TRAFFIC IMPACT ANALYSIS
FOR THE
UPTOWN NEWPORT PROJECT

IN THE CITY OF NEWPORT BEACH

Prepared for:

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UPTOWN NEWPORT PROJECT
TRAFFIC IMPACT ANALYSIS

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TRAFFIC IMPACT ANALYSIS
FOR THE
UPTOWN NEWPORT PROJECT

INTRODUCTION

This traffic impact analysis has been prepared to provide an evaluation of the traffic-related impacts associated with the proposed Uptown Newport Project. This report 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 in support of the environmental documentation for the project, per the California Environmental Quality Act (CEQA) requirements.

PROJECT DESCRIPTION

The proposed Uptown Newport Project site is located at the southwest corner [1] of Jamboree Road and Birch Street in the Airport Area of the City of Newport Beach. A vicinity map is provided on **Figure 1**. The project site occupies 25 acres within the larger Koll Center development.

Existing Site Uses and Access

The project site consists of two adjoining rectangular areas. The smaller rectangular area is approximately 7 acres, and is currently developed as surface parking. The larger rectangular portion is an 18-acre area along Jamboree Road, and is currently developed with two buildings.

- 4311 Jamboree Road (known as the "Half Dome Building") is a one-story building with 115,375 square feet of office use and 11,300 square feet of light industrial use.
- 4321 Jamboree Road (known as the "Jazz Building) is a four-story building with 52,947 square feet of supporting office use and 258,505 square feet of industrial use.

Local access to the project site is currently provided by two driveways on Jamboree Road, and one driveway on Birch Street via an access easement through the adjoining property. The access onto Jamboree Road consists of a four-way signalized intersection at Jamboree Road and Fairchild Drive, and a stop-controlled driveway located approximately 750 feet north of the signalized intersection. The driveway on Birch Street is a stop-controlled driveway located 560 feet to the west of the signalized intersection of Jamboree Road and Birch Street.

[1] As shown on Figure 1, the streets adjacent to the project site are oriented on a diagonal. For purposes of this report, Jamboree Road is considered to be the north-south street, and Birch Street is considered to be the east-west street.

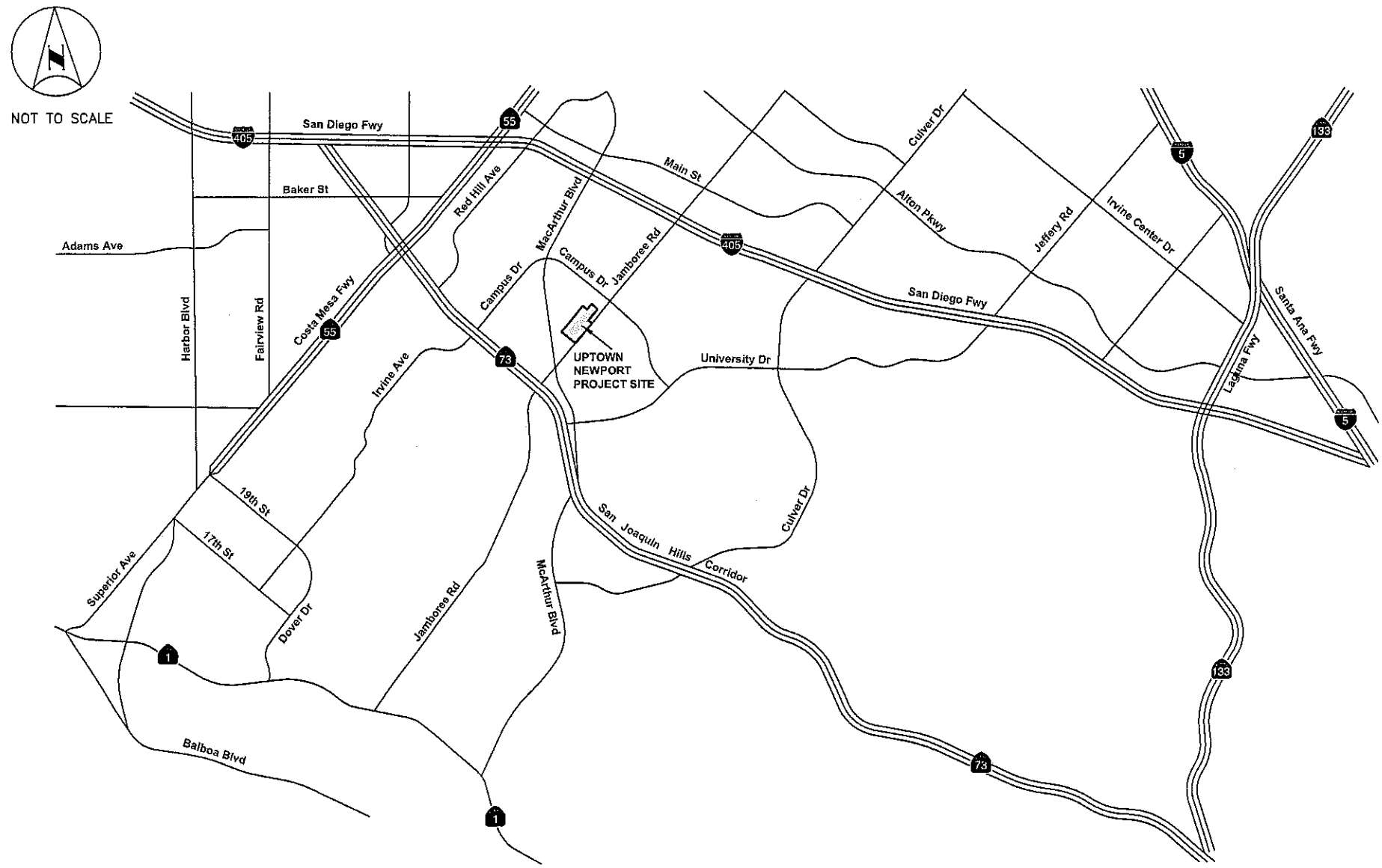

FIGURE 1
VICINITY MAP

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Proposed Site Uses and Access

With the proposed development, the existing uses would be demolished and replaced with 1,244 residential units and 11,500 square feet of commercial development. The project will also include two small (approximately 1 acre each) on-site parks. A copy of the project site plan is provided on **Figure 2**.

This report provides an analysis of two project phases: Phase 1, consisting of 680 residential units and 11,500 square feet of commercial; and Phase 2, which would be development of the full project. A copy of the Phase 1 site plan is provided on **Figure 3**.

With the proposed development, the project would take access via two access points on Jamboree Road for Phase 1, and two access points on Jamboree Road and the existing access on Birch Street (via an access easement) for Phase 2.

STUDY METHODOLOGY

Study Area

The traffic impact analysis for the Uptown Newport project will evaluate morning and evening peak hour operations at the following 43 existing intersections, consisting of a combination of intersections in the City of Newport Beach and the adjoining City of Irvine.

No.	Intersection	City [1]	Control
1	MacArthur Boulevard/Main Street	Irvine	Signalized
2	MacArthur Boulevard/I-405 NB Ramps	Irvine	Signalized
3	MacArthur Boulevard/ I-405 SB Ramps	Irvine	Signalized
4	MacArthur Boulevard/Michelson Drive	Irvine	Signalized
5	MacArthur Boulevard/Campus Drive	Irvine	Signalized
6	MacArthur Boulevard/Birch Street	Newport Beach	Signalized
7	MacArthur Boulevard/Von Karman Avenue	Newport Beach	Signalized
8	MacArthur Boulevard/Jamboree Road	Newport Beach	Signalized
9	MacArthur Boulevard/Fairchild Road	Irvine	Signalized
10	MacArthur Boulevard NB Ramp/University Drive	Irvine	Signalized
11	MacArthur Boulevard SB Ramp/University Drive	Newport Beach	Signalized
12	Von Karman Avenue/Main Street	Irvine	Signalized
13	Von Karman Avenue/Michelson Drive	Irvine	Signalized
14	Von Karman Avenue/Dupont Drive	Irvine	Signalized
15	Von Karman Avenue/Campus Drive	Irvine	Signalized
16	Von Karman Avenue/Birch Street	Newport Beach	Signalized
17	Teller Avenue/Campus Drive	Irvine	Signalized
18	Teller Avenue/Birch Street	Newport Beach	Stop Controlled
19	Jamboree Road/Main Street	Irvine	Signalized
20	Jamboree Road/I-405 NB Ramps	Irvine	Signalized
21	Jamboree Road/I-405 SB Ramps	Irvine	Signalized

No.	Intersection	City [1]	Control
22	Jamboree Road/Michelson Drive	Irvine	Signalized
23	Jamboree Road/Dupont Drive	Irvine	Signalized
24	Jamboree Road/Campus Drive	Irvine	Signalized
25	Jamboree Road/Birch Street	Irvine	Signalized
26	Jamboree Road/Fairchild Road	Irvine	Signalized
27	Jamboree Road/Bristol Street N	Newport Beach	Signalized
28	Jamboree Road/Bristol Street S	Newport Beach	Signalized
29	Jamboree Road/Bayview Way	Newport Beach	Signalized
30	Jamboree Road/University Drive	Newport Beach	Signalized
31	Carlson Avenue/Michelson Drive	Irvine	Signalized
32	Carlson Avenue/Bristol Street N	Irvine	Signalized
33	Harvard Avenue/Bristol Street S	Irvine	Signalized
34	Campus Drive/Bristol Street N	Newport Beach	Signalized
35	Birch Street/Bristol Street S	Newport Beach	Signalized
36	Irvine Avenue/Bristol Street S	Newport Beach	Signalized
37	Birch Street/Bristol Street S	Newport Beach	Signalized
38	Bayview Place/Bristol Street S	Newport Beach	Signalized
39	Irvine Avenue/Mesa Drive	Newport Beach	Signalized
40	University Drive/Campus Drive	Irvine	Signalized
41	Mesa Road/University Drive	Irvine	Signalized
42	California Avenue/University Drive	Irvine	Signalized
43	Site Driveway/Birch Street	Newport Beach	Stop Controlled

[1] For "shared" intersections on the boundary between the two cities, the city listed indicates the city that maintains and controls the signal.

The study area and study intersection list reflect input received from the cities of Newport Beach and Irvine. The location of the study intersections is shown on **Figure 4.** Of the 43 study intersections, 26 are controlled by the City of Irvine and 17 are controlled by the City of Newport Beach.

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. A discussion of the analysis methodology and significance criteria for each city is provided in the next section.

Of the 43 study intersections, four intersections are located on State Highways, and are therefore controlled by Caltrans. A separate analysis of the State Highway intersections using the analysis methodology required by Caltrans for State facilities is provided in a separate section of this report.

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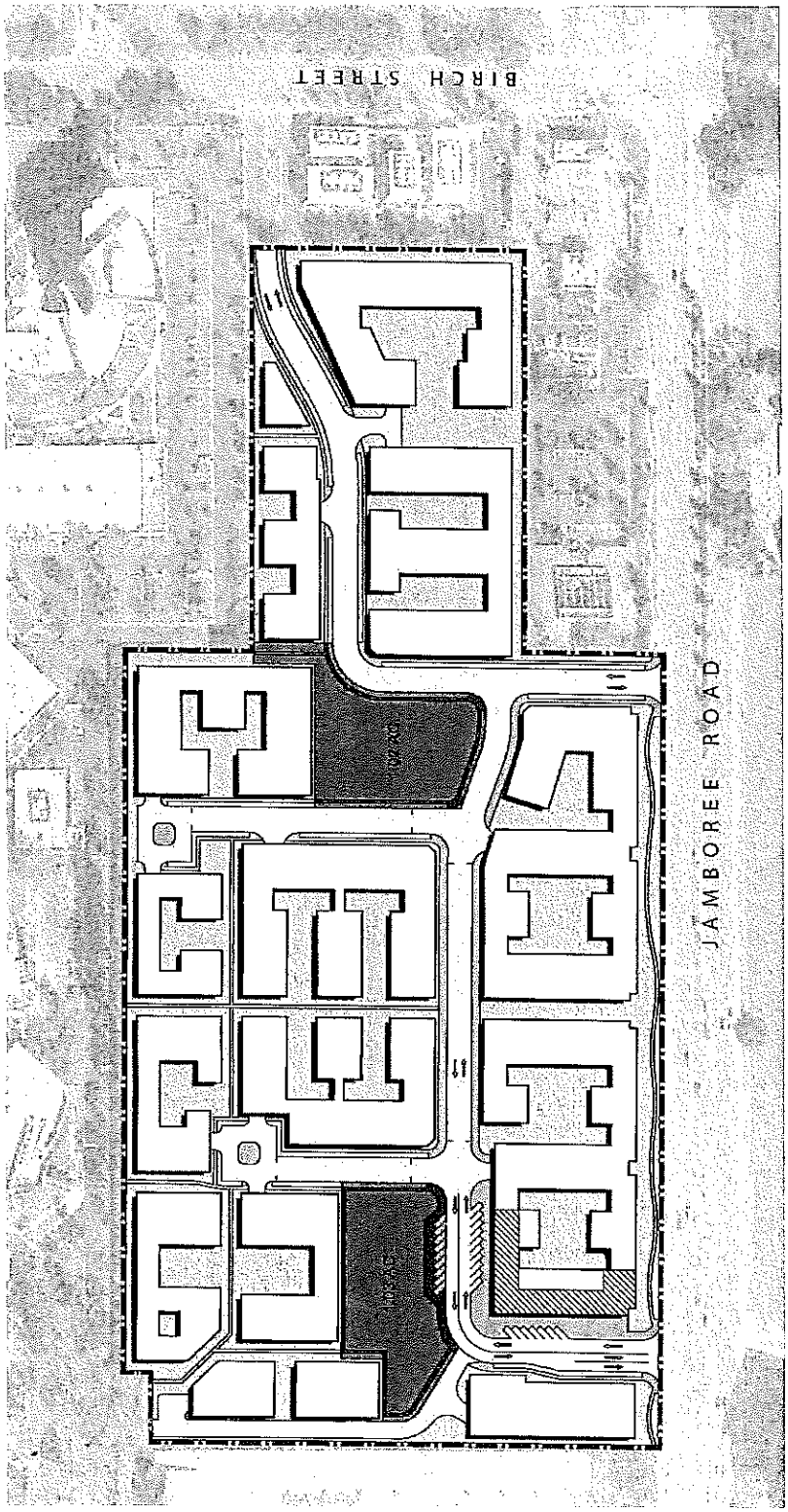

FIGURE 2
PROJECT SITE PLAN

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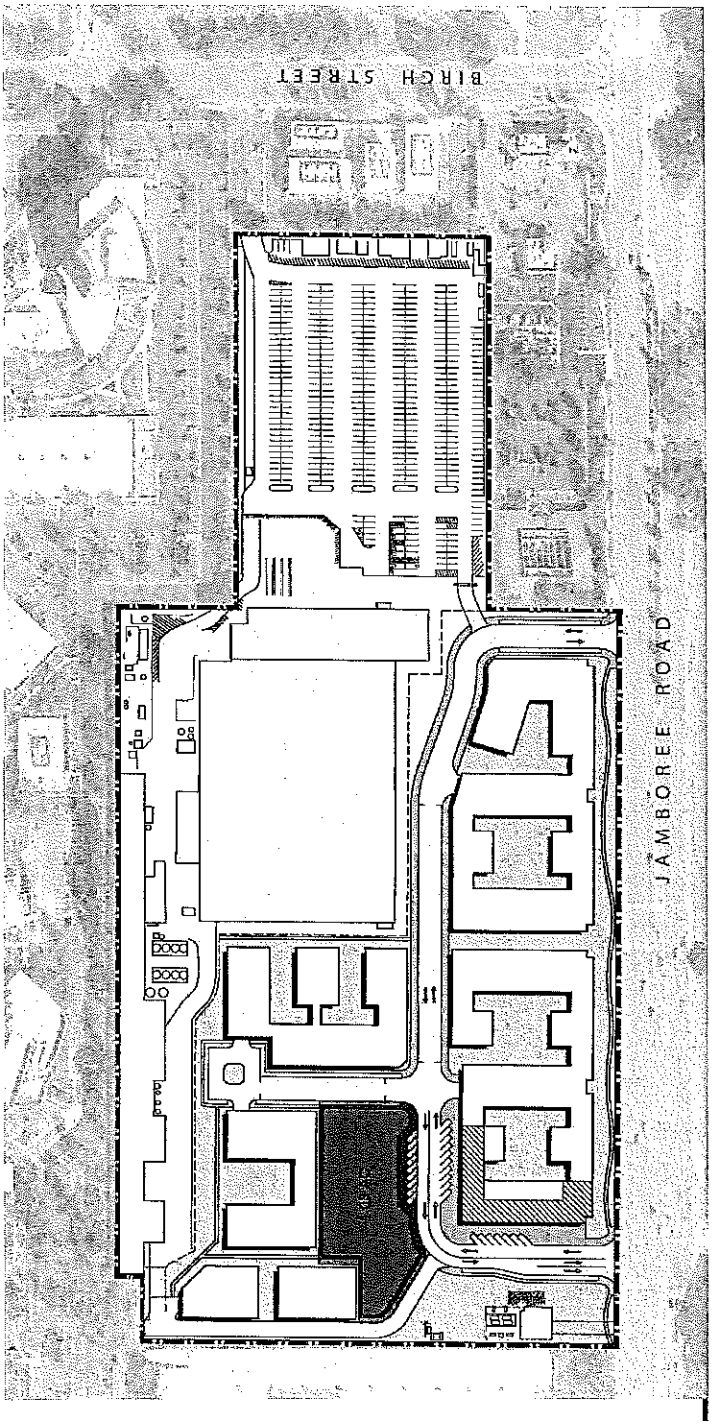

FIGURE 3
UPTOWN NEWPORT
PHASE 1 SITE PLAN

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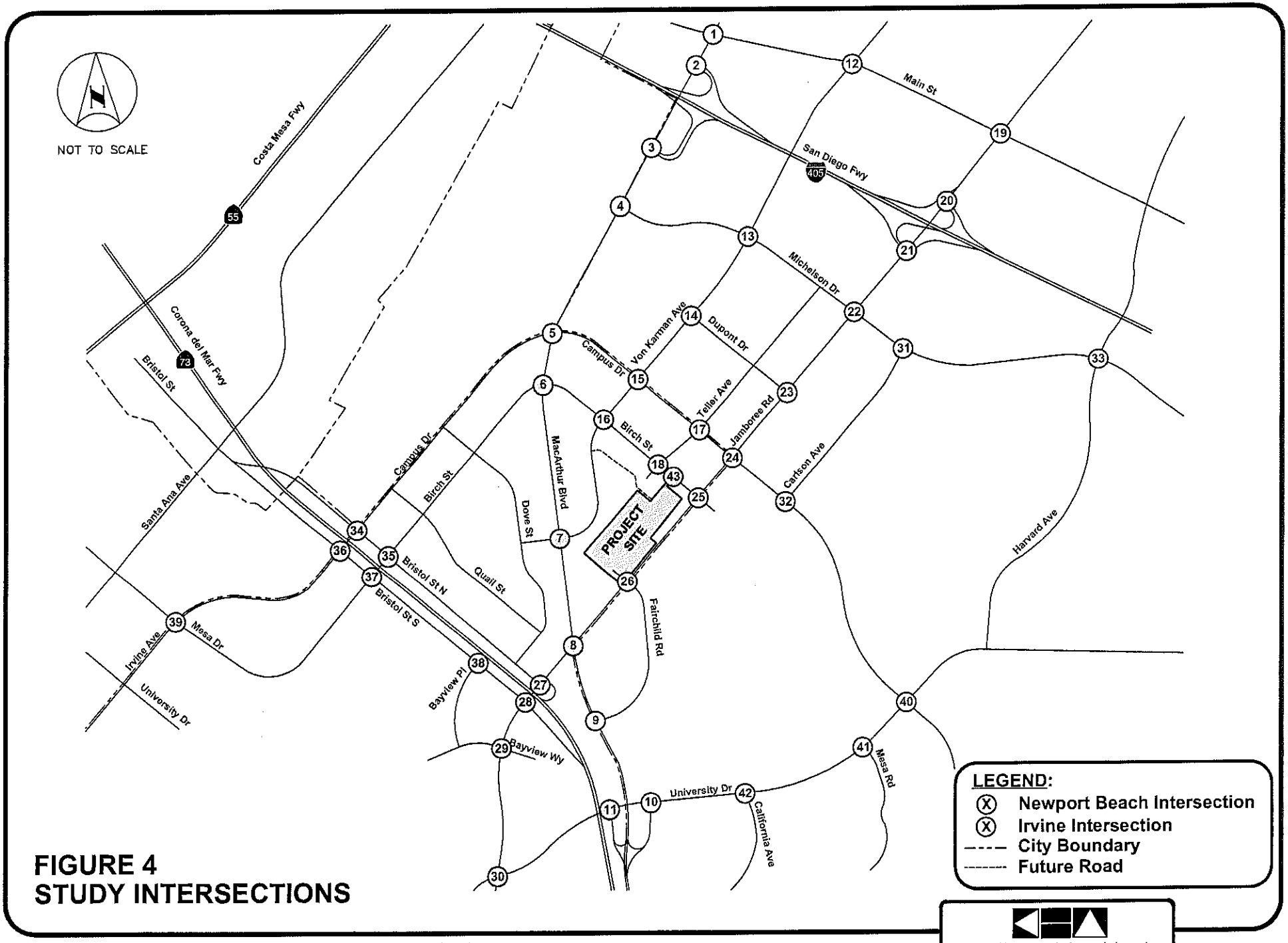

FIGURE 4
STUDY INTERSECTIONS

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Analysis Methodology

Intersection analysis for all signalized intersections has been conducted using the Intersection Capacity Utilization (ICU) methodology, which is the methodology utilized by both the City of Newport Beach and the City of Irvine, as well as the Orange County Congestion Management Program (CMP). (Intersections that are located at a State Highway intersection are also analyzed in accordance with Caltrans requirements, using a separate methodology, as discussed later in this report.)

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 agencies have been accounted for in the analysis. The following presents the ICU parameters for each of the cities.

ICU Parameter	City of Newport Beach	City of Irvine
Saturation Flow Rate / Lane Capacity	1,600 vehicles per hour (vph)	1,700 vehicles per hour (vph)
Clearance Interval	0	.05 of cycle length
Right-turn-on-red allowed [1]	NA	Yes
ATMS Credit [2]	NA	.05
Critical Movement / ICU calculation	3 decimals for each critical movement, summed and rounded to 2 for the final ICU	2 decimals for each critical movement

[1] 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.

[2] 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.

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. A summary description of each Level of Service and the corresponding V/C ratio or delay is provided on the following chart.

LEVEL OF SERVICE DESCRIPTIONS			
Level of Service	**Signalized: ICU**	**Unsignalized: HCM [1]**	**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.

[1] Source: Highway Capacity Manual, 2000

Performance Criteria

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

No.	Intersection
1.	MacArthur Boulevard at Main Street
2.	MacArthur Boulevard at I-405 Northbound Ramps
3.	MacArthur Boulevard at I-405 Southbound Ramps
4.	MacArthur Boulevard at Michelson Drive
5.	MacArthur Boulevard at Campus Drive
8.	MacArthur Boulevard at Jamboree Road
9.	MacArthur Boulevard at Fairchild Road
12.	Von Karman Avenue at Main Street
13.	Von Karman Avenue at Michelson Drive
14.	Von Karman Avenue at Dupont Drive
15.	Von Karman Avenue at Campus Drive
17.	Teller Avenue at Campus Drive
19.	Jamboree Road at Main Street
20.	Jamboree Road a I-405 Northbound Ramps
21.	Jamboree Road at I-405 Southbound Ramps
22.	Jamboree Road at Michelson Drive
23.	Jamboree Road at Dupont Drive
24.	Jamboree Road at Campus Drive
26.	Jamboree Road at Fairchild Road
31.	Carlson Avenue at Michelson Drive
32.	Carlson Avenue at Campus Drive

Threshold of Significance

City of Newport Beach

To determine whether or not 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 threshold 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 acceptable (LOS "D", except for intersections on a CMP facility, and 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".

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.

City of Irvine

To determine whether or not 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:

- A significant impact would occur when the intersection exceeds the acceptable Level of Service (LOS "D" except if located in the IBC, 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.

Should a significant impact occur, project mitigation would be required to bring the intersection back to baseline conditions, at a minimum.

Study Scenarios

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

- Existing Conditions
- Existing Plus Project Conditions
- TPO Analysis: Year 2018 with Committed Projects without Project
- TPO Analysis: Year 2018 with Committed Projects with Phase 1
- Cumulative Analysis: Year 2018 with Cumulative Projects without Project
- Cumulative Analysis: Year 2018 with Cumulative Projects with Phase 1
- Cumulative Analysis: Year 2021 with Cumulative Projects without Project
- Cumulative Analysis: Year 2021 with Cumulative Projects with Full Project

EXISTING TRANSPORTATION SYSTEM

Roadway Characteristics

Regional access to the project site is provided by the Corona del Mar Freeway (SR-73), located less than one mile to the south of the project area, and by the San Diego Freeway (I-405) located less than 1.5 miles north of the project area. The proposed development would take access to the surrounding street system via connections to Jamboree Road for Phase 1 and connections to Jamboree Road and to Birch Street for Phase 2.

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. The posted speed limit is 45 mph.

Bristol Street North is part of the Bristol Street couplet that runs along either side of State Route 73 (SR-73). Bristol Street North is a 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 in the City of Newport Beach Circulation Element.

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.

Campus Drive is a four-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 are provided on both sides 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 Circulation Element as a Major Arterial between Bristol Street and MacArthur Boulevard, and as a Secondary Arterial between MacArthur Boulevard and University Drive.

The Corona del Mar Freeway (SR-73) is a seven- to eight-lane divided freeway providing regional access to and through the project area. The Corona del Mar Freeway starts at the San Diego Freeway (I-405) and extends southeast just beyond University Drive, where it becomes the San Joaquin Hills Transportation Corridor. SR-73 has four travel lanes in the northbound direction, and transitions from four to three travel lanes in the southbound direction east of Bristol Street.

Dupont Drive is a four-lane divided 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, and 40 mph to the east of Von Karman Avenue.

Fairchild Road is a four-lane collector in the City of Irvine that extends from Jamboree Road to McArthur Boulevard, and provides access to the Centerpointe office development, located across Jamboree Road from the Koll Center development. Fairchild Road intersects with Jamboree Road and aligns with the existing signalized driveway that provides access to the existing uses on the Uptown Newport Project site. Fairchild Road is divided by a painted median.

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 the Newport Beach city limits, Jamboree Road is mainly a six-lane divided arterial with three lanes in each direction, with the exception of four southbound travel lanes between Birch Street and Fairchild Road. Jamboree Road transitions into an eight-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.

Main Street is a six-lane divided east-west arterial in the City of Irvine, located approximately a quarter-mile north of the I-405 Freeway. Main Street is divided by a raised landscaped median and has a posted speed limit of 45 mph. Main Street is designated as a Major arterial on the City of Irvine Circulation Element.

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.

Michelson Drive is a four-lane divided east-west arterial in the City of Irvine, located approximately one-third mile south of the I-405 Freeway. Michelson Drive is divided by a painted median and has a posted speed limit of 45 mph to the west, and 50 mph to the east of Jamboree Road.

The San Diego Freeway (I-405) is a twelve-lane freeway through the study area, providing regional access to the vicinity via interchanges at McArthur Boulevard and Jamboree Road. A carpool lane is provided in both the northbound and southbound directions.

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 the 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 45 mph within the City of Newport Beach 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.

Von Karman Avenue is a four-lane divided north-south Primary Arterial that starts at MacArthur Boulevard in the City of Newport Beach, and extends northward 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.

Existing Transit Service

Figure 5 illustrates the bus routes currently operated by OCTA through the study area in the cities of Newport Beach and Irvine. The following OCTA routes serve the project site and vicinity.

OCTA Route 59 operates between the City of Anaheim and the City of Irvine via Kraemer Boulevard/Glassell Street/Grand Avenue and Von Karman Avenue. Route 59 starts at Kraemer and La Palma in Anaheim and proceeds through the cities of Orange, Santa Ana and Tustin, then through the City of Irvine to the University of California, Irvine (UCI). The Route 59 stop closest to the project 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. On Saturdays, Route 59 does not offer service to UCI; it only operates to Pullman Street and Dyer Road from 6:50 AM to 11:30 PM, with 65-minute headways. Route 59 does not currently operate on Sundays.

OCTA Route 76 operates between the City of Huntington Beach and the City of Newport Beach via Talbert Avenue/MacArthur Boulevard. Route 76 starts at Talbert and Beach in Huntington Beach, and travels through the cities of Fountain Valley, Santa Ana and Irvine to Newport Beach, where it turns around at the Newport Transportation Center. The Route 76 stop closest to the project site is at the corner of MacArthur Boulevard and Jamboree Road. Route 76 operates on weekdays only, from 4:55 AM to 11:10 PM with 45-minute to 1-hour headways.

OCTA Route 178 operates between the City of Huntington Beach and the City of Irvine via Adams Avenue, Birch Street, and Campus Drive. Route 178 starts at Goldenwest Street and Yorktown Avenue in Huntington Beach and heads east through the cities of Costa Mesa and Newport Beach to UCI in the City of Irvine. The Route 178 stop closest the site is located at the corner of Campus Drive and Jamboree Road. Route 178 operates in full-route mode on weekdays from 5:50 AM to 10:50 PM with 45-minute to 1-hour headways. On Saturdays, Route 178 does not offer service to UCI; it operates only to the Orange County Fairgrounds from 8:20 AM to 4:20 PM with 45-minute headways. Route 178 does not operate on Sundays.

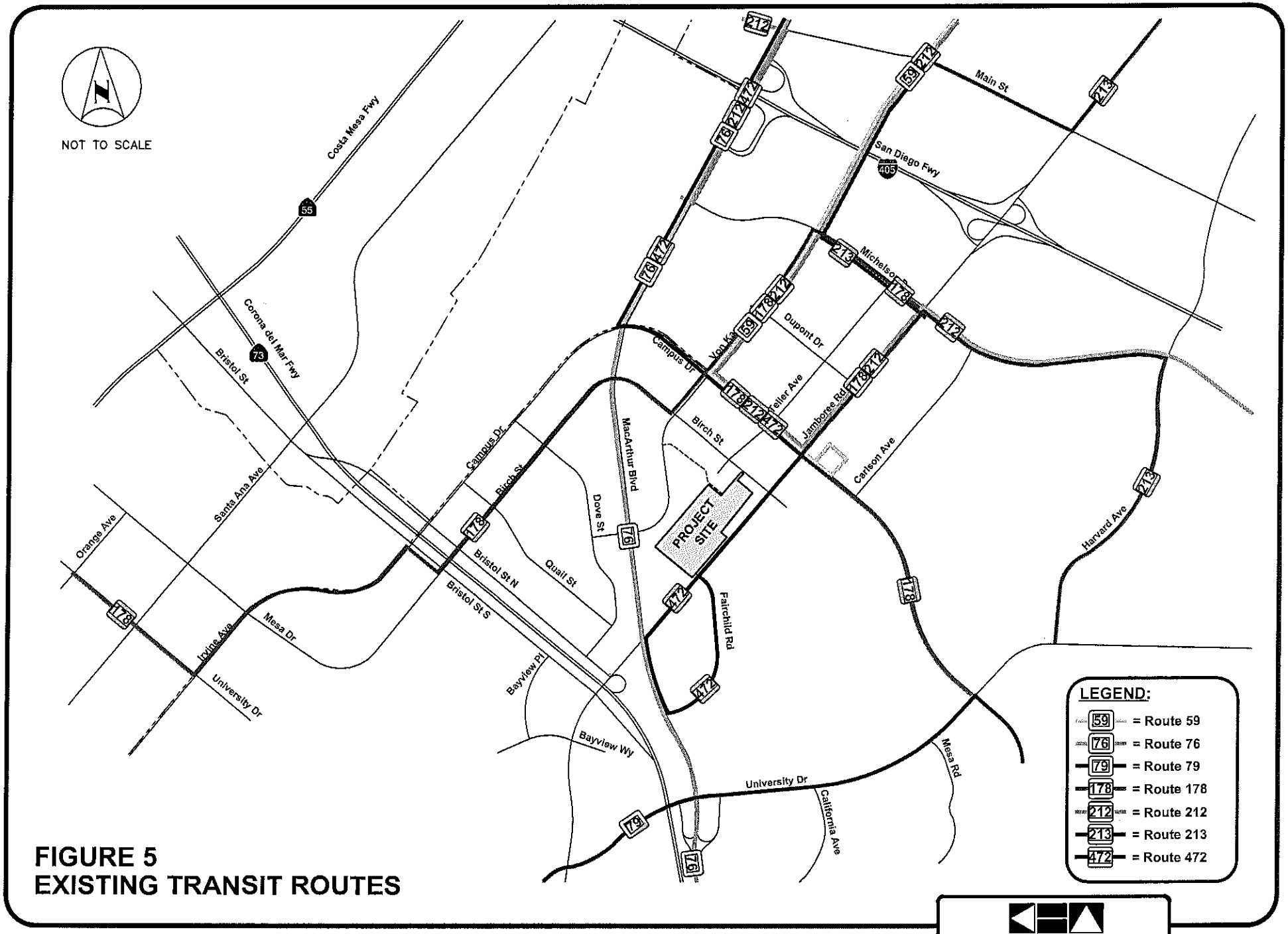

FIGURE 5
EXISTING TRANSIT ROUTES

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OCTA Route 212 provides express route service between John Wayne Airport and San Juan Capistrano via the San Diego Freeway (I-405). Route 212 starts at John Wayne Airport and continues south on the I-405 Freeway to San Juan Capistrano, where it turns around at the Junipero Serra Park-and-Ride. The Route 178 stop closest the site is located at the corner of Campus Drive and 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 via Brea Boulevard, Chapman Avenue, SR-55 Freeway, Alton Parkway, Jamboree Road, Main Street, Von Karman Avenue, Michelson Drive, and Harvard Avenue. 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 the City of Irvine where it turns around at the Food and Drug Administration building on Fairchild Road, across Jamboree Road from the project site. The Route 472 stop closest to the site is located at the corner of Fairchild Road and Jamboree Road. Route 472 operates on weekdays only, and in the southbound direction only in the morning – from 6:10 to 9:00 AM; and in the northbound direction only in the evening – from 3:30 to 5:20 PM.

