa Ana, Costa Mesa, and Newport Beach. The major routes of travel include State College Boulevard and Bristol Street. Nearest to the project site are bus stops along State College Boulevard at the intersection of Imperial Highway. Route 57 operates on approximate 15-minute headways during weekdays and 30-minute headways on weekends.

- **OCTA Route 129 (La Habra to Anaheim):** Route 129 is a community bus route serving the cities of Anaheim, Placentia, Yorba Linda, Brea, and La Habra. The major routes of travel include La Habra Boulevard, Brea Boulevard, Birch Street, and Kraemer Boulevard. Nearest to the project site are bus stops along Brea Boulevard at the intersection of Birch Street. Route 129 operates on approximate 30-minute headways during weekdays and 60-minute headways on weekends.

- **OCTA Route 143 (La Habra to Brea):** Route 143 is a community bus route serving the cities of Fullerton, Brea, and La Habra. The major routes of travel include Whittier Boulevard, Harbor Boulevard, Brea Boulevard, and Birch Street. Nearest to the project site are bus stops on Brea Boulevard at the intersection with Imperial Highway. Route 143 operates on approximate 75-minute headways during weekdays and 65-minute headways on weekends.

- **OCTA Route 153 (Brea to Anaheim)**: Route 153 is a community bus route serving the cities of Brea, Placentia, Fullerton, Anaheim, and Orange. The major routes of travel include Placentia Avenue. Nearest to the project site are bus stops on Birch Street at the intersection with State College Boulevard. Route 153 operates on approximate 60-minute headways during weekdays and weekends.

- **OCTA Route 213 (Brea to Irvine Express).** Route 463 is an express bus route serving the cities of Brea, Placentia, Fullerton, Anaheim, Orange, and Irvine via the SR-55 freeway. Nearest to the project site are bus stops on Brea Boulevard at the intersection with Imperial Highway. Route 213 operates on approximate 20-minute headways during weekday peak hours; no bus service is provided on the weekends.

Figure 5.9-3, *OCTA Bus Stops Proximate to Mercury Lane Residential*, identifies the location of the existing bus stops in proximity to the project site.

Bikeways

The City of Brea promotes bicycling as a means of mobility and a way in which to improve the quality of life within its community. The Bikeway Plan recognizes the needs of bicycle users and aims to create a complete and safe bicycle network throughout the City. An existing Class II bike lane is provided along Berry Street and

Mercury Lane. In addition, a Class I bike path is located to the east of the site along the Brea Trail. This trail is proposed to be extended in the future.

5.9.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project could:

T-1 Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

T-2 Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b).

T-3 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

T-4 Result in inadequate emergency access.

Level of Significance Criteria

City of Brea Level of Service Criteria

HCM – Intersection Delay

According to City of Brea criteria for the HCM analysis, LOS D is the minimum acceptable condition that should be maintained during the morning and evening peak commute hours at intersections. This criteria applies to intersections that are under the sole jurisdiction of the City of Brea.

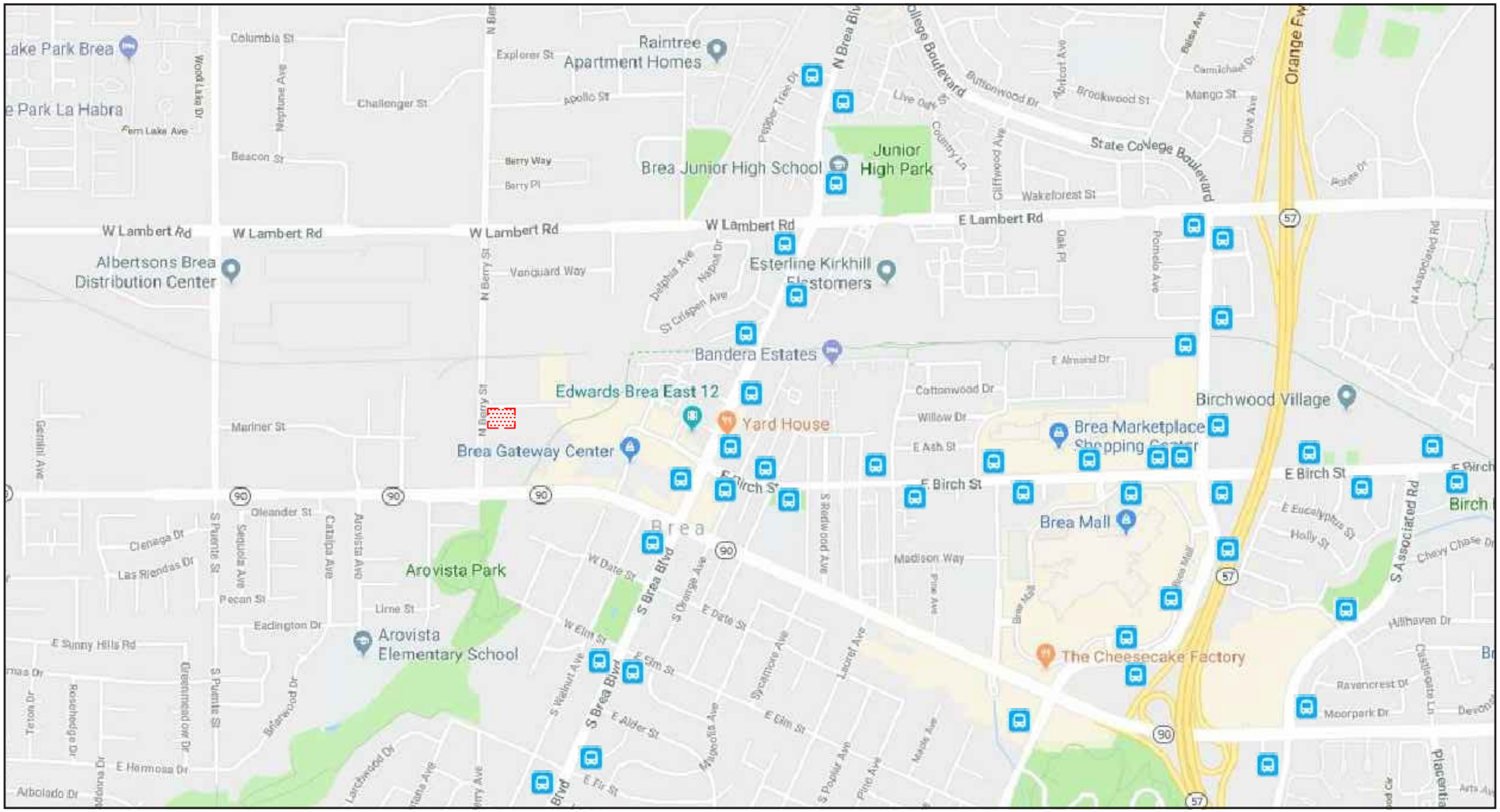
ICU – General Plan Consistency

For the ICU analysis, an impact is considered to be significant if the Project causes an intersection at LOS D or better to degrade to LOS E or F, or if the Project increases traffic demand at a signalized study intersection by 0.020 or greater and the intersection is forecast to operate at LOS E or F. This criteria applies to intersections that are under the sole jurisdiction of the City of Brea.

Caltrans Level of Service Criteria

For intersections that are under Caltrans jurisdiction, the City applies Caltrans' LOS significance criteria (i.e., study locations along Imperial Highway [SR-90]). Caltrans endeavors to maintain a target LOS at the transition between LOS 'C' and LOS 'D' on state highway facilities; it does not require that LOS "D" be maintained. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. Caltrans has determined that all state-owned facilities that operate below LOS D should be identified and improved to an acceptable LOS. The Caltrans Traffic Impact Study Guidelines, states that if an existing state-owned facility operates at less than LOS D, the existing service level should be maintained. Based on Caltrans criteria, a project's impact is considered significant if the project causes the LOS to change from an acceptable LOS (i.e., LOS D or better) to a deficient LOS (i.e., LOS E or F).

