



Traffic Impact Analysis

for:

The Proposed Newport Executive Center

In the City of
Newport Beach

Prepared for:

The City of Newport Beach

November, 2014

Kimley»Horn



**TRAFFIC IMPACT ANALYSIS
FOR THE PROPOSED
NEWPORT EXECUTIVE CENTER
IN THE CITY OF NEWPORT BEACH**

Prepared for:

The City of Newport Beach

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TRAFFIC IMPACT ANALYSIS FOR THE PROPOSED NEWPORT EXECUTIVE CENTER

INTRODUCTION

This report has been prepared to provide an analysis of the traffic-related impacts associated with the proposed Newport Executive Center development. This report has been prepared in accordance with the City of Newport Beach Traffic Phasing Ordinance (TPO) traffic impact study requirements.

PROJECT DESCRIPTION

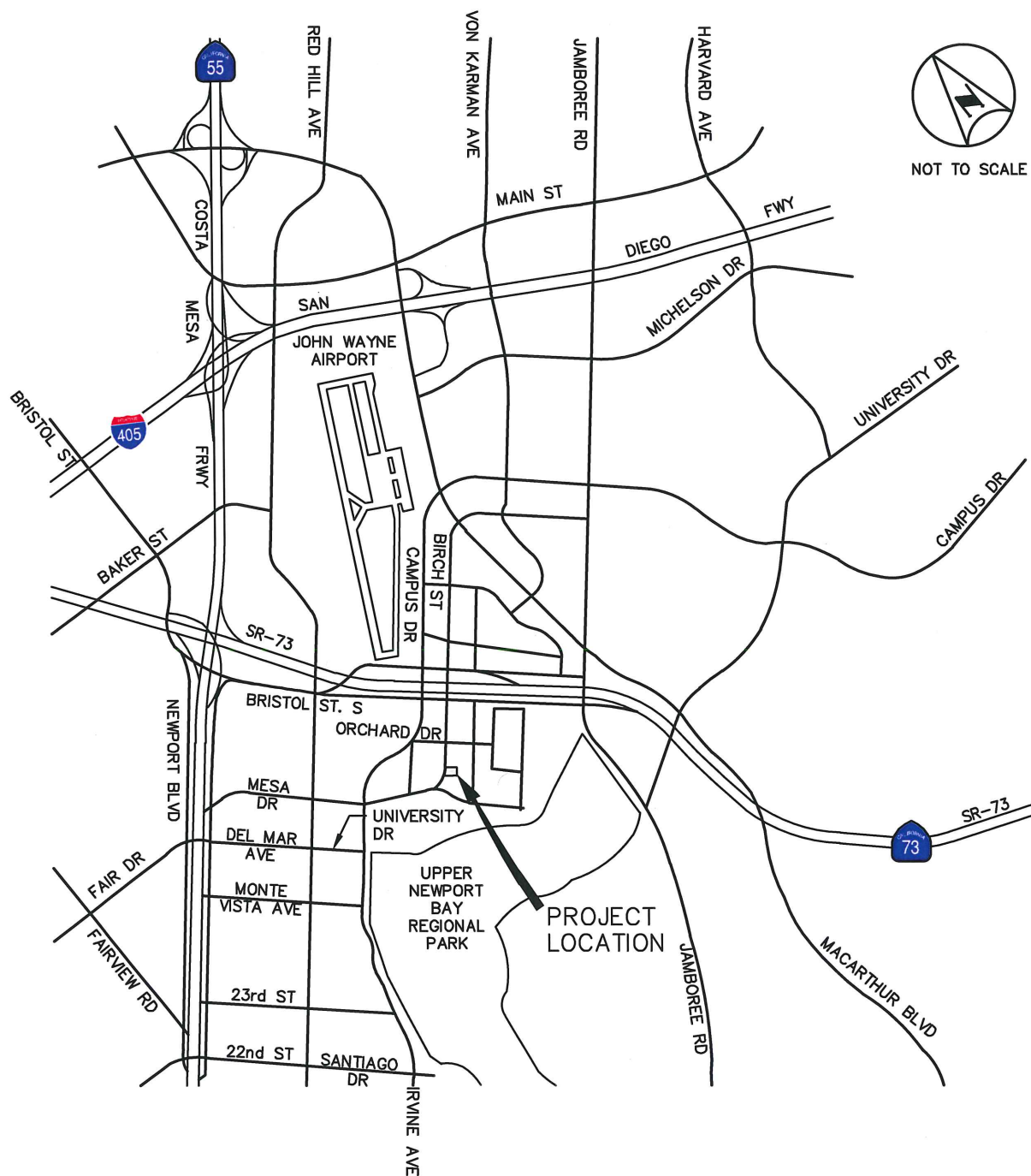
The proposed Newport Executive Center development is to be comprised of two medical office buildings. The project site is located on the southeast side of Birch Street, just north of Mesa Drive in the City of Newport Beach. The project address is 20372 Birch Street. A vicinity map is provided on **Figure 1**. The site is currently vacant, with the exception of two single-family residences on the northern portion of the site. The proposed development consists of two 2-story medical office buildings totaling 63,978 square feet. The project proposes to provide a total of 324 parking stalls. A copy of the project site plan is provided on **Figure 2**.

STUDY METHODOLOGY

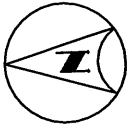
This traffic impact analysis for the Newport Executive Center project has been conducted in accordance with the City of Newport Beach TPO procedures. According to TPO procedures, traffic analysis is to include analysis of any primary intersection to which the project contributes one percent or more of peak hour traffic on any intersection leg. A primary intersection is any intersection on the Primary Intersection list in Appendix B of the City's Traffic Phasing Ordinance, and any additional intersection selected by the Traffic Manager. An "impacted primary intersection" is any primary intersection where project trips increase the volume of traffic on any leg by one percent or more during any peak hour period.

Intersection analysis for signalized intersections is conducted using the Intersection Capacity Utilization (ICU) methodology, which provides a comparison of the theoretical hourly vehicular capacity of an intersection to the number of vehicles actually passing through that intersection during a given hour. A capacity of 1,600 vehicles per lane per hour is assumed per the TPO.

Operating conditions are expressed in terms of "Level of Service" which is also known by its acronym, LOS. The ICU calculation returns a volume-to-capacity (V/C) ratio that translates into a corresponding Level of Service (LOS) measure, ranging from LOS "A", representing uncongested, free-flowing conditions, to LOS "F", representing severely congested, over-capacity conditions. A summary description of each Level of Service and the corresponding V/C ratio is provided in the table on Page 4.



**FIGURE 1
VICINITY MAP**



NOT TO SCALE

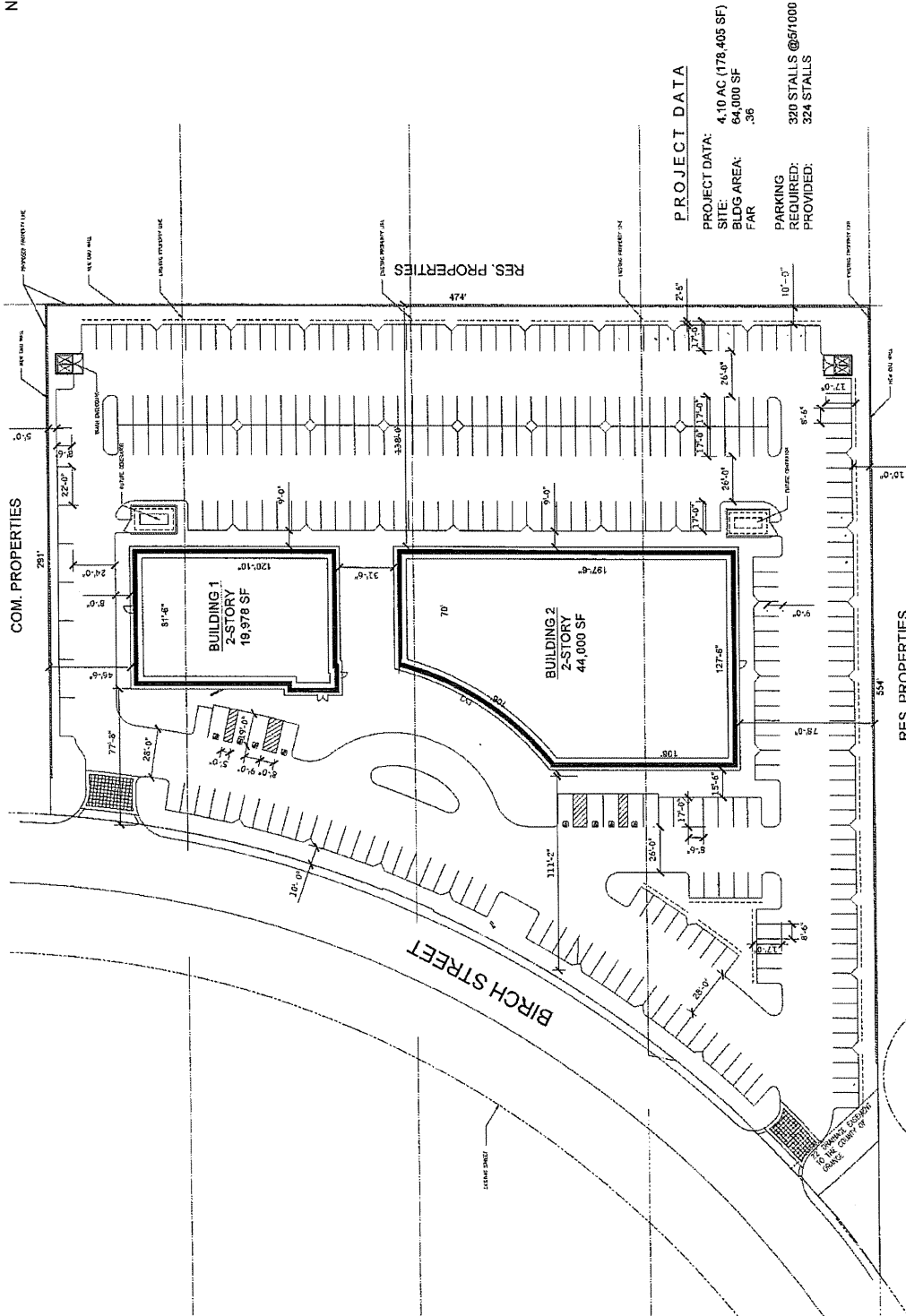


FIGURE 2
SITE PLAN
SOURCE: WARE MALCOMB

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. The two project driveways, which are analyzed in the With Project scenarios, are unsignalized. A summary of Level of Service, along with corresponding vehicle delay, is presented below:

LEVEL OF SERVICE DESCRIPTIONS			
Level of Service	Signalized ICU (VC)	Unsignalized HCM (Delay)	Description
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	> 34 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.

