4.14 Traffic and Transportation

This section summarizes the findings of the Traffic Impact Study prepared by Kimley-Horn and Associates, Inc. (Kimley-Horn, 2017) to evaluate the potential traffic impacts associated with the Proposed Project. The Traffic Impact Study considers both short-term (construction) and long-term (operation/implementation) traffic impacts of the Project. This Traffic Impact Study has been prepared in accordance with the City of Newport Beach Traffic Phasing Ordinance (TPO) traffic impact study requirements, County of Orange Congestion Management Program (CMP) requirements, and CEQA requirements. The traffic study methodology and traffic study area were defined by the City of Newport Beach (City), in consultation with the City of Irvine in accordance with the City's traffic study guidelines. The Traffic Impact Study is included in its entirety as Appendix J of this EIR.

4.14.1 REGULATORY SETTING

Federal

Federal Aviation Administration (FAA)

The FAA regulates aviation at regional, public, private, and military airports, such as John Wayne Airport. The FAA regulates objects affecting navigable airspace and structures taller than 200 feet according to Federal Aviation Regulation 14 Code of Federal Regulations Part 77 (14 CFR 77). The U.S. and California Departments of Transportation also require the proponent to submit FAA Form 7460-1, Notice of Proposed Construction or Alteration.

As described in 14 CFR 77.9 (Construction or alteration requiring notice), each sponsor who proposes any of the following construction or alteration scenarios shall notify the FAA in the form and manner as follows:

> If requested by the FAA, or if you propose any of the following types of construction or alteration, you must file notice with the FAA of:
>
> (a) Any construction or alteration that is more than 200 feet above grade level? (AGL) at its site.
>
> (b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:
>
> > (1) 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 ft. in actual length, excluding heliports.
> >
> > (2) 50 to 1 for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than 3,200 feet in actual length, excluding heliports.
> >
> > (3) 25 to 1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area of each heliport described in paragraph (d) of this section.

(c) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) or (b) of this section.

(d) Any construction or alteration on any of the following airports and heliports:

(1) A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications;

(2) A military airport under construction, or an airport under construction that will be available for public use;

(3) An airport operated by a Federal agency or the DOD.

(4) An airport or heliport with at least one FAA-approved instrument approach procedure.

(e) You do not need to file notice for construction or alteration of:

(1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation;

(2) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device meeting FAA-approved siting criteria or an appropriate military service siting criteria on military airports, the location and height of which are fixed by its functional purpose;

(3) Any construction or alteration for which notice is required by any other FAA regulation.

(4) Any antenna structure of 20 feet or less in height, except one that would increase the height of another antenna structure.

Per 14 CFR 77.7, notification requirements include sending one executed form set of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the Manager, Air Traffic Division, FAA Regional Office having jurisdiction over the area within which the construction or alteration will be located. The notice required must be submitted at least 45 days before the earlier of the following dates: (1) the date the proposed construction or alteration is to begin, or (2) the date an application for a construction permit is to be filed.

State of California

Congestion Management Program

The Congestion Management Program (CMP) was signed into law in 1990 to reduce traffic congestion and to provide a mechanism for coordinating land use and development decisions. In June 1990, the passage of the Proposition 111 gas tax increase required urbanized areas in the State with a population of 50,000 or more to adopt a CMP. Compliance with the CMP requirements ensures a local jurisdiction's eligibility to compete for State gas tax funds for local transportation projects.

The CMP requires that a Traffic Impact Assessment be conducted for any project generating 2,400 or more daily trips, or, for projects that have direct access to the CMP Highway System, 1,600 or more daily trips. Per the CMP guidelines, this number is based on the desire to analyze any impacts that comprise three percent or more of the existing CMP Highway System facilities' capacity. The CMP Highway System includes specific roadways, including State Highways, smart streets, and CMP arterial monitoring locations/intersections. There are no specific CMP requirements for roadway segment monitoring.

SB 743 – Update to the CEQA Guidelines for Transportation Impacts

California Senate Bill (SB) 743 (Steinberg, 2013) mandates a change in the way that public agencies in California evaluate the transportation-related impacts of projects under CEQA. The proposed changes identify "vehicle miles traveled" (VMT) as the most appropriate metric to evaluate a project's transportation impacts for CEQA purposes, replacing the traditional capacity- or delay-based Level of Service standards.

VMT refers to the amount and distance of automobile travel attributable to a project. Generally, development projects that locate within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor may be presumed to cause a less than significant transportation impact. Similarly, development projects that would decrease VMT in a project area compared to existing conditions may be considered to have a less-than-significant transportation impact.

The revisions to the CEQA Guidelines proposed by SB 743 must undergo a formal administrative rulemaking process, and once adopted by the Natural Resources Agency, must be reviewed by the Office of Administrative Law. Once the changes to the CEQA Guidelines are adopted by the Natural Resources Agency, a project's effect on intersection capacity utilization or automobile delay, as measured by Level of Service, would no longer be an accepted measure of a significant environmental impact under CEQA. Instead, a development project that results in VMT exceeding an applicable threshold of significance may indicate a significant impact.

The SB 743 proposed revisions to the CEQA Guidelines have undergone two rounds of public review and comment, and are currently undergoing final revision. Following adoption, local agencies will have a two-year opt-in period, during which time agencies will develop and adopt their city's or county's approach to meeting the requirements of SB 743. Full implementation of SB 743 will be required statewide two years following adoption by the Natural Resources Agency. Since the revised CEQA Guidelines have not yet been finalized or adopted by the State, the measure of significance for traffic-related impacts will continue to be based on the Level of Service standards currently adopted by the City of Newport Beach and City of Irvine.

Regional and Local

Orange County Congestion Management Program

In 1991, the majority of local governments in Orange County designated the Orange County Transportation Authority (OCTA) as the County's Congestion Management Agency (CMA). Since then, the OCTA has been responsible for the development, monitoring, and biennial updating of County's CMP. The goals of Orange County's CMP are to reduce traffic congestion and provide a mechanism for coordinating land use and development decisions.

Transportation Demand Management (TDM) strategies are geared toward increasing vehicle occupancy, promoting the use of alternative modes, reducing the number of automobile trips, decreasing overall trip lengths, and improving air quality. The adoption of a TDM ordinance was required of every local jurisdiction for Orange County's 1991 CMP. The adoption of these ordinances is no longer a statutory requirement, however OCTA continues to encourage local jurisdictions to promote and support TDM strategies in their community. Such strategies may include, but are not limited to, the following:

- Encouraging employers to establish and help subsidize telecommuting, provide monetary incentives for ridesharing, and implement alternative work hour programs;
- Implementing bus loading facilities at worksites;
- Implementing pedestrian facilities such as sidewalks, paved pathways, and pedestrian grade separations over arterial streets to connect worksites to shopping, eating, recreation, parking, or transit facilities; and
- Participating in the development of remote parking facilities and the high-occupancy vehicles (i.e., shuttles, etc.) to serve them.

City of Newport Beach General Plan Circulation Element

The General Plan Circulation Element (adopted in 2006), governs the long-term mobility system in the City. The Circulation Element includes goals and policies that are closely correlated with the Land Use Element and are intended to provide the best possible balance between the City's future growth and land use development, roadway size, traffic service levels, and community character. Applicable transportation plans and policies relating to transportation and a documentation of project consistency for each of the policies is included in *Table 5.9-1*, in Section 5.9, *Land Use and Planning*.

City of Newport Beach Municipal Code

Title 12 (Vehicles and Traffic), Chapter 12.62 (Temporary Street Closure). Chapter 12.62, *Temporary Street Closure* of the Municipal Code outlines the permit requirements and process for the temporary closure of public streets within the City.

Title 13 (Streets, Sidewalks and Public Property), Chapter 13.01 (Street Construction Permits). Chapter 13.01, *Street Construction Permits*, outlines the provisions for street construction permits.

Title 15 (Buildings and Construction), Chapter 15.38 (Fair Share Traffic Contribution Ordinance). Chapter 15.38, *Fair Share Traffic Contribution Ordinance*, has been established by the City Council to establish a fee based on the unfunded cost to implement the Master Plan of Streets and Highways to be

paid in conjunction with the issuance of a building permit. The ordinance sets forth procedures for calculating the fair-share amounts for residential projects, hotels/motels, and office/retail/commercial uses, which are adopted by City Council resolution.

Title 15 (Buildings and Construction), Chapter 15.40 (Traffic Phasing Ordinance). The City of Newport Beach has adopted a Traffic Phasing Ordinance (Municipal Code Title 15, Chapter 15.40, Traffic Phasing Ordinance) (1) to provide a uniform method of analyzing the traffic impacts of projects that generate a substantial number of average daily trips and/or trips during the morning or evening peak hour period; (2) to identify the specific and near-term impacts of a project's traffic as well as circulation system improvements that will accommodate project traffic and ensure that development is phased with identified circulation system improvements; (3) to ensure that project proponents make or fund circulation system improvements that mitigate the specific impacts of project traffic on primary intersections at or near the time the project is ready for occupancy; and (4) to provide a mechanism for ensuring that a project's cost of mitigating traffic impacts is roughly proportional to project impacts.

TPO requirements differ from CEQA requirements in that, typically, the TPO's focus is on conditions one year after project occupancy, or that portion of a project expected to be constructed within five years after project approval. For the Proposed Project, this would Year 2022.

4.14.2 METHODOLOGY

Traffic Study Area

The traffic study methodology and traffic study area were defined by the City, in accordance with the City's traffic study guidelines and in consultation with the City of Irvine. Because portions of the City of Irvine are within the Project's influence area, the city requested that the traffic study include the evaluation of intersections in its jurisdictions. The traffic study area is depicted on Figure 4.14-1, *Traffic Study Intersections*, and includes 29 intersections. *Table 4.14-1* provides the list of the study intersections and the jurisdiction in which they are located. Of the 29 study intersections, 12 are controlled by the City of Irvine and 15 are controlled by the City of Newport Beach. The two Interstate 405 (I-405) ramp intersections at Jamboree Road are controlled and maintained by the California Department of Transportation (Caltrans).

Each intersection has been analyzed using the methodology and parameters employed by the city in which the intersection is located. For "shared" intersections on the City boundary, the intersection analysis is based on the methodology used by the city that maintains and controls the signal. Of the 29 study intersections, two intersections are located on State Highways, and are therefore controlled by Caltrans: Jamboree Road at the I-405 northbound ramps and I-405 at the southbound ramps. A separate analysis of the State Highway intersections using the analysis methodology specified in the *Caltrans Guide for the Preparation of Traffic Impact Studies* is provided.

Table 4.14-1. Traffic Study Intersections

No.	Intersection	Jurisdiction [1]	Traffic Control
1	MacArthur Boulevard at Campus Drive [a]	Irvine	Signal
2	MacArthur Boulevard at Birch Street	Newport Beach	Signal
3	MacArthur Boulevard at Von Karman Avenue	Newport Beach	Signal
4	MacArthur Boulevard at Jamboree Road [a, b]	Newport Beach	Signal
5	MacArthur Boulevard SB Ramp at University Drive	Irvine	Signal
6	Von Karman Avenue at Michelson Drive	Irvine	Signal
7	Von Karman Avenue at Campus Drive[a]	Irvine	Signal
8	Von Karman Avenue at Birch Street	Newport Beach	Signal
9	Teller Avenue at Campus Drive[a]	Irvine	Signal
10	Teller Avenue at Birch Street	Newport Beach	2-way stop
11	Jamboree Road at I-405 NB Ramps [b]	Caltrans	Signal
12	Jamboree Road at I-405 SB Ramps [b]	Caltrans	Signal
13	Jamboree Road at Michelson Drive	Irvine	Signal
14	Jamboree Road at Dupont Drive	Irvine	Signal
15	Jamboree Road at Campus Drive[a]	Irvine	Signal
16	Jamboree Road at Birch Street [a]	Irvine	Signal
17	Jamboree Road at Fairchild Drive[a]	Irvine	Signal
18	Jamboree Road at Bristol Street N	Newport Beach	Signal
19	Jamboree Road at Bristol Street S	Newport Beach	Signal
20	Jamboree Road at Bayview Way	Newport Beach	Signal
21	Jamboree Road at University Drive	Newport Beach	Signal
22	Carlson Avenue at Campus Drive	Irvine	Signal
23	University Drive at Campus Drive	Irvine	Signal
24	Bristol Street N at Campus Drive	Newport Beach	Signal
25	Bristol Street S at Irvine Avenue /Campus Drive	Newport Beach	Signal
26	Irvine Avenue at Mesa Drive	Newport Beach	Signal
27	Birch Street at Bristol Street N	Newport Beach	Signal
28	Birch Street at Bristol Street S	Newport Beach	Signal
29	Bayview Place at Bristol Street S	Newport Beach	Signal

a. For "shared" intersections on the boundary between the two cities, the city listed indicates the city that maintains and controls the signal. Freeway ramp intersections and intersections on a State Highway are maintained and operated by Caltrans.
b. Designated County of Orange Congestion Management Program (CMP) intersection.
Source: Kimley-Horn, 2017.

Traffic Impact Analysis Methodology

Intersection Levels of Service Methodology: Local Jurisdiction Signalized Intersections

Intersection analysis for all signalized intersections has been conducted using the Intersection Capacity Utilization (ICU) methodology, which is the methodology used by the cities of Newport Beach and Irvine, and for the Orange County CMP.

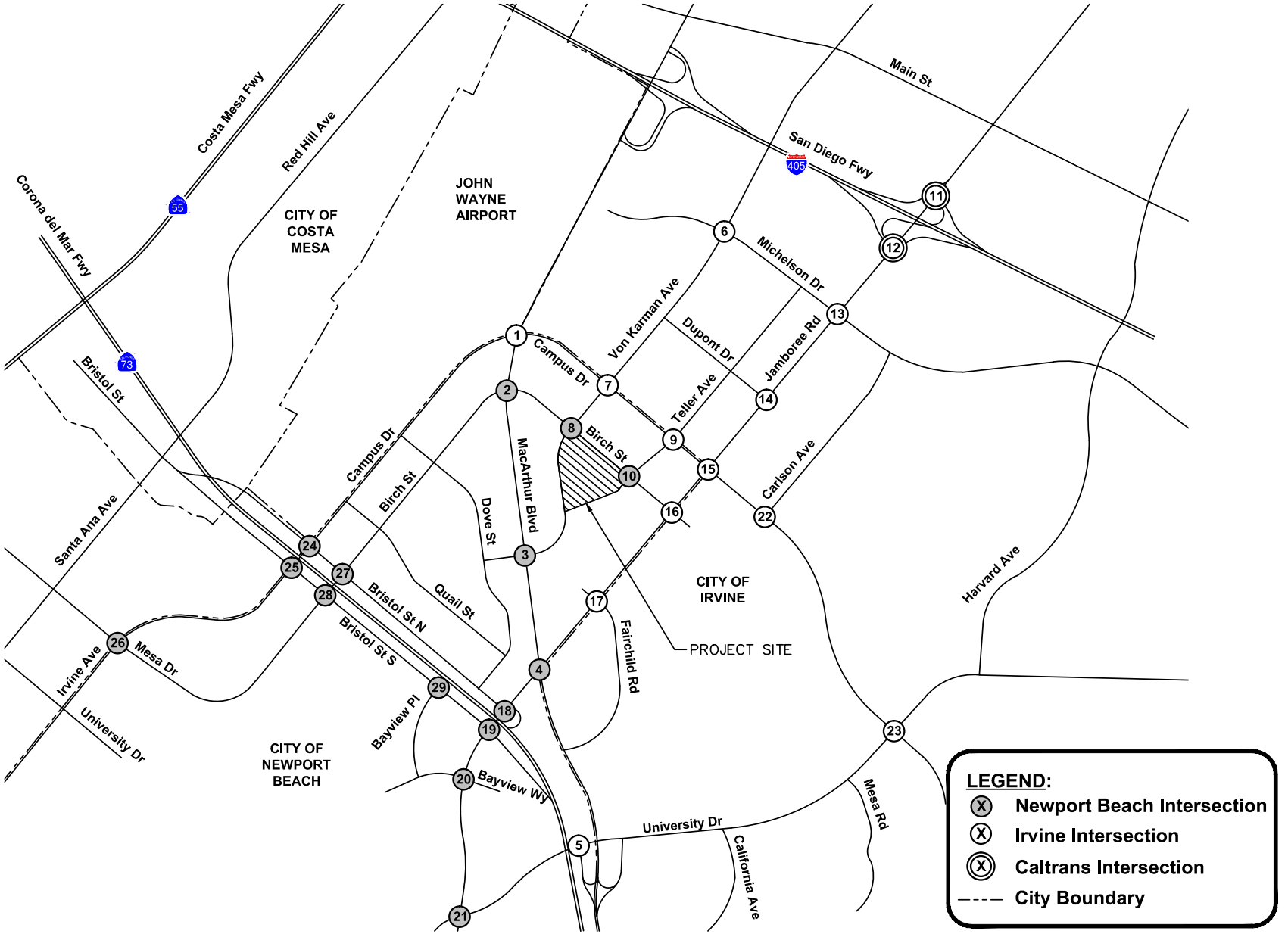

FIGURE 4.14-1: Traffic Study Area Intersections
The Koll Center Residences Project

Not to scale

Kimley»Horn

The ICU methodology provides a comparison of the theoretical hourly vehicular capacity of an intersection to the number of vehicles actually passing through that intersection during any given hour. The ICU calculation assumes an hourly per-lane capacity for each lane through the intersection, and a clearance factor to account for the effect of yellow and red signal phases.