Figure 5.9-3 - OCTA Bus Stops Proximate to Mercury Lane Residential
5. Environmental Analysis



Source: Linscott Law & Greenspan Engineers, 2019

5. Environmental Analysis
TRANSPORTATION

This page intentionally left blank.

5.9.3 Plans, Programs, and Policies

Applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

RR TRAF-1 The proposed project is required to pay development impact fees to the City of Brea pursuant to the City's AB 1600 Transportation Improvement Nexus Program (Ordinance 966). Based on a transportation improvement nexus program study conducted in 2011, the City Council adopted Resolution 2011-096, which updated the impact fees, effective February 4, 2012. Fair-share fees serve to offset or mitigate the cumulative traffic impacts caused by new development. The program ensures all future development in the City of Brea contributes on a fair-share basis.

RR TRAF-2 Modifications to the roadway network, including driveways, curbs, and sidewalks, are subject to approval by the City of Brea. Construction work within the right-of-way of a public roadway requires the issuance of a permit by the City of Brea.

5.9.4 Environmental Impacts

5.9.4.1 METHODOLOGY

The traffic report analyzes existing and future weekday daily, AM peak hour and PM peak hour traffic conditions for a near-term (Year 2021) and long-term (Year 2040) traffic setting upon completion of the proposed project. Intersections under the jurisdiction of the City Caltrans are analyzed based on the Highway Capacity Manual 6 (HCM 6) methodology.[2] Long-term (Year 2040) daily and peak hour traffic forecasts were projected based on modeled traffic projections prepared by OCTA utilizing the OCTAM 4.0 Year 2040 Model.

Traffic Forecasting

A multistep process has been utilized in order to estimate the traffic impact characteristics of the proposed project. The first step is traffic generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The second step is traffic distribution, which consists of the origins and destinations of inbound and outbound project traffic. These origins and destinations are typically based on demographics and existing/expected future travel patterns in the study area. The third step is traffic assignment, which involves the allocation of project traffic to study area streets and intersections. Traffic assignment is based on taking the route with the shortest travel time—typically it would be the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, and traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area. The impact of the proposed project is then

[2] Existing AM and PM peak hour operating conditions for the key study intersections under Caltrans jurisdiction were evaluated using the methodology outlined in Chapter 19 of the Highway Capacity Manual 6 (HCM 6) for signalized intersections and the methodology outlined in Chapter 20 of the HCM 6 for two-way stop-controlled intersections.

compared to the operational (LOS) conditions at study intersections using expected future traffic volumes with and without forecast project traffic.

It should be noted that forecast service levels at the intersection of Imperial Highway and Berry Avenue reflect the anticipated operating conditions with implementation of traffic signal coordination and equipment improvements planned by Caltrans at this location. According to information provided by City staff, the existing pedestrian push button post that is currently located within the median on Imperial Highway east if Berry Street, would be eliminated, thus eliminating the existing "pedestrian refuge" at this intersection. The improvements are expected to be completed prior to Opening Year 2021. Therefore, the pedestrian crossing times have been updated to reflect this removal for all near-term and long-term level of service calculations.

Trip Generation

Project Trip Generation

Table 5.9-5, *Project Traffic Generation Rates and Forecasts*, summarizes the trip generation rates used in forecasting the vehicular trips generated by the proposed project and also presents the project's forecast peak hour and daily traffic volumes. Generation equations and/or rates used in the traffic forecasting procedure are based on the 10th edition of *Trip Generation* by the Institute of Transportation Engineers (LLG 2019). The project would generate approximately 653 daily trips, with 43 trips (11 inbound, 32 outbound) produced in the AM peak hour and 53 trips (32 inbound, 21 outbound) produced in the PM peak hour on a typical weekday.[3]

Table 5.9-5 Project Traffic Generation Rates and Forecasts

Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Trip Rates:							
221: Multifamily Housing (Midrise 4) (TE/DU)	5.44	26%	74%	0.36	61%	39%	0.44
Proposed Trip Generation:							
Midrise Apartments (120 DU)	653	11	32	43	32	21	53

Source: LLG 2019. Traffic modeling is based on a previous site plan with 120 residential units. The updated site plan has 114 units and would generate fewer vehicle trips than identified in the traffic report.
Notes: TE/KSF = trip end per 1,000 Square Feet; TE/DU = trip end per dwelling unit

Cumulative Traffic Conditions

Horizon year, background traffic growth estimates have been calculated using an ambient traffic growth factor. This factor is intended to include unknown and future related projects in the study area, and to account for regular growth in traffic volumes due to the development of projects outside the study area. Near-term (Year 2021) cumulative daily and peak hour traffic forecasts were projected by incorporating a 1.0 percent annual growth rate and the trip generation potential of seven related projects (see Table 4-1, *Related Cumulative Projects within Two Miles*, in Chapter 4, *Environmental Setting*). The related projects are expected to

[3] Traffic modeling is based on a previous site plan with 120 residential units. The updated site plan has 114 units and would generate fewer vehicle trips than identified in the traffic report.

generate 19,601 daily trips, with 1,630 trips (1,008 inbound, 622 outbound) during the AM peak hour and 1,699 trips (707 inbound, 992 outbound) during the PM peak hour.

Long-term (Year 2040) daily and peak hour traffic forecasts were projected based on modeled traffic projections prepared by OCTA utilizing the OCTAM 4.0 Year 2040 Model. Per the direction of City staff, the Brea 265 Specific Plan has been included as a related project as part of Year 2040 background traffic conditions.

Trip Distribution and Assignment

The traffic was geographically distributed onto the street network by evaluating the layout of the study area roadway network and reviewing the land uses in the area. Traffic volumes were distributed and assigned to the adjacent street system based on the following considerations—site access points in correlation to the surrounding street system; major traffic carriers' and regional access routes' proximity to the site; circulation characteristics such as lane channelization and presence of traffic signals that affect travel patterns; and existing traffic congestion areas. The trip distribution percentages are applied to the project trip generation to determine the traffic volumes assigned to each intersection (see Figure 5-1, Project Traffic Distribution Patterns, Figure 5-2, AM Peak Hour Project Traffic Volumes, and Figure 5-3, PM Peak Hour and Daily Traffic Volumes, in Appendix K).

5.9.4.2 IMPACT ASSESSMENT

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.9-1: The project could potentially conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. [Threshold T-1]

This analysis describes the proposed project's impacts on the circulation network in the project vicinity.

Traffic

Existing Plus Project Traffic Conditions

HCM – Intersection Delay

The "Existing Plus Project" traffic conditions have been calculated based upon existing conditions and the estimated project traffic under the HCM methodology, as shown in Table 5.9-6, *Existing Plus Project Peak Hour Intersection Capacity Analysis – HCM*. This traffic scenario was prepared to show the potential impacts of a project upon the circulation system as it currently exists. If this scenario has direct impacts, mitigation is needed to mitigate "project-level" impacts. Traffic impact analysis Figures 5-4, Existing Plus Project AM Peak Hour Traffic Volumes, and 5-5, Existing Plus Project PM Peak Hour and Daily Traffic Volumes, in Appendix K illustrate the existing plus project AM and PM peak hour traffic volumes, respectively, at the 14 key study intersections.

5. Environmental Analysis
TRANSPORTATION

As identified in this table, traffic associated with the proposed project would not significantly impact any of the 14 intersections under the HCM methodology. Although the intersections of State College Boulevard at Lambert Road and State College Boulevard at Imperial Highway are forecast to operate at unacceptable LOS E during the PM peak hour with the addition of project traffic, the project is expected to add less than the allowable threshold to the delay based on City and Caltrans LOS standards.