The City of Newport Beach target Level of Service for peak hour operation of signalized intersections is LOS D, except that in the airport area, where there are shared intersections with the City of Irvine, LOS E is acceptable.

Traffic Impact Criteria

The project impact at an intersection would be considered to be significant under the following conditions:

- For the Newport Beach TPO analysis, ICU and change in ICU values are calculated to three decimal places, then rounded to two decimal places. If the project traffic causes an unacceptable Level of Service, or causes the ICU value at an intersection already operating at an unacceptable Level of Service to increase by 0.01 or more, the project impact would be significant.

- For the California Environmental Quality Act (CEQA) Cumulative analysis, if the project traffic causes an unacceptable Level of Service, or causes the ICU at an intersection already operating at an unacceptable Level of Service to increase by a full one percent (0.010) or more (calculated to 3 decimal places), the project impact would be significant.

Study Area

Based on discussions with City of Newport Beach Traffic Engineering staff, this traffic study will analyze the following study intersections:

1. Irvine Avenue at Santiago Drive/22nd Street
2. Irvine Avenue at University Drive
3. Irvine Avenue at Mesa Drive
4. Birch Street at Mesa Drive
5. Birch Street at Orchard Drive
6. Birch Street at Bristol Street South
7. Birch Street at Bristol Street North
8. Campus Drive at Bristol Street South
9. Campus Drive at Bristol Street North
10. Jamboree Road at Bristol Street South
11. Jamboree Road at Bristol Street North
12. MacArthur Boulevard at Jamboree Road (shared with City of Irvine)
13. MacArthur Boulevard at Newport Place/Von Karman Avenue
14. MacArthur Boulevard at Birch Street
15. MacArthur Boulevard at Campus Drive (shared with City of Irvine)

As shown on Figure 1, some of the streets in the project vicinity are oriented on a diagonal. For purposes of this report, Jamboree Road is considered to be the north-south street at its intersections with MacArthur Boulevard and Bristol Street. MacArthur Boulevard is considered to be the north-south street at its intersections with Campus Drive, Birch Street, and Von Karman Avenue.

Study Scenarios

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

- Existing Conditions
- Existing Plus Project Conditions
- TPO Analysis: Year 2016 Without Project
- TPO Analysis: Year 2016 With Project
- CEQA Analysis: Year 2016 Cumulative Conditions
- CEQA Analysis: Year 2016 Cumulative Conditions with Project

EXISTING TRANSPORTATION SYSTEM

Regional access to the site is provided primarily by the State Route 73 (SR-73) Freeway, approximately 0.4 miles to the northeast of the project site. In addition, the SR-55 Freeway is located approximately one mile to the west of the site, and the I-405 Freeway is approximately 2 miles to the north of the site. The following provides a description of key roadways providing access to the project vicinity.

Birch Street/Mesa Drive borders the project site to the west and currently provides two travel lanes in each direction, with a two-way-left-turn lane. It is designated as a Secondary Road with 84 feet of right-of-way and bicycle lanes in each direction on the City of Newport Beach Master Plan of Streets and Highways. The posted speed limit is 45 miles per hour. The project would take access via two driveways on Birch Street.

Bristol Street is an east-west roadway that splits into Bristol Street North and Bristol Street South to the east of Red Hill Avenue. Both portions of Bristol Street terminate at Jamboree Road. Bristol Street North allows westbound movements only and Bristol Street South allows eastbound movements only. Both Bristol Street roadways are classified as Primary Roads with three lanes of travel and a bike lane. The posted speed limit is 45 miles per hour.

Campus Drive/Irvine Avenue is a north-south roadway in the vicinity of the project. This roadway is named Campus Drive north of Bristol Street, and Irvine Avenue south of Bristol Street. It is designated as a Major Road with three lanes in each direction to the north of University Drive, and as a Primary Road, with two lanes in each direction to the south of University Drive. The posted speed limit is 45 miles per hour north of Bristol Street South, changing to 50 mph between Bristol Street South and Mesa Drive, 45 mph between Mesa Drive and Santa Isabel, and 35 mph between Santa Isabel and Santiago Drive.

MacArthur Boulevard is a north-south six- to eight-lane divided arterial to the northeast of the project site. MacArthur Boulevard is designated as a Major Road on the City's Master Plan of Streets and Highways. The posted speed limit is 55 miles per hour.

Jamboree Road is a north-south six- to eight-lane divided arterial to the northeast of the project site. Jamboree Road is designated as a Major Road on the City's Master Plan of Streets and Highways. The posted speed limit is 55 miles per hour.

EXISTING TRANSPORTATION SYSTEM

Regional access to the site is provided primarily by the State Route 73 (SR-73) Freeway, approximately 0.4 miles to the northeast of the project site. In addition, the SR-55 Freeway is located approximately one mile to the west of the site, and the I-405 Freeway is approximately 2 miles to the north of the site. The following provides a description of key roadways providing access to the project vicinity.

Birch Street/Mesa Drive borders the project site to the west and currently provides two travel lanes in each direction, with a two-way-left-turn lane. It is designated as a Secondary Road with 84 feet of right-of-way and bicycle lanes in each direction on the City of Newport Beach Master Plan of Streets and Highways. The posted speed limit is 45 miles per hour. The project would take access via two driveways on Birch Street.

Bristol Street is an east-west roadway that splits into Bristol Street North and Bristol Street South to the east of Red Hill Avenue. Both portions of Bristol Street terminate at Jamboree Road. Bristol Street North allows westbound movements only and Bristol Street South allows eastbound movements only. Both Bristol Street roadways are classified as Primary Roads with three lanes of travel and a bike lane. The posted speed limit is 40 miles per hour.

Campus Drive/Irvine Avenue is a north-south roadway in the vicinity of the project. This roadway is named Campus Drive north of Bristol Street, and Irvine Avenue south of Bristol Street. It is designated as a Major Road with three lanes in each direction to the north of University Drive, and as a Primary Road, with two lanes in each direction to the south of University Drive. The posted speed limit is 45 miles per hour north of Bristol Street South, changing to 50 mph between Bristol Street South and Mesa Drive, 45 mph between Mesa Drive and Santa Isabel, and 35 mph between Santa Isabel and Santiago Drive.

MacArthur Boulevard is a north-south six- to eight-lane divided arterial to the northeast of the project site. MacArthur Boulevard is designated as a Major Road on the City's Master Plan of Streets and Highways. The posted speed limit is 55 miles per hour.

Jamboree Road is a north-south six- to eight-lane divided arterial to the northeast of the project site. Jamboree Road is designated as a Major Road on the City's Master Plan of Streets and Highways. The posted speed limit is 55 miles per hour.

EXISTING CONDITIONS

Existing Peak Hour Traffic Volumes

Field observations of all study intersections were conducted. Existing turn lanes and traffic control at the study intersections are depicted on **Figure 3**.

The City of Newport Beach staff provided turning movement count data for all of the study intersections, except the following:

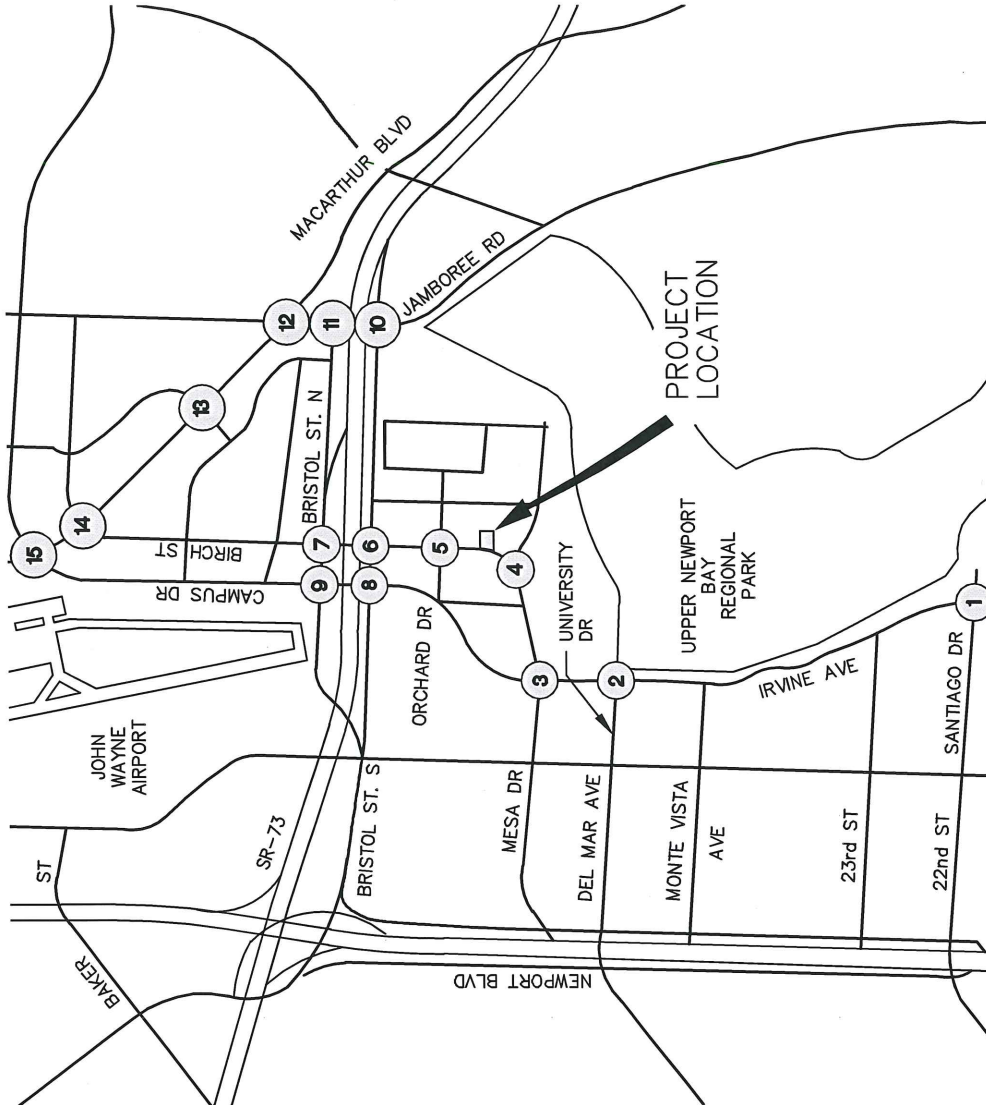
- Birch Street at Mesa Drive
- Birch Street at Orchard Drive

The turning movement counts provided by the City were conducted in 2013. The turning movement counts for the two outstanding intersections were conducted in October, 2014. Existing peak hour traffic volumes for the study intersections are shown on **Figure 4**. Peak hour intersection traffic count worksheets are provided in **Appendix A**.

