NEWPORT BEACH
CITY HALL & PARK
TRAFFIC IMPACT ANALYSIS

DRAFT

Prepared for

CITY OF NEWPORT BEACH

Prepared by

RBF CONSULTING

14725 ALTON PARKWAY, IRVINE, CALIFORNIA 92618-2027
CONTACT: MIKE ERICKSON 949.855.5744 merickson@rbf.com

Draft: July 31, 2009

JN 10-106738

TABLE OF CONTENTS

EXECUTIVE SUMMARY 1

INTRODUCTION 4
Study Area 4
Analysis Methodology 6
City of Newport Beach Performance Criteria 7
City of Newport Beach Threshold of Significance 7
City of Irvine Performance Criteria 8
City of Irvine Threshold of Significance 8

EXISTING CONDITIONS 8
Roadway Description 8
Existing Transit Service 11
Existing Conditions Traffic 12
Existing Conditions Peak Hour Intersection Level of Service 12

PROPOSED PROJECT 14
Project Trip Generation 15
Project Trip Distribution and Assignment 18
San Miguel Drive Geometric Improvements 18

EXISTING PLUS PROJECT TRAFFIC 19
Existing Plus Project Traffic 19
Existing With Project Traffic Intersection Level of Service 19

FORECAST YEAR 2013 WITH COMMITTED PROJECTS TRAFFIC PHASING ORDINANCE (TPO) ANALYSIS 22

FORECAST YEAR 2013 WITH COMMITTED PROJECTS WITHOUT PROJECT TRAFFIC 26
Forecast Year 2013 With Committed Projects Without Project Traffic 26
Forecast Year 2013 With Committed Projects Without Project Traffic Intersection Level of Service 26

FORECAST YEAR 2013 WITH COMMITTED PROJECTS WITH PROJECT TRAFFIC 28
Forecast Year 2013 With Committed Projects With Project Traffic 28
Forecast Year 2013 With Committed Projects With Project Traffic Intersection Level of Service 28

FORECAST YEAR 2013 WITH COMMITTED AND CUMULATIVE PROJECTS CEQA ANALYSIS 31

FORECAST YEAR 2013 WITH COMMITTED AND CUMULATIVE PROJECTS WITHOUT PROJECT TRAFFIC 32
Forecast Year 2013 With Committed And Cumulative Projects Without Project Traffic 32
Forecast Year 2013 With Committed And Cumulative Projects Without Project Traffic Intersection Level of Service 32

FORECAST YEAR 2013 WITH COMMITTED AND CUMULATIVE PROJECTS WITH PROJECT TRAFFIC 34
Forecast Year 2013 With Committed And Cumulative Projects With Project Traffic 34
Forecast Year 2013 With Committed And Cumulative Projects With Project Traffic Intersection Level of Service 34

FORECAST GENERAL PLAN BUILDOUT WITHOUT PROJECT TRAFFIC 37
Forecast General Plan Buildout Without Project Traffic 37
Forecast General Plan Buildout Without Project Traffic Peak Hour Intersection Level of Service 37

FORECAST GENERAL PLAN BUILDOUT WITH PROJECT TRAFFIC 39
Forecast General Plan Buildout With Project Conditions Traffic 39
Forecast General Plan Buildout With Project Traffic Peak Hour Intersection Level of Service 39
Forecast General Plan Buildout With Project Traffic Recommended Mitigation Measures 42
Mitigated Forecast General Plan Buildout With Project Traffic Level of Service 42

ORANGE COUNTY CONGESTION MANAGEMENT PROGRAM INTERSECTION ANALYSIS 44
CMP Intersection Analysis Methodology 44
CMP Thresholds of Significance 45
Existing Plus Project Traffic CMP Intersection Peak Hour Level of Service 46
Forecast Year 2013 With Committed Projects With Project Traffic CMP Intersection Peak Hour Level of Service 46
Forecast Year 2013 With Committed And Cumulative Projects With Project Traffic CMP Intersection Peak Hour Level of Service 47
Forecast General Plan Buildout With Project Traffic CMP Intersection Peak Hour Level of Service 48

STATE HIGHWAY ANALYSIS 49
State Highway Intersection Analysis 49
State Highway Intersection Analysis Methodology 49
State Highway Intersection Thresholds of Significance 50
Existing Conditions 51
Existing Plus Project Traffic Peak Hour Intersection Level of Service 51
Forecast Year 2013 With Committed Projects Without Project Traffic 52

Forecast Year 2013 With Committed Projects With Project Traffic....52
Forecast Year 2013 With Committed And Cumulative Projects Without Project Traffic....54
Forecast Year 2013 With Committed And Cumulative Projects With Project Traffic....54
Forecast General Plan Buildout Without Project Traffic....56
Forecast General Plan Buildout With Project Traffic....56

SAN MIGUEL DRIVE GEOMETRIC IMPROVEMENTS ANALYSIS.... 58

PROJECT PARKING ASSESSMENT.... 59
Demand Based Assessment....59
Code Based Assessment....60

CONSTRUCTION TRAFFIC IMPACTS.... 61

MITIGATION MEASURES.... 62

CONCLUSIONS.... 62

APPENDIX A EXISTING COUNT DATA

APPENDIX B LOS ANALYSIS SHEETS

APPENDIX C COMMITTED PROJECTS INFORMATION

APPENDIX D 2013 WITH COMMITTED PROJECTS TPO ANALYSIS SHEETS

APPENDIX E CUMULATIVE PROJECTS INFORMATION

APPENDIX F SAM MIGUEL GEOMETRIC IMPROVEMENTS ICU CALCULATIONS

APPENDIX G CMP ANALYSIS – LOS ANALYSIS SHEETS

APPENDIX H STATE HIGHWAY ANALYSIS – LOS ANALYSIS SHEETS

APPENDIX I TRIP GENERATION SURVEY DATA

LIST OF TABLES

Table 1 V/C & LOS Ranges 7
Table 2 Existing 2009 Conditions AM & PM Peak Hour LOS..... 13
Table 3 Observed Existing Newport Beach City Hall Trips 15
Table 4 Trip Rates for Existing Newport Beach City Hall Based on Site Survey 15
Table 5 Trip Rates for Newport Beach City Hall Based on *ITE* Rates for Government Office Complex Land Use 16
Table 6 *ITE* Trip Rates for Library Land Use 16
Table 7 *ITE* Trip Rates for Library Land Use 17
Table 8 Dog Park Trips 17
Table 9 Forecast Trip Generation of Proposed Project..... 18
Table 10 Existing With Project Traffic AM & PM Peak Hour LOS 20
Table 11 Committed Projects Summary 23
Table 12 One Percent Volume Analysis Forecast Year 2013 With Committed Projects 24
Table 13 Forecast Year 2013 With Committed Projects Without Project Traffic AM & PM Peak Hour LOS..... 27
Table 14 Forecast Year 2013 With Committed Projects With Project Traffic AM & PM Peak Hour LOS 29
Table 15 Cumulative Projects Summary 31
Table 16 Forecast Year 2013 With Committed And Cumulative Projects Without Project Traffic AM & PM Peak Hour LOS 33
Table 17 Forecast Year 2013 With Committed And Cumulative Projects With Project Traffic AM & PM Peak Hour LOS 35
Table 18 Forecast General Plan Buildout Without Project - AM & PM Peak Hour LOS 38
Table 19 Forecast General Plan Buildout With Project Traffic AM & PM Peak Hour LOS..... 40
Table 20 Mitigated Forecast General Plan Buildout With Project Traffic AM & PM Peak Hour Intersection LOS..... 43
Table 21 CMP LOS & V/C Ratio Ranges 45
Table 22 Existing With & Without Project Traffic AM & PM Peak Hour CMP Intersection LOS..... 46
Table 23 Forecast Year 2013 With Committed Projects With & Without Project Traffic AM & PM Peak Hour CMP Intersection LOS 47
Table 24 Forecast Year 2013 With Committed and Cumulative Projects With & Without Project Traffic AM & PM Peak Hour CMP Intersection LOS 47
Table 25 Forecast Year General Plan Buildout With & Without Project Traffic AM & PM Peak Hour CMP Intersection LOS..... 48
Table 26 State Highway LOS & Delay Ranges..... 50
Table 27 State Highway Existing Conditions AM & PM Peak Hour LOS..... 51
Table 28 State Highway Existing Plus Project Traffic AM & PM Peak Hour CMP Intersection LOS 51
Table 29 State Highway Forecast Year 2013 With Committed Projects Without Project Traffic AM & PM Peak Hour LOS 52
Table 30 State Highway Forecast Year 2013 With Committed Projects With Project Traffic AM & PM Peak Hour LOS 53
Table 31 State Highway Forecast Year 2013 With Committed And Cumulative Projects Without Project Traffic AM & PM Peak Hour LOS 54
Table 32 State Highway Forecast Year 2013 With Committed And Cumulative Projects With Project Traffic AM & PM Peak Hour LOS 55

Table 33 State Highway Forecast General Plan Buildout Without Project Traffic AM & PM Peak Hour LOS 56
Table 34 State Highway Forecast General Plan Buildout With Project Traffic AM & PM Peak Hour LOS 57
Table 35 Peak Hour Intersection LOS With and Without San Miguel Geometric Improvements 58
Table 36 City Parking Requirements 60

LIST OF EXHIBITS

Follows Page

Exhibit 1 Regional Project Location 4
Exhibit 2 Project Site Location 4
Exhibit 3 Study Intersection Locations 6
Exhibit 4 Area 1 - Existing AM/PM Peak Hour Intersection Volumes 12
Exhibit 5 Area 2 - Existing AM/PM Peak Hour Intersection Volumes 12
Exhibit 6 Area 3 - Existing AM/PM Peak Hour Intersection Volumes 12
Exhibit 7 Area 1 - Existing Study Intersection/Roadway Geometry 12
Exhibit 8 Area 2 - Existing Study Intersection/Roadway Geometry 12
Exhibit 9 Area 3 - Existing Study Intersection/Roadway Geometry 12
Exhibit 10 Proposed Project Site Plan 14
Exhibit 11 Forecast Trip Percent Distribution of City Hall Trips 18
Exhibit 12 Forecast Trip Percent Distribution of Dog Park and Library Trips 18
Exhibit 13 Area 1 - Forecast AM/PM Peak Hour Trip Assignment of Proposed Project 18
Exhibit 14 Area 2 - Forecast AM/PM Peak Hour Trip Assignment of Proposed Project 18
Exhibit 15 Area 3 - Forecast AM/PM Peak Hour Trip Assignment of Proposed Project 18
Exhibit 16 Area 1 – Existing Plus Project AM/PM Peak Hour Intersection Volumes 19
Exhibit 17 Area 2 – Existing Plus Project AM/PM Peak Hour Intersection Volumes 19
Exhibit 18 Area 3 – Existing Plus Project AM/PM Peak Hour Intersection Volumes 19
Exhibit 19 Area 1 – Forecast Year 2013 With Committed Projects Without Project AM/PM Peak Hour Intersection Volumes 26
Exhibit 20 Area 2 – Forecast Year 2013 With Committed Projects Without Project AM/PM Peak Hour Intersection Volumes 26
Exhibit 21 Area 3 – Forecast Year 2013 With Committed Projects Without Project AM/PM Peak Hour Intersection Volumes 26
Exhibit 22 Area 1 – Forecast Year 2013 With Committed Projects With Project AM/PM Peak Hour Intersection Volumes 28
Exhibit 23 Area 2 – Forecast Year 2013 With Committed Projects With Project AM/PM Peak Hour Intersection Volumes 28
Exhibit 24 Area 3 – Forecast Year 2013 With Committed Projects With Project AM/PM Peak Hour Intersection Volumes 28
Exhibit 25 Area 1 – Forecast Year 2013 With Committed And Cumulative Projects Without Project AM/PM Peak Hour Intersection Volumes 32
Exhibit 26 Area 2 – Forecast Year 2013 With Committed And Cumulative Projects Without Project AM/PM Peak Hour Intersection Volumes 32
Exhibit 27 Area 3 – Forecast Year 2013 With Committed And Cumulative Projects Without Project AM/PM Peak Hour Intersection Volumes 32

Exhibit 28 Area 1 – Forecast Year 2013 With Committed And Cumulative Projects With Project AM/PM Peak Hour Intersection Volumes 34
Exhibit 29 Area 2 – Forecast Year 2013 With Committed And Cumulative Projects With Project AM/PM Peak Hour Intersection Volumes 34
Exhibit 30 Area 3 – Forecast Year 2013 With Committed And Cumulative Projects With Project AM/PM Peak Hour Intersection Volumes 34
Exhibit 31 Area 1 – Forecast General Plan Buildout Without Project AM/PM Peak Hour Intersection Volumes....37
Exhibit 32 Area 2 – Forecast General Plan Buildout Without Project AM/PM Peak Hour Intersection Volumes....37
Exhibit 33 Area 3 – Forecast General Plan Buildout Without Project AM/PM Peak Hour Intersection Volumes....37
Exhibit 34 Area 1 – Forecast General Plan Buildout Study Intersection/Roadway Geometry....37
Exhibit 35 Area 2 – Forecast General Plan Buildout Study Intersection/Roadway Geometry....37
Exhibit 36 Area 3 – Forecast General Plan Buildout Study Intersection/Roadway Geometry....37
Exhibit 37 Area 1 – Forecast General Plan Buildout With Project AM/PM Peak Hour Intersection Volumes 39
Exhibit 38 Area 2 – Forecast General Plan Buildout With Project AM/PM Peak Hour Intersection Volumes 39
Exhibit 39 Area 3 – Forecast General Plan Buildout With Project AM/PM Peak Hour Intersection Volumes 39
Exhibit 40 Area 2 – Mitigated Forecast General Plan Buildout With Project AM/PM Peak Hour Intersection Volumes....42
Exhibit 41 San Miguel Geometric Improvements....58

EXECUTIVE SUMMARY

This study analyzes the forecast traffic operations associated with the Newport Beach City Hall and Park project in the City of Newport Beach and at several intersections located in the City of Irvine. The proposed project consists of construction of a 98,000 square foot City Hall that can accommodate up to 295 employees, 14.3 acres of passive park containing approximately 0.5 acres of dog park, and a 17,135 square foot expansion of the existing library. The project site is bound by the Newport Transportation Center/Park-And-Ride to the north, MacArthur Boulevard to the east, the existing public library to the south and Avocado Avenue to the west. The City Hall is proposed to be located on the southerly portion of the site, adjacent to the expanded library. All project site access is planned from Avocado Avenue. The project site is currently vacant northerly of the existing library.

The proposed project is forecast to generate approximately 3,070 daily trips, which include approximately 223 a.m. peak hour trips and approximately 352 p.m. peak hour trips.

Existing Analysis

An assessment was done of existing plus project conditions. The conclusion of the existing plus project conditions assessment was that all of the study intersections are forecast to operate at an acceptable level of service.

Year 2013 Analysis

In accordance with Traffic Phasing Ordinance (TPO) requirements, a TPO analysis was performed for forecast year 2013 with committed development to determine at which study intersections project trips will increase traffic on any leg by one percent or more during any peak hour one year after project completion.

Based on City of Newport Beach and City of Irvine-established thresholds of significance, the addition of project-generated trips is forecast to result in no significant impacts at the study intersections for forecast year 2013 with committed projects plus project traffic.

The study intersections are forecast to continue to operate at an acceptable LOS according to agency performance criteria for forecast year 2013 with committed and cumulative projects with project traffic with the exception of the Newport Boulevard Southbound Ramps/West Coast Highway (SR-1) study intersection. Based on City of Newport Beach established thresholds of significance, the addition of project-generated trips at the Newport Boulevard Southbound Ramps/West Coast Highway (SR-1) study intersection does not cause a significant impact since the volume-to-capacity increase from project trips is less than the established criteria of 0.010.

General Plan Analysis

With the addition of project-generated trips, the study intersections are forecast to continue to operate at an acceptable LOS according to agency performance criteria for forecast General Plan buildout with project traffic with the exception of the Bayside Drive/East Coast Highway (SR-1) study intersection.

Under General Plan buildout with project traffic the following three intersections are projected to operate at LOS "E," but are all intersections defined in the General Plan as being locations where LOS "E" is acceptable:

- Dover Drive/West Coast Highway (SR-1);
- Goldenrod Avenue/East Coast Highway (SR-1); and
- Marguerite Avenue/East Coast Highway (SR-1).

The one remaining LOS "E" location is the Bayside Drive/Coast Highway intersection where the addition of project traffic would increase the ICU from 0.900 to 0.910. Based on the City of Newport Beach's thresholds of significance, the addition of project-generated trips is forecast to result in a significant impact at the Bayside Drive/Coast Highway intersection for Forecast General Plan buildout with project traffic.

To offset the projected traffic impacts to a level considered less than significant at the projected buildout condition, the following mitigation measure is recommended:

Mitigation Measure No. 1 The project applicant shall re-stripe the northbound Bayside Drive approach to the East Coast Highway intersection from two left-turn lanes and a shared left/through/right lane to two left turns, a shared left/through lane and a right turn lane. These required improvements shall be implemented within one year of when traffic counts done on behalf of the City in accordance with the schedule for traffic counts provided for in the City's Traffic Phasing Ordinance result in the finding that the intersection is operating at, or over, an ICU of 0.90.

CMP Analysis

The following CMP monitored intersections were analyzed in accordance with Orange County Congestion Management Program (CMP) guidelines:

- Jamboree Road/Macarthur Boulevard;
- MacArthur Boulevard/ East Coast Highway (SR-1); and
- Newport Boulevard Southbound Ramps/ West Coast Highway (SR-1).

Based on Orange County CMP thresholds of significance, the addition of project-generated trips is forecast to result in no significant impacts at CMP monitored intersections.

State Highway Analysis

State Highway analysis was performed at study intersections along Coast Highway (SR-1) in accordance with the Caltrans *Guide for the Preparation of Traffic Impact Studies* (State of California Department of Transportation, December 2002). The addition of project-generated trips is forecast to result in no significant impacts at the State Highway study intersections for any of the analysis scenarios.

San Miguel Geometric Improvements

The project includes improvements to San Miguel Drive, focusing on the segment between MacArthur Boulevard and Avocado Avenue. The improvements are proposed both to provide

additional capacity and to improve the operational characteristics of the intersections of San Miguel Drive with Macarthur Boulevard and Avocado Avenue. The LOS analysis indicates that a capacity enhancement is achieved for both the a.m. and p.m. peak hours with the more significant improvement occurring during the p.m. peak hour.

Parking Analysis

The proposed project includes a parking structure located adjacent to the proposed City Hall which is designed to provide 450 parking spaces. This parking structure is planned to provide the necessary parking for the City Hall and passive park uses as well as for the library expansion. The project also includes an additional 25 parking spaces near the entrance to the garage, resulting in a total of 475 parking spaces provided southerly of San Miguel Drive. Combining the projected demand for the City Hall and library expansion would result in a projected demand for 463 parking spaces. Parking demand for the proposed park uses southerly of San Miguel is anticipated to be negligible relative to the peak parking demand given the combination of minimal demand associated with the passive park uses and the tendency for those uses to be outside the peak hours of the City Hall peak demand. Therefore, it can be concluded that the 475 parking spaces provided should be more than adequate to support the proposed uses southerly of San Miguel.

Twenty parking spaces are to be provided northerly of San Miguel Drive, primarily to provide parking for the proposed dog park. Based on parking counts conducted at the Laguna Beach dog park it was determined that these 20 spaces should be sufficient to meet anticipated parking demand.

Construction Traffic

To avoid having the project-related haul route traffic contribute to a potential operational issue at the intersections of Avocado Avenue/San Miguel Drive and MacArthur Boulevard/San Miguel Drive, the following mitigation measure is recommended.