Table 5.9-6 Existing Plus Project Peak Hour Intersection Capacity Analysis – HCM

#	Intersection	Time Period	Existing Traffic Conditions		Existing Plus Project Traffic Conditions		Significant Impact[1]	
			HCM sec/veh	LOS	HCM sec/veh	LOS	Increase	Yes/No
1.	Puente Street at Lambert Road	AM	38.5	D	38.5	D	0.0	No
		PM	38.0	D	37.9	D	0.0	No
2.	Berry Street at Lambert Road	AM	36.2	D	36.5	D	0.3	No
		PM	35.9	D	36.2	D	0.3	No
3.	Brea Boulevard at Lambert Road	AM	42.8	D	42.8	D	0.0	No
		PM	40.8	D	40.8	D	0.0	No
4.	State College Blvd. at Lambert Road	AM	37.0	D	37.1	D	0.1	No
		PM	**55.9**	**E**	**55.9**	**E**	0.0	No
5.	SR-57 SB Ramps at Lambert Road	AM	20.3	C	20.3	C	NA	No
		PM	30.0	C	30.2	C	NA	No
6.	SR-57 NB Ramps at Lambert Road	AM	24.4	C	24.5	C	NA	No
		PM	37.6	D	37.6	D	NA	No
7.	Berry Street at Mercury Lane	AM	2.5	A	4.1	A	1.6	No
		PM	5.9	A	6.6	A	0.7	No
8.	Brea Boulevard at Birch Street	AM	33.6	C	33.7	C	0.1	No
		PM	36.4	D	36.5	D	0.1	No
9.	Puente Street at Imperial Highway	AM	21.9	C	21.9	C	NA	No
		PM	35.8	D	35.8	D	NA	No
10.	Berry Street at Imperial Highway	AM	48.7	D	48.9	D	NA	No
		PM	38.9	D	41.4	D	NA	No
11.	Brea Boulevard at Imperial Highway	AM	33.0	C	33.4	C	NA	No
		PM	53.4	D	54.0	D	NA	No
12.	State College Blvd. at Imperial Highway	AM	44.3	D	44.8	D	NA	No
		PM	**77.0**	**E**	**77.8**	**E**	NA	No
13.	SR-57 SB Ramps at Imperial Highway	AM	17.1	B	17.1	B	NA	No
		PM	29.6	C	29.8	C	NA	No
14.	SR-57 NB Ramps at Imperial Highway	AM	39.6	D	39.6	D	NA	No
		PM	35.8	D	35.9	D	NA	No

Source: LLG 2019.
Notes: HCM: highway capacity manual; sec: seconds; veh: vehicle; SB: southbound; NB: northbound; SR: State Route; NA: not applicable
Shade: Caltrans Jurisdiction; **Bold**: Exceeds minimum acceptable LOS D based on the City and Caltrans LOS standards.
[1] For intersections under the sole jurisdiction of the City of Brea, if the project increases traffic demand at a signalized study intersection by 0.020 or greater and the intersection is forecast to operate at LOS E or F, impacts are significant. City of Brea impact criteria is not applicable (NA) for intersections within the City of Brea that are under Caltrans jurisdiction.

ICU – General Plan Consistency

The "Existing Plus Project" traffic conditions have been calculated based upon existing conditions and the estimated project traffic under the ICU methodology, as shown in Table 5.9-7, *Existing Plus Project Peak Hour Intersection Capacity Analysis – ICU*. This traffic scenario was prepared to show the potential impacts of a project upon the circulation system as it currently exists. If this scenario has direct impacts, mitigation is needed to mitigate "project-level" impacts to ensure consistency with the 2003 General Plan.

As identified in this table, the proposed project would not significantly impact any of the 14 key study intersections. The 14 key study intersections are forecast to continue to operate at an acceptable LOS C or better with the addition of project generated traffic under the ICU methodology.

Table 5.9-7 Existing Plus Project Peak Hour Intersection Capacity Analysis – ICU

#	Intersection	Time Period	Existing Traffic Conditions		Existing Plus Project Traffic Conditions		Significant Impact	
			ICU V/C	LOS	ICU V/C	LOS	Increase	Yes/No
1.	Puente Street at Lambert Road	AM	0.447	A	0.448	A	0.001	No
		PM	0.579	A	0.579	A	0.000	No
2.	Berry Street at Lambert Road	AM	0.478	A	0.482	A	0.004	No
		PM	0.601	B	0.602	B	0.001	No
3.	Brea Boulevard at Lambert Road	AM	0.625	B	0.626	B	0.001	No
		PM	0.638	B	0.639	B	0.001	No
4.	State College Blvd. at Lambert Road	AM	0.660	B	0.661	B	0.001	No
		PM	0.793	C	0.793	C	0.000	No
5.	SR-57 SB Ramps at Lambert Road	AM	0.707	C	0.707	C	0.000	No
		PM	0.680	B	0.682	B	0.002	No
6.	SR-57 NB Ramps at Lambert Road	AM	0.690	B	0.691	B	0.001	No
		PM	0.725	C	0.727	C	0.002	No
7.	Berry Street at Mercury Lane	AM	0.212	A	0.222	A	0.010	No
		PM	0.240	A	0.261	A	0.021	No
8.	Brea Boulevard at Birch Street	AM	0.368	A	0.368	A	0.000	No
		PM	0.540	A	0.540	A	0.000	No
9.	Puente Street at Imperial Highway	AM	0.562	A	0.563	A	0.001	No
		PM	0.569	A	0.570	A	0.001	No
10.	Berry Street at Imperial Highway	AM	0.635	B	0.640	B	0.005	No
		PM	0.663	B	0.672	B	0.009	No
11.	Brea Boulevard at Imperial Highway	AM	0.767	C	0.770	C	0.003	No
		PM	0.762	C	0.765	C	0.003	No
12.	State College Blvd. at Imperial Highway	AM	0.712	C	0.714	C	0.002	No
		PM	0.783	C	0.784	C	0.001	No

Table 5.9-7 Existing Plus Project Peak Hour Intersection Capacity Analysis – ICU

#	Intersection	Time Period	Existing Traffic Conditions		Existing Plus Project Traffic Conditions		Significant Impact	
			ICU V/C	LOS	ICU V/C	LOS	Increase	Yes/No
13.	SR-57 SB Ramps at Imperial Highway	AM	0.594	A	0.594	A	0.000	No
		PM	0.739	C	0.741	C	0.002	No
14.	SR-57 NB Ramps at Imperial Highway	AM	0.605	B	0.606	B	0.001	No
		PM	0.707	C	0.708	C	0.001	No

Source: LLG 2019.
Notes: ICU: Intersection Capacity Utilization; V/C: Volume to Capacity Ratio; SB: southbound; NB: northbound; SR: State Route
Shade: Caltrans Jurisdiction; **Bold**: Exceeds minimum acceptable LOS D based on the City LOS standards.

Near-Term (2021) Traffic Conditions

HCM – Intersection Delay

Table 5.9-8, *Year 2021 Peak Hour Intersection Capacity Analysis - HCM*, summarizes the peak hour LOS results at the 14 key study intersections for the near-term conditions with and without the project under the HCM methodology. As identified above, forecast service levels at the intersection of Imperial Highway and Berry Avenue reflect the anticipated operating conditions with implementation of traffic signal coordination and equipment improvements planned by Caltrans at this location. Figures 6-4, Year 2021 AM Peak Hour Cumulative Traffic Volumes, and Figure 6-5, Year 2021 PM Peak Hour and Daily Cumulative Traffic Volumes, in Appendix K illustrate the year 2021 without project AM and PM peak hour traffic volumes, respectively, at the 14 key study intersections evaluated in this report. Figures 6-6, Year 2021 AM Peak Hour Cumulative Traffic Volumes with Project, and 6-7, Year 2021 PM Peak Hour and Daily Cumulative Traffic Volumes with Project, in Appendix K illustrate the year 2021 with project AM and PM peak hour traffic volumes, respectively, at the 14 key study intersections evaluated in this report.

As shown in Table 5.9-8, traffic associated with the proposed project would cumulatively impact 3 of the 14 key study intersections.

- #10, Berry Street at Imperial Highway (AM and PM Peak Hour)
- #11, Brea Boulevard at Imperial Highway (AM Peak Hour)
- #12, State College Boulevard at Imperial Highway (AM and PM Peak Hour)

Although the intersection of State College Boulevard at Lambert Road is forecast to operate at LOS E during the PM peak hour with the addition of project traffic, the proposed project is expected to add less than the allowable threshold to the delay based on City and Caltrans LOS standards. The remaining 11 key study intersections are forecast to continue to operate at an acceptable LOS with addition of project-generated traffic in the Year 2021.