Variations in analysis input parameters between the City of Newport Beach and the City of Irvine have been accounted for in the analysis. *Table 4.14-2* presents the ICU parameters for each of the cities.

Table 4.14-2. ICU Parameters

ICU Parameter	City of Newport Beach	City of Irvine
Saturation Flow Rate/Lane	1,600 vph	1,700 vph
Clearance Interval	0	0.05 of cycle length
Right-turn-on-red allowed [a]	N/A	Yes
ATMS Credit [b]	N/A	0.05
Critical Movement/ICU Calculation	3 decimals for each critical movement, summed and rounded for 2 decimals for the final ICU for the TPO Analysis, and 3 decimals for the CEQA Analysis	2 decimals for each critical movement

vph = vehicles per hour

a. Right-turn-on-red is allowed from exclusive right-turn lanes. For the City of Irvine, "unofficial" right-turn lanes (known as a de facto right-turn lane) are assumed in the ICU calculation if 19 feet of travel lane exists from lane stripe to edge of roadway, and curbside parking is prohibited during peak periods.

b. ATMS is an advanced traffic signal management system employed by the City of Irvine to allow them to control signal operations in real-time response to traffic conditions at the intersection. Intersections with the ATMS equipment installed are given a 5% capacity credit. The ATMS credit is not applied to intersections located within the Irvine Business Complex (IBC). One study intersection (University Drive at Campus Drive) has the ATMS credit applied for all study scenarios.

Source: Kimley-Horn, 2017.

Intersection Levels of Service Methodology: Local Jurisdiction Unsignalized Intersections

Intersection analysis for unsignalized intersections has been conducted using the Highway Capacity Manual (HCM) methodology, which returns a delay value, expressed in terms of the average seconds of delay per vehicle.

Operating conditions for both ICU and HCM methodologies are expressed in terms of “Level of Service” which is also referred to by its acronym, LOS. The ICU calculation returns a volume-to-capacity (V/C) ratio that translates into a corresponding Level of Service, ranging from LOS "A", representing uncongested, free-flowing conditions; to LOS F, representing congested, over-capacity conditions.

The HCM methodology returns a delay value, expressed in terms of the average seconds of delay per vehicle, which also corresponds to a Level of Service measure. *Table 4.14-3* includes a summary description of each Level of Service and the corresponding V/C ratio or delay.

Table 4.14-3. Intersection Level of Service Descriptions

Level of Service	Signalized: ICU	Unsignalized: HCM [a]	Description
	V/C Ratio	Delay (sec)	
A	0.00 - 0.60	≤10	EXCELLENT – No vehicle waits longer than one red light, and no approach phase is fully used.
B	0.61 - 0.70	> 10 and ≤ 15	VERY GOOD – An occasional approach phase is fully utilized; drivers begin to feel somewhat restricted within groups of vehicles.
C	0.71 - 0.80	> 15 and ≤ 25	GOOD – Occasionally drivers may have to wait through more than one red light; back-ups may develop behind turning vehicles.
D	0.81 - 0.90	> 25 and ≤ 35	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 back-ups.
E	0.91 - 1.00	> 35 and ≤ 50	POOR – Represents the most vehicles that the intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.00	> 50	FAILURE – Back-ups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

a. Source: Highway Capacity Manual, 2010

Source: Kimley-Horn, 2017.

City of Irvine Roadway Segment Analysis

Roadway segments within the City of Irvine were analyzed in accordance with the City of Irvine Traffic Impact Study Guidelines. As a part of this traffic analysis, 46 roadway segments within the traffic study area were analyzed for each study scenario. Per the City's guidelines, the daily roadway capacities for each facility type are shown below in *Table 4.14-4*. The capacity for facilities not listed are interpolated, as directed by the City. The study roadway segments are shown in Figure 4.14-2, *Study Roadway Segments*.

Roadway segments that operate deficiently on a daily basis require a Peak Hour Link Analysis (PHLA), as defined by the City of Irvine's "Revised Peak Hour Link Analysis Methodology (December 1996)" publication. The PHLA specifies that the hourly capacity for a single lane is 1,600 vehicles per hour. Where the distance between controlled intersections exceeds one mile, the lane capacity is 2,000 vehicles per hour.

State Highway Facilities

Intersections on State Highway facilities, which are controlled by Caltrans, are also analyzed using the HCM methodology, as required by the *Caltrans Guide for the Preparation of Traffic Impact Studies* (State of California Department of Transportation, December 2002). Within the project study area, I-405 and SR-73 are Caltrans facilities. Therefore, study intersections on these roadways are also analyzed using the HCM intersection analysis methodology.

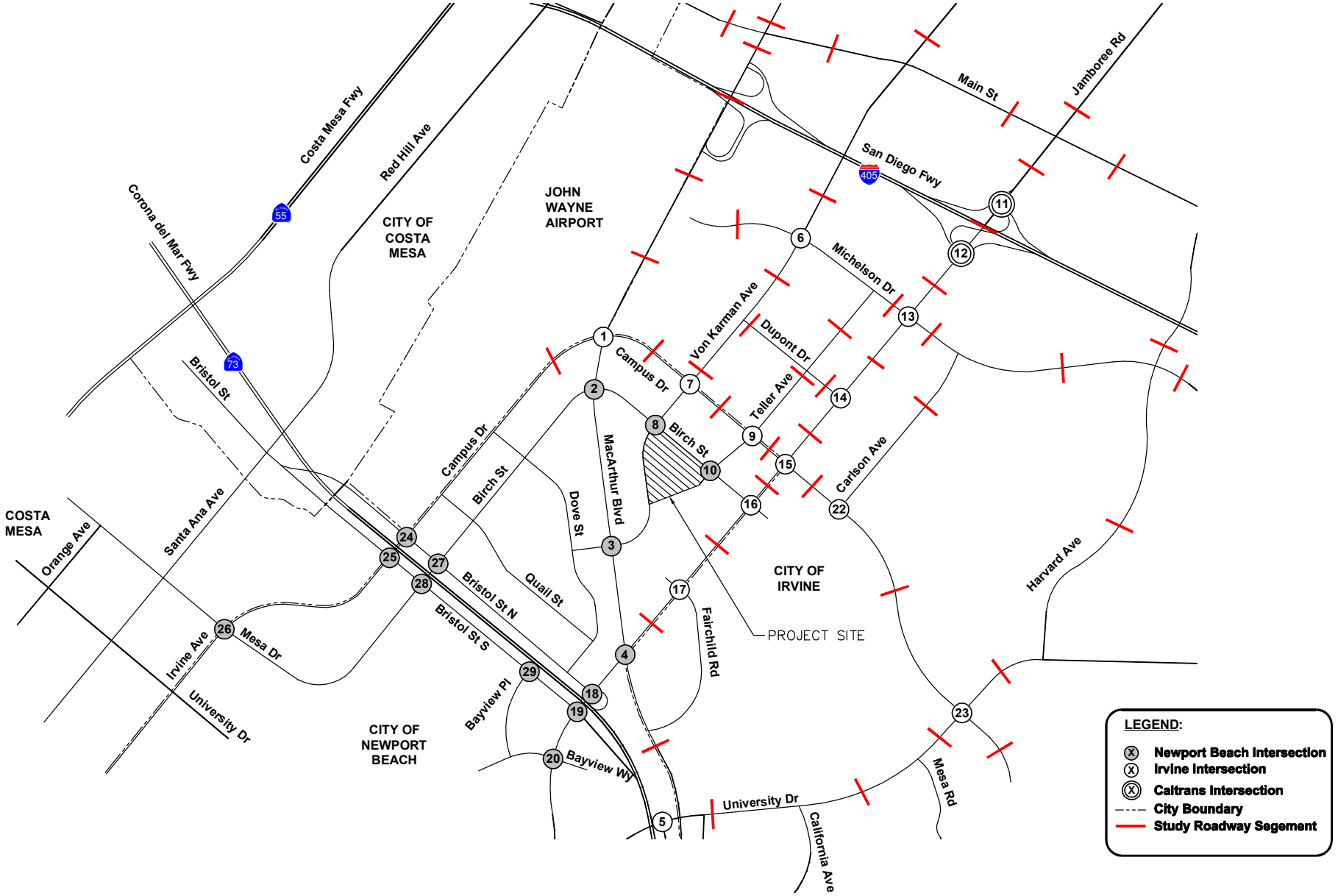

FIGURE 4.14-2: Traffic Study Area Roadway Segments
The Koll Center Residences Project

Table 4.14-4. City of Irvine Daily Roadway Capacities			
		Daily Capacity	
Facility Type	Number of Lanes	LOS D	LOS E
Freeways	10	189,000	210,000
	8	158,400	176,000
	6	121,500	135,000
	4	81,000	90,000
Freeway Ramps	2	19,800	22,000
	1	14,400	16,000
Expressway	6	121,500	135,000
Major Highway	8	64,800	72,000
	6	48,600	54,000
Primary Highway	4	28,800	32,000
Secondary Highway	4	25,200	28,000
Commuter	2	11,700	13,000
Commuter (Rural)	2	16,200	18,000
Source: Kimley-Horn, 2017.			

The HCM methodology measures average seconds of delay per vehicle based on technical parameters, such as peak hourly traffic volumes, number of lanes, type of signal operation, signal timing, and signal phasing in the calculations. A description of each Level of Service, based on delay parameters, per the Highway Capacity Manual (HCM) is provided in *Table 4.14-5*.

For State-controlled intersections, Level of Service standards and impact criteria specified by Caltrans will apply. The *Caltrans Guide for the Preparation of Traffic Impact Studies* states that "Caltrans endeavors to maintain a target Level of Service at the transition between LOS C and LOS D on State highway facilities. If an existing State highway facility is operating at less than the target Level of Service, the existing Level of Service is to be maintained."

Performance Criteria

The City's target Level of Service for peak hour operation of signalized intersections is LOS D or better, except for designated intersections within the Airport Area shared with the City of Irvine, where LOS E is acceptable. These shared Airport Area intersections are:

1. MacArthur Boulevard at Campus Drive[1]
4. MacArthur Boulevard at Jamboree Road[2]

[1] Analyzed using the City of Irvine ICU parameters.

[2] Analyzed using the City of Newport Beach ICU parameters

Table 4.14-5. Highway Capacity Manual Level of Service Descriptions

Level of Service	Signalized Intersection Delay (sec)	Description
A	≤10	LOS A describes operations with a control delay of 10 seconds per vehicle or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
B	> 10 and ≤ 20	LOS B describes operations with control delay between 10 and 20 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is short. More vehicles stop than with LOS A.
C	> 20 and ≤ 35	LOS C describes operations with control delay between 20 and 35 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the progression is favorable and the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.
D	> 35 and ≤ 55	LOS D describes operations with control delay between 35 and 55 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.
E	> 55 and ≤ 80	LOS E describes operations with control delay between 55 and 80 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.
F	> 80	LOS E describes operations with control delay exceeding 80 seconds per vehicle or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Many vehicles fail to clear the queue.

Source: Kimley-Horn, 2017.

7. Von Karman Avenue at Campus Drive[1]
9. Teller Avenue at Campus Drive[1]
15. Jamboree Road at Campus Drive[1]
16. Jamboree Road at Birch Street[1]
17. Jamboree Road at Fairchild Road[1]

In the City of Irvine, the target Level of Service is LOS D, except where the intersection is located within the Irvine Business Complex (IBC) or the Irvine Spectrum area. For these intersections, the target Level of Service is E. The following study intersections in the IBC:

1. MacArthur Boulevard at Campus Drive [1]
4. MacArthur Boulevard at Jamboree Road [2]
6. Von Karman Avenue at Michelson Drive [1]
7. Von Karman Avenue at Campus Drive [1]
9. Teller Avenue at Campus Drive [1]
11. Jamboree Road at I-405 northbound ramps [1]
12. Jamboree Road at I-405 southbound ramps [1]
13. Jamboree Road at Michelson Drive [1]
14. Jamboree Road at Dupont Drive [1]
15. Jamboree Road at Campus Drive [1]
17. Jamboree Road at Fairchild Road [1]
22. Campus Drive at Carlson Avenue [1]

Study Scenarios

Each of the traffic study area intersections has been analyzed for the following scenarios:

- Existing Conditions
- Existing Plus Project
- TPO Analysis Year 2022 Without Project
- TPO Analysis Year 2022 With Project
- CEQA Analysis Year 2022 Without Project
- CEQA Analysis Year 2022 With Project

4.14.3 ENVIRONMENTAL SETTING

Existing Transportation System

Roadway Characteristics

Regional access to the project site is provided by the Corona del Mar Freeway/San Joaquin Hills Transportation Corridor (State Route [SR] 73), located less than one mile to the south of the project area, and located approximately 1.5 miles north of the site. The proposed development would take access to the surrounding street system via connections to Von Karman Avenue and to Birch Street.

Michelson Drive is a four-lane divided east-west arterial in the City of Irvine, located approximately one-third mile south of I-405. Michelson Drive is divided by a painted median and has a posted speed limit of 45 miles per hour (mph) east of Von Karman Avenue and 40 mph west of Von Karman Avenue.

Dupont Drive is a four-lane undivided east-west arterial in the City of Irvine that extends from north of Michelson Drive, across Von Karman Avenue to just east of Jamboree Road. Dupont Drive is divided by a

painted median and has a posted speed limit of 35 mph to the west of Von Karman Avenue and 40 mph to the east of Von Karman Avenue.

Campus Drive is a six-lane divided arterial that extends north-south between Bristol Street and MacArthur Boulevard, then turns and extends as a four-lane undivided arterial in an east-west orientation between MacArthur Boulevard and University Drive. Class II bike lanes, which are striped one-way bike lanes on a street or highway, are provided on each side of the street along Campus Drive. The posted speed limit on Campus Drive ranges from 45 mph to 50 mph within the study area. Campus Drive is designated on the City of Newport Beach General Plan Circulation Element as a Major Arterial between Bristol Street and MacArthur Boulevard, and as a Secondary Arterial between MacArthur Boulevard and University Drive.

Birch Street is a four-lane undivided roadway, designated as a Secondary Arterial on the City of Newport Beach Circulation Element. Birch Street extends in a north-south direction from south of SR-73 to MacArthur Boulevard, and then turns and extends in an east-west direction from MacArthur Boulevard to Jamboree Road. Birch Street is divided by a painted median, and on-street parking is prohibited in the vicinity of the project site. The posted speed limit is 45 mph.

Fairchild Road is a four-lane collector in the City of Irvine that extends in a northwest to southeast arc from Jamboree Road to McArthur Boulevard. Fairchild Road is divided by a painted median and currently has no posted speed limit.

MacArthur Boulevard is a six- to eight-lane divided arterial that extends through the cities of Newport Beach and Irvine. MacArthur Boulevard is divided by a raised or painted median and has a posted speed limit of 55 mph. MacArthur Boulevard is classified as a Major arterial in both cities' Circulation Elements.

Bristol Street North is part of the Bristol Street couplet that runs along either side of SR-73. Bristol Street North is a three- to four-lane one-way arterial that extends from Jamboree Road in a northwest direction north of and parallel to SR-73. It crosses over SR-73 and connects with Bristol Street at Santa Ana Avenue/Redhill Avenue. Bristol Street is classified as a Primary Arterial on the City of Newport Beach Circulation Element. The posted speed limit is 45 mph.

Bristol Street South is the southbound portion of the Bristol Street couplet. Bristol Street South is a four-lane one-way arterial that extends from Santa Ana Avenue/Redhill Avenue to Jamboree Road in a southeast direction south of and parallel to SR-73. The posted speed limit is 45 mph.

Von Karman Avenue is a four-lane north-south Primary Arterial that starts at MacArthur Boulevard in the City of Newport Beach, and extends north into the City of Irvine. Von Karman Avenue is divided by a painted median and has a posted speed limit of 40 to 45 mph. Von Karman Avenue is classified as a Primary on the City of Newport Beach Circulation Element. On the City of Irvine Circulation Element, Von Karman Avenue is classified as a Secondary Highway between Campus Drive and Michelson Drive and as a Major Highway north of Michelson Drive.

Jamboree Road is a six-lane to eight-lane divided arterial that extends through both Irvine and Newport Beach in a north-south direction. Within Newport Beach, Jamboree Road is mainly a six-lane divided arterial with three lanes in each direction, with the exception of the segment where there are four

southbound travel lanes (between Birch Street and Fairchild Road). Jamboree Road transitions into a seven-lane arterial north of the Newport Beach city limits. Jamboree Road is divided by a raised landscaped median and has a posted speed limit of 55 mph. Jamboree Road is classified as a Major arterial in both cities' Circulation Elements.