EXISTING TRAFFIC CONDITIONS

Existing Traffic Volumes

Field observations of all study intersections were conducted to document the number of through and turning lanes, traffic control, and other existing traffic conditions at each intersection. Existing lane configurations and intersection traffic controls at the study intersections are shown on **Figure 6**.

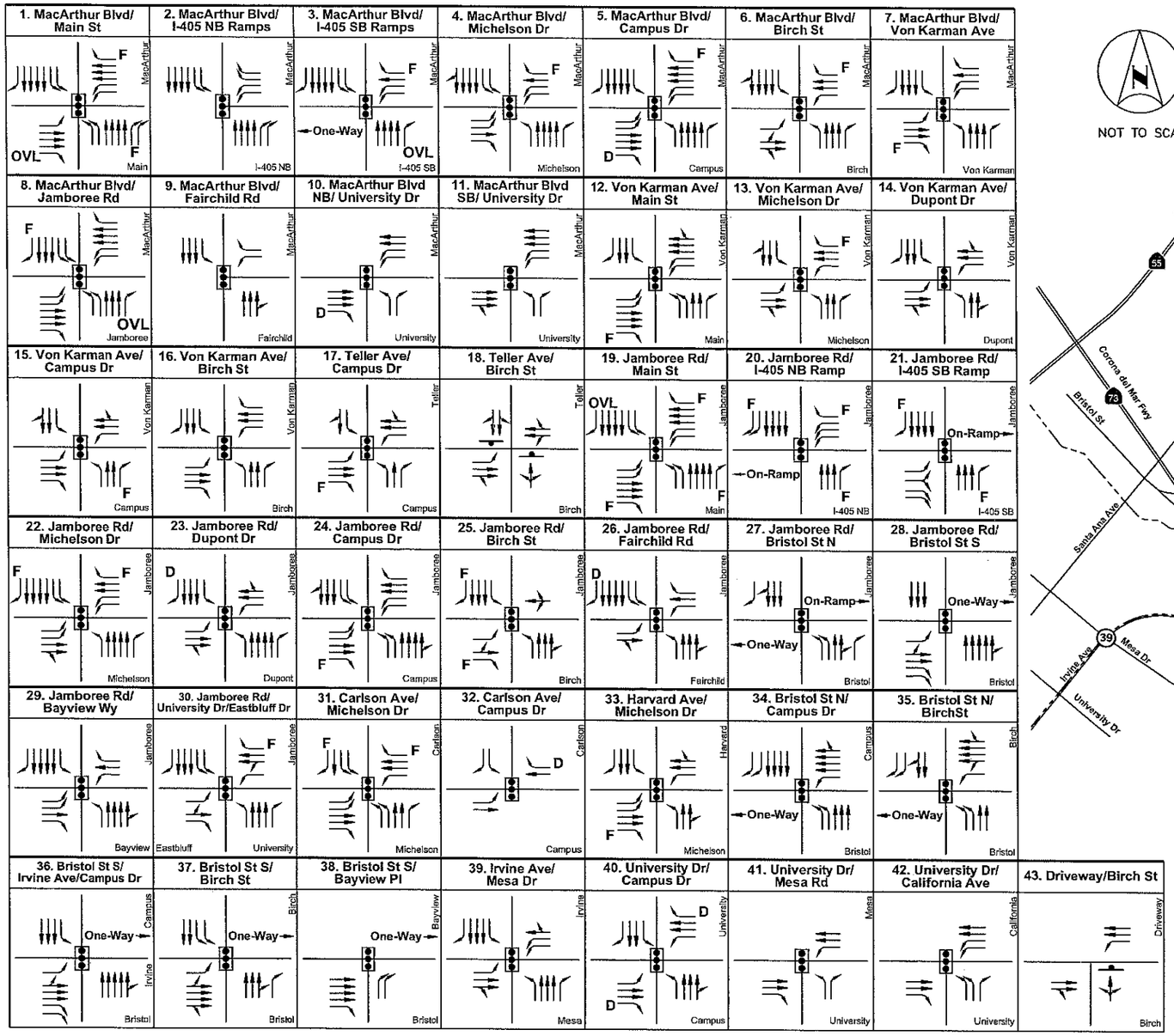
Morning and evening peak hour intersection movement counts in this study were collected at the study intersections between March, 2010 and November, 2011. Existing peak hour turning movement volumes are shown on **Figure 7**. Copies of peak hour traffic data collection sheets are provided in ***Appendix A***.

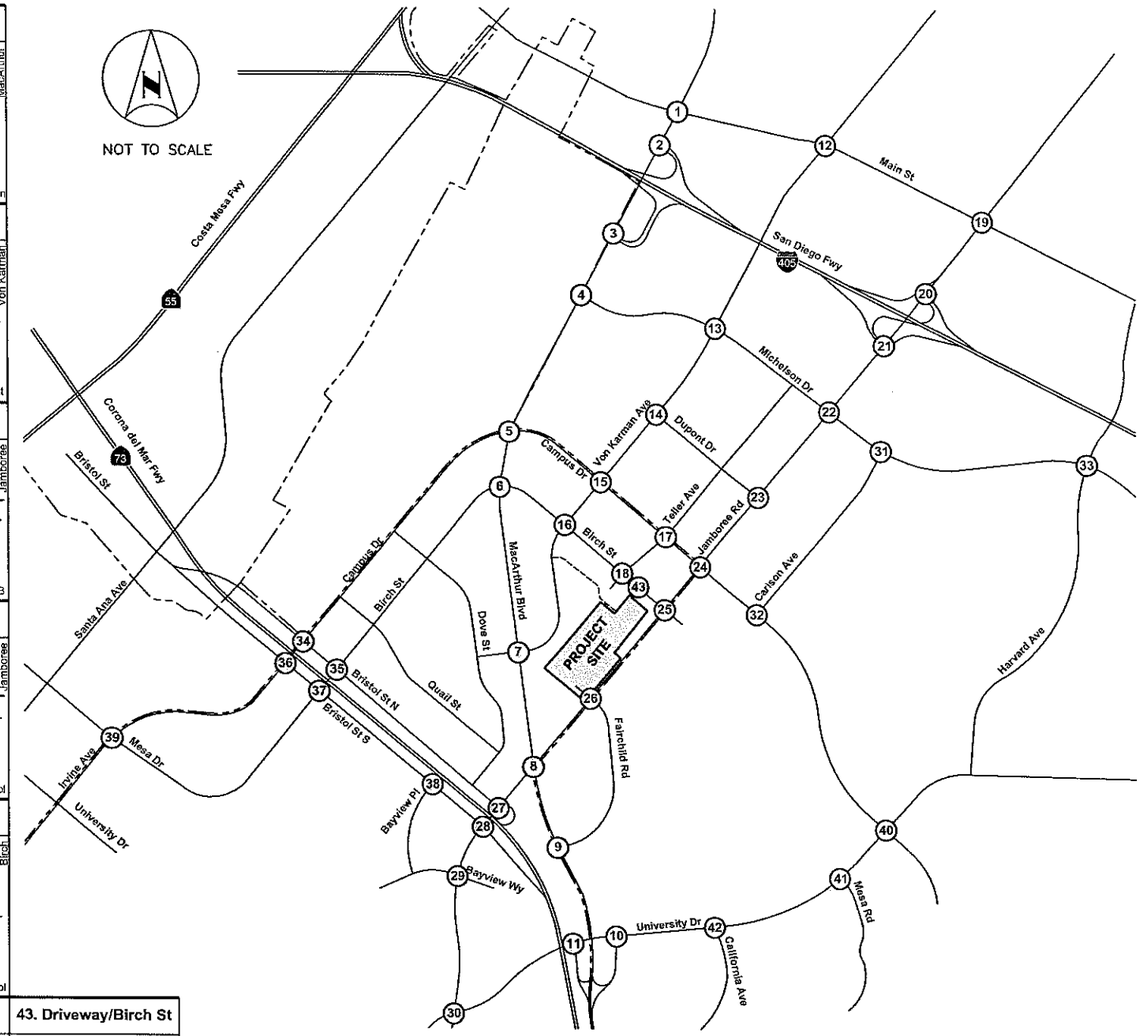
Existing Intersection Analysis

Peak hour intersection analysis was conducted for the signalized study intersections using the applicable intersection analysis methodology and parameters for each city, as discussed previously in this report. Unsignalized intersections were analyzed using the HCM methodology for unsignalized intersections.

Table 1 summarizes existing AM and PM peak hour intersection operations. Review of Table 1 indicates that all study intersections are currently operating at acceptable levels of service (LOS "D" for all intersections, except LOS "E" for intersections in the IBC area and CMP intersections) in both peak hours.

Intersection Level of Service worksheets are provided in ***Appendix B***.





LEGEND:

- (X) Newport Beach Intersection
- (X) Irvine Intersection
- ----- City Boundary
- F Free Right-Turn Lane
- OVL Right-Turn Overlap
- D Defacto Right-Turn Lane
- Signal
- Stop Sign

FIGURE 6
EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL

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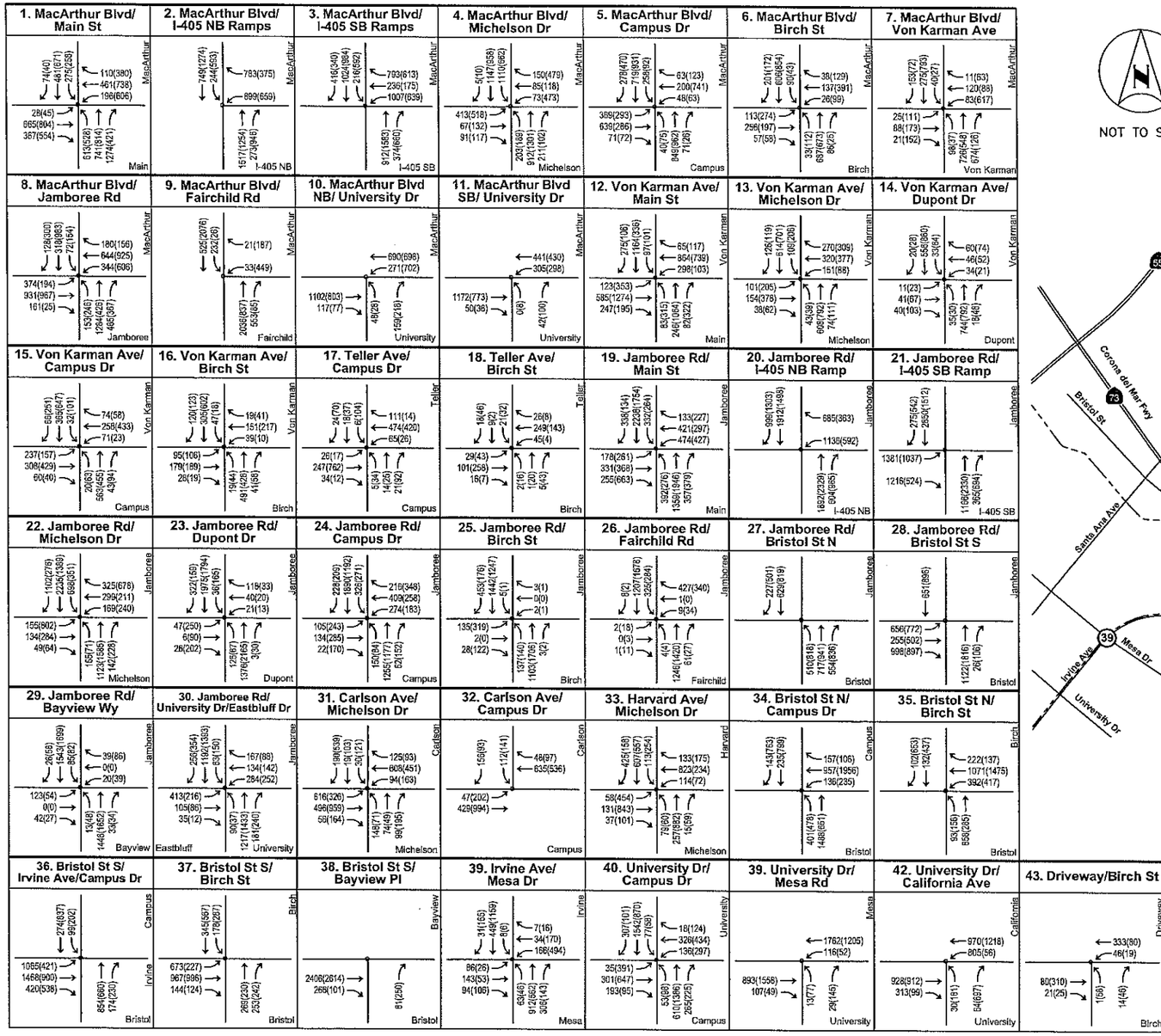

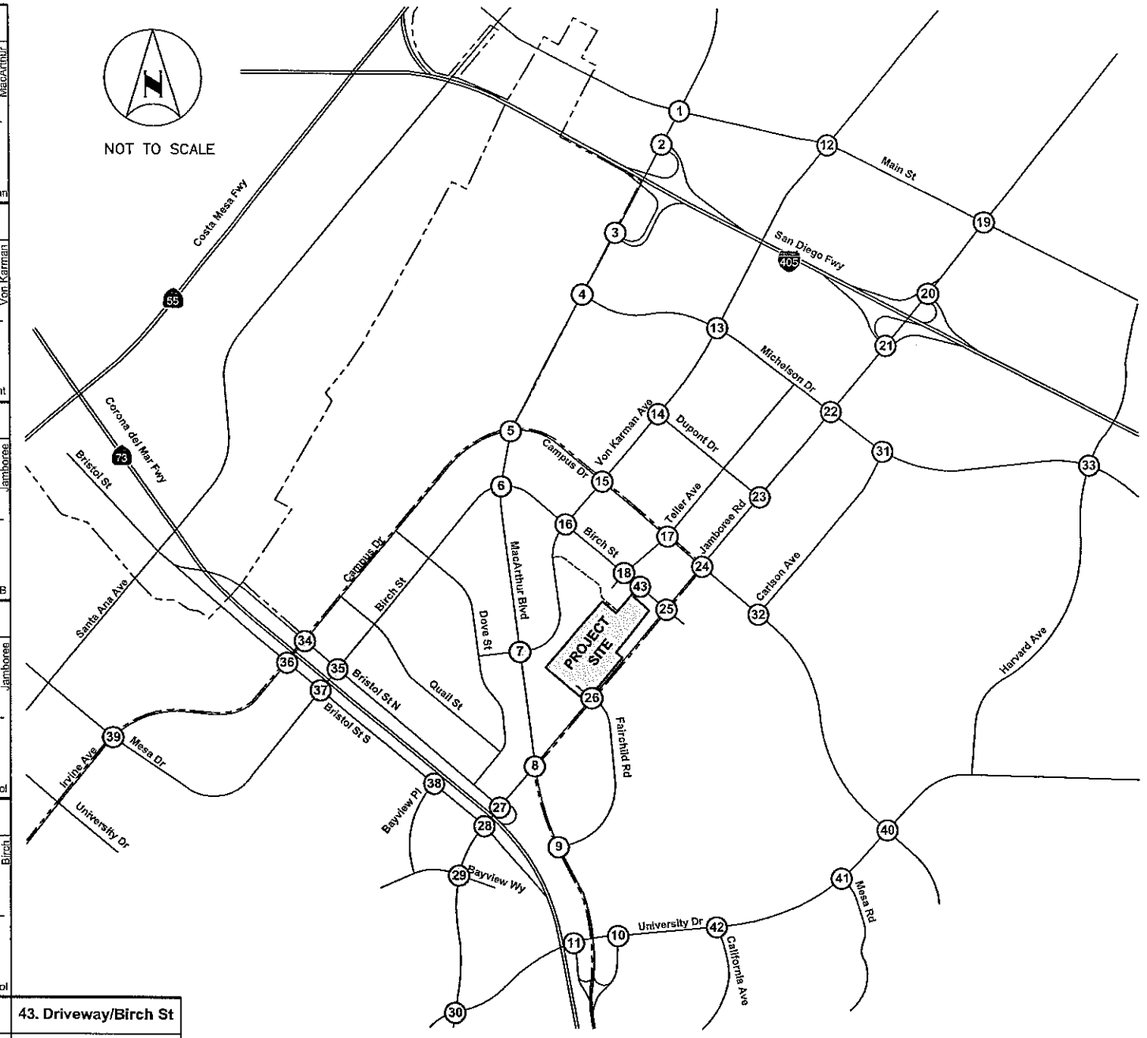

LEGEND:

- (X) Newport Beach Intersection
- (X) Irvine Intersection
- ---- City Boundary
- XX(XX) AM/PM Peak Hour Turning Movement Volumes

FIGURE 7
EXISTING PEAK HOUR TRAFFIC VOLUMES

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TABLE 1
UPTOWN NEWPORT PROJECT
SUMMARY OF INTERSECTION OPERATIONS
EXISTING CONDITIONS

				AM Peak Hour		PM Peak Hour	
				ICU/ Delay	LOS	ICU/ Delay	LOS
1	MacArthur Blvd/Main St	a	S	0.49	A	0.65	B
2	MacArthur Blvd/I-405 NB Ramps	a	S	0.81	D	0.72	C
3	MacArthur Blvd/I-405 SB Ramps	a	S	0.59	A	0.65	B
4	MacArthur Blvd/Michelson Dr	a	S	0.68	B	0.65	B
5	MacArthur Blvd/Campus Dr	a	S	0.48	A	0.60	A
6	MacArthur Blvd/Birch St		S	0.34	A	0.46	A
7	MacArthur Blvd/Von Karman Ave		S	0.54	A	0.44	A
8	MacArthur Blvd/Jamboree Rd	a.b	S	0.59	A	0.67	B
9	MacArthur Blvd/Fairchild Rd	a	S	0.71	C	0.72	C
10	MacArthur Blvd NB Off-ramp/University Dr		S	0.44	A	0.54	A
11	MacArthur Blvd SB Off-ramp/University Dr		S	0.38	A	0.32	A
12	Von Karman Ave/Main St	a	S	0.64	B	0.70	B
13	Von Karman Ave/Michelson Dr	a	S	0.44	A	0.64	B
14	Von Karman Ave/Dupont Dr	a	S	0.34	A	0.41	A
15	Von Karman Ave/Campus Dr	a	S	0.47	A	0.59	A
16	Von Karman Ave/Birch St		S	0.29	A	0.35	A
17	Teller Ave/Campus Dr	a	S	0.27	A	0.41	A
18	Teller Ave/Birch St		U	12.10	B	11.50	B
19	Jamboree Rd/Main St	a	S	0.70	B	0.61	B
20	Jamboree Rd/I-405 NB Ramps	a.b	S	0.64	B	0.62	B
21	Jamboree Rd/I-405 SB Ramps	a.b	S	0.88	D	0.81	D
22	Jamboree Rd/Michelson Dr	a	S	0.61	B	0.68	B
23	Jamboree Rd/Dupont Dr	a	S	0.61	B	0.63	B
24	Jamboree Rd/Campus Dr	a	S	0.67	B	0.63	B
25	Jamboree Rd/Birch St		S	0.46	A	0.48	A
26	Jamboree Rd/Fairchild Rd	a	S	0.65	B	0.63	B
27	Jamboree Rd/Bristol St North		S	0.29	A	0.46	A
28	Jamboree Rd/Bristol St South		S	0.45	A	0.52	A
29	Jamboree Rd/Bayview Way		S	0.35	A	0.39	A
30	Jamboree Rd/University Dr		S	0.56	A	0.52	A
31	Carlson Ave/Michelson Dr	a	S	0.48	A	0.60	A
32	Carlson Ave/Campus Dr	a	S	0.39	A	0.72	C
33	Harvard Ave/Michelson Dr		S	0.65	B	0.77	C
34	Campus Dr/Bristol St North		S	0.48	A	0.71	C
35	Birch St/Bristol St North		S	0.54	A	0.56	A
36	Campus Dr/Bristol St South		S	0.59	A	0.48	A
37	Birch St/Bristol St South		S	0.39	A	0.41	A
38	Bayview Pl/Bristol St South		S	0.40	A	0.49	A
39	Irvine Ave/Mesa Dr		S	0.32	A	0.49	A
40	University Dr/Campus Dr		S	0.70	B	0.73	C
41	Mesa Rd/University Dr		S	0.59	A	0.62	B
42	California Ave/University Dr		S	0.58	A	0.61	B
43	Birch St/Driveway		U	8.80	A	11.30	B

Notes:
a = Intersection is located within the Irvine Business Complex Vision Plan Area (LOS E Acceptable)
b = Orange County Congestion Management Program (CMP) intersection (LOS E Acceptable)
S = Signalized, U=Unsignalized
Bold values indicate intersections operating at an unacceptable LOS.
Intersection operatiou is expressed in average seconds of delay per vehicle during the peak hour for unsignalized interseetions using HCM 2000 Methodology and is expressed in volume-to-capacity (v/c) for signalized intersections using ICU Methodology.

PROJECT TRAFFIC

Trip Generation

Existing Conexant Development Trip Generation

The project site is currently occupied by two buildings: 4311 Jamboree, with 115,375 square feet of office use and 11,300 square feet of light industrial use; and 4321 Jamboree, with 52,947 square feet of office space and 258,505 square feet of industrial use. Since these two buildings will be removed to make way for the proposed Uptown Newport Project, the trips currently generated at the site driveways by this existing development will be deducted from the trips to be generated by the proposed project uses.

For the Phase 1 Project, only the 4311 Jamboree office building will be removed. For Phase 2 (the Full Project), both buildings will be removed. Existing driveway counts were used to determine the trip credit to be applied for this traffic impact analysis. (See footnote #4 on Tables 2 and 3.)

Proposed Project Trip Generation

Trip generation estimates for the proposed project were developed using the Institute of Traffic Engineers (ITE) Trip Generation (8th Edition) publication. The proposed project components and trip generation estimates for the Uptown Newport Project are as follows:

Phase 1:

- Multi-Family Residential – 680 dwelling units. The project may include a variety of multi-family residential product types, e.g.: condominium, apartment, townhomes, etc. For a most conservative trip generation analysis, the ITE trip generation rates for "Apartment" are applied to all 1,244 residential units.
- Commercial (Retail & Restaurant) – 11,500 square feet, consisting of 5,500 square feet of specialty retail use and 6,000 square feet of quality restaurant.
- A 10% reduction in the trips for the commercial development was applied to account for pass-by trips, as directed by City of Newport Beach staff.
- Trip generation estimates for Phase 1, including trip credits for the existing development to be removed and adding the new trips for the proposed Phase 1 project, are shown on **Table 2**.

Phase 2:

- Multi-Family Residential Units – 1,244 units. The project may include a variety of multi-family residential product types, e.g.: condominium, apartment, townhomes, etc. For a most conservative trip generation analysis, the ITE trip generation rates for "Apartment" are applied to all 1,244 residential units.

- Commercial (Retail & Restaurant) – 11,500 square feet, consisting of 5,500 square feet of specialty retail use and 6,000 square feet of quality restaurant.
- A 10% reduction in the trips for the commercial development was applied to account for pass-by trips, as directed by City of Newport Beach staff.
- Trip generation estimates for the entire Uptown Newport project, including trip credits for removing the entire existing development on the site and adding the new trips for the entire Uptown Newport project are shown on **Table 3**.

Review of the trip generation estimates for the existing office and industrial development on the site, compared to the proposed project reveals that the proposed development will result in a shift of traffic patterns to and from the site. The traffic patterns for the existing office and industrial development are typical of employment uses, with a heavier traffic flow toward the employment uses (inbound) in the morning peak hour, and heavier traffic flow away from the site (outbound) in the evening peak hour. The proposed Uptown Newport Project would consist of primarily residential uses, which would have the reverse traffic patterns – heavier traffic flow outbound from the residential uses in the morning peak hour, and heavier traffic flow inbound toward the site in the evening peak hour.

As a result, while the proposed project will result in an overall increase in daily trips, there will be a reduction of trips on some intersection movements and an increase on others in each of the morning and evening peak hours. This is accounted for in the project trip distribution and assignment, as discussed in the next section.

It should he noted that the existing buildings on the site are not fully occupied. In particular, the "Half Dome" building at 4311 Jamboree Road is estimated to be operating at less than 50% capacity. Therefore, the trip credits for the existing uses to be removed are based on actual site traffic measured at the site driveways. A comparison of actual site traffic and trip generation estimates based on standard ITE trip rates is provided on the following chart. As review of this chart shows, the use of actual site-generated traffic counts, rather than ITE trip rates, is the most conservative approach.

Comparison of Project Trip Generation:
Actual Site Driveway Counts vs. ITE Standard Trip Generation Rates

Phase	Phase	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Ph. 1	Driveway Counts	270	33	4	38	6	31	37
	ITE Trip Generation Rates	1,349	166	22	188	30	153	183
Ph. 2	Driveway Counts	747	90	12	102	15	88	102
	ITE Trip Generation Rates	3,734	448	61	509	74	438	512

TABLE 2
SUMMARY OF PHASE 1 TRIP GENERATION

Land Use	ITE Code	Unit	Trip Generation Rates [1]						
				AM Peak Hour			PM Peak Hour		
			Daily	In	Out	Total	In	Out	Total
Apartment [2]	220	DU	6.65	0.102	0.408	0.510	0.403	0.217	0.620
Specialty Retail Center [3]	814	KSF	44.32	0.610	0.390	1.000	1.192	1.518	2.710
Quality Restaurant [4]	931	KSF	89.95	0.664	0.146	0.810	5.018	2.472	7.490

Land Use	Quantity	Unit	Trip Generation Estimates						
				AM Peak Hour			PM Peak Hour		
			Daily	In	Out	Total	In	Out	Total
Trips for Existing Conexant Development to be Demolished for Phase 1									
4311 Jamboree Building [5]			**270**	**33**	**4**	**38**	**6**	**31**	**37**
Proposed Uptown Newport Phase 1 Development									
Apartment [2]	680	DU	4,522	69	277	346	274	148	422
Specialty Retail Center [3]	5.50	KSF	244	3	2	5	7	8	15
Quality Restaurant [4]	6.00	KSF	540	4	1	5	30	15	45
Sub-total - Phase 1			**5,306**	**76**	**280**	**356**	**311**	**171**	**482**
Retail Adjustment Factor [6]	10%		-24	0	0	-1	-1	-1	-2
Total Phase 1 Trips			**5,282**	**76**	**280**	**355**	**310**	**170**	**480**
Net New Phase 1 Trips			***5,012***	***43***	***276***	***317***	***304***	***139***	***443***

[1] Source: Institute of Transportation Engineers publication: Trip Generation, 8th Edition

[2] The project may consist of a combination of multi-family residential product types, including condominium, apartment, townhome, etc. For a most conservative trip generation analysis, the ITE trip generation rates for "Apartment" are used here.

[3] 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.

[4] Directional distribution for the AM Peak Hour is based on the the AM Peak Hour of Generator.

[5] Source: Project site driveway counts

[6] ITE Trip Generation Handbook indicates pass-by for a shopping center is 34% in the PM peak hour. A 10% reduction is assumed for each peak hour, as directed by the City of Newport Beach staff.

KSF = Thousand Square Feet

DU = Dwelling Unit

TABLE 3
SUMMARY OF PHASE 2 (FULL PROJECT) TRIP GENERATION

Land Use	ITE Code	Trips per	Trip Generation Rates [1]						
				AM Peak Hour			PM Peak Hour		
			Daily	In	Out	Total	In	Out	Total
Apartment [2]	220	DU	6.65	0.102	0.408	0.510	0.403	0.217	0.62
Specialty Retail Center [3]	814	KSF	44.32	0.610	0.390	1.000	1.192	1.518	2.71
Quality Restaurant [4]	931	KSF	89.95	0.664	0.146	0.810	5.018	2.472	7.49
Land Use	**Quantity**	**Unit**	**Trip Generation Estimates**						
				AM Peak Hour			**PM Peak Hour**		
			Daily	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Trips for Total Conexant Development to be Demolished for Entire Uptown Newport									
4311 & 4321 Jamboree Buildings [5]			**747**	**90**	**12**	**102**	**15**	**88**	**102**
Proposed Uptown Newport Total Development									
Apartment [2]	1,244	DU	8,273	127	508	635	501	270	771
Specialty Retail Center [3]	5.50	KSF	244	3	2	5	7	8	15
Quality Restaurant [4]	6.00	KSF	540	4	1	5	30	15	45
Sub-total			**9,057**	**134**	**511**	**645**	**538**	**293**	**831**
Retail Adjustment Factor [6]	10%		-24	0	0	-1	-1	-1	-2
Total Project Trips			**9,033**	**134**	**511**	**644**	**537**	**292**	**829**
Net New Total Project Trips			***8,286***	***44***	***499***	***542***	***522***	***204***	***727***

[1] Source: Institute of Transportation Engineers publication: Trip Generation, 8th Edition

[2] The project may consist of a combination of multi-family residential product types, including condominium, apartment, townhome, etc. For a most conservative trip generation analysis, the ITE trip generation rates for "Apartment" are used here.

[3] 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.

[4] Directional distribution for the AM Peak Hour is based on the the AM Peak Hour of Generator.

[5] Source: Project site driveway counts

[6] ITE Trip Generation Handbook indicates pass-by for a shopping center is 34% in the PM peak hour. A 10% reduction is assumed for each peak hour, as directed by the City of Newport Beach staff.

KSF = Thousand Square Feet

DU = Dwelling Unit

Trip Distribution and Assignment

Project trip distribution assumptions for the project site were developed individually for the existing industrial and office uses on the site, and for the proposed Uptown Newport Project. Trip distribution assumptions for the existing employment uses were based on observed traffic patterns to and from the project site, and on likely origins and destinations of project patrons and employees. Since the office development on the site will be removed, the existing office development trips were distributed as negative trips.

Trip distribution assumptions for the proposed residential development were based on likely local and regional destinations in the project area, and the transportation network available for those trips. Distribution assumptions were submitted to City staff for review and concurrence.

Trip distribution assumptions for the existing office and industrial development are shown on **Figure 8.** Trip distribution assumptions for the proposed Uptown Newport Project on **Figure 9**.

Based on these two trip distribution patterns, the net new trips to be added (or subtracted, if appropriate, due to the shift in traffic patterns from employment to residential) to the street system by the proposed project were combined and calculated. The resulting project trips are shown on **Figure 10** for Phase 1 of the project, and on **Figure 11** for the total proposed project. As described earlier, negative project volumes are the result of the shift in traffic patterns from employment-oriented uses, with heavier inbound flows in the morning and outbound in the evening; to residential uses, with reverse traffic flows.