Table 5.9-8 Year 2021 Peak Hour Intersection Capacity Analysis – HCM

#	Intersection	Time Period	Year 2021 Traffic Conditions		Year 2021 Plus Project Traffic Conditions		Significant Impact[1]	
			HCM sec/veh	LOS	HCM sec/veh	LOS	Increase	Yes/No
1.	Puente Street at Lambert Road	AM	40.3	D	40.3	D	0.0	No
		PM	40.8	D	40.8	D	0.0	No
2.	Berry Street at Lambert Road	AM	37.1	D	37.4	D	0.3	No
		PM	35.7	D	36.3	D	0.6	No
3.	Brea Boulevard at Lambert Road	AM	47.6	D	47.7	D	0.1	No
		PM	46.0	D	46.0	D	0.0	No
4.	State College Boulevard at Lambert Road	AM	47.1	D	47.3	D	0.2	No
		PM	**57.2**	**E**	**57.2**	**E**	0.0	No
5.	SR-57 SB Ramps at Lambert Road	AM	26.1	C	26.2	C	NA	No
		PM	21.2	C	21.4	C	NA	No
6.	SR-57 NB Ramps at Lambert Road	AM	27.6	C	27.7	C	NA	No
		PM	40.0	D	40.1	D	NA	No
7.	Berry Street at Mercury Lane	AM	2.5	A	4.1	A	1.6	No
		PM	5.8	A	6.6	A	0.8	No
8.	Brea Boulevard at Birch Street	AM	33.4	C	33.5	C	0.1	No
		PM	39.0	D	39.1	D	0.2	No
9.	Puente Street at Imperial Highway	AM	33.4	C	34.9	C	NA	No
		PM	17.6	B	17.6	B	0.0	No
10.	Berry Street at Imperial Highway	AM	**57.4**	**E**	**61.8**	**E**	NA	**Yes[2]**
		PM	**103.4**	**F**	**107.0**	**F**	NA	**Yes[2]**
11.	Brea Boulevard at Imperial Highway	AM	**63.1**	**E**	**63.9**	**E**	NA	**Yes[2]**
		PM	45.8	D	46.6	D	NA	No
12.	State College Boulevard at Imperial Highway	AM	**67.2**	**E**	**68.1**	**E**	NA	**Yes[2]**
		PM	**102.9**	**F**	**103.9**	**F**	NA	**Yes[2]**
13.	SR-57 SB Ramps at Imperial Highway	AM	27.2	C	27.3	C	NA	No
		PM	32.9	C	33.2	C	NA	No
14.	SR-57 NB Ramps at Imperial Highway	AM	39.8	D	39.8	D	NA	No
		PM	37.2	D	37.3	D	NA	No

Source: LLG 2019.
Notes: HCM: highway capacity manual; sec: seconds; veh: vehicle; SB: southbound; NB: northbound; SR: State Route
Shade: Caltrans Jurisdiction; **Bold**: Exceeds minimum acceptable LOS D based on the City and Caltrans LOS standards.
[1] For intersections under the sole jurisdiction of the City of Brea, if the project increases traffic demand at a signalized study intersection by 0.020 or greater and the intersection is forecast to operate at LOS E or F, impacts are significant. City of Brea impact criteria is not applicable (NA) for intersections within the City of Brea that are under Caltrans jurisdiction.
[2] Significant impact to Caltrans facilities (i.e., no impact under the City of Brea's Traffic Impact Analysis Guidelines).

ICU – General Plan Consistency

Table 5.9-9, *Year 2021 Peak Hour Intersection Capacity Analysis - ICU*, summarizes the peak hour LOS results at the 14 key study intersections for the near-term conditions with and without the project under the ICU methodology.

As identified in this table, the proposed project would not significantly impact any of the 14 key study intersections. The 14 key study intersections are forecast to continue to operate at an acceptable LOS C or better with the addition of project generated traffic under the ICU methodology.

Table 5.9-9 Year 2021 Peak Hour Intersection Capacity Analysis – ICU

			Year 2021 Traffic Conditions		Year 2021 Plus Project Traffic Conditions		Significant Impact	
#	Intersection	Time Period	ICU V/C	LOS	ICU V/C	LOS	Increase	Yes/No
1.	Puente Street at Lambert Road	AM	0.504	A	0.505	A	0.001	No
		PM	0.617	B	0.617	B	0.000	No
2.	Berry Street at Lambert Road	AM	0.515	A	0.520	A	0.005	No
		PM	0.641	B	0.642	B	0.001	No
3.	Brea Boulevard at Lambert Road	AM	0.688	B	0.688	B	0.000	No
		PM	0.687	B	0.688	B	0.001	No
4.	State College Boulevard at Lambert Road	AM	0.717	C	0.719	C	0.002	No
		PM	0.826	D	0.826	D	0.000	No
5.	SR-57 SB Ramps at Lambert Road	AM	0.767	C	0.768	C	0.001	No
		PM	0.769	C	0.771	C	0.002	No
6.	SR-57 NB Ramps at Lambert Road	AM	0.715	C	0.716	C	0.001	No
		PM	0.808	D	0.809	D	0.001	No
7.	Berry Street at Mercury Lane	AM	0.217	A	0.226	A	0.009	No
		PM	0.246	A	0.771	C	0.525	No
8.	Brea Boulevard at Birch Street	AM	0.420	A	0.421	A	0.001	No
		PM	0.585	A	0.585	A	0.000	No
9.	Puente Street at Imperial Highway	AM	0.631	B	0.632	B	0.001	No
		PM	0.614	B	0.615	B	0.001	No
10.	Berry Street at Imperial Highway	AM	0.703	C	0.709	C	0.006	No
		PM	0.701	C	0.710	C	0.009	No
11.	Brea Boulevard at Imperial Highway	AM	0.815	D	0.816	D	0.001	No
		PM	0.812	D	0.814	D	0.002	No
12.	State College Boulevard at Imperial Highway	AM	0.766	C	0.768	C	0.002	No
		PM	0.839	D	0.840	D	0.001	No

Table 5.9-9 Year 2021 Peak Hour Intersection Capacity Analysis – ICU

#	Intersection	Time Period	Year 2021 Traffic Conditions		Year 2021 Plus Project Traffic Conditions		Significant Impact	
			ICU V/C	LOS	ICU V/C	LOS	Increase	Yes/No
13.	SR-57 SB Ramps at Imperial Highway	AM	0.664	B	0.664	B	0.000	No
		PM	0.795	C	0.797	C	0.002	No
14.	SR-57 NB Ramps at Imperial Highway	AM	0.640	B	0.641	B	0.001	No
		PM	0.757	C	0.758	C	0.001	No

Source: LLG 2019.
Notes: ICU: Intersection Capacity Utilization; V/C: Volume to Capacity Ratio; SB: southbound; NB: northbound; SR: State Route
Shade: Caltrans Jurisdiction; **Bold**: Exceeds minimum acceptable LOS D based on the City and Caltrans LOS standards.

Forecast Year (2040) Traffic Conditions

HCM – Intersection Delay

Table 5.9-10, *Year 2040 Peak Hour Intersection Capacity Analysis - HCM*, shows the potential traffic impacts associated with long-term growth within the study area under the HCM methodology. As identified above, forecast service levels at the intersection of Imperial Highway and Berry Avenue reflect the anticipated operating conditions with implementation of traffic signal coordination and equipment improvements planned by Caltrans at this location. Figures 6-8, Year 2040 AM Peak Hour Cumulative Traffic Volumes, and Figure 6-9, Year 2040 PM Peak Hour and Daily Cumulative Traffic Volumes, in Appendix K illustrate the year 2040 without project AM and PM peak hour traffic volumes, respectively, at the 14 key study intersections evaluated in this report. Figures 6-10, Year 2040 AM Peak Hour Traffic Volumes with Project, and 6-11, Year 2040 PM Peak Hour and Daily Traffic Volumes with Project, of Appendix K illustrate the year 2040 with-project AM and PM peak hour traffic volumes, respectively, at the 14 key study intersections.