University Drive is a four-lane to six-lane divided arterial. University Drive extends eastward from Jamboree Road in the City of Newport Beach across SR-73 into the City of Irvine, and through the University of California Irvine (UCI). University Drive transitions from four to six lanes at the SR-73 southbound ramps. University Drive is divided by a raised landscaped median and has a posted speed limit of 50 mph within the Newport Beach city limits. University Drive is classified as a Primary on the City of Newport Beach Circulation Element and a Major arterial on the City of Irvine Circulation Element.

Existing Transit Services

Transit service near the project site is provided by the OCTA bus lines. The bus routes currently operated by OCTA through the study area in the cities of Newport Beach and Irvine are shown in Figure 4.14-3, *Existing Transit Routes*. The following OCTA routes serve the project site and vicinity.

OCTA Route 59 operates between the cities of Anaheim and Irvine via Kraemer Boulevard/Glassell Street/Grand Avenue and Von Karman Avenue. The Route 59 stop closest to the site is at the corner of Campus Drive and Jamboree Road. Route 59 operates in full-route mode on weekdays from 4:30 AM to 11:30 PM with 20- to 35-minute headways (the time between bus arrivals). On Saturdays and Sundays, Route 59 does not offer service to UCI; it only operates to Pullman Street and Dyer Road from approximately 6:00 AM to 10:15 PM, with 50- to 60-minute headways.

OCTA Route 76 operates between the cities of Huntington Beach and Newport Beach via Talbert Avenue/ MacArthur Boulevard. The Route 76 stop closest to the project site is at the corner of MacArthur Boulevard at Jamboree Road. Route 76 operates on weekdays only, from approximately 6:00 AM to 7:00 PM with 45-minute to 1-hour headways.

OCTA Route 178 operates between the cities of Huntington Beach and Irvine via Adams Avenue, Birch Street, and Campus Drive. The Route 178 stop closest the project site is located at the corner of Campus Drive at Jamboree Road. Route 178 operates on weekdays from 5:50 AM to 10:50 PM with 45-minute to 1-hour headways. Route 178 does not operate on weekends.

OCTA Route 212 provides express route service between John Wayne Airport and San Juan Capistrano via I-405. The Route 212 stop closest the project site is located at the corner of Campus Drive at Jamboree Road. Route 212 operates on weekdays only, and in the northbound direction only in the morning – from 5:50 to 7:30 AM; and in the southbound direction only in the evening – from 4:00 to 6:30 PM.

OCTA Route 213 operates between the Park-and-Ride in Brea and UCI. Major destinations along the route include Brea Mall, Fullerton Transportation Center, the Village at Orange, and UCI. Route 213 operates on weekdays only, and in the southbound direction only in the morning – from 5:22 to 7:58 AM; and in the northbound direction only in the evening – from 4:03 to 6:58 PM.

OCTA Route 472 provides Metrolink feeder route service for the Tustin Metrolink Station on Jamboree Road. Route 472 starts at the Tustin Metrolink Station and travels through Irvine where it turns around at the Food and Drug Administration building on Fairchild Road, across Jamboree Road from the project site. The stop closest to the site is located at the corner of Fairchild Road at Jamboree Road. Route 472 operates on weekdays only, and in the southbound direction only in the morning – from 6:10 AM to 9:00 AM; and in the northbound direction only in the evening – from 3:30 PM to 5:20 PM.

Existing Traffic Conditions

Existing Traffic Volumes

Field observations of all study intersections were conducted to document the number of through lanes and turning lanes, traffic control, and other existing traffic conditions at each intersection. Existing morning and evening peak hour intersection turning movement counts were provided by the City of Newport Beach and the City of Irvine.

The traffic counts provided by the cities of Newport Beach and Irvine were conducted between 2014 and 2015. For City of Newport Beach intersections, traffic counts older than one year have been grown at one percent per year on certain major roadways, per direction from City staff. For Irvine intersections, traffic counts were grown at two percent per year, based on direction from City staff.

Intersection Levels of Service

Peak hour intersection analysis was conducted for the signalized study intersections using the applicable intersection analysis methodology and parameters for each city. Unsignalized intersections were analyzed using the HCM methodology for unsignalized intersections.

Existing AM and PM peak hour intersection operations are summarized on *Table 4.14-6*. The table indicates that all study intersections are currently operating at an acceptable Level of Service (LOS D for all intersections, except LOS E for intersections in the Airport Area or the IBC area, or CMP intersections) in both peak hours.

Roadway Segments

Existing roadway operations are summarized in *Table 4.14-7*. This table indicates that the following roadway segments are currently operating at a deficient Level of Service based on daily volumes:

- Jamboree Road: Main Street to I-405 northbound ramp
- Jamboree Road: Between I-405 northbound ramp and I-405 southbound ramp
- Jamboree Road: I-405 southbound ramp to Michelson Drive
- Campus Drive: Carlson Avenue to University Drive
- University Drive: California Avenue to Mesa Road
- University Drive: Mesa Road to Campus Drive

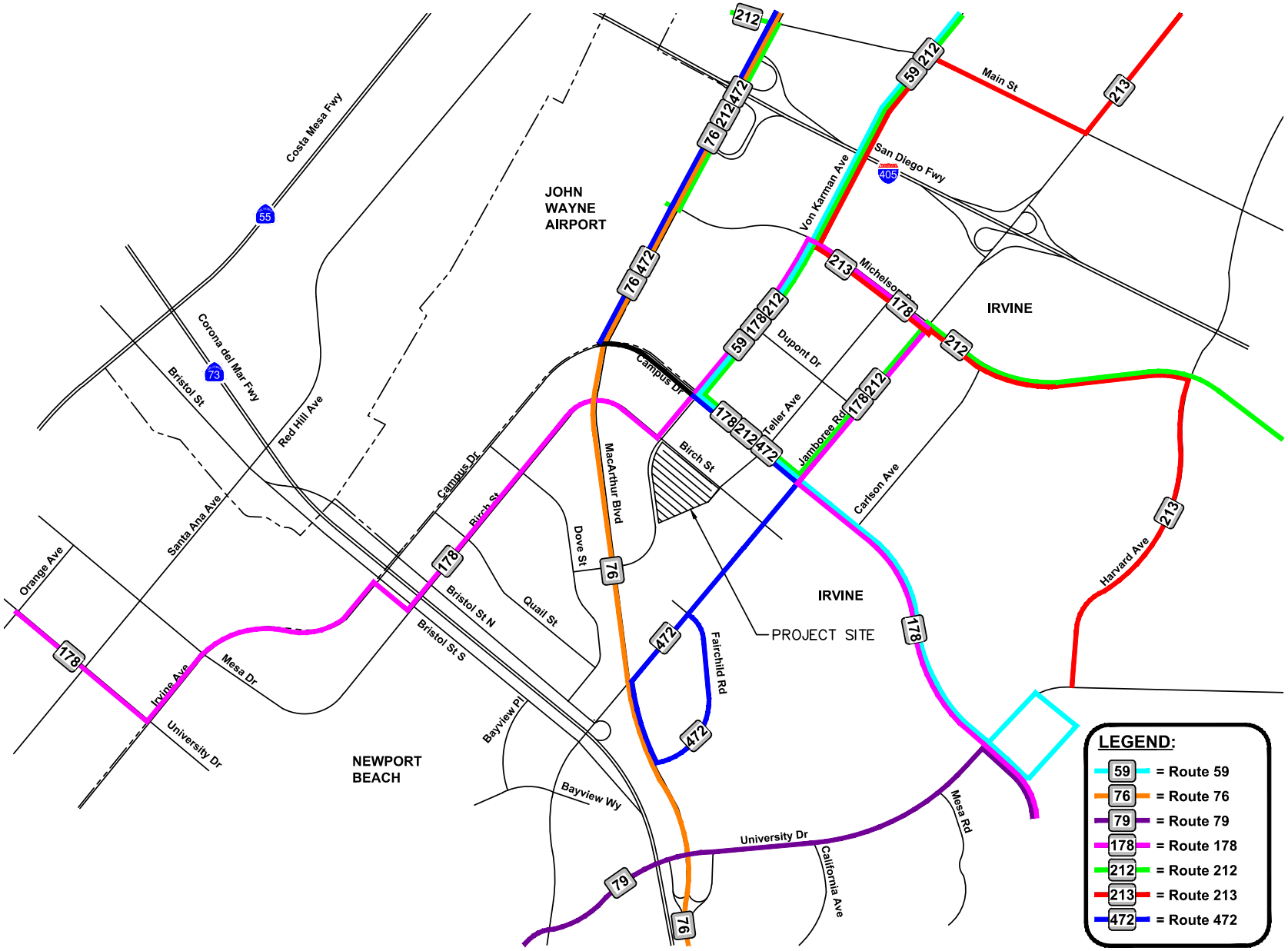

FIGURE 4.14-3: Existing Transit Routes
The Koll Center Residences Project

Not to scale

Kimley»Horn

Table 4.14-6. Intersection Operation – Existing Conditions

No.	Intersection	AM Peak Hour		PM Peak Hour	
		ICU/Delay	LOS	ICU/Delay	LOS
1	MacArthur Blvd. at Campus Dr.[a]	0.57	A	0.74	C
2	MacArthur Blvd. at Birch St.	0.38	A	0.52	A
3	MacArthur Blvd. at Von Karman Ave.	0.58	A	0.53	A
4	MacArthur Blvd. at Jamboree Rd.[a]	0.58	A	0.65	B
5	MacArthur Blvd. SB Ramp at University Dr.	0.48	A	0.41	A
6	Von Karman Ave. at Michelson Dr.[a]	0.55	A	0.68	B
7	Von Karman Ave. at Campus Dr.[a]	0.60	A	0.76	C
8	Von Karman Ave. at Birch St.	0.34	A	0.37	A
9	Teller Ave. at Campus Dr.[a]	0.27	A	0.41	A
10	Teller Ave. at Birch St.	13.1	B	13.0	B
11	Jamboree Rd. at I-405 NB Ramps[a]	0.71	C	0.80	C
12	Jamboree Rd. at I-405 SB Ramps[a]	0.93	E	0.89	D
13	Jamboree Rd. at Michelson Dr.[a]	0.67	B	0.83	D
14	Jamboree Rd. at Dupont Dr.[a]	0.62	B	0.61	B
15	Jamboree Rd. at Campus Dr.[a]	0.62	B	0.62	B
16	Jamboree Rd. at Birch St.[a]	0.53	A	0.50	A
17	Jamboree Rd. at Fairchild Dr.[a]	0.64	B	0.73	C
18	Jamboree Rd. at Bristol St. N	0.33	A	0.48	A
19	Jamboree Rd. at Bristol St. S	0.67	B	0.64	B
20	Jamboree Rd. at Bayview Way	0.45	A	0.45	A
21	Jamboree Rd. at University Dr.	0.61	B	0.57	A
22	Carlson Ave. at Campus Dr.[a]	0.42	A	0.69	B
23	University Dr. at Campus Dr.[b]	0.74	C	0.70	B
24	Bristol St. N at Campus Dr.	0.55	A	0.70	B
25	Bristol St. S at Irvine Ave.	0.71	C	0.58	A
26	Irvine Ave. at Mesa Dr.	0.44	A	0.64	B
27	Birch St. at Bristol St. N	0.63	B	0.58	A
28	Birch St. at Bristol St. S	0.47	A	0.56	A
29	Bayview Place at Bristol St. S	0.41	A	0.46	A

Notes:
Bold and shaded values indicate intersections operating at an unacceptable Level of Service.
Intersection operation is expressed in volume-to-capacity (v/c) ratio for signalized intersections, using the ICU Methodology, and average seconds of delay per vehicle for unsignalized intersections, using the HCM Methodology.
a. Level of Service E is acceptable at this intersection.
b. A 5% capacity credit is applied at this intersection to reflect implementation of the Advanced Transportation Management System (ATMS).

Source: Kimley-Horn, 2017.

Table 4.14-7. Roadway Segment Analysis – Existing Conditions

Roadway	Segment	Facility Type	No. of Lanes	LOS E Capacity	Traffic Volume	V/C	LOS
MacArthur Boulevard	North of Main Street	Major	7	63,000	26,939	0.428	A
	Main Street to I-405 NB Ramps	Major	8	72,000	35,479	0.493	A
	Between I-405 NB and SB Ramps	Major	8	72,000	51,177	0.711	C
	I-405 SB Ramps to Michelson	Major	8	72,000	52,637	0.731	C
	Michelson to Campus	Major	8	72,000	35,873	0.498	A
	Jamboree to University	Major	6	54,000	39,361	0.729	C
Von Karman Avenue	North of Main Street	Secondary	4	28,000	21,662	0.774	C
	Main to Michelson	Secondary	4	28,000	22,999	0.821	D
	Michelson to Dupont	Secondary	4	28,000	16,965	0.606	B
	Dupont to Campus	Secondary	4	28,000	16,965	0.606	B
Teller Avenue	Michelson to Dupont	Commuter	2	13,000	5,566	0.428	A
	Dupont to Campus	Commuter	2	13,000	2,955	0.227	A
Jamboree Road	North of Main Street	Major	8	72,000	63,067	0.876	D
	Main to I-405 NB Ramps	Major	8	72,000	70,074	**0.973**	**E**
	Between I-405 NB and SB Ramps	Major	8	72,000	78,431	**1.089**	**F**
	I-405 SB Ramps to Michelson	Major	8	72,000	71,095	**0.987**	**E**
	Michelson to Dupont	Major	8	72,000	45,474	0.632	B
	Dupont to Campus	Major	7	63,000	41,587	0.660	B
	Campus to Birch	Major	7	63,000	39,071	0.620	B
	Birch to Fairchild	Major	7	63,000	41,102	0.652	B
	Fairchild to MacArthur	Major	7	63,000	33,314	0.529	A
Carlson Avenue	Michelson to Campus	Secondary	4	28,000	6,128	0.219	A
Harvard Avenue	North of Michelson	Primary	4	32,000	25,439	0.795	C
	Michelson to University	Primary	4	32,000	19,009	0.594	A
Main Street	West of MacArthur	Major	6	54,000	23,739	0.440	A
	MacArthur to Von Karman	Major	6	54,000	29,325	0.543	A
	Von Karman to Jamboree	Major	6	54,000	24,984	0.463	A
	East of Jamboree	Major	6	54,000	23,323	0.432	A
Michelson Drive	MacArthur to Von Karman	Secondary	4	28,000	10,635	0.380	A
	Von Karman to Jamboree	Secondary	4	28,000	15,386	0.550	A

Table 4.14-7. Roadway Segment Analysis – Existing Conditions

Roadway	Segment	Facility Type	No. of Lanes	LOS E Capacity	Traffic Volume	V/C	LOS
	Jamboree to Carlson	Primary	4	32,000	20,475	0.640	B
	Carlson to Harvard	Primary	4	32,000	20,475	0.640	B
	East of Harvard	Primary	4	32,000	17,894	0.559	A
Dupont Drive	Von Karman to Teller	Secondary	4	28,000	4,176	0.149	A
	Teller Ave to Jamboree	Secondary	4	28,000	3,021	0.108	A
Campus Drive	West of MacArthur	Major	6	54,000	29,714	0.550	A
	MacArthur to Von Karman	Primary	4	32,000	13,075	0.409	A
	Von Karman Ave to Teller	Secondary	4	28,000	11,189	0.400	A
	Teller to Jamboree	Secondary	4	28,000	11,186	0.400	A
	Jamboree to Carlson	Secondary	4	28,000	18,431	0.658	B
	Carlson to University	Commuter	2	13,000	18,427	**1.417**	**F**
	East of University	Secondary	4	28,000	22,648	0.809	D
University Drive	MacArthur to California	Primary	4	32,000	24,765	0.774	C
	California to Mesa	Primary	4	32,000	30,386	**0.950**	**E**
	Mesa to Campus	Primary	4	32,000	30,580	**0.956**	**E**
	Campus to Harvard	Major	6	54,000	25,303	0.469	A

Notes:
Bold and shaded values indicate a deficient Level of Service, based on City of Irvine Traffic Analysis Guidelines.
Source: Kimley-Horn, 2017.

These segments were further analyzed using the PHLA methodology, and the results are shown in *Table 4.14-8*. The table indicates that these roadway segments operate at LOS C or better during the peak hours under Existing Conditions.

State Highway Intersection Levels of Service

Existing peak hour intersection operations for the State Highway study intersections are summarized in *Table 4.14-9*. Each of the State Highway study intersections currently operates at an acceptable level of service using the HCM delay analysis methodology.

Site Access and Site Circulation

Vehicular access to Koll Center Newport is currently provided by three driveways on Birch Street and two driveways on Von Karman Avenue. Cross access throughout the site currently allows drivers to access any parking area within Koll Center Newport from any of the site driveways. All driveways are unsignalized and gated. Drivers access the site either by a key card or by pressing the button and pulling a parking ticket. To exit the site, key card users use their card to raise the gate. Visitors must insert a validated ticket or pay at the gate in order to exit.