Existing Peak Hour Operating Conditions

Peak hour intersection analysis was conducted using the City of Newport Beach ICU methodology for the signalized study intersections. A summary of the existing morning and evening peak hour intersection operation is provided on **Table 1**. Review of Table 1 shows that all study intersections are currently operating at Level of Service D or better in both peak hours. Intersection analysis worksheets are provided in **Appendix B**.

1. Irvine Ave/22nd St/ Santiago Dr	2. Irvine Ave/ University Dr	3. Irvine Ave/Mesa Dr
4. Birch St/Mesa Dr	5. Birch St/Orchard Dr	6. Birch St/ Bristol St S
7. Birch St/ Bristol St N	8. Campus Dr/ Bristol St S	9. Campus Dr/ Bristol St N
10. Jamboree Rd/ Bristol St S	11. Jamboree Rd/ Bristol St N	12. Jamboree Rd/ MacArthur Blvd
13. MacArthur Blvd/ Von Karman Ave	14. MacArthur Blvd/ Birch St	15. MacArthur Blvd/ Campus Dr

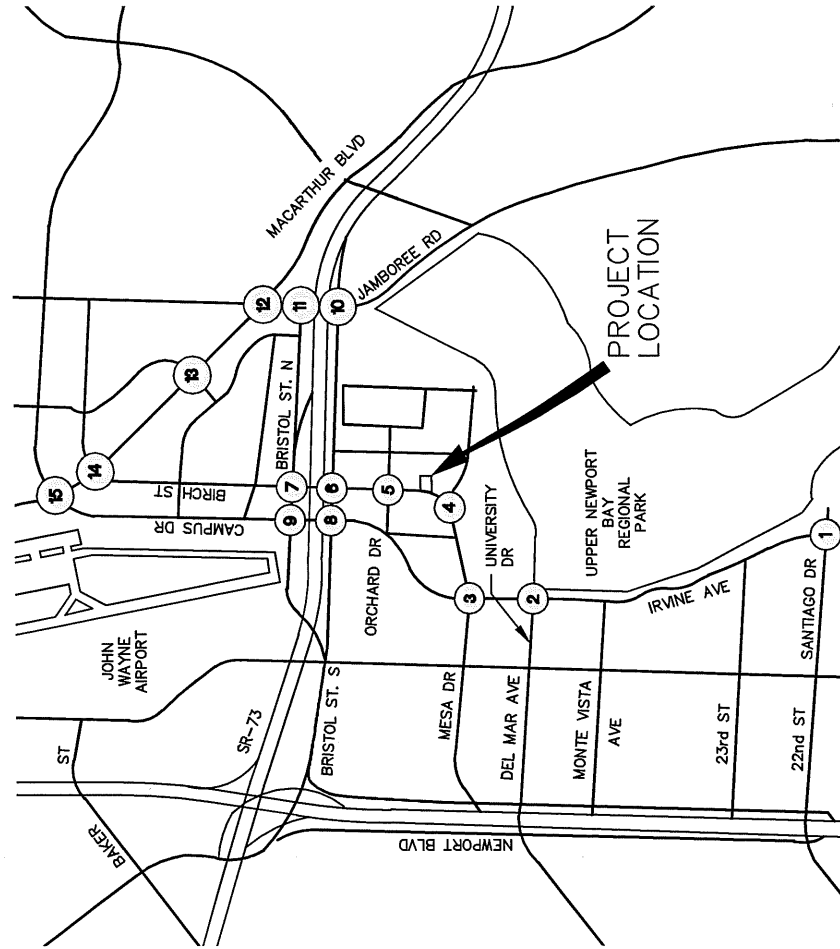


LEGEND:

- (X) = Study Intersection
- [Signal Symbol] = Signal
- D = Defacto Lane
- F = Free Movement



FIGURE 3
EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL



1. Irvine Ave/22nd St/ Santiago Dr	2. Irvine Ave/University Dr	3. Irvine Ave/Mesa Dr
140/775 36/47 16/31 1214/741 58/94 47/109 35/82 131/48 53/50 108/105	25/62 20/68 27/73 54/65 1361/697 108/74 169/96 57/59 107/147	7/11 18/45 140/438 368/165 1108/591 473/1321 35/203 103/36 135/48 111/152
4. Birch St/Mesa Dr	5. Birch St/Orchard Dr	6. Birch St/Bristol St S
18/4 157/718 11/11 33/34 1/0 7/8 9/6 597/175 38/28 5/1	73/52 37/30 22/28 45/65 235/688 61/66 29/82 9/7 7/8	382/268 240/136 691/140 928/1070 106/78 120/159 343/730
7. Birch St/Bristol St N	8. Campus Dr/Bristol St S	9. Campus Dr/Bristol St N
208/117 1012/1505 344/462 969/302 96/129	64/175 301/1025 1000/437 1454/845 497/548	127/57 938/2014 135/232 1618/694 372/452
10. Jamboree Rd/ Bristol St S	11. Jamboree Rd/ Bristol St N	12. Jamboree Rd/ MacArthur Blvd
1088/888 357/633 1043/988 528/1015	574/1051 371/781 1911/1792 37/70	392/342 163/70 979/735 322/632 637/1235 136/215 74/248 304/330 131/293
13. MacArthur Blvd/ Von Karman Ave	14. MacArthur Blvd/ Birch St	15. MacArthur Blvd/ Campus Dr
59/40 754/578 699/115 59/27 436/1080 160/63 11/101 82/174 17/172	24/98 129/97 76/591 574/1051 371/781 1911/1792 37/70	61/111 235/1061 45/96 33/86 718/978 55/40 183/616 908/998 281/122 485/302 842/468 50/109

FIGURE 4
EXISTING PEAK HOUR TRAFFIC VOLUMES

TABLE 1
SUMMARY OF INTERSECTION OPERATIONS
EXISTING CONDITIONS

Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
1	Irvine Avenue at 22nd Street/Santiago Drive	S	0.614	B	0.667	B
2	Irvine Avenue at University Drive	S	0.653	B	0.746	C
3	Irvine Avenue at Mesa Drive	S	0.354	A	0.548	A
4	Birch Street at Mesa Drive	S	0.233	A	0.269	A
5	Birch Street at Orchard Drive	S	0.278	A	0.325	A
6	Birch Street at Bristol Street South	S	0.388	A	0.467	A
7	Birch Street at Bristol Street North	S	0.557	A	0.570	A
8	Campus Drive at Bristol Street South	S	0.574	A	0.450	A
9	Campus Drive at Bristol Street North	S	0.503	A	0.735	C
10	Jamboree Road at Bristol Street South	S	0.577	A	0.550	A
11	Jamboree Road at Bristol Street North	S	0.345	A	0.465	A
12	Jamboree Road at MacArthur Boulevard	S	0.573	A	0.672	B
13	MacArthur Boulevard at Von Karman Avenue	S	0.561	A	0.489	A
14	MacArthur Boulevard at Birch Street	S	0.334	A	0.485	A
15	MacArthur Boulevard at Campus Drive	S	0.460	A	0.710	C

Notes:

Bold and shaded values indicate intersections operating at LOS E or F or significant impact to intersection per City standards.

S = Signalized

PROJECT TRAFFIC

Trip Generation

The traffic expected to be generated by the proposed Newport Executive Center was calculated using trip generation rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Edition). Trip rates are based on ITE Land Use Category 720 – Medical-Dental Office Building for the proposed project, and ITE Land Use Category 210 – Single Family Detached Housing for the two existing dwelling units to be removed. The trip generation for the two existing dwelling units will be deducted from the project trips for the medical office building.

Daily, morning and evening peak hour trip generation rates and project-related trips for the proposed Newport Executive Center are presented on **Table 2**. Based on the ITE trip rates, the project will generate 2,293 new trips on a typical weekday basis with 152 trips in the morning peak hour and 226 trips in the evening peak hour.

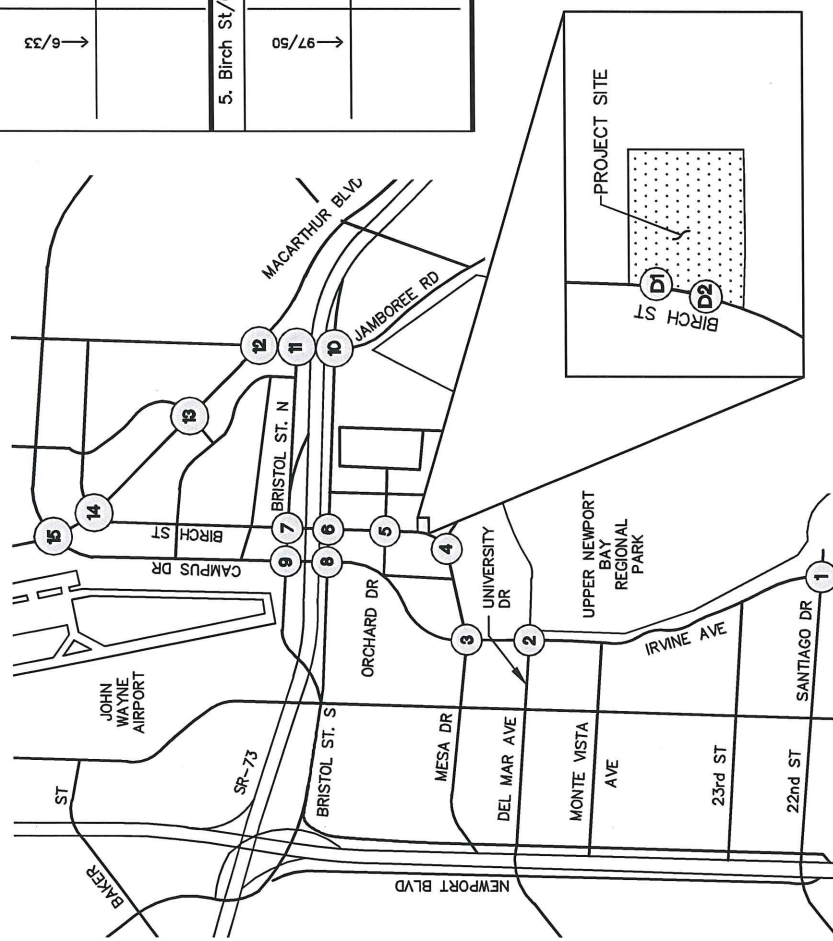
Trip Distribution and Assignment

Project trip distribution assumptions for the project site were developed based on knowledge of traffic flow patterns and the roadway system in the area, and the location of area trip producers, such as employment centers and residential neighborhoods. Trip distribution assumptions were submitted to City staff for review and concurrence. Final trip distribution assumptions accepted by the City are shown on **Figure 5**. Based on these trip distribution patterns, the new trips to be added to the street system by the proposed project were calculated, and are shown on **Figure 6**.