As shown in Table 5.9-10, traffic associated with the proposed project would cumulatively impact 3 of the 14 key study intersections:

- #10, Berry Street at Imperial Highway (AM and PM Peak Hours)
- #11, Brea Boulevard at Imperial Highway (AM and PM Peak Hours)
- #12, State College Boulevard at Imperial Highway (AM and PM Peak Hours)

Although the intersection of State College Boulevard at Lambert Road is forecast to operate at LOS E during the PM peak hour with the addition of project traffic, the proposed project is expected to add less than the threshold to the delay based on City and Caltrans LOS standards. The remaining 11 key study intersections are forecast to operate at an acceptable LOS D or better for long-term (Year 2040) traffic conditions.

5. Environmental Analysis
TRANSPORTATION

Table 5.9-10 Year 2040 Peak Hour Intersection Capacity Analysis – HCM

#	Intersection	Time Period	Year 2040 Traffic Conditions		Year 2040 Plus Project Traffic Conditions		Significant Impact[1]	
			HCM sec/veh	LOS	HCM sec/veh	LOS	Increase	Yes/No
1.	Puente Street at Lambert Road	AM	37.1	D	37.1	D	0.0	No
		PM	41.9	D	41.9	D	0.0	No
2.	Berry Street at Lambert Road	AM	35.7	D	36.0	D	0.3	No
		PM	36.0	D	36.5	D	0.5	No
3.	Brea Boulevard at Lambert Road	AM	50.0	D	50.1	D	0.1	No
		PM	47.6	D	47.7	D	0.1	No
4.	State College Boulevard at Lambert Road	AM	36.1	D	36.2	D	0.1	No
		PM	**55.1**	**E**	**55.1**	**E**	0.0	No
5.	SR-57 SB Ramps at Lambert Road	AM	20.8	C	20.8	C	NA	No
		PM	22.3	C	22.7	C	NA	No
6.	SR-57 NB Ramps at Lambert Road	AM	25.8	C	25.8	C	NA	No
		PM	48.8	D	49.1	D	NA	No
7.	Berry Street at Mercury Lane	AM	2.1	A	3.2	A	1.1	No
		PM	4.7	A	5.1	A	0.4	No
8.	Brea Boulevard at Birch Street	AM	34.8	C	34.8	C	0.1	No
		PM	38.5	D	38.5	D	0.1	No
9.	Puente Street at Imperial Highway	AM	21.7	C	21.7	C	NA	No
		PM	28.1	C	28.1	C	NA	No
10.	Berry Street at Imperial Highway	AM	**77.5**	**E**	**80.1**	**F**	NA	**Yes[2]**
		PM	**105.5**	**F**	**109.7**	**F**	NA	**Yes[2]**
11.	Brea Boulevard at Imperial Highway	AM	**68.1**	**E**	**68.9**	**E**	NA	**Yes[2]**
		PM	**70.5**	**E**	**71.3**	**E**	NA	**Yes[2]**
12.	State College Boulevard at Imperial Highway	AM	**59.7**	**E**	**60.3**	**E**	NA	**Yes[2]**
		PM	**107.4**	**F**	**108.3**	**F**	NA	**Yes[2]**
13.	SR-57 SB Ramps at Imperial Highway	AM	19.0	B	19.0	B	NA	No
		PM	31.0	C	31.2	C	NA	No
14.	SR-57 NB Ramps at Imperial Highway	AM	40.6	D	40.6	D	NA	No
		PM	38.5	D	38.6	D	NA	No

Source: LLG 2019.
Notes: HCM: highway capacity manual; sec: seconds; veh: vehicle; SB: southbound; NB: northbound; SR: State Route
Shade: Caltrans Jurisdiction; **Bold**: Exceeds minimum acceptable LOS D based on the City and Caltrans LOS standards.
[1] For intersections under the sole jurisdiction of the City of Brea, if the project increases traffic demand at a signalized study intersection by 0.020 or greater and the intersection is forecast to operate at LOS E or F, impacts are significant. City of Brea impact criteria is not applicable (NA) for intersections within the City of Brea that are under Caltrans jurisdiction.
[2] Significant impact to Caltrans facilities (i.e., no impact under the City of Brea's Traffic Impact Analysis Guidelines).

ICU – General Plan Consistency

Table 5.9-11, *Year 2040 Peak Hour Intersection Capacity Analysis – ICU*, shows the potential traffic impacts associated with long-term growth within the study area.

Table 5.9-11 shows that two study Caltrans intersections are forecast to operate an unacceptable LOS during the during the AM and PM peak hours.

- #11, Brea Boulevard at Imperial Highway (Caltrans jurisdiction) (AM Peak Hour)
- #12, State College Boulevard at Imperial Highway (Caltrans jurisdiction) (PM Peak Hour)

Although the intersections of Brea Boulevard at Imperial Highway and State College Boulevard at Imperial Highway are forecast to operate at unacceptable LOS during the AM and/or PM peak hours, the proposed project is expected to add less than 0.020 to the ICU value. Therefore, the proposed project would not cumulatively contribute to impacts at these intersections. The remaining 12 key study intersections are forecast to operate at an acceptable LOS D or better for long-term (Year 2040) traffic conditions.

Table 5.9-11 Year 2040 Peak Hour Intersection Capacity Analysis – ICU

#	Intersection	Time Period	Year 2040 Traffic Conditions		Year 2040 Plus Project Traffic Conditions		Significant Impact	
			ICU V/C	LOS	ICU V/C	LOS	Increase	Yes/No
1.	Puente Street at Lambert Road	AM	0.599	A	0.599	A	0.000	No
		PM	0.727	C	0.728	C	0.001	No
2.	Berry Street at Lambert Road	AM	0.584	A	0.588	A	0.004	No
		PM	0.706	C	0.708	C	0.002	No
3.	Brea Boulevard at Lambert Road	AM	0.794	C	0.794	C	0.000	No
		PM	0.754	C	0.755	C	0.001	No
4.	State College Boulevard at Lambert Road	AM	0.755	C	0.757	C	0.002	No
		PM	0.861	D	0.861	D	0.000	No
5.	SR-57 SB Ramps at Lambert Road	AM	0.806	D	0.807	D	0.001	No
		PM	0.801	D	0.803	D	0.002	No
6.	SR-57 NB Ramps at Lambert Road	AM	0.765	C	0.765	C	0.000	No
		PM	0.879	D	0.881	D	0.002	No
7.	Berry Street at Mercury Lane	AM	0.226	A	0.235	A	0.009	No
		PM	0.256	A	0.277	A	0.021	No
8.	Brea Boulevard at Birch Street	AM	0.459	A	0.460	A	0.001	No
		PM	0.622	B	0.622	B	0.000	No
9.	Puente Street at Imperial Highway	AM	0.731	C	0.732	C	0.001	No
		PM	0.683	B	0.684	B	0.001	No
10.	Berry Street at Imperial Highway	AM	0.741	C	0.747	C	0.006	No
		PM	0.772	C	0.780	C	0.008	No

Table 5.9-11 Year 2040 Peak Hour Intersection Capacity Analysis – ICU

#	Intersection	Time Period	Year 2040 Traffic Conditions		Year 2040 Plus Project Traffic Conditions		Significant Impact	
			ICU V/C	LOS	ICU V/C	LOS	Increase	Yes/No
11.	Brea Boulevard at Imperial Highway	AM	**0.907**	**E**	**0.909**	**E**	0.002	No
		PM	0.872	D	0.874	D	0.002	No
12.	State College Boulevard at Imperial Highway	AM	0.871	D	0.872	D	0.001	No
		PM	**0.928**	**E**	**0.929**	**E**	0.001	No
13.	SR-57 SB Ramps at Imperial Highway	AM	0.707	C	0.707	C	0.000	No
		PM	0.828	D	0.830	D	0.002	No
14.	SR-57 NB Ramps at Imperial Highway	AM	0.727	C	0.728	C	0.001	No
		PM	0.792	C	0.793	C	0.001	No

Source: LLG 2019.
Notes: ICU: Intersection Capacity Utilization; V/C: Volume to Capacity Ratio; SB: southbound; NB: northbound; SR: State Route
Shade: Caltrans Jurisdiction; **Bold**: Exceeds minimum acceptable LOS D based on the City and Caltrans LOS standards.