Table 4.14-8. Peak Hour Link Analysis – Existing Conditions

Roadway	Segment	Direction	No. of Lanes	Capacity	AM Peak			PM Peak		
					Volume	V/C	LOS	Volume	V/C	LOS
Jamboree Road	Main St to I-405 NB Ramps	Northbound	4	6,400	2,641	0.413	A	3,520	0.550	A
		Southbound	4	6,400	3,279	0.512	A	2,773	0.433	A
	I-405 NB Ramps to I-405 SB Ramps	Northbound	4	6,400	2,561	0.400	A	3,657	0.571	A
		Southbound	4	6,400	3,306	0.517	A	2,592	0.405	A
	I-405 SB Ramps to Michelson	Northbound	4	6,400	1,877	0.293	A	3,647	0.570	A
		Southbound	4	6,400	4,530	0.708	C	2,654	0.415	A
Campus Drive	Carlson to University	Eastbound	1	1,600	525	0.328	A	1,084	0.678	B
		Westbound	1	1,600	702	0.439	A	696	0.435	A
University Drive	California to Mesa Rd	Eastbound	2	3,200	1,222	0.382	A	1,826	0.571	A
		Westbound	2	3,200	2,143	0.670	B	1,468	0.459	A
	Mesa Rd to Campus Dr	Eastbound	2	3,200	1,222	0.382	A	1,826	0.571	A
		Westbound	2	3,200	2,143	0.670	B	1,468	0.459	A

Source: Kimley-Horn, 2017.

Table 4.14-9. State Highway Intersection Operations – Existing Conditions

Intersection		Without Project				With Project				Project Impact			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		Change		Significant	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM	AM	PM
11	Jamboree Rd/ I-405 NB Ramps	17.0	B	10.5	B	17.5	B	11.0	B	0.5	0.5	No	No
12	Jamboree Rd/ I-405 SB Ramps	24.3	C	19.6	C	29.4	C	20.3	C	5.1	0.7	No	No

Notes:
Bold and shaded values indicate intersections operating at an unacceptable Level of Service.
Intersection operation is expressed in average seconds of delay per vehicle during the peak hour using the HCM Methodology.
Source: Kimley-Horn, 2017.

For discussion purposes, the driveways have been numbered 1 through 5, as shown on Figure 3-13*, Parking and Access – Existing and New Gates*. The following provides a brief description of each of the existing driveways.

- ***Driveway 1:*** The western-most driveway on Birch Street is located approximately 300 feet east of Von Karman Avenue, and is a full-movement driveway. It is 30 feet wide, and provides one inbound lane and one outbound lane. The entry gate on Driveway 1 is set back approximately 95 feet from Birch Street. This driveway leads directly to a surface parking area at the north end of the Koll Center Newport site.

- ***Driveway 2:*** The middle driveway on Birch Street is located approximately 600 feet east of Von Karman Avenue, and is a full-movement driveway. It is 36 feet wide, and provides one inbound lane and one outbound lane, with a narrow, raised median. The entry gate is set back approximately 165 feet from Birch Street. This driveway intersects with the main drive aisle through the Koll Center site that connects Von Karman Avenue and Birch Street in an east-west orientation.
- ***Driveway 3:*** The eastern driveway on Birch Street is located approximately 1,100 feet east of Von Karman Avenue and approximately 750 feet west of Jamboree Road, and is a full-movement driveway. It is 36 feet wide, and provides one inbound lane and one outbound lane. This driveway connects in a T-intersection to the main drive aisle approximately 85 feet from Birch Street. Entry gates are located on the main drive aisle, approximately 50 feet to the west, and approximately 100 feet to the east of the T-intersection.
- ***Driveway 4:*** The northern driveway on Von Karman Avenue is located approximately 350 feet south of Birch Street, and is an exit-only driveway. It is approximately 15 feet wide, and provides one outbound lane only, from which drivers can make both right and left turns.
- ***Driveway 5:*** The southern driveway on Von Karman Avenue is located approximately 900 feet south of Birch Street, and is a full-movement driveway. It is 36 feet wide, and provides one inbound and one outbound lane. The entry gate is set back approximately 90 feet from Von Karman Avenue. This driveway is the western end of the main drive aisle that connects Von Karman Avenue and Birch Street in an east-west orientation.

4.14.4 THRESHOLDS OF SIGNIFICANCE

The following significance criteria are from the City of Newport Beach Environmental Checklist. The Project would result in a significant impact related to traffic and transportation if it would:

Threshold 4.14-1 Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

Threshold 4.14-2 Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads and highways.

Threshold 4.14-3 Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

Threshold 4.14-4 Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Threshold 4.14-5 Result in inadequate emergency access.

To determine whether the Project would cause or contribute to a "substantial increase" in traffic, the following significance criteria are used in this EIR.

Signalized Intersections

To determine whether the addition of project-generated trips at a signalized study intersection results in a significant impact, the City of Newport Beach has adopted the following thresholds of significance:

- A significant impact would occur when the addition of project-generated trips causes the Level of Service at a study intersection to deteriorate from an acceptable Level of Service (LOS D, except for intersections on a CMP facility, or designated intersections in the Airport Area, where LOS E is acceptable) to a deficient Level of Service.
- A significant impact would occur when the addition of project-generated trips increases the ICU at a study intersection by one percent or more (v/c increases by 0.010 or more), worsening a projected baseline condition of LOS E or F.

To determine whether the addition of project-generated trips at a signalized study intersection results in a significant impact, the City of Irvine has adopted the following threshold of significance. Should a significant impact occur, project mitigation would be required to bring the intersection back to baseline conditions, at a minimum.

- A significant impact would occur when the intersection exceeds the acceptable Level of Service (LOS D except for intersections located in the Irvine Business Complex or on a CMP facility, where LOS E is acceptable) in the baseline condition and the impact of the development is greater than or equal to two percent (v/c increase by 0.02 or more), or;
- The project increases the ICU by one percent or more (v/c increases by 0.01 or more) at a study intersection, causing it to become deficient.

Unsignalized Intersections

For unsignalized intersections operating at an unacceptable Level of Service, a signal warrant analysis will be conducted to determine if a signal is warranted. The signal warrant analysis will be conducted according to the California Manual of Uniform Traffic Control Devices (MUTCD), Warrant 3 – Peak Hour warrant parameters, using the peak hour intersection volumes.

Roadway Segments

In the City of Irvine, roadway segments that operate deficiently on a daily basis require a Peak Hour Link Analysis (PHLA), as defined by the City of Irvine's "Revised Peak Hour Link Analysis Methodology (December 1996)" publication. The PHLA specifies that the hourly capacity for a single lane is 1,600 vehicles per hour. Where the distance between controlled intersections exceeds one mile, the lane capacity is 2,000 vehicles per hour. The City of Irvine requires mitigation for impacts that are equal to or greater than 0.02 on a roadway segment that operates at a deficient Level of Service based on the PHLA analysis.

State Highway Intersections

The *Caltrans Guide for the Preparation of Traffic Impact Studies* does not establish a threshold of significance for State Highway intersections. This traffic analysis uses the following traffic threshold of significance:

- A significant project impact occurs at a State Highway study intersection when the addition of project-generated trips causes the peak hour Level of Service to change from acceptable operation (LOS A, B, or C) to deficient operation (LOS D, E, or F) at the study intersection. Where the intersection is currently operating at a deficient Level of Service, the existing Level of Service is to be maintained.

4.14.5 PROJECT ASSUMPTIONS

Trip Generation

Trip generation estimates for the Proposed Project were developed using the Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Edition) publication. The Project components and trip generation estimates for the Koll Center Residences are as follows:

- Luxury Condominiums/Townhouse (Land Use 233)
- Specialty Retail Center (Land Use 826)

The trip generation estimates were developed by adding together the trips generated by the residential and retail uses. However, not all trips from the retail land use are anticipated to be off site trips. Some trips are expected to be captured by the internal land uses, such as the existing office uses and the proposed residential uses. A 10 percent retail adjustment factor was applied to the Specialty Retail land use to account for internal capture.

Daily, morning peak hour, and evening peak hour trip generation estimates for the Proposed Project are shown on *Table 4.14-10*. The Project would generate approximately 1,207 daily trips, with 149 morning peak hour trips (36 inbound and 113 outbound) and 151 evening peak hour trips (94 inbound and 57 outbound). Trip distribution assumptions for the project site were developed based on likely origins and destinations of Project residents and visitors, and the transportation network available for those trips.

4.14.6 ENVIRONMENTAL IMPACTS

Threshold 4.14-1:	**Would the Project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

Existing Plus Project

The Existing Plus Project scenario is a hypothetical scenario which assumes that the Project would be fully implemented at the present time. This analysis isolates the potential impact of the Project from other

projects and circulation system improvements, and assumes full development of the Proposed Project with full absorption of Project traffic on the existing circulation system.

Table 4.14-10. Project Trip Generation

Land Use	Quantity	Unit	Trip Generation Estimates						
				AM Peak Hour			PM Peak Hour		
			Daily	In	Out	Total	In	Out	Total
Luxury Condominium/Townhouse[1]	260	DU	1,087	34	112	146	90	53	143
Specialty Retail Center[2]	3.000	KSF	133	2	1	3	4	5	9
Retail Adjustment Factor (10%)[3]			-13	0	0	0	0	-1	-1
Total Project Trips			**1,207**	**36**	**113**	**149**	**94**	**57**	**151**

Notes:

1. ITE Trip Generation does not provide daily rates for a Luxury Condominium/Townhouse. Therefore, the daily rates for Land Use Category 232 – High-Rise Residential Condominium/Townhouse were used to estimate daily trips.
2. ITE Trip Generation does not provide AM peak hour rates for a Specialty Retail Center. Therefore, the AM peak hour rates for Land Use Category 820 – Shopping Center were used to estimate AM peak hour trips.
3. A 10% adjustment factor to account for internal capture between the existing offices and the proposed residential and retail uses is assumed.

Source: Kimley-Horn, 2017.

Intersection Levels of Service

The intersection analysis was conducted, and the results are summarized in *Table 4.14-11*. With the addition of Project traffic to Existing Conditions peak hour traffic volumes, all study intersections would continue to operate at an acceptable Level of Service. The addition of Project traffic would not cause a significant impact at any traffic study area intersection.

Table 4.14-11. Intersection Operation – Existing Plus Project Conditions

No.	Intersection	Without Project				With Project				Project Impact			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		Change		Significant?	
		ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	AM	PM	AM	PM
1	MacArthur Blvd. at Campus Dr.[a]	0.574	A	0.735	C	0.577	A	0.735	C	0.003	0.000	No	No
2	MacArthur Blvd. at Birch St.	0.376	A	0.517	A	0.387	A	0.522	A	0.011	0.005	No	No
3	MacArthur Blvd. at Von Karman Ave.	0.580	A	0.526	A	0.585	A	0.530	A	0.005	0.004	No	No
4	MacArthur Blvd. at Jamboree Rd.[a]	0.583	A	0.648	B	0.586	A	0.653	B	0.003	0.005	No	No
5	MacArthur Blvd. SB at University Dr.	0.477	A	0.405	A	0.477	A	0.405	A	0.000	0.000	No	No
6	Von Karman Ave. at Michelson Dr.[a]	0.549	A	0.683	B	0.551	A	0.684	B	0.002	0.001	No	No
7	Von Karman Ave. at Campus Dr.[a]	0.597	A	0.758	C	0.599	A	0.760	C	0.002	0.002	No	No
8	Von Karman Ave. at Birch St.	0.340	A	0.372	A	0.351	A	0.380	A	0.011	0.008	No	No
9	Teller Ave. at Campus Dr. [a]	0.270	A	0.406	A	0.270	A	0.407	A	0.000	0.001	No	No
10	Teller Ave. at Birch St.	13.1	B	13.0	B	13.9	B	14.5	B	0.8	1.5	No	No
11	Jamboree Rd. at I-405 NB Ramps[a]	0.709	C	0.798	C	0.711	C	0.801	C	0.002	0.003	No	No
12	Jamboree Rd. at I-405 SB Ramps[a]	0.928	E	0.889	D	0.929	E	0.889	D	0.001	0.000	No	No
13	Jamboree Rd. at Michelson Dr. [a]	0.673	B	0.831	D	0.676	B	0.832	D	0.003	0.001	No	No
14	Jamboree Rd. at Dupont Dr.[a]	0.622	B	0.614	B	0.623	B	0.615	B	0.001	0.001	No	No
15	Jamboree Rd. at Campus Dr. [a]	0.617	B	0.621	B	0.618	B	0.622	B	0.001	0.001	No	No
16	Jamboree Rd. at Birch St.[a]	0.532	A	0.499	A	0.543	A	0.515	A	0.011	0.016	No	No
17	Jamboree Rd. at Fairchild Rd.[a]	0.636	B	0.726	C	0.638	B	0.731	C	0.002	0.005	No	No
18	Jamboree Rd. at Bristol St. N	0.329	A	0.483	A	0.331	A	0.484	A	0.002	0.001	No	No
19	Jamboree Rd. at Bristol St. S	0.673	B	0.638	B	0.673	B	0.642	B	0.000	0.004	No	No
20	Jamboree Rd. at Bayview Way	0.451	A	0.450	A	0.452	A	0.450	A	0.001	0.000	No	No

Table 4.14-11. Intersection Operation – Existing Plus Project Conditions

No.	Intersection	Without Project				With Project				Project Impact			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		Change		Significant?	
		ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	AM	PM	AM	PM
21	Jamboree Rd. at University Dr.	0.610	B	0.567	A	0.612	B	0.568	A	0.002	0.001	No	No
22	Carlson Ave. at Campus Dr. [a]	0.418	A	0.688	B	0.418	A	0.688	B	0.000	0.000	No	No
23	University Dr. at Campus Dr.[b]	0.740	C	0.704	B	0.740	C	0.704	B	0.000	0.000	No	No
24	Bristol St. N at Campus Dr.	0.554	A	0.700	B	0.558	A	0.702	B	0.004	0.002	No	No
25	Bristol St. S at Campus Dr. / Irvine Ave	0.706	C	0.577	A	0.707	C	0.577	A	0.001	0.000	No	No
26	Irvine Ave. at Mesa Dr.	0.437	A	0.642	B	0.438	A	0.643	B	0.001	0.001	No	No
27	Bristol St. N at Birch St.	0.631	B	0.582	A	0.633	B	0.584	A	0.002	0.002	No	No
28	Bristol St. S at Birch St.	0.471	A	0.557	A	0.471	A	0.558	A	0.000	0.001	No	No
29	Bristol St. S at Bayview Pl.	0.407	A	0.459	A	0.408	A	0.461	A	0.001	0.002	No	No

Notes:
Bold and shaded values indicate intersections operating at an unacceptable Level of Service. Intersection operation is expressed in volume-to-capacity (v/c) ratio for signalized intersections using the ICU Methodology, and average seconds of delay per vehicle during the peak hour for unsignalized intersections using the HCM Methodology.

a. Level of Service E is acceptable at this intersection.

b. A 5% capacity credit is applied at this intersection to reflect implementation of the Advanced Transportation Management System (ATMS).

Source: Kimley-Horn, 2017.

Roadway Segments

Existing Plus Project roadway operations are summarized in *Table 4.14-12*. The following roadway segments would continue to be deficient with the addition of Project traffic:

- Jamboree Road: Main Street to I-405 northbound ramp
- Jamboree Road: Between I-405 northbound ramp and I-405 southbound ramp
- Jamboree Road: I-405 southbound ramp to Michelson Drive
- Campus Drive: Carlson Avenue to University Drive
- University Drive: California Avenue to Mesa Road
- University Drive: Mesa Road to Campus Drive

These segments were further analyzed using the PHLA methodology, and the results are shown in *Table 4.14-13*. The table indicates that these roadway segments would continue to operate at LOS C or better during the peak hours with the addition of Project traffic.

Traffic Phasing Ordinance (TPO) Analysis

The City of Newport Beach TPO first requires a determination of whether project trips will increase traffic volumes on any leg of a Primary Intersection by 1 percent or more during either the morning or evening peak hour 1 year after project completion, or that portion of the project expected to be constructed within 5 years (60 months) of project approval, which would be Year 2022. The TPO then requires a level of service analysis of the project impact at any Primary Intersection that exceeds the one percent threshold.

For TPO purposes, traffic forecasts are developed by applying an ambient growth rate of one percent per year on primary roadways (Jamboree Road, MacArthur Boulevard and Irvine Avenue) in the project study area, plus traffic from committed projects in the vicinity of the project site.

Committed projects are projects in the City of Newport Beach that have been approved but are not yet fully constructed and occupied. A summary of the City's committed projects is included in *Table 4.14-14*.

Traffic volumes generated by the committed projects in the study area were added to existing peak hour volumes plus ambient growth to develop the TPO Analysis Year 2022 forecast traffic volumes.

TPO Analysis Year 2022 Without Project: Intersection Levels of Service

Intersection analysis was conducted for the TPO Analysis Year 2022 (Existing plus Growth plus Committed Projects) Without Project peak hour traffic conditions. The results of the intersection analysis are summarized in *Table 4.14-15*. The following intersections would operate at an unacceptable Level of Service under TPO Analysis Year 2022 Without Project Conditions:

12. Jamboree Road at I-405 southbound ramps (AM: LOS F, PM: LOS F)
13. Jamboree Road at Michelson Drive (PM: LOS F)

All other study intersections would operate at an acceptable Level of Service in both peak hours.