**TABLE 2
SUMMARY OF PROJECT TRIP GENERATION
NEWPORT EXECUTIVE CENTER**

Land Use	ITE Code	Unit	Trip Generation Rates ¹						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Medical-Dental Office Building	720	KSF	36.13	1.89	0.50	2.39	1.00	2.57	3.57
Single-Family Detached Housing	210	DU	9.52	0.19	0.56	0.75	0.63	0.37	1.00
Land Use	Quantity	Unit	Trip Generation Estimates						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Medical Office - Building 1	19,978	KSF	722	38	10	48	20	51	71
Medical Office - Building 2	44,000	KSF	1,590	83	22	105	44	113	157
Removal of Existing Land Uses:									
Single Family Detached Housing	-2	DU	-19	0	-1	-1	-1	-1	-2
Total Project Trips			2,293	121	31	152	63	163	226
¹ Source: Institute of Transportation Engineers (ITE) <u>Trip Generation Manual</u> , 9th Edition									

1. Irvine Ave/22nd St/ Santiago Dr	2. Irvine Ave/University Dr	3. Irvine Ave/Mesa Dr	4. Birch St/Mesa Dr
← 6/33 24/13 ←	← 6/33 24/13 ←	← 6/33 24/13 ←	← 6/33 24/13 ←
5. Birch St/Orchard Dr	6. Birch St/Bristol St S	7. Birch St/Bristol St N	8. Campus Dr/Bristol St S
← 97/50 25/130 ←	← 73/38 24/13 ←	← 30/16 42/22 ←	← 24/13 24/13 ←
9. Campus Dr/Bristol St N	10. Jamboree Rd/ Bristol St S	11. Jamboree Rd/ Bristol St N	12. Jamboree Rd/ MacArthur Blvd
← 6/33 14/73 ←	← 24/13 2/8 ←	← 6/33 24/13 ←	← 12/6 3/16 ←
13. MacArthur Blvd/ Von Karman Ave	14. MacArthur Blvd/ Birch St	15. MacArthur Blvd/ Campus Dr	D1. Driveway 1 (N)/ Birch St
← 6/3 2/8 ←	← 18/9 3/16 ←	← 12/6 3/16 ←	← 17/90 6/34 ←
D2. Driveway 2 (S)/ Birch St	D1. Driveway 1 (N)/ Birch St	D2. Driveway 2 (S)/ Birch St	D1. Driveway 1 (N)/ Birch St
← 18/9 6/34 ←	← 17/90 6/34 ←	← 18/9 6/34 ←	← 17/90 6/34 ←



LEGEND:

(X) = Study Intersection

XX/YY = AM/PM Peak Hour Turning Movement Volumes

NOT TO SCALE

FIGURE 6
PROJECT-RELATED
PEAK HOUR TRAFFIC VOLUMES

EXISTING PLUS PROJECT CONDITIONS

This section analyzes 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 Analysis

Project-related trips were added to existing traffic volumes to forecast Existing Plus Project Conditions. Morning and evening peak hour traffic volumes for this scenario are shown on **Figure 7**. A summary of the resulting intersection Level of Service is provided on **Table 3**. As review of this table shows, all study intersections would continue to operate at an acceptable Level of Service under Existing Plus Project Conditions. Level of Service worksheets are provided in **Appendix B**.

FUTURE CONDITIONS

Traffic Phasing Ordinance Analysis

For TPO purposes, traffic forecasts are developed for the year following completion of the project. This future condition includes an ambient growth rate of 1.0 percent per year on selected key arterials (Jamboree Road, MacArthur Boulevard and Irvine Avenue) in the project vicinity, plus traffic from Approved Projects in the vicinity of the proposed project site. Project completion is expected to occur in December of 2015; therefore the analysis year is 2016.

Approved project information was provided by the City of Newport Beach staff. Approved Projects are projects in the City of Newport Beach that have been approved, but are not yet built or fully occupied. A summary of the Approved Projects in the City of Newport Beach is provided on **Table 4**. A copy of the Approved Projects data sheets provided by the City of Newport Beach is included in **Appendix C**.

Year 2016 (Existing plus Growth plus Approved Projects) Without Project peak hour traffic volumes are shown on **Figure 8**.



NOT TO SCALE

LEGEND:

- (X) = Study Intersection
- XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 7
EXISTING PLUS PROJECT
PEAK HOUR TRAFFIC VOLUMES

1. Irvine Ave/22nd St/ Santiago Dr	2. Irvine Ave/University Dr	3. Irvine Ave/Mesa Dr	4. Birch St/Mesa Dr
140/75 36/47 725/1495 47/109 33/82 131/48 53/50 100/105	25/62 20/68 27/73 54/65 1405/710 108/74 169/96 57/59 107/147	7/11 18/145 146/471 392/179 1108/591 76/65 103/36 135/48 111/152	18/4 163/751 11/11 33/54 7/8 1/0 5/1 621/188 38/29
5. Birch St/Orchard Dr	6. Birch St/Bristol St S	7. Birch St/Bristol St N	8. Campus Dr/Bristol St S
73/52 37/30 22/28 45/63 332/738 61/66 29/82 9/1 7/8	579/340 2/9 43/22 396/341 251/193 416/768 120/159 691/140 928/1070 130/91	208/117 1012/1505 386/484 977/343 102/162 98/735 154/507	1000/437 1478/858 497/548 1000/705 204/225 301/1025 84/175
9. Campus Dr/Bristol St N	10. Jamboree Rd/ Bristol St S	11. Jamboree Rd/ Bristol St N	
127/57 944/2047 135/232 1616/694 372/452 206/934 159/663	1070/896 360/649 1049/1019 528/1015	574/1051 377/784	
12. Jamboree Rd/ MacArthur Blvd	13. MacArthur Blvd/ Von Karman Ave	14. MacArthur Blvd/ Birch St	
392/342 1047/401 172/249 373/233 979/735 163/70 74/248 306/1338 131/393	24/98 129/97 76/591 699/115 754/578 59/40 82/174 17/172 11/101	41/127 134/391 16/93 32/120 671/676 82/29 75/268 284/234 44/37	
15. MacArthur Blvd/ Campus Dr	D1. Driveway 1 (N)/ Birch St	D2. Driveway 2 (S)/ Birch St	
61/111 235/1061 45/96 33/86 721/992 55/40 485/302 842/458 50/109	67/35 371/833 17/90 8/3 2/8 664/385 6/3	343/825 30/16 8/41 5/24 662/347 18/9	

TABLE 3
SUMMARY OF INTERSECTION OPERATIONS
EXISTING PLUS PROJECT

Int. #	Intersection	Traffic Control	AM Peak Hour				PM Peak Hour			
			Without Project		With Project		Without Project		With Project	
			ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
1	Irvine Avenue at 22nd Street/Santiago Drive	S	0.614	B	0.622	B	0.667	B	0.677	B
2	Irvine Avenue at University Drive	S	0.653	B	0.661	B	0.746	C	0.756	C
3	Irvine Avenue at Mesa Drive	S	0.354	A	0.370	A	0.548	A	0.558	A
4	Birch Street at Mesa Drive	S	0.233	A	0.240	A	0.269	A	0.280	A
5	Birch Street at Orchard Drive	S	0.278	A	0.286	A	0.325	A	0.341	A
6	Birch Street at Bristol Street South	S	0.388	A	0.392	A	0.467	A	0.482	A
7	Birch Street at Bristol Street North	S	0.557	A	0.559	A	0.570	A	0.583	A
8	Campus Drive at Bristol Street South	S	0.574	A	0.578	A	0.450	A	0.452	A
9	Campus Drive at Bristol Street North	S	0.503	A	0.504	A	0.735	C	0.740	C
10	Jamboree Road at Bristol Street South	S	0.577	A	0.581	A	0.550	A	0.556	A
11	Jamboree Road at Bristol Street North	S	0.345	A	0.354	A	0.465	A	0.470	A
12	Jamboree Road at MacArthur Boulevard	S	0.573	A	0.573	A	0.672	B	0.673	B
13	MacArthur Boulevard at Von Karman Avenue	S	0.561	A	0.561	A	0.489	A	0.489	A
14	MacArthur Boulevard at Birch Street	S	0.334	A	0.341	A	0.485	C	0.497	A
15	MacArthur Boulevard at Campus Drive	S	0.460	A	0.460	A	0.710	C	0.710	C
D1	Birch Street Driveway 1	U	N/A	N/A	11.7	B	N/A	N/A	10.9	B
D2	Birch Street Driveway 2	U	N/A	N/A	13.7	B	N/A	N/A	12.7	B

Notes:

Bold and shaded values indicate intersections operating at LOS E or F or significant impact to intersection per City standards.
Intersection operation is expressed in average seconds of delay per vehicle during the peak hour for unsignalized intersections using the HCM Methodology and is expressed in volume-to-capacity (V/C) for signalized intersections using the ICU Methodology.

S = Signalized

U = Unsignalized

TABLE 4
LIST OF APPROVED PROJECTS

City Project Number	Project Name	Percent Complete
148	Fashion Island Expansion	40%
154	Temple Bat Yahm Expansion	65%
910	Newport Dunes	0%
945	Hoag Hospital Phase III	0%
949	St. Mark Presbyterian Church	77%
955	2300 Newport Blvd	0%
958	Hoag Healthcare Center	85%
959	North Newport Center	0%
960	Santa Barbara Condo	0%
962	328 Old Newport Medical Office	0%
964	Bayview Medical Office	0%
965	Mariner's Pointe	0%
966	4221 Dolphin Striker	55%
967	San Joaquin Hills Plaza	0%
968	Uptown Newport (Phase 2)	0%
969	Uptown Newport (Phase 1)	0%
970	Marina Park	0%
971	Back Bay Landing	0%
972	Westcliff Drive Medical	0%
973	Lido House Hotel	0%

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

Note: Percent complete represents the status of project completion at the time of the traffic count data collection.