CMP Analysis

There are two intersections in the project study area that are on Orange County Transportation Authority's (OCTA) CMP Highway System: #1, State College Boulevard at Imperial highway; and #13, SR-57 NB Ramps at Imperial. The CMP requires that a traffic impact analysis be conducted for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that directly access the CMP Highway System. The proposed project is forecast to generate approximately 653 daily trip-ends and thus does not meet the criteria requiring a CMP traffic impact analysis. Additionally, no impacts were identified in the traffic impact analysis to either of these intersections.

Traffic Summary

HCM – Intersection Delay

As described above, the proposed project would cumulatively impact 3 of the 14 key study intersections under the HCM methodology, of which 2 are within Caltrans jurisdiction:

- #10, Berry Street at Imperial Highway (Year 2021, and Year 2040 – AM and PM Peak Hour)
- #11, Brea Boulevard at Imperial Highway (Caltrans jurisdiction) (Year 2021 and Year 2040 AM peak hour; Year 2040 PM peak hour)
- #12, State College Boulevard at Imperial Highway (Caltrans jurisdiction) (Year 2021 and Year 2040 AM and PM peak hours)

The remaining 11 key study intersections are forecast to operate at an acceptable LOS D or better.

ICU – General Plan Consistency

As described above, the proposed project would not impact any intersection in the project vicinity under the ICU methodology.

Pedestrian, Bicycle, and Transit Access

The proposed project site would have access to public transit and other alternative forms of transportation (pedestrian network and bicycle network).

Paved sidewalks are present on all roadways studied. The existing public sidewalk currently terminates along Berry Street at the southern boundary of the project site. The project would construct sidewalks along the Berry Street and Mercury Lane frontage, thereby extending the pedestrian network. The existing sidewalk system in the project vicinity provides direct access to major roadways (e.g., Berry Street, Imperial Highway, and Lambert Road), linking the project site to the surrounding community, including Brea Downtown. Pedestrian access to the project would be provided via building entries/exits on Berry Street and Mercury Lane. A staircase and elevator would provide access from Berry Street to the third-story courtyard.

The City of Brea Bikeway Plan (see Figure 3-4 in Appendix K) recognizes the needs of bicycle users and aims to create a complete and safe bicycle network throughout the city. Existing Class II bike lanes are provided along Berry Street and Mercury Lane. In addition, a Class I bike path is to the east of the site along the Brea Trail. The proposed project would include secure bicycle storage, partially shielded from the street by a painted metal grill within the parking structure.

Additionally, OCTA provides public transit, and bus service is provided in the project area (see Figure 3-2, OCTA Routes, in Appendix K). Five OCTA bus routes operate in the vicinity of the project site on Brea Boulevard and Birch Street (Route 57, Route 129, Route 143, Route 153, and Route 213). Figure 5.9-3, shown previously, shows the transit stops near the project site.

The proposed project would improve local pedestrian and bicycle connectivity to Brea Downtown. The proposed project would not conflict with policies, plans, or programs regarding transit, bicycle, or pedestrian facilities.

Level of Significance before Mitigation: The project would have a potentially significant impact on intersections in the study area; and Impact 5.9-1 would be potentially significant.

Impact 5.9-2: The project would not conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b). [Threshold T-2]

CEQA Guidelines Section 15064.3 describes how transportation impacts are to be analyzed after SB 743. It eliminates auto delay, LOS, and similar measures of vehicular capacity or traffic congestion as the sole basis for determining significant impacts:

> Generally, VMT is the most appropriate measure of transportation impacts. For the purposes of this section, VMT refers to the amount and distance of automobile travel attributable to a

> project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) … [regarding roadway capacity], a project's effect on automobile delay shall not constitute a significant environmental impact.

The City of Brea has an opt-in period until July 1, 2020, to adopt the guidelines and new VMT-based criteria. Currently the City of Brea continues to use its established LOS criteria. Therefore, this analysis relies on currently adopted LOS methodologies and criteria to evaluate transportation impacts. Table 5.9-12, *Mercury Lane Residential VMT*, shows the VMT generated by the project as estimated using the California Emissions Estimator Model (CalEEMod, Version 2016.3.2).

Table 5.9-12 Mercury Lane Residential VMT

	Daily VMT[1]	Population	Daily VMT per Capita
Mercury Lane Residential Project	6,544	206	31.8

Source: LLG 2019;CalEEMod Version 2016.3.2. Traffic modeling is based on a previous site plan with 120 residential units. The updated site plan has 114 units and would generate less VMT than calculated using CalEEmod. Therefore, daily VMT per Capita is conservative.
1 Annual VMT (2,388,630 miles) in CalEEMod is divided by 365 days a year to estimate daily average daily VMT.

While the project would result in an increase in VMT, the proposed project would introduce high-density residential near Brea Downtown (see Impact 5.9-1) and would improve the City's jobs-housing balance (see Section 5.7, *Population and Housing*). The project would not conflict or be inconsistent with the City of Brea traffic analysis methodology.

Level of Significance before Mitigation: The project would not conflict with CEQA Guidelines section 15064.3. No impact would occur under Impact 5.9-2.

Impact 5.9-3: Project circulation improvements have been incorporated to adequately address potentially hazardous conditions (sharp curves, etc.), potential conflicting uses, and emergency access. [Threshold T-3 and T-4]

As shown in Figure 3-7, *Conceptual Site Plan*, the primary vehicular access for the project site would be via one full-access unsignalized driveway along Mercury Lane.

Roadway Hazards

A site access and internal circulation evaluation was conducted to determine if there were potential conflicts associated with site access, including potential vehicle pedestrian conflicts. Table 5.9-13, *Project Driveway Peak Hour Intersection Capacity Analysis*, summarizes the intersection level of service results for the project driveway under near-term (Year 2021) and long-term (Year 2040) traffic conditions. As shown in this table, this intersection is forecast to operate at LOS A during the AM peak hour and PM peak hour.

Table 5.9-13 Project Driveway Peak Hour Intersection Capacity Analysis

Intersection	Intersection Control	Time Period	Year 2021 With Project		Year 2040 With Project	
			HCM sev/veh	LOS	HMC sev/veh	LOS
Project Driveway at Mercury Lane	One-Way Stop	AM	9.4	A	9.4	A
		PM	9.4	A	9.4	A

Source: LLG 2019.
sec/veh = seconds per vehicle

Further, the overall layout would not result in any unsafe vehicle-pedestrian conflict points, and the driveway access to parking spaces is not affected by internal vehicle queuing/stacking. The alignment and spacing of project driveways is adequate, and the on-site circulation is sufficient based on review of the proposed site plan. Buildings surroundings provide sufficient sight distance along the drive aisles. Therefore, no impacts resulting from hazards due to design features or incompatible uses would occur as a result of the proposed project, and no mitigation measures are necessary.

Emergency Access

The surrounding roadways would continue to offer emergency access to the project site and surrounding properties during and after construction. Moreover, the proposed project would not result in inadequate emergency access, and impacts to adopted emergency response and evacuation plans are less than significant. In the event of emergency, the Brea Fire Department Station #1 and Station #2 are 0.5 mile north and northeast from the project site. Response time from Station #1 from the station to the project site should less than three minutes. Impacts to emergency services would be less than significant.

Level of Significance before Mitigation: The project would not increase roadway hazards or impair emergency service, and Impact 5.9-3 would be less than significant.