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Table 4.14-12. Roadway Segment Analysis – Existing Plus Project Conditions

Roadway	Segment	Existing Conditions				Existing Plus Project				Project Impact	
		LOS E Capacity	Traffic Volume	V/C	LOS	Project Traffic	Traffic Volume	V/C	LOS	Project Impact	Significant?
MacArthur Boulevard	North of Main Street	63,000	26,939	0.428	A	60	26,999	0.429	A	0.001	No
	Main Street to I-405 NB Ramps	72,000	35,479	0.493	A	60	35,539	0.494	A	0.001	No
	Between I-405 NB and SB Ramps	72,000	51,177	0.711	C	151	51,328	0.713	C	0.002	No
	I-405 SB Ramps to Michelson	72,000	52,637	0.731	C	242	52,879	0.734	C	0.003	No
	Michelson to Campus	72,000	35,873	0.498	A	242	36,115	0.502	A	0.003	No
	Jamboree to University	54,000	39,361	0.729	C	240	39,601	0.733	C	0.004	No
Von Karman Avenue	North of Main Street	28,000	21,662	0.774	C	60	21,722	0.776	C	0.002	No
	Main to Michelson	28,000	22,999	0.821	D	60	23,059	0.824	D	0.002	No
	Michelson to Dupont	28,000	16,965	0.606	B	60	17,025	0.608	B	0.002	No
	Dupont to Campus	28,000	16,965	0.606	B	60	17,025	0.608	B	0.002	No
Teller Avenue	Michelson to Dupont	13,000	5,566	0.428	A	0	5,566	0.428	A	0.000	No
	Dupont to Campus	13,000	2,955	0.227	A	0	2,955	0.227	A	0.000	No
Jamboree Road	North of Main Street	72,000	63,067	0.876	D	60	63,127	0.877	D	0.001	No
	Main to I-405 NB Ramps	72,000	70,074	**0.973**	**E**	150	70,224	**0.975**	**E**	0.002	No
	Between I-405 NB and SB Ramps	72,000	78,431	**1.089**	**F**	150	78,581	**1.091**	**F**	0.002	No
	I-405 SB Ramps to Michelson	72,000	71,095	**0.987**	**E**	242	71,337	**0.991**	**E**	0.003	No
	Michelson to Dupont	72,000	45,474	0.632	B	242	45,716	0.635	B	0.003	No
	Dupont to Campus	63,000	41,587	0.660	B	242	41,829	0.664	B	0.004	No
	Campus to Birch	63,000	39,071	0.620	B	212	39,283	0.624	B	0.003	No
	Birch to Fairchild	63,000	41,102	0.652	B	242	41,344	0.656	B	0.004	No
	Fairchild to MacArthur	63,000	33,314	0.529	A	242	33,556	0.533	A	0.004	No
Carlson Avenue	Michelson to Campus	28,000	6,128	0.219	A	0	6,128	0.219	A	0.000	No
Harvard Avenue	North of Michelson	32,000	25,439	0.795	C	0	25,439	0.795	C	0.000	No
	Michelson to University	32,000	19,009	0.594	A	0	19,009	0.594	A	0.000	No

Table 4.14-12. Roadway Segment Analysis – Existing Plus Project Conditions

Roadway	Segment	Existing Conditions				Existing Plus Project				Project Impact	
		LOS E Capacity	Traffic Volume	V/C	LOS	Project Traffic	Traffic Volume	V/C	LOS	Project Impact	Significant?
Main Street	West of MacArthur	54,000	23,739	0.440	A	0	23,739	0.440	A	0.000	No
	MacArthur to Von Karman	54,000	29,325	0.543	A	0	29,325	0.543	A	0.000	No
	Von Karman to Jamboree	54,000	24,984	0.463	A	0	24,984	0.463	A	0.000	No
	East of Jamboree	54,000	23,323	0.432	A	0	23,323	0.432	A	0.000	No
Michelson Drive	MacArthur to Von Karman	28,000	10,635	0.380	A	0	10,635	0.380	A	0.000	No
	Von Karman to Jamboree	28,000	15,386	0.550	A	0	15,386	0.550	A	0.000	No
	Jamboree to Carlson	32,000	20,475	0.640	B	0	20,475	0.640	B	0.000	No
	Carlson to Harvard	32,000	20,475	0.640	B	0	20,475	0.640	B	0.000	No
	East of Harvard	32,000	17,894	0.559	A	0	17,894	0.559	A	0.000	No
Dupont Drive	Von Karman to Teller	28,000	4,176	0.149	A	0	4,176	0.149	A	0.000	No
	Teller Ave to Jamboree	28,000	3,021	0.108	A	0	3,021	0.108	A	0.000	No
Campus Drive	West of MacArthur	54,000	29,714	0.550	A	0	29,714	0.550	A	0.000	No
	MacArthur to Von Karman	32,000	13,075	0.409	A	0	13,075	0.409	A	0.000	No
	Von Karman Ave to Teller	28,000	11,189	0.400	A	0	11,189	0.400	A	0.000	No
	Teller to Jamboree	28,000	11,186	0.400	A	30	11,216	0.401	A	0.001	No
	Jamboree to Carlson	28,000	18,431	0.658	B	0	18,431	0.658	B	0.000	No
	Carlson to University	13,000	18,427	**1.417**	**F**	0	18,427	**1.417**	**F**	0.000	No
	East of University	28,000	22,648	0.809	D	0	22,648	0.809	D	0.000	No
University Drive	MacArthur to California	32,000	24,765	0.774	C	0	24,765	0.774	C	0.000	No
	California to Mesa	32,000	30,386	**0.950**	**E**	0	30,386	**0.950**	**E**	0.000	No
	Mesa to Campus	32,000	30,580	**0.956**	**E**	0	30,580	**0.956**	**E**	0.000	No
	Campus to Harvard	54,000	25,303	0.469	A	0	25,303	0.469	A	0.000	No

Bold and shaded values indicate a deficient Level of Service, based on City of Irvine Traffic Analysis Guidelines.

Source: Kimley-Horn, 2017.

Table 4.14-13. Peak Hour Link Analysis – Existing Plus Project										
					AM Peak			PM Peak		
Roadway	Segment	Direction	No. of Lanes	Capacity	Volume	V/C	LOS	Volume	V/C	LOS
Jamboree Road	Main to I-405 NB Ramps	Northbound	4	6,400	2,647	0.414	A	3,523	0.550	A
		Southbound	4	6,400	3,281	0.513	A	2,778	0.434	A
	I-405 NB Ramps to I-405 SB Ramps	Northbound	4	6,400	2,567	0.401	A	3,660	0.572	A
		Southbound	4	6,400	3,313	0.518	A	2,611	0.408	A
	I-405 SB Ramps to Michelson Dr	Northbound	4	6,400	1,900	0.297	A	3,659	0.572	A
		Southbound	4	6,400	4,537	0.709	C	2,673	0.418	A
Campus Drive	Carlson to University	Eastbound	1	1,600	525	0.328	A	1,084	0.678	B
		Westbound	1	1,600	702	0.439	A	696	0.435	A
University Drive	California to Mesa	Eastbound	2	3,200	1,222	0.382	A	1,826	0.571	A
		Westbound	2	3,200	2,143	0.670	B	1,468	0.459	A
	Mesa to Campus	Eastbound	2	3,200	1,222	0.382	A	1,826	0.571	A
		Westbound	2	3,200	2,143	0.670	B	1,468	0.459	A
Source: Kimley-Horn, 2017.										

TPO Analysis Year 2022 With Project: Intersection Levels of Service

In this scenario, project-related peak hour traffic volumes are added to the TPO Analysis Year 2022 Without Project traffic volumes. The results of the intersection analysis are summarized in *Table 4.14-16*. The following study intersections would continue to operate at an unacceptable Level of Service with the addition of Project traffic:

12. Jamboree Road at I-405 southbound ramps (AM: LOS F, PM: LOS F)
13. Jamboree Road at Michelson Drive (PM: LOS F)

Based on the significance criteria set forth in this EIR, the Project impact increment does not exceed the significance threshold at these intersections. Therefore, the addition of Project trips would not result in a significant impact. All other study intersections would operate at an acceptable Level of Service in both peak hours.

CEQA (Cumulative Conditions) Analysis

The State CEQA Guidelines (§ 15130) require that a project's cumulative impacts be discussed when "…the incremental effect is cumulatively considerable…" According to the State CEQA Guidelines Section 15065(a)(3), "the term 'cumulatively considerable' means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects". Specifically, the State CEQA Guidelines Section 15355 defines cumulative impacts as "…two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts".

Table 4.14-14. City of Newport Beach Committed Projects		
Project No.	**Project Name**	**Percent Complete**
148	Fashion Island Expansion	40%
154	Temple Bat Yahm Expansion	65%
910	Newport Dunes	0%
945	Hoag Hospital Phase III	0%
949	St. Mark Presbyterian Church	77%
955	2300 Newport Boulevard	0%
958	Hoag Health Center	95%
959	North Newport Center	0%
960	Santa Barbara Condominiums	33%
962	328 Old Newport Medical	0%
965	Mariner's Pointe	16%
966	4221 Dolphin Striker	55%
967	San Joaquin Hills Plaza	0%
968	Uptown Newport (Phase 2)	0%
969	Uptown Newport (Phase 1)	0%
970	Marina Park	0%
971	Back Bay Landing 300 E. Coast Highway	0%
972	Westcliff Drive Medical Plaza	0%
973	Lido House Hotel Traffic	0%
974	Newport Executive Center	0%
975	Ebb Tide Residential	0%
976	ENC Nature Pre-School	0%
977	Balboa Marina West	0%
Source: Kimley-Horn, 2017.		

Table 4.14-15. Intersection Operation – TPO Analysis Year 2022 Without Project					
No.	**Intersection**	**AM Peak Hour**		**PM Peak Hour**	
		ICU/Delay	**LOS**	**ICU/Delay**	**LOS**
1	MacArthur Blvd. at Campus Dr.[a]	0.59	A	0.78	C
2	MacArthur Blvd. at Birch St.	0.41	A	0.55	A
3	MacArthur Blvd. at Von Karman Ave.	0.61	B	0.55	A
4	MacArthur Blvd. at Jamboree Rd.[a]	0.68	B	0.73	C
5	MacArthur Blvd. SB Ramp at University Dr.	0.53	A	0.45	A
6	Von Karman Ave. at Michelson Dr.[a]	0.62	B	0.84	D
7	Von Karman Ave. at Campus Dr. [a]	0.61	B	0.69	B
8	Von Karman Ave. at Birch St.	0.35	A	0.38	A
9	Teller Ave. at Campus Dr. [a]	0.44	A	0.52	A

Table 4.14-15. Intersection Operation – TPO Analysis Year 2022 Without Project

No.	Intersection	AM Peak Hour		PM Peak Hour	
		ICU/Delay	LOS	ICU/Delay	LOS
10	Teller Ave. at Birch St.	13.1	B	13.0	B
11	Jamboree Rd. at I-405 NB Ramps[a]	0.80	C	0.92	E
12	Jamboree Rd. at I-405 SB Ramps[a]	1.13	**F**	1.02	**F**
13	Jamboree Rd. at Michelson Dr. [a]	0.90	D	1.08	**F**
14	Jamboree Rd. at Dupont Dr. [a]	0.70	B	0.73	C
15	Jamboree Rd. at Campus Dr. [a]	0.67	B	0.76	C
16	Jamboree Rd. at Birch St. [a]	0.64	B	0.62	B
17	Jamboree Rd. at Fairchild Dr. [a]	0.64	B	0.78	C
18	Jamboree Rd. at Bristol St. N	0.39	A	0.54	A
19	Jamboree Rd. at Bristol St. S	0.73	C	0.72	C
22	Carlson Ave. at Campus Dr.[a]	0.52	A	0.73	C
23	University Dr. at Campus Dr.[b]	0.84	D	0.87	D
24	Bristol St. N at Campus Dr.	0.58	A	0.71	C
26	Irvine Ave. at Mesa Dr.	0.47	A	0.68	B
27	Birch St. at Bristol St. N	0.67	B	0.61	B

Notes:
Bold and shaded values indicate intersections operating at an unacceptable Level of Service.
Intersection operation is expressed in volume-to-capacity (v/c) ratio for signalized intersections using the ICU Methodology, and average seconds of delay per vehicle during the peak hour for unsignalized intersections using the HCM Methodology.

a. Level of Service E is acceptable at this intersection.
b. A 5% capacity credit is applied at this intersection to reflect implementation of the Advanced Transportation Management System (ATMS).

Source: Kimley-Horn, 2017.

The cumulative conditions analysis includes traffic from cumulative projects in the vicinity of the project site. Cumulative projects consist of the committed projects (approved projects in the City of Newport Beach), as well as other projects that are in various stages of the application and approval process, but have not yet been approved. These projects are considered to be "reasonably foreseeable" projects, and must therefore be analyzed for CEQA purposes. The cumulative projects list includes the projects identified by the City of Newport Beach as committed projects, plus pending projects in the City of Newport Beach, as well as approved and pending projects in the City of Irvine. A summary of cumulative projects used by the Traffic Impact Study is provided in *Table 4.14-17*. The location of the cumulative projects in relation to the project site is shown in Figure 4.14-4, *Location of Traffic Study Cumulative Projects***.**

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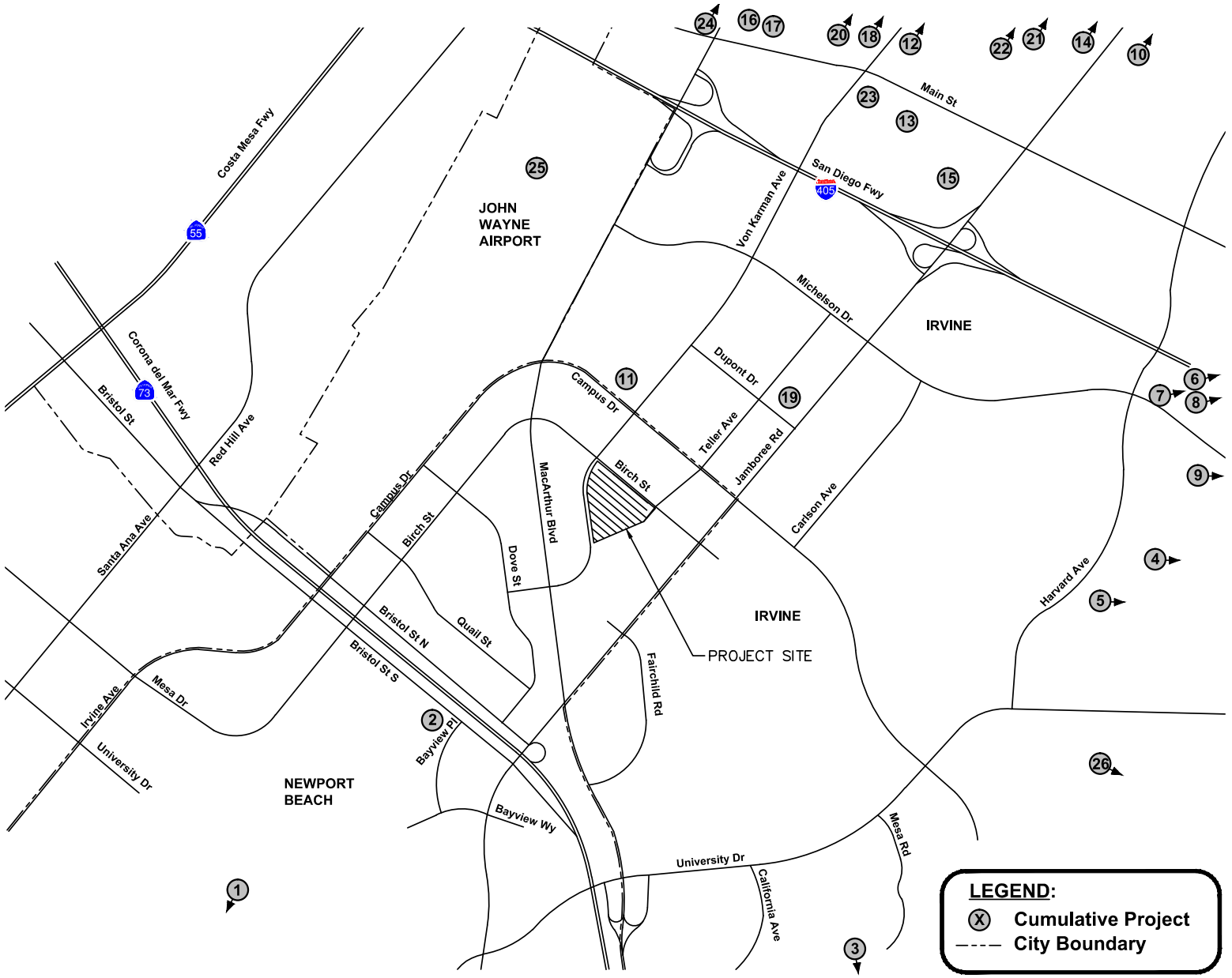