Traffic Phasing Ordinance – 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 (Existing plus Growth plus Approved Projects) 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 both the TPO Analysis, as required by the City of Newport Beach traffic study requirements, and the Cumulative Analysis, as required by CEQA. ¹

For the TPO Analysis, the project-related morning and evening peak hour traffic volumes were compared to the Existing Plus Growth Plus Approved Projects peak hour volumes on each leg of each study intersection to determine whether or not the project would exceed the 1% Test. The results of the analysis are summarized on **Table 5**. Review of Table 5 shows that the project traffic will exceed 1% on one or more approach legs at 14 of the 15 study intersections. Project traffic will not exceed 1% on any approach in either peak hour at the following intersection:

- 13. Mac Arthur Boulevard at Von Karman/Newport Place

This study will proceed with a TPO traffic impact analysis at the remaining intersections.

Traffic Phasing Ordinance Analysis – Year 2016 Without Project

ICU analysis was conducted for Year 2016 (Existing Plus Growth Plus Approved Projects) Without Project peak hour traffic conditions for the impacted intersections. Year 2016 Without Project peak hour traffic volumes are presented on **Figure 8**. Intersection Level of Service worksheets are provided in **Appendix B**. The resulting peak hour operation is summarized on **Table 6**. As shown on Table 6, all study intersections are forecasted to operate at an acceptable Level of Service (LOS “D” or better) in both peak hours under the Year 2016 TPO Without Project Conditions.

Traffic Phasing Ordinance Analysis – Year 2016 With Project

Project peak hour traffic was added to the study intersections, and the intersection analysis was conducted. Year 2016 (Existing Plus Growth Plus Approved Projects) With Project Peak Hour Traffic Volumes are shown on **Figure 9**. The results of the analysis are shown on **Table 7**, along with the project impact. Intersection Level of Service worksheets are provided in **Appendix B**. Review of Table 7 shows that, with the addition of project traffic, all study intersections would continue to operate within acceptable standards.

¹ Applying the 1% Analysis to the TPO intersection volumes to identify the study intersections, rather than the CEQA intersection volumes is the more conservative approach, since the base volumes for the TPO condition (Existing Plus Growth Plus Approved Projects) will be less than the CEQA condition (which includes all TPO traffic, plus Cumulative Projects traffic).

TABLE 5
SUMMARY OF TPO 1% ANALYSIS

No.	Intersection	Condition	Northbound Approach		Southbound Approach		Eastbound Approach		Westbound Approach	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Irvine Avenue at Santiago Dr. / 22nd St.	1% of projected pk hr volume	13	9	8	17	3	2	2	2
		Project peak hour volume	37	20	10	51	0	0	0	0
		Project traffic 1% or more?	Y	Y	Y	Y	N	N	N	N
2	Irvine Avenue at University Drive	1% of projected pk hr volume	16	9	7	19	3	3	1	2
		Project peak hour volume	37	20	10	51	0	0	0	0
		Project traffic 1% or more?	Y	Y	Y	Y	N	N	N	N
3	Irvine Avenue at Mesa Drive	1% of projected pk hr volume	16	9	6	16	4	2	2	6
		Project peak hour volume	37	20	5	2	0	0	11	57
		Project traffic 1% or more?	Y	Y	N	N	N	N	Y	Y
4	Birch St at Mesa Drive	1% of projected pk hr volume	0	0	0	0	7	2	2	7
		Project peak hour volume	0	0	0	0	42	22	11	57
		Project traffic 1% or more?	Y	Y	Y	Y	Y	Y	Y	Y
5	Birch St at Orchard Drive	1% of projected pk hr volume	1	1	0	1	6	2	3	8
		Project peak hour volume	38	197	145	77	0	0	0	0
		Project traffic 1% or more?	Y	Y	Y	Y	N	N	N	N
6	Birch St at Bristol St. South	1% of projected pk hr volume	6	4	5	9	18	14	0	0
		Project peak hour volume	38	197	108	57	37	20	0	0
		Project traffic 1% or more?	Y	Y	Y	Y	Y	Y	N	N
7	Birch St at Bristol St. North	1% of projected pk hr volume	11	4	2	13	0	0	18	22
		Project peak hour volume	19	95	33	17	0	0	75	40
		Project traffic 1% or more?	Y	Y	Y	Y	N	N	Y	Y
8	Campus Dr / Irvine Ave at Bristol St. South	1% of projected pk hr volume	12	10	4	12	30	19	0	0
		Project peak hour volume	1	6	5	2	37	20	0	0
		Project traffic 1% or more?	N	N	Y	N	Y	Y	N	N
9	Campus Dr / Irvine Ave at Bristol St. North	1% of projected pk hr volume	20	12	4	18	0	0	14	24
		Project peak hour volume	1	6	5	2	0	0	10	51
		Project traffic 1% or more?	N	N	Y	N	Y	Y	N	Y
10	Jamboree Rd at Bristol St. South	1% of projected pk hr volume	21	21	7	11	26	28	0	0
		Project peak hour volume	37	20	0	0	20	101	0	0
		Project traffic 1% or more?	Y	N	N	N	N	Y	N	N
11	Jamboree Rd at Bristol St. North	1% of projected pk hr volume	32	30	13	20	0	0	0	0
		Project peak hour volume	42	45	19	10	0	0	0	0
		Project traffic 1% or more?	Y	Y	Y	N	N	N	N	N
12	MacArthur Blvd at Jamboree Road	1% of projected pk hr volume	16	12	12	22	6	23	20	12
		Project peak hour volume	0	0	0	0	5	25	19	10
		Project traffic 1% or more?	N	N	N	N	N	Y	N	N
13	MacArthur Blvd at Newport Pl. / Von Karman	1% of projected pk hr volume	16	8	7	13	1	5	2	8
		Project peak hour volume	0	0	0	0	0	0	0	0
		Project traffic 1% or more?	N	N	N	N	N	N	N	N
14	MacArthur Blvd at Birch Drive	1% of projected pk hr volume	8	9	10	14	4	5	2	6
		Project peak hour volume	0	0	14	7	9	44	19	10
		Project traffic 1% or more?	N	N	Y	N	Y	Y	Y	Y
15	MacArthur Blvd at Campus Drive	1% of projected pk hr volume	9	12	15	19	14	9	4	13
		Project peak hour volume	4	19	19	9	1	6	0	0
		Project traffic 1% or more?	N	Y	Y	N	N	N	N	N

TABLE 6
SUMMARY OF INTERSECTION OPERATIONS
TPO YEAR 2016 WITHOUT PROJECT

Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
1	Irvine Avenue at 22nd Street/Santiago Drive	S	0.626	B	0.680	B
2	Irvine Avenue at University Drive	S	0.666	B	0.760	C
3	Irvine Avenue at Mesa Drive	S	0.362	A	0.562	A
4	Birch Street at Mesa Drive	S	0.237	A	0.275	A
5	Birch Street at Orchard Drive	S	0.284	A	0.331	A
6	Birch Street at Bristol Street South	S	0.396	A	0.485	A
7	Birch Street at Bristol Street North	S	0.601	B	0.598	A
8	Campus Drive at Bristol Street South	S	0.586	A	0.480	A
9	Campus Drive at Bristol Street North	S	0.533	A	0.759	C
10	Jamboree Road at Bristol Street South	S	0.617	B	0.624	B
11	Jamboree Road at Bristol Street North	S	0.399	A	0.501	A
12	Jamboree Road at MacArthur Boulevard	S	0.621	B	0.753	C
14	MacArthur Boulevard at Birch Street	S	0.354	A	0.503	A
15	MacArthur Boulevard at Campus Drive	S	0.482	A	0.724	C

Notes:

Bold values indicate intersections operating at LOS E or F.

1. Irvine Ave/22nd St/ Santiago Dr	2. Irvine Ave/University Dr	3. Irvine Ave/Mesa Dr	4. Birch St/Mesa Dr
143/777 37/148 16/132 39/96 1262/769 11/18 134/49 54/51 110/107 739/1524 34/84 48/111	26/63 20/69 28/74 55/66 1453/724 110/75 172/98 58/80 109/150 549/1692 62/75 87/168	7/11 18/148 149/480 399/181 1134/636 78/66 105/37 138/49 113/155 36/207 513/1362 4/2	18/4 166/765 11/11 34/35 7/8 1/0 5/1 633/192 39/30 1/19 3/16
5. Birch St/Orchard Dr	6. Birch St/Bristol St S	7. Birch St/Bristol St N	8. Campus Dr/Bristol St S
74/63 39/31 22/29 44/22 590/344 2/9 30/84 11/7 7/8 62/67 337/752 46/64	405/346 256/200 122/162 423/784 705/143 949/1128 132/93	212/119 1188/1617 393/493 997/349 104/165	1022/719 211/263 1021/447 1508/875 507/559 55/179 339/1062
9. Campus Dr/Bristol St N	10. Jamboree Rd/ Bristol St S	11. Jamboree Rd/ Bristol St N	
130/58 1087/2148 169/252 379/461 1650/709 210/954 163/681	1121/1099 368/668 1154/1106 901/1016 674/1109	722/954 1689/1338 768/742 720/1146 540/879	
12. Jamboree Rd/ MacArthur Blvd	13. MacArthur Blvd/ Von Karman Ave	14. MacArthur Blvd/ Birch St	
441/372 1338/546 249/287 381/244 175/150 1010/773 85/262 371/1643 134/401 149/227 672/1269 339/686	24/100 133/99 79/603 60/41 824/643 713/119 11/103 84/177 17/175	78/146 136/399 16/95 732/741 84/30 33/122 76/273 289/238 45/38 102/84 711/1072 233/202	
15. MacArthur Blvd/ Campus Dr	D1. Driveway 1 (N)/ Birch St	D2. Driveway 2 (S)/ Birch St	
56/41 819/1077 34/88 289/138 980/1113 197/628 495/308 859/467 51/111	677/392 6/3 17/90 67/35 378/849	675/354 18/9 5/24 350/841 30/16 8/41	