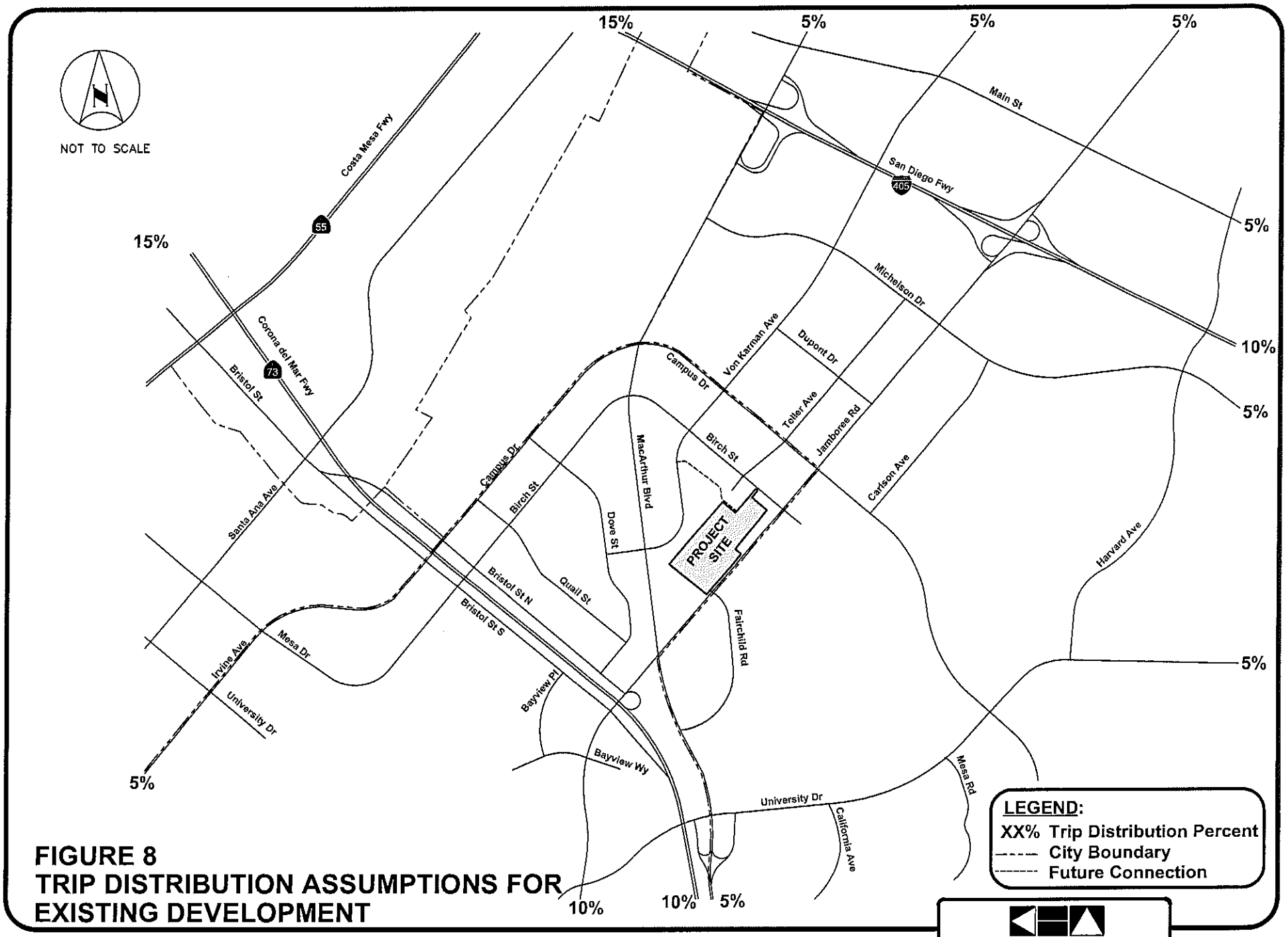

FIGURE 8
TRIP DISTRIBUTION ASSUMPTIONS FOR EXISTING DEVELOPMENT

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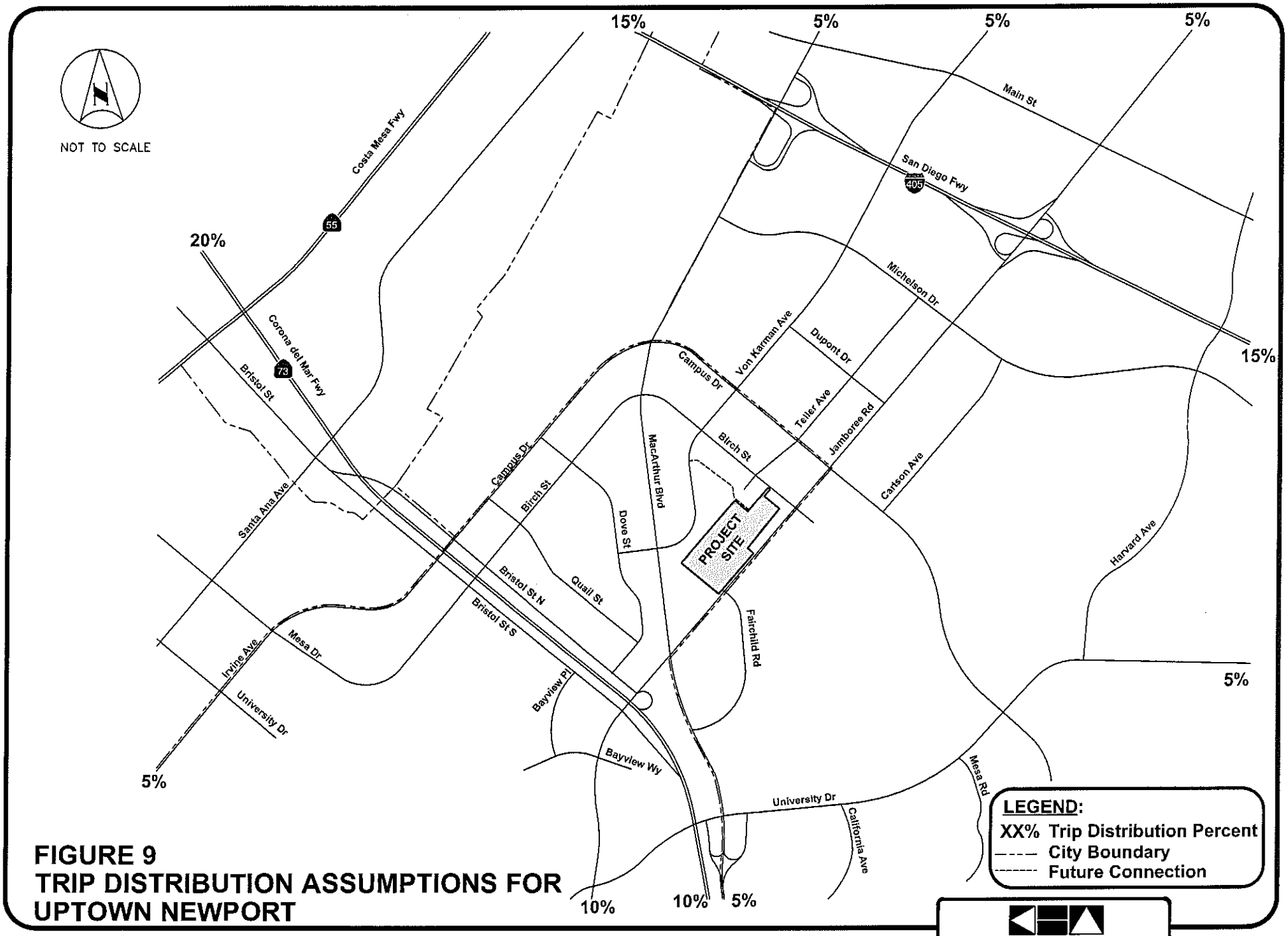

FIGURE 9
TRIP DISTRIBUTION ASSUMPTIONS FOR UPTOWN NEWPORT

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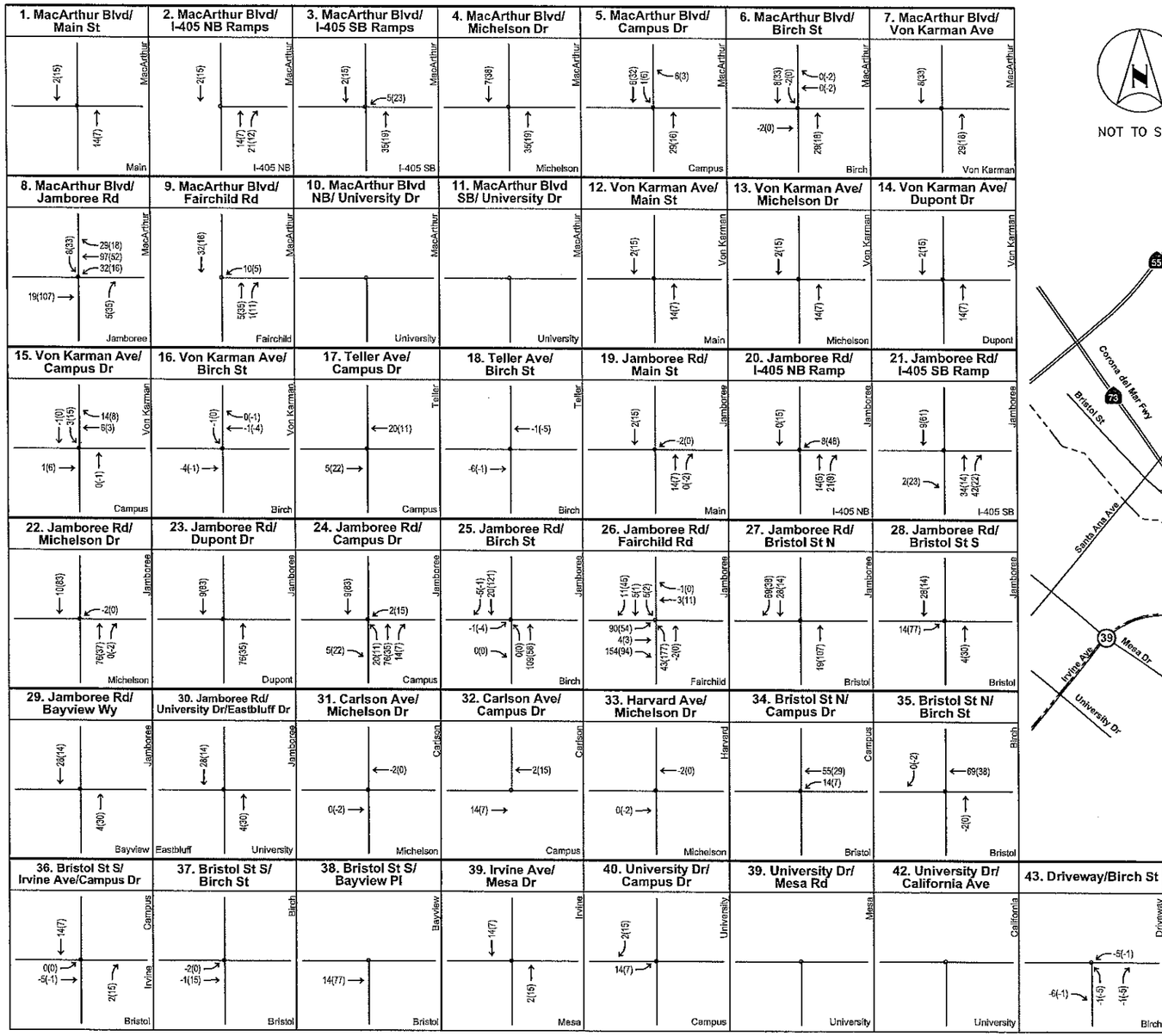

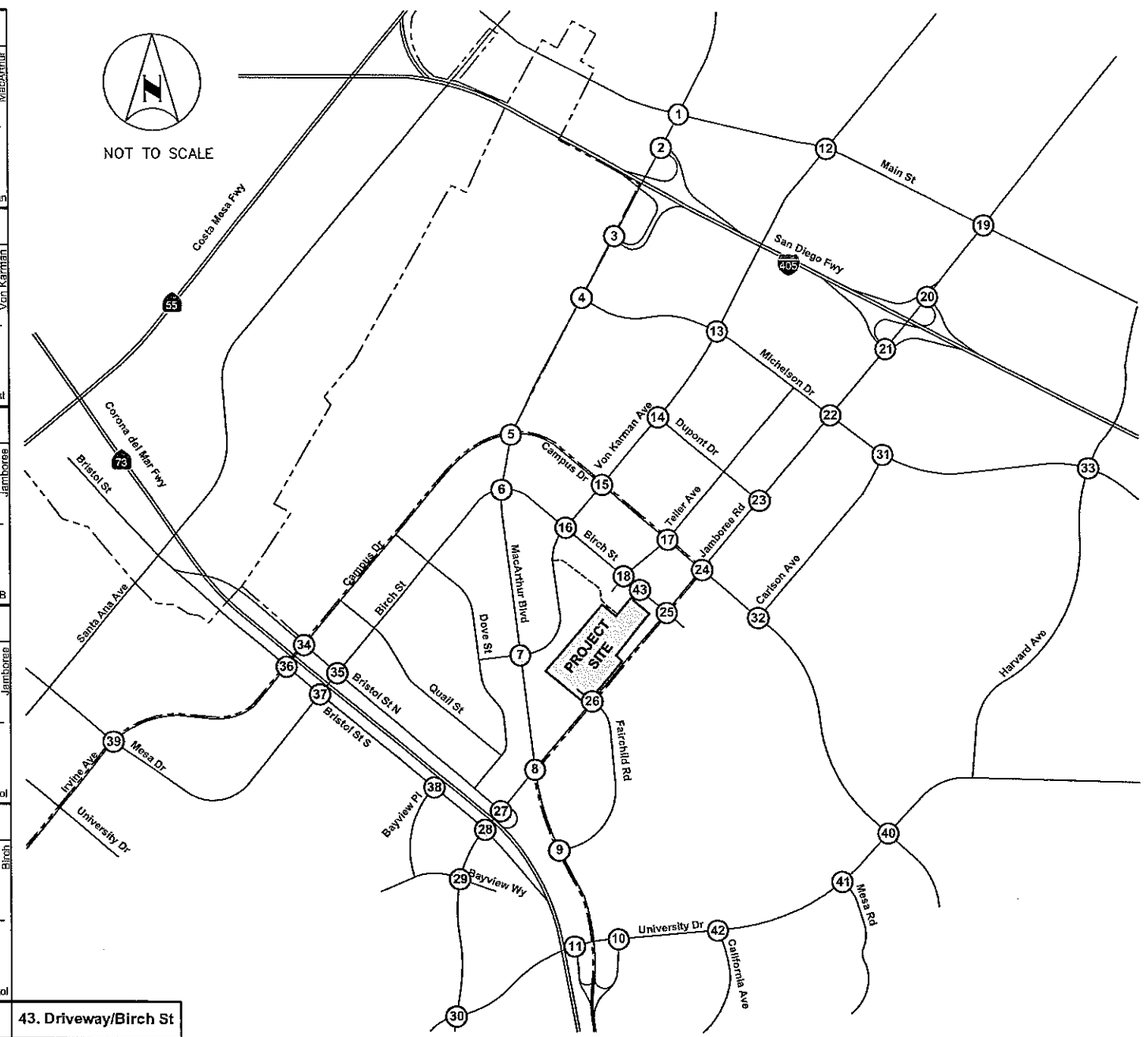

LEGEND:

- (X) Newport Beach Intersection
- (X) Irvine Intersection
- ---- City Boundary
- XX(XX) AM/PM Peak Hour Turning Movement Volumes

FIGURE 10
PHASE 1 PROJECT-RELATED PEAK HOUR TRAFFIC VOLUMES

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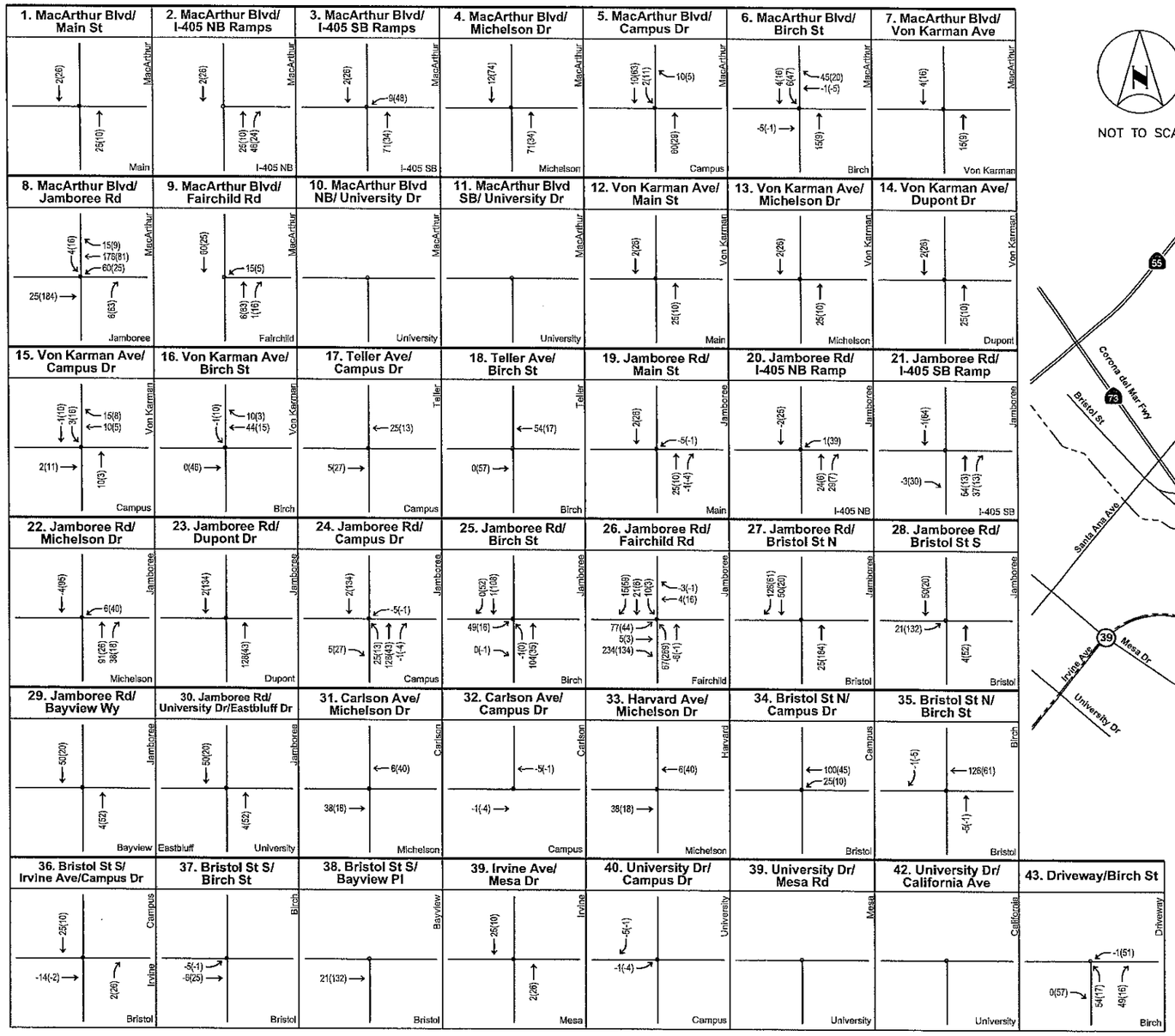

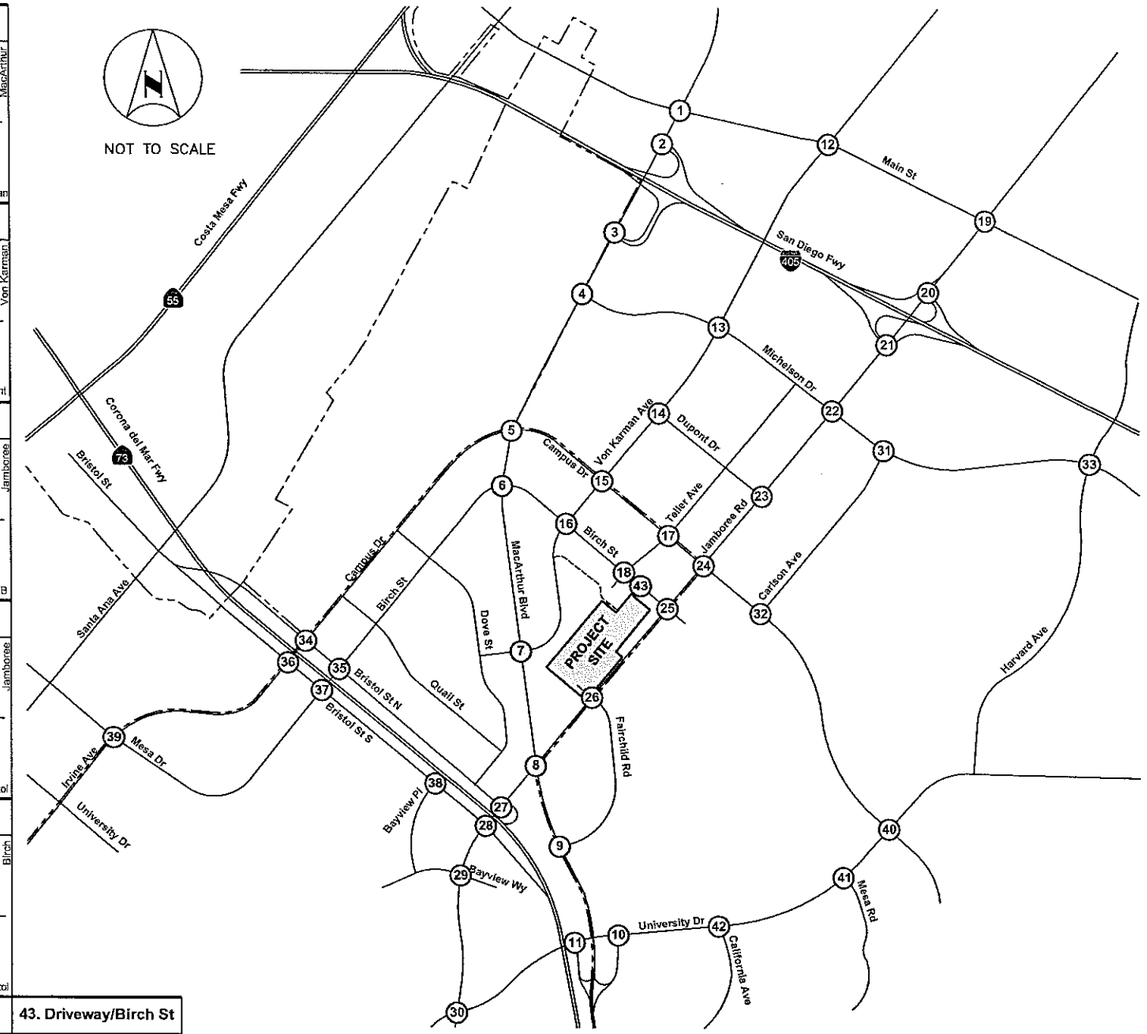

LEGEND:

- (X) Newport Beach Intersection
- (X) Irvine Intersection
- ---- City Boundary
- XX(XX) AM/PM Peak Hour Turning Movement Volumes

FIGURE 11
PHASE 2 (FULL PROJECT) PROJECT-RELATED PEAK HOUR TRAFFIC VOLUMES

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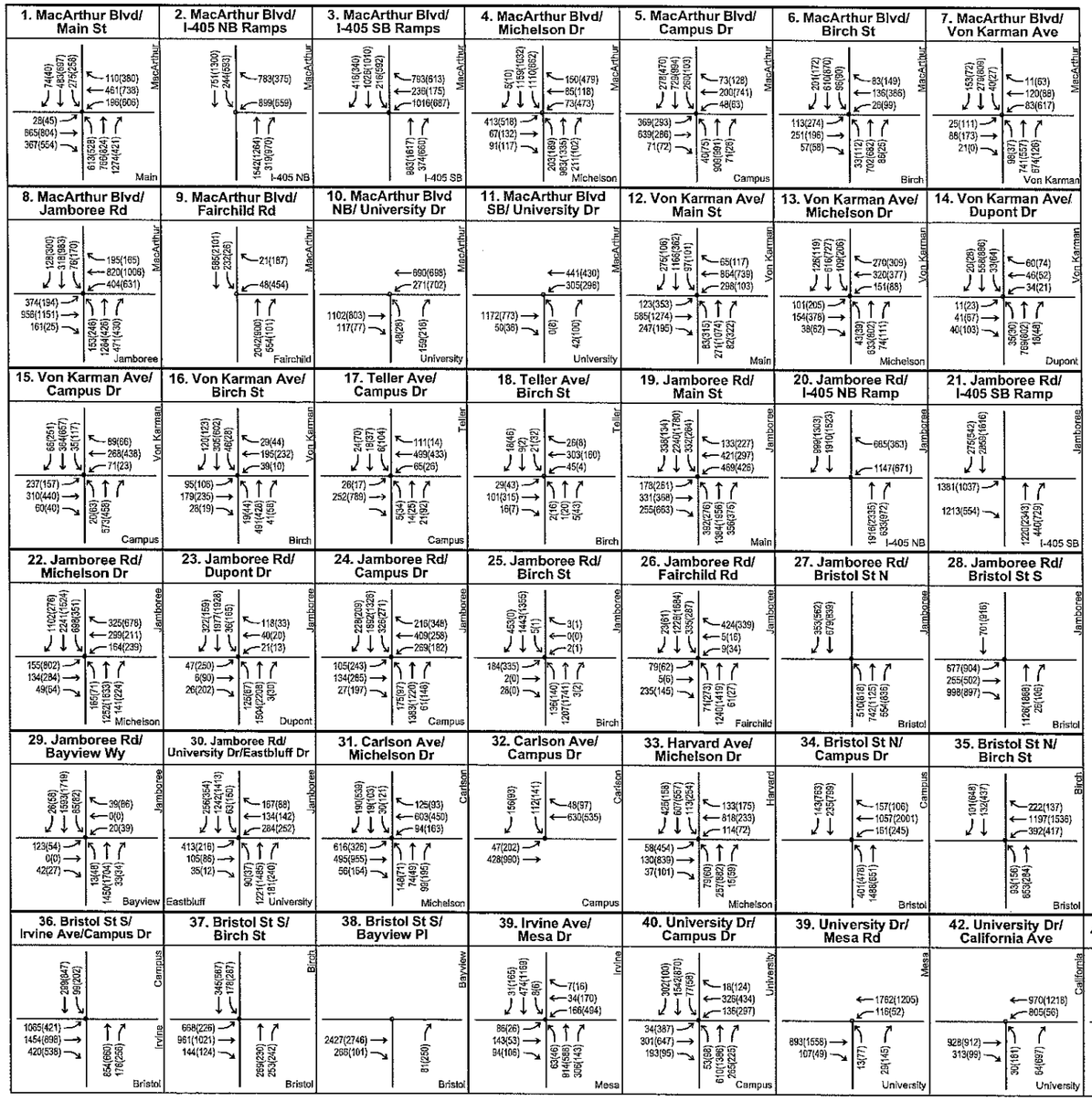
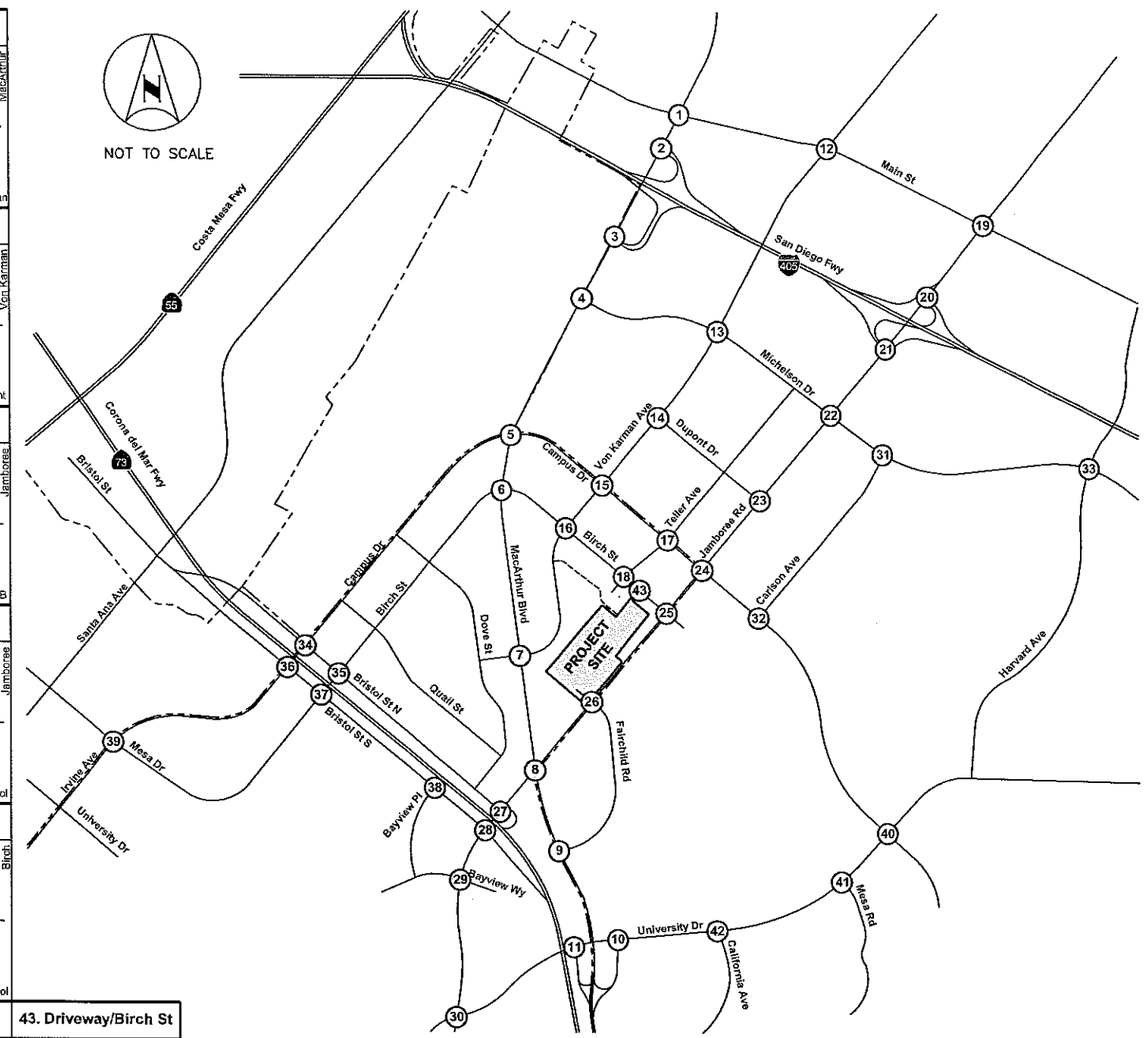
EXISTING PLUS PROJECT CONDITIONS

This section presents results of the analysis of the impacts associated with adding project-related trips to existing traffic volumes. The Existing Plus Project scenario is a hypothetical scenario which assumes that the Project would be fully implemented at the present time. This analysis is required by the California Environmental Quality Act (CEQA), and assumes full development of the Project and full absorption of Project traffic on the existing circulation system.

Existing plus Project peak hour volumes are shown on **Figure 12**. The intersection analysis was conducted, and the results are summarized on **Table 4**. With the addition of project traffic to Existing Conditions, 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 study intersection.





LEGEND:

- (X) Newport Beach Intersection
- (X) Irvine Intersection
- ---- City Boundary
- XX(XX) AM/PM Peak Hour Turning Movement Volumes

FIGURE 12
EXISTING PLUS PROJECT PEAK HOUR TRAFFIC VOLUMES

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TABLE 4
UPTOWN NEWPORT PROJECT
SUMMARY OF INTERSECTION OPERATIONS
EXISTING PLUS PROJECT CONDITIONS

	Intersection	U/S	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/Main St [a]	S	0.5	A	0.7	B	0.5	A	0.7	B	0.000	0.004	No	No
2	MacArthur Blvd/I-405 NB Ramps [a]	S	0.8	D	0.7	C	0.8	D	0.7	C	0.004	0.007	No	No
3	MacArthur Blvd/I-405 SB Ramps [a]	S	0.6	A	0.6	B	0.6	A	0.7	B	0.003	0.019	No	No
4	MacArthur Blvd/Michelson Dr [a]	S	0.7	B	0.7	B	0.7	B	0.7	B	0.011	0.005	No	No
5	MacArthur Blvd/Campus Dr [a]	S	0.5	A	0.6	A	0.5	A	0.6	A	0.010	0.000	No	No
6	MacArthur Blvd/Birch St	S	0.3	A	0.5	A	0.3	A	0.5	A	0.005	0.001	No	No
7	MacArthur Blvd/Von Karman Ave	S	0.5	A	0.4	A	0.5	A	0.4	A	0.000	0.004	No	No
8	MacArthur Blvd/Jamboree Rd [a,b]	S	0.6	A	0.7	B	0.6	B	0.7	C	0.026	0.046	No	No
9	MacArthur Blvd/Fairchild Rd [a]	S	0.7	C	0.7	C	0.7	C	0.7	C	0.010	0.008	No	No
10	MacArthur Blvd NB Off-ramp/University Dr	S	0.4	A	0.5	A	0.4	A	0.5	A	0.000	0.000	No	No
11	MacArthur Blvd SB Off-ramp/University Dr	S	0.4	A	0.3	A	0.4	A	0.3	A	0.000	0.000	No	No
12	Von Karman Ave/Main St [a]	S	0.6	B	0.7	B	0.6	B	0.7	C	0.001	0.003	No	No
13	Von Karman Ave/Michelson Dr [a]	S	0.4	A	0.6	B	0.4	A	0.6	B	0.008	0.003	No	No
14	Von Karman Ave/Dupont Dr [a]	S	0.3	A	0.4	A	0.3	A	0.4	A	0.008	0.003	No	No
15	Von Karman Ave/Campus Dr [a]	S	0.5	A	0.6	A	0.5	A	0.6	A	0.013	0.007	No	No
16	Von Karman Ave/Birch St	S	0.3	A	0.4	A	0.3	A	0.4	A	0.014	0.004	No	No
17	Teller Ave/Campus Dr [a]	S	0.3	A	0.4	A	0.3	A	0.4	A	0.007	0.008	No	No
18	Teller Ave/Birch St	U	12.1	B	11.5	B	12.7	B	12.1	B	0.600	0.600	No	No
19	Jamboree Rd/Main St [a]	S	0.7	B	0.6	B	0.7	B	0.6	B	-0.001	0.001	No	No
20	Jamboree Rd/I-405 NB Ramps [a,b]	S	0.6	B	0.6	B	0.7	B	0.6	B	0.007	0.016	No	No
21	Jamboree Rd/I-405 SB Ramps [a,b]	S	0.9	D	0.8	D	0.9	D	0.8	D	0.002	0.002	No	No
22	Jamboree Rd/Michelson Dr [a]	S	0.6	B	0.7	B	0.6	B	0.7	B	0.001	0.007	No	No
23	Jamboree Rd/Dupont Dr [a]	S	0.6	B	0.6	B	0.6	B	0.6	B	0.000	0.006	No	No
24	Jamboree Rd/Campus Dr [a]	S	0.7	B	0.6	B	0.7	B	0.7	B	0.008	0.030	No	No
25	Jamboree Rd/Birch St	S	0.5	A	0.5	A	0.5	A	0.5	A	0.014	0.018	No	No
26	Jamboree Rd/Fairchild Rd [a]	S	0.7	B	0.6	B	0.7	B	0.7	B	0.046	0.066	No	No
27	Jamboree Rd/Bristol St North	S	0.3	A	0.5	A	0.3	A	0.5	A	0.028	0.013	No	No
28	Jamboree Rd/Bristol St South	S	0.4	A	0.5	A	0.5	A	0.5	A	0.010	0.019	No	No
29	Jamboree Rd/Bayview Way	S	0.3	A	0.4	A	0.3	A	0.4	A	0.001	0.008	No	No
30	Jamboree Rd/University Dr	S	0.6	A	0.5	A	0.6	A	0.5	A	0.011	0.011	No	No
31	Carlson Ave/Michelson Dr [a]	S	0.5	A	0.6	A	0.5	A	0.6	A	-0.001	-0.001	No	No
32	Carlson Ave/Campus Dr [a]	S	0.4	A	0.7	C	0.4	A	0.7	C	0.000	-0.003	No	No
33	Harvard Ave/Michelson Dr	S	0.6	B	0.8	C	0.6	B	0.8	C	-0.002	-0.001	No	No

TABLE 4
UPTOWN NEWPORT PROJECT
SUMMARY OF INTERSECTION OPERATIONS
EXISTING PLUS PROJECT CONDITIONS

	Intersection	U/S	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
34	Campus Dr/Bristol St North	S	0.5	A	0.7	C	0.5	A	0.7	C	0.016	0.007	No	No
35	Birch St/Bristol St North	S	0.5	A	0.6	A	0.6	A	0.6	A	0.024	0.012	No	No
36	Campus Dr/Bristol St South	S	0.6	A	0.5	A	0.6	A	0.5	A	-0.002	0.016	No	No
37	Birch St/Bristol St South	S	0.4	A	0.4	A	0.4	A	0.4	A	-0.001	0.005	No	No
38	Bayview Pl/Bristol St South	S	0.4	A	0.5	A	0.4	A	0.5	A	0.004	0.020	No	No
39	Irvine Ave/Mesa Dr	S	0.3	A	0.5	A	0.3	A	0.5	A	0.000	0.002	No	No
40	University Dr/Campus Dr	S	0.7	B	0.7	C	0.7	B	0.7	C	0.000	0.000	No	No
41	Mesa Rd/University Dr	S	0.6	A	0.6	B	0.6	A	0.6	B	0.000	0.000	No	No
42	California Ave/University Dr	S	0.6	A	0.6	B	0.6	A	0.6	B	0.000	0.000	No	No
43	Birch St/Driveway	U	8.8	A	11.3	B	10.5	B	13.2	B	1.700	1.900	No	No

Notes:
a = Intersection is located within the Irvine Business Complex Vision Plan Area (LOS E Acceptable)
b = Orange County Congestion Management Program (CMP) intersection (LOS E Acceptable)
S = Signalized, U=Unsignalized
Bold values indicate intersections operating at an unacceptable LOS.
Intersection operation is expressed in average seconds of delay per vehicle during the peak hour for unsignalized intersections using HCM 2000 Methodology and is expressed in volume-to-capacity (v/c) for signalized intersections using ICU

FUTURE CONDITIONS

Near-term future traffic forecasts have been developed for two analysis conditions – Opening Year with Existing plus Growth plus Committed Projects traffic, representing analysis of the conditions required by the City of Newport Beach Traffic Phasing Ordinance (TPO); and Opening Year with Committed plus Cumulative Projects, as required by the California Environmental Quality Act (CEQA). A discussion of each is provided in the following sections.