FIGURE 4.14-4: Location of Traffic Study Cumulative Projects
The Koll Center Residences Project

Not to scale

Kimley»Horn

Table 4.14-16. Intersection Operation – TPO Analysis Year 2022 With Project

No.	Intersection	Without Project				With Project				Project Impact			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		Change		Significant?	
		ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	AM	PM	AM	PM
1	MacArthur Blvd. at Campus Dr. [a]	0.59	A	0.78	C	0.59	A	0.78	C	0.003	0.000	No	No
2	MacArthur Blvd. at Birch St.	0.41	A	0.55	A	0.42	A	0.56	A	0.011	0.004	No	No
3	MacArthur Blvd. at Von Karman Ave.	0.61	B	0.55	A	0.62	B	0.56	A	0.005	0.004	No	No
4	MacArthur Blvd. at Jamboree Rd. [a]	0.68	B	0.73	C	0.69	B	0.73	C	0.004	0.000	No	No
5	MacArthur Blvd. SB Ramp at University Dr.	0.53	A	0.45	A	0.53	A	0.45	A	0.000	0.000	No	No
6	Von Karman Ave. at Michelson Dr.	0.62	B	0.84	D	0.62	B	0.84	D	0.000	0.001	No	No
8	Von Karman Ave. at Birch St.	0.35	A	0.38	A	0.36	A	0.38	A	0.010	0.009	No	No
9	Teller Ave. at Campus Dr. [a]	0.44	A	0.52	A	0.44	A	0.52	A	0.000	0.001	No	No
10	Teller Ave. at Birch St.	13.1	B	13.0	B	13.9	B	14.5	B	0.8	1.5	No	No
11	Jamboree Rd. at I-405 NB Ramps [a]	0.80	C	0.92	E	0.80	C	0.92	E	0.002	0.003	No	No
12	Jamboree Rd. at I-405 SB Ramps [a]	1.13	**F**	1.02	**F**	1.13	**F**	1.02	**F**	0.001	0.001	No	No
13	Jamboree Rd. at Michelson Dr. [a]	0.90	D	1.08	**F**	0.90	D	1.08	**F**	0.003	0.001	No	No
14	Jamboree Rd. at Dupont Dr. [a]	0.70	B	0.73	C	0.71	C	0.73	C	0.001	0.001	No	No
15	Jamboree Rd. at Campus Dr. [a]	0.67	B	0.76	C	0.67	B	0.77	C	0.001	0.004	No	No
16	Jamboree Rd. at Birch St. [a]	0.64	B	0.62	B	0.65	B	0.63	B	0.010	0.016	No	No
17	Jamboree Rd. at Fairchild Dr. [a]	0.64	B	0.78	C	0.65	B	0.78	C	0.002	0.005	No	No
18	Jamboree Rd. at Bristol St. N	0.39	A	0.54	A	0.40	A	0.54	A	0.002	0.001	No	No
19	Jamboree Rd. at Bristol St. S	0.73	C	0.72	C	0.73	C	0.72	C	0.000	0.004	No	No
22	Carlson Ave. at Campus Dr. [a]	0.52	A	0.73	C	0.52	A	0.73	C	0.000	0.000	No	No
23	University Dr. at Campus Dr. [b]	0.84	D	0.87	D	0.84	D	0.87	D	0.000	0.000	No	No
24	Bristol St. N at Campus Dr.	0.58	A	0.71	C	0.58	A	0.72	C	0.004	0.002	No	No
26	Irvine Ave. at Mesa Dr.	0.47	A	0.68	B	0.47	A	0.68	B	0.002	0.001	No	No
27	Birch St. at Bristol St. N	0.67	B	0.61	B	0.67	B	0.61	B	0.002	0.002	No	No

Notes:
Bold and shaded values indicate intersections operating at an unacceptable Level of Service.
Intersection operation is expressed in volume-to-capacity (v/c) ratio for signalized intersections using the ICU Methodology, and average seconds of delay per vehicle during the peak hour for unsignalized intersections using the HCM Methodology.
a. Level of Service E is acceptable at this intersection.
b. A 5% capacity credit is applied at this intersection to reflect implementation of the Advanced Transportation Management System (ATMS).
Source: Kimley-Horn, 2017.

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The cumulative conditions analysis was conducted for the following scenarios:

- CEQA Analysis Year 2022 Without Project
- CEQA Analysis Year 2022 With Project

Future Year Cumulative Conditions peak hour traffic volumes for Newport Beach intersections were developed by adding an ambient growth rate of one percent per year to existing volumes on primary roadways and then adding peak hour traffic volumes from the cumulative projects.

For the City of Irvine intersections, City of Irvine transportation planning staff provided peak hour traffic forecasts from the Irvine Traffic Analysis Model (ITAM) which is maintained and operated by the City. The ITAM forecasts include the effects of ambient traffic growth and traffic from cumulative projects. ITAM forecasts represent 2017 traffic volumes; therefore, City of Irvine staff recommended applying a growth factor of two percent per year to develop 2022 forecasts.

Table 4.14-17. Traffic Analysis Cumulative Projects

Project No.	Project Name	Location	Existing Use	Project Description
City of Newport Beach				
1	ExplorOcean	600 E. Bay Ave 209 Washington St 600 & 608 Balboa Ave 200 Palm St	26,219 sf Commercial	70,295 sf of Ocean Literacy Facility 6,500 sf Floating Classroom
2	Harbor Pointe Senior Living (PA2015-210)	101 Bayview Pl	Restaurant	90,000 sf of convalescent and congregate care facility with 121 beds
3	Newport Coast	Newport Coast Dr	2,807-acre State Park	3,180 du Single-Family Detached Residential
City of Irvine				
4	PA 35 Adult Daycare	Irvine	3,422 sf Office	3,422 sf Community Facility
5	Concordia University	1530 Concordia	N/A	336,785 sf Institutional 330-room dormitory
6	El Toro 100-Acre County Project	Marine Way north of I-5	N/A	1,876 KSF Office 2,103 du Residential 220 KSF Retail 242 Room Hotel
7	Cultural Terrace	Orange County Great Park	N/A	260 Acre Master Plan
8	Cemetery	S/O Irvine Blvd, PA51	N/A	125 Acre
9	Kawasaki	9950 Jeronimo Rd	N/A	80 KSF Office
10	West Alton Apartments	North side of Irvine Blvd	N/A	970 du Condominiums
11	Colton Apartments	Campus Dr./ Martin Ct./ Von Karman Ave	N/A	876 du Apartments
12	Kilroy Apartments	17150 Von Karman Ave	N/A	469 du Apartments

Table 4.14-17. Traffic Analysis Cumulative Projects

Project No.	Project Name	Location	Existing Use	Project Description
13	17861 Cartwright	17861 Cartwright	N/A	45 du Residential
14	2660 Barranca & 1652 Millikan	2660 Barranca & 1652 Millikan	N/A	136 du Residential
15	2652 White Road	2652 White Rd	N/A	165 du Residential
16	17811-17817 Gillette Ave.	17811-17817 Gillette Ave	N/A	44 du Residential
17	17822 Gillette Ave.	17822 Gillette Ave.	N/A	149 du Apartments
18	2152 Alton Apartments	2152 Alton Parkway	N/A	357 du Apartments.
19	Boardwalk	18691 Jamboree Rd	N/A	458 KSF Office
20	Irvine Canaan Church (ICCCC)	16808 Armstrong Ave	N/A	13.434 KSF Church 11.295 KSF Child Care
21	2602 McGaw Apartments	2602 McGaw Ave	N/A	120 du Apartments
22	Parcel 3/Diamond Jamboree Retail Center	Diamond Jamboree Retail Center	N/A	25 KSF Retail
23	17850 Von Karman Office	17850 Von Karman Ave.	N/A	242.497 KSF Office
24	1400 Reynolds Avenue	1400 Reynolds Ave.	N/A	39.2 KSF Medical Office
25	John Wayne Airport	Airport Way	N/A	12.5 MAP
26	UCI Long Range Development Plan	UCI	N/A	Campus Master Plan

sf = square feet; du = dwelling units; KSF = Thousand Square Feet; MAP = Million Annual Passengers

Source: Kimley-Horn, 2017.

CEQA Analysis Year 2022 Without Project

Intersection Levels of Service

CEQA Analysis Year 2022 Without Project intersection operations are summarized in *Table 4.14-18*, *Intersection Operation – CEQA Analysis Year 2022 Without Project*. As was the case with the TPO Analysis, the following intersections would operate at an unacceptable Level of Service under CEQA Analysis Year 2022 Without Project:

12. Jamboree Road at I-405 southbound ramps (AM: LOS F, PM: LOS F)
13. Jamboree Road at Michelson Drive (PM: LOS F)

All other study intersections are forecasted to operate at an acceptable Level of Service in both peak hours.

Table 4.14-18. Intersection Operation – CEQA Analysis Year 2022 Without Project

No.	Intersection	Without Project			
		AM Peak Hour		PM Peak Hour	
		ICU/ Delay	LOS	ICU/ Delay	LOS
1	MacArthur Blvd. at Campus Dr. [a]	0.610	B	0.832	D
2	MacArthur Blvd. at Birch St.	0.474	A	0.570	A
3	MacArthur Blvd. at Von Karman Ave.	0.632	B	0.597	A
4	MacArthur Blvd. at Jamboree Rd. [a]	0.756	C	0.821	D
5	MacArthur Blvd. SB at University Dr.	0.563	A	0.514	A
6	Von Karman Ave. at Michelson Dr. [a]	0.619	B	0.839	D
7	Von Karman Ave. at Campus Dr. [a]	0.650	B	0.742	C
8	Von Karman Ave. at Birch St.	0.365	A	0.388	A
9	Teller Ave. at Campus Dr. [a]	0.435	A	0.522	A
10	Teller Ave. at Birch St.	13.4	B	13.2	B
11	Jamboree Rd. at I-405 NB Ramps [a]	0.800	C	0.916	E
12	Jamboree Rd. at I-405 SB Ramps [a]	1.133	**F**	1.019	**F**
13	Jamboree Rd. at Michelson Dr. [a]	0.901	D	1.079	**F**
14	Jamboree Rd. at Dupont Dr. [a]	0.704	B	0.729	C
15	Jamboree Rd. at Campus Dr. [a]	0.677	B	0.762	C
16	Jamboree Rd. at Birch St. [a]	0.643	B	0.610	B
17	Jamboree Rd. at Fairchild Rd. [a]	0.643	B	0.779	C
18	Jamboree Rd. at Bristol St. N	0.408	A	0.590	A
19	Jamboree Rd. at Bristol St. S	0.757	C	0.753	C
20	Jamboree Rd. at Bayview Way	0.503	A	0.525	A
21	Jamboree Rd. at University Dr.	0.687	B	0.688	B
22	Carlson Ave. at Campus Dr. [a]	0.522	A	0.734	C
23	University Dr. at Campus Dr. [b]	0.841	D	0.869	D
24	Bristol St. N at Campus Dr.	0.598	A	0.746	C
25	Bristol St. S at Campus Dr./ Irvine Ave.	0.761	C	0.643	B
26	Irvine Ave. at Mesa Dr.	0.474	A	0.690	B
27	Bristol St. N at Birch St.	0.680	B	0.642	B
28	Bristol St. S at Birch St.	0.505	A	0.593	A
29	Bristol St. S at Bayview Pl.	0.443	A	0.494	A

Notes:
Bold and shaded values indicate intersections operating at an unacceptable Level of Service.
Intersection operation is expressed in volume-to-capacity (v/c) ratio for signalized intersections using the ICU Methodology, and average seconds of delay per vehicle during the peak hour for unsignalized intersections using the HCM Methodology.

a. Level of Service E is acceptable at this intersection.
b. A 5% capacity credit is applied at this intersection to reflect implementation of the Advanced Transportation Management System (ATMS).

Source: Kimley-Horn, 2017.

Roadway Segments

CEQA Analysis Year 2022 Without Project roadway operations are summarized in *Table 4.14-19*. The following roadway segments would be deficient in the CEQA Analysis Year 2022 Without Project scenario:

- Von Karman Avenue: North of Main Street
- Von Karman Avenue: Main Street to Michelson Drive
- Jamboree Road: North of Main Street
- Jamboree Road: Main Street to I-405 northbound ramp
- Jamboree Road: Between I-405 northbound ramp and I-405 southbound ramp
- Jamboree Road: I-405 southbound ramp to Michelson Drive
- Campus Drive: Carlson Avenue to University Drive
- University Drive: California Avenue to Mesa Road
- University Drive: Mesa Road to Campus Drive

Table 4.14-19. Roadway Segment Analysis – CEQA Analysis Year 2022 Without Project

Roadway	Segment	No. of Lanes	LOS E Capacity	Traffic Volume	V/C	LOS
MacArthur Boulevard	North of Main Street	7	63,000	34,645	0.550	A
	NB I-405 to Main	8	72,000	53,893	0.749	C
	Between I-405 NB and SB Ramps	8	72,000	55,245	0.767	C
	Michelson to SB I-405	8	72,000	59,303	0.824	D
	Michelson to Campus	8	72,000	38,911	0.540	A
	Jamboree to University	6	54,000	21,640	0.401	A
Von Karman Avenue	North of Main Street	4	28,000	26,738	**0.955**	**E**
	Main to Michelson	4	28,000	28,299	**1.011**	**F**
	Michelson to Dupont	4	28,000	19,351	0.691	B
	Dupont to Campus	4	28,000	19,247	0.687	B
Teller Avenue	South of Michelson Drive	2	13,000	8,011	0.616	B
	South of Dupont Drive	2	13,000	5,514	0.424	A
Jamboree Road	North of Main Street	8	72,000	71,163	**0.988**	**E**
	Main to NB I-405 Ramp	8	72,000	76,261	**1.059**	**F**
	Between NB and SB I-405 Ramp	8	72,000	65,025	**0.903**	**E**
	SB I-405 to Michelson	8	72,000	87,498	**1.215**	**F**
	Michelson to Dupont	8	72,000	61,592	0.855	D
	Dupont to Campus	7	63,000	47,754	0.758	C
	Campus to Birch	7	63,000	45,570	0.723	C
	Birch to Fairchild	7	63,000	44,841	0.712	C
	Fairchild to MacArthur	7	63,000	39,327	0.624	B
Carlson Avenue	Michelson to Campus	4	28,000	9,156	0.327	A

Table 4.14-19. Roadway Segment Analysis – CEQA Analysis Year 2022 Without Project

Roadway	Segment	No. of Lanes	LOS E Capacity	Traffic Volume	V/C	LOS
Harvard Avenue	North of Michelson	4	32,000	25,802	0.806	D
	Michelson to University	4	32,000	19,247	0.601	A
Main Street	West of MacArthur	6	54,000	27,050	0.501	A
	MacArthur to Von Karman	6	54,000	35,270	0.653	B
	Von Karman to Jamboree	6	54,000	28,403	0.526	A
	East of Jamboree	6	54,000	24,449	0.453	A
Michelson Drive	MacArthur to Von Karman	4	28,000	22,681	0.810	D
	Von Karman to Jamboree	4	28,000	21,640	0.773	C
	Jamboree to Carlson	4	32,000	26,530	0.829	D
	Carlson to Harvard	4	32,000	25,594	0.800	C
	East of Harvard	4	32,000	19,039	0.595	A
Dupont Drive	Von Karman to Teller	4	28,000	5,618	0.201	A
	Teller Ave to Jamboree	4	28,000	3,849	0.137	A
Campus Drive	West of MacArthur	6	54,000	33,397	0.618	B
	MacArthur to Von Karman	4	32,000	16,126	0.504	A
	Von Karman Ave to Teller	4	28,000	13,629	0.487	A
	Teller to Jamboree	4	28,000	12,797	0.457	A
	Jamboree to Carlson	4	28,000	20,808	0.743	C
	Carlson to University	2	13,000	19,664	**1.513**	**F**
	East of University	4	28,000	24,866	0.888	D
University Drive	MacArthur to California Ave	4	32,000	27,154	0.849	D
	California to Mesa	4	32,000	32,877	**1.027**	**F**
	Mesa to Campus	4	32,000	33,397	**1.044**	**F**
	Campus to Harvard	6	54,000	28,507	0.528	A

Notes:
Bold and shaded values indicate a deficient Level of Service, based on City of Irvine Traffic Analysis Guidelines.
V/C = volume to capacity

Source: Kimley-Horn, 2017.

These segments were further analyzed using the PHLA methodology, and the results are shown in *Table 4.14-20*. The table indicates that these roadway segments would operate at LOS D or better during the peak hours in the CEQA Analysis Year 2022 Without Project scenario.