Mitigation Measure No. 2 The haul route established for removal of excess dirt from the site should not include the use of San Miguel Drive between MacArthur Boulevard and Newport Center Drive.

INTRODUCTION

This study analyzes the forecast traffic operations associated with the Newport Beach City Hall and Park project in the City of Newport Beach and at several intersections located in the City of Irvine. The proposed project consists of construction of a 98,000 square foot City Hall that can accommodate up to 295 employees, 14.3 acres of passive park containing approximately 0.5 acres of dog park, and a 17,135 square foot expansion of the existing library.

The project includes improvements to San Miguel Drive, focusing on the segment between MacArthur Boulevard and Avocado Avenue. This segment of road has experienced operational issues due to the relatively short distance between these intersections and the relatively high number of turning movements. Through widening San Miguel Drive, the following geometric improvements would be provided:

- A third eastbound left turn lane from San Miguel Drive onto MacArthur Boulevard
- A third eastbound through lane at San Miguel Drive/Avocado Avenue
- A defacto eastbound right turn lane from San Miguel Drive onto MacArthur Boulevard
- A defacto westbound right turn lane from San Miguel Drive onto Avocado Avenue

In addition, the southbound Avocado Avenue approach to San Miguel Drive would be re-striped to provide for two left turn lanes.

The project site is bound by the Newport Transportation Center/Park-And-Ride to the north, MacArthur Boulevard to the east, the existing public library to the south and Avocado Avenue to the west. The City Hall is proposed to be located on the southerly portion of the site, adjacent to the expanded library. All project site access is planned at Avocado Avenue. The project site is currently vacant northerly of the library.

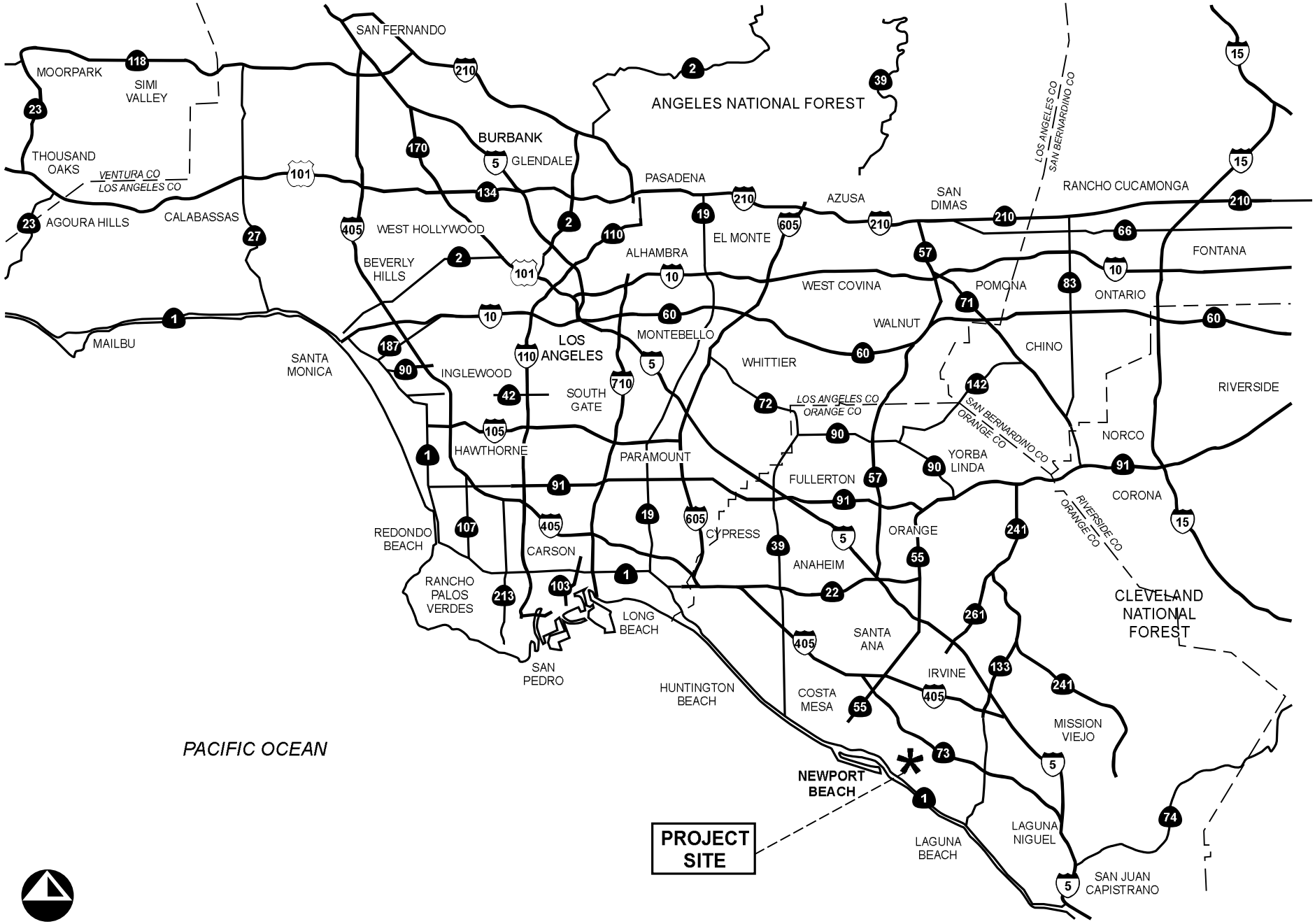
Exhibit 1 shows the regional location of the project site. Exhibit 2 shows the project site location.

This study assumes that the existing City Hall site will continue to generate the same number of trips as currently generated on that site. This study does not take a trip credit for existing City Hall trips; instead the proposed City Hall is analyzed on a stand-alone basis.

Study Area

This study evaluates the following forty-seven (47) intersections in the vicinity of the project site:

1. MacArthur Boulevard/Campus Drive*;
2. MacArthur Boulevard/Birch Street;
3. MacArthur Boulevard/Von Karmen Avenue;
4. Jamboree Road/Campus Drive*;
5. Jamboree Road/Birch Street*;
6. Jamboree Road/MacArthur Boulevard*;
7. Bayview Way/Bristol Street South;



Not to Scale

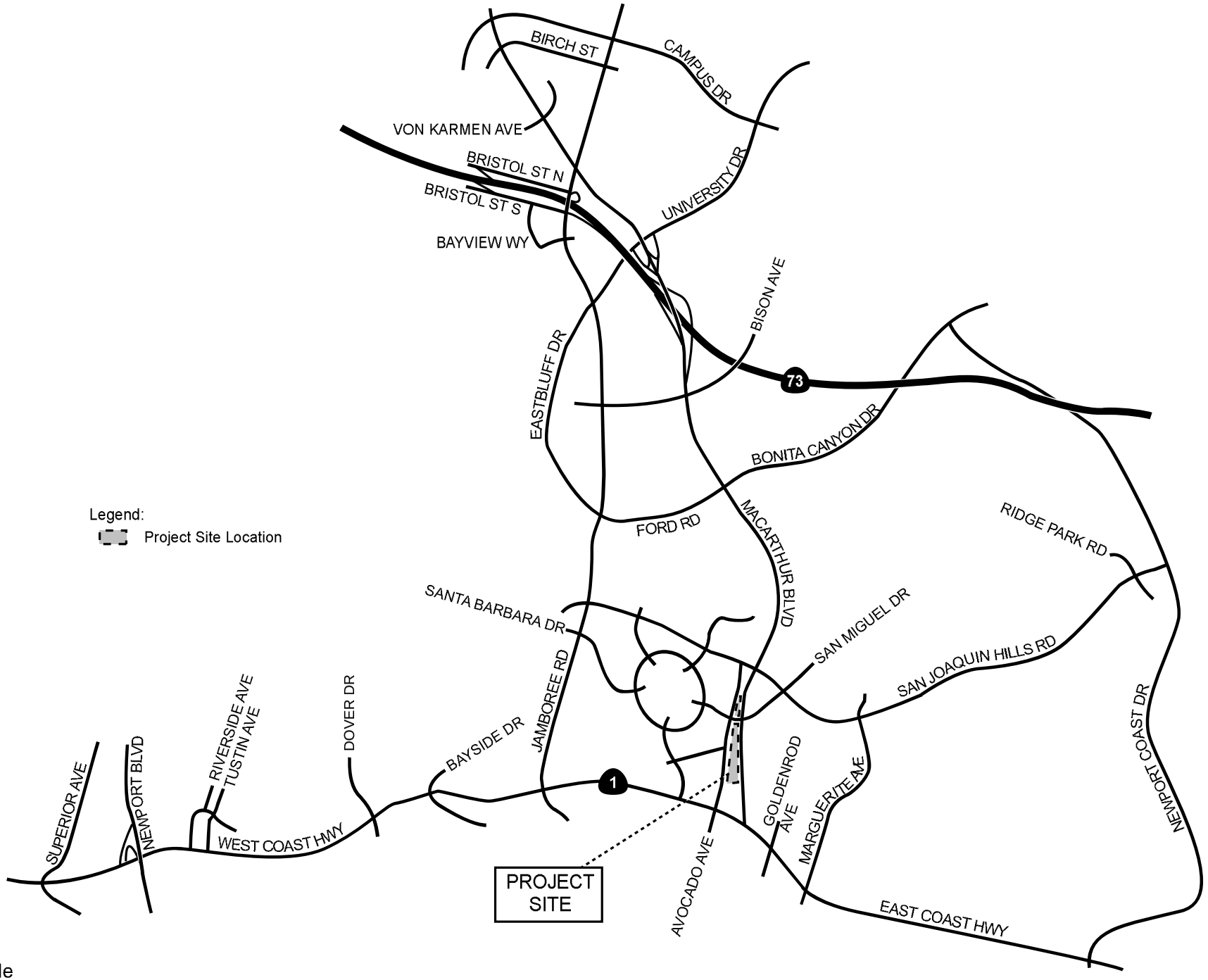
RBF

Regional Project Location

H:\pdata\10106738\Traffic\Exhibits\Exh01.ai

JUL/2009

Exhibit 1



Not to Scale

RBF

Project Site Location

H:\pdata\10106738\Traffic\Exhibits\Exh02.ai JUL/2009

Exhibit 2

8. Jamboree Road/Bristol Street North;
9. Jamboree Road/Bristol Street South;
10. Jamboree Road/Bayview Way;
11. Jamboree Road/Eastbluff Drive-University Drive;
12. Jamboree Road/Bison Avenue;
13. Jamboree Road/Eastbluff Drive-Ford Road;
14. Jamboree Road/San Joaquin Hills Road;
15. Jamboree Road/Santa Barbara Drive;
16. Jamboree Road/East Coast Highway (SR-1);
17. MacArthur Boulevard/Bison Avenue;
18. MacArthur Boulevard/Ford Road-Bonita Canyon Drive;
19. MacArthur Boulevard/San Joaquin Hills Road;
20. MacArthur Boulevard/San Miguel Drive;
21. MacArthur Boulevard/ East Coast Highway (SR-1);
22. Santa Cruz Drive/San Joaquin Hills Road;
23. Santa Rosa Drive/San Joaquin Hills Road;
24. San Miguel Drive/San Joaquin Hills Road;
25. Avocado Avenue/San Miguel Drive;
26. Balboa Boulevard-Superior Avenue/ West Coast Highway (SR-1);
27. Newport Boulevard Southbound Ramps/West Coast Highway (SR-1);
28. Riverside Avenue/West Coast Highway (SR-1);
29. Tustin Avenue/West Coast Highway (SR-1);
30. Dover Drive/West Coast Highway (SR-1);
31. Bayside Drive/East Coast Highway (SR-1);
32. Newport Center Drive/East Coast Highway (SR-1);
33. Avocado Avenue/East Coast Highway (SR-1);
34. Goldenrod Avenue/East Coast Highway (SR-1);
35. Marguerite Avenue/East Coast Highway (SR-1);
36. Newport Center Drive/Santa Barbara Drive;
37. Santa Cruz Drive/Newport Center Drive;
38. Santa Rosa Drive/Newport Center Drive;
39. Newport Center Drive/San Miguel Drive;
40. Newport Center Drive/Fashion Island;
41. Newport Coast Drive/San Joaquin Hills Road;
42. Newport Coast Drive/East Coast Highway (SR-1);

43. Marguerite Avenue/San Joaquin Hills Road;
44. Ridge Park Road/San Joaquin Hills Road;
45. MacArthur Boulevard Southbound Ramps/University Drive (City of Irvine);
46. MacArthur Boulevard Northbound Ramps/University Drive (City of Irvine); and
47. Campus Drive/University Drive (City of Irvine).

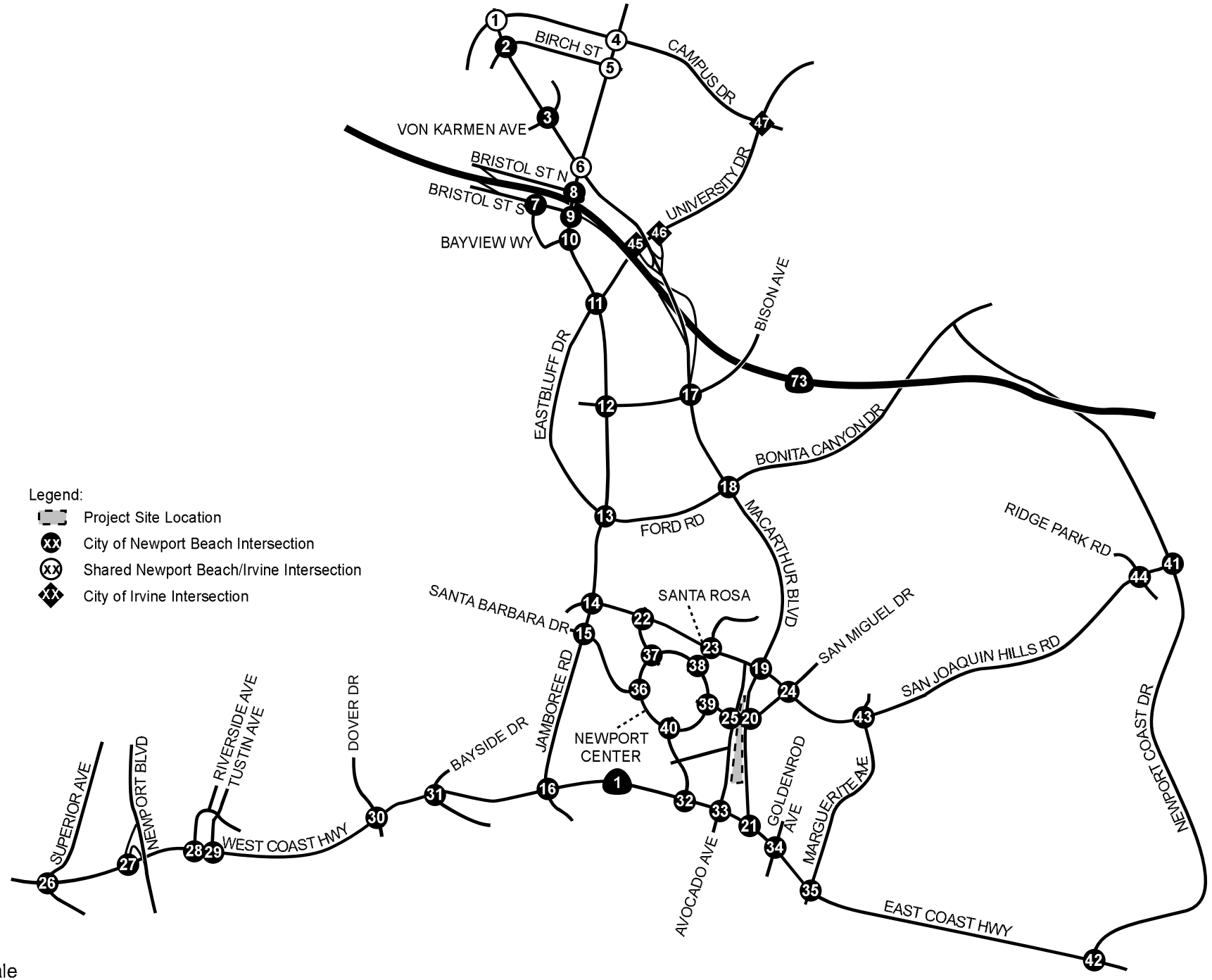
* = Intersection on the boundary of Newport Beach and Irvine

Exhibit 3 shows the location of the study intersections, which are analyzed for the following study scenarios:

- Existing Conditions;
- Existing Plus Project Traffic;
- Forecast Year 2013 With Committed Development Without Project Traffic;
- Forecast Year 2013 With Committed Development With Project Traffic;
- Forecast Year 2013 With Committed Development and Cumulative Projects Without Project Traffic;
- Forecast Year 2013 With Committed Development and Cumulative Projects With Project Traffic;
- Forecast General Plan Buildout Without Project Traffic; and
- Forecast General Plan Buildout With Project Traffic.

Analysis Methodology

Level of service (LOS) is commonly used as a qualitative description of intersection operation and is based on the capacity of the intersection and the volume of traffic using the intersection. The Intersection Capacity Utilization (ICU) analysis method is utilized by the City of Newport Beach and in the Orange County Congestion Management Program (CMP) to determine the operating LOS of signalized intersections. The ICU analysis methodology describes the operation of an intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding Volume/Capacity (V/C) ratios shown in Table 1.



Study Intersection Locations

Exhibit 3

H:\pdata\10106738\Traffic\Exhibits\Exh03.ai JUL/2009

Table 1
V/C & LOS Ranges

Signalized Intersections	
V/C Ratio	**LOS**
≤ 0.60	A
0.61 to ≤ 0.70	B
0.71 to ≤ 0.80	C
0.81 to ≤ 0.90	D
0.91 to ≤ 1.00	E
> 1.00	F

Source: *City of Newport Beach Traffic Phasing Ordinance, Chapter 15.40.*

In accordance with the City of Newport Beach Traffic Phasing Ordinance (TPO), the ICU analysis assumes a capacity of 1,600 vehicles per hour (vph) for each travel lane (including turn lanes) through an intersection, with no factor for yellow time included in the lane capacity assumptions. The City of Newport Beach TPO methodology calculates the ICU value to three decimal places, and then reports the resulting ICU value rounded down to two decimal places.

City of Newport Beach Performance Criteria

The City of Newport Beach target for peak hour intersection operation as stated in the Circulation Element of the General Plan is LOS D or better except at the following locations where LOS E is considered acceptable:

- Intersections in the John Wayne Airport Area shared with the City of Irvine;
- Dover Drive/West Coast Highway (SR-1)
- Goldenrod Avenue/East Coast Highway (SR-1); and
- Marguerite Avenue/East Coast Highway (SR-1).

The criteria for assessing the phased implementation of development, as defined in the City's Traffic Phasing Ordinance, is to achieve LOS D or better at any impacted primary intersection within the City.

City of Newport Beach Threshold of Significance

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

- A significant impact occurs when the addition of project-generated trips causes the level of service at a study intersection to deteriorate from an acceptable LOS (LOS D or better in most cases) to a deficient LOS (LOS E or F); or
- A significant impact occurs when the addition of project-generated trips increases the intersection capacity utilization at a study intersection by

one percent or more of capacity (V/C ⩾ 0.010), worsening a projected baseline condition of LOS E or LOS F.

City of Irvine Performance Criteria

The City of Irvine target for peak hour intersection operation is LOS D or better except in the following areas where LOS E is considered acceptable:

- Intersections in the John Wayne Airport Area shared with the City of Newport Beach; and
- Irvine Business Complex Area.