5.9.5 Cumulative Impacts

The analyses in Impact 5.9-1 evaluate traffic conditions at local jurisdictions, CMP, and state-controlled intersections for cumulative conditions with and without the project utilizing two traffic methodologies: HCM (intersection delay) and ICU (general plan consistency). Cumulative traffic impacts (Year 2021 and Year 2040) consider the impacts of future growth and development in the City of Brea and vicinity on the roadway system serving the area. For Year 2021, the traffic study included traffic from seven projects in the local vicinity (see Table 4-2) and accounted for ambient traffic growth. Year 2040 cumulative conditions were based on the subregional traffic model, OCTAM, and include traffic associated with the Brea 265 Specific Plan. Thus, the analysis considered cumulative impacts of the proposed project. As identified in Impact 5.9-1, the project would cumulatively contribute to congestion at the following intersections:

- #10, Berry Street at Imperial Highway (AM and PM Peak Hour)

- #11, Brea Boulevard at Imperial Highway (AM and PM Peak Hour)
- #12, State College Boulevard at Imperial Highway (AM and PM Peak Hour)

Mitigation measures were identified that would offset the project's impact, but the installation of these improvements is subject to the approval of Caltrans. Since the proposed project cannot guarantee that these improvements which are under the jurisdiction of Caltrans will be implemented, cumulative impacts are considered significant.

The proposed project is consistent with adopted policies, plans, or programs regarding public transit, bicycle, and pedestrian facilities and the performance and safety of such facilities, and would not combine with other area projects to result in significant impacts to such facilities.

Site access is adequately designed and would not combine with other area traffic impacts to result in significant cumulative impacts on circulation or emergency access, or create hazardous conditions.

5.9.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.9-2 and 5.9-3.

Without mitigation, the following impacts would be **potentially significant**:

- **Impact 5.9-1** The project could potentially conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

5.9.7 Mitigation Measures

Impact 5.9-1

Year 2021 (Cumulative Impacts) – HCM Methodology

The traffic impact analysis identified the following potential mitigation measures for intersections #10, Berry Street at Imperial Highway, #11, Brea Boulevard at Imperial Highway; and #11, State College Boulevard at Imperial Highway:

- **#10, Berry Street at Imperial Highway.** Remove the existing east leg crosswalk and stripe west leg and south leg crosswalks. To achieve this, a pedestrian landing area is needed in the southwest corner of the intersection. Modify the existing traffic signal, as well as signing and striping, accordingly. Note that this improvement could trigger the need to upgrade the entire intersection to current ADA standards which would result in ramp modifications as required by Caltrans.

- **#11, Brea Boulevard at Imperial Highway.** Restripe the southbound approach to provide a third southbound through lane. Modify the existing traffic signal to include a northbound and eastbound right-turn overlap phase[4].

- **#12, State College Boulevard at Imperial Highway.** Modify the existing traffic signal to include a northbound right-turn overlap phase.

Figure 5.9-4, *Proposed Roadway Conditions with Mitigation*, depicts the intersection configurations with the proposed improvements needed for cumulative impacts (year 2021 and year 2040) impacts under the HCM methodology for intersection delay that are described in the measures above.

Impacts to Caltrans Facilities

State highway facilities within the study area are not within the jurisdiction of the City of Brea. Rather, those improvements are planned, funded, and constructed by the State of California through a legislative and political process involving the State Legislature; the California Transportation Commission (CTC); the California Business, Transportation, and Housing Agency; Caltrans; and OCTA. Recent funding opportunities designated by OCTA's Renewed Measure M provide the vehicle for designated improvements on the Caltrans facilities within the study area.

While potential impacts to Imperial Highway (SR-90) have been evaluated, implementation of the transportation improvements to Caltrans facilities listed above is the primary responsibility of Caltrans. While Caltrans has recognized that private development has a role to play in funding fair share improvements to impacts on SR-90, neither Caltrans nor the State has adopted a program that can ensure that locally-contributed impact fees will be tied to improvements to Caltrans facilities and only Caltrans has jurisdiction over improvements to Caltrans facilities. Because Caltrans has exclusive control over state highway improvements, ensuring that developer fair share contributions to improvements are actually part of a program tied to implementation of mitigation is within the jurisdiction of Caltrans.

However, a number of programs are in place in Orange County to improve and upgrade the regional transportation system. These include the Transportation Corridor Agencies (TCA) Corridor program, the State Transportation Improvement Program (STIP), Caltrans Traffic Operations Strategies (TOPS), State Highway Operation and Protection Program (SHOPP), and the OCTA Measure M program. State and federal fuel taxes generate most of the funds used to pay for these improvements. Funds expected to be available for transportation improvements are identified through a Fund Estimate prepared by Caltrans and adopted by the California Transportation Commission (CTC). These funds, along with other fund sources, are deposited in the State Highway Account to be programmed and allocated to specific project improvements in both the STIP and SHOPP by the CTC. However, if these programs are not implemented by the agencies with the responsibility to do so, the project's impacts to Imperial Highway (SR-90) would remain significant and unmitigated.

[4] This improvement is required for the 2040 cumulative scenario.

Year 2040 (Cumulative Impacts)

As identified above, the mitigation measures identified would mitigate impacts to intersection #10, Berry Street at Imperial Highway, #11, Brea Boulevard at Imperial Highway; and #11, State College Boulevard at Imperial Highway. However, these improvements are within Caltrans' right-of-way and are subject to Caltrans review and approval. In addition, Caltrans has no mechanism by which projects can contribute fair share fees to offset impacts. Therefore, the mitigation measures were considered but rejected.

5.9.8 Level of Significance After Mitigation

Impact 5.9-1

Year 2021

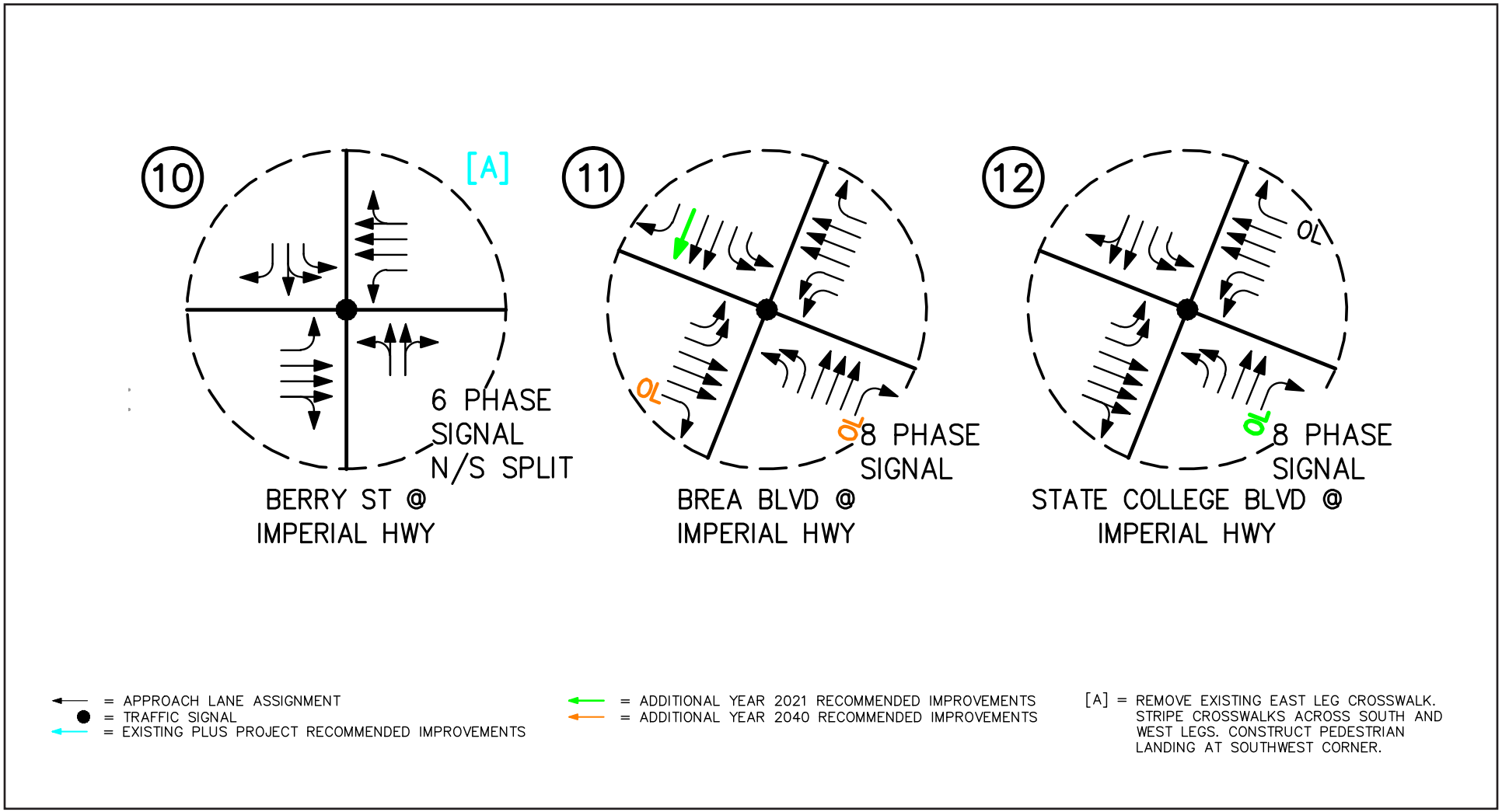
Implementation of the measures identified above would offset the project's impact at the intersections of #10, Berry Street at Imperial Highway, #11, Brea Boulevard at Imperial Highway and #12, State College Boulevard at Imperial Highway so that they operate at an acceptable LOS (see Table 5.9-14, *Year 2021 Peak Hour Intersection Capacity Analysis – HCM: With Mitigation*). However, the installation of these improvements is subject to the approval of Caltrans. Caltrans does not have any mechanisms by which projects can contribute fair share fees to offset impacts. Since the proposed project cannot guarantee that these improvements which are under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations would be required for these locations.