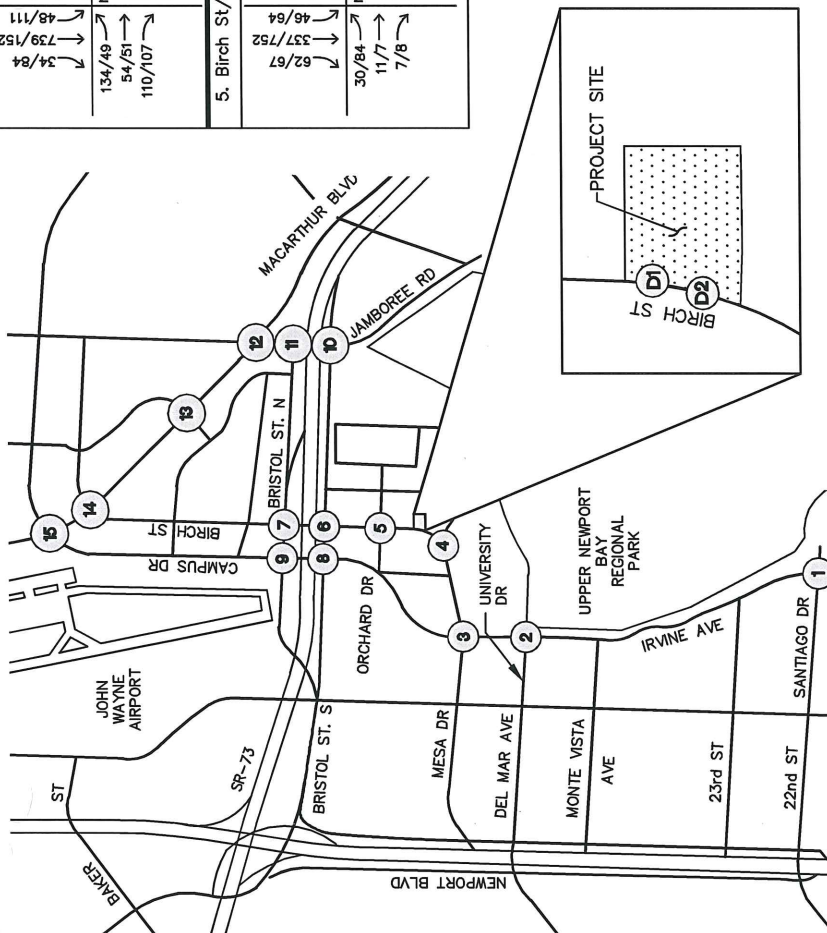


FIGURE 9
TPO YEAR 2016 WITH PROJECT
PEAK HOUR TRAFFIC VOLUMES

TABLE 7
SUMMARY OF INTERSECTION OPERATIONS
TPO YEAR 2016 WITH PROJECT

Int. #	Intersection	Traffic Control	AM Peak Hour						PM Peak Hour					
			Without Project			With Project			Without Project			With Project		
			ICU	LOS		ICU	LOS	Project Impact	Impact Sig?	ICU	LOS	ICU	LOS	Project Impact Sig?
1	Irvine Avenue at 22nd Street/Santiago Drive	S	0.626	B		0.634	B	0.008	No	0.680	B	0.691	B	0.011
2	Irvine Avenue at University Drive	S	0.666	B		0.673	B	0.007	No	0.760	C	0.770	C	0.010
3	Irvine Avenue at Mesa Drive	S	0.362	A		0.377	A	0.015	No	0.562	A	0.572	A	0.010
4	Birch Street at Mesa Drive	S	0.237	A		0.245	A	0.008	No	0.275	A	0.285	A	0.010
5	Birch Street at Orchard Drive	S	0.284	A		0.292	A	0.008	No	0.331	A	0.347	A	0.016
6	Birch Street at Bristol Street South	S	0.396	A		0.400	A	0.004	No	0.485	A	0.499	A	0.014
7	Birch Street at Bristol Street North	S	0.601	B		0.603	B	0.002	No	0.598	A	0.611	B	0.013
8	Campus Drive at Bristol Street South	S	0.586	A		0.590	A	0.004	No	0.480	A	0.482	A	0.002
9	Campus Drive at Bristol Street North	S	0.533	A		0.534	A	0.001	No	0.759	C	0.764	C	0.005
10	Jamboree Road at Bristol Street South	S	0.617	B		0.622	B	0.005	No	0.624	B	0.631	B	0.007
11	Jamboree Road at Bristol Street North	S	0.399	A		0.409	A	0.010	No	0.501	A	0.506	A	0.005
12	Jamboree Road at MacArthur Boulevard	S	0.621	B		0.622	B	0.001	No	0.753	C	0.755	C	0.002
14	MacArthur Boulevard at Birch Street	S	0.354	A		0.360	A	0.006	No	0.503	A	0.515	A	0.012
15	MacArthur Boulevard at Campus Drive	S	0.482	A		0.483	A	0.001	No	0.724	C	0.724	C	0.000
D1	Birch Street Driveway 1	U	N/A	N/A		11.8	B	-	N/A	N/A	N/A	10.9	B	-
D2	Birch Street Driveway 2	U	N/A	N/A		13.8	B	-	N/A	N/A	N/A	12.9	B	-

Notes:

Bold and shaded values indicate intersections operating at LOS E or F or significant impact to intersection per City standards.

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

S = Signalized

U = Unsignalized

Cumulative Conditions – California Environmental Quality Act (CEQA) Analysis

For purposes of meeting the California Environmental Quality Act (CEQA) requirements, Cumulative Conditions must also be analyzed. The CEQA project impact analysis is presented in the following section.

Cumulative Projects

In addition to the approved projects in the City of Newport Beach (which are addressed in the TPO analysis), CEQA requires that a Cumulative Conditions analysis be conducted. The Cumulative Conditions analysis also includes traffic from pending projects in the City of Newport Beach, and approved and pending projects in other cities in the project vicinity. Pending projects consist of projects that are in various stages of the application and approval process, but are not yet approved. These projects are considered to be reasonably foreseeable projects in the vicinity of the project, and must be included in the Cumulative Conditions analysis for CEQA purposes.

Information about Cumulative Projects in the project vicinity was obtained from the City of Newport Beach and the City of Irvine. A summary of the Cumulative Projects included in the CEQA analysis is provided on **Table 8**. The locations of these Cumulative Projects are shown on **Figure 10**. Cumulative Conditions without Project peak hour traffic volumes (consisting of Existing plus Growth plus Approved Projects plus Cumulative Projects traffic) are shown on **Figure 11**.

Cumulative Conditions (CEQA) Analysis – Year 2016 Without Project Conditions

ICU analysis was conducted for Year 2016 Cumulative Conditions (Existing Plus Growth Plus Approved Projects Plus Cumulative Projects) peak hour traffic conditions for the study intersections. Intersection analysis worksheets are provided in **Appendix B**. The resulting peak hour intersection operations are summarized on **Table 9**. As shown on Table 9, all study intersections will continue to operate at an acceptable Level of Service under Year 2016 Cumulative Conditions.

Cumulative Conditions (CEQA) Analysis – Year 2016 With Project Conditions

Project peak hour traffic was added to the study intersections, and the intersection analysis was conducted. Year 2016 Cumulative Conditions with Project peak hour traffic volumes are shown on **Figure 12**. The results of the intersection analysis are shown on **Table 10**. Intersection analysis worksheets are provided in **Appendix B**.

Review of the results shows that, with the addition of project traffic, all study intersections will continue to operate at an acceptable Level of Service.

**TABLE 8
SUMMARY OF CUMULATIVE PROJECTS**

Project No.	Project Name	Location	Existing Site Development	Project Description
City of Newport				
1	Newport Beach Country Club	1600 E. Coast Hwy	N/A	5 DU Residential 27 Hotel Rooms 3,523 SF Tennis Club with 6,718 SF Spa 51,213 SF Golf Club 7 Tennis Courts and 1 Swimming Pool
2	Banning Ranch	4520 W. Coast Hwy	N/A	1,375 DU 75 KSF Commercial Retail 75-room Accommodations
3	Koll	4343 Von Karman Ave	N/A	260 DU Residential 3,400 SF Commercial
4	Balboa Marina West Expansion	SW Corner of Bayside Dr. at E. Coast Hwy	N/A	16,274 SF Restaurant 200 SF Office 36 Marina Berths
5	ExplorOcean	600 E. Bay Ave, 209 Washington St, 600 and 608 Balboa Blvd, 200 Palm St	26,219 SF Commercial	70,295 SF of Ocean Literacy Facility and 6,500 SF Floating Classroom
6	Ebb Tide	1560 Placentia Ave	73 DU Mobile Home Park	83 Single Family DU
7	Newport Coast	Newport Coast Drive	2,807-Acre State Park	3,180 DU Single-Family Detached Residential
City of Irvine				
8	Element Hotel	17662 Armstrong	N/A	122 Room Extended Stay Hotel
9	Diamond Jamboree	SW Corner of Millikan/Alton	N/A	25,362 GSF Office
10	Irvine Crossing	17836 Gillette and 17871 Von Karman	107,629 GSF Warehouse 4,736 GSF Office	178,500 GSF Office
11	Central Park	NW Corner of Jamboree Rd at Michaelson Dr	240,970 GSF Warehouse 74,774 GSF Office	1,380 DU Residential 90,000 GSF Office 19,700 GSF Retail
12	2801 Kelvin	2801 Kelvin Avenue	N/A	384 DU Residential
13	Metropolis	2500 Main and 17872 Cartwright	23,957 GSF Office 90,053 GSF Industrial	475 DU Residential
14	Aloft Extended Stay Hotel	2320 Main Street	N/A	170 Rooms
15	HINES	18582 Teller and 2722 Michaelson	25,828 GSF Office 153,727 GSF Industrial	785,000 Office 15,500 GSF Retail
16	Park Place	NE Corner of Jamboree Rd at Michaelson Dr	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
17	2851 Alton	2851 Alton	12,700 GSF Office 66,100 GSF Industrial	171 DU Residential
18	Martin Street Residential	18831 Von Karman and 2301 Martin	N/A	82 DU Residential
19	UCI LRDP	UC Irvine	N/A	Campus Master Plan
20	Element	North of Campus West of Jamboree Road	176,805 GSF Office 48,139 GSF Industrial 24,624 GSF Retail	1,600 DU Multi-Family 17 GSF Retail
21	96 Corporate Park	96 Corporate Park	N/A	37,587 SF Medical Office
22	360 Fusion	2852 McGaw, 17321/17351 Murphy	N/A	280 DU Residential
23	Main and White Resid.	2772 Main and 2699/2719 White	N/A	388 DU Residential
24	Milani Apartments	18831 Von Karman	N/A	287 DU Residential
25	Pistoia Apartments	2851 Kelvin	N/A	371 DU Residential
26	Colton Apartments	2192, 2222, 2302 Martin, 2171 Campus	N/A	876 DU Residential
27	17275 Derian Apartments	17275 Derian	N/A	80 Apartments
28	2525 Main Apartments	2525 Main Apartments	N/A	272 Apartments
29	Hampton Inn	2182 and 2192 Dupont	N/A	164 Rooms
30	2215 Alton Storage	2215 Alton	N/A	216,000 SF Mini Warehouse
31	Kilroy Apartments	17150 Von Karman	N/A	469 DU Residential
DU = Dwelling Units, GSF = Gross Square Feet, SF = Square Feet				