Traffic Phasing Ordinance (TPO) Analysis

The City of Newport Beach TPO first requires determination of whether project trips will increase traffic volumes on any leg of a Primary Intersection by one percent or more during either the morning or evening peak hour one year after project completion, or that portion of the project expected to be constructed within five years (sixty months) of project approval, which would be Year 2018. The TPO then requires a Level of Service analysis of the project impact at any Primary Intersection that exceeds the 1% threshold.

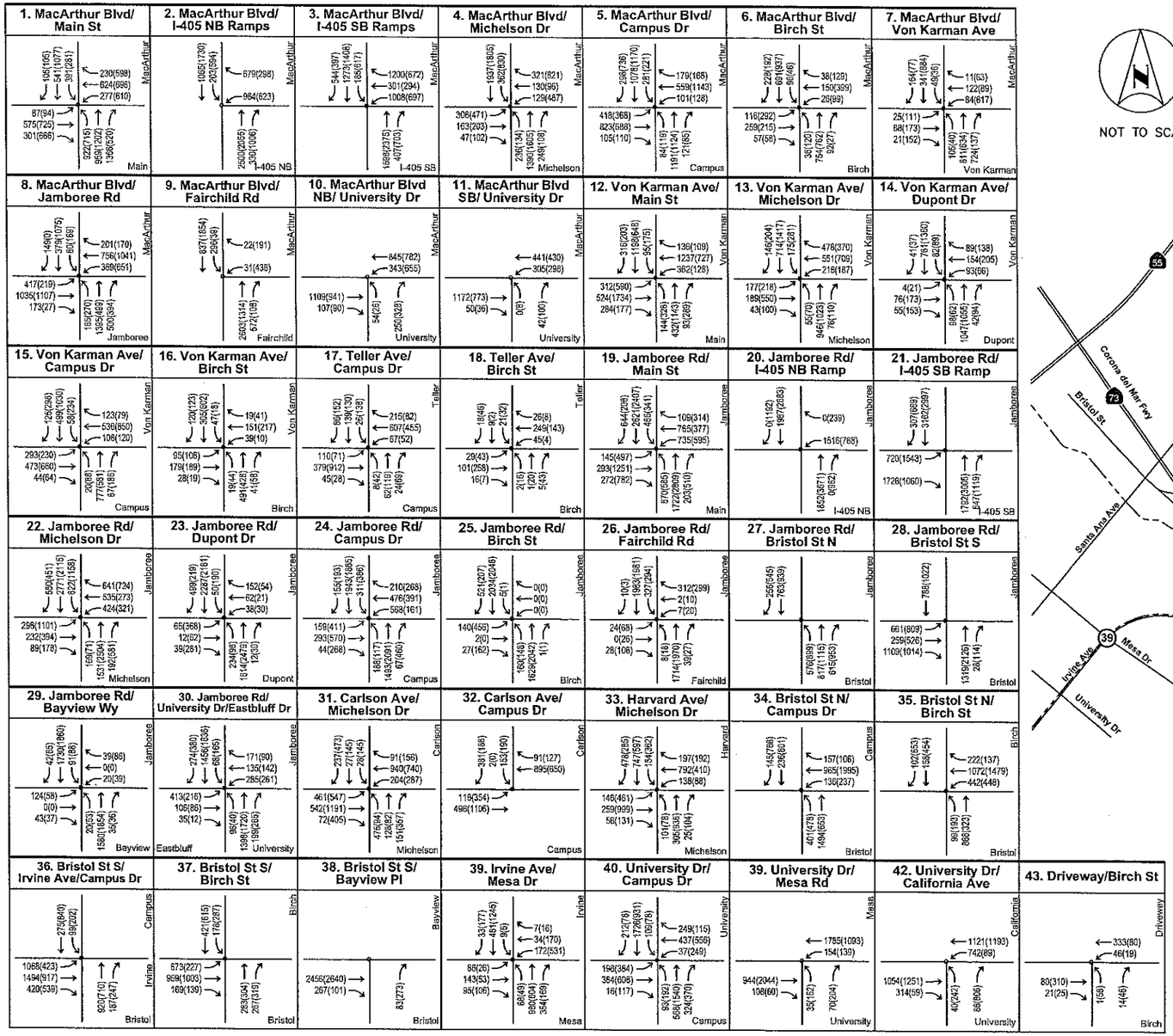
The entire Uptown Newport Project is not anticipated to be completed within five years of approval. Therefore, the TPO analysis will address that portion of the project expected to be completed within the five-year timeframe – referred to as Phase 1. The remaining part of the project to be completed after the five-year timeframe will be required to prepare a separate TPO analysis at a later date to satisfy the requirements of the TPO ordinance.

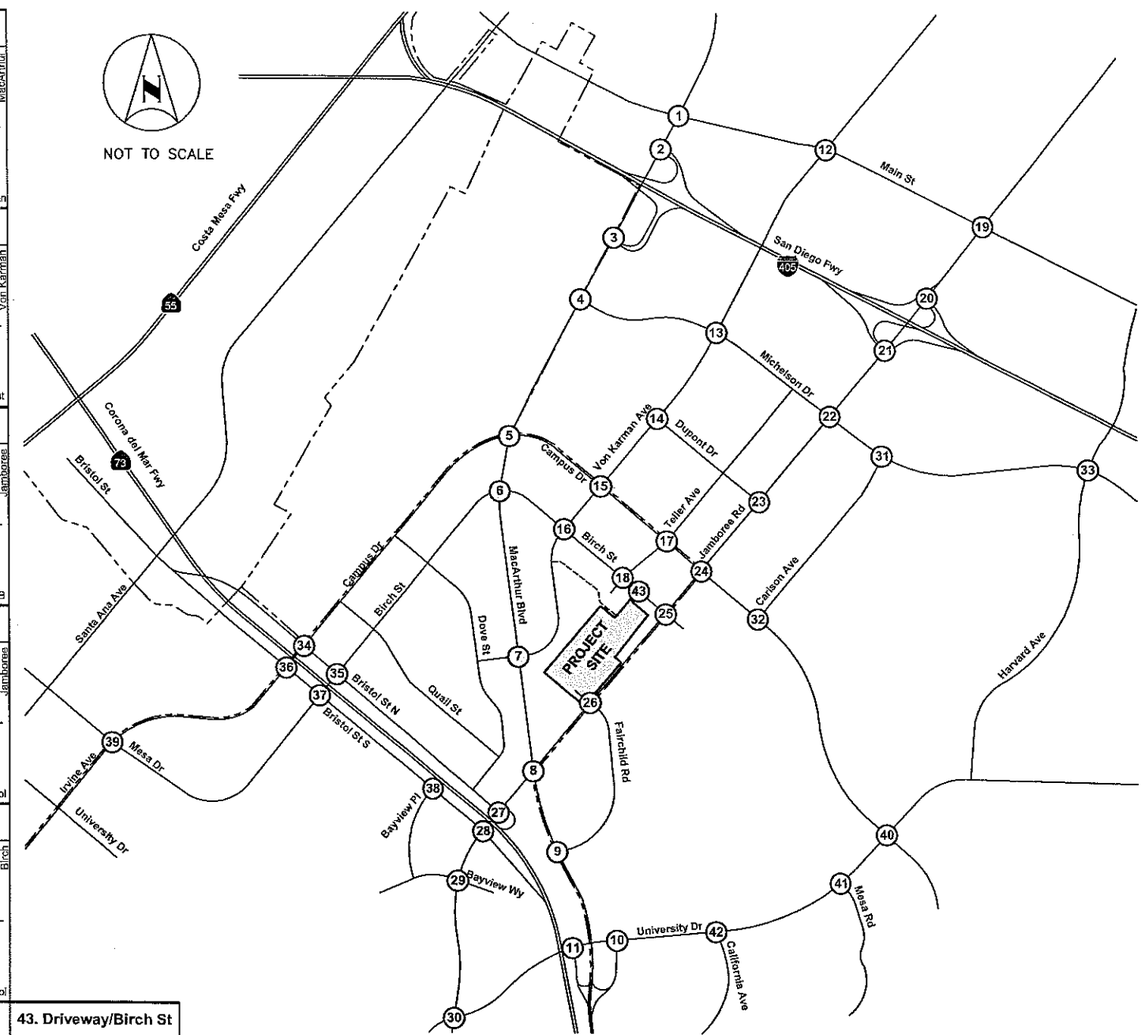
For TPO purposes, traffic forecasts are developed by applying an ambient growth rate of one percent per year on primary roadways (Jamboree Road, MacArthur Boulevard and Irvine Avenue) in the project vicinity, plus traffic from Committed Projects in the vicinity of the proposed project site. Committed projects consist of projects in the City of Newport Beach that have been approved, but are not yet fully constructed and occupied. Committed Projects information was provided by the City of Newport Beach Staff. A copy of the Committed Projects data sheets provided by the City of Newport Beach is included in ***Appendix C***. A summary of Committed Projects for Newport Beach is provided on **Table 5**.

Traffic volumes generated by the Committed Projects in the study area were added to existing peak hour volumes plus ambient growth to develop Year 2018 TPO forecast traffic volumes as shown on **Figure 13**.

TPO 1% Analysis

In accordance with City of Newport Beach traffic study requirements, the project traffic contribution at the study intersections was evaluated for the TPO Analysis to determine the extent of the traffic impact analysis required of the project. The study intersections identified through the 1% Analysis will be evaluated for the TPO Analysis, as required by the City of Newport Beach traffic study requirements.





LEGEND:

- (X) Newport Beach Intersection
- (X) Irvine Intersection
- ---- City Boundary
- XX(XX) AM/PM Peak Hour Turning Movement Volumes

FIGURE 13
YEAR 2018 TPO ANALYSIS WITHOUT PROJECT PEAK HOUR TRAFFIC VOLUMES

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TABLE 5
SUMMARY OF COMMITTED PROJECTS

City	Project Number	Project Name	Percent Complete
Newport Beach [1]	148	Fashion Island Expansion	40%
	154	Temple Bat Yahm Expansion	65%
	555	CIOSA – Irvine Project	91%
	910	Newport Dunes	0%
	945	Hoag Hospital Phase III	0%
	949	St. Mark Presbyterian Church	77%
	954	OLQA Church Expansion	0%
	955	2300 Newport Boulevard	0%
	957	Newport Executive Court	0%
	958	Hoag Health Center	75%
	959	North Newport Center	0%
	960	Santa Barbara Condo	0%
	961	Newport Beach City Hall	0%
	962	328 Old Newport Medical	0%
	963	Coastline Community College	0%
	964	Bayview Medical Office	0%
	965	Mariner's Pointe	0%
	966	4221 Dolphin Striker	0%

[1] Source: City of Newport Beach – Traffic Phasing Ordinance Data – Includes approved projects less than 100% complete.

For the TPO Analysis, the project-related morning and evening peak hour traffic volumes were compared to the Year 2018 without Project peak hour volumes on each leg of each study intersection to determine whether or not the project would result in a 1% increase. The results of the analysis are summarized on **Table 6**. 1% Analysis Worksheets for the TPO Analysis are provided in ***Appendix D***. Review of Table 6 shows that the project traffic will exceed 1% on at least one approach in one or both peak hours at each of the Newport Beach study intersections.

The project will proceed with a TPO traffic impact analysis at all of the study intersections. It should be noted that the 1% Analysis was not conducted for the study intersections in the City of Irvine, since the TPO requirement only applies to the City of Newport Beach intersections. However, all of the study intersections in the City of Irvine have been analyzed for all study scenarios in this report.

Year 2018 TPO Analysis without Project

Intersection analysis was conducted for Year 2018 TPO Analysis (Existing plus Growth plus Committed Projects) without Project peak hour traffic conditions. ICU worksheets are provided in ***Appendix B***. Year 2018 TPO Analysis without Project peak hour volumes were presented previously on Figure 13. The results of the intersection analysis are summarized on **Table 7**. The following intersections would operate at an unacceptable level of service under Year 2018 TPO Analysis without Project Conditions:

- 21. Jamboree Road at I-405 SB Ramps (AM: LOS F)
- 22. Jamboree Road at Michelson Drive (PM: LOS F)
- 33. Harvard Avenue at Michelson Drive (PM: LOS E)

All other study intersections would operate at an acceptable level of service in both peak hours.

TPO Analysis with Project

The project traffic-related impacts for Phase 1 of the project will be evaluated for the Year 2018 TPO Analysis (Existing plus Growth plus Committed Projects).

TABLE 6
SUMMARY OF 1% ANALYSIS
TPO ANALYSIS

No.	Intersection	Condition	Northbound Approach		Southbound Approach		Eastbound Approach		Westbound Approach	
			AM	PM	AM	PM	AM	PM	AM	PM
5	MacArthur Boulevard @ Campus Drive	1% of projected pk hr volume	10	12	14	16	11	7	3	10
		Project peak hour volume	60	29	12	74	0	0	10	5
		Project traffic less than 1%?	N	N	Y	N	Y	Y	N	Y
6	MacArthur Boulevard @ Birch Street	1% of projected pk hr volume	9	9	10	12	4	6	2	6
		Project peak hour volume	15	9	10	63	0	0	45	20
		Project traffic less than 1%?	N	N	N	N	Y	Y	N	N
7	MacArthur Boulevard @ Von Karman Avenue	1% of projected pk hr volume	16	8	6	10	1	5	2	8
		Project peak hour volume	15	9	4	16	0	0	0	0
		Project traffic less than 1%?	Y	N	Y	N	Y	Y	Y	Y
8	MacArthur Boulevard @ Jamboree Road	1% of projected pk hr volume	21	12	6	16	16	13	13	18
		Project peak hour volume	6	63	4	16	25	184	251	115
		Project traffic less than 1%?	Y	N	Y	N	N	N	N	N
15	Von Karman Avenue @ Campus Drive	1% of projected pk hr volume	6	6	5	10	6	6	4	5
		Project peak hour volume	10	3	3	26	2	11	25	13
		Project traffic less than 1%?	N	Y	Y	N	Y	N	N	N
24	Jamboree Road @ Campus Drive	1% of projected pk hr volume	16	16	27	18	3	7	9	8
		Project peak hour volume	153	56	2	134	5	27	0	0
		Project traffic less than 1%?	N	N	Y	N	N	N	Y	Y
25	Jamboree Road @ Birch Street	1% of projected pk hr volume	14	20	21	16	2	5	0	0
		Project peak hour volume	104	35	1	160	49	16	0	0
		Project traffic less than 1%?	N	N	Y	N	N	N	Y	Y
27	Jamboree Road @ Bristol Street North	1% of projected pk hr volume	20	30	10	15	0	1	0	1
		Project peak hour volume	25	184	176	81	0	0	0	0
		Project traffic less than 1%?	N	N	N	N	Y	Y	Y	Y
28	Jamboree Road @ Bristol Street South	1% of projected pk hr volume	13	22	8	10	20	22	0	1
		Project peak hour volume	4	52	50	20	21	132	0	0
		Project traffic less than 1%?	Y	N	N	N	N	N	Y	Y
29	Jamboree Road @ Bayview Way	1% of projected pk hr volume	16	19	19	20	2	1	1	2
		Project peak hour volume	4	52	50	20	0	0	0	0
		Project traffic less than 1%?	Y	N	N	N	Y	Y	Y	Y
30	Jamboree Road @ University Drive	1% of projected pk hr volume	17	20	18	22	6	5	6	6
		Project peak hour volume	4	52	50	20	0	0	0	0
		Project traffic less than 1%?	Y	N	N	Y	Y	Y	Y	Y
34	Campus Drive @ Bristol Street North	1% of projected pk hr volume	19	11	4	16	0	0	13	23
		Project peak hour volume	0	0	0	0	0	0	125	55
		Project traffic less than 1%?	Y	Y	Y	Y	Y	Y	N	N
35	Birch Street @ Bristol Street North	1% of projected pk hr volume	10	5	3	11	0	0	17	20
		Project peak hour volume	0	0	0	0	0	0	126	61
		Project traffic less than 1%?	Y	Y	Y	Y	Y	Y	N	N
36	Campus Drive @ Bristol Street South	1% of projected pk hr volume	10	9	4	10	30	19	0	0
		Project peak hour volume	2	26	25	10	0	0	0	0
		Project traffic less than 1%?	Y	N	N	N	Y	Y	Y	Y
37	Birch Street @ Bristol Street South	1% of projected pk hr volume	6	6	6	9	18	14	0	0
		Project peak hour volume	0	0	0	0	0	25	0	0
		Project traffic less than 1%?	Y	Y	Y	Y	Y	N	Y	Y
38	Bayview Place @ Bristol Street South	1% of projected pk hr volume	1	3	0	0	27	27	0	0
		Project peak hour volume	0	0	0	0	21	132	0	0
		Project traffic less than 1%?	Y	Y	Y	Y	Y	N	Y	Y
39	Irvine Avenue @ Mesa Drive	1% of projected pk hr volume	14	8	5	14	3	2	2	7
		Project peak hour volume	2	26	25	10	0	0	0	0
		Project traffic less than 1%?	Y	N	N	Y	Y	Y	Y	Y

TABLE 7
UPTOWN NEWPORT PROJECT
SUMMARY OF INTERSECTION OPERATIONS
YEAR 2018 WITHOUT PROJECT - TPO ANALYSIS

	Intersection		U/S	Without Project			
				AM Peak Hour		PM Peak Hour	
				ICU/ Delay	LOS	ICU/ Delay	LOS
1	MacArthur Blvd/Main St	a	S	0.6	A	0.8	C
2	MacArthur Blvd/I-405 NB Ramps	a	S	0.8	C	0.7	C
3	MacArthur Blvd/I-405 SB Ramps	a	S	0.7	B	0.8	C
4	MacArthur Blvd/Michelson Dr	a	S	0.6	B	0.9	E
5	MacArthur Blvd/Campus Dr	a	S	0.6	B	0.9	D
6	MacArthur Blvd/Birch St		S	0.4	A	0.5	A
7	MacArthur Blvd/Von Karman Ave		S	0.6	A	0.5	A
8	MacArthur Blvd/Jamboree Rd	a.b	S	0.6	B	0.7	C
9	MacArthur Blvd/Fairchild Rd	a	S	0.9	D	0.7	B
10	MacArthur Blvd NB Off-ramp/University Dr		S	0.5	A	0.6	B
11	MacArthur Blvd SB Off-ramp/University Dr		S	0.4	A	0.3	A
12	Von Karman Ave/Main St	a	S	0.8	D	0.9	D
13	Von Karman Ave/Michelson Dr	a	S	0.7	B	0.9	D
14	Von Karman Ave/Dupont Dr	a	S	0.5	A	0.6	B
15	Von Karman Ave/Campus Dr	a	S	0.7	B	0.9	D
16	Von Karman Ave/Birch St		S	0.3	A	0.4	A
17	Teller Ave/Campus Dr	a	S	0.5	A	0.5	A
18	Teller Ave/Birch St		U	12.1	B	11.5	B
19	Jamboree Rd/Main St	a	S	0.9	E	1.0	E
20	Jamboree Rd/I-405 NB Ramps	a.b	S	0.7	C	0.9	E
21	Jamboree Rd/I-405 SB Ramps	a.b	S	1.0	F	0.9	E
22	Jamboree Rd/Michelson Dr	a	S	0.8	C	1.2	F
23	Jamboree Rd/Dupont Dr	a	S	0.7	C	0.8	C
24	Jamboree Rd/Campus Dr	a	S	0.8	C	0.8	D
25	Jamboree Rd/Birch St		S	0.6	A	0.7	B
26	Jamboree Rd/Fairchild Rd	a	S	0.7	B	0.7	C
27	Jamboree Rd/Bristol St North		S	0.3	A	0.5	A
28	Jamboree Rd/Bristol St South		S	0.5	A	0.6	A
29	Jamboree Rd/Bayview Way		S	0.4	A	0.4	A
30	Jamboree Rd/University Dr		S	0.6	B	0.6	A
31	Carlson Ave/Michelson Dr	a	S	0.6	B	0.9	D
32	Carlson Ave/Campus Dr	a	S	0.6	B	0.8	D
33	Harvard Ave/Michelson Dr		S	0.7	C	0.9	E
34	Campus Dr/Bristol St North		S	0.5	A	0.7	C
35	Birch St/Bristol St North		S	0.5	A	0.6	A
36	Campus Dr/Bristol St South		S	0.6	A	0.5	A
37	Birch St/Bristol St South		S	0.4	A	0.4	A
38	Bayview Pl/Bristol St South		S	0.4	A	0.5	A
39	Irvine Ave/Mesa Dr		S	0.4	A	0.5	A
40	University Dr/Campus Dr		S	0.8	D	0.8	D
41	Mesa Rd/University Dr		S	0.6	B	0.9	D
42	California Ave/University Dr		S	0.6	A	0.7	B
43	Birch St/Driveway		U	8.8	A	11.3	B

Notes:

a = Intersection is located within the Irvine Business Complex Vision Plan Area (LOS E Acceptable)

b = Orange County Congestion Management Program (CMP) intersection (LOS E Acceptable)

S = Signalized, U=Unsignalized

Bold values indicate intersections operating at an unacceptable LOS.

Intersection operation is TPOpressed in average seconds of delay per vehicle during the peak hour for unsignalized intersections using HCM 2000 Methodology and is TPOpressed in volume-to-capacity (v/c) for signalized intersections using ICU Methodology.

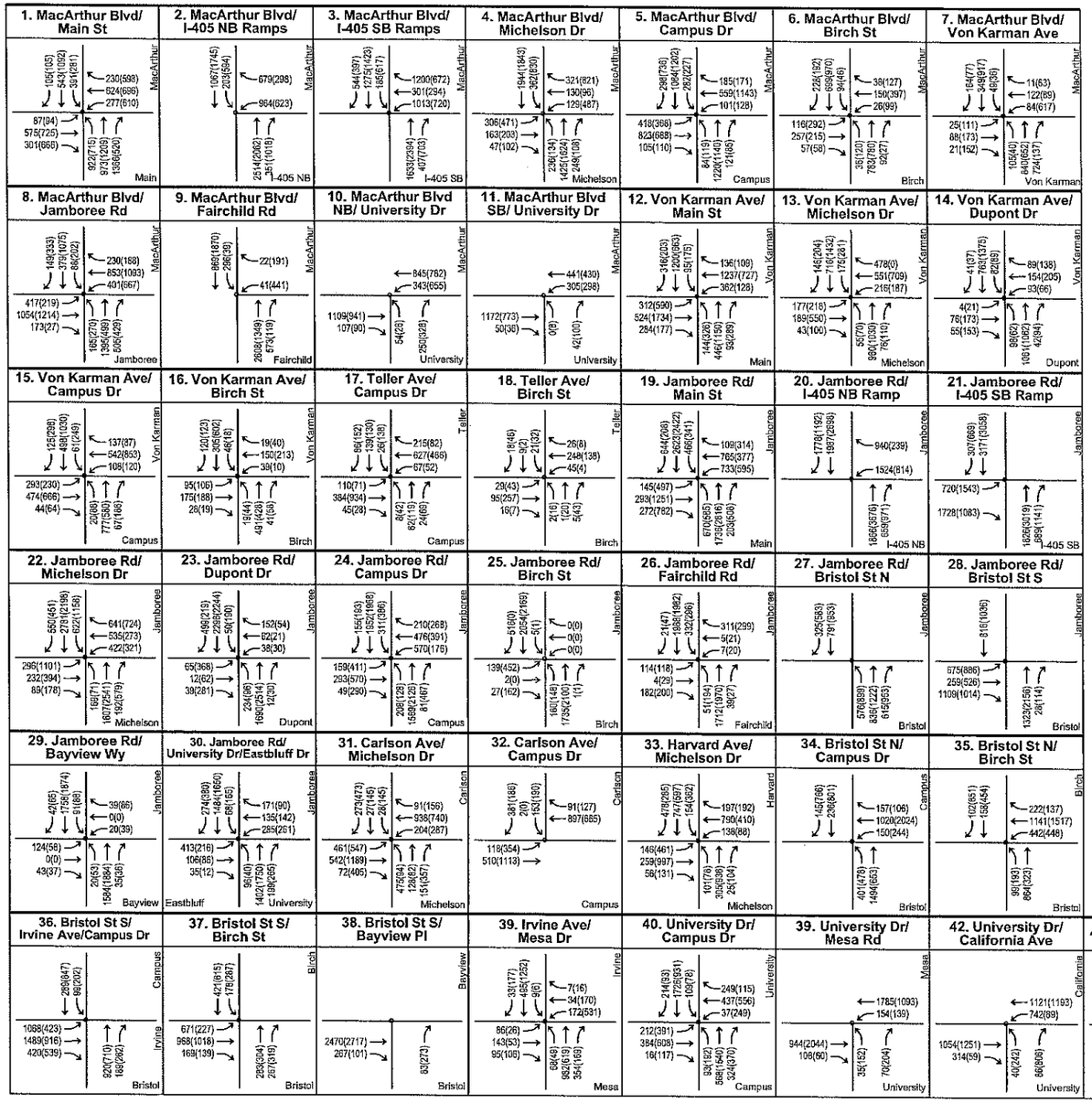
Year 2018 TPO Analysis with Phase 1

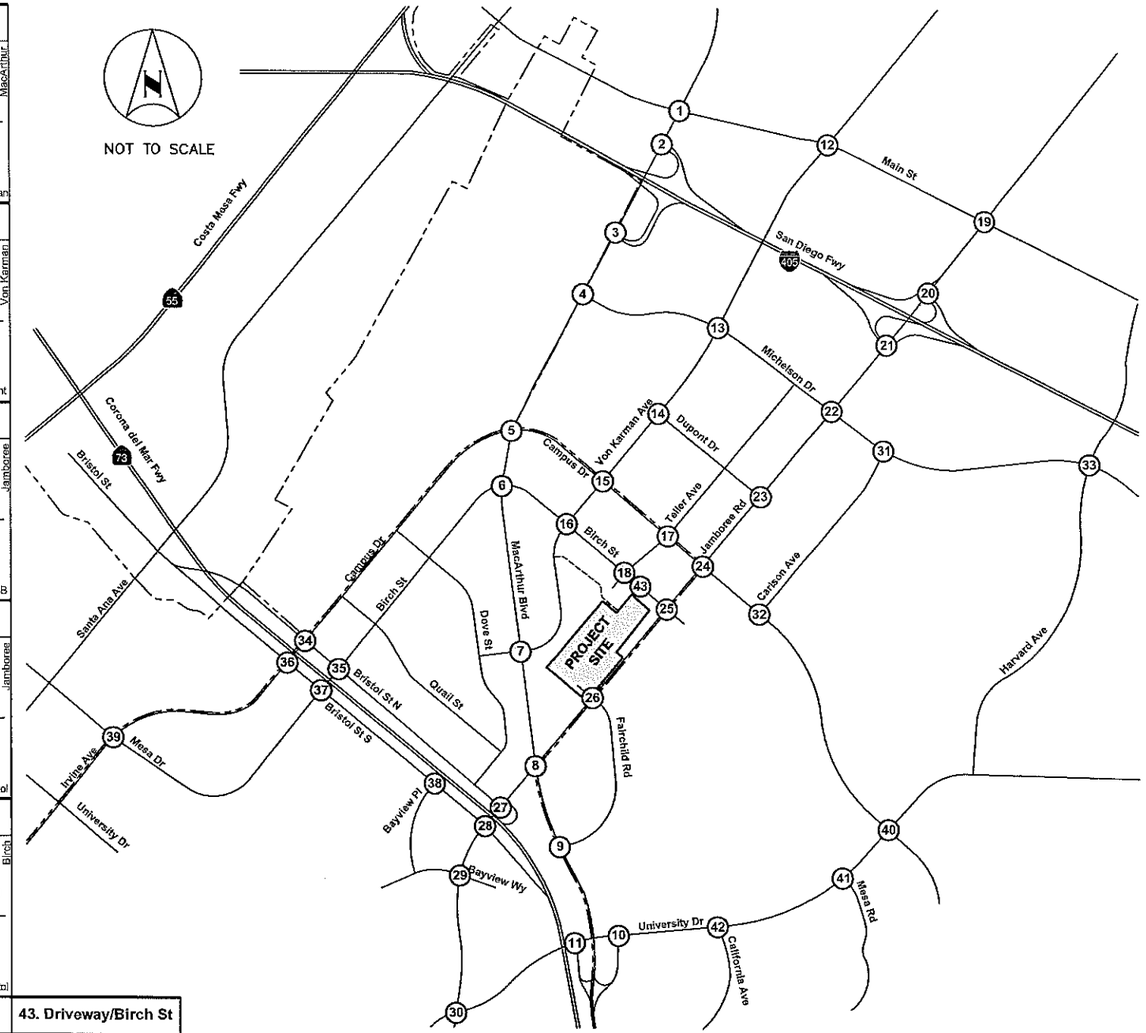
In this scenario, project-related peak hour traffic volumes for Phase 1 of the project are added to the Year 2018 TPO Analysis without Project traffic volumes. Phase 1 development would consist of removal of the 4311 Jamboree building, and development of 680 of the residential units, and all of the 11,500 square feet of commercial. Year 2018 TPO Analysis with Phase 1 peak hour volumes are shown on **Figure 14**. The results of the intersection analysis are summarized on **Table 8**. With the addition of Phase 1 project traffic, three study intersections would continue to operate at an unacceptable level of service:

- 21. Jamboree Road at I-405 SB Ramps (AM: LOS F)
- 22. Jamboree Road at Michelson Drive (PM: LOS F)
- 33. Harvard Avenue at Michelson Drive (PM: LOS E)

The project impact increment does not exceed the significance threshold at any of these intersections, therefore, the addition of Phase 1 trips would not result in a significant impact.

All other study intersections would operate at an acceptable level of service in both peak hours. The project-related impact of Phase 1 at the intersection of Harvard Avenue and Michelson Drive would be slightly negative, meaning that the reduction in existing office trips would more than offset the addition of the proposed residential trips. As a result, the intersection operations would improve slightly as a result of the proposed project, but would continue to operate at LOS E. The project would not result in a significant impact with the addition of Phase 1 project trips at any of the study intersections.





LEGEND:

- (X) Newport Beach Intersection
- (X) Irvine Intersection
- ---- City Boundary
- XX(XX) AM/PM Peak Hour Turning Movement Volumes

FIGURE 14
YEAR 2018 TPO ANALYSIS WITH PHASE 1 PEAK HOUR TRAFFIC VOLUMES

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Kimley-Horn and Associates, Inc.