City of Irvine Threshold of Significance

To determine whether the addition of project-generated trips at a signalized study intersection results in a significant impact, the City of Irvine has established the following threshold of significance:

- If the intersection in question exceeds acceptable LOS in the baseline condition and the impact of the development is greater than or equal to 0.02, of if the project raises the ICU by 0.01 at a location causing it to become deficient, rounded to the second decimal place, then project mitigation will be required to bring the location back to baseline conditions at a minimum.

Intersections within the City of Irvine were analyzed using City of Irvine performance criteria and thresholds of significance.

EXISTING CONDITIONS

Roadway Description

The characteristics of the roadway system in the vicinity of the project site are described below:

East Coast Highway (SR-1) Coast Highway is designated State Route 1. In the vicinity of the project, it trends in an east-west direction. East of Dover Drive, it is known as East Coast Highway. Between Dover Drive and Bayside Drive, East Coast Highway (SR-1) is a seven-lane undivided roadway (four lanes in the westbound direction and three lanes in the eastbound direction) with on-street parking prohibited. From a point east of Bayside Drive to Jamboree Road, East Coast Highway (SR-1) is an eight-lane roadway, with a raised, landscaped median and on-street parking prohibited. Between Jamboree Road and MacArthur Boulevard, East Coast Highway (SR-1) is a six-lane divided roadway. Between MacArthur Boulevard and Pelican Point Drive, East Coast Highway (SR-1) is a four-lane divided roadway. East of Pelican Point Drive, East Coast Highway (SR-1) is a six-lane divided roadway. The posted speed limit on East Coast Highway (SR-1) in the study area ranges from 35 to 55 miles per hour.

West Coast Highway (SR-1) Coast Highway is designated State Route 1. West of Dover Drive, it is known as West Coast Highway. Between Dover Drive and Balboa Bay Club Entry. West Coast Highway (SR-1) is a four-lane divided roadway, with a continuous left-turn lane and

some non-metered on-street parking permitted. From Tustin Avenue to Balboa Bay Club Entry, West Coast Highway (SR-1) is a five-lane divided roadway (two to three lanes in the westbound direction and two in the eastbound direction), with a continuous left-turn lane and both metered and non-metered on-street parking are permitted. Between Riverside Avenue and Tustin Avenue, West Coast Highway (SR-1) is a five-lane divided roadway (three lanes in the westbound direction and two in the eastbound direction), with a raised median and metered on-street parking permitted. From Newport Boulevard (SR-55) Southbound Off-Ramp to Riverside Avenue, West Coast Highway (SR-1) is a five-lane divided roadway (three lanes in the westbound direction and two in the eastbound direction) with a continuous left-turn lane and metered on-street parking permitted. From Superior Avenue to the Newport Boulevard Southbound Off-Ramp, West Coast Highway (SR-1) is a seven-lane divided roadway (four lanes in the westbound direction and three in the eastbound direction. West of Superior Avenue, West Coast Highway (SR-1) transitions to a six-lane divided roadway. The posted speed limit on West Coast Highway (SR-1) in the study area ranges from 40 to 50 miles per hour.

Avocado Avenue is a two- to four-lane roadway trending in a north-south direction with on-street parking permitted in certain areas south of Farallon. South of East Coast Highway (SR-1), Avocado Avenue is a four-lane divided roadway with a raised landscaped median with a posted speed limit of 30 miles per hour. Between East Coast Highway (SR-1) and San Miguel Drive, Avocado Avenue is a four-lane undivided roadway with a posted speed limit of 45 miles per hour. North of San Miguel Drive, Avocado Avenue is a two-lane undivided roadway with some permitted on-street parking.

Bayside Drive is a two-lane undivided roadway trending in a north-south direction, north of East Coast Highway (SR-1), with on-street parking permitted. The posted speed limit on Bayside Drive north of East Coast Highway is 25 miles per hour. South of East Coast Highway (SR-1), Bayside Drive is a four-lane divided roadway with a continuous left-turn lane and on-street parking prohibited.

Birch Street is a four-lane divided roadway trending in an east-west direction with a painted median and on-street parking prohibited. The posted speed limit on Birch Street in the study area is 40 miles per hour.

Bison Avenue is a four-lane divided roadway with a raised landscaped median, trending in an east-west direction with on-street parking prohibited. The posted speed limit on Bison Avenue is 40 miles per hour.

Bonita Canyon Drive east of MacArthur Boulevard is a four-lane divided roadway with a raised landscaped median, trending in an east-west direction with on-street parking prohibited. The posted speed limit on Bonita Canyon Drive in the study area is 45 miles per hour.

Campus Drive is a four-lane divided roadway trending in an east-west direction with a painted median and on-street parking prohibited east of MacArthur Boulevard, and a six-lane divided roadway with a raised median on-street parking prohibited west of MacArthur Boulevard. The posted speed limit on Campus in the study area ranges from 45 to 50 miles per hour.

Dover Drive is a four-lane divided roadway with a raised landscaped median, trending in a north-south direction with on-street parking prohibited between Coast Highway (SR-1) and Westcliff Drive. South of Coast Highway (SR-1), Dover Drive changes name to Bayshore Drive.

Bayshore Drive is a two-lane undivided roadway with on-street parking prohibited. The posted speed limit on Dover Drive is 40 miles per hour.

Ford Road between Jamboree Road and MacArthur Boulevard is a four-lane divided roadway with a raised landscaped median, trending in an east-west direction with on-street parking prohibited. The posted speed limit on Ford Road is 45 miles per hour.

Jamboree Road north of East Coast Highway (SR-1) is a six-lane divided roadway trending in a north-south direction with a raised landscaped median and on-street parking prohibited. South of East Coast Highway (SR-1), Jamboree Road is a four-lane undivided roadway with a painted median and on-street parking prohibited. The posted speed limit on Jamboree Road is 50 miles per hour north of East Coast Highway (SR-1) and 35 miles per hour south of East Coast Highway (SR-1).

MacArthur Boulevard trends in a north-south direction in the City of Newport Beach. Between Coast Highway (SR-1) and San Miguel Drive, MacArthur Boulevard is a four-lane divided roadway with a raised landscaped median and a posted speed limit of 55 miles per hour. Between San Miguel Drive and Bonita Canyon Drive, MacArthur Boulevard is a six-lane divided roadway with a raised landscaped median and a posted speed limit of 50 miles per hour. Between Bonita Canyon Drive and the SR-73 Ramps, MacArthur Boulevard is an eight-lane divided roadway with a raised landscaped median and a posted speed limit of 50 miles per hour. North of the SR-73 Ramps, MacArthur Boulevard is a six-lane divided roadway with a raised landscaped median and a posted speed limit of 50 miles per hour. On-street parking is prohibited on MacArthur Boulevard.

Riverside Avenue between West Coast Highway and Avon Street is a four-lane undivided roadway, trending in a north-south direction, with on-street parking prohibited. North of Avon Street, Riverside Avenue is a two-lane undivided roadway. The posted speed limit on Riverside Avenue is 30 miles per hour.

San Joaquin Hills Road between Jamboree Road and Marguerite Avenue is a six-lane divided roadway with a raised landscaped median, trending in an east-west direction with on-street parking prohibited and a posted speed limit of 45 miles per hour. Between Marguerite Avenue and Newport Coast Drive, San Joaquin Hills Road is a four-lane divided roadway with a raised landscaped median, trending in an east-west direction with on-street parking prohibited and a posted speed limit of 50-55 miles per hour.

San Miguel Drive is a four-lane divided roadway with a raised landscaped median, trending in an east-west direction with on-street parking prohibited. The posted speed limit on San Miguel Drive in the study area is 35 miles per hour west of MacArthur Boulevard and 40 miles per hour east of MacArthur Boulevard.

Tustin Avenue is a two-lane undivided roadway trending in a north-south direction that terminates on the south at West Coast Highway (SR-1). Metered on-street parking is permitted on Tustin Avenue.

University Drive between Jamboree Road and MacArthur Boulevard varies from five lanes east of Jamboree Road to six lanes from the San Diego Creek bridge to MacArthur Boulevard. The segment from MacArthur Boulevard to the University of California-Irvine is a four-lane divided roadway with a raised landscaped median, trending in an east-west direction with on-

street parking prohibited. The posted speed limit on University Drive in the study area is 45-50 miles per hour.

Von Karmen Avenue is a four-lane divided roadway trending in an east-west direction with a painted median and on-street parking prohibited. The posted speed limit on Von Karmen Avenue in the study area is 40 miles per hour.

Existing Transit Service

Transit service is provided by the Orange County Transportation Authority (OCTA) in the vicinity of the proposed project site. The proposed project site is immediately adjacent to the Newport Transportation Center/Park-And-Ride at the intersection of Avocado Avenue and San Nicolas Drive. The City Hall component of the proposed project would be approximately 1/3 of a mile down Avocado Avenue from the Newport Transportation Center.

OCTA Bus Line 1 travels along Coast Highway (SR-1), between Long Beach and San Clemente. Bus line 1 stops at the Newport Transportation Center and travels on Avocado Avenue in front of the project site. Headways on bus line 1 are 30-60 minutes on weekdays, and approximately 60 minutes on weekends and holidays.

OCTA Bus Line 55 travels between Santa Ana and the Newport Transportation Center. Bus line 55 originates/terminates at the Newport Transportation Center and travels on Newport Center Drive around Fashion Island using San Nicolas to access the OCTA site. Headways on bus line 55 are approximately 20 minutes on weekdays, and approximately 30 minutes on weekends and holidays.

OCTA Bus Line 57 travels along State College Boulevard-Bristol Street between the Brea Mall and the Newport Transportation Center. Bus line 57 originates/terminates at the Newport Transportation Center and travels on Newport Center Drive around Fashion Island using San Nicolas to access the OCTA site. Headways on bus line 57 are approximately 30-60 minutes on weekdays, and approximately 60 minutes on weekends and holidays.

OCTA Bus Line 75 travels along Harvard Avenue and Jamboree Road between the Tustin Marketplace area and the Newport Transportation Center. Bus line 75 originates/terminates at the Newport Transportation Center and travels on San Nicolas and Newport Center Drive in the project vicinity. Headways on bus line 75 are 60 minutes on weekdays, with no service on weekends.

OCTA Bus Line 76 travels along Talbert Avenue and MacArthur Boulevard between Huntington Beach and the Newport Transportation Center. Bus line 76 originates/terminates at the Newport Transportation Center and travels on Avocado Avenue to San Miguel Drive in front of the project site. Headways on bus line 76 are 30-40 minutes on weekdays, and approximately 60 minutes on weekends and holidays.

OCTA Bus Line 79 travels along Irvine Boulevard, Culver Drive and University Avenue between Tustin and the Newport Transportation Center. Bus line 79 originates/terminates at the Newport Transportation Center and travels on Newport Center Drive around Fashion Island using San Nicolas to access the OCTA site. Headways on bus line 79 are 30-60 minutes on weekdays, and 60-80 minutes on weekends and holidays.

Existing Conditions Traffic

To determine the existing operation of the study intersections, this study utilizes a.m. and p.m. peak hour intersection movement counts available from the following sources:

City of Newport Beach intersections:

- 2009 traffic counts provided by City of Newport Beach staff;
- Traffic Counts available in *City of Newport Beach North Newport Center Traffic Phasing Ordinance Traffic Study (November, 2007)*; and
- A.m. and p.m. peak hour intersection movement counts collected in May 2009.

City of Irvine intersections:

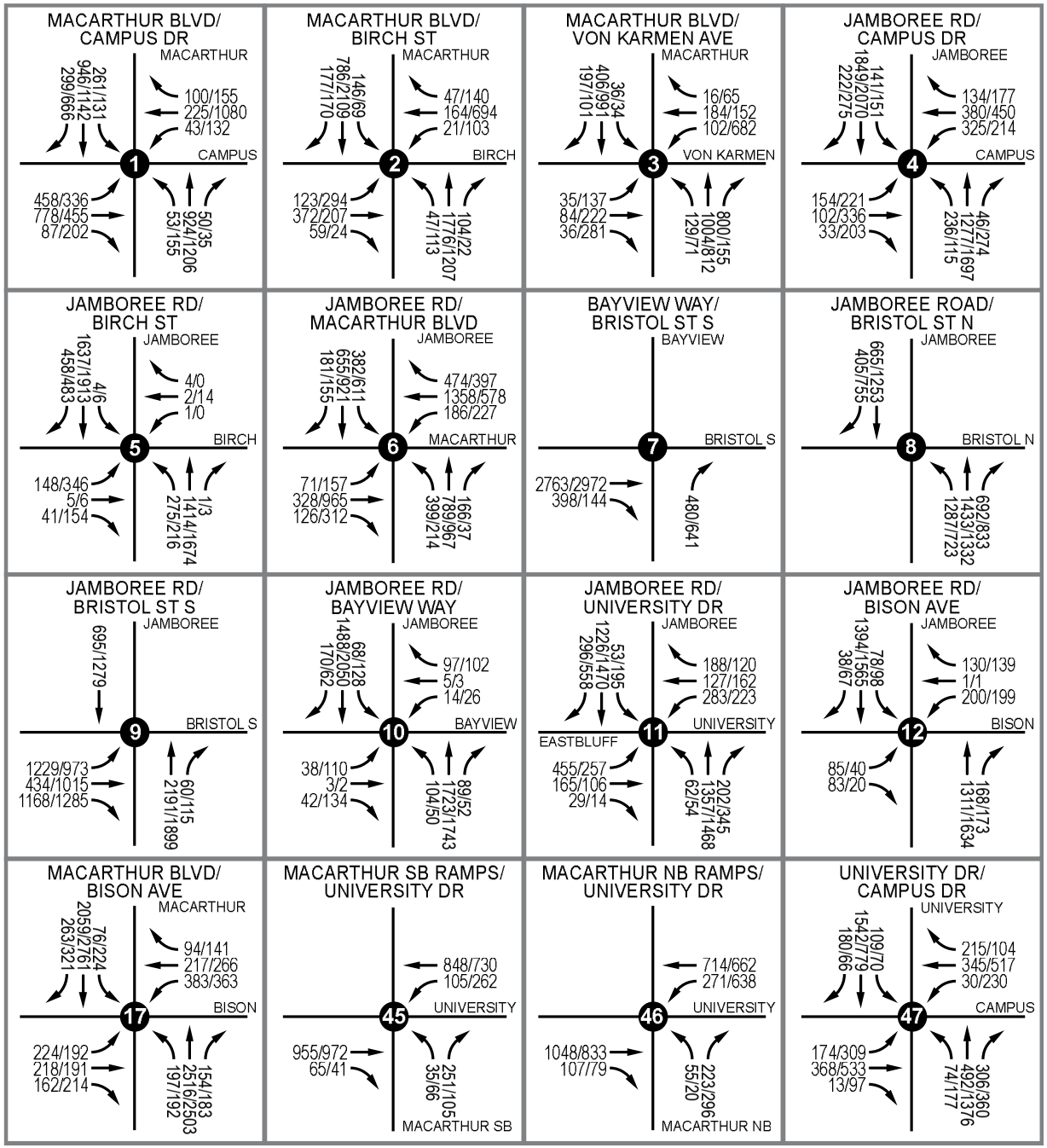
- Traffic counts from the City of Irvine.

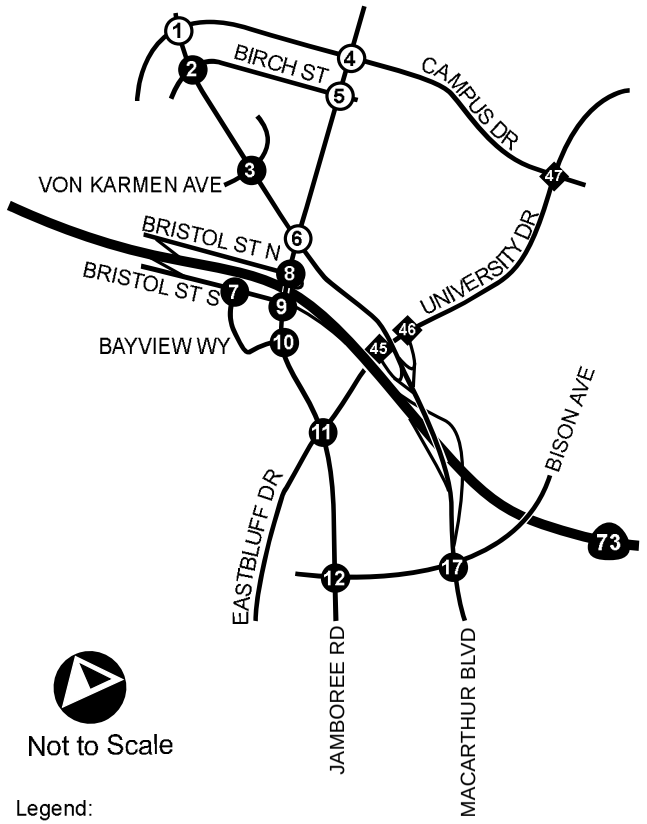
The counts used in this analysis were taken from the highest hour within the peak period counted. An annual growth factor of 1.00% on primary roadways, based on the City of Newport Beach TPO, was applied to traffic counts as necessary to reflect growth from the count year to year 2009 conditions. Detailed traffic count data is contained in Appendix A.

Exhibits 4, 5 and 6 show existing 2009 conditions a.m. and p.m. peak hour volumes at the study intersections. Exhibit 7, 8 and 9 show existing study intersection geometry.

Existing Conditions Peak Hour Intersection Level of Service

Table 2 summarizes existing conditions a.m. peak hour and p.m. peak hour LOS of the study intersections; detailed LOS analysis sheets are contained in Appendix B.