Table 4.14-20. Peak Hour Link Analysis – CEQA Analysis Year 2022 Without Project

Roadway	Segment	Direction	No. of Lanes	Capacity	AM Peak			PM Peak		
					Vol.	V/C	LOS	Vol.	V/C	LOS
Von Karman Avenue	North of Main	Northbound	2	3,200	1,281	0.400	A	1,623	0.507	A
		Southbound	2	3,200	1,140	0.356	A	1,271	0.397	A
	Main to Michelson	Northbound	2	3,200	1,281	0.400	A	1,623	0.507	A
		Southbound	2	3,200	1,140	0.356	A	1,271	0.397	A
Jamboree Road	North of Main	Northbound	4	6,400	3,069	0.480	A	3,986	0.623	B
		Southbound	4	6,400	3,866	0.604	A	3,335	0.521	A
	Main to I-405 NB Ramps	Northbound	4	6,400	3,069	0.480	A	3,986	0.623	B
		Southbound	4	6,400	3,866	0.604	A	3,335	0.521	A
	I-405 NB Ramps to I-405 SB Ramps	Northbound	4	6,400	2,877	0.450	A	4,428	0.692	B
		Southbound	4	6,400	4,185	0.654	B	3,102	0.485	A
	I-405 SB Ramps to Michelson	Northbound	4	6,400	2,560	0.400	A	4,511	0.705	B
		Southbound	4	6,400	5,597	0.875	D	3,412	0.533	A
Campus Drive	Carlson to University	Eastbound	1	1,600	667	0.417	A	1,116	0.698	B
		Westbound	1	1,600	776	0.485	A	863	0.539	A
University Drive	California to Mesa	Eastbound	2	3,200	1,096	0.343	A	2,240	0.700	B
		Westbound	2	3,200	2,373	0.742	C	1,447	0.452	A
	Mesa to Campus	Eastbound	2	3,200	1,096	0.343	A	2,240	0.700	B
		Westbound	2	3,200	2,373	0.742	C	1,447	0.452	A

Vol. = Volume; V/C = volume to capacity

Source: Kimley-Horn, 2017.

State Highway Intersection Levels of Service

CEQA Analysis Year 2022 Without Project peak hour operation for the State Highway study intersections are identified in *Table 4.14-21*. The intersection of Jamboree Road at I-405 southbound ramps would operate at LOS E in the morning peak hour.

Table 4.14-21. State Highway Intersection Operations – CEQA Analysis Year 2022

Intersection		Without Project				With Project				Project Impact			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		Change		Significant	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM	AM	PM
11	Jamboree/ I-405 NB Ramps	18.9	B	12.4	B	18.9	B	12.6	B	0.0	0.2	No	No
12	Jamboree / I-405 SB Ramps	76.5	E	21.2	C	76.7	E	21.2	C	0.2	0.0	No	No

Bold and shaded values indicate intersections operating at an unacceptable Level of Service.
Intersection operation is expressed in average seconds of delay per vehicle during the peak hour using the HCM Methodology.

Source: Kimley-Horn, 2017.

CEQA Analysis Year 2022 With Project

Intersection Levels of Service

In this scenario, project-related peak hour traffic volumes were added to the CEQA Analysis Year 2022 Without Project traffic volumes. CEQA Analysis Year 2022 With Project peak hour intersection operations are summarized in *Table 4.14-22*. The following intersections would continue to operate at an unacceptable Level of Service under CEQA Analysis Year 2022 With Project:

12. Jamboree Road at I-405 southbound ramps (AM: LOS F, PM: LOS F)
13. Jamboree Road at Michelson Drive (PM: LOS F)

Based on the significance criteria set forth in this EIR, the Project impact increment does not exceed the significance threshold at either of these intersections, and would not result in a significant impact with the addition of Project trips. All other intersections would operate at an acceptable Level of Service in both peak hours.

Roadway Segments

CEQA Analysis Year 2022 With Project roadway operations are summarized in *Table 4.14-23*. The following roadway segments would continue to be deficient with the addition of Project traffic:

- Von Karman Avenue: North of Main Street
- Von Karman Avenue: Main Street to Michelson Drive
- Jamboree Road: North of Main Street
- Jamboree Road: Main Street to I-405 northbound ramp
- Jamboree Road: Between I-405 northbound ramp and I-405 southbound ramp
- Jamboree Road: I-405 southbound ramp to Michelson Drive
- Campus Drive: Carlson Avenue to University Drive
- University Drive: California Avenue to Mesa Road
- University Drive: Mesa Road to Campus Drive

These segments were further analyzed using the PHLA methodology, and the results are shown in *Table 4.14-24*. These roadway segments would continue to operate at LOS D or better during the peak hours with the addition of Project traffic.

State Highway Intersection Levels of Service

This scenario adds Project-related peak hour traffic volumes to the CEQA Analysis Year 2022 Without Project traffic volumes at the State Highway study intersections (Table 4.14-21). With the addition of Project traffic, the intersection of Jamboree Road at the I-405 southbound ramps would continue to operate at LOS E in the AM peak hour. The Project traffic would not cause the Level of Service at this intersection to worsen, and therefore would not result in a significant impact. The intersection of Jamboree Road at I-405 northbound ramps would continue to operate at an acceptable Level of Service.

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Table 4.14-22. Intersection Operation – CEQA Analysis Year 2022 With Project

No.	Intersection	Without Project				With Project				Project Impact			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		Change		Significant?	
		ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	AM	PM	AM	PM
1	MacArthur Blvd. at Campus Dr. [a]	0.610	B	0.832	D	0.614	B	0.832	D	0.004	0.000	No	No
2	MacArthur Blvd. at Birch St.	0.474	A	0.570	A	0.485	A	0.575	A	0.011	0.005	No	No
3	MacArthur Blvd. at Von Karman Ave.	0.632	B	0.597	A	0.637	B	0.601	B	0.005	0.004	No	No
4	MacArthur Blvd. at Jamboree Rd [a]	0.756	C	0.821	D	0.759	C	0.827	D	0.003	0.006	No	No
5	MacArthur Blvd. SB at University Dr.	0.563	A	0.514	A	0.563	A	0.514	A	0.000	0.000	No	No
6	Von Karman Ave. at Michelson Dr. [a]	0.619	B	0.839	D	0.619	B	0.840	D	0.000	0.001	No	No
7	Von Karman Ave. at Campus Dr. [a]	0.650	B	0.742	C	0.652	B	0.744	C	0.002	0.002	No	No
8	Von Karman Ave. at Birch St.	0.365	A	0.388	A	0.376	A	0.396	A	0.011	0.008	No	No
9	Teller Ave. at Campus Dr. [a]	0.435	A	0.522	A	0.435	A	0.523	A	0.000	0.001	No	No
10	Teller Ave. at Birch St.	13.4	B	13.2	B	14.2	B	14.8	B	0.8	1.6	No	No
11	Jamboree Rd. at I-405 NB Ramps [a]	0.800	C	0.916	E	0.802	C	0.919	E	0.002	0.003	No	No
12	Jamboree Rd. at I-405 SB Ramps [a]	1.133	**F**	1.019	**F**	1.134	**F**	1.020	**F**	0.001	0.001	No	No
13	Jamboree Rd. at Michelson Dr. [a]	0.901	D	1.079	**F**	0.904	D	1.080	**F**	0.003	0.001	No	No
14	Jamboree Rd. at Dupont Dr. [a]	0.704	B	0.729	C	0.705	C	0.730	C	0.001	0.001	No	No
15	Jamboree Rd. at Campus Dr. [a]	0.677	B	0.762	C	0.679	B	0.764	C	0.002	0.002	No	No
16	Jamboree Rd. at Birch St. [a]	0.643	B	0.610	B	0.653	B	0.613	B	0.010	0.003	No	No
17	Jamboree Rd. at Fairchild Rd. [a]	0.643	B	0.779	C	0.645	B	0.784	C	0.002	0.005	No	No
18	Jamboree Rd. at Bristol St. N	0.408	A	0.590	A	0.411	A	0.592	A	0.003	0.002	No	No
19	Jamboree Rd. at Bristol St. S	0.757	C	0.753	C	0.758	C	0.757	C	0.001	0.004	No	No
20	Jamboree Rd. at Bayview Way	0.503	A	0.525	A	0.504	A	0.526	A	0.001	0.001	No	No
21	Jamboree Rd. at University Dr.	0.687	B	0.688	B	0.689	B	0.690	B	0.002	0.002	No	No
22	Carlson Ave. at Campus Dr. [a]	0.522	A	0.734	C	0.522	A	0.734	C	0.000	0.000	No	No

Table 4.14-22. Intersection Operation – CEQA Analysis Year 2022 With Project

No.	Intersection	Without Project				With Project				Project Impact			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		Change		Significant?	
		ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	AM	PM	AM	PM
23	University Dr. at Campus Dr. [b]	0.841	D	0.869	D	0.841	D	0.869	D	0.000	0.000	No	No
24	Bristol St. N at Campus Dr.	0.598	A	0.746	C	0.602	A	0.748	C	0.004	0.002	No	No
25	Bristol St. S at Campus Dr./ Irvine Ave.	0.761	C	0.643	B	0.762	C	0.644	B	0.001	0.001	No	No
26	Irvine Ave. at Mesa Dr.	0.474	A	0.690	B	0.475	A	0.691	B	0.001	0.001	No	No
27	Bristol St. N at Birch St.	0.680	B	0.642	B	0.682	B	0.644	B	0.002	0.002	No	No
28	Bristol St. S at Birch St.	0.505	A	0.593	A	0.505	A	0.593	A	0.000	0.000	No	No
29	Bristol St. S at Bayview Pl.	0.443	A	0.494	A	0.443	A	0.497	A	0.000	0.003	No	No

Notes:
Bold and shaded values indicate intersections operating at an unacceptable Level of Service.
Intersection operation is expressed in volume-to-capacity (v/c) ratio for signalized intersections using the ICU Methodology, and average seconds of delay per vehicle during the peak hour for unsignalized intersections using the HCM Methodology.
a. Level of Service E is acceptable at this intersection.
b. A 5% capacity credit is applied at this intersection to reflect implementation of the Advanced Transportation Management System (ATMS).

Source: Kimley-Horn, 2017.

Table 4.14-23. Roadway Segment Analysis – CEQA Analysis Year 2022 With Project

Roadway	Segment	Without Project				With Project				Project Impact/ Significance	
		LOS E Capacity	Traffic Volume	V/C	LOS	Project Traffic	Traffic Volume	V/C	LOS	Project Impact	Significant?
MacArthur Boulevard	North of Main Street	63,000	34,645	0.550	A	60	34,705	0.551	A	0.001	No
	NB I-405 to Main	72,000	53,893	0.749	C	60	53,953	0.749	C	0.001	No
	Between I-405 NB and SB Ramps	72,000	55,245	0.767	C	151	55,396	0.769	C	0.002	No
	Michelson to SB I-405	72,000	59,303	0.824	D	242	59,545	0.827	D	0.003	No
	Michelson to Campus	72,000	38,911	0.540	A	242	39,153	0.544	A	0.003	No
	Jamboree to University	54,000	21,640	0.401	A	240	21,880	0.405	A	0.004	No
Von Karman Avenue	North of Main Street	28,000	26,738	**0.955**	**E**	60	26,798	**0.957**	**E**	0.002	No
	Main to Michelson	28,000	28,299	**1.011**	**F**	60	28,359	**1.013**	**F**	0.002	No
	Michelson to Dupont	28,000	19,351	0.691	B	60	19,411	0.693	B	0.002	No
	Dupont to Campus	28,000	19,247	0.687	B	60	19,307	0.690	B	0.002	No
Teller Avenue	South of Michelson Drive	13,000	8,011	0.616	B	0	8,011	0.616	B	0.000	No
	South of Dupont Drive	13,000	5,514	0.424	A	0	5,514	0.424	A	0.000	No
Jamboree Road	North of Main Street	72,000	71,163	**0.988**	**E**	60	71,223	**0.989**	**E**	0.001	No
	Main to NB I-405 Ramp	72,000	76,261	**1.059**	**F**	150	76,411	**1.061**	**F**	0.002	No
	Between NB and SB I-405 Ramp	72,000	65,025	**0.903**	**E**	150	65,175	**0.905**	**E**	0.002	No
	SB I-405 to Michelson	72,000	87,498	**1.215**	**F**	242	87,740	**1.219**	**F**	0.003	No
	Michelson to Dupont	72,000	61,592	0.855	D	242	61,834	0.859	D	0.003	No
	Dupont to Campus	63,000	47,754	0.758	C	242	47,996	0.762	C	0.004	No
	Campus to Birch	63,000	45,570	0.723	C	212	45,782	0.727	C	0.003	No
	Birch to Fairchild	63,000	44,841	0.712	C	242	45,083	0.716	C	0.004	No
	Fairchild to MacArthur	63,000	39,327	0.624	B	242	39,569	0.628	B	0.004	No

Table 4.14-23. Roadway Segment Analysis – CEQA Analysis Year 2022 With Project

Roadway	Segment	Without Project				With Project				Project Impact/ Significance	
		LOS E Capacity	Traffic Volume	V/C	LOS	Project Traffic	Traffic Volume	V/C	LOS	Project Impact	Significant?
Carlson Avenue	Michelson to Campus	28,000	9,156	0.327	A	0	9,156	0.327	A	0.000	No
Harvard Avenue	North of Michelson	32,000	25,802	0.806	D	0	25,802	0.806	D	0.000	No
	Michelson to University	32,000	19,247	0.601	A	0	19,247	0.601	A	0.000	No
Main Street	West of MacArthur	54,000	27,050	0.501	A	0	27,050	0.501	A	0.000	No
	MacArthur to Von Karman	54,000	35,270	0.653	B	0	35,270	0.653	B	0.000	No
	Von Karman to Jamboree	54,000	28,403	0.526	A	0	28,403	0.526	A	0.000	No
	East of Jamboree	54,000	24,449	0.453	A	0	24,449	0.453	A	0.000	No
Michelson Drive	MacArthur to Von Karman	28,000	22,681	0.810	D	0	22,681	0.810	D	0.000	No
	Von Karman to Jamboree	28,000	21,640	0.773	C	0	21,640	0.773	C	0.000	No
	Jamboree to Carlson	32,000	26,530	0.829	D	0	26,530	0.829	D	0.000	No
	Carlson to Harvard	32,000	25,594	0.800	C	0	25,594	0.800	C	0.000	No
	East of Harvard	32,000	19,039	0.595	A	0	19,039	0.595	A	0.000	No
Dupont Drive	Von Karman to Teller	28,000	5,618	0.201	A	0	5,618	0.201	A	0.000	No
	Teller Ave to Jamboree	28,000	3,849	0.137	A	0	3,849	0.137	A	0.000	No
Campus Drive	West of MacArthur	54,000	33,397	0.618	B	0	33,397	0.618	B	0.000	No
	MacArthur to Von Karman	32,000	16,126	0.504	A	0	16,126	0.504	A	0.000	No
	Von Karman Ave to Teller	28,000	13,629	0.487	A	0	13,629	0.487	A	0.000	No
	Teller to Jamboree	28,000	12,797	0.457	A	30	12,827	0.458	A	0.001	No
	Jamboree to Carlson	28,000	20,808	0.743	C	0	20,808	0.743	C	0.000	No
	Carlson to University	13,000	19,664	**1.513**	**F**	0	19,664	**1.513**	**F**	0.000	No
	East of University	28,000	24,866	0.888	D	0	24,866	0.888	D	0.000	No

Table 4.14-23. Roadway Segment Analysis – CEQA Analysis Year 2022 With Project

Roadway	Segment	Without Project				With Project				Project Impact/ Significance	
		LOS E Capacity	Traffic Volume	V/C	LOS	Project Traffic	Traffic Volume	V/C	LOS	Project Impact	Significant?
University Drive	MacArthur to California Ave	32,000	27,154	0.849	D	0	27,154	0.849	D	0.000	No
	California to Mesa	32,000	32,877	**1.027**	**F**	0	32,877	**1.027**	**F**	0.000	No
	Mesa to Campus	32,000	33,397	**1.044**	**F**	0	33,397	**1.044**	**F**	0.000	No
	Campus to Harvard	54,000	28,507	0.528	A	0	28,507	0.528	A	0.000	No

Notes:
Bold and shaded values indicate a deficient level of service, based on City of Irvine Traffic Analysis Guidelines.

Source: Kimley-Horn, 2017.

Table 4.14-24. Peak Hour Link Analysis – CEQA Analysis Year 2022 With Project

Roadway	Segment	Direction	No. of Lanes	Capacity	AM Peak			PM Peak		
					Volume	V/C	LOS	Volume	V/C	LOS
Von Karman Avenue	North of Main	Northbound	2	3,200	1,287	0.402	A	1,626	0.508	A
		Southbound	2	3,200	1,142	0.357	A	1,276	0.399	A
	Main to Michelson	Northbound	2	3,200	1,287	0.402	A	1,626	0.508	A
		Southbound	2	3,200	1,142	0.357	A	1,276	0.399	A
Jamboree Road	North of Main	Northbound	4	6,400	3,075	0.480	A	3,989	0.623	B
		Southbound	4	6,400	3,868	0.604	A	3,340	0.522	A
	Main to I-405 NB Ramps	Northbound	4	6,400	3,075	0.480	A	3,989	0.623	B
		Southbound	4	6,400	3,868	0.604	A	3,340	0.522	A
	I-405 NB Ramps to I-405 Southbound Ramps	Northbound	4	6,400	2,883	0.450	A	4,431	0.692	B
		Southbound	4	6,400	4,192	0.655	B	3,121	0.488	A
	I-405 SB Ramps to Michelson	Northbound	4	6,400	2,583	0.404	A	4,523	0.707	C
		Southbound	4	6,400	5,604	0.876	D	3,431	0.536	A
Campus Drive	Carlson to University	Eastbound	1	1,600	667	0.417	A	1,116	0.698	B
		Westbound	1	1,600	776	0.485	A	863	0.539	A
University Drive	California to Mesa	Eastbound	2	3,200	1,096	0.343	A	2,240	0.700	B
		Westbound	2	3,200	2,373	0.742	C	1,447	0.452	A
	Mesa to Campus	Eastbound	2	3,200	1,096	0.343	A	2,240	0.700	B
		Westbound	2	3,200	2,373	0.742	C	1,447	0.452	A

Vol = volume; V/C = volume to capacity

Source: Kimley-Horn, 2017.