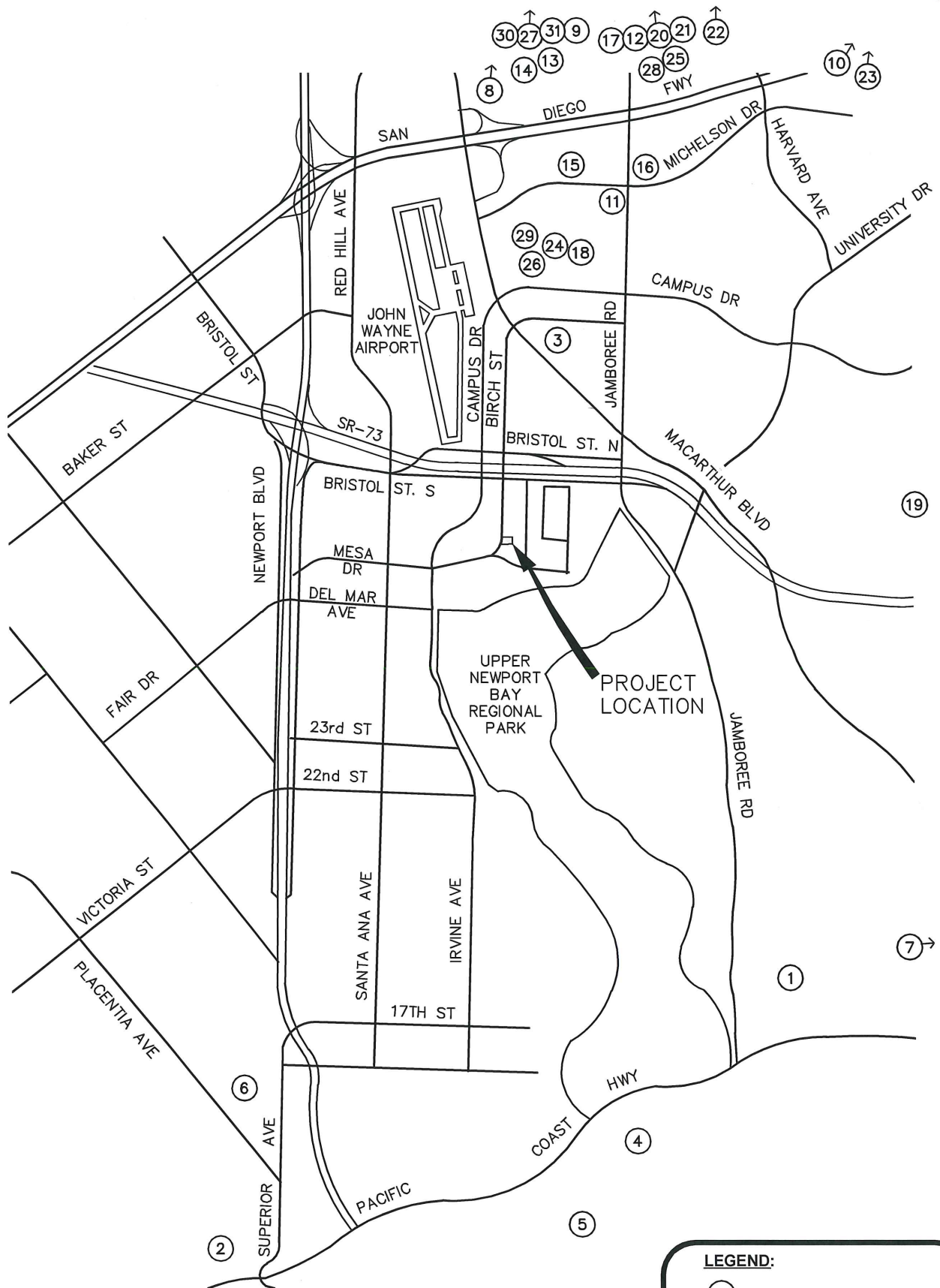


FIGURE 10
LOCATION OF CUMULATIVE PROJECTS



NOT TO SCALE

LEGEND:
 (X) = Study Intersection
 XX/YY = AM/PM Peak Hour
 Turning Movement
 Volumes

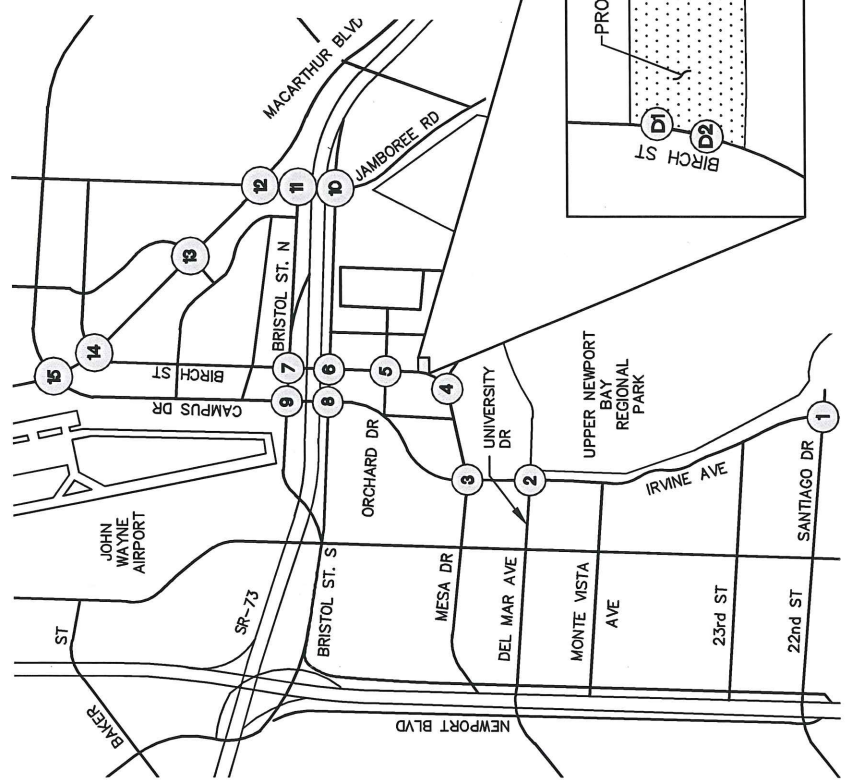
1. Irvine Ave/22nd St/ Santiago Dr	2. Irvine Ave/University Dr	3. Irvine Ave/Mesa Dr
145/79 37/52 51/13 833/1608 58/94 142/56 113/107 1331/664 13/78 39/100	27/64 20/73 32/75 1506/823 111/78 179/101 62/61 113/153 66/76 641/1785 95/175	10/11 22/52 144/448 80/70 1234/752 376/169 113/43 138/50 115/157 40/215 615/1492 5/2
4. Birch St/Mesa Dr	5. Birch St/Orchard Dr	6. Birch St/Bristol St S
18/4 160/732 11/11 7/8 1/0 34/35 5/1 609/179 39/30 1/19 3/16	74/53 39/40 22/29 565/214 2/9 44/22 30/84 11/24 7/8 62/67 240/702 46/64	246/146 394/276 112/84 1079/1246 708/143 124/162 354/749
7. Birch St/Bristol St N	8. Campus Dr/Bristol St S	9. Campus Dr/Bristol St N
216/119 1271/1784 353/473 102/136 989/309 127/504 100/753	1125/830 213/271 1128/594 1609/955 508/559 73/195 444/1194	142/69 1147/2273 171/258 383/463 1859/963 316/1093 319/1050
10. Jamboree Rd/ Bristol St S	11. Jamboree Rd/ Bristol St N	12. Jamboree Rd/ MacArthur Blvd
1250/1217 372/662 1151/1096 41/76 2239/2306	752/743 1925/1651 722/954 917/1363 603/1036	476/402 1616/963 338/346 382/255 1183/982 205/241 116/275 678/2023 142/403 157/255 841/1482 354/741
13. MacArthur Blvd/ Von Karman Ave	14. MacArthur Blvd/ Birch St	15. MacArthur Blvd/ Campus Dr
11/104 96/187 17/178 166/65 540/1342 65/35 59/102 141/110 211/714 794/264 964/749 64/45	73/261 264/215 48/39 222/197 782/1263 104/87 79/148 121/390 17/98 88/31 897/855 33/123	938/1147 43/103 76/56 58/124 245/1089 220/708 1023/1261 297/144 77/119 563/362 860/471 55/114

FIGURE 11
CUMULATIVE CONDITIONS WITHOUT PROJECT
PEAK HOUR TRAFFIC VOLUMES

TABLE 9
SUMMARY OF INTERSECTION OPERATIONS
CUMULATIVE CONDITIONS WITHOUT PROJECT

Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
1	Irvine Avenue at 22nd Street/Santiago Drive	S	0.665	B	0.731	C
2	Irvine Avenue at University Drive	S	0.703	C	0.799	C
3	Irvine Avenue at Mesa Drive	S	0.384	A	0.593	A
4	Birch Street at Mesa Drive	S	0.237	A	0.275	A
5	Birch Street at Orchard Drive	S	0.284	A	0.331	A
6	Birch Street at Bristol Street South	S	0.418	A	0.511	A
7	Birch Street at Bristol Street North	S	0.619	B	0.635	B
8	Campus Drive at Bristol Street South	S	0.641	B	0.533	A
9	Campus Drive at Bristol Street North	S	0.589	A	0.839	D
10	Jamboree Road at Bristol Street South	S	0.676	B	0.689	B
11	Jamboree Road at Bristol Street North	S	0.425	A	0.556	A
12	Jamboree Road at MacArthur Boulevard	S	0.730	C	0.887	D
13	MacArthur Boulevard at Von Karman Avenue	S	0.633	B	0.589	A
14	MacArthur Boulevard at Birch Street	S	0.391	A	0.535	A
15	MacArthur Boulevard at Campus Drive	S	0.526	A	0.797	C
Notes: Bold values indicate intersections operating at LOS E or F.						