Legend:

XX/XX AM/PM Intersection Volumes

XX City of Newport Beach Intersection

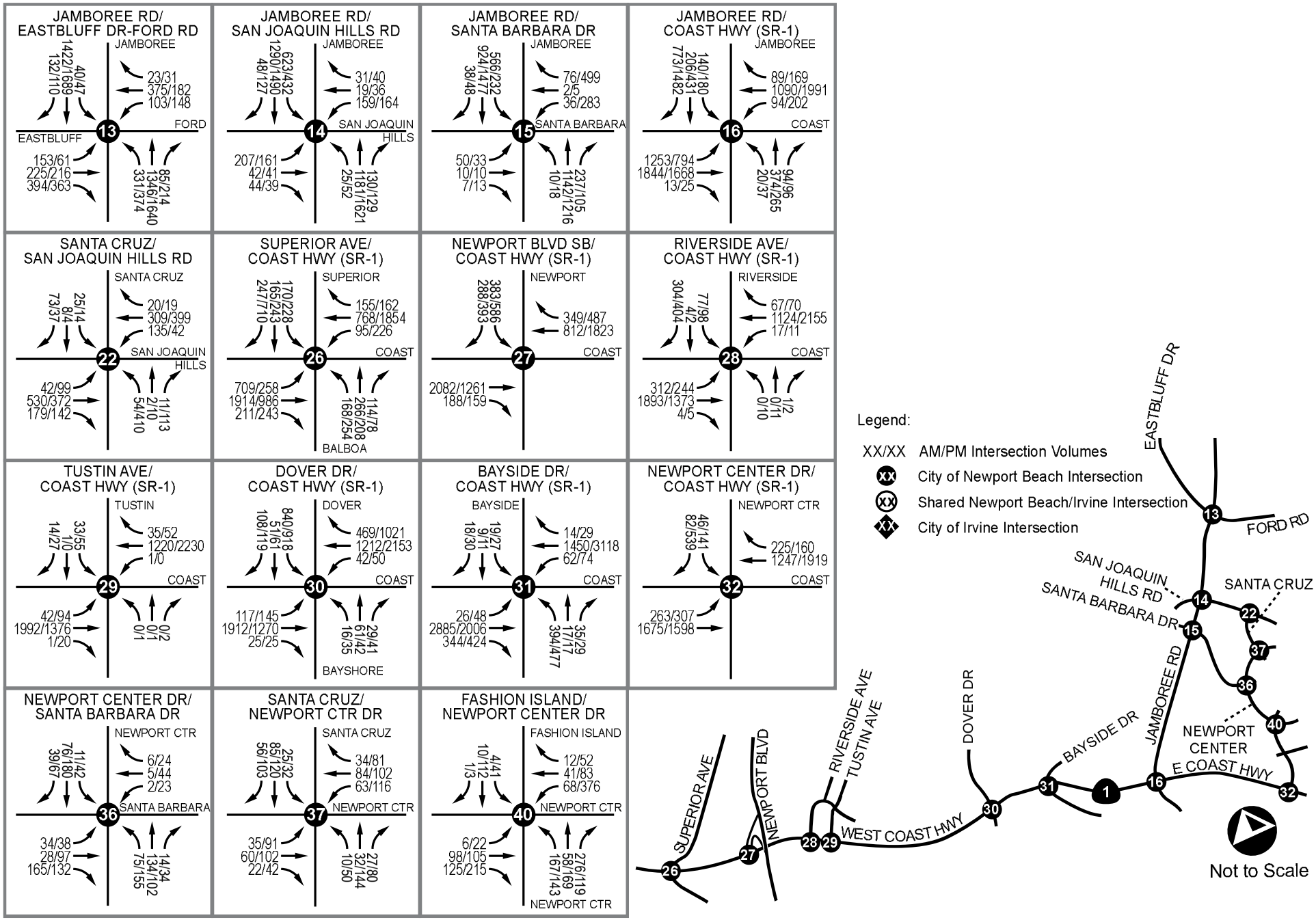
XX Shared Newport Beach/Irvine Intersection

XX City of Irvine Intersection

Area 1 - Existing 2009 AM/PM Peak Hour Intersection Volumes

H:\pdata\10106783\Traffic\Exhibits\Exh04.ai JUL/2009

Exhibit 4

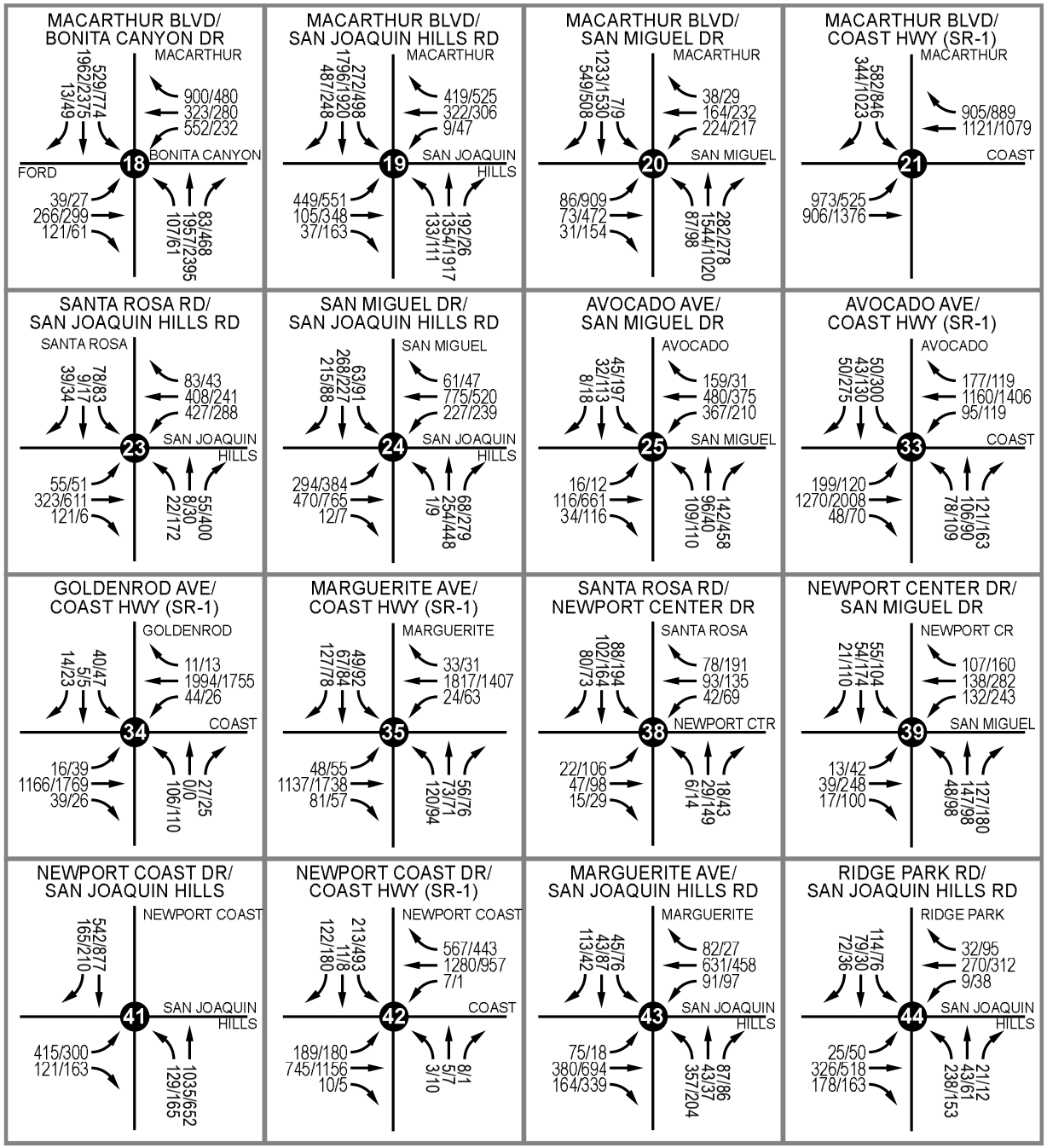


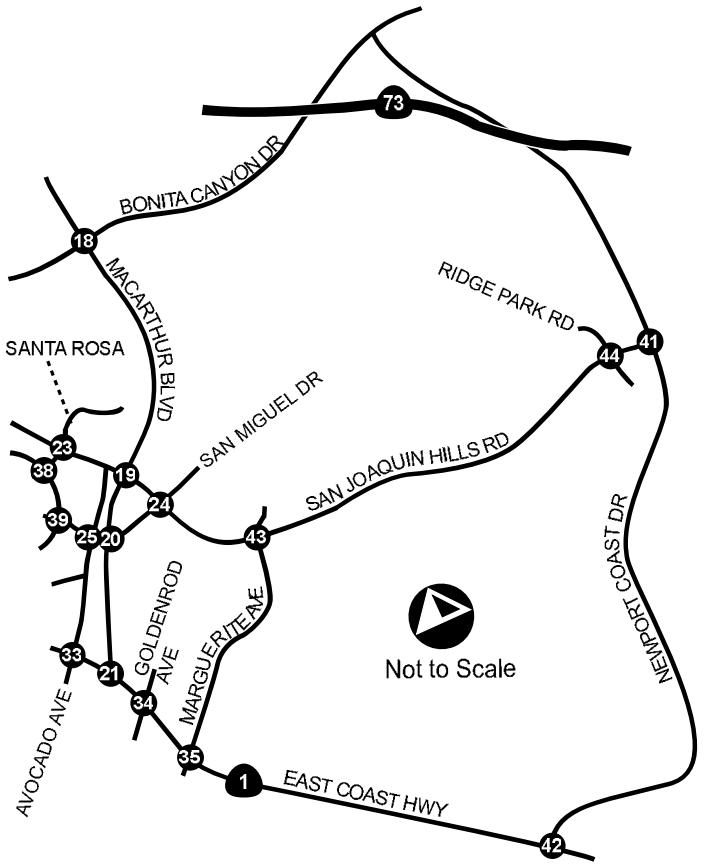
Area 2 - Existing 2009 AM/PM Peak Hour Intersection Volumes

H:\pdata\10106783\Traffic\Exhibits\Exh05.ai

JUL/2009

Exhibit 5





Legend:

XX/XX AM/PM Intersection Volumes

(XX) City of Newport Beach Intersection

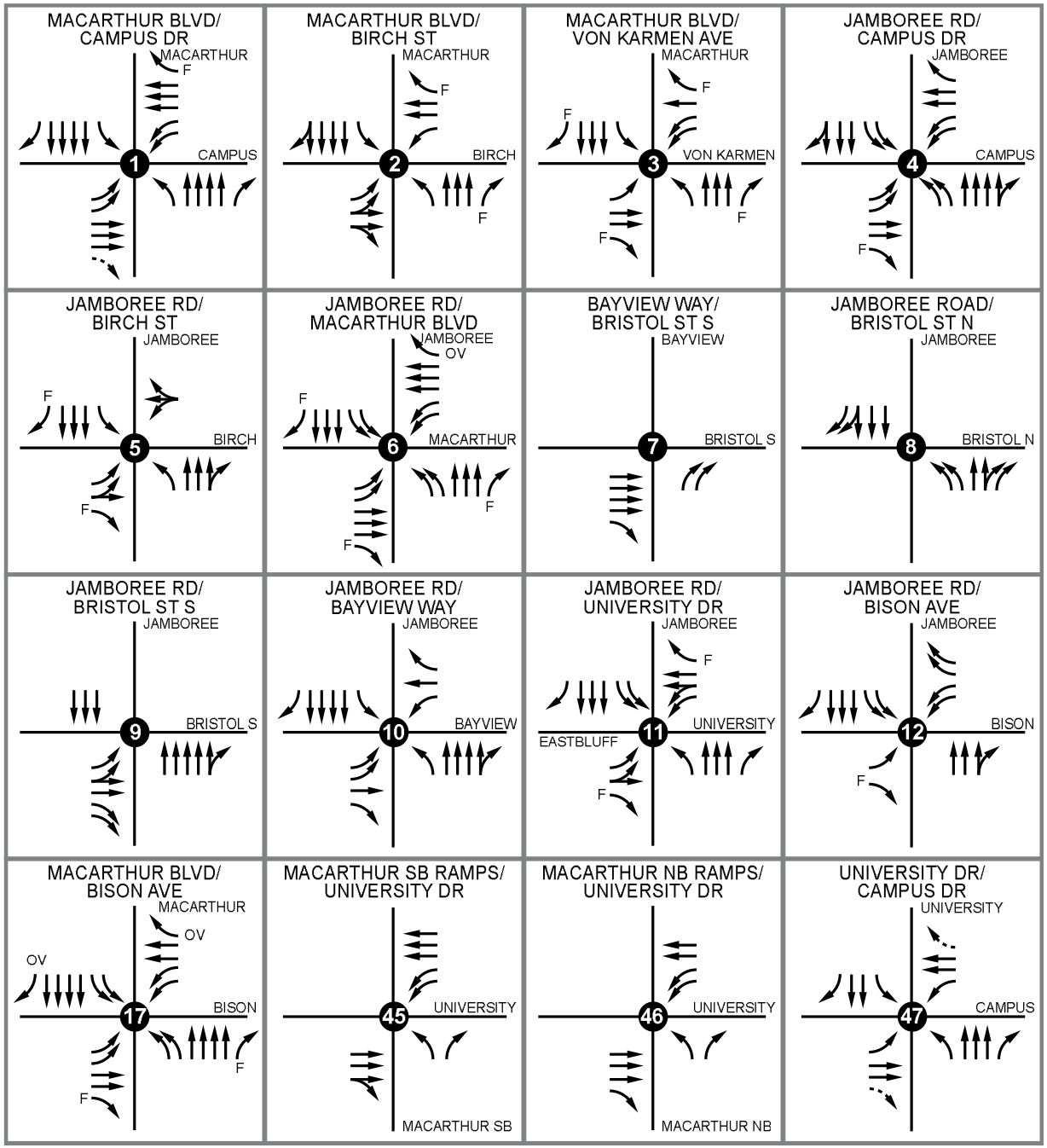
(XX) Shared Newport Beach/Irvine Intersection

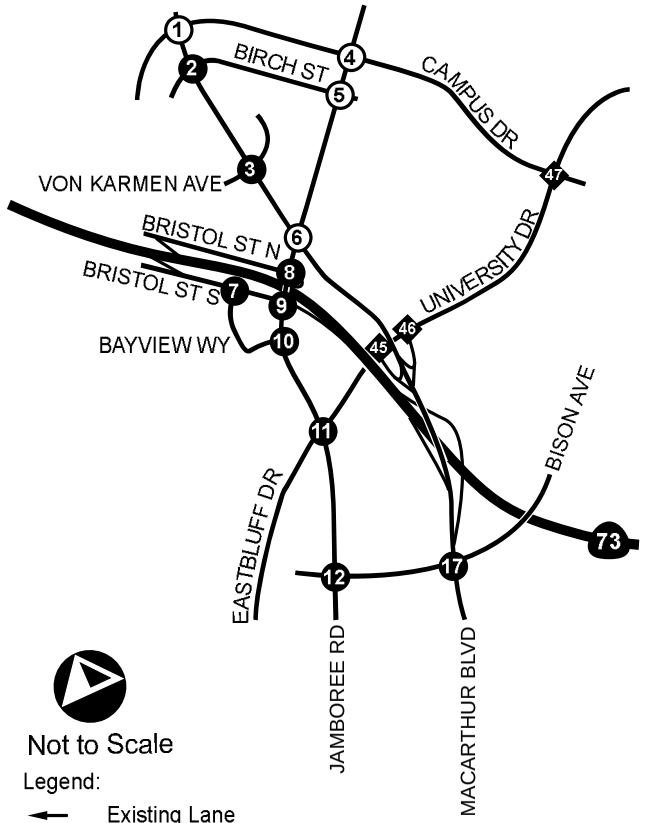
XX City of Irvine Intersection

Area 3 - Existing 2009 AM/PM Peak Hour Intersection Volumes

H:\pdata\10106783\Traffic\Exhibits\Exh06.ai JUL/2009

Exhibit 6





Not to Scale

Legend:

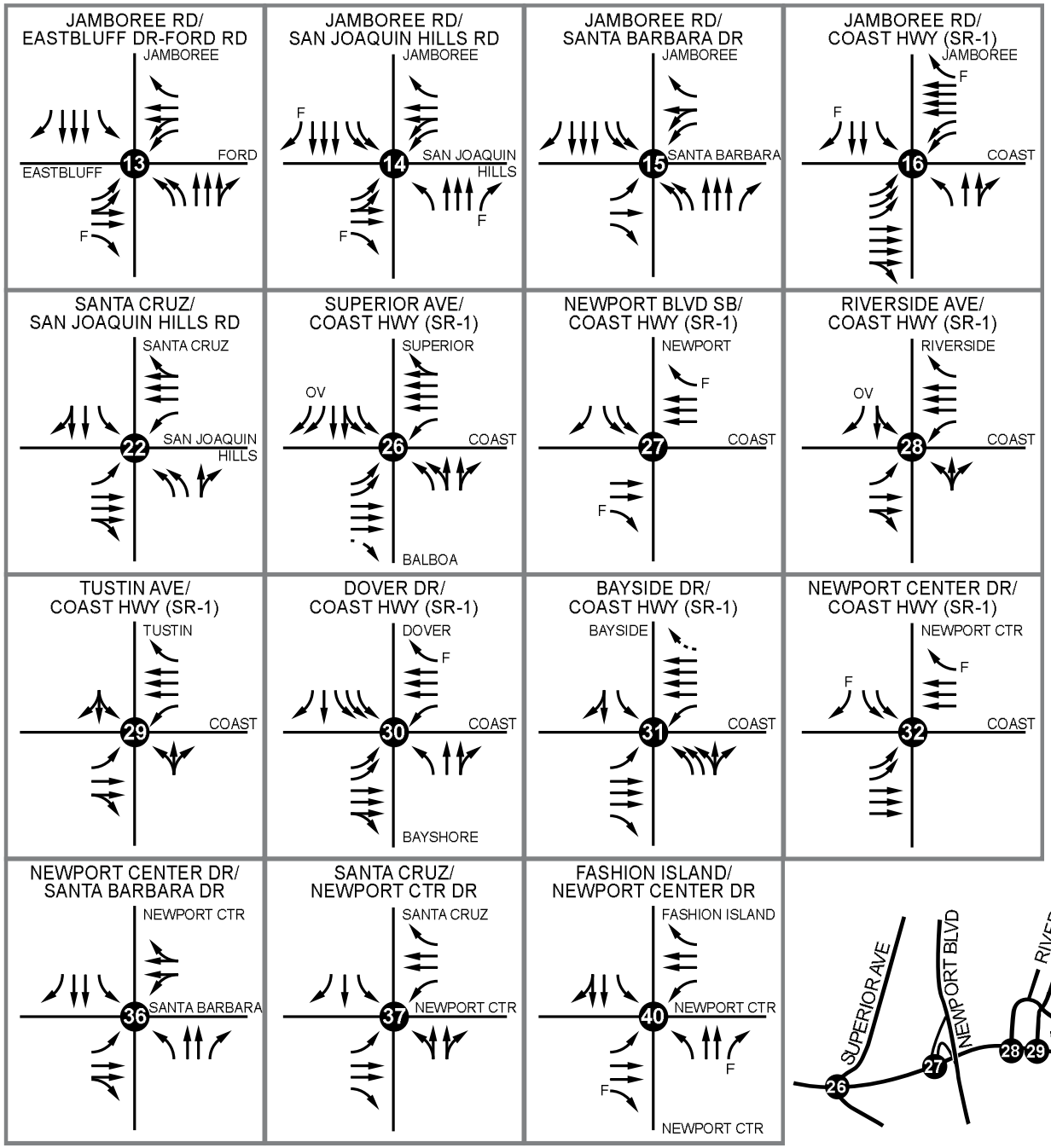
- Existing Lane
- F — Free Right-Turn Lane
- Defacto Right-Turn Lane
- OV — Right-Turn Overlap
- XX — City of Newport Beach Intersection
- XX — Shared Newport Beach/Irvine Intersection
- XX — City of Irvine Intersection