TABLE 8
UPTOWN NEWPORT PROJECT
SUMMARY OF INTERSECTION OPERATIONS
YEAR 2018 TPO ANALYSIS WITH PHASE 1

	Intersection	U/S	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/Main St [a]	S	0.6	A	0.8	C	0.6	A	0.8	C	0.000	0.002	No	No
2	MacArthur Blvd/I-405 NB Ramps [a]	S	0.8	C	0.7	C	0.8	C	0.7	C	0.002	0.001	No	No
3	MacArthur Blvd/I-405 SB Ramps [a]	S	0.7	B	0.8	C	0.7	B	0.8	C	0.002	0.009	No	No
4	MacArthur Blvd/Michelson Dr [a]	S	0.6	B	0.9	E	0.6	B	0.9	E	0.001	0.003	No	No
5	MacArthur Blvd/Campus Dr [a]	S	0.6	B	0.9	D	0.6	B	0.9	D	0.005	0.000	No	No
6	MacArthur Blvd/Birch St	S	0.4	A	0.5	A	0.4	A	0.5	A	0.004	0.005	No	No
7	MacArthur Blvd/Von Karman Ave	S	0.6	A	0.5	A	0.6	A	0.5	A	0.000	0.007	No	No
8	MacArthur Blvd/Jamboree Rd [a,b]	S	0.6	B	0.7	C	0.7	B	0.8	C	0.017	0.027	No	No
9	MacArthur Blvd/Fairchild Rd [a]	S	0.9	D	0.7	B	0.9	D	0.7	B	0.007	0.006	No	No
10	MacArthur Blvd NB Off-ramp/University Dr	S	0.5	A	0.6	B	0.5	A	0.6	B	0.000	0.000	No	No
11	MacArthur Blvd SB Off-ramp/University Dr	S	0.4	A	0.3	A	0.4	A	0.3	A	0.000	0.000	No	No
12	Von Karman Ave/Main St [a]	S	0.8	D	0.9	D	0.8	D	0.9	D	0.000	0.002	No	No
13	Von Karman Ave/Michelson Dr [a]	S	0.7	B	0.9	D	0.7	B	0.9	E	0.004	0.005	No	No
14	Von Karman Ave/Dupont Dr [a]	S	0.5	A	0.6	B	0.5	A	0.6	B	0.004	0.004	No	No
15	Von Karman Ave/Campus Dr [a]	S	0.7	B	0.9	D	0.7	B	0.9	D	0.007	0.003	No	No
16	Von Karman Ave/Birch St	S	0.3	A	0.4	A	0.3	A	0.3	A	-0.001	-0.002	No	No
17	Teller Ave/Campus Dr [a]	S	0.5	A	0.5	A	0.5	A	0.5	A	0.006	0.006	No	No
18	Teller Ave/Birch St	U	12.1	B	11.5	B	12.1	B	11.5	B	0.000	0.000	No	No
19	Jamboree Rd/Main St [a]	S	0.9	E	1.0	E	0.9	E	1.0	E	0.000	0.002	No	No
20	Jamboree Rd/I-405 NB Ramps [a,b]	S	0.7	C	0.9	E	0.7	C	0.9	E	0.005	0.010	No	No
21	Jamboree Rd/I-405 SB Ramps [a,b]	S	1.0	F	0.9	E	1.0	F	1.0	E	0.002	0.009	No	No
22	Jamboree Rd/Michelson Dr [a]	S	0.8	C	1.2	F	0.8	C	1.2	F	0.001	0.005	No	No
23	Jamboree Rd/Dupont Dr [a]	S	0.7	C	0.8	C	0.7	C	0.8	C	0.002	0.016	No	No
24	Jamboree Rd/Campus Dr [a]	S	0.8	C	0.8	D	0.8	C	0.8	D	0.008	0.006	No	No
25	Jamboree Rd/Birch St	S	0.6	A	0.7	B	0.6	A	0.7	B	0.003	0.022	No	No
26	Jamboree Rd/Fairchild Rd [a]	S	0.7	B	0.7	C	0.7	C	0.8	C	0.053	0.030	No	No
27	Jamboree Rd/Bristol St North	S	0.3	A	0.5	A	0.4	A	0.5	A	0.015	0.008	No	No
28	Jamboree Rd/Bristol St South	S	0.5	A	0.6	A	0.5	A	0.6	A	0.002	0.004	No	No
29	Jamboree Rd/Bayview Way	S	0.4	A	0.4	A	0.4	A	0.4	A	0.000	0.005	No	No
30	Jamboree Rd/University Dr	S	0.6	B	0.6	A	0.6	B	0.6	A	0.006	0.006	No	No
31	Carlson Ave/Michelson Dr [a]	S	0.6	B	0.9	D	0.6	B	0.9	D	-0.001	0.000	No	No
32	Carlson Ave/Campus Dr [a]	S	0.6	B	0.8	D	0.6	B	0.8	D	0.001	0.004	No	No
33	Harvard Ave/Michelson Dr	S	0.7	C	0.9	E	0.7	C	0.9	E	0.000	-0.001	No	No

TABLE 8
UPTOWN NEWPORT PROJECT
SUMMARY OF INTERSECTION OPERATIONS
YEAR 2018 TPO ANALYSIS WITH PHASE 1

	Intersection	U/S	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
34	Campus Dr/Bristol St North	S	0.5	A	0.7	C	0.5	A	0.7	C	0.008	0.005	No	No
35	Birch St/Bristol St North	S	0.5	A	0.6	A	0.6	A	0.6	A	0.014	0.008	No	No
36	Campus Dr/Bristol St South	S	0.6	A	0.5	A	0.6	A	0.5	A	0.000	0.009	No	No
37	Birch St/Bristol St South	S	0.4	A	0.4	A	0.4	A	0.4	A	0.000	0.003	No	No
38	Bayview Pl/Bristol St South	S	0.4	A	0.5	A	0.4	A	0.5	A	0.002	0.012	No	No
39	Irvine Ave/Mesa Dr	S	0.4	A	0.5	A	0.4	A	0.5	A	0.000	0.002	No	No
40	University Dr/Campus Dr	S	0.8	D	0.8	D	0.8	D	0.8	D	0.008	0.003	No	No
41	Mesa Rd/University Dr	S	0.6	B	0.9	D	0.6	B	0.9	D	0.000	0.000	No	No
42	California Ave/University Dr	S	0.6	A	0.7	B	0.6	A	0.7	B	0.000	0.000	No	No
43	Birch St/Driveway	S	8.8	A	11.3	B	8.6	A	11.1	B	-0.200	-0.200	No	No

Notes:
a = Intersection is located within the Irvine Business Complex Vision Plan Area (LOS E Acceptable)
b = Orange County Congestion Management Program (CMP) intersection (LOS E Acceptable)
S = Signalized, U=Unsignalized
Bold values indicate intersections operating at an unacceptable LOS.
Intersection operation is expressed in average seconds of delay per vehicle during the peak hour for unsignalized intersections using HCM 2000 Methodology and is expressed in volume-to-capacity (v/c) for signalized intersections using ICU

Cumulative Conditions Analysis

CEQA requires that a Cumulative Conditions analysis be conducted. The Cumulative Conditions analysis includes traffic from Cumulative Projects in the vicinity of the project.

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 Committed Projects, plus pending projects in the City of Newport Beach, as well approved and pending projects in the City of Irvine. A summary of Cumulative Projects is provided on **Table 9**. Trip generation associated with the Cumulative Projects is provided on **Table 10**. The location of the Cumulative Projects in relation to the project site is shown on **Figure 15.** Peak hour traffic volumes for Cumulative Projects are summarized for each study intersection on **Figure 16**. Cumulative Projects information and data provided by the City of Newport Beach and the City of Irvine are provided in ***Appendix C***.

The Cumulative Conditions analysis was conducted for two timeframes based on project phasing:

- Year 2018 with Cumulative Projects without Project
- Year 2018 with Cumulative Projects with Phase 1
- Year 2021 with Cumulative Projects without Project
- Year 2021 with Cumulative Projects with the Full Project

Future Year Cumulative Conditions peak hour traffic volumes for the City of 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 year 2015 traffic volumes, therefore, Irvine staff recommended applying a growth factor of 1.5% per year to develop year 2018 and 2021 forecasts.

TABLE 9
SUMMARY OF CUMULATIVE PROJECTS

Project No.	Project Name	Location	Existing Project Description	Proposed Project Description
City of Newport Beach				
1	Mariner's Medical Arts	1901 Westcliff Drive	N/A	12,245 GSF Medical Office Addition
2	Banning Ranch	4520 W. Coast Highway	N/A	1,375 DU Mixed Residential 75,000 GSF Commercial Retail 75 Room Hotel, 28 Acre Park
3	Sunset Ridge Park	4850 W. Coast Highway	N/A	13.67 Active Park 2 Fields Soccer Complex
4	Marina Park	1700 Balboa Boulevard	57 DU Mobile Home Park 1.2 Acre Park 2,900 GSF Recreational Community Center	Balboa Center Complex: 26,990 GSF Visiting Vessel Marina: 23 slips Marina Services Bldg: 1,328 GSF Girl Scout House: 5,500 GSF
5	Koll	4311 Jamboree Road	167,000 Office 269,000 General Light Industrial	260 Residential Dwelling Units 3,400 GSF Commercial
6	Newport Coast	Newport Coast Drive	2,807 Acre State Park	3,180 DU Single Family Residential [1] 1,298 DU Condominium/Townhouse [1]
				582 DU Multi Family [1]
7	Newport Beach Country Club [2]	1600 East Coast Highway	N/A	5 Residential DU, 27 Hotel Units, 3,523 GSF Tennis Club with Spa 51,213 GSF Golf Club with acc. Facility 7 Tennis Courts and a Swimming Pool
8	AERIE [2]	201 Carnation Ave	14 DU Apartment	6 DU Condominium
City of Irvine				
10	Element Hotel	17662 Armstrong	N/A	122 Room Extended Stay Hotel
11	Diamond Jamboree	Southwest Corner of Millikan/Alton	N/A	25,362 GSF Office
12	Irvine Crossing	17836 Gillette and 17871 Von Karman	107,629 GSF Warehouse 4,726 GSF Office	178,500 GSF Office
13	Central Park	Northwest corner of Jamboree Road /	240,970 GSF Warehouse 74,774 GSF Office	1,380 DU Residential 90,000 GSF Office, 19,700 GSF Retail
14	Metlife	2567 Main Street	48,712 GSF Office 86,000 GSF Industrial	481 DU Residential
15	Essex	2552 Kelvin Avenue	N/A	132 DU Residential
16	The Lofts	2300 Dupont Drive	N/A	116 DU Residential
17	Avalon I	2701 Alton Parkway	42,187 GSF Office 6,132 GSF Industrial	280 DU Residential
18		2801 Alton Parkway	N/A	178 DU Residential
19	Plaza III & IV	3000 Scholarship	N/A	105 DU Residential
20	Carlyle	2201 Martin Court	N/A	156 DU Residential
21	Granite Court	17421 Murphy Avenue	4,229 GSF Office	71 DU Residential
22		2801 Kelvin Avenue	N/A	248 DU Residential
23		17352 Von Karman	N/A	32,066 GSF Office, 67,698 GSF Warehouse
24	Metropolis	2500 Main and 17872 Cartwright	23,957 GSF Office 90,053 GSF Industrial	457 DU Residential
25	Aloft Extended Stay Hotel	2320 Main Street	N/A	170 Rooms
26	HINES	18582 Teller and 2722 Michelson	25,828 GSF Office 153,727 GSF Industrial	785,000 Office 15,500 GSF Retail
27	Park Place	Northeast corner of Jamboree Road / Michelson Drive	2,649,220 GSF Office 127,419 GSF Retail 232 DU Residential	3,697,770 GSF Office 350,000 GSF Retail 2,008 DU Residential, 308 Hotel Rooms
28		2851 Alton	12,700 GSF Office 66,100 GSF Industrial	171 DU Residential
29	Martin Street Residential	18831 Von Karman and 2301 Martin	N/A	82 DU Residential

DU = Dwelling Units, GSF = Gross Square Feet, SF = Square Feet
[1] Assumes 70% Occupied
[2] This project would not result in an increase in traffic generation.

TABLE 10
SUMMARY OF CUMULATIVE PROJECTS TRIP GENERATION

Project No.	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
City of Newport Beach							
1	442	22	6	28	11	31	42
2	14,989	251	655	906	866	564	1,430
3	165	1	1	2	29	13	42
4	352	15	0	15	7	19	26
5	1,493	24	86	110	81	49	130
6 (1)	14,778	272	932	1,204	926	557	1,482
Total	**32,219**	**585**	**1,680**	**2,265**	**1,920**	**1,233**	**3,152**
City of Irvine							
10	997	42	27	69	38	34	72
11	279	35	5	40	6	31	37
12	1,530	211	25	236	35	189	224
13	9,333	117	559	676	577	297	874
14	2,064	-76	174	98	166	-14	152
15	878	13	54	67	53	29	82
16	771	12	47	59	47	25	72
17	1,355	-33	105	72	101	5	106
18	1,184	18	73	91	72	39	111
19	698	11	43	54	42	23	65
20	1,037	16	64	80	63	34	97
21	425	1	28	29	28	10	38
22	1,649	25	101	126	100	54	154
23	594	60	10	70	13	56	69
24	2,148	-48	168	120	162	8	170
25	1,389	58	37	95	53	47	100
26	7,955	939	124	1,063	192	864	1,056
27	71,610	5,568	1,711	7,279	2,483	5,759	8,242
28	537	-46	58	12	54	-24	30
29	545	8	33	41	33	18	51
Total	**106,978**	**6,931**	**3,446**	**10,377**	**4,318**	**7,484**	**11,802**

Source: Institute of Transportation Engineers publication Trip Generation, 8th Edition unless otherwise noted
(1) Source: City of Newport Beach Trip Generation Rates

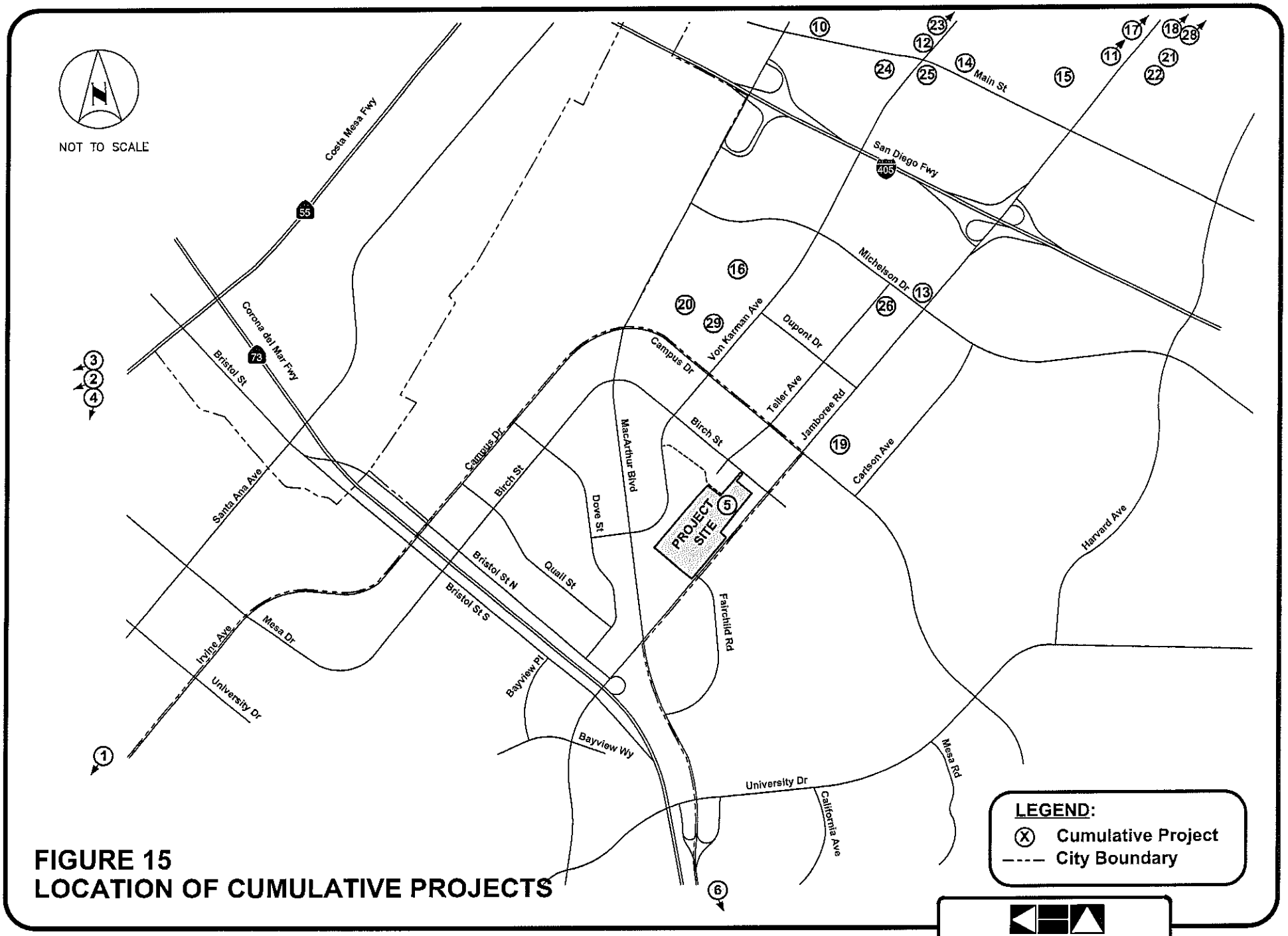

FIGURE 15
LOCATION OF CUMULATIVE PROJECTS

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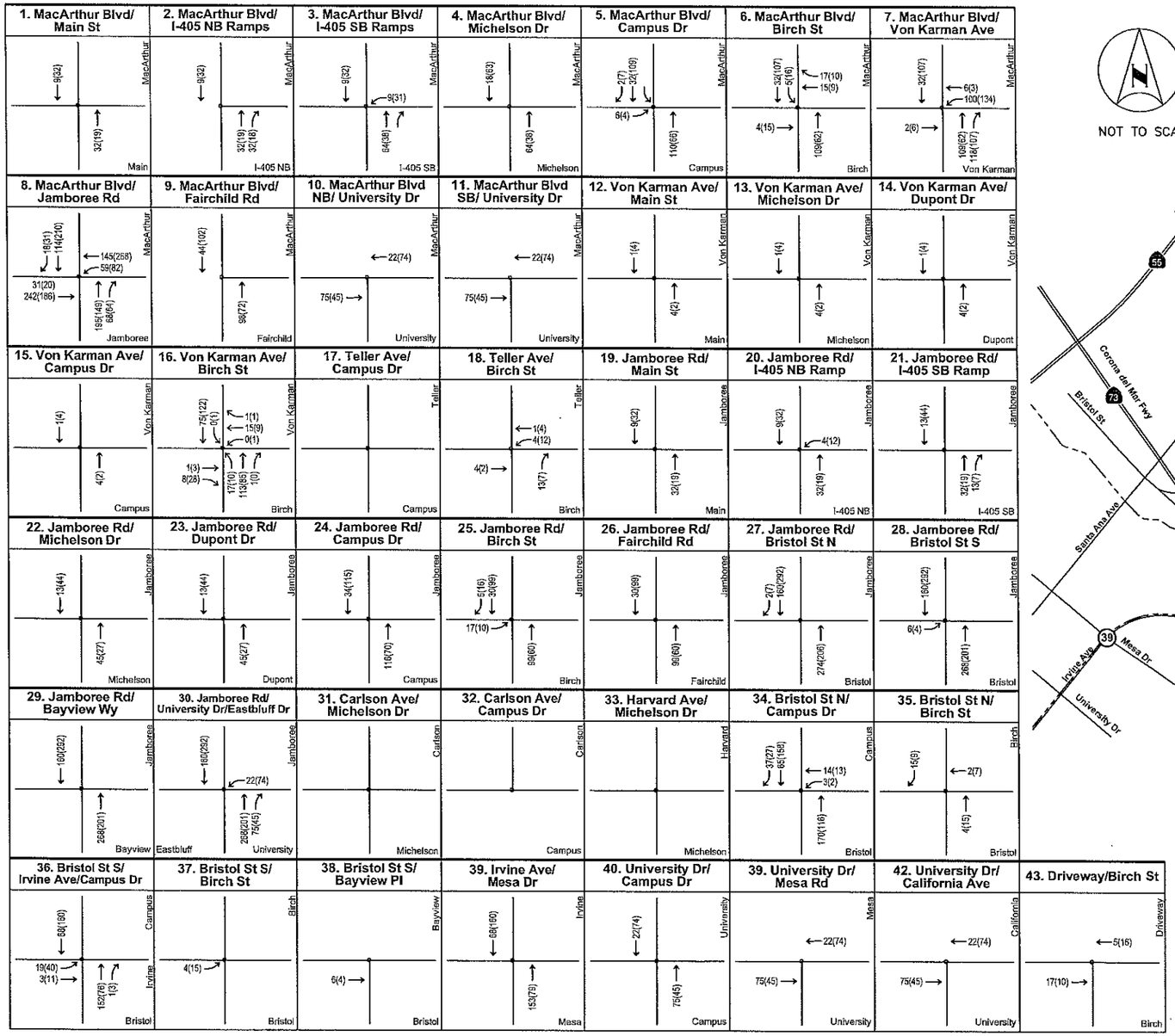

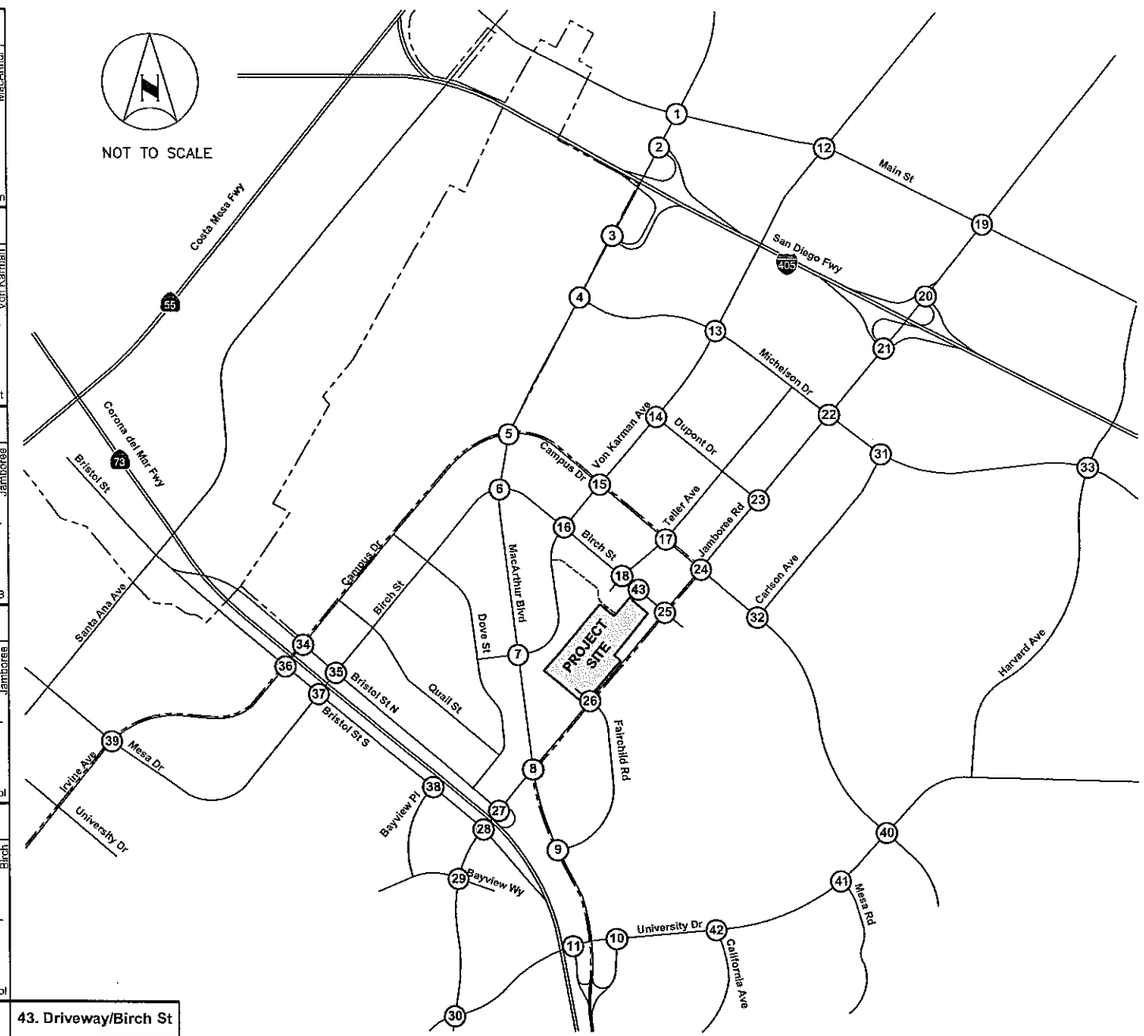

LEGEND:

- (X) Newport Beach Intersection
- (X) Irvine Intersection
- ----- City Boundary
- XX(XX) AM/PM Peak Hour Turning Movement Volumes

FIGURE 16
CUMULATIVE PROJECTS PEAK HOUR TRAFFIC VOLUMES

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Year 2018 Cumulative Conditions without Project

Year 2018 Cumulative Conditions without Project peak hour traffic volumes for all study intersections are shown on **Figure 17**. Year 2018 Cumulative Conditions without Project intersection operations are summarized on **Table 11**. As was the case with the TPO Analysis, the following intersections would operate at an unacceptable level of service under Year 2018 Cumulative Conditions without Project:

- 21. Jamboree Road at I-405 SB Ramps (AM: LOS F)
- 22. Jamboree Road at Michelson Drive (PM: LOS F)
- 33. Harvard Avenue at Michelson Drive (PM: LOS E)

All other study intersections would operate at an acceptable level of service in both peak hours.

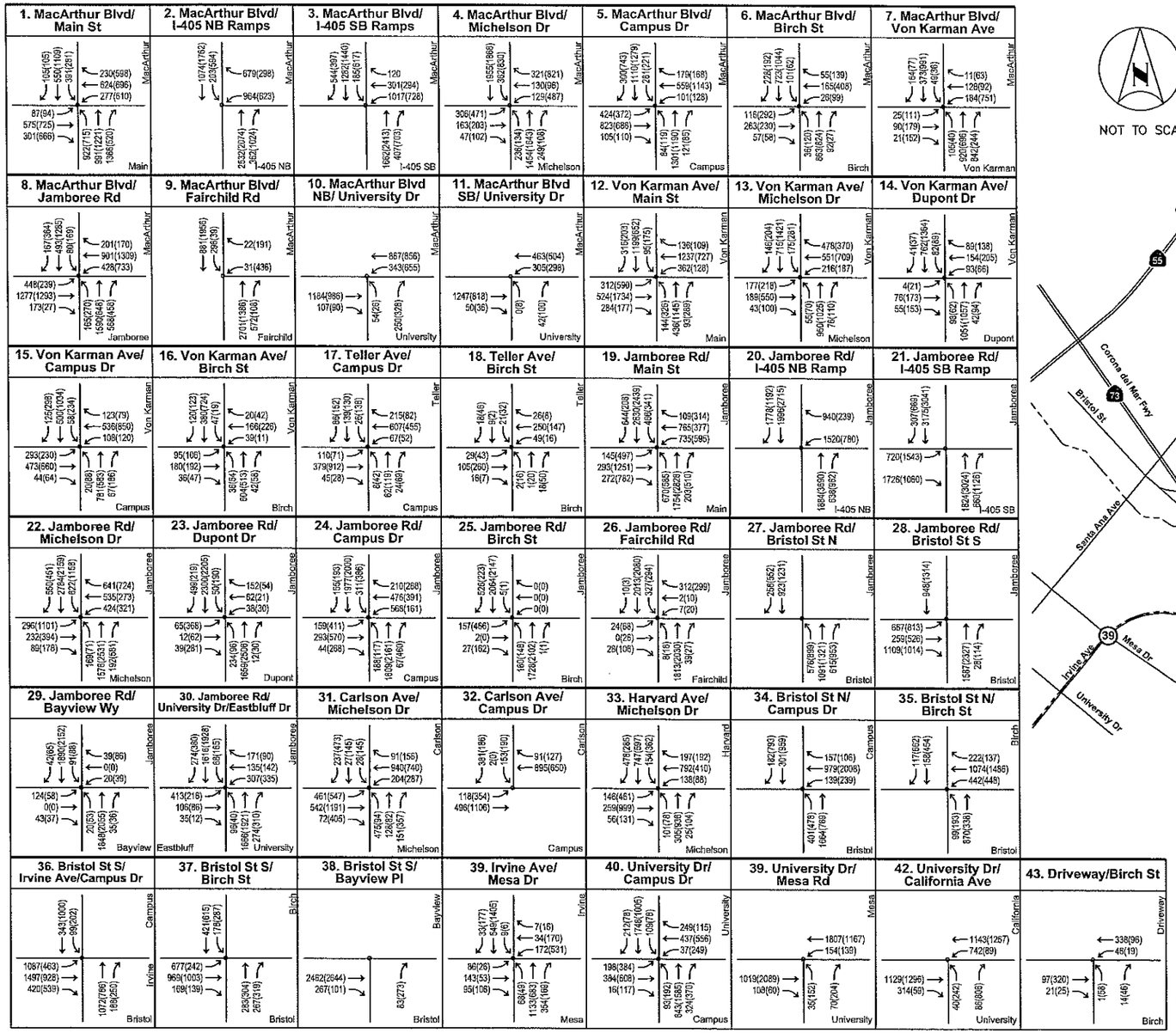
Year 2018 Cumulative Conditions with Phase 1

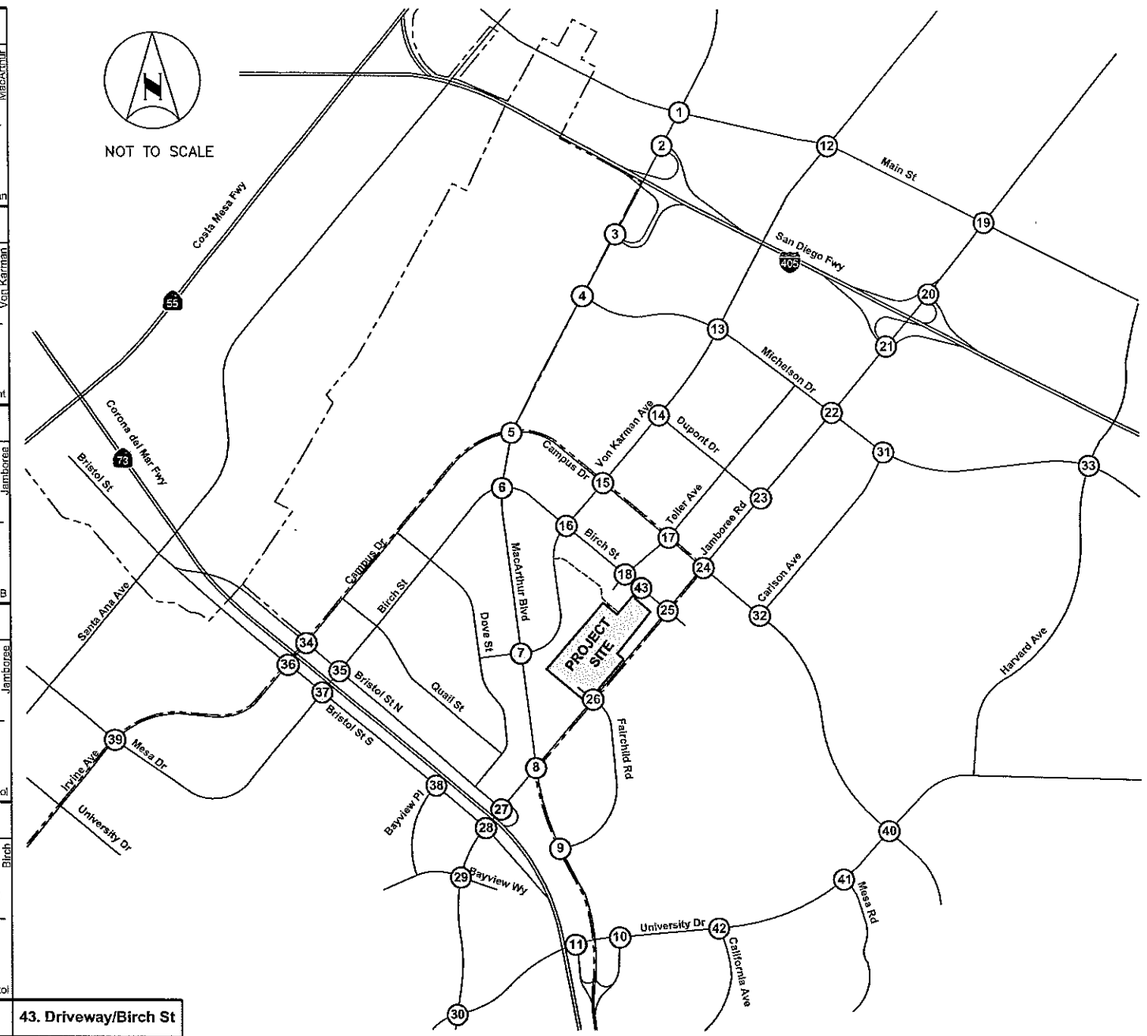
In this scenario, project-related peak hour traffic volumes for Phase 1 of the Uptown Newport project were added to the Year 2018 Cumulative Conditions without Project traffic volumes. The resulting Year 2018 Cumulative Conditions with Phase 1 peak hour volumes are shown on **Figure 18**. Year 2018 Cumulative Conditions with Phase 1 peak hour intersection operations are summarized on **Table 12**. The following intersections would continue to operate at an unacceptable level of service under Year 2018 Cumulative Conditions with Phase 1:

- 21. Jamboree Road at I-405 SB Ramps (AM: LOS F)
- 22. Jamboree Road at Michelson Drive (PM: LOS F)
- 33. Harvard Avenue at Michelson Drive (PM: LOS E)

The project impact increment does not exceed the significance threshold at any of these intersections, and would not result in a significant impact with the addition of Phase 1 trips.