1. Irvine Ave/22nd St/ Santiago Dr	2. Irvine Ave/University Dr	3. Irvine Ave/Mesa Dr	4. Birch St/Mesa Dr
145/79 37/52 17/33 13/18 39/100 1356/877 51/113 38/94 839/164 142/56 54/51 113/107	27/94 20/73 32/75 56/69 1530/836 66/76 647/1818 95/175 179/101 62/61 113/153	10/11 22/152 150/481 400/182 80/70 1234/752 5/2 615/1492 40/215 113/43 138/50 115/157	18/4 166/765 11/11 34/35 7/8 1/0 39/30 5/1 633/192 5/19 3/16
5. Birch St/Orchard Dr	6. Birch St/Bristol St S	7. Birch St/Bristol St N	8. Campus Dr/Bristol St S
74/53 39/40 22/29 44/22 590/344 2/9 30/84 11/24 8/8 46/64 357/752 62/67	124/162 427/787 708/143 1079/1246 136/67	216/119 1271/1784 385/495 997/350 108/169 100/753 157/520	1125/830 213/271 559/508 1633/968 1128/594 444/1194 73/195
9. Campus Dr/Bristol St N	10. Jamboree Rd/Bristol St S	11. Jamboree Rd/Bristol St N	
142/69 1153/2306 177/258 1859/963 383/463 316/1093 319/1050	1252/1225 375/878 1157/1129 902/1421	776/756 1927/1659 917/1363 609/1039	
12. Jamboree Rd/MacArthur Blvd	13. MacArthur Blvd/Von Karman Ave	14. MacArthur Blvd/Birch St	
476/402 1622/966 338/346 1183/982 205/241 382/255 116/275 680/2031 142/403 157/255 841/1482 354/741	540/1342 166/65 11/104 96/187 17/178 64/45 984/749 794/264 51/102 211/714 41/76 2263/2319	79/148 139/399 17/98 88/31 897/855 33/123 76/277 269/239 48/39 782/1263 104/87 234/203	
15. MacArthur Blvd/Campus Dr	D1. Driveway 1 (N)/Birch St	D2. Driveway 2 (S)/Birch St	
76/56 941/1163 43/103 563/362 860/471 55/114 220/708 1035/1267 297/144 77/119 245/1089 58/124	677/392 6/3 2/8 17/90 378/849 67/35	675/354 18/9 5/24 8/41 350/841 30/16	



LEGEND:

(X) = Study Intersection

XX/YY = AM/PM Peak Hour Turning Movement Volumes

NOT TO SCALE

FIGURE 12
CUMULATIVE CONDITIONS WITH PROJECT
PEAK HOUR TRAFFIC VOLUMES

TABLE 10
SUMMARY OF INTERSECTION OPERATIONS
CUMULATIVE CONDITIONS WITH PROJECT

Int. #	Intersection	Traffic Control	AM Peak Hour						PM Peak Hour					
			Without Project		With Project		Project Impact	Impact Sig?	Without Project		With Project		Project Impact	Impact Sig?
			ICU	LOS	ICU	LOS			ICU	LOS	ICU	LOS		
1	Irvine Avenue at 22nd Street/Santiago Drive	S	0.665	B	0.672	B	0.007	No	0.731	C	0.741	C	0.010	No
2	Irvine Avenue at University Drive	S	0.703	C	0.711	C	0.008	No	0.799	C	0.810	D	0.011	No
3	Irvine Avenue at Mesa Drive	S	0.384	A	0.386	A	0.002	No	0.593	A	0.603	B	0.010	No
4	Birch Street at Mesa Drive	S	0.237	A	0.245	A	0.008	No	0.275	A	0.285	A	0.010	No
5	Birch Street at Orchard Drive	S	0.284	A	0.292	A	0.008	No	0.331	A	0.347	A	0.016	No
6	Birch Street at Bristol Street South	S	0.418	A	0.422	A	0.004	No	0.511	A	0.526	A	0.015	No
7	Birch Street at Bristol Street North	S	0.619	B	0.622	B	0.003	No	0.635	B	0.648	B	0.013	No
8	Campus Drive at Bristol Street South	S	0.641	B	0.644	B	0.003	No	0.533	A	0.535	A	0.002	No
9	Campus Drive at Bristol Street North	S	0.589	A	0.590	A	0.001	No	0.839	D	0.844	D	0.005	No
10	Jamboree Road at Bristol Street South	S	0.676	B	0.679	B	0.003	No	0.689	B	0.696	B	0.007	No
11	Jamboree Road at Bristol Street North	S	0.425	A	0.433	A	0.008	No	0.556	A	0.561	A	0.005	No
12	Jamboree Road at MacArthur Boulevard	S	0.730	C	0.731	C	0.001	No	0.887	D	0.888	D	0.001	No
13	MacArthur Boulevard at Von Karman Avenue	S	0.633	B	0.633	B	0.000	No	0.589	A	0.589	A	0.000	No
14	MacArthur Boulevard at Birch Street	S	0.391	A	0.398	A	0.007	No	0.535	A	0.546	A	0.011	No
15	MacArthur Boulevard at Campus Drive	S	0.526	A	0.526	A	0.000	No	0.797	C	0.797	C	0.000	No
D1	Birch Street Driveway 1	U	N/A	N/A	11.8	B	-	N/A	N/A	N/A	10.9	B	-	N/A
D2	Birch Street Driveway 2	U	N/A	N/A	13.8	B	-	N/A	N/A	N/A	12.9	B	-	N/A

Notes:

Bold and shaded values indicate intersections operating at LOS E or F or significant impact to intersection per City standards.

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

S = Signalized

U = Unsignalized

SIGNIFICANT IMPACTS AND RECOMMENDED MITIGATION MEASURES

Traffic Phasing Ordinance Analysis – Project Impact

For the Newport Beach TPO analysis, the project traffic impact is determined to be significant if the project traffic causes an unacceptable Level of Service, or causes the ICU value at an intersection already operating at an unacceptable Level of Service to increase by 0.01 or more. Review of the results on Table 7 indicates that the proposed Newport Executive Center development is not forecasted to create a significant impact at any study intersection.

No mitigation measures would be required of the project based on the TPO Analysis.

CEQA Cumulative Conditions Analysis – Project Impact

For the California Environmental Quality Act (CEQA) Cumulative analysis, the project traffic impact is determined to be significant if the project traffic causes an unacceptable level of service, or causes the ICU value at an intersection already operating at an unacceptable level of service to increase by a full one percent (0.010) or more. Review of the results on Table 10 indicates that the proposed Newport Executive Center is not forecasted to create a significant impact at any study intersection.

No mitigation measures would be required of the project based on the CEQA Analysis.

SITE ACCESS AND CIRCULATION

The project site plan (previously shown on Figure 2) shows that access to the Newport Executive Center site is proposed to be provided via two driveways on Birch Street. The driveways are located on the northern and southern edges of the site, approximately 420 feet apart. Both driveways will be 28 feet wide to provide one exit and one entry lane, and both will allow full turning movements. Drivers may use either driveway to get to either building.

The southern driveway is approximately 230 feet north of the intersection of Birch Street and Mesa Drive. The southern driveway's proximity to the signalized intersection of Birch Street and Mesa Drive is not anticipated to create difficulties for left turns in or out of the project driveway. The westbound left-turn movement from Birch Street onto Mesa Drive experiences very low peak hour volumes (11 vehicles in both the AM and PM peak hours). Therefore, no conflicts with left-turn vehicles in the left-turn pocket are anticipated.

The site plan indicates the drive aisles throughout the site will be 26 to 28 feet wide. A one-way circular drop-off area is provided in front of Building 2. Vehicles may circulate through the entire site, either along the front of the buildings, following the Birch Street alignment, or by driving along the side and backs of the building. There are no apparent issues with the site layout from a traffic circulation perspective.

Parking Adequacy

The project site plan shows a total of 324 parking stalls, including 8 accessible stalls. The City's Municipal Code Chapter 20.40.040 specifies a parking requirement of 1 parking stall per 200 square feet for medical office buildings. The proposed project contains 63,978 square feet, which would require 319.89 stalls. Rounding to the next whole number yields a parking requirement of 320 parking stalls. Therefore, the project parking supply would exceed the City parking code requirements.

The site plan shows 8 total accessible stalls, with 4 accessible stalls provided for each building. All handicap accessible stalls are located along the western side of each building, near the building entrances.

The 2013 California Building Code (CBC) ADA parking requirements are specified in Chapter 11B-208, Table 11B-208.2. This table indicates that for a parking supply of 301 to 400 total parking spaces, a minimum of 8 parking spaces would be required to be accessible. The proposed project would provide 324 parking spaces, of which 8 would be accessible parking spaces. Therefore, the proposed parking supply would meet the requirements established for ADA for a general medical office building.

Certain medical facilities, specifically hospital outpatient facilities and rehabilitation /outpatient physical therapy facilities, would require a greater number of accessible parking spaces. For hospital outpatient facilities, ten percent of the patient and visitor parking spaces would be required to be accessible. For rehabilitation and outpatient physical therapy facilities, twenty percent of the patient and visitor parking spaces would be required to be accessible.

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 the 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 on **Figure 13**.

In the project vicinity, the following roadways are CMP Highway System arterials:

- 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 will take access onto Mesa Drive, which is not classified as a CMP Highway System Arterial. Moreover, the project would generate less than 2,400 daily trips. Therefore a CMP-level analysis will not be required for the proposed project.



FIGURE 13
ORANGE COUNTY CMP HIGHWAY SYSTEM

SUMMARY OF FINDINGS AND CONCLUSIONS

- The proposed Newport Executive Center development is to be comprised of two medical office buildings totaling 63,978 square feet. The project site is located on the southeast side of Birch Street, just north of Mesa Drive in the City of Newport Beach.
- Fifteen study intersections were analyzed for potential impacts. Study intersections were analyzed based on the City's Intersection Capacity Utilization (ICU) Methodology. Study scenarios included those specified by the City of Newport Beach Traffic Phasing Ordinance (TPO) requirements.
- In the Existing Conditions Analysis, all study intersections currently operate at an acceptable Level of Service.
- Based on ITE trip rates, the Newport Executive Center will generate 2,293 new trips on a typical weekday basis with 152 trips in the morning peak hour and 226 trips in the evening peak hour.
- With the addition of project traffic, the project will not cause the deterioration of intersection performance, and will not cause any significant impacts in Existing Plus Project Conditions analysis.
- In the Year 2016 TPO (Existing Plus Growth Plus Approved Projects) Without Project scenario, all study intersections are forecasted to operate at an acceptable Level of Service in both peak hours.
- In the Year 2016 TPO With Project scenario, all study intersections are forecasted to continue to operate at acceptable Levels of Service with the addition of project traffic.
- The Year 2016 Cumulative Conditions scenario was analyzed to satisfy CEQA requirements and includes Existing Plus Growth Plus Approved Projects Plus Cumulative Projects. All study intersections are forecasted to operate at acceptable Levels of Service.
- In the Year 2016 Cumulative Conditions With Project scenario, all study intersections are forecasted to continue to operate at acceptable Levels of Service with the addition of project traffic.
- No circulation issues have been identified after a review of the current site plan.
- The proposed parking supply of a total of 324 parking stalls, including 8 accessible stalls, exceeds the City's parking code requirement for total parking supply, and meets the California Building Code requirement for ADA accessible spaces.