Table 5.9-14 Year 2021 Peak Hour Intersection Capacity Analysis – HCM: With Mitigation

			Year 2021 Traffic Conditions		Year 2021 Plus Project Traffic Conditions With Mitigation		Significant Impact	
#	Intersection	Time Period	HCM sec/veh	LOS	HCM sec/veh	LOS	Increase	Yes/No
10.	Berry Street at Imperial Highway	AM	**57.4**	**E**	35.8	D	-21.6	**Yes[1]**
		PM	**103.4**	**F**	44.7	D	-58.7	**Yes[1]**
11.	Brea Boulevard at Imperial Highway	AM	**63.1**	**E**	49.6	D	-13.5	**Yes[1]**
		PM	45.8	D	52.6	D	6.8	**Yes[1]**
12.	State College Boulevard at Imperial Highway	AM	**67.2**	**E**	44.4	D	-22.8	**Yes[1]**
		PM	**102.9**	**F**	54.9	D	-48.0	**Yes[1]**

Source: LLG 2019.
Notes: HCM: highway capacity manual; sec: seconds; veh: vehicle; SB: southbound; NB: northbound; SR: State Route
Shade: Caltrans Jurisdiction; **Bold**: exceeds minimum acceptable LOS D based on the City and Caltrans LOS standards.
[1] Project impact because this location is outside the jurisdictional control of the City of Brea.

Figure 5.9-4 - Proposed Roadway Conditions with Mitigation
5. Environmental Analysis



NO SCALE

Source: Linscott Law & Greenspan Engineers, 2019

5. Environmental Analysis
TRANSPORTATION

This page intentionally left blank.

Year 2040

Implementation of the measures identified above would offset the project's impact at the intersections of #11, Brea Boulevard at Imperial Highway; and #12, State College Boulevard at Imperial Highway and reduce congestion below pre-project conditions (see Table 5.9-15, *Year 2040 Project Peak Hour Intersection Capacity Analysis – HCM: With Mitigation*). However, the installation of these improvements is subject to the approval of Caltrans. Additionally, Caltrans does not have any mechanisms by which projects can contribute fair share fees to offset impacts. Since the proposed project cannot guarantee that these improvements under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations would be required for these locations.

Table 5.9-15 Year 2040 Peak Hour Intersection Capacity Analysis: With Mitigation

#	Intersection	Time Period	Year 2040 Traffic Conditions		Year 2040 Plus Project Traffic Conditions With Mitigation		Significant Impact	
			HCM sec/veh	LOS	HCM sec/veh	LOS	Increase	Yes/No
10.	Berry Street at Imperial Highway	AM	**77.5**	**E**	28.2	C	-49.3	**Yes[1]**
		PM	**105.5**	**F**	19.8	B	-85.7	**Yes[1]**
11.	Brea Boulevard at Imperial Highway	AM	**68.1**	**E**	47.7	D	-20.4	**Yes[1]**
		PM	**70.5**	**E**	**57.8**	**E[2]**	-12.7	**Yes[1]**
12.	State College Boulevard at Imperial Highway	AM	**59.7**	**E**	49.7	D	-10.0	**Yes[1]**
		PM	**107.4**	**F**	**89.2**	**F**	-18.2	**Yes[1]**

Source: LLG 2019.
Notes: HCM: highway capacity manual; sec: seconds; veh: vehicle; SB: southbound; NB: northbound; SR: State Route
Shade: Caltrans Jurisdiction; **Bold**: Exceeds minimum acceptable LOS D based on the City and Caltrans LOS standards.
[1] Project impact because this location is outside the jurisdictional control of the City of Brea.
[2] It is noted that the mitigation improves to pre-project conditions in the PM peak hour.

Summary

Implementation of the measures identified above would offset the project's impact at the intersections of #10, Berry Street and Imperial Highway, #11, Brea Boulevard at Imperial Highway; and #12, State College Boulevard at Imperial Highway so that they operate at an acceptable LOS and/or reduce congestion below pre-project conditions. However, the installation of the improvements are subject to the approval of Caltrans and Caltrans does not have any mechanisms by which projects can contribute fair share fees to offset impacts. Additionally, mitigation at intersection #10, Berry Street at Imperial Highway, may be considered infeasible because there may not be enough right-of-way for the pedestrian ramp modifications needed to upgrade the entire intersection to current ADA standards.[5]

Although the mitigation measures to offset cumulative impacts to Caltrans' facilities were considered and rejected as feasible mitigation for the project, the proposed project would be required to pay development

[5] A pedestrian landing area would be needed in the southwest corner of the intersection. However, there is not enough landing area at the southwest corner of this intersection to allow for the pedestrian ramp improvements. Additionally, an existing pole is within the right-of-way and presents a constraint to constructing the pedestrian ramps at this location.

impact fees to the City of Brea. To satisfy AB 1600 legislative requirement, development impact fees have been established for future traffic impacts in Brea (Ordinance 966). To ensure that every development project contributes a fair share of transportation improvements in the community, the City has introduced the "Transportation Improvement Nexus Program." Traffic impact fees are required for all new development in Brea and annexed portions of its sphere-of-influence. Based on a transportation improvement nexus program study conducted in 2011, the City Council adopted Resolution 2011-096, which updated the impact fees, effective February 4, 2012. These fees are required, in part, by Orange County's Measure M, a transportation initiative passed by voters in 1990. More importantly, these are fair-share fees that would serve to offset or mitigate the cumulative traffic impacts caused by new development. The program ensures all future development in the City of Brea contributes on a fair-share basis.

Caltrans has exclusive control over improvements on Imperial Highway (SR-90). Therefore, ensuring that developer fair share contributions to improvements are actually part of a program tied to implementation of mitigation is within the jurisdiction of Caltrans. Since the proposed project cannot guarantee that the improvements identified above would be implemented by Caltrans and/or collect fair share payments toward these improvements, Impact 5.9-1 would be **Significant and Unavoidable**.

5.9.9 References

Brea, City of. 2003a. The City of Brea General Plan. https://www.ci.brea.ca.us/DocumentCenter/View/61/General-Plan?bidId=

California Air Pollution Control Officers Association (CAPCOA). 2017. California Emissions Estimator Model (CalEEMod). Version 2016.3.2. Prepared by: BREEZE Software, A Division of Trinity

Linscott, Law, and Greenspan (LLG) Engineers. 2019, July 16. Traffic Impact Analysis Report Mercury Apartments.