All other study intersections would operate at an acceptable level of service in both peak hours. The project-related impact of the project at some of the study intersections would be negative, once again reflecting the reduction in existing office trips, which would more than offset the trips that would be added as a result of the proposed residential development in the evening peak hour at some intersections. As a result, some intersections would improve slightly as a result of the project.





LEGEND:

- (X) Newport Beach Intersection
- (X) Irvine Intersection
- ----- City Boundary
- XX(XX) AM/PM Peak Hour Turning Movement Volumes

FIGURE 17
YEAR 2018 CUMULATIVE CONDITIONS WITHOUT PROJECT PEAK HOUR TRAFFIC VOLUMES

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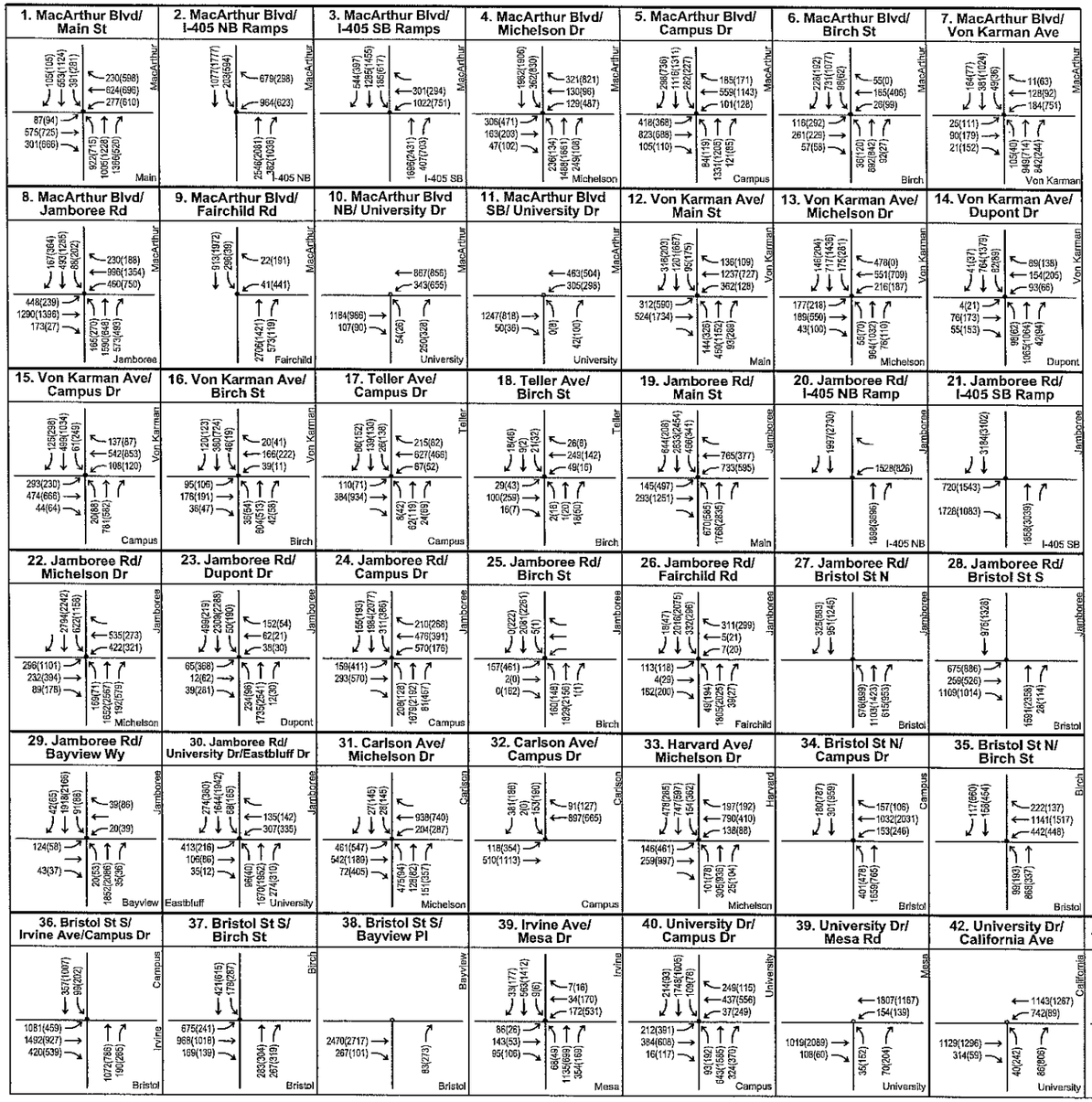
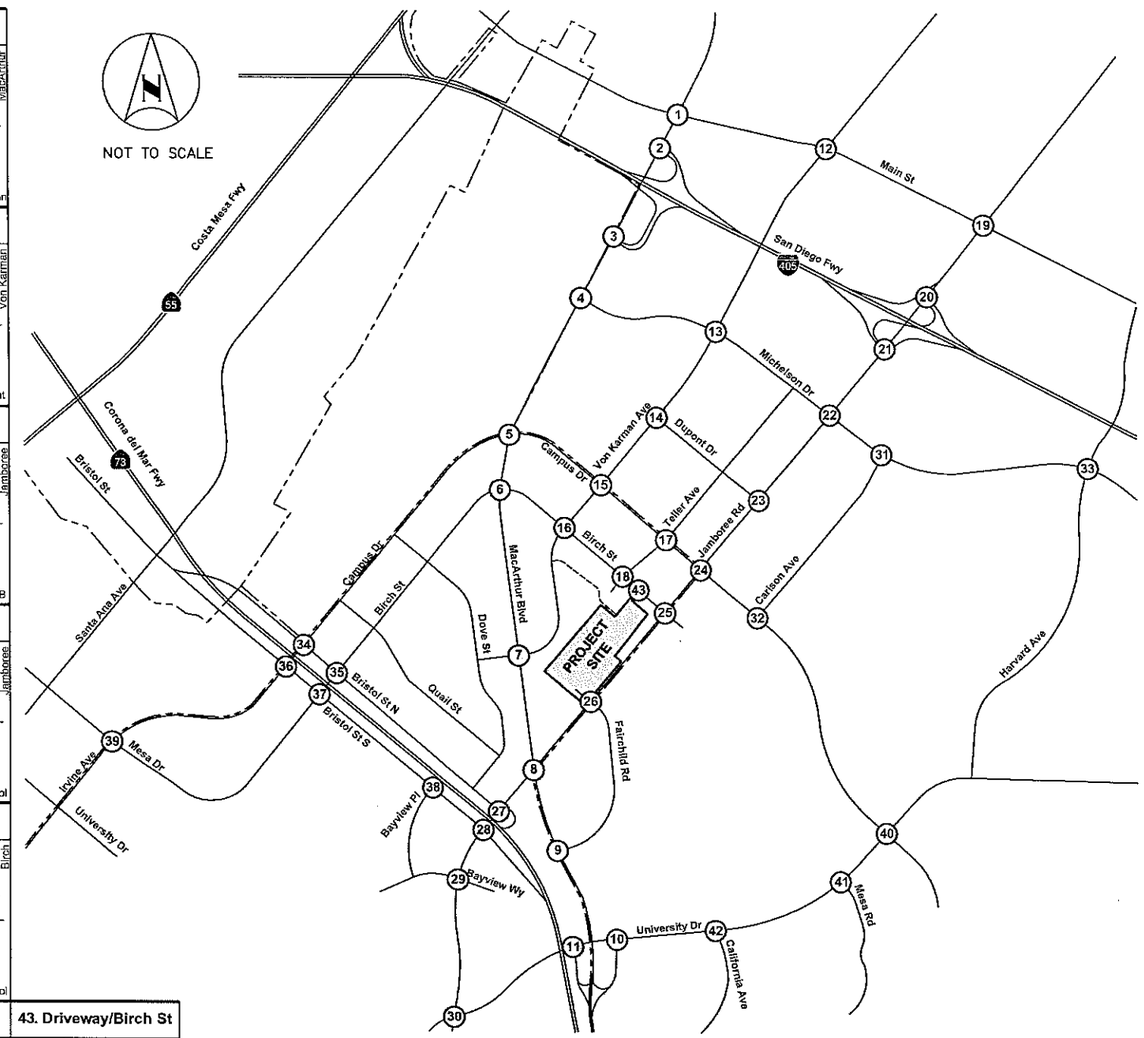
TABLE 11
UPTOWN NEWPORT PROJECT
SUMMARY OF INTERSECTION OPERATIONS
YEAR 2018 CUMULATIVE CONDITIONS WITHOUT PROJECT

	Intersection		U/S	Without Project			
				AM Peak Hour		PM Peak Hour	
				ICU/ Delay	LOS	ICU/ Delay	LOS
1	MacArthur Blvd/Main St	a	S	0.6	A	0.8	C
2	MacArthur Blvd/I-405 NB Ramps	a	S	0.8	C	0.7	C
3	MacArthur Blvd/I-405 SB Ramps	a	S	0.7	B	0.8	C
4	MacArthur Blvd/Michelson Dr	a	S	0.6	B	0.9	E
5	MacArthur Blvd/Campus Dr	a	S	0.6	B	0.9	D
6	MacArthur Blvd/Birch St		S	0.4	A	0.5	A
7	MacArthur Blvd/Von Karman Ave		S	0.7	B	0.5	A
8	MacArthur Blvd/Jamboree Rd	a,b	S	0.8	C	0.9	D
9	MacArthur Blvd/Fairchild Rd	a	S	0.9	D	0.7	B
10	MacArthur Blvd NB Off-ramp/University Dr		S	0.5	A	0.6	B
11	MacArthur Blvd SB Off-ramp/University Dr		S	0.4	A	0.3	A
12	Von Karman Ave/Main St	a	S	0.8	D	0.9	D
13	Von Karman Ave/Michelson Dr	a	S	0.7	B	0.9	E
14	Von Karman Ave/Dupont Dr	a	S	0.5	A	0.6	B
15	Von Karman Ave/Campus Dr	a	S	0.7	B	0.9	D
16	Von Karman Ave/Birch St		S	0.3	A	0.4	A
17	Teller Ave/Campus Dr	a	S	0.5	A	0.5	A
18	Teller Ave/Birch St		U	12.3	B	11.6	B
19	Jamboree Rd/Main St	a	S	0.9	E	1.0	E
20	Jamboree Rd/I-405 NB Ramps	a,b	S	0.7	C	0.9	E
21	Jamboree Rd/I-405 SB Ramps	a,b	S	1.0	**F**	1.0	E
22	Jamboree Rd/Michelson Dr	a	S	0.8	C	1.2	**F**
23	Jamboree Rd/Dupont Dr	a	S	0.7	C	0.8	C
24	Jamboree Rd/Campus Dr	a	S	0.8	C	0.8	D
25	Jamboree Rd/Birch St		S	0.6	A	0.7	B
26	Jamboree Rd/Fairchild Rd	a	S	0.7	C	0.8	C
27	Jamboree Rd/Bristol St North		S	0.4	A	0.6	A
28	Jamboree Rd/Bristol St South		S	0.5	A	0.6	B
29	Jamboree Rd/Bayview Way		S	0.4	A	0.5	A
30	Jamboree Rd/University Dr		S	0.7	B	0.7	B
31	Carlson Ave/Michelson Dr	a	S	0.6	B	0.9	D
32	Carlson Ave/Campus Dr	a	S	0.6	B	0.8	D
33	Harvard Ave/Michelson Dr		S	0.7	C	0.9	**E**
34	Campus Dr/Bristol St North		S	0.5	A	0.7	C
35	Birch St/Bristol St North		S	0.5	A	0.6	A
36	Campus Dr/Bristol St South		S	0.6	B	0.5	A
37	Birch St/Bristol St South		S	0.4	A	0.4	A
38	Bayview Pl/Bristol St South		S	0.4	A	0.5	A
39	Irvine Ave/Mesa Dr		S	0.4	A	0.6	A
40	University Dr/Campus Dr		S	0.8	D	0.8	D
41	Mesa Rd/University Dr		S	0.6	B	0.9	D
42	California Ave/University Dr		S	0.6	B	0.7	B
43	Birch St/Driveway		S	8.8	A	11.5	B

Notes:
a = Intersection is located within the Irvine Business Complex Vision Plan Area (LOS E Acceptable)
b = Orange County Congestion Management Program (CMP) intersection (LOS E Acceptable)
S = Signalized, U=Unsignalized
Bold values indicate intersections operating at an unacceptable LOS.
Intersection operation is TPOpressed in average seconds of delay per vehicle during the peak hour for unsignalized intersections using HCM 2000 Methodology and is TPOpressed in volume-to-capacity (v/c) for signalized intersections using ICU Methodology.





LEGEND:

- (X) Newport Beach Intersection
- (X) Irvine Intersection
- ---- City Boundary
- XX(XX) AM/PM Peak Hour Turning Movement Volumes

FIGURE 18
YEAR 2018 CUMULATIVE CONDITIONS WITH PHASE 1 PEAK HOUR TRAFFIC VOLUMES

FILENAME: Feb 29, 2012 – 2:38pm K:\ORA_TPTO\ZSAC\Projects\Koll Conexant Restart 2010\CADD\Conexant.dwg

Kimley-Horn and Associates, Inc.

TABLE 12
UPTOWN NEWPORT PROJECT
SUMMARY OF INTERSECTION OPERATIONS
YEAR 2018 CUMULATIVE CONDITIONS WITH PHASE 1

	Intersection	U/S	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/Main St [a]	S	0.6	A	0.8	C	0.6	A	0.8	C	0.001	0.002	No	No
2	MacArthur Blvd/I-405 NB Ramps [a]	S	0.8	C	0.7	C	0.8	C	0.7	C	0.002	0.001	No	No
3	MacArthur Blvd/I-405 SB Ramps [a]	S	0.7	B	0.8	C	0.7	B	0.8	D	0.001	0.009	No	No
4	MacArthur Blvd/Michelson Dr [a]	S	0.6	B	0.9	E	0.6	B	0.9	E	0.001	0.003	No	No
5	MacArthur Blvd/Campus Dr [a]	S	0.6	B	0.9	D	0.6	B	0.9	D	0.004	-0.005	No	No
6	MacArthur Blvd/Birch St	S	0.4	A	0.5	A	0.4	A	0.5	A	0.003	0.004	No	No
7	MacArthur Blvd/Von Karman Ave	S	0.7	B	0.5	A	0.7	B	0.5	A	0.000	0.007	No	No
8	MacArthur Blvd/Jamboree Rd [a,b]	S	0.8	C	0.9	D	0.8	C	0.9	D	0.015	0.027	No	No
9	MacArthur Blvd/Fairchild Rd [a]	S	0.9	D	0.7	B	0.9	D	0.7	B	0.007	0.006	No	No
10	MacArthur Blvd NB Off-ramp/University Dr	S	0.5	A	0.6	B	0.5	A	0.6	B	0.000	0.000	No	No
11	MacArthur Blvd SB Off-ramp/University Dr	S	0.4	A	0.3	A	0.4	A	0.3	A	0.000	0.000	No	No
12	Von Karman Ave/Main St [a]	S	0.8	D	0.9	D	0.8	D	0.9	D	0.001	0.002	No	No
13	Von Karman Ave/Michelson Dr [a]	S	0.7	B	0.9	E	0.7	B	0.9	E	0.004	0.004	No	No
14	Von Karman Ave/Dupont Dr [a]	S	0.5	A	0.6	B	0.5	A	0.6	B	0.004	0.004	No	No
15	Von Karman Ave/Campus Dr [a]	S	0.7	B	0.9	D	0.7	B	0.9	E	0.007	0.003	No	No
16	Von Karman Ave/Birch St	S	0.3	A	0.4	A	0.3	A	0.4	A	0.000	-0.001	No	No
17	Teller Ave/Campus Dr [a]	S	0.5	A	0.5	A	0.5	A	0.5	A	0.006	0.006	No	No
18	Teller Ave/Birch St	U	12.3	B	11.6	B	12.3	B	11.6	B	0.000	0.000	No	No
19	Jamboree Rd/Main St [a]	S	0.9	E	1.0	E	0.9	E	1.0	E	0.000	0.002	No	No
20	Jamboree Rd/I-405 NB Ramps [a,b]	S	0.7	C	0.9	E	0.7	C	0.9	E	0.005	0.011	No	No
21	Jamboree Rd/I-405 SB Ramps [a,b]	S	1.0	F	1.0	E	1.0	F	1.0	E	0.002	0.009	No	No
22	Jamboree Rd/Michelson Dr [a]	S	0.8	C	1.2	F	0.8	D	1.2	F	0.001	0.005	No	No
23	Jamboree Rd/Dupont Dr [a]	S	0.7	C	0.8	C	0.7	C	0.8	C	0.002	0.016	No	No
24	Jamboree Rd/Campus Dr [a]	S	0.8	C	0.8	D	0.8	C	0.8	D	0.008	0.006	No	No
25	Jamboree Rd/Birch St	S	0.6	A	0.7	B	0.6	A	0.7	C	0.003	0.021	No	No
26	Jamboree Rd/Fairchild Rd [a]	S	0.7	C	0.8	C	0.8	C	0.8	C	0.051	0.029	No	No
27	Jamboree Rd/Bristol St North	S	0.4	A	0.6	A	0.4	A	0.6	A	0.007	0.007	No	No
28	Jamboree Rd/Bristol St South	S	0.5	A	0.6	B	0.6	A	0.6	B	0.006	0.004	No	No
29	Jamboree Rd/Bayview Way	S	0.4	A	0.5	A	0.4	A	0.5	A	0.001	0.004	No	No
30	Jamboree Rd/University Dr	S	0.7	B	0.7	B	0.7	B	0.7	B	0.006	0.006	No	No
31	Carlson Ave/Michelson Dr [a]	S	0.6	B	0.9	D	0.6	B	0.9	D	-0.001	0.000	No	No
32	Carlson Ave/Campus Dr [a]	S	0.6	B	0.8	D	0.6	B	0.8	D	0.001	0.004	No	No
33	Harvard Ave/Michelson Dr	S	0.7	C	0.9	E	0.7	C	0.9	E	0.000	-0.001	No	No

TABLE 12
UPTOWN NEWPORT PROJECT
SUMMARY OF INTERSECTION OPERATIONS
YEAR 2018 CUMULATIVE CONDITIONS WITH PHASE 1

	Intersection	U/S	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
34	Campus Dr/Bristol St North	S	0.5	A	0.7	C	0.5	A	0.7	C	0.007	0.002	No	No
35	Birch St/Bristol St North	S	0.5	A	0.6	A	0.6	A	0.6	A	0.013	0.006	No	No
36	Campus Dr/Bristol St South	S	0.6	B	0.5	A	0.6	B	0.5	A	-0.001	0.008	No	No
37	Birch St/Bristol St South	S	0.4	A	0.4	A	0.4	A	0.4	A	-0.001	0.003	No	No
38	Bayview Pl/Bristol St South	S	0.4	A	0.5	A	0.4	A	0.5	A	0.001	0.012	No	No
39	Irvine Ave/Mesa Dr	S	0.4	A	0.6	A	0.4	A	0.6	A	0.001	0.001	No	No
40	University Dr/Campus Dr	S	0.8	D	0.8	D	0.9	D	0.8	D	0.008	0.004	No	No
41	Mesa Rd/University Dr	S	0.6	B	0.9	D	0.6	B	0.9	D	0.000	0.000	No	No
42	California Ave/University Dr	S	0.6	B	0.7	B	0.6	B	0.7	B	0.000	0.000	No	No
43	Birch St/Driveway	S	8.8	A	11.5	B	8.6	A	11.2	B	-0.200	-0.300	No	No

Notes:
a = Intersection is located within the Irvine Business Complex Vision Plan Area (LOS E Acceptable)
b = Orange County Congestion Management Program (CMP) intersection (LOS E Acceptable)
S = Signalized, U=Unsignalized
Bold values indicate intersections operating at an unacceptable LOS.
Intersection operation is expressed in average seconds of delay per vehicle during the peak hour for unsignalized intersections using HCM 2000 Methodology and is expressed in volume-to-capacity (v/c) for signalized intersections using ICU Methodology.

Year 2021 Cumulative Conditions without Project

Year 2021 Cumulative Conditions without Project peak hour traffic volumes for all study intersections are shown on **Figure 19**. Year 2021 Cumulative Conditions without Project intersection operations are summarized on **Table 13**.

For this scenario, the following intersections would operate at an unacceptable level of service under Year 2021 Cumulative Conditions without Project:

- 19. Jamboree Road at Main Street: (PM: LOS F)
- 21. Jamboree Road at I-405 SB Ramps (AM: LOS F)
- 22. Jamboree Road at Michelson Drive (PM: LOS F)
- 33. Harvard Avenue at Michelson Drive (PM: LOS E)

All other study intersections would operate at an acceptable level of service in both peak hours.

Year 2021 Cumulative Conditions with Full Project

In this scenario, project-related peak hour traffic volumes for the full Uptown Newport project were added to the Year 2021 Cumulative Conditions without Project traffic volumes. The resulting Year 2021 Cumulative Conditions with Project peak hour volumes are shown on **Figure 20**. Year 2021 Cumulative Conditions with Project peak hour intersection operations are summarized on **Table 14**. The following intersections would continue to operate at an unacceptable level of service under Year 2021 Cumulative Conditions with Project traffic:

- 19. Jamboree Road at Main Street: (PM: LOS F)
- 21. Jamboree Road at I-405 SB Ramps (AM: LOS F)
- 22. Jamboree Road at Michelson Drive (PM: LOS F)
- 33. Harvard Avenue at Michelson Drive (PM: LOS E)

The project impact increment does not exceed the significance threshold at any of these intersections, and would not result in a significant impact with the addition of the full Project trips.

All other study intersections would operate at an acceptable level of service in both peak hours. The project-related impact of the project at some of the study intersections would be negative, once again reflecting the reduction in existing office trips, which would more than offset the trips that would be added as a result of the proposed residential development in the evening peak hour at some intersections. As a result, some intersections would improve slightly as a result of the project.

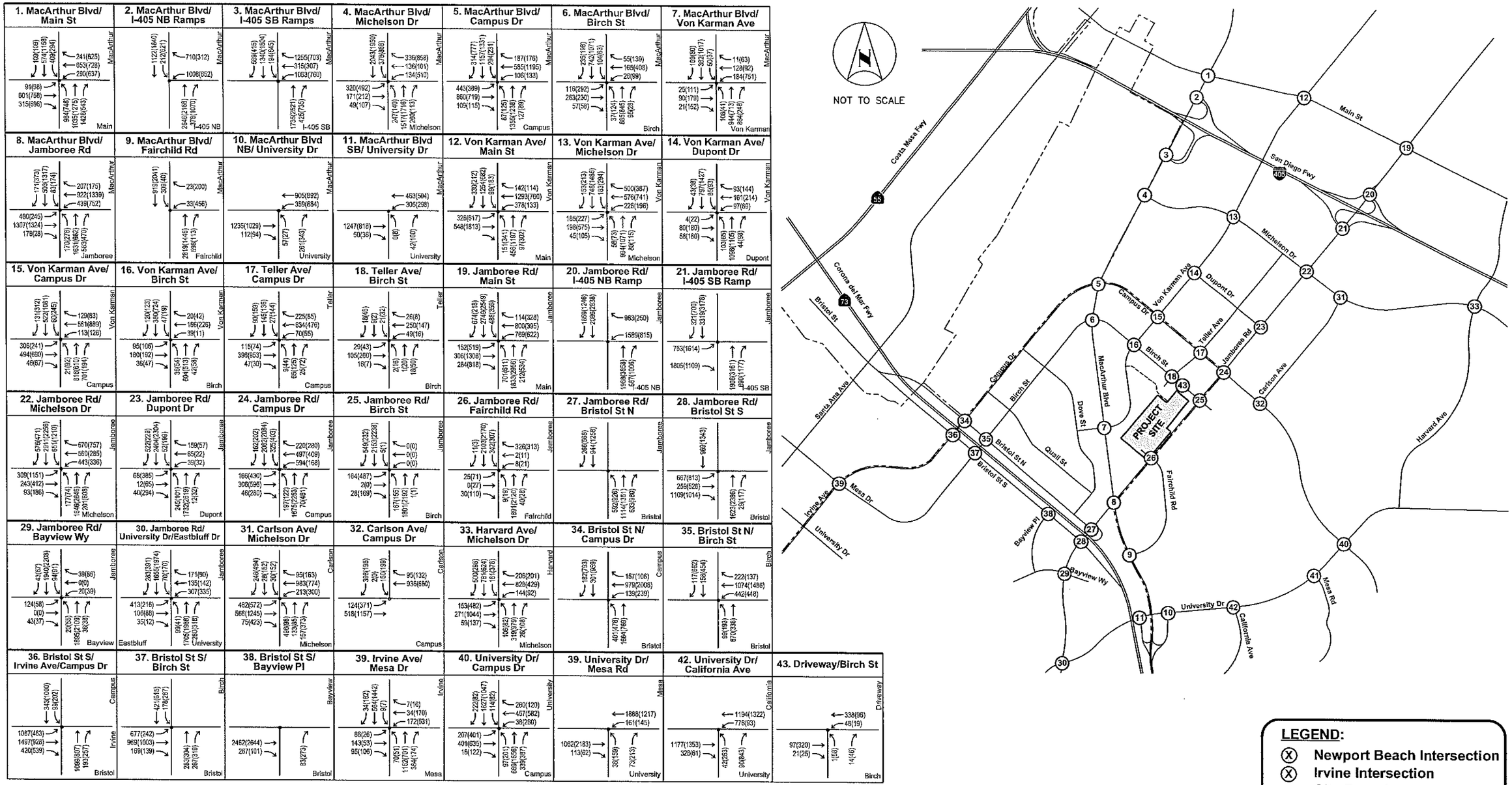


FIGURE 19
YEAR 2021 CUMULATIVE CONDITIONS WITHOUT PROJECT PEAK HOUR TRAFFIC VOLUMES

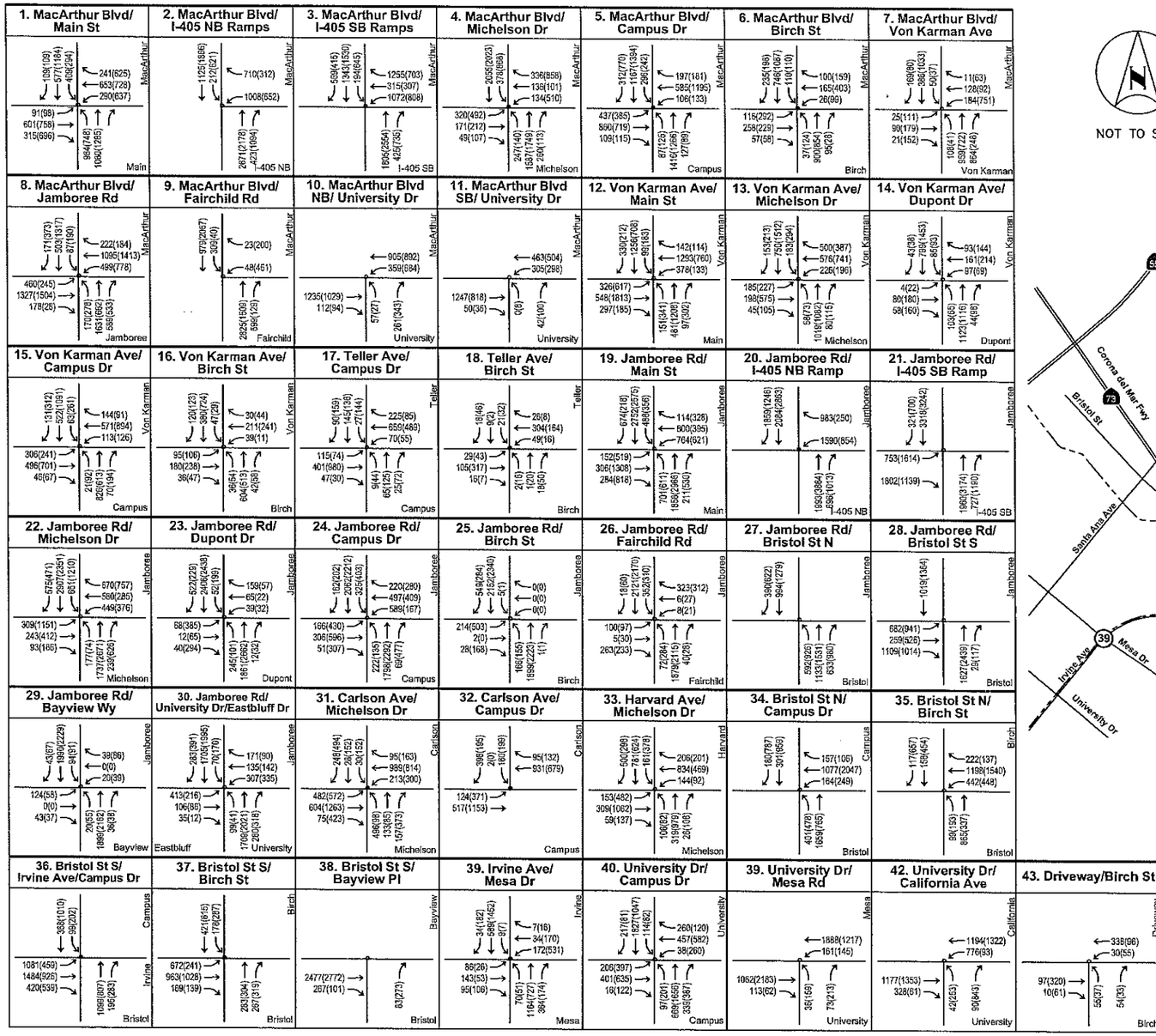
FILENAME: Feb 29, 2012 – 2:39pm K:\ORA_TPTO\ZSAC\Projects\Koll Conexant Restart 2010\CADD\Conexant.dwg

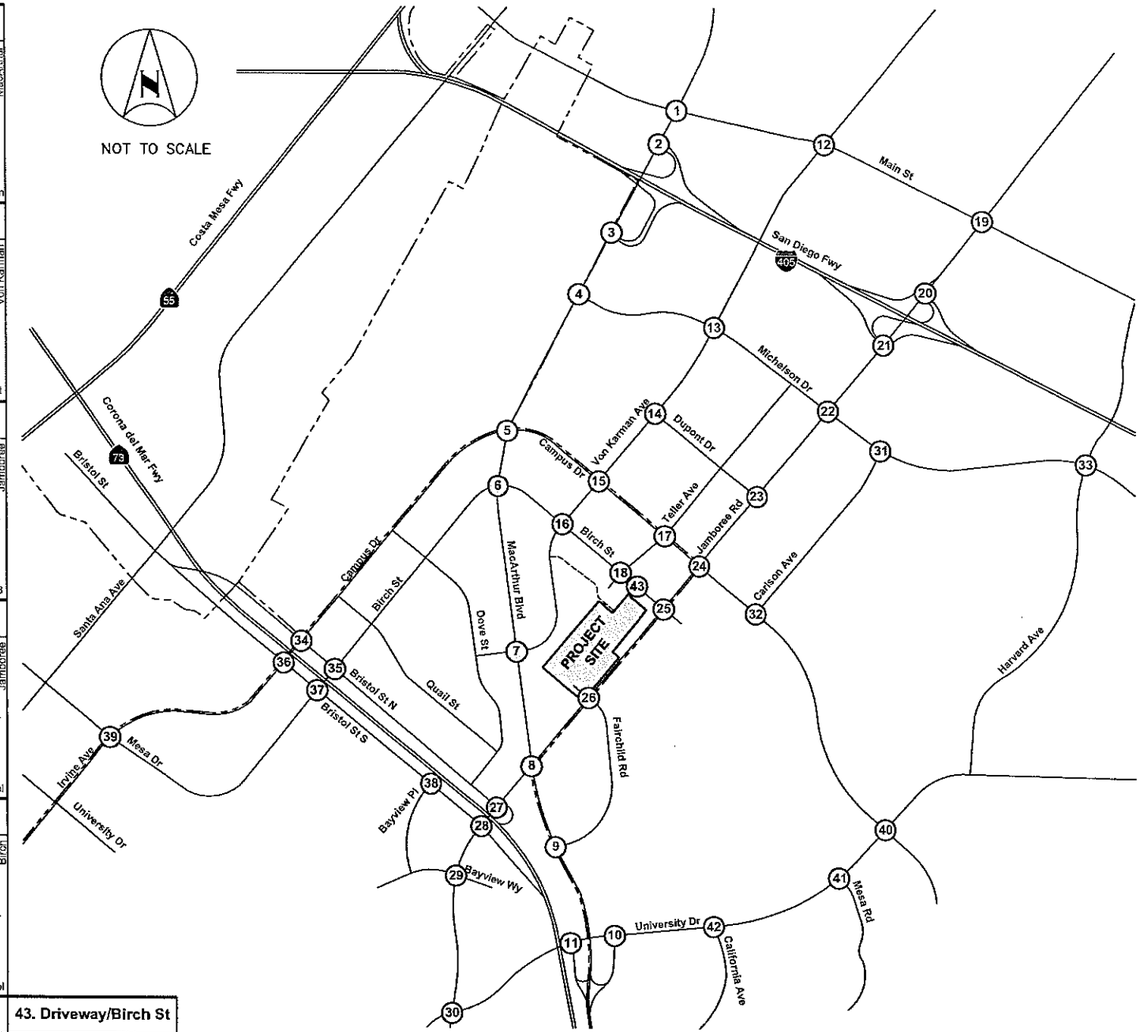
Kimley-Horn and Associates, Inc.