RBF

Area 1 - Existing Study Intersection Geometry

H:\pdata\10106783\Traffic\Exhibits\Exh07.ai JUL/2009

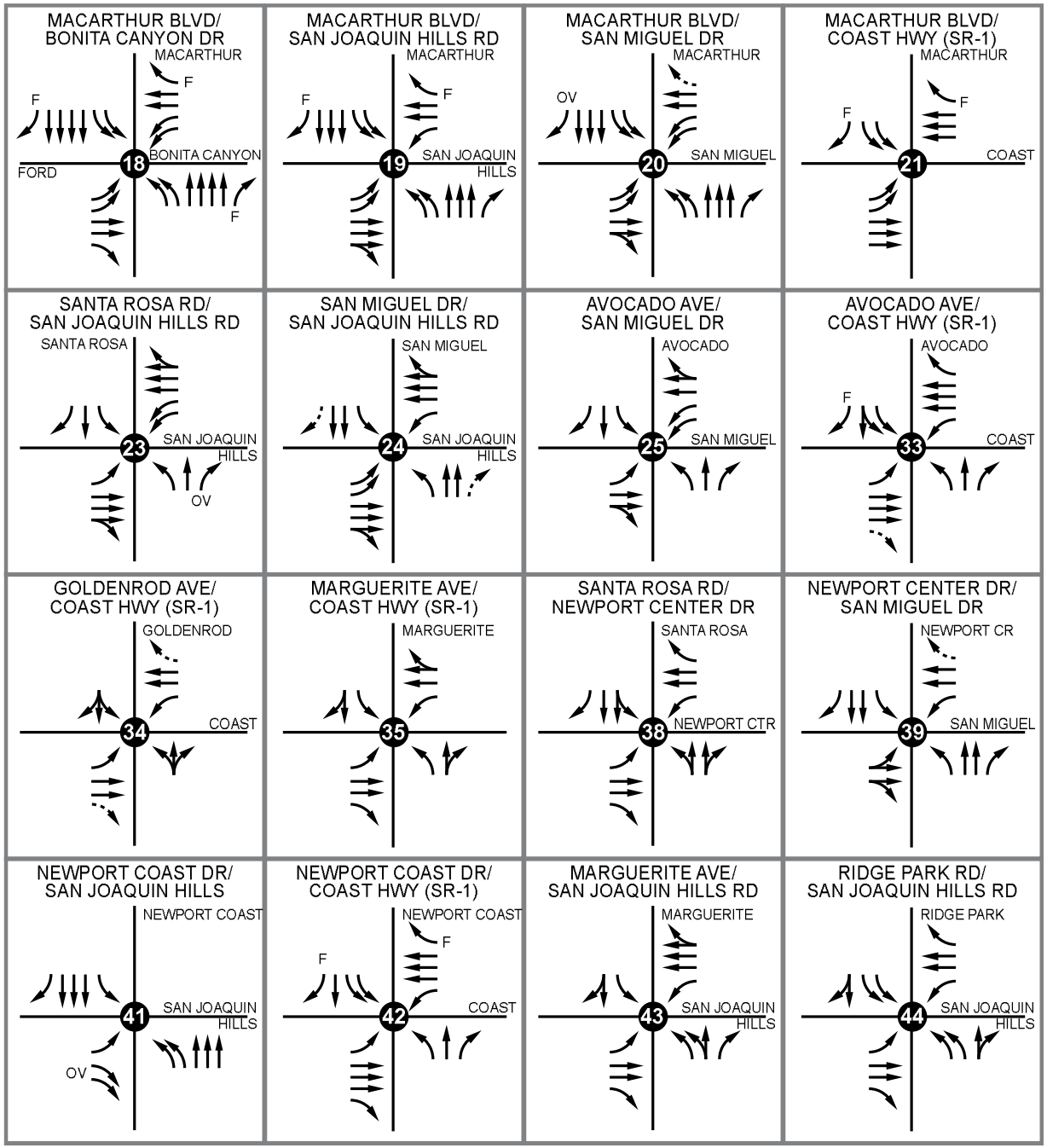
Exhibit 7

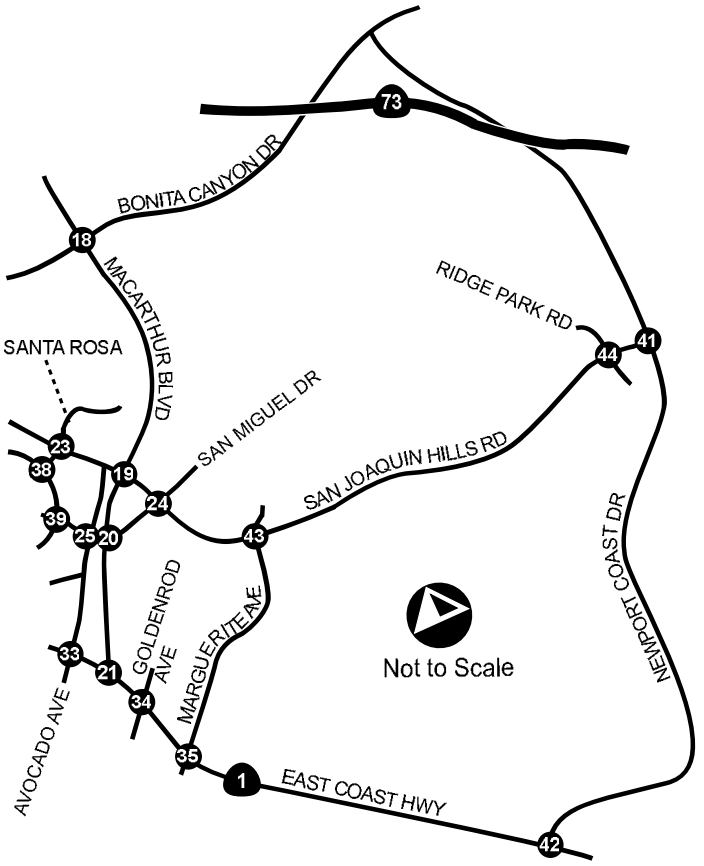


Area 2 - Existing Study Intersection Geometry

H:\pdata\10106783\Traffic\Exhibits\Exh08.ai JUL/2009

Exhibit 8





Legend:

- Existing Lane
- F — Free Right-Turn Lane
- Defacto Right-Turn Lane
- OV — Right-Turn Overlap
- XX — City of Newport Beach Intersection
- XX — Shared Newport Beach/Irvine Intersection
- XX — City of Irvine Intersection

RBF

Area 3 - Existing Study Intersection Geometry

H:\pdata\10106783\Traffic\Exhibits\Exh09.ai JUL/2009

Exhibit 9

Table 2
Existing 2009 Conditions AM & PM Peak Hour LOS

Int. No.	Study Intersection	AM Peak Hour	PM Peak Hour
		V/C – LOS	V/C – LOS
1	MacArthur Blvd/Campus Dr	0.50 – A	0.84 – D
2	MacArthur Blvd/Birch St	0.65 – B	0.75 – C
3	MacArthur Blvd/Von Karmen Ave	0.37 – A	0.53 – A
4	Jamboree Rd/Campus Dr	0.67 – B	0.73 – C
5	Jamboree Rd/Birch St	0.57 – A	0.65 – B
6	Jamboree Rd/MacArthur Blvd	0.59 – A	0.66 – B
7	Bayview Way/Bristol St	0.58 – A	0.67 – B
8	Jamboree Rd/Bristol St N	0.57 – A	0.54 – A
9	Jamboree Rd/Bristol St S	0.67 – B	0.68 – B
10	Jamboree Rd/Bayview Way	0.40 – A	0.46 – A
11	Jamboree Rd/Eastbluff-University	0.58 – A	0.58 – A
12	Jamboree Rd/Bison Ave	0.43 – A	0.47 – A
13	Jamboree Rd/Eastbluff-Ford	0.60 – A	0.61 – B
14	Jamboree Rd/San Joaquin Hills Rd	0.56 – A	0.57 – A
15	Jamboree Rd/Santa Barbara Dr	0.49 – A	0.66 – B
16	Jamboree Rd/E Coast Hwy (SR-1)	0.67 – B	0.70 – B
17	MacArthur Blvd/Bison Ave	0.61 – B	0.67 – B
18	MacArthur Blvd/Ford-Bonita Canyon	0.73 – C	0.78 – C
19	MacArthur Blvd/San Joaquin Hills Rd	0.66 – B	0.82 – D
20	MacArthur Blvd/San Miguel Dr	0.45 – A	0.71 – C
21	MacArthur Blvd/E Coast Hwy (SR-1)	0.72 – C	0.65 – B
22	Santa Cruz Dr/San Joaquin Hills Rd	0.30 – A	0.30 – A
23	Santa Rosa Dr/San Joaquin Hills Rd	0.28 – A	0.43 – A
24	San Miguel Dr/San Joaquin Hills Rd	0.40 – A	0.54 – A
25	Avocado Ave/San Miguel Dr	0.33 – A	0.72 – C
26	Balboa-Superior/W Coast Hwy (SR-1)	0.65 – B	0.65 – B
27	Newport Blvd SB/W Coast Hwy (SR-1)	0.83 – D	0.64 – B
28	Riverside Ave/W Coast Hwy (SR-1)	0.65 – B	0.71 – C
29	Tustin Ave/W Coast Hwy (SR-1)	0.65 – B	0.58 – A
30	Dover Dr/W Coast Hwy (SR-1)	0.63 – B	0.71 – C
31	Bayside Dr/E Coast Hwy (SR-1)	0.75 – C	0.65 – B
32	Newport Ctr Dr/E Coast Hwy (SR-1)	0.36 – A	0.54 – A
33	Avocado Ave/E Coast Hwy (SR-1)	0.47 – A	0.73 – C
34	Goldenrod Ave/E Coast Hwy (SR-1)	0.75 – C	0.70 – B

Table 2 (continued)
Existing 2009 Conditions AM & PM Peak Hour LOS

Int. No.	Study Intersection	AM Peak Hour	PM Peak Hour
		V/C – LOS	V/C – LOS
35	Marguerite Ave/E Coast Hwy (SR-1)	0.80 – C	0.74 – C
36	Newport Ctr Dr/Santa Barbara Dr	0.18 – A	0.25 – A
37	Santa Cruz Dr/Newport Ctr Dr	0.12 – A	0.21 – A
38	Santa Rosa Dr/Newport Ctr Dr	0.14 – A	0.37 – A
39	Newport Ctr Dr/San Miguel Dr	0.22 – A	0.45 – A
40	Fashion Island/Newport Ctr Dr	0.18 – A	0.39 – A
41	Newport Coast Dr/San Joaquin Hills Rd	0.48 – A	0.42 – A
42	Newport Coast Dr/E Coast Hwy (SR-1)	0.46 – A	0.47 – A
43	Marguerite Ave/San Joaquin Hills Rd	0.42 – A	0.43 – A
44	Ridge Park Rd/San Joaquin Hills Rd	0.29 – A	0.28 – A
45	MacArthur SB Ramps/University Dr	0.43 – A	0.39 – A
46	MacArthur NB Ramps/University Dr	0.47 – A	0.58 – A
47	University Dr/Campus Dr	0.78 – C	0.72 – C

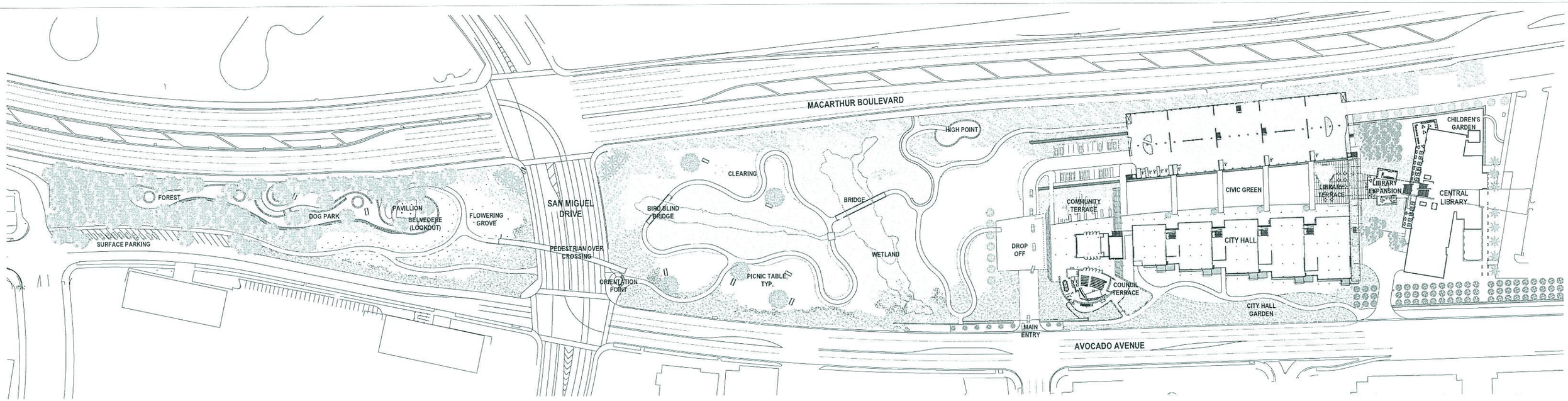
Note: V/C = volume to capacity ratio.

As shown in Table 2, all of the study intersections are calculated to operate at an acceptable LOS according to agency performance criteria. While the study intersections are calculated to operate at an acceptable LOS, it should be noted that the MacArthur Boulevard/San Miguel Drive and Avocado Avenue/San Miguel Drive intersections have experienced operational issues in the past due to the combination of the short spacing between the intersections and heavy turning movements.

PROPOSED PROJECT

The proposed project consists of construction of a 98,000 square foot City Hall that can accommodate up to 295 employees, 14.3 acres of passive park containing approximately 0.5 acres of dog park, and a 17,135 square foot expansion of the existing library. Also included as part of the proposed project are improvements to San Miguel Drive, including modifications to its intersection with both Macarthur Boulevard and Avocado Avenue. The project site is bound by the Newport Transportation Center/Park-And-Ride to the north, MacArthur Boulevard to the east, the existing public library to the south and Avocado Avenue to the west. The City Hall is proposed to be located on the southerly portion of the site, adjacent to the expanded library. All project site access is planned from Avocado Avenue. The project site is currently vacant northerly of the library.

Exhibit 10 shows the proposed project site plan.



NEWPORT BEACH CITY HALL AND PARK | SITE PLAN

BOHLIN CYWINSKI JACKSON | PWP | ARUP

JUNE 9, 2009

Not to Scale

RBF

H:\pdata\10106738

JUN/2009

Proposed Project Site Plan

Exhibit 10

Project Trip Generation

To determine trips forecast to be generated by the proposed project, *Institute of Transportation Engineers (ITE)* trip generation rates were referenced and surveys of the existing Newport Beach City Hall and the Laguna Beach dog park were performed.

A survey was conducted to determine trip generation at the existing Newport Beach City Hall on Wednesday April 30, 2009. Vehicular activity related to City Hall was observed and recorded from 7:00 a.m. to 6:00 p.m. Based on the number of trips observed, and the number of employees present at City Hall on the day of the survey, trip rates were determined on a "per employee" basis for City Hall. Since trips were not recorded for a 24-hour period, the daily trip rate was projected by increasing the 11-hour trip rate by 10 percent to account for any trips occurring outside normal City Hall operating hours.

Table 3 summarizes the results of the existing Newport Beach City Hall survey.

Table 3
Observed Existing Newport Beach City Hall Trips

Land Use	AM Peak Hour			PM Peak Hour			Total Trips 7am-6pm
	In	Out	Total	In	Out	Total	
Newport Beach City Hall (218 Employees Present)	119	19	138	17	116	133	1,120

Based on employee data provided by the City of Newport Beach, trip rates for the existing Newport Beach City Hall were calculated. Table 4 summarizes a.m. peak hour, p.m. peak hour and daily trip rates.

Table 4
Trip Rates for Existing Newport Beach City Hall Based on Site Survey

Land Use (*ITE* Code)	Units	AM Peak Hour			PM Peak Hour			Daily Trip Rate
		In	Out	Total	In	Out	Total	
Newport Beach City Hall	Employees	0.54	0.09	0.63	0.08	0.53	0.61	5.14
		In	Out	Total	In	Out	Total	Daily Trips
Proposed 295 Employee City Hall		159	27	186	24	156	180	1,516

For comparison purposes, ITE trip generation rates for the Government Office land use were examined. Table 5 summarizes *ITE* trip generation rates for the Government Office Complex land use.

Table 5
Trip Rates for Newport Beach City Hall
Based on *ITE* Rates for Government Office Complex Land Use

Land Use (*ITE* Code)	Units	AM Peak Hour			PM Peak Hour			Daily Trip Rate
		In	Out	Total	In	Out	Total	
Government Office Complex (733)	Employees	0.54	0.07	0.61	0.24	0.55	0.79	7.75
		In	**Out**	**Total**	**In**	**Out**	**Total**	**Daily Trips**
Proposed 295 Employee City Hall		159	21	180	71	162	233	2,286

Source: *2008 ITE Trip Generation Manual, 8th Edition*.

The *ITE* rates for the Government Office Complex are higher during the p.m. peak hour and daily trips than the rates determined by the counts collected at the existing City Hall site. During the a.m. peak hour the trip rate is similar between observed and ITE. This analysis conservatively assumes the *ITE* Government Office Complex trip rates for trip generation of the proposed City Hall site.

Forecast trip generation for the proposed public library expansion is based on *ITE* trip generation equations. The existing public library is 54,362 square feet and the project proposes to add 17,135 square feet. In this analysis, net new trip generation for this project component is defined as the difference in trip generation between a 71,497 square foot library and a 54,632 square foot library

Table 6 presents the *ITE* trip generation equations used to calculate the number of trips forecast to be generated by the library expansion component of the proposed project and shows the projected additional trip generation for the proposed expansion.

Table 6
***ITE* Trip Rates for Library Land Use**

Land Use (*ITE* Code)	Units	AM Peak Hour			PM Peak Hour			Daily Trip Rate
Library (590)	tsf	T = 1.32 (X) -5.84 (71% in, 29% out)			LN(T) = 0.91*LN(X) + 2.22 (48% in, 52% out)			LN(T) = 0.69*LN(X) + 5.05
		In	**Out**	**Total**	**In**	**Out**	**Total**	**Daily Trips**
Proposed 71.497-tsf Library		63	26	89	215	233	448	2,969
Existing 54.362-tsf Library		-47	-19	-66	-168	-181	-349	-2,458
Net Increase in trips (17.135-tsf Increase)		**16**	**7**	**23**	**47**	**52**	**99**	**511**

Note: Tsf = thousand square feet. T = Trips. X = Land Use Quanity.
Source: *2008 ITE Trip Generation Manual, 8th Edition*.

Forecast trip generation for the proposed park land use is based on *ITE* trip generation rates. The proposed park is 14.3 acres. Table 7 presents the *ITE* trip generation rates used to calculate the number of trips forecast to be generated by the park component of the proposed project and shows the projected trip generation of a 14.3 acre park based on the trip generation

rates. The *ITE* County Park (412) trip generation rate was used because it includes peak hour trip rates.

Table 7
***ITE* Trip Rates for Library Land Use**

Land Use (*ITE* Code)	Units	AM Peak Hour			PM Peak Hour			Daily Trip Rate
		In	Out	Total	In	Out	Total	
County Park (412)	acres	0.01	0.00	0.01	0.06	0.00	0.06	2.28
		In	**Out**	**Total**	**In**	**Out**	**Total**	**Daily Trips**
Proposed 14.3-acre Park		1	0	1	1	0	1	33

Source: *2008 ITE Trip Generation Manual, 8th Edition*.

In order to establish a basis for the trip characteristics of the dog park, a trip generation survey of the Laguna Beach Dog Park was performed. This survey collected trip generation data from 8:00 a.m. to 6:00 p.m. on Thursday May 14, 2009. It is important to note that the Laguna Beach Dog Park, at approximately 2.5 acres, is significantly larger than the area proposed for the dog park in the City of Newport Beach. It should also be noted that, based on comments from those using the Laguna Beach facility, its users include both Laguna Beach residents and non-residents. Therefore, the trip generation observed at the Laguna Beach facility is expected to be higher than that of the proposed Newport Beach dog park. It was concluded that half of the trips observed at the Laguna Beach facility would conservatively estimate the projected trips associated with the proposed project's dog park (0.5 acre) component. Table 8 summarizes the results of the Laguna Beach Dog Park survey and the forecast trip generation for the smaller, proposed Newport Beach Dog Park.

Table 8
Dog Park Trips

Land Use	AM Peak Hour			PM Peak Hour			ADT
	In	Out	Total	In	Out	Total	
Laguna Beach Dog Park (2.5 acres)	23	14	37	20	17	37	480
Proposed Newport Beach Dog Park (0.5 acres)	12	7	19	10	9	19	240

Table 9 summarizes the trips forecast to be generated by the proposed project utilizing the trip generation data shown in Table 5, Table 6, Table 7 and Table 8.

Table 9
Forecast Trip Generation of Proposed Project

Land Use	AM Peak Hour Trips			PM Peak Hour Trips			Daily Trips
	In	Out	Total	In	Out	Total	
City Hall (295 Employees)	159	21	180	71	162	233	2,286
17.135-tsf Library Expansion	16	7	23	47	52	99	511
14.3-acre Park	1	0	1	1	0	1	33
0.5-acre Dog Park	12	7	19	10	9	19	240
Trip Generation of Proposed Project	**188**	**35**	**223**	**129**	**223**	**352**	**3,070**

Note: Tsf = thousand square feet.