Construction Traffic

Construction of the Proposed Project would add construction-related trips to and from the site during each of the construction phases. These trips are associated with construction activities, including construction workers, grading, and construction of structures and site features.

Large construction equipment such as bulldozers, loaders, scrapers, and pavers would be required during various construction phases. Large equipment is generally brought to the site at the start of the construction phase and kept on site until its term of use ends. A staging area would be designated on-site to store construction equipment and supplies during construction.

Throughout construction, the size of the work crew reporting to the site each day would vary depending on the construction phase and the different construction activities taking place at the time. Parking for workers would be provided on-site during all phases of construction. Construction workers would not be allowed to park on local streets. If needed during the peak construction periods, off-site parking would be provided, and workers would carpool or be shuttled to the worksite.

Construction Phasing

Phase A – Parking Structure

To construct the Phase A parking structure, it is estimated that approximately 24,139 cubic yards of cut material would be exported from the site. Assuming a capacity of 16 cubic yards per truckload, grading activities would require removal of approximately 1,509 truckloads of cut material. Assuming a 40-day period for excavation and construction, this would equate to an average of 38 truckloads of export cut material, for a total of 38 trucks inbound to and outbound from the site per day.

The total number of construction personnel at the site would vary depending on the construction activity. It is expected that there would be an average of 15 workers daily at the job site during construction of the site work and parking structure, for an additional 30 construction worker trips per day for the parking structure construction. Heavy vehicle types include excavator, tractor, loader, water truck, concrete pump truck, crew truck, backhoe, and a 10-wheeler dump truck.

Phase 1 – Building 1

To construct the Phase 1 building, it is estimated that approximately 44,000 cubic yards of cut material would be exported from the site. Assuming a capacity of 16 cubic yards per truckload, grading activities would require removal of approximately 2,750 truckloads of cut material. Assuming a 60-day period for excavation and construction, this would equate to an average of 46 truckloads of export cut material, for a total of 46 trucks inbound and outbound from the site per day.

It is expected that there would be an average of 40 workers daily at the job site during construction of the site work and Building 1. During construction of the superstructure and the interiors, there would be an average of 80-90 workers on site. This would equate to 80 to 180 construction worker trips per day for construction of the Phase 1 parking structure and superstructure. Heavy vehicle types would include excavator, tractor, loader, water truck, concrete pump truck, crew truck, backhoe, 10-wheeler dump truck, drill rigs, and skid steer loaders.

Phase 2 – Building 2 and Building 3

To construct Building 2 and Building 3, it is estimated that approximately 54,000 cubic yards would be exported from the site. Assuming a capacity of 16 cubic yards per truckload, grading activities would require removal of approximately 3,375 truckloads of cut material. Assuming a 60-day period for excavation and construction, this would equate to an average of 56 truckloads of export cut material, for a total of 56 trucks inbound and outbound from the site per day.

It is expected that there would be an average of 40 workers daily at the job site during construction of the site work and parking structure. During construction of the superstructure and the interiors, there would be an average of 80-90 workers on site. This would equate to 80 to 180 construction worker trips per day for construction of the Phase 2 parking structure and superstructure. Heavy vehicle types include excavator, tractor, loader, water truck, concrete pump truck, crew truck, backhoe, 10-wheeler dump truck, drill rigs, and skid steer loaders.

Construction Traffic Management

A Construction Traffic and Parking Management Plan will be required of the Project, subject to review and approval by the City Engineer. Heavy vehicles associated with construction of the Project would use the existing regional and local truck route network to approach the project site, getting as close to the destination site as possible before turning off the designated truck route. Approach and departure routes for construction vehicles would be from Jamboree Road, MacArthur Boulevard, Von Karman Avenue, and Birch Street. Depending on the origin/destination (the nearest landfill or the deposit site identified for cut material), trucks would either arrive and depart from I-405 to the north or SR-73 to the south of the site.

Impacts from construction traffic would be limited to occasional and temporary delays to traffic during the movement of heavy equipment or transport of heavy loads to and from the site. The arrivals and departures of dirt-hauling trucks and other heavy trucks will be scheduled outside of the AM and PM peak hours. The Applicant would be required to identify planned travel patterns for haul vehicles, and obtain a Haul Route permit from the City (SC 4.14-1). Construction management requirements, such as complying with peak hour restrictions, using flag men for short-term obstructions, and a formal traffic control plan for extended lane and street closures would be required (SC 4.14-1). Impacts would be less than significant.

Impact Summary: ***Less Than Significant.*** Compliance with SC 4.14-1 would reduce any traffic impacts to a less than significant level.

Threshold 4.14-2:	**Would the Project conflict with an applicable congestion management program, including, but not limited to Level of Service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads and highways?**

The Orange County Congestion Management Program (CMP) was established in 1991, to reduce traffic congestion and to provide a mechanism for coordinating land use and development decisions. Compliance with CMP requirements ensures a city's eligibility to compete for State gas tax funds for local transportation projects.

Within the project study area, the CMP Highway System includes two arterials: Jamboree Road north of MacArthur Boulevard, and MacArthur Boulevard south of Jamboree Road. The following CMP intersections are near the project site:

4. MacArthur Boulevard / Jamboree Road
11. I-405 northbound ramps / Jamboree Road
12. I-405 southbound ramps / Jamboree Road

The Orange County CMP states that "a TIA will be required for CMP purposes for all proposed developments generating 2,400 or more daily trips," and that "for developments which will directly access a CMP Highway System link, the threshold for requiring a TIA should be reduced to 1,600 or more trips per day.

The Project is estimated to generate approximately 1,207 daily trips. Based on CMP criteria, a separate CMP analysis is not required of the Project. Therefore, the Project would not result in a designated intersection exceeding CMP service standards.

Impact Summary: ***Less Than Significant.*** Based on CMP criteria, the Proposed Project would not have a significant impact.

Threshold 4.14-3:	**Would the Project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

The project site is located approximately 0.44 mile southeast of John Wayne Airport (JWA) and is in the Airport Environs Land Use Plan (AELUP) for the airport. As discussed under in Section 4.9, *Land Use and Planning*, the project site is in the notification area of John Wayne Airport and the FAR Part 77 obstruction imaginary surfaces area. Per FAR Part 77, Section 77.13(a), notice to the FAA is required for any proposed structure more than 200 feet above the ground level (AGL) of its site. Notices to the FAA provide a basis for evaluating project impacts on operational procedures and air navigation. Coinciding with the FAA regulation, the ALUC also requires notification of all such proposals. The has FAA determined that the three buildings and the free-standing parking structure would not exceed obstruction standards and would not be a hazard to air navigation provided that a Notice of Actual Construction is filed within five day after the construction reaches its greatest height (SC 4.9-2).

John Wayne Airport is a regional airport serving much of the air travel demand in Orange County. The Airport served approximately 10 million passengers in 2016 (County of Orange, 2017). The Proposed Project would have the potential to generate 583 new residents and 7 new jobs. Therefore, project-generated residents and jobs would not result in a substantial increase in air traffic levels at John Wayne Airport or other airports in the region.

The Project is not anticipated to result in a change in air traffic patterns. Impacts would therefore be less than significant.

Impact Summary: ***Less Than Significant.*** The Project would comply with applicable regulations, including SC 4.7-1 and would not result in a change in air traffic patterns.

Threshold 4.14-4:	**Would the Project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**
Threshold 4.14-5:	**Would the Project result in inadequate emergency access?**

The Proposed Project access plan is provided in Figure 3-13*, Parking and Access – Existing and New Gates*. As part of the Project, the five existing site driveways for Koll Center Newport would remain in their current locations, with changes to the access provisions for the site, as follows:

- The most significant change to the site access circulation is that the main drive aisle that runs from Von Karman Avenue to Birch Street would become an open-access internal spine street through the site. All gates to the Koll Center Newport parking areas and to the new residential buildings would be relocated off the spine street.
- When Phase 1 is complete, all parking for the Phase 1 residential units would be provided in the Phase 1 parking structure. In addition, 276 spaces in the Phase A parking structure would be designated as office parking for Koll Center Newport.
- Access to the residential parking in the Phase 1 parking structure would be via a gated entrance off Driveway 2, which would be accessible from Driveways 2, 3, and 5.
- Access to the residential parking in the Phase 2 parking structure would be via a gated entrance directly off the spine street, which would be accessible from Driveways 2, 3, and 5.
- ***Driveway 1:*** No changes are proposed for Driveway 1 itself. Access to the office portion of the Phase 1 parking structure would be provided from the surface parking area directly east of Driveway 1. With the construction of the Project, drivers entering Driveway 1 would have access only to the surface parking areas immediately accessed by Driveway 1, and the office portion of the Phase 1 parking structure; they would not be able to get to the spine street or to the rest of the Koll Center Newport site from Driveway 1.
- ***Driveway 2:*** The entry gate on Driveway 2 would be removed. A gated entry to the residential portion of the Phase 1 parking structure would be provided off Driveway 2. Drivers entering Driveway 2 would be able to access all parking areas of Koll Center Newport, except the surface parking areas immediately accessed by Driveway 1, and the office portion of the Phase A parking structure. Driveway 2 would be reconfigured to provide one inbound lane and two outbound lanes, with one left-turn and one right-turn lane.
- ***Driveway 3:*** The Koll Center Newport entry gates on the spine street on either side of Driveway 3 would be removed. A new office parking gate for the parking areas to the east of the driveway would be provided approximately 80 feet to the southeast, as shown on Figure 3-13, *Parking and Access – Existing and New Gates*. Drivers entering Driveway 3 would be able to access all parking areas of Koll Center Newport, except the surface parking areas immediately accessed by Driveway 1, and the office portion of the Phase 1 parking structure.
- ***Driveway 4:*** Driveway 4 would remain an exit-only driveway, and would be accessible only from the surface parking areas immediately accessed by Driveway 1. Outbound movements would be restricted to right turns only.

- ***Driveway 5:*** The entry gate on Driveway 5 would be removed. A new office parking gate for the parking areas to the east of the driveway would be provided on the first intersecting drive aisle. Driveway 5 would be reconfigured to provide one inbound lane and two outbound lanes, with one left-turn and one right-turn lane.

The Proposed Project would not introduce incompatible uses to area roadways. The Project would be designed in compliance with all applicable State and City building codes and would meet City of Newport Beach standards for design, including sight distance at all intersections (SC 4.14-2). Additionally, the Project's new circulation pattern from the spine street will provide better overall circulation, as well as wayfinding, which will result in more accessible parking to individual buildings with the existing Koll Center Newport (PDF 4). Therefore, impacts would be less than significant.

As discussed under Threshold 4.14-1, impacts from construction traffic would be limited to occasional and temporary delays to traffic during the movement of heavy equipment or transport of heavy loads to and from the project site. Compliance with SC 4.14-1 and 4.14-2 would reduce potential impacts to a less than significant level.

Project traffic would not result in substantial delays and congestions that would affect the circulation of emergency vehicles in the study area. All access road would meet requirements for fire access roads in the 2016 California Fire Code (CCR Title 24 Part 9), Section 503. Adequate emergency access would be provided, and therefore impacts would be less than significant.

Impact Summary: ***Less Than Significant.*** Implementation of the Project would not result in any significant impacts related to circulation or access, and therefore would not significantly impact any emergency response evacuation plans. To ensure safe roadway design, SC 4.14-2 would be applicable to the Proposed Project. To facilitate the movement of construction traffic and to minimize potential disruptions, SC 4.14-1 would be applicable to the Project.

Threshold 4.14-6:	**Would the Project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?**

Applicable transportation plans and policies relating to alternative transportation and a documentation of Project consistency for each of the policies is included in *Table 4.9-1* in Section 4.9, *Land Use and Planning* of this EIR. The Proposed Project is consistent with City policies to support and promote alternative transportation. Additionally, the Project would not modify any public road or introduce features that would affect vehicular, pedestrian, or bicycle circulation in the vicinity of the site. Project access would not displace any existing bus stop or decrease the performance or safety of any existing sidewalk, crosswalk, or bikeway.

Public Transit

As depicted in Figure 4.14-3, *Existing Transit Routes*, there are six OCTA bus routes that serve the project site and vicinity. The transit routes that serve the project area are already serving a significant

employment-based area. As such, the transit schedules and frequencies are geared toward commuter needs and would be convenient for Project residents.

Pedestrian

As depicted in Figure 3-12, *Circulation Plan, t*he Proposed Project would provide pedestrian circulation throughout the project site, with multiple connections to the public street system and adjacent properties including Uptown Newport. The Project's pedestrian circulation components would be designed and installed with compliance with all safety and accessibility requirements, including Title 24 of the California Code of Requirements, and in a manner that would avoid conflicts with vehicles. The Project will also include improvements to pedestrian circulation with Koll Center Newport with the inclusion of raised crosswalks located at convenient locations within the project site (PDF 4).

Bicycle

The nearest bicycle facilities to the project site include Class II bike lanes provided on both sides of the street along Campus Drive. Campus Drive is approximately 0.2 mile northeast of the site and could be accessed from the site via Von Karman Avenue or Teller Avenue. The City of Newport Beach Bicycle Master Plan recommends Class II bicycle facilities on Von Karman Avenue and Birch Street near the project site (Newport Beach, 2014). Implementation of the Proposed Project would not interfere with planned bicycle facilities. Additionally, the Project would include bicycle storage and maintenance facility for future residences.

The addition of residential units in an area that is largely developed with employment and commercial uses would facilitate the use of alternative travel modes, such as walking, biking and public transit. The close proximity of residential uses to employment and commercial centers can serve as encouragement to the residents of the development to walk or bike to work or shop, rather than drive a vehicle. Therefore, the Project would not affect the use of alternative modes of transportation or conflict with policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. Project impacts would be less than significant.

Impact Summary: ***Less Than Significant.*** The Project would comply with all applicable policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities.

4.14.7 CUMULATIVE IMPACTS

The analysis for Impact 4.14-1 includes the analysis of traffic conditions in local jurisdictions, and at CMP and State-controlled intersections for cumulative conditions with and without the Proposed Project. The list of related projects incorporated in the analysis, as well as the assumptions incorporated as background, ambient traffic growth for completion of the Project in 2022 were provided. The Project would not result in either project-specific or cumulatively significant impacts. No mitigation measures would be required. Site access is adequately designed and would not combine with other area traffic impacts to result in significant circulation impacts.

4.14.8 MITIGATION PROGRAM

Project Design Features

PDF 4 **Improved Project Site Access and Circulation.** The Proposed Project's new circulation pattern from the spine street will provide better overall circulation, as well as wayfinding, which will result in more accessible parking to individual buildings with the existing Koll Center Newport. The Project will also include improvements to pedestrian circulation within Koll Center Newport with the inclusion of raised crosswalks located at convenient locations within the project site.

Standard Conditions

The Project would be required to compliance with SC 4.7-1 in Section 4.7, *Hazards and Hazardous Materials*, and the following standard conditions.

SC 4.14-1 Traffic Management Plan. Prior to issuance of any building permit, the Applicant shall prepare for City of Newport Beach Community Development Director and Traffic Engineer review and approval a Construction Traffic Management Plan for the Project for the issuance of a Haul Route Permit. The Plan shall identify construction phasing and address traffic control for any temporary street closures, detours, or other disruptions to traffic circulation and public transit routes. The Plan shall identify the routes that construction vehicles shall use to access the site, the hours of construction traffic, traffic controls and detours, vehicle staging areas, and parking areas for the Project. Advanced written notice of temporary traffic disruptions shall be provided to emergency service providers and the affected area's businesses and the general public. This notice shall be provided at least two weeks prior to disruptions.

Haul operations shall be monitored by the City of Newport Beach Public Works Department, and additional restrictions may be applied if traffic congestion problems arise. A staging area shall be designated on site for construction equipment and supplies to be stored during construction. No construction vehicles shall be allowed to stage on off-site roads during the grading and construction period.

SC 4.14-2 Sight distance at all intersections shall comply with City of Newport Beach standards.

SC 4.14-3 In compliance with Municipal Code Chapter 15.38, Fair Share Traffic Contribution Ordinance, the Applicant shall be responsible for the payment of fair share traffic fees or right-of-way dedication or traffic improvements or a combination thereof.

Mitigation Measures

No mitigation measures required.

4.14.9 LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant impacts have been identified.

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