TABLE 13
UPTOWN NEWPORT PROJECT
SUMMARY OF INTERSECTION OPERATIONS
YEAR 2021 CUMULATIVE CONDITIONS WITHOUT PROJECT

	Intersection		U/S	Without Project			
				AM Peak Hour		PM Peak Hour	
				ICU/ Delay	LOS	ICU/ Delay	LOS
1	MacArthur Blvd/Main St	a	S	0.6	B	0.8	D
2	MacArthur Blvd/I-405 NB Ramps	a	S	0.8	C	0.7	C
3	MacArthur Blvd/I-405 SB Ramps	a	S	0.7	B	0.8	D
4	MacArthur Blvd/Michelson Dr	a	S	0.7	B	1.0	E
5	MacArthur Blvd/Campus Dr	a	S	0.7	B	0.9	E
6	MacArthur Blvd/Birch St		S	0.4	A	0.5	A
7	MacArthur Blvd/Von Karman Ave		S	0.7	B	0.5	A
8	MacArthur Blvd/Jamboree Rd	a,b	S	0.8	C	0.9	D
9	MacArthur Blvd/Fairchild Rd	a	S	0.9	E	0.7	C
10	MacArthur Blvd NB Off-ramp/University Dr		S	0.6	A	0.7	B
11	MacArthur Blvd SB Off-ramp/University Dr		S	0.4	A	0.3	A
12	Von Karman Ave/Main St	a	S	0.8	D	0.9	D
13	Von Karman Ave/Michelson Dr	a	S	0.7	C	0.9	E
14	Von Karman Ave/Dupont Dr	a	S	0.5	A	0.6	B
15	Von Karman Ave/Campus Dr	a	S	0.7	C	0.9	E
16	Von Karman Ave/Birch St		S	0.3	A	0.4	A
17	Teller Ave/Campus Dr	a	S	0.5	A	0.6	A
18	Teller Ave/Birch St		U	12.3	B	11.6	B
19	Jamboree Rd/Main St	a	S	0.9	E	1.0	**F**
20	Jamboree Rd/I-405 NB Ramps	a,b	S	0.7	C	1.0	E
21	Jamboree Rd/I-405 SB Ramps	a,b	S	1.1	**F**	1.0	E
22	Jamboree Rd/Michelson Dr	a	S	0.8	D	1.2	**F**
23	Jamboree Rd/Dupont Dr	a	S	0.8	C	0.8	C
24	Jamboree Rd/Campus Dr	a	S	0.8	D	0.9	D
25	Jamboree Rd/Birch St		S	0.6	B	0.7	C
26	Jamboree Rd/Fairchild Rd	a	S	0.7	C	0.8	C
27	Jamboree Rd/Bristol St North		S	0.4	A	0.6	A
28	Jamboree Rd/Bristol St South		S	0.6	A	0.6	B
29	Jamboree Rd/Bayview Way		S	0.4	A	0.5	A
30	Jamboree Rd/University Dr		S	0.7	B	0.7	B
31	Carlson Ave/Michelson Dr	a	S	0.6	B	0.9	D
32	Carlson Ave/Campus Dr	a	S	0.7	B	0.8	D
33	Harvard Ave/Michelson Dr		S	0.8	C	1.0	**E**
34	Campus Dr/Bristol St North		S	0.5	A	0.7	C
35	Birch St/Bristol St North		S	0.5	A	0.6	A
36	Campus Dr/Bristol St South		S	0.6	B	0.5	A
37	Birch St/Bristol St South		S	0.4	A	0.4	A
38	Bayview Pl/Bristol St South		S	0.4	A	0.5	A
39	Irvine Ave/Mesa Dr		S	0.4	A	0.6	A
40	University Dr/Campus Dr		S	0.9	D	0.9	D
41	Mesa Rd/University Dr		S	0.6	B	0.9	D
42	California Ave/University Dr		S	0.7	B	0.7	C
43	Birch St/Driveway		S	8.8	A	11.5	B

Notes:
a = Intersection is located within the Irvine Business Complex Vision Plan Area (LOS E Acceptable)
b = Orange County Congestion Management Program (CMP) intersection (LOS E Acceptable)
S = Signalized, U=Unsignalized
Bold values indicate intersections operating at an unacceptable LOS.
Intersection operation is TPOpressed in average seconds of delay per vehicle during the peak hour for unsignalized intersections using HCM 2000 Methodology and is TPOpressed in volume-to-capacity (v/c) for signalized intersections using ICU Methodology.





LEGEND:

- (X) Newport Beach Intersection
- (X) Irvine Intersection
- ---- City Boundary
- XX(XX) AM/PM Peak Hour Turning Movement Volumes

FIGURE 20
YEAR 2021 CUMULATIVE CONDITIONS WITH FULL PROJECT PEAK HOUR TRAFFIC VOLUMES

FILENAME: Feb 29, 2012 – 2:41pm K:\ORA_TPTO\ZSAC\Projects\Koll Conexant Restart 2010\CADD\Conexant.dwg

Kimley–Horn and Associates, Inc.

TABLE 14
UPTOWN NEWPORT PROJECT
SUMMARY OF INTERSECTION OPERATIONS
YEAR 2021 CUMULATIVE CONDITIONS WITH FULL PROJECT

	Intersection		U/S	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/Main St	a	S	0.6	B	0.8	D	0.6	B	0.8	D	0.001	0.003	No	No
2	MacArthur Blvd/I-405 NB Ramps	a	S	0.8	C	0.7	C	0.8	C	0.7	C	0.004	0.002	No	No
3	MacArthur Blvd/I-405 SB Ramps	a	S	0.7	B	0.8	D	0.7	B	0.9	D	-0.009	0.019	No	No
4	MacArthur Blvd/Michelson Dr	a	S	0.7	B	1.0	E	0.7	B	1.0	E	0.002	0.005	No	No
5	MacArthur Blvd/Campus Dr	a	S	0.7	B	0.9	E	0.7	B	0.9	E	0.009	-0.005	No	No
6	MacArthur Blvd/Birch St		S	0.4	A	0.5	A	0.4	A	0.5	A	0.005	0.001	No	No
7	MacArthur Blvd/Von Karman Ave		S	0.7	B	0.5	A	0.7	B	0.5	A	0.000	0.003	No	No
8	MacArthur Blvd/Jamboree Rd	a,h	S	0.8	C	0.9	D	0.8	C	0.9	E	0.024	0.046	No	No
9	MacArthur Blvd/Fairchild Rd	a	S	0.9	E	0.7	C	0.9	E	0.7	C	0.011	0.008	No	No
10	MacArthur Blvd NB Off-ramp/University Dr		S	0.6	A	0.7	B	0.6	A	0.7	B	0.000	0.000	No	No
11	MacArthur Blvd SB Off-ramp/University Dr		S	0.4	A	0.3	A	0.4	A	0.3	A	0.000	0.000	No	No
12	Von Karman Ave/Main St	a	S	0.8	D	0.9	D	0.8	D	0.9	E	0.000	0.003	No	No
13	Von Karman Ave/Michelson Dr	a	S	0.7	C	0.9	E	0.7	C	1.0	E	0.007	0.007	No	No
14	Von Karman Ave/Dupont Dr	a	S	0.5	A	0.6	B	0.5	A	0.7	B	0.007	0.008	No	No
15	Von Karman Ave/Campus Dr	a	S	0.7	C	0.9	E	0.7	A	0.9	E	0.012	0.007	No	No
16	Von Karman Ave/Birch St		S	0.3	A	0.4	A	0.3	A	0.4	A	0.014	0.005	No	No
17	Teller Ave/Campus Dr	a	S	0.5	A	0.6	A	0.5	A	0.6	A	0.007	0.008	No	No
18	Teller Ave/Birch St		U	12.3	B	11.6	B	12.9	B	12.3	B	0.600	0.700	No	No
19	Jamboree Rd/Main St	a	S	0.9	E	1.0	F	0.9	E	1.0	F	-0.002	0.004	No	No
20	Jamboree Rd/I-405 NB Ramps	a,h	S	0.7	C	1.0	E	0.8	C	1.0	E	0.005	0.009	No	No
21	Jamboree Rd/I-405 SB Ramps	a,h	S	1.1	F	1.0	E	1.1	F	1.0	E	-0.001	0.009	No	No
22	Jamboree Rd/Michelson Dr	a	S	0.8	D	1.2	F	0.8	D	1.2	F	-0.001	0.003	No	No
23	Jamboree Rd/Dupont Dr	a	S	0.8	C	0.8	C	0.8	C	0.8	D	0.000	0.035	No	No
24	Jamboree Rd/Campus Dr	a	S	0.8	D	0.9	D	0.8	D	0.9	D	0.006	0.005	No	No
25	Jamboree Rd/Birch St		S	0.6	B	0.7	C	0.6	B	0.7	C	0.014	0.025	No	No
26	Jamboree Rd/Fairchild Rd	a	S	0.7	C	0.8	C	0.8	C	0.8	C	0.043	0.015	No	No
27	Jamboree Rd/Bristol St North		S	0.4	A	0.6	A	0.4	A	0.6	A	0.019	0.011	No	No
28	Jamboree Rd/Bristol St South		S	0.6	A	0.6	B	0.6	A	0.6	B	0.006	0.006	No	No
29	Jamboree Rd/Bayview Way		S	0.4	A	0.5	A	0.4	A	0.5	A	0.000	0.008	No	No
30	Jamboree Rd/University Dr		S	0.7	B	0.7	B	0.7	B	0.7	B	0.010	0.011	No	No
31	Carlson Ave/Michelson Dr	a	S	0.6	B	0.9	D	0.6	B	0.9	E	0.001	0.006	No	No
32	Carlson Ave/Campus Dr	a	S	0.7	B	0.8	D	0.7	B	0.8	D	-0.001	-0.003	No	No
33	Harvard Ave/Michelson Dr		S	0.8	C	1.0	E	0.8	C	1.0	E	0.002	0.006	No	No

TABLE 14
UPTOWN NEWPORT PROJECT
SUMMARY OF INTERSECTION OPERATIONS
YEAR 2021 CUMULATIVE CONDITIONS WITH FULL PROJECT

	Intersection	U/S	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
34	Campus Dr/Bristol St North	S	0.5	A	0.7	C	0.5	A	0.7	C	0.014	0.005	No	No
35	Birch St/Bristol St North	S	0.5	A	0.6	A	0.6	A	0.6	A	0.024	0.010	No	No
36	Campus Dr/Bristol St South	S	0.6	B	0.5	A	0.6	B	0.5	A	-0.003	0.016	No	No
37	Birch St/Bristol St South	S	0.4	A	0.4	A	0.4	A	0.4	A	-0.002	0.005	No	No
38	Bayview Pl/Bristol St South	S	0.4	A	0.5	A	0.4	A	0.5	A	0.002	0.020	No	No
39	Irvine Ave/Mesa Dr	S	0.4	A	0.6	A	0.4	A	0.6	A	0.000	0.002	No	No
40	University Dr/Campus Dr	S	0.9	D	0.9	D	0.9	D	0.9	D	-0.001	-0.002	No	No
41	Mesa Rd/University Dr	S	0.6	B	0.9	D	0.6	B	0.9	D	0.000	0.000	No	No
42	California Ave/University Dr	S	0.7	B	0.7	C	0.7	B	0.7	C	0.000	0.000	No	No
43	Birch St/Driveway	S	8.8	A	11.5	B	10.4	B	11.8	B	1.600	0.300	No	No

Notes:
a = Intersection is located within the Irvine Bnsiness Complex Vision Plan Area (LOS E Acceptable)
b = Orange Connty Congestion Management Program (CMP) intersection (LOS E Acceptable)
S = Signalized, U=Unsignalized
Bold valnes indicate intersections operating at an unacceptable LOS.
Intersection operation is expressed in average seconds of delay per vehicle during the peak hour for unsignalized intersections using HCM 2000 Methodology and is expressed in volume-to-capacity (v/c) for signalized intersections using ICU Methodology.

CONGESTION MANAGEMENT PROGRAM COMPLIANCE

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.

A copy of the County of Orange CMP Highway System is provided in ***Appendix G.*** 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. CMP intersections in the vicinity of the project consist of:

- I-405 Northbound Ramps / Jamboree Road
- I-405 Southbound Ramps / Jamboree Road
- MacArthur Boulevard / 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 over 8,000 daily trips, and will take access directly onto Jamboree Road, which is a CMP facility. As such, the project is required to comply with the CMP Traffic Impact Analysis guidelines.

The study area for a CMP analysis is defined by a measure of the project's significant impact on the roadway links. Significant impact is defined as links impacted by 3 percent or more of their LOS "E" capacity. The CMP states that, "If a TIA is required only for CMP purposes, the study area would end when traffic falls below three percent of capacity on individual roadway links. If the TIA is also required for other purposes, additional analysis can be required by the local jurisdiction based on engineering judgment or local regulation as applicable.

The forecasted daily project traffic volumes and LOS E percentages on the CMP facilities at the project study limits are shown on the CMP map in Appendix G. This demonstrates that the project daily trips do not exceed 3% of the Level of Service E capacity of these facilities, and that the traffic impact analysis is in compliance with CMP Traffic Impact Analysis Requirements.

The project impact at the CMP intersections was summarized in the previous section. The addition of project traffic will not cause a significant impact at the CMP intersections. The project would not cause a CMP intersection to fall below LOS E, and will not cause a cumulative increase of more than 0.10 in V/C ratio at any CMP intersection with an established LOS standard worse than LOS E.

ANALYSIS OF STATE HIGHWAY FACILITIES

Intersections on State Highway Facilities

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

Caltrans advocates the use of the Highway Capacity Manual (HCM) intersection analysis methodology to analyze the operation of signalized intersections. The HCM methodology measures average seconds of delay per vehicle based on a number of 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 the chart on the following page.

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 LOS, the existing Level of Service is to be maintained."

Traffic Impact Criteria

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 of the study intersection to change from acceptable operation (LOS A, B, or C) to deficient operation (LOS D, E, or F).

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: Highway Capacity Manual, 2010		

State Highway Intersection Analysis

Peak hour intersection analysis was conducted using the HCM methodology for the following State Highway study intersections:

- 2. MacArthur Boulevard/I-405 NB Ramps
- 3. MacArthur Boulevard/I-405 SB Ramps
- 20. Jamboree Road/I-405 NB Ramps
- 21. Jamboree Road/I-405 SB Ramps

Intersection analysis worksheets for all HCM analysis of State Highway intersections are provided in ***Appendix E***.

Existing Conditions

Existing peak hour intersection operations for the State Highway study intersections are summarized on **Table 15**. Each of the State Highway study intersections currently operates at an acceptable Level of Service using the HCM delay analysis methodology.

Year 2018 Cumulative Conditions without Project

Year 2018 Cumulative Conditions without Project peak hour operation for the State Highway study intersections are summarized on **Table 16**. Each of the State Highway study intersections would operate at an acceptable Level of Service under Year 2018 Cumulative Conditions without Project using the HCM delay analysis methodology.

Year 2018 Cumulative Conditions with Phase 1

This scenario adds project-related peak hour traffic volumes for Phase 1 of the project to the Year 2018 Cumulative Conditions without Project traffic volumes at the State Highway study intersections. Year 2018 Cumulative Conditions with Phase 1 peak hour operation for the State Highway study intersections are summarized on **Table 17**. With the addition of project traffic, the State Highway study intersections would continue to operate at an acceptable Level of Service using the HCM delay analysis methodology.

Year 2021 Cumulative Conditions without Project

Year 2021 Cumulative Conditions without Project peak hour operation for the State Highway study intersections are summarized on **Table 18**. All State Highway study intersections would operate at an acceptable Level of Service under Year 2021 Cumulative Conditions without Project scenario, except one intersection. The intersection of Jamboree Road at I-405 Southbound Ramps is forecasted to operate at LOS E in the AM peak hour.

Year 2021 Cumulative Conditions with Proposed Project

This scenario adds project-related peak hour traffic volumes for the full Uptown Newport project to the Year 2021 Cumulative Conditions without Project traffic volumes at the State Highway study intersections. Year 2021 Cumulative Conditions with Proposed Project peak hour operation for the State Highway study intersections are summarized on **Table 19**. With the addition of project traffic, all State Highway study intersections, except one, would continue to operate at an acceptable Level of Service using the HCM delay analysis methodology. The intersection of Jamboree Road at I-405 Southbound Ramps would continue to operate at LOS E in the AM peak hour.

In some cases, the project-related impact would be slightly negative (i.e., a slight improvement in average delay). This is because the conversion of land use from office to residential uses results is a shift in traffic patterns, and in some cases, the reduction in existing office trips on some critical movements would more than offset the addition of the proposed residential trips. As a result, some intersection operations would improve slightly with the implementation of the proposed project.

TABLE 15
UPTOWN NEWPORT PROJECT
SUMMARY OF STATE HIGHWAY INTERSECTION OPERATIONS
EXISTING CONDITIONS

Intersection		U/S	AM Peak Hour		PM Peak Hour	
			ICU/ Delay	LOS	ICU/ Delay	LOS
2	MacArthur Blvd/I-405 NB Ramps	S	21.5	C	21.1	C
3	MacArthur Blvd/I-405 SB Ramps	S	19.8	B	19.3	B
20	Jamboree Rd/I-405 NB Ramps	S	14.9	B	8.8	A
21	Jamboree Rd/I-405 SB Ramps	S	21.9	C	17.8	B

Notes:
S = Signalized
Bold and shaded values indicate intersections operating at LOS E or F.
Intersection operation is expressed in average seconds of delay per vehicle during the peak hour for signalized intersections using the HCM 2000 Methodology.

TABLE 16
UPTOWN NEWPORT PROJECT
SUMMARY OF STATE HIGHWAY INTERSECTION OPERATIONS
YEAR 2018 CUMULATIVE CONDITIONS WITHOUT PROJECT

Intersection		U/S	Without Project			
			AM Peak Hour		PM Peak Hour	
			ICU/ Delay	LOS	ICU/ Delay	LOS
2	MacArthur Blvd/I-405 NB Ramps	S	21.0	C	19.9	B
3	MacArthur Blvd/I-405 SB Ramps	S	20.0	C	20.8	C
20	Jamboree Rd/I-405 NB Ramps	S	18.4	B	11.1	B
21	Jamboree Rd/I-405 SB Ramps	S	48.4	D	26.2	C

Notes:
S = Signalized
Bold and shaded values indicate intersections operating at LOS E or F.
Intersection operation is expressed in average seconds of delay per vehicle during the peak hour for signalized intersections using the HCM 2000 Methodology.

TABLE 17
UPTOWN NEWPORT PROJECT
SUMMARY OF STATE HIGHWAY INTERSECTION OPERATIONS
YEAR 2018 CUMULATIVE CONDITIONS WITH PHASE 1

Intersection		U/S	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
2	MacArthur Blvd/I-405 NB Ramps	S	21.0	C	19.9	B	21.0	C	19.8	B	0.0	-0.1	No	No
3	MacArthur Blvd/I-405 SB Ramps	S	20.0	C	20.8	C	20.1	C	21.1	C	0.1	0.3	No	No
20	Jamboree Rd/I-405 NB Ramps	S	18.4	B	11.1	B	18.4	B	11.8	B	0.0	0.7	No	No
21	Jamboree Rd/I-405 SB Ramps	S	48.4	D	26.2	C	48.9	D	26.4	C	0.5	0.2	No	No

Notes:
S = Signalized
Bold and shaded values indicate intersections operating at LOS E or F.
Intersection operation is expressed in average seconds of delay per vehicle during the peak hour for signalized intersections using the HCM 2000 Methodology.

TABLE 18
UPTOWN NEWPORT PROJECT
SUMMARY OF STATE HIGHWAY INTERSECTION OPERATIONS
YEAR 2021 CUMULATIVE CONDITIONS WITHOUT PROJECT

Intersection		U/S	Without Project			
			AM Peak Hour		PM Peak Hour	
			ICU/ Delay	LOS	ICU/ Delay	LOS
2	MacArthur Blvd/I-405 NB Ramps	S	21.6	C	20.4	C
3	MacArthur Blvd/I-405 SB Ramps	S	20.4	C	21.5	C
20	Jamboree Rd/I-405 NB Ramps	S	18.9	B	12.3	B
21	Jamboree Rd/I-405 SB Ramps	S	60.8	**E**	28.5	C

Notes:
S = Signalized
Bold and shaded values indicate intersections operating at LOS E or F.
Intersection operation is expressed in average seconds of delay per vehicle during the peak hour for signalized intersections using the HCM 2000 Methodology.

TABLE 19
UPTOWN NEWPORT PROJECT
SUMMARY OF STATE HIGHWAY INTERSECTION OPERATIONS
YEAR 2021 CUMULATIVE CONDITIONS WITH FULL PROJECT

Intersection		U/S	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
2	MacArthur Blvd/I-405 NB Ramps	S	21.6	C	20.4	C	21.5	C	20.3	C	-0.1	-0.1	No	No
3	MacArthur Blvd/I-405 SB Ramps	S	20.4	C	21.5	C	20.6	C	22.1	C	0.2	0.6	No	No
20	Jamboree Rd/I-405 NB Ramps	S	18.9	B	12.3	B	18.8	B	13.0	B	-0.1	0.7	No	No
21	Jamboree Rd/I-405 SB Ramps	S	60.8	**E**	28.5	C	60.3	**E**	28.8	C	-0.5	0.3	No	No

Notes:
S = Signalized
Bold and shaded values indicate intersections operating at LOS E or F.
Intersection operation is expressed in average seconds of delay per vehicle during the peak hour for signalized intersections using the HCM 2000 Methodology.

Freeway Mainline Analysis

Analysis of freeway mainline segments in the vicinity of the project was conducted in accordance with the *Caltrans Guide for the Preparation of Traffic Impact Studies*, which specifies application of the HCM methodology for freeway analysis. Freeway analysis results are expressed in terms of density, which measures the number of passenger cars per lane mile (pc/mi/ln) on the freeway mainline. The target Level of Service (LOS) for freeway mainline segments is LOS "D," which is a density of between 35 and 45 pc/mi/ln. If the existing density exceeds the target LOS, the existing Level of Service is to be maintained.

Freeway mainline analysis was conducted on the I-405 Freeway (San Diego Freeway) between Culver Drive and the SR-55 Freeway and on the SR-73 (San Joaquin Hills Transportation Corridor) between Bonita Canyon Drive and the SR-55 Freeway. Peak hour freeway volumes were derived from the Caltrans website. The most recent data available was 2010. A conservative growth factor of 1.0% per year was applied to 2010 traffic volumes to derive Existing and Future Year cumulative baseline traffic volumes. Freeway analyses were conducted using the HCS+ software, operational methodology. The results of the analysis are expressed in terms of vehicular density in each peak hour, in each direction, as discussed above. All freeway analysis worksheets are provided in ***Appendix F***. A summary of the results of the freeway mainline analysis for each study scenario are presented below.

Existing Conditions

Existing peak hour freeway volumes and analysis results for the morning and evening peak hours, by segment, and by direction for the I-405 and SR-73 freeways are summarized on **Tables 20** and **21**, respectively. These tables indicate that the following freeway segments are currently operating at below the target level of service:

- I-405 (San Diego Freeway) Northbound
  - Jamboree Road to MacArthur Boulevard (LOS E: AM peak hour)
  - MacArthur Boulevard to Jct. SR-55 (LOS E: AM peak hour)
- I-405 (San Diego Freeway) Southbound
  - MacArthur Boulevard to Jamboree Road (LOS E: PM peak hour)
  - Jamboree Road to Culver Drive (LOS E: PM peak hour)
- SR-73 (San Joaquin Hills Transportation Corridor) Northbound
  - Jamboree Road to Jct. SR-55 (LOS E: PM peak hour)

All other study freeway segments are currently operating at LOS D or better during both peak hours.

TABLE 20
SUMMARY OF FREEWAY MAINLINE OPERATION FOR I-405
EXISTING CONDITIONS (2011)

Freeway Segment			Lanes	AM Peak Hour			PM Peak Hour		
				Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
I-405 Northbound									
Culver Drive	to	Jamboree Road	6	12,744	33.1	D	9,356	24.3	C
Jamboree Road	to	MacArthur Boulevard	6	13,475	35.0	E	9,893	25.7	C
MacArthur Boulevard	to	JCT. Rte. 55, Costa Mesa	6	13,749	35.7	E	10,094	26.2	D
I-405 Southbound									
JCT. Rte. 55, Costa Mesa Fr	to	MacArthur Boulevard	6	10,663	27.7	D	13,041	33.9	D
MacArthur Boulevard	to	Jamboree Road	5	10,450	32.6	D	12,781	39.9	E
Jamboree Road	to	Culver Drive	5	9,884	30.8	D	12,088	37.7	E

TABLE 21
SUMMARY OF FREEWAY MAINLINE OPERATION FOR SR-73
EXISTING CONDITIONS (2011)

Freeway Segment			Lanes	AM Peak Hour			PM Peak Hour		
				Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
SR-73 Northbound									
Bonita Cyn Dr/Ford Rd	to	Jamboree Road	3	2,579	14.0	B	3,520	19.1	C
Jamboree Road	to	JCT. Rte. 55	4	6,892	27.5	D	9,405	37.5	E
SR-73 Southbound									
JCT. Rte. 55	to	Jamboree Road	4	7,737	30.8	D	7,250	28.9	D
Jamboree Road	to	Bonita Cyn Dr/Ford Rd	3	2,896	15.8	B	2,714	14.8	B

Existing Conditions with the Full Project

Existing plus Project peak hour freeway volumes were derived by adding the traffic from the full Uptown Newport project to the existing volumes. Results for the morning and evening peak hours, by segment, and by direction for the I-405 and SR-73 freeways are summarized on **Tables 22** and **23**, respectively. These tables indicate that all previously-deficient segments would continue to be deficient; no new freeway segments would become deficient.

Year 2018 Cumulative Conditions without Project

Year 2018 Cumulative Conditions consists of Existing plus Growth plus Committed and Cumulative Projects traffic. Year 2018 Cumulative without Project peak hour freeway volumes and analysis results for the I-405 and SR-73 freeways are summarized on **Tables 24 and 25**, respectively. These tables indicate that the following freeway segments are forecast to operate at below the target level of service:

- I-405 (San Diego Freeway) Northbound
  - Culver Drive to Jamboree Road (LOS E: AM peak hour)
  - Jamboree Road to MacArthur Boulevard (LOS E: AM peak hour)
  - MacArthur Boulevard to Jct. SR-55 (LOS E: AM peak hour)

- I-405 (San Diego Freeway) Southbound
  - Jct. SR-55 to MacArthur Boulevard (LOS E: PM peak hour)
  - MacArthur Boulevard to Jamboree Road (LOS E: PM peak hour)
  - Jamboree Road to Culver Drive (LOS E: PM peak hour)

- SR-73 (San Joaquin Hills Transportation Corridor) Northbound
  - Jamboree Road to Jct. SR-55 (LOS E: PM peak hour)

Year 2018 Cumulative Conditions with Phase 1

Traffic from Phase 1 of the project was added to Year 2018 Cumulative Conditions without Project conditions. 2018 Cumulative Conditions with Project peak hour freeway volumes and analysis results for the I-405 and SR-73 freeway are summarized on **Tables 26** and **27**, respectively. These tables indicate that all previously-deficient segments would continue to be deficient, and that the proposed project would have little impact on the analyzed freeway segments. The addition of project-related traffic would not cause additional freeway segments to operate at LOS E or worse, and would not cause the Level of Service to worsen on any segment already operating at LOS E or worse.

TABLE 22
SUMMARY OF FREEWAY MAINLINE OPERATION FOR I-405
EXISTING CONDITIONS (2011) PLUS FULL PROJECT

Freeway Segment			Lanes	AM Peak Hour			PM Peak Hour		
				Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
I-405 Northbound									
Culver Drive	to	Jamboree Road	6	12,755	33.2	D	9,435	24.5	C
Jamboree Road	to	MacArthur Boulevard	6	13,504	35.1	E	9,900	25.7	C
MacArthur Boulevard	to	JCT. Rte. 55, Costa Mesa	6	13,824	35.9	E	10,125	26.3	D
I-405 Southbound									
JCT. Rte. 55, Costa Mesa Fr	to	MacArthur Boulevard	6	10,672	27.7	D	13,119	34.1	D
MacArthur Boulevard	to	Jamboree Road	5	10,447	32.6	D	12,811	40.0	E
Jamboree Road	to	Culver Drive	5	9,959	31.1	D	12,123	37.8	E

TABLE 23
SUMMARY OF FREEWAY MAINLINE OPERATION FOR SR-73
EXISTING CONDITIONS (2011) PLUS FULL PROJECT

Freeway Segment			Lanes	AM Peak Hour			PM Peak Hour		
				Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
SR-73 Northbound									
Bonita Cyn Dr/Ford Rd	to	Jamboree Road	3	2,579	14.0	B	3,520	19.1	C
Jamboree Road	to	JCT. Rte. 55	4	6,992	27.9	D	9,450	37.7	E
SR-73 Southbound									
JCT. Rte. 55	to	Jamboree Road	4	7,737	30.8	D	7,357	29.3	D
Jamboree Road	to	Bonita Cyn Dr/Ford Rd	3	2,896	15.8	B	2,714	14.8	B

TABLE 24
SUMMARY OF FREEWAY MAINLINE OPERATION FOR I-405
2018 CUMULATIVE CONDITIONS WITHOUT PROJECT

Freeway Segment			Lanes	AM Peak Hour			PM Peak Hour		
				Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
I-405 Northbound									
Culver Drive	to	Jamboree Road	6	13,688	35.6	E	10,049	26.1	D
Jamboree Road	to	MacArthur Boulevard	6	14,447	37.6	E	10,607	27.6	D
MacArthur Boulevard	to	JCT. Rte. 55, Costa Mesa	6	14,752	38.3	E	10,830	28.1	D
I-405 Southbound									
JCT. Rte. 55, Costa Mesa	to	MacArthur Boulevard	6	11,441	29.7	D	13,992	36.4	E
MacArthur Boulevard	to	Jamboree Road	5	11,204	34.9	D	13,703	42.7	E
Jamboree Road	to	Culver Drive	5	10,616	33.1	D	12,985	40.5	E

TABLE 25
SUMMARY OF FREEWAY MAINLINE OPERATION FOR SR-73
2018 CUMULATIVE CONDITIONS WITHOUT PROJECT

Freeway Segment			Lanes	AM Peak Hour			PM Peak Hour		
				Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
SR-73 Northbound									
Bonita Cyn Dr/Ford Rd	to	Jamboree Road	3	2,765	15.0	B	3,811	20.7	C
Jamboree Road	to	JCT. Rte. 55	4	7,404	29.5	D	10,207	40.7	E
SR-73 Southbound									
JCT. Rte. 55	to	Jamboree Road	4	8,312	33.1	D	7,867	31.4	D
Jamboree Road	to	Bonita Cyn Dr/Ford Rd	3	3,105	16.9	B	2,939	16.0	B

TABLE 26
SUMMARY OF FREEWAY MAINLINE OPERATION FOR I-405
2018 CUMULATIVE CONDITIONS WITH PHASE 1

Freeway Segment			Lanes	AM Peak Hour			PM Peak Hour		
				Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
I-405 Northbound									
Culver Drive	to	Jamboree Road	6	13,696	35.6	E	10,095	26.2	D
Jamboree Road	to	MacArthur Boulevard	6	14,468	37.6	E	10,616	27.6	D
MacArthur Boulevard	to	JCT. Rte. 55, Costa Mesa Fwy	6	14,794	38.4	E	10,851	28.2	D
I-405 Southbound									
JCT. Rte. 55, Costa Mesa Fwy	to	MacArthur Boulevard	6	11,448	29.7	D	14,014	36.4	E
MacArthur Boulevard	to	Jamboree Road	5	11,206	34.9	D	13,726	42.8	E
Jamboree Road	to	Culver Drive	5	10,658	33.2	D	13,031	40.6	E

TABLE 27
SUMMARY OF FREEWAY MAINLINE OPERATION FOR SR-73
2018 CUMULATIVE CONDITIONS WITH PHASE 1

Freeway Segment			Lanes	AM Peak Hour			PM Peak Hour		
				Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
SR-73 Northbound									
Bonita Cyn Dr/Ford Rd	to	Jamboree Road	3	2,765	15.0	B	3,811	20.7	C
Jamboree Road	to	JCT. Rte. 55	4	7,459	29.7	D	10,236	40.8	E
SR-73 Southbound									
JCT. Rte. 55	to	Jamboree Road	4	8,327	33.2	D	7,929	31.6	D
Jamboree Road	to	Bonita Cyn Dr/Ford Rd	3	3,105	16.9	B	2,939	16.0	B

Year 2021 Cumulative Conditions without Project

Year 2021 Cumulative without Project peak hour freeway volumes and analysis results for the I-405 and SR-73 freeways are summarized on **Tables 28 and 29**, respectively. These tables indicate that the following freeway segments are forecast to operate at below the target level of service:

- I-405 (San Diego Freeway) Northbound
  - Culver Drive to Jamboree Road (LOS E: AM peak hour)
  - Jamboree Road to MacArthur Boulevard (LOS E: AM peak hour)
  - MacArthur Boulevard to Jct. SR-55 (LOS E: AM peak hour)

- I-405 (San Diego Freeway) Southbound
  - Jct. SR-55 to MacArthur Boulevard (LOS E: PM peak hour)
  - MacArthur Boulevard to Jamboree Road (LOS E: AM and PM peak hours)
  - Jamboree Road to Culver Drive (LOS E: PM peak hour)

- SR-73 (San Joaquin Hills Transportation Corridor) Northbound
  - Jamboree Road to Jct. SR-55 (LOS E: PM peak hour)

Year 2021 Cumulative Conditions with the Full Project

Traffic from the full Uptown Newport project was added to Year 2021 Cumulative Conditions without Project conditions. 2021 Cumulative Conditions with Project peak hour freeway volumes and analysis results for the I-405 and SR-73 freeway are summarized on **Tables 30** and **31**, respectively. These tables indicate that all previously-deficient segments would continue to be deficient, and that the proposed project would have little impact on the analyzed freeway segments. The addition of project-related traffic would not cause additional freeway segments to operate at LOS E or worse, and would not cause the Level of Service to worsen on any segment already operating at LOS E or worse.