As shown in Table 9, the proposed project is forecast to generate approximately 3,070 daily trips, which include approximately 223 a.m. peak hour trips and approximately 352 p.m. peak hour trips.

Appendix I contains the results of the trip generation survey for the existing City Hall and the Laguna Beach Dog Park.

Project Trip Distribution and Assignment

Exhibit 11 shows forecast trip percent distribution of City Hall-generated trips. Exhibit 12 shows the forecast trip percent distribution of Dog Park trips and Library trips, which tend to be more locally oriented in their distribution.

Exhibits 13, 14 and 15 show the corresponding assignment of project-generated peak hour trips assuming the trip percent distribution shown in Exhibits 11 and 12.

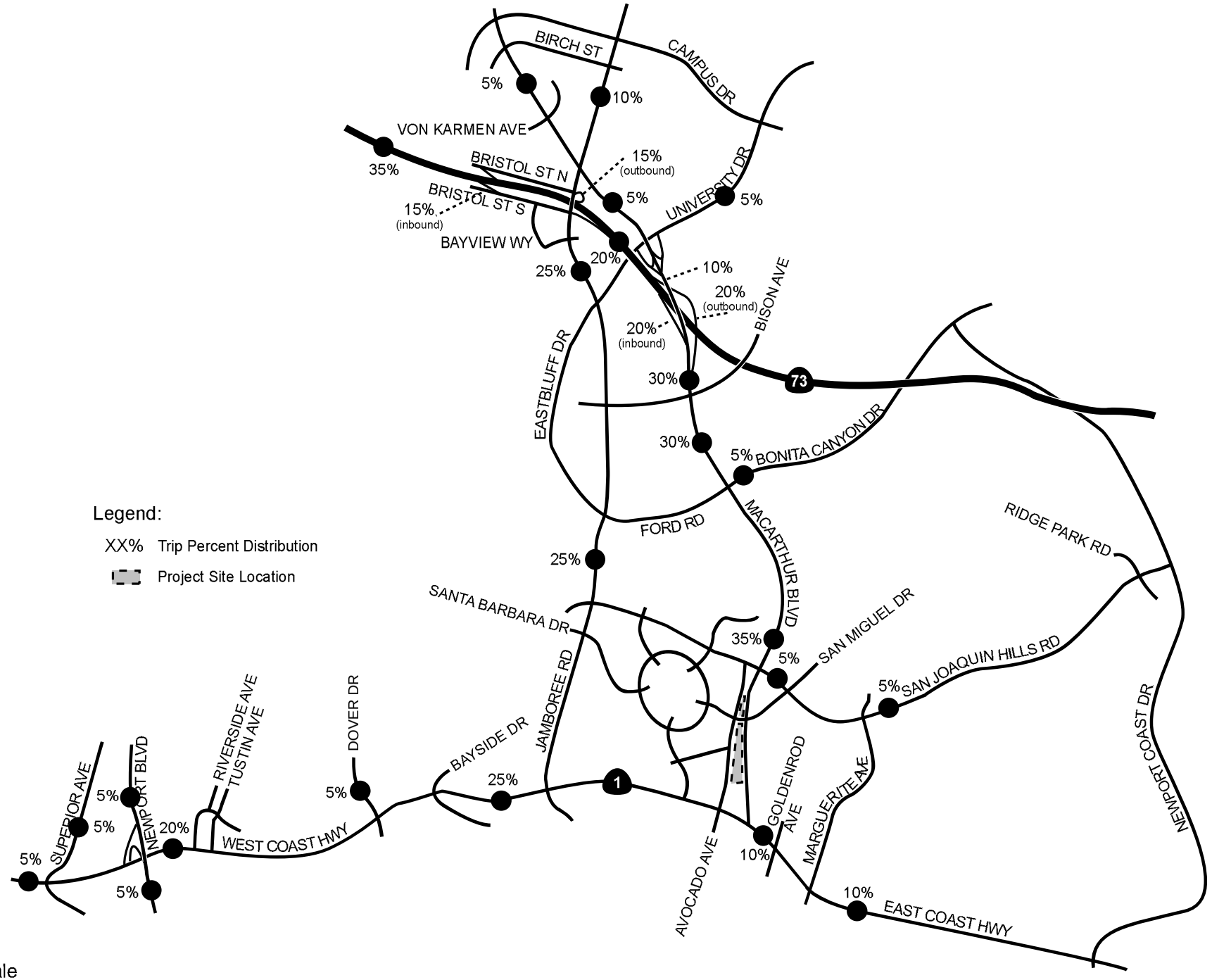
San Miguel Drive Geometric Improvements

The project also includes improvements to San Miguel Drive, focusing on the segment between MacArthur Boulevard and Avocado Avenue. Although these intersections operate at acceptable levels of service, this segment of road has experienced operational issues due to the relatively short distance between these intersections and the relatively high number of turning movements. Through widening San Miguel Drive, the following geometric improvements would be provided:

- A third eastbound left turn lane from San Miguel Drive onto MacArthur Boulevard
- A third eastbound through lane at San Miguel Drive/Avocado Avenue
- A defacto eastbound right turn lane from San Miguel Drive onto MacArthur Boulevard
- A defacto westbound right turn lane from San Miguel Drive onto Avocado Avenue

In addition, the southbound Avocado Avenue approach to San Miguel Drive would be re-striped to provide for two left turn lanes.

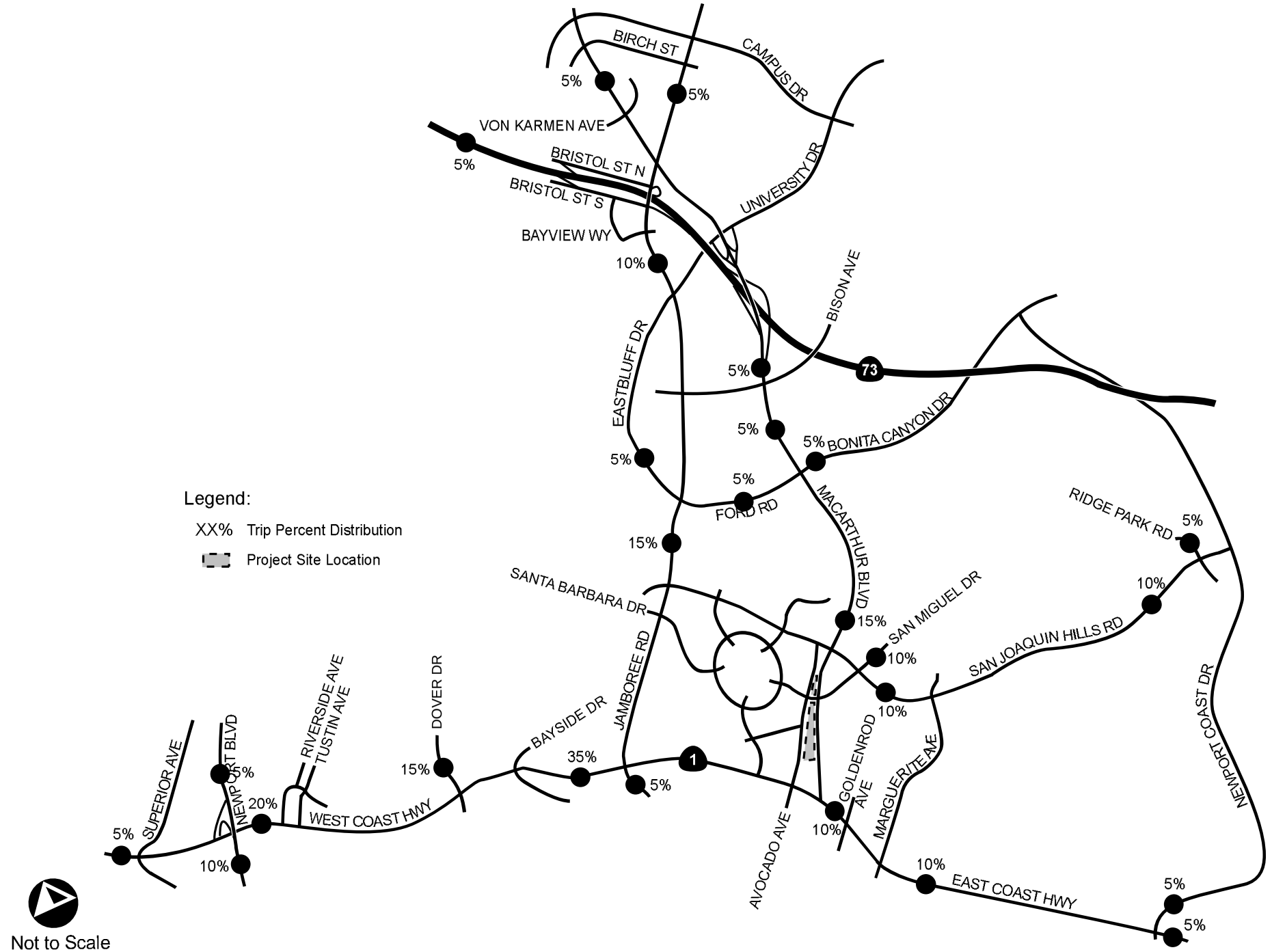
The improvements are proposed to provide additional capacity for the heavy afternoon eastbound left turn onto MacArthur Boulevard, as well as providing additional lanes, where possible, to reduce the amount of signal-cycle time necessary for traffic movements opposing the heavy westbound left turn onto Avocado Avenue. These physical improvements are proposed to supplement the recently implemented traffic signal coordination program in order to improve the operational efficiency of these intersections.



Forecast Trip Percent Distribution of City Hall Trips

H:\pdata\10106738\Traffic\Exhibits\Exh11.ai JUL/2009

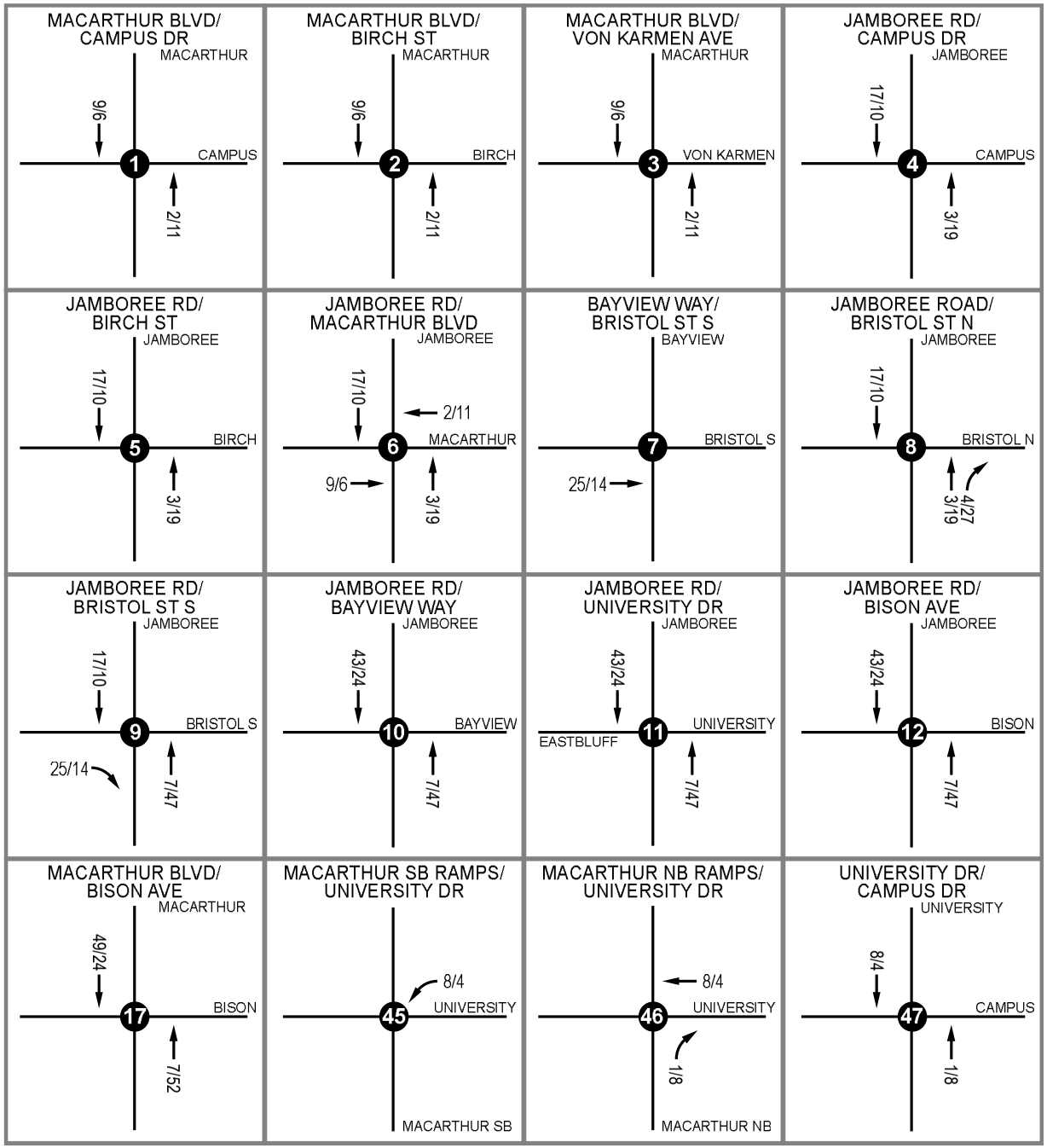
Exhibit 11

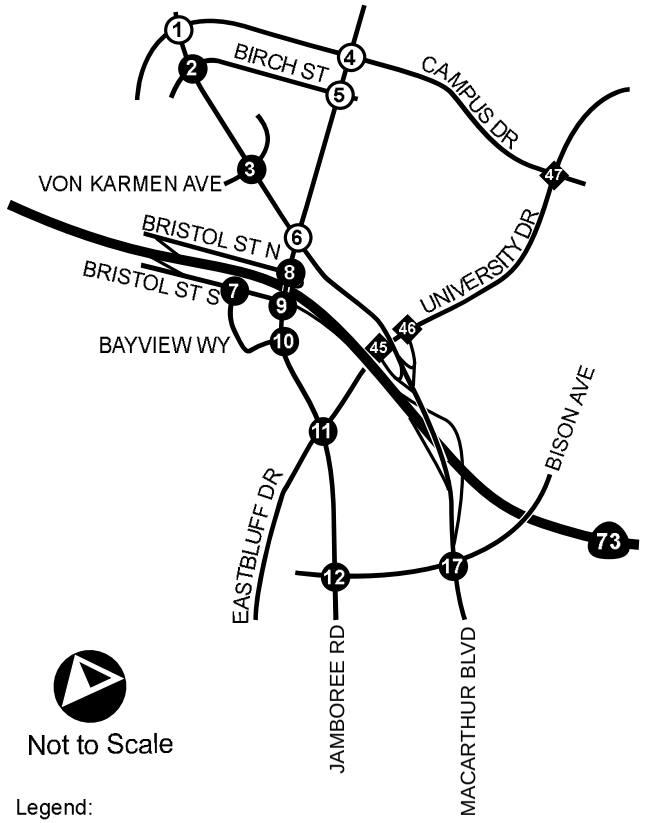


Forecast Trip Percent Distribution of Dog Park & Library Trips

H:\pdata\10106738\Traffic\Exhibits\Exh12.ai JUL/2009

Exhibit 12





Legend:

XX/XX AM/PM Intersection Volumes

(XX) City of Newport Beach Intersection

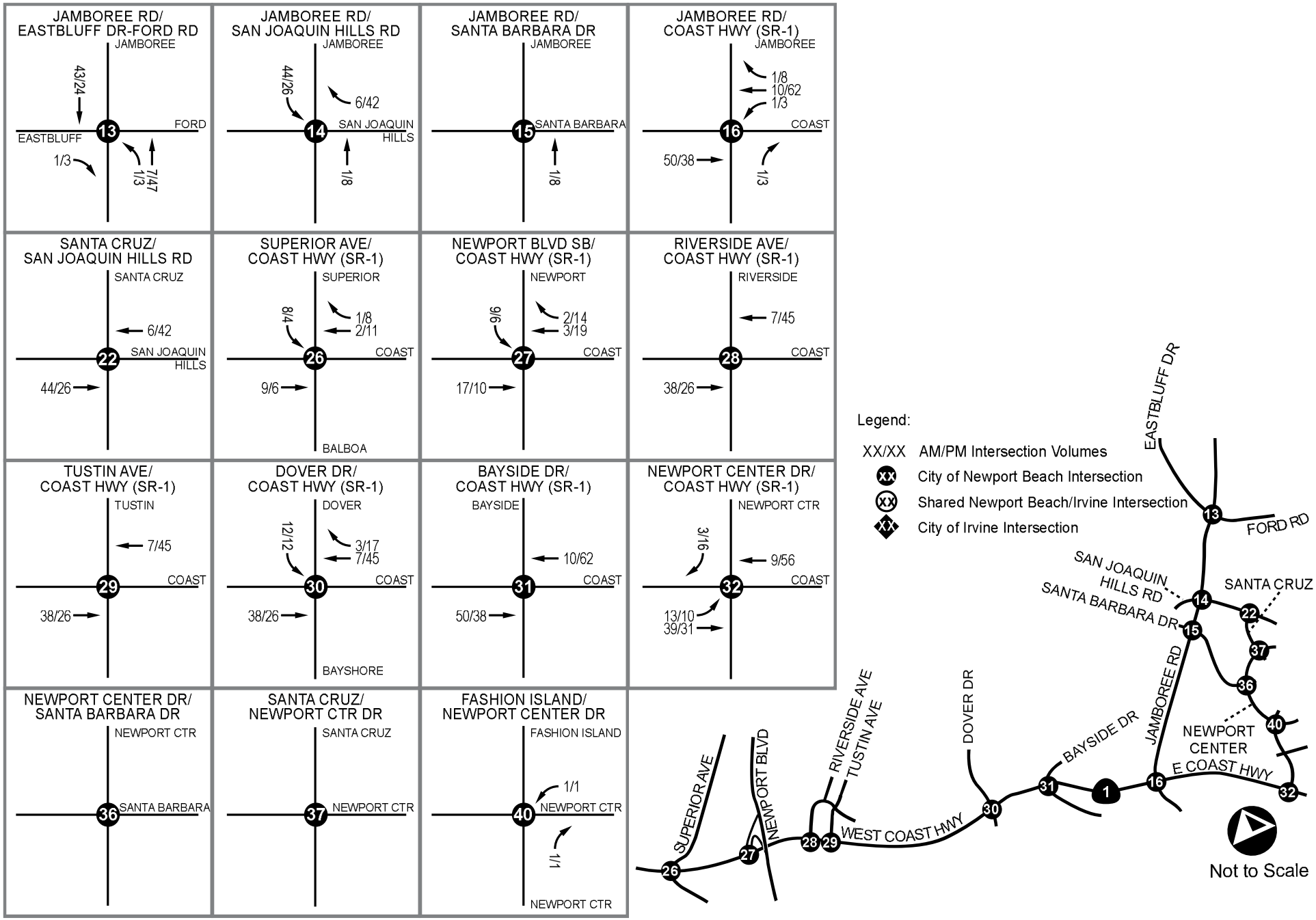
(XX) Shared Newport Beach/Irvine Intersection

XX City of Irvine Intersection

Area 1 - Forecast AM/PM Peak Hour Trip Assignment of Proposed Project

H:\pdata\10106783\Traffic\Exhibits\Exh13.ai JUL/2009

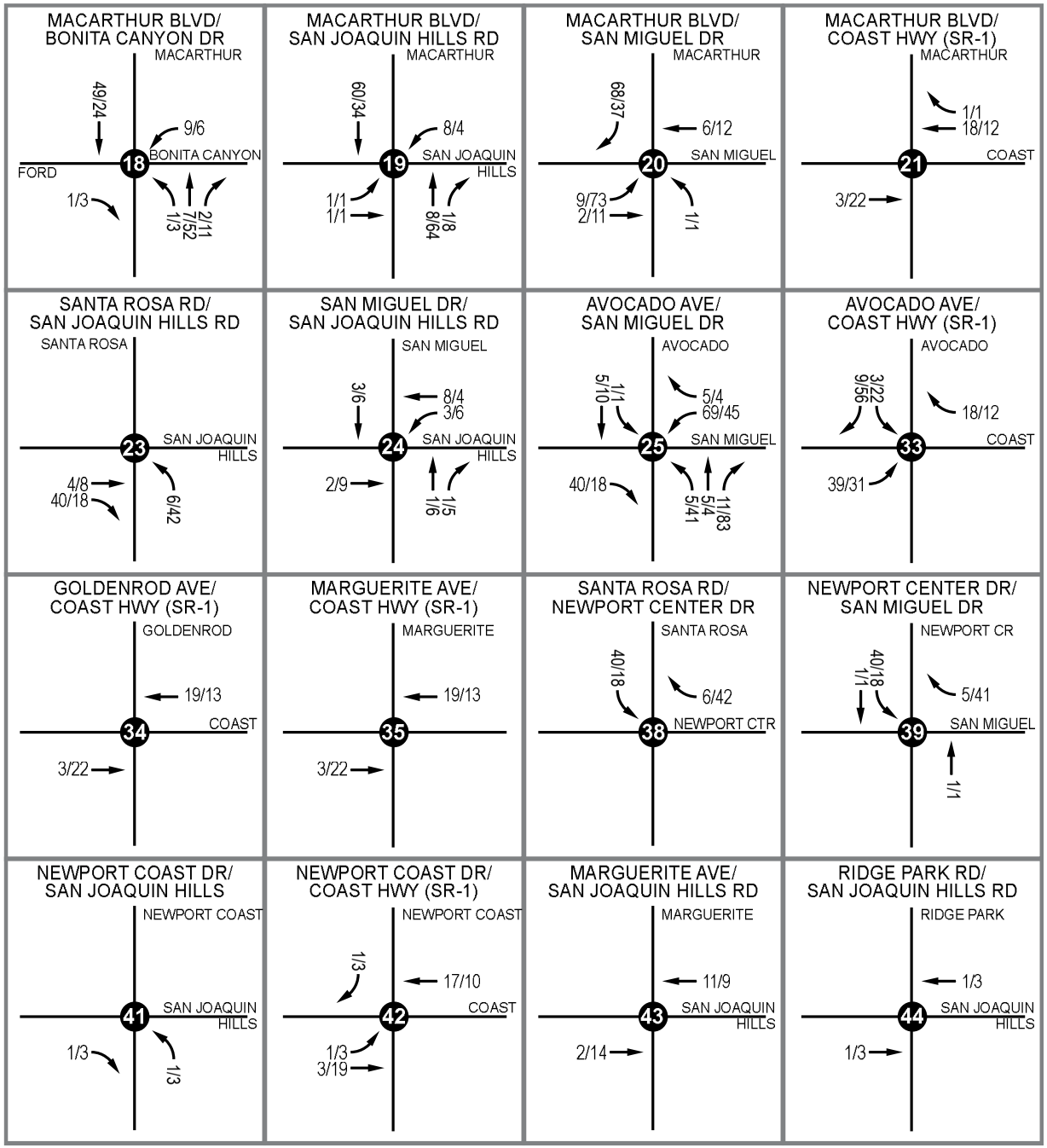
Exhibit 13



Area 2 - Forecast AM/PM Peak Hour Trip Assignment of Proposed Project

H:\pdata\10106783\Traffic\Exhibits\Exh14.ai JUL/2009

Exhibit 14



Area 3 - Forecast AM/PM Peak Hour Trip Assignment of Proposed Project

H:\pdata\10106783\Traffic\Exhibits\Exh15.ai JUL/2009

Exhibit 15

It should be noted that these proposed improvements are not assumed in the following impact analysis; instead being addressed in a separate, subsequent section of the report focusing on these proposed improvements.

EXISTING PLUS PROJECT TRAFFIC

This section analyzes the impact of the addition of trips forecast to be generated by the proposed project to existing conditions.

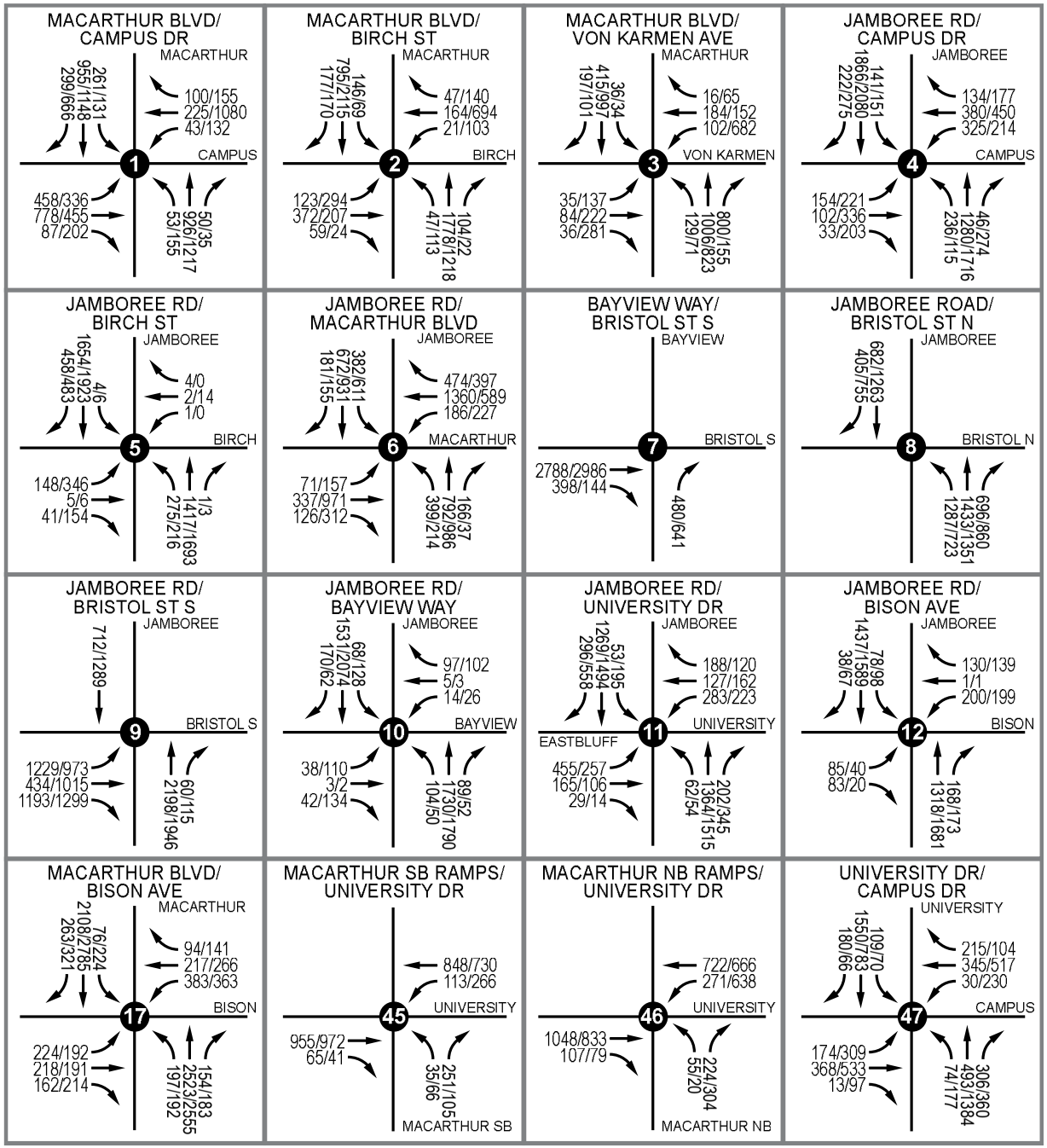
Existing Plus Project Traffic

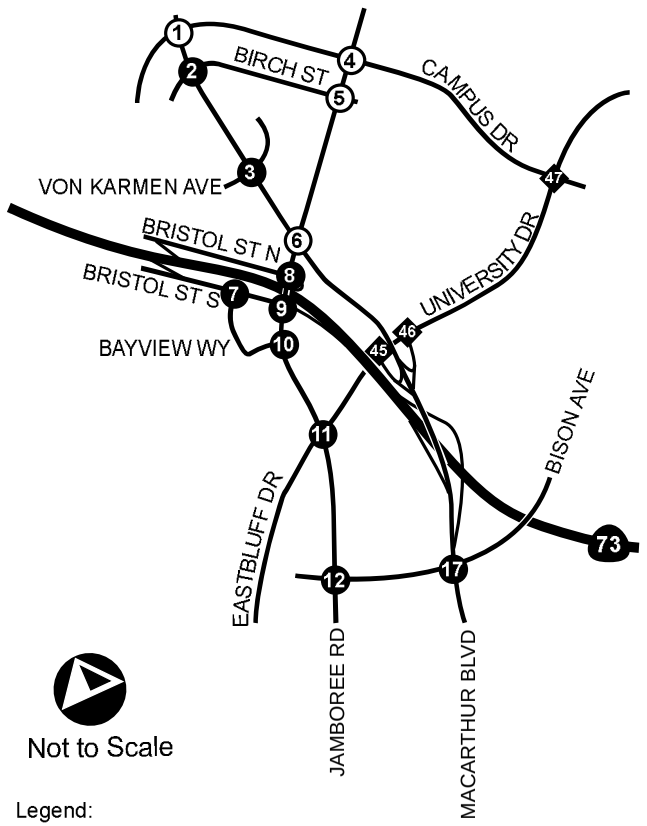
Existing plus project traffic a.m. and p.m. peak hour volumes were derived by adding project-generated trips to existing conditions traffic volumes.

Exhibits 16, 17 and 18 show existing with project traffic a.m. and p.m. peak hour volumes at the study intersections.

Existing With Project Traffic Intersection Level of Service

Table 10 summarizes existing with project traffc a.m. peak hour and p.m. peak hour LOS of the study intersections; detailed LOS analysis sheets are contained in Appendix B.





Legend:

XX/XX AM/PM Intersection Volumes

XX City of Newport Beach Intersection

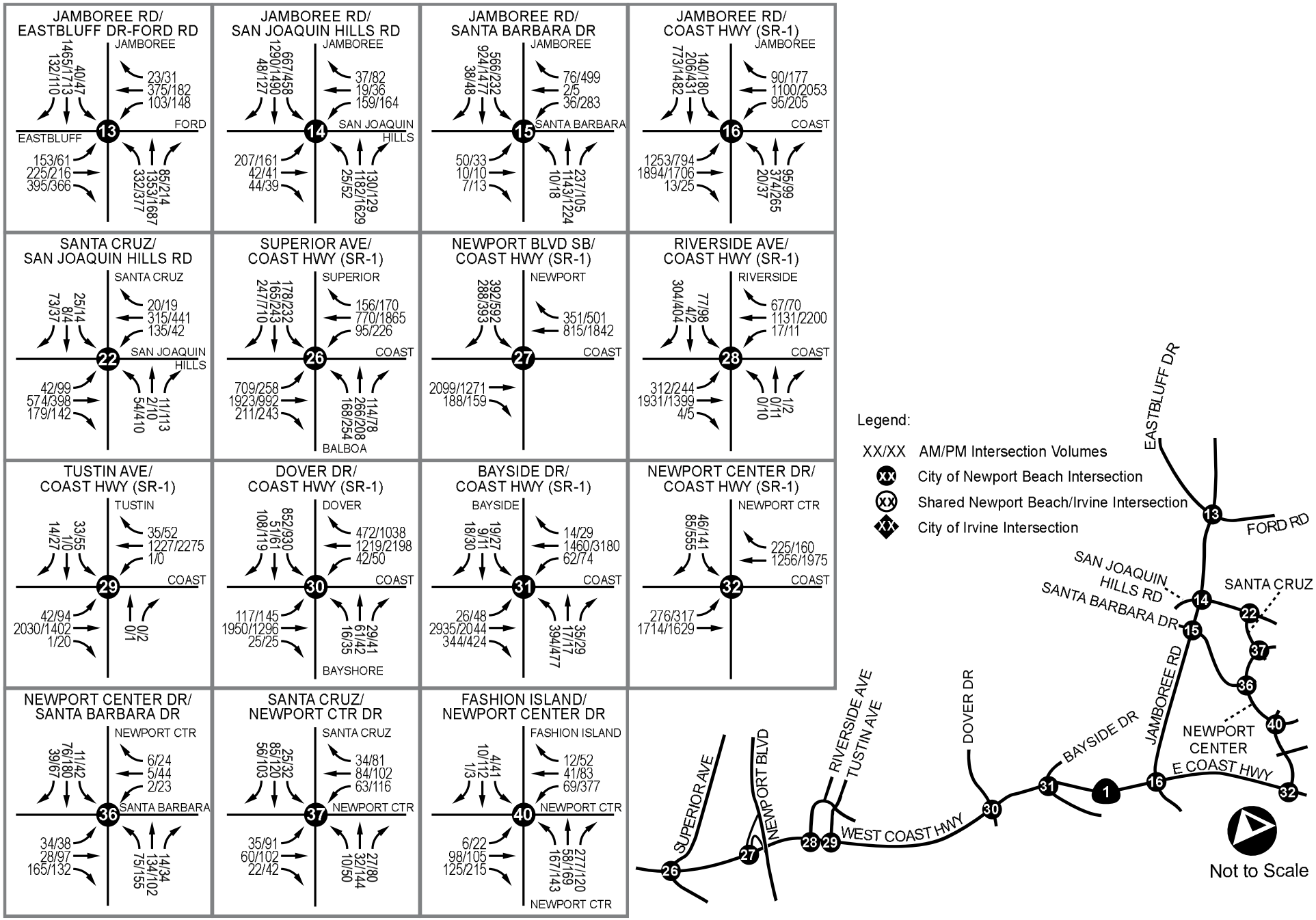
XX Shared Newport Beach/Irvine Intersection

XX City of Irvine Intersection

Area 1 - Existing Plus Project AM/PM Peak Hour Intersection Volumes

H:\pdata\10106783\Traffic\Exhibits\Exh16.ai JUL/2009

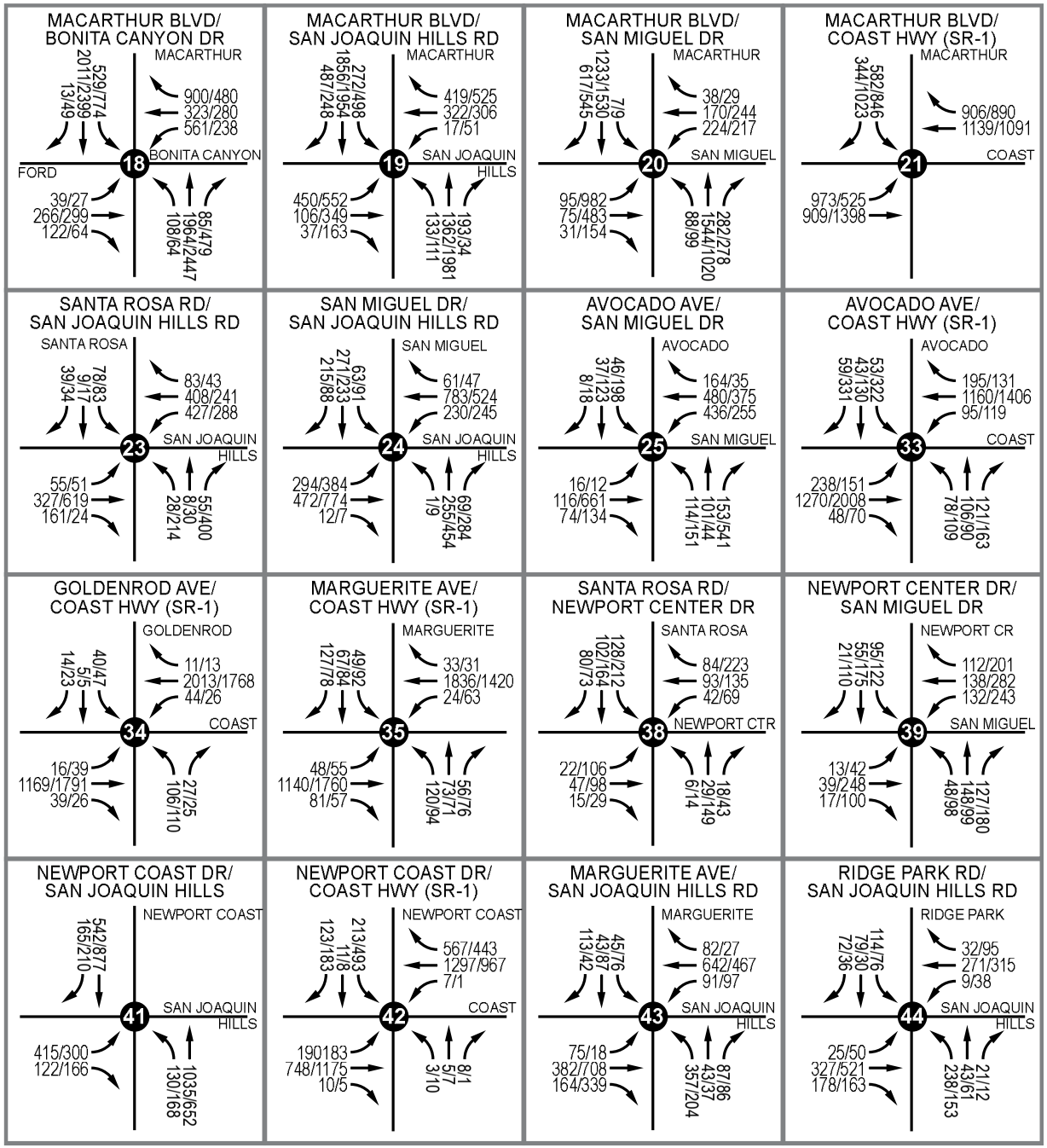
Exhibit 16

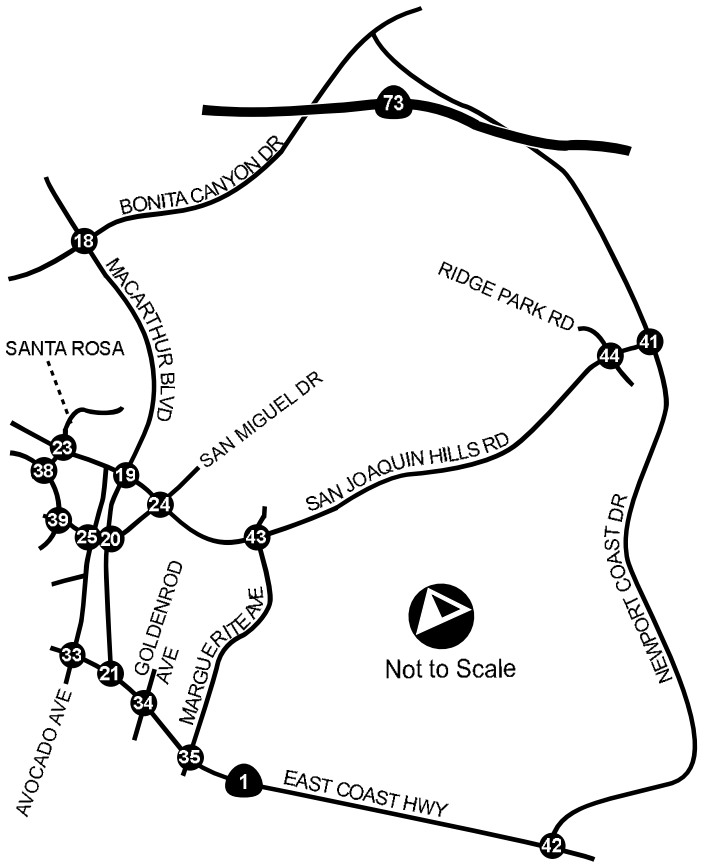


Area 2 - Existing Plus Project AM/PM Peak Hour Intersection Volumes

H:\pdata\10106783\Traffic\Exhibits\Exh17.ai JUL/2009

Exhibit 17





Legend:

XX/XX AM/PM Intersection Volumes

(XX) City of Newport Beach Intersection

(XX) Shared Newport Beach/Irvine Intersection

XX City of Irvine Intersection

Area 3 - Existing Plus Project AM/PM Peak Hour Intersection Volumes

H:\pdata\10106783\Traffic\Exhibits\Exh18.ai JUL/2009

Exhibit 18

Table 10
Existing With Project Traffic AM & PM Peak Hour LOS

Int. No.	Study Intersection	Existing Conditions		Existing With Project Traffic		Increase in V/C		Significant Impact?
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
		V/C – LOS	V/C – LOS	V/C – LOS	V/C – LOS	AM	PM	
1	MacArthur Blvd/Campus Dr	0.50 – A	0.84 – D	0.50 – A	0.84 – D	0.00	0.00	No
2	MacArthur Blvd/Birch St	0.65 – B	0.75 – C	0.65 – B	0.75 – C	0.00	0.00	No
3	MacArthur Blvd/Von Karmen Ave	0.37 – A	0.53 – A	0.37 – A	0.54 – A	0.00	0.01	No
4	Jamboree Rd/Campus Dr	0.67 – B	0.73 – C	0.68 – B	0.74 – C	0.01	0.01	No
5	Jamboree Rd/Birch St	0.57 – A	0.65 – B	0.57 – A	0.65 – B	0.00	0.00	No
6	Jamboree Rd/MacArthur Blvd	0.59 – A	0.66 – B	0.59 – A	0.67 – B	0.00	0.01	No
7	Bayview Way/Bristol St	0.58 – A	0.67 – B	0.59 – A	0.67 – B	0.01	0.00	No
8	Jamboree Rd/Bristol St N	0.57 – A	0.54 – A	0.57 – A	0.54 – A	0.00	0.00	No
9	Jamboree Rd/Bristol St S	0.67 – B	0.68 – B	0.67 – B	0.68 – B	0.00	0.00	No
10	Jamboree Rd/Bayview Way	0.40 – A	0.46 – A	0.40 – A	0.47 – A	0.00	0.01	No
11	Jamboree Rd/Eastbluff-University	0.58 – A	0.57– A	0.58 – A	0.57 – A	0.00	0.00	No
12	Jamboree Rd/Bison Ave	0.43 – A	0.47 – A	0.43 – A	0.48 – A	0.00	0.01	No
13	Jamboree Rd/Eastbluff-Ford	0.60 – A	0.61 – B	0.61 – B	0.61 – B	0.01	0.00	No
14	Jamboree Rd/San Joaquin Hills Rd	0.56 – A	0.57 – A	0.57 – A	0.58 – A	0.01	0.01	No
15	Jamboree Rd/Santa Barbara Dr	0.49 – A	0.66 – B	0.49 – A	0.66 – B	0.00	0.00	No
16	Jamboree Rd/E Coast Hwy (SR-1)	0.67 – B	0.70 – B	0.67 – B	0.71 – B	0.00	0.01	No
17	MacArthur Blvd/Bison Ave	0.61 – B	0.67 – B	0.61 – B	0.67 – B	0.00	0.00	No
18	MacArthur Blvd/Ford-Bonita Canyon	0.73 – C	0.78 – C	0.73 – C	0.79 – C	0.00	0.01	No
19	MacArthur Blvd/San Joaquin Hills Rd	0.66 – B	0.82 – D	0.67 – B	0.84 – D	0.01	0.02	No
20	MacArthur Blvd/San Miguel Dr	0.45 – A	0.71 – C	0.49 – A	0.73 – C	0.04	0.02	No
21	MacArthur Blvd/E Coast Hwy (SR-1)	0.72 – C	0.65 – B	0.72 – C	0.66 – B	0.00	0.01	No
22	Santa Cruz Dr/San Joaquin Hills Rd	0.30 – A	0.30 – A	0.30 – A	0.31 – A	0.00	0.01	No
23	Santa Rosa Dr/San Joaquin Hills Rd	0.28 – A	0.43 – A	0.29 – A	0.44 – A	0.01	0.01	No
24	San Miguel Dr/San Joaquin Hills Rd	0.40 – A	0.54 – A	0.40 – A	0.55 – A	0.00	0.01	No

Note: V/C = volume to capacity ratio; deficient intersection operation shown in **bold**.

Table 10 (continued)
Existing With Project Traffic AM & PM Peak Hour LOS

Int. No.	Study Intersection	Existing Conditions		Existing With Project Traffic		Increase in V/C		Significant Impact?
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
		V/C – LOS	V/C – LOS	V/C – LOS	V/C – LOS	AM	PM	
25	Avocado Ave/San Miguel Dr	0.33 – A	0.72 – C	0.34 – A	0.79 – C	0.01	0.07	No
26	Balboa-Superior/W Coast Hwy (SR-1)	0.65 – B	0.65 – B	0.65 – B	0.65 – B	0.00	0.00	No
27	Newport Blvd SB/W Coast Hwy (SR-1)	0.83 – D	0.64 – B	0.84 – D	0.64 – B	0.01	0.00	No
28	Riverside Ave/W Coast Hwy (SR-1)	0.65 – B	0.71 – C	0.66 – B	0.72 – C	0.01	0.01	No
29	Tustin Ave/W Coast Hwy (SR-1)	0.65 – B	0.58 – A	0.67 – B	0.58 – A	0.02	0.00	No
30	Dover Dr/W Coast Hwy (SR-1)	0.63 – B	0.71 – C	0.64 – B	0.72 – C	0.01	0.01	No
31	Bayside Dr/E Coast Hwy (SR-1)	0.75 – C	0.65 – B	0.76 – C	0.66 – B	0.01	0.01	No
32	Newport Ctr Dr/E Coast Hwy (SR-1)	0.36 – A	0.54 – A	0.37 – A	0.56 – A	0.01	0.02	No
33	Avocado Ave/E Coast Hwy (SR-1)	0.47 – A	0.73 – C	0.50 – A	0.74 – C	0.03	0.01	No
34	Goldenrod Ave/E Coast Hwy (SR-1)	0.75 – C	0.70 – B	0.76 – C	0.71 – C	0.01	0.01	No
35	Marguerite Ave/E Coast Hwy (SR-1)	0.80 – C	0.74 – C	0.81 – D	0.75 – C	0.01	0.01	No
36	Newport Ctr Dr/Santa Barbara Dr	0.18 – A	0.25 – A	0.18 – A	0.25 – A	0.00	0.00	No
37	Santa Cruz Dr/Newport Ctr Dr	0.12 – A	0.21 – A	0.12 – A	0.21 – A	0.00	0.00	No
38	Santa Rosa Dr/Newport Ctr Dr	0.14 – A	0.37 – A	0.16 – A	0.41 – A	0.02	0.04	No
39	Newport Ctr Dr/San Miguel Dr	0.22 – A	0.45 – A	0.24 – A	0.46 – A	0.02	0.01	No
40	Fashion Island/Newport Ctr Dr	0.18 – A	0.39 – A	0.18 – A	0.39 – A	0.00	0.00	No
41	Newport Coast Dr/San Joaquin Hills Rd	0.48 – A	0.42 – A	0.48 – A	0.42 – A	0.00	0.00	No
42	Newport Coast Dr/E Coast Hwy (SR-1)	0.46 – A	0.47 – A	0.46 – A	0.48 – A	0.00	0.01	No
43	Marguerite Ave/San Joaquin Hills Rd	0.42 – A	0.43 – A	0.42 – A	0.44 – A	0.00	0.01	No
44	Ridge Park Rd/San Joaquin Hills Rd	0.29 – A	0.28 – A	0.29 – A	0.28 – A	0.00	0.00	No
45	MacArthur SB Ramps/University Dr	0.43 – A	0.39 – A	0.43 – A	0.39 – A	0.00	0.00	No
46	MacArthur NB Ramps/University Dr	0.47 – A	0.58 – A	0.47 – A	0.58 – A	0.00	0.00	No
47	University Dr/Campus Dr	0.78 – C	0.72 – C	0.78 – C	0.72 – C	0.00	0.00	No

Note: V/C = volume to capacity ratio; deficient intersection operation and significant impact shown in **bold**.

As shown in Table 10, with the addition of project-generated trips, the study intersections are forecast to continue to operate at an acceptable LOS according to agency performance criteria for existing with project traffic.

FORECAST YEAR 2013 WITH COMMITTED PROJECTS TRAFFIC PHASING ORDINANCE (TPO) ANALYSIS

The City of Newport Beach TPO requires determination of whether project trips will increase traffic on any leg of a study intersection by one percent or more during any peak hour one year after project completion.

Project construction is expected to be complete in 2012; therefore the near-term study year for TPO analysis is 2013. In accordance with TPO requirements, an ambient growth rate of 1.0 percent per year was added to existing volumes on primary roadways (Newport Boulevard north of Coast Highway (SR-1), Coast Highway (SR-1), Jamboree Road, MacArthur Boulevard) as well as at City of Irvine intersections along University Drive. Data on traffic generated by committed projects in the study area was obtained from City of Newport Beach staff and added to peak hour volumes to obtain forecast year 2013 with committed projects without project traffic. Committed project data provided by the City of Newport Beach is contained in Appendix C. Table 11 summarizes the committed projects included in this analysis.

Table 11
Committed Projects Summary

Committed Project	Percent Complete
Fashion Island Expansion	40%
Temple Bat Yahm Expansion	65%
CIOSA – Irvine Project	91%
Newport Dunes	0%
1401 Dove Street	0%
Hoag Hospital Phase III	0%
St. Mark Presbyterian Church	77%
Corporate Plaza West	60%
Mariner's Mile Gateway	0%
OLQA Church Expansion	0%
2300 Newport Blvd	0%
Newport Executive Court	0%
Hoag Health Center	50%
North Newport Center	0%
Santa Barbara Condo	0%

The initial stage of the TPO analysis consists of a one percent analysis at each study intersection. The one percent analysis compares proposed project traffic with the projected forecast year 2013 with committed projects without project peak hour traffic volumes. If forecast peak hour traffic from the proposed project is less than one percent of the projected background traffic on each leg of the intersection then further ICU analysis is not required. If the proposed project is forecast to add more than one percent of the background traffic on any leg of the intersection then ICU analysis is required.

Table 12 summarizes the results of the one percent analysis for forecast year 2013 with committed projects conditions. Detailed one percent analysis worksheets are contained in Appendix D.

Table 12
One Percent Volume Analysis Forecast Year 2013 With Committed Projects

Int. No.	Study Intersection	AM Peak Hour				PM Peak Hour			
		NB	SB	EB	WB	NB	SB	EB	WB
1	MacArthur Blvd/Campus Dr								
2	MacArthur Blvd/Birch St								
3	MacArthur Blvd/Von Karmen Ave		X						
4	Jamboree Rd/Campus Dr								
5	Jamboree Rd/Birch St								
6	Jamboree Rd/MacArthur Blvd		X	X		X			
7	Bayview Way/Bristol St								
8	Jamboree Rd/Bristol St N		X			X			
9	Jamboree Rd/Bristol St S		X			X			
10	Jamboree Rd/Bayview Way		X			X			
11	Jamboree Rd/Eastbluff-University		X			X			
12	Jamboree Rd/Bison Ave		X			X	X		
13	Jamboree Rd/Eastbluff-Ford		X			X	X		
14	Jamboree Rd/San Joaquin Hills Rd		X		X		X		X
15	Jamboree Rd/Santa Barbara Dr								
16	Jamboree Rd/E Coast Hwy (SR-1)			X	X			X	X
17	MacArthur Blvd/Bison Ave		X			X			
18	MacArthur Blvd/Ford-Bonita Canyon		X			X			
19	MacArthur Blvd/San Joaquin Hills Rd		X		X	X	X		
20	MacArthur Blvd/San Miguel Dr		X	X	X		X	X	X
21	MacArthur Blvd/E Coast Hwy (SR-1)							X	
22	Santa Cruz Dr/San Joaquin Hills Rd			X	X			X	X
23	Santa Rosa Dr/San Joaquin Hills Rd	X		X		X		X	
24	San Miguel Dr/San Joaquin Hills Rd				X	X	X		X
25	Avocado Ave/San Miguel Dr	X	X	X	X	X	X	X	X
26	Balboa-Superior/W Coast Hwy (SR-1)		X						
27	Newport Blvd SB/W Coast Hwy (SR-1)		X						X
28	Riverside Ave/W Coast Hwy (SR-1)			X				X	X
29	Tustin Ave/W Coast Hwy (SR-1)			X				X	X
30	Dover Dr/W Coast Hwy (SR-1)		X	X			X	X	X
31	Bayside Dr/E Coast Hwy (SR-1)			X				X	X
32	Newport Ctr Dr/E Coast Hwy (SR-1)		X	X			X	X	X
33	Avocado Ave/E Coast Hwy (SR-1)		X	X	X		X	X	

Note: NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound.

X = Project peak hour traffic volume greater than one percent of projected background traffic.

Table 12 (continued)
One Percent Volume Analysis Forecast Year 2013 With Committed Projects

Int. No.	Study Intersection	AM Peak Hour				PM Peak Hour			
		NB	SB	EB	WB	NB	SB	EB	WB
34	Goldenrod Ave/E Coast Hwy (SR-1)							X	
35	Marguerite Ave/E Coast Hwy (SR-1)							X	
36	Newport Ctr Dr/Santa Barbara Dr								
37	Santa Cruz Dr/Newport Ctr Dr								
38	Santa Rosa Dr/Newport Ctr Dr		X		X		X		X
39	Newport Ctr Dr/San Miguel Dr		X		X		X		X
40	Fashion Island/Newport Ctr Dr				X				
41	Newport Coast Dr/San Joaquin Hills Rd								
42	Newport Coast Dr/E Coast Hwy (SR-1)							X	
43	Marguerite Ave/San Joaquin Hills Rd				X			X	X
44	Ridge Park Rd/San Joaquin Hills Rd								

Note: NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound.
X = Project peak hour traffic volume greater than one percent of projected background traffic.

As shown in Table 12, the following ten City of Newport Beach intersections pass the one percent test and do not require further ICU analysis for forecast year 2013 with committed projects conditions:

- MacArthur Boulevard/Campus Drive;
- MacArthur Boulevard/Birch Street;
- Jamboree Road/Campus Drive;
- Jamboree Road/Birch Street;
- Bayview Way/Bristol Street;
- Jamboree Road/Santa Barbara Drive;
- Newport Center Drive/Santa Barbara Drive;
- Santa Cruz Drive/Newport Center Drive;
- Newport Coast Drive/San Joaquin Hills Road; and
- Ridge Park Road/San Joaquin Hills Road.

It should be noted that the one percent volume test was not run for City of Irvine intersections since the TPO test only applies to City of Newport Beach intersections. City of Irvine intersections have been analyzed in every scenario in this report.

It can be seen that the one percent influence does not extend southerly of Corona Del Mar, and ends at the Superior Avenue intersection with Coast Highway near the City limit to the west.

FORECAST YEAR 2013 WITH COMMITTED PROJECTS WITHOUT PROJECT TRAFFIC

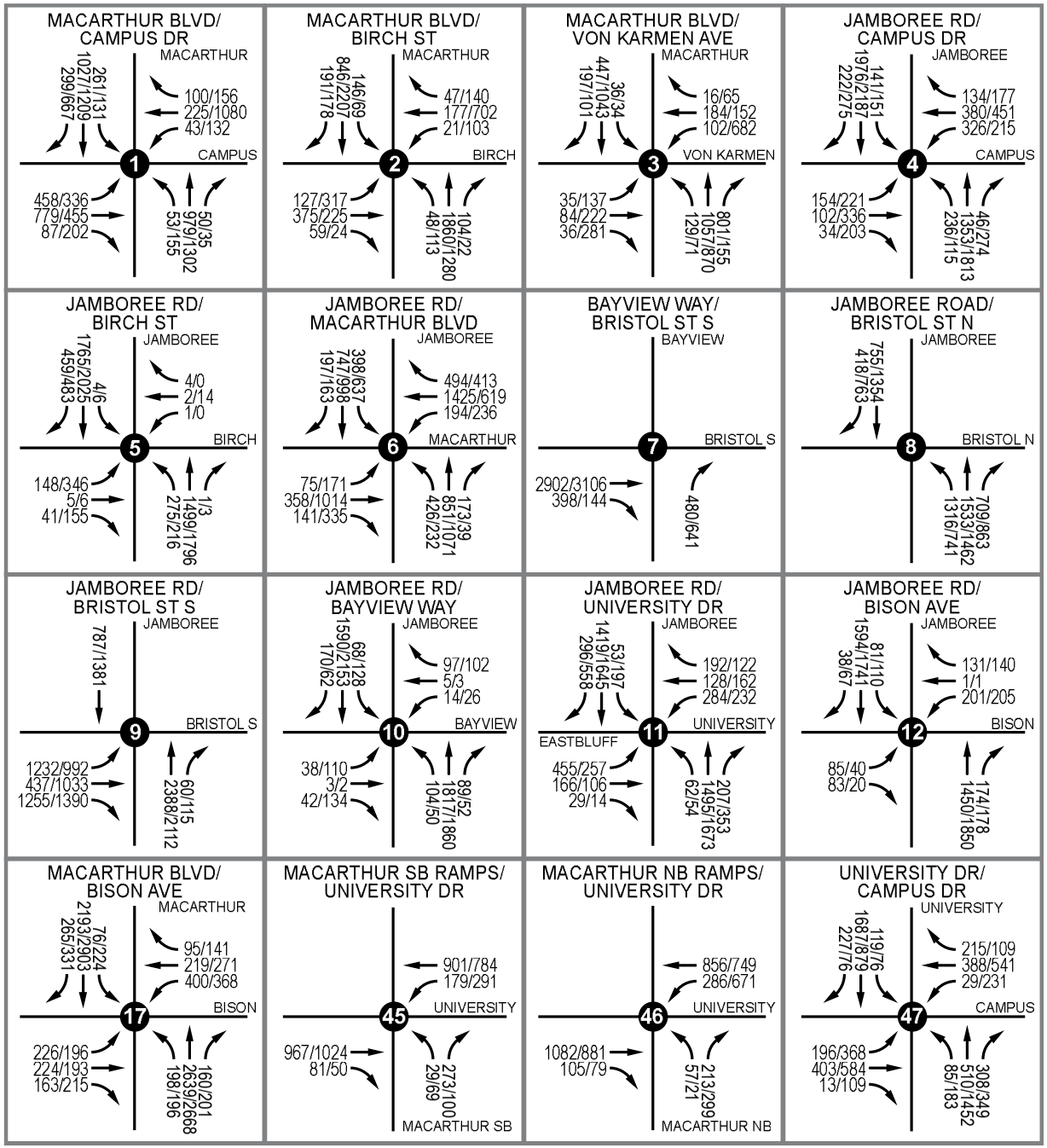
Since the proposed project is planned to open in 2012, forecast year 2013 with committed projects without project traffic is examined to establish a baseline for project comparison.