TABLE 28
SUMMARY OF FREEWAY MAINLINE OPERATION FOR I-405
2021 CUMULATIVE CONDITIONS WITHOUT PROJECT

Freeway Segment			Lanes	AM Peak Hour			PM Peak Hour		
				Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
I-405 Northbound									
Culver Drive	to	Jamboree Road	6	14,103	36.7	E	10,354	26.9	D
Jamboree Road	to	MacArthur Boulevard	6	14,885	38.7	E	10,928	28.4	D
MacArthur Boulevard	to	JCT. Rte. 55, Costa Mesa	6	15,198	39.5	E	11,158	29.0	D
I-405 Southbound									
JCT. Rte. 55, Costa Mesa	to	MacArthur Boulevard	6	11,787	30.6	D	14,416	37.5	E
MacArthur Boulevard	to	Jamboree Road	5	11,543	36.0	E	14,118	44.0	E
Jamboree Road	to	Culver Drive	5	10,938	34.1	D	13,378	41.7	E

TABLE 29
SUMMARY OF FREEWAY MAINLINE OPERATION FOR SR-73
2021 CUMULATIVE CONDITIONS WITHOUT PROJECT

Freeway Segment			Lanes	AM Peak Hour			PM Peak Hour		
				Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
SR-73 Northbound									
Bonita Cyn Dr/Ford Rd	to	Jamboree Road	3	2,849	15.5	B	3,927	21.4	C
Jamboree Road	to	JCT. Rte. 55	4	7,629	30.4	D	10,516	41.9	E
SR-73 Southbound									
JCT. Rte. 55	to	Jamboree Road	4	8,564	34.2	D	8,106	32.3	D
Jamboree Road	to	Bonita Cyn Dr/Ford Rd	3	3,199	17.4	B	3,028	16.5	B

TABLE 30
SUMMARY OF FREEWAY MAINLINE OPERATION FOR I-405
2021 CUMULATIVE CONDITIONS WITH FULL PROJECT

Freeway Segment			Lanes	AM Peak Hour			PM Peak Hour		
				Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
I-405 Northbound									
Culver Drive	to	Jamboree Road	6	14,114	36.7	E	10,433	27.1	D
Jamboree Road	to	MacArthur Boulevard	6	14,914	38.8	E	10,935	28.4	D
MacArthur Boulevard	to	JCT. Rte. 55, Costa Mesa Fwy	6	15,273	39.7	E	11,189	29.1	D
I-405 Southbound									
JCT. Rte. 55, Costa Mesa Fwy	to	MacArthur Boulevard	6	11,796	30.7	D	14,494	37.7	E
MacArthur Boulevard	to	Jamboree Road	5	11,540	36.0	E	14,148	44.1	E
Jamboree Road	to	Culver Drive	5	11,013	34.4	D	13,413	41.8	E

SITE ACCESS AND ON-SITE CIRCULATION

Existing Circulation

Currently, access to the existing project site is provided at two locations along Jamboree Road and one location along Birch Street. On Jamboree Road, access to the site is via a four-way signalized intersection at Jamboree Road and Fairchild Drive, with the project site entrance forming the fourth leg of the intersection; and a stop-controlled intersection approximately 800 feet north of the signalized intersection. The unsignalized intersection currently allows all turning movements to and from Jamboree Road.

On Birch Street, access to the site is provided at a stop-controlled intersection approximately 560 feet west of the signalized intersection of Jamboree Road and Birch Street. All turning movements are allowed at this driveway. Access to this driveway from the Conexant property is via an access easement across the adjacent property immediately to the north (between the Conexant property and Birch Street.)

Phase 1 Circulation

The proposed circulation for Phase 1 is shown on **Figure 21**. The proposed Upper Newport project would continue to access Jamboree Road at two points. The existing signalized intersection at Fairchild Road would remain. The unsignalized intersection to the north would be relocated approximately 175 feet to the north. This entrance would allow right-turn-in-and-out and left-turn in movements. Left turns out would be prohibited by signage, as well as a raised median on Jamboree Road.

The main signalized entry is shown to be 46 feet wide with one inbound lane, and two outbound lanes. The on-site roadways would be 36 feet wide with sidewalks on both sides, and would provide direct access to the parking areas associated with each building. The internal street system, as shown, is in compliance with City policy that requires a minimum of 36 feet curb to curb for private streets with parking on both sides of the street, and a minimum of 32 feet for streets with no parking, or parking on one side of the street.

The roadway system would be privately owned and maintained, but would be open to the public. A gated emergency only access to the adjacent Koll property would be provided at the southwest corner of the site. Connections to the adjacent Jazz property would also be gated, as shown on Figure 20. Therefore, there would be no access from the Phase 1 Uptown Newport development to the Birch Street driveway.

Phase 2 Circulation

The proposed circulation for Phase 2 is shown on **Figure 22**. With development of the entire site, the roadway system would be expanded to include access to the rest of the site, and re-connection to Birch Street, via the access easement across the adjacent property. A discussion of this easement and the impact of the project traffic on the Birch Street driveway is provided in the next section.

TABLE 31
SUMMARY OF FREEWAY MAINLINE OPERATION FOR SR-73
2021 CUMULATIVE CONDITIONS WITH FULL PROJECT

Freeway Segment			Lanes	AM Peak Hour			PM Peak Hour		
				Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
SR-73 Northbound									
Bonita Cyn Dr/Ford Rd	to	Jamboree Road	3	2,849	15.5	B	3,927	21.4	C
Jamboree Road	to	JCT. Rte. 55	4	7,729	30.8	D	10,561	42.1	E
SR-73 Southbound									
JCT. Rte. 55	to	Jamboree Road	4	8,564	34.2	D	8,213	32.7	D
Jamboree Road	to	Bonita Cyn Dr/Ford Rd	3	3,199	17.4	B	3,028	16.5	B

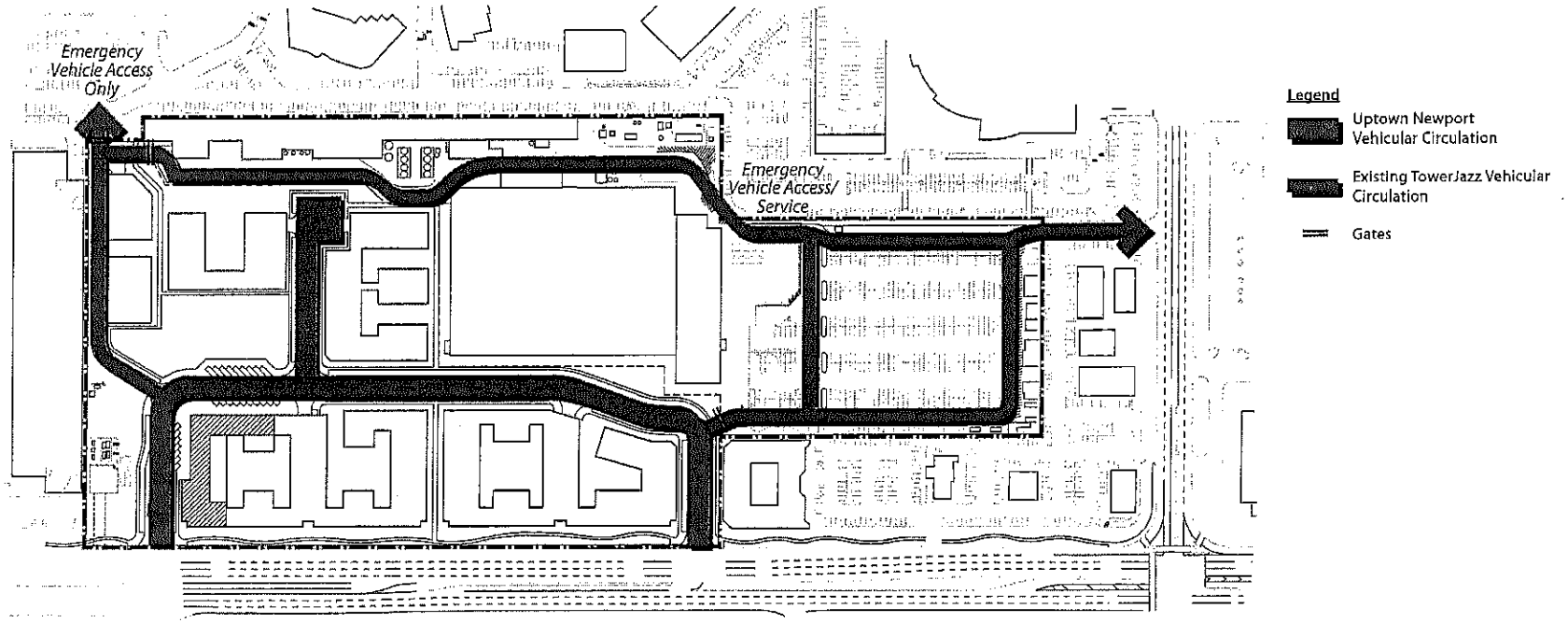


FIGURE 21

PHASE 1 CIRCULATION PLAN

Kimley-Horn and Associates, Inc.

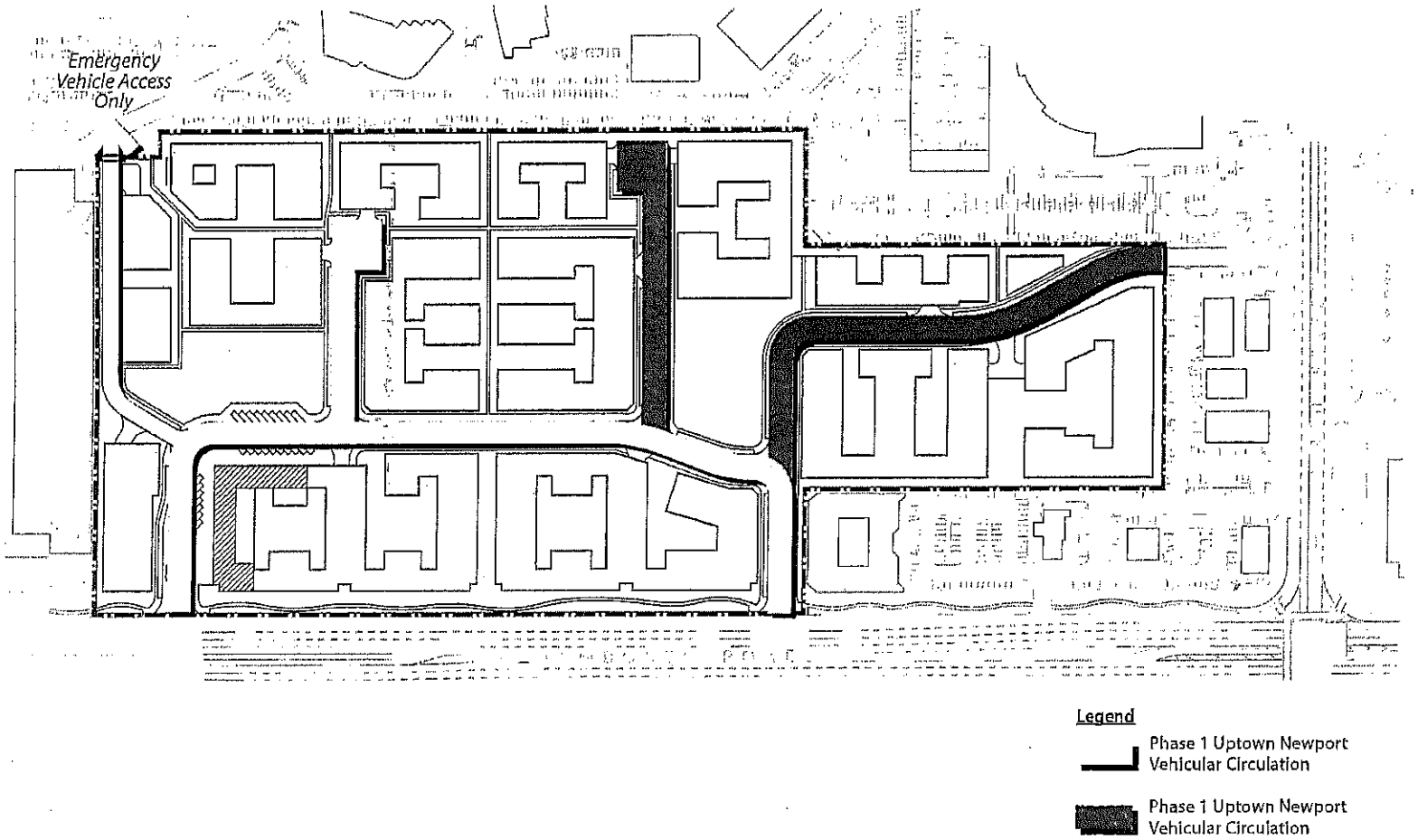


FIGURE 22

PHASE 2 CIRCULATION PLAN

Kimley-Horn and Associates, Inc.

The main signalized entry on Jamboree Road at Fairchild is shown to provide approximately 300 feet of queuing before the 90-degree turn in the road. With two outbound lanes, this would provide sufficient queuing distance before the 90-degree bend to accommodate the project's outbound peak hour traffic for both Phase 1 and Phase 2.

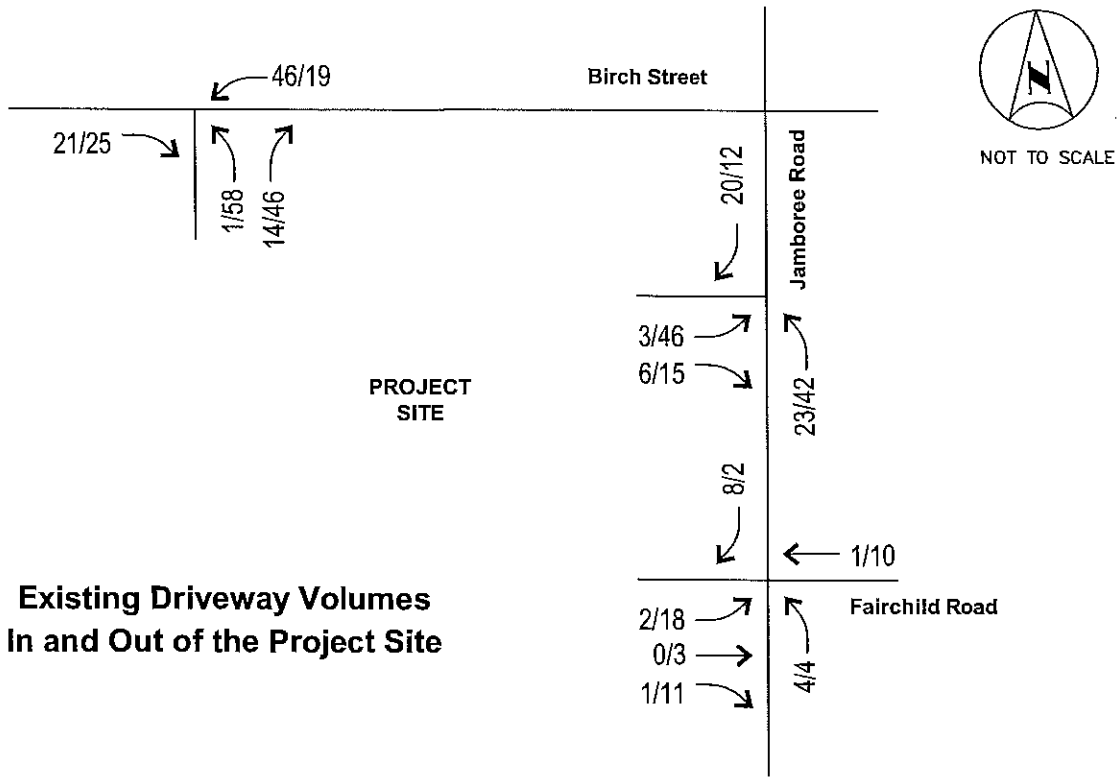
The site plan shows diagonal parking adjacent to the retail portion of the project; on one side of the main entry drive (the inbound lane) and on both sides of the spine street after the 90-degree bend. The diagonal parking on the main entry drive is located less than 100 feet of Jamboree Road, which means that a car backing out of the spaces nearest Jamboree Road would potentially block the inbound lane momentarily, leaving only two or three car lengths of inbound lane distance. Likewise, the diagonal parking on the main spine is located within 50 feet of the 90-degree bend, posing a potential sight distance problem. The location, operation, and configuration of the parking and drive aisles in this area should be reviewed carefully with City staff during the site plan review process.

Access Easement to Birch Street

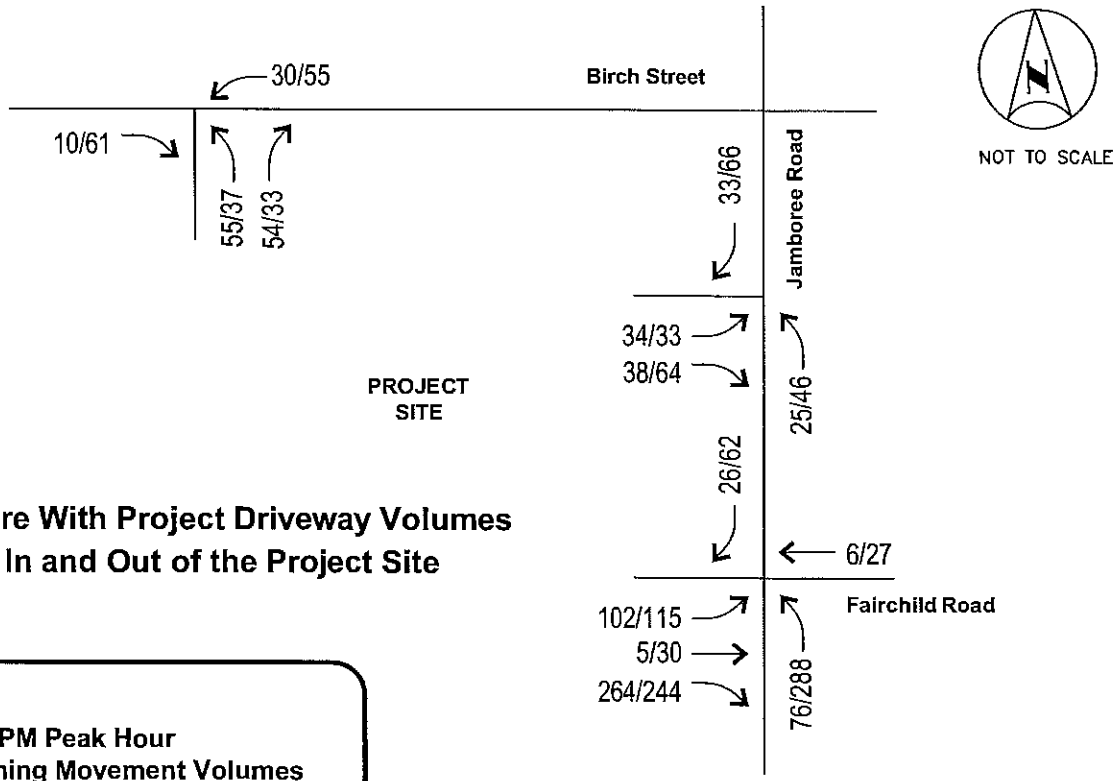
The access easement across the adjacent property that allows access from the Conexant property to Birch Street has been in place for over 30 years. The project access plans indicate that the project would not have access to the Birch driveway during Phase 1, but would have access to Birch Street through the easement at completion of the project. This discussion has been prepared to provide a comparison of existing and proposed peak hour traffic volumes and an evaluation of level of service at this driveway.

Current peak hour turning movement traffic volumes at the Birch Street driveway are shown on **Figure 23**. This intersection is currently operating at LOS A in the morning peak hour and LOS B in the evening peak hour. The peak hour turning movement volumes reflect the predominance of employment uses on the site, with very light outbound traffic volumes and heavier traffic flows inbound in the morning peak hour, with a reverse pattern in the evening peak hour. A component of this traffic would be removed with the development of the Uptown Newport project, and replaced with residential traffic flows.

As discussed earlier, residential uses would have the reverse traffic patterns – heavier traffic flow outbound from the project site in the morning peak hour, and heavier traffic flow inbound toward the project in the evening peak hour. With removal of the two existing office and industrial buildings, and development of the proposed residential uses, the morning and evening peak hour turning movement volumes at the Birch Street driveway would be as shown on Figure 22. Comparison of the two shows that the traffic flows would be reversed compared to existing, with an increase in outbound traffic and a decrease in inbound traffic in the morning peak hour, with a reverse pattern in the evening peak hour. The intersection is forecasted to operate at LOS B and C in the morning and evening peak hours, respectively. The driveway would continue to operate at an acceptable Level of Service as an unsignalized intersection. The intersection would accommodate the changes in traffic patterns resulting from the proposed project, and would not require signalization or widening.



Existing Driveway Volumes In and Out of the Project Site



Future With Project Driveway Volumes In and Out of the Project Site

LEGEND:

xx/yy AM/PM Peak Hour Turning Movement Volumes

FIGURE 23
TRAFFIC VOLUMES AT PROJECT DRIVEWAYS

Kimley-Horn and Associates, Inc.

FILENAME: Feb 29, 2012 – 1:30pm K:\ORA_TPTO\ZSAC\Projects\Kal Canyant Restort 2010\CADD\Fig 23.dwg

CONSTRUCTION TRAFFIC

The Project construction activities would include the demolition of the existing office / industrial buildings on site and the construction of the proposed Uptown Newport development.

Construction activities would include site clearing, grading and excavation, 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 will be provided, and workers will carpool or be shuttled to the worksite.

Phase 1 will include demolition of the 4311 Jamboree Road office and industrial building and support facilities. Demolition activities will include demolishing and removing the building, foundations and footings, and the asphalt parking lot and light fixtures. It is estimated that approximately 12,800 cubic yards of construction debris and concrete will need to be removed from the site. Grading of the Phase 1 portion of the site will involve a combination of cut and fill activity, such that there will be a virtual balance of cut and fill on the site. This assumes a single level of underground parking. If a second underground level is needed, an estimated 90,000 cubic yards would need to be exported from the site. Assuming a capacity of 12 to 18 cubic yards per truckload, depending on the size of the truck, demolition and grading activities will require removal of approximately 700 to 1,070 truckloads of demolition debris, and if needed, 5,000 truckloads of cut material. Assuming a three-month period for demolition for Phase 1, this would equate to an average of 10 to 20 demolition debris truckloads per day, and if needed, an average of approximately 40 to 60 truckloads of export cut material per day.

Phase 2 will include demolition of the Jazz building at 4321 Jamboree Road. It is estimated that approximately 13,000 cubic yards of construction debris and concrete will need to be removed from the site. Grading of the Phase 2 portion of the site will involve a combination of cut and fill activity, such that there will be a virtual balance of cut and fill on the site. This assumes a single level of underground parking. If a second underground level is needed, an estimated 100,000 cubic yards would need to be exported from the site. Assuming a four-month period for demolition for Phase 2, this would equate to an average of 10 to 15 demolition debris truckloads per day, and if needed, an average of approximately 45 to 65 truckloads of export cut material per day. Based on the project phasing plan, building construction activity is estimated to be 54 months for Phase 1, and 45 months for Phase 2. The number of heavy vehicles associated with building construction will vary, depending on the construction materials required for the phase of construction underway at any given time.

Construction Phase	Daily Trips
Demolition – Phase 1	
- Heavy Trucks (Haul Debris)	6 – 10
- Construction Workers	9 – 15
Demolition – Phase 2	
- Heavy Trucks	6 – 10
- Construction Workers	9 – 15
Grading and Earthwork – Phase 1	
- Haul Export Vehicles (if needed)	40 – 60
- Construction Workers	30 – 42
Grading and Earthwork – Phase 2	
- Haul Export Vehicles (if needed)	45 – 65
- Construction Workers / Vendors	32 – 46
Building Construction – Phase 1	
- Construction Workers / Vendors [1]	289
Building Construction – Phase 2	
- Construction Workers / Vendors [1]	289
[1] Source: SCAQMD – Building Construction Worker and Vendor Trip Study	

For each construction phase, the construction traffic volumes would be less than the current site traffic that will be eliminated when the project construction begins, and would be less than the future project traffic to be generated by the proposed project that has been the focus of this analysis.

Heavy vehicles associated with demolition and construction would use the existing regional and local truck route network to approach the site, getting as close to the destination site as possible before turning off the designated truck route. The Applicant will be required to identify planned travel patterns for haul vehicles, and obtain a Haul Route permit from the City. Approach and departure routes for construction vehicles will be via Jamboree Road. Depending on the origin/destination (the nearest landfill, or the deposit site identified for cut material), trucks will either arrive and depart on Jamboree Road via the I-405 Freeway, to the north of the site; or Jamboree Road via the SR-73 Freeway, to the south of the site.

Temporary delays in traffic may occasionally occur due to oversized vehicles traveling at lower speeds on local streets. Such delays would be occasional, and of short duration. These temporary delays would be considered less than significant. The project will be required to prepare a construction traffic management plan, which could include such things as requiring an encroachment permit for work in the public right-of-way, limiting heavy truck activity during peak hours, using flag men to manage short-term traffic control, requiring a formal traffic control plan for extended street and lane closures, limiting time and duration of closures, or requiring a minimum number of lanes be open for travel during peak hours.

ALTERNATIVE TRAVEL MODES

The Uptown Newport project will consist of the development of 1,244 residential units and 11,500 square feet of commercial development. The introduction of residential units in an area that is largely developed

with employment and commercial uses will facilitate the use of alternative travel modes, such as walking, biking, and public transit. The close proximity of a residential use 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.

In order to encourage alternative modes of travel, and to help people to feel comfortable walking and biking, the project will also include traffic calming measures. The project Design Guidelines encourage the use of street chokers on internal streets to slow traffic, development of pedestrian-scale streets on the internal street system, and the use of enhanced paving at pedestrian connections to draw attention to the presence of pedestrians.

Public Transit

Existing transit service in the project vicinity was described earlier in the report, and the transit routes are depicted on Figure 5. Transit service is provided by the Orange County Transportation Authority (OCTA) which offers service to destinations in Irvine and Newport Beach, as well as cities throughout Orange County. 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 will be convenient for residents of the Uptown Newport project, as commuters who will need early morning and mid-evening service in order to find public transit a convenient way to get to and from work.

Bus stops for most of the transit routes are located within one-quarter to one-half mile of the main entrance to the project site. OCTA routes serving the site provide frequent connections to UCI, the Irvine Business Complex (IBC), John Wayne Airport, the Newport Transportation Center, and multiple other large and small shopping and employment centers.

Pedestrian

The Uptown Newport project will provide sidewalks throughout the project site, with multiple connections to the public street system and adjacent properties:

- Sidewalks will be provided along both sides of the main entry at Jamboree Road, leading directly to the crosswalks through the signalized intersection, which connect to Fairchild Road;
- Sidewalks will be provided along both sides of the secondary, unsignalized entry on Jamboree Road;
- A third sidewalk connection to Jamboree Road will be provided between the two entry drives;
- Sidewalks and pedestrian connections will be provided at several different locations between the project site and the adjacent Koll properties, to the west, giving residents who may work or have business "next door" a convenient path to walk there.

On-site sidewalks will typically be 5 feet wide, and separated from the roadway by a 10-foot-wide landscaped parkway. These pedestrian connections to the surrounding area and the public street system shorten the walking distance to nearby destinations, including the nearest bus stop; and enhance the opportunity to walk or take transit, rather than drive. Walkways between buildings (paseos) create a pedestrian-oriented environment by breaking up large blocks and providing more convenient connectivity throughout the project site.

Bicycles

For its entire length through the City of Newport Beach, Jamboree Road is currently designated on the City of Newport Beach Bike Map as "Okay to Ride on Sidewalk". On the City's Bikeways Master Plan, Jamboree Road is shown as a Class 1 (off-road paved) bikeway. A copy of the City of Newport Beach Bike Map and Bikeways Master Plan are provided in ***Appendix H.***

Along the project frontage, Jamboree Road provides a meandering sidewalk within a landscaped parkway. The Uptown Newport plan provides for implementation of a future Class 1 Bike Trail along the project frontage on Jamboree Road, consistent with the City's Bikeway Master Plan.

Other bicycle facilities in the project vicinity include Class 2 bicycle lanes (an on-road striped lane) on Campus Drive, and the "Okay to Ride on Sidewalk" designation on Von Karman from MacArthur Boulevard to Campus Drive, and on MacArthur Boulevard from Campus Drive to Jamboree Road. The City's Bikeways Master Plan shows that the Class 2 bike lanes on Campus Drive are to remain, and the bike facilities on MacArthur Boulevard and Von Karman Avenue are planned to be Class 1 bikeways.

The sidewalk connections from the Uptown Newport site to Jamboree Road, and through the adjacent Koll property will provide convenient access for bicyclists to access the nearest existing and future bicycle facilities.

SUMMARY OF FINDINGS AND CONCLUSIONS

- The proposed Uptown Newport project site is located at the southwest corner of Jamboree Road (north-south street) and Birch Street (east-west street) in the Airport Area of the City of Newport Beach. The project site occupies 25 acres within the larger Koll Center development.

- The project site is currently occupied by two buildings: 4311 Jamboree Road, with 115,375 square feet of office use and 11,300 square feet of light industrial use; and 4321 Jamboree Road, with 52,947 square feet of supporting office use and 258,505 square feet of industrial use.

- In Phase 1, only the 4311 Jamboree office building will be removed. Phase 1 of the Uptown Newport project would consist of 680 of the residential units, and 11,500 square feet of commercial development.

- With the full project, all buildings on site would be removed. The full Uptown Newport project would consist of 1,244 residential units and 11,500 square feet of commercial development.

- Forty-three (43) intersections were analyzed for potential traffic impacts. All intersections were analyzed using the Intersection Capacity Utilization (ICU) methodology. In addition, four (4) intersections were analyzed using the Highway Capacity Manual (HCM) methodology to comply with Caltrans requirements.

- Under Existing Conditions, all study intersections currently operate at acceptable levels of service.

- Under Existing Plus Project Conditions, all study intersections would continue to operate at acceptable levels of service.

- Under Year 2018 TPO Analysis without Project conditions, the following intersections would operate below an acceptable level of service.
    - 21. Jamboree Road at I-405 SB Ramps (AM: LOS F)
    - 22. Jamboree Road at Michelson Drive (PM: LOS F)
    - 33. Harvard Avenue at Michelson Drive (PM: LOS E)

- Under Year 2018 TPO Analysis with Phase 1 conditions, these three intersections would continue to operate below an acceptable level of service. The addition of project traffic would not cause additional intersections to operate at an unacceptable Level of Service, and the project would not result in a significant impact at any study intersection.

- Under Year 2021 without Project conditions, the following intersections would operate below an acceptable level of service.
    - 19. Jamboree Road at Main Street (PM: LOS F)
    - 21. Jamboree Road at I-405 SB Ramps (AM: LOS F)
    - 22. Jamboree Road at Michelson Drive (PM: LOS F)
    - 33. Harvard Avenue at Michelson Drive (PM: LOS E)

- Under Year 2021 with Proposed Project (Full Project) conditions, these four intersections would continue to operate below an acceptable level of service. The addition of project traffic would not cause additional intersections to operate at an unacceptable Level of Service, and the project would not result in a significant impact at any study intersection.

- The traffic impact analysis was conducted in accordance with the Orange County Congestion Management Program (CMP) and is in compliance with the Traffic Impact Analysis Requirements of the CMP. The project would not cause a CMP intersection to fall below LOS E, and would not cause a cumulative increase of more than 0.10 in V/C ratio at any CMP intersection with an established LOS standard worse than LOS E.

- A separate analysis of intersections on State Highways was conducted in accordance with Caltrans requirements. Intersection and freeway analysis was conducted using the Highway Capacity Manual (HCM) methodology, in accordance with the Caltrans Guide for the Preparation of Traffic Impact Studies.

- Based on the HCM intersection methodology, the addition of project-related traffic to State Highway intersections would not cause additional intersections to operate at LOS D or worse, and would not cause the Level of Service to worsen at any intersection already operating at LOS D or worse.

- Freeway segments on the I-405 and SR-73 were evaluated based on the Caltrans freeway segment analysis methodology. The results show that the addition of project-related traffic would not cause additional freeway segments to operate at LOS E or worse, and would not cause the Level of Service to worsen on any segment already operating at LOS E or worse.

- Access to the site is currently provided via two entrances on Jamboree Road; and one driveway on Birch Street, via an access easement across the adjacent property immediately to the north.

- Access for Phase 1 would be provided by two driveways on Jamboree Road. Phase 1 would not have access to the Birch Street driveway. Access for Phase 2 (the Full Project) would be provided via the two driveways on Jamboree Road, and access to the Birch Street driveway via the access easement would be restored.

- The project site plan shows diagonal parking and a 90-degree turn on the main signalized entry road near Jamboree Road. The location, operation, and configuration of the parking and drive aisles along the main entrance road should be reviewed carefully with City staff during the site plan review process.

- For the various construction phases, construction traffic volumes will be less than the traffic volumes currently generated by the existing site uses, and less than the future traffic volumes to be generated by the proposed project. The project will be required to submit a proposed haul route plan for approval by the City, and will be required to comply with 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.

- The project will incorporate physical and design features to encourage alternative modes of travel, such as walking, biking, and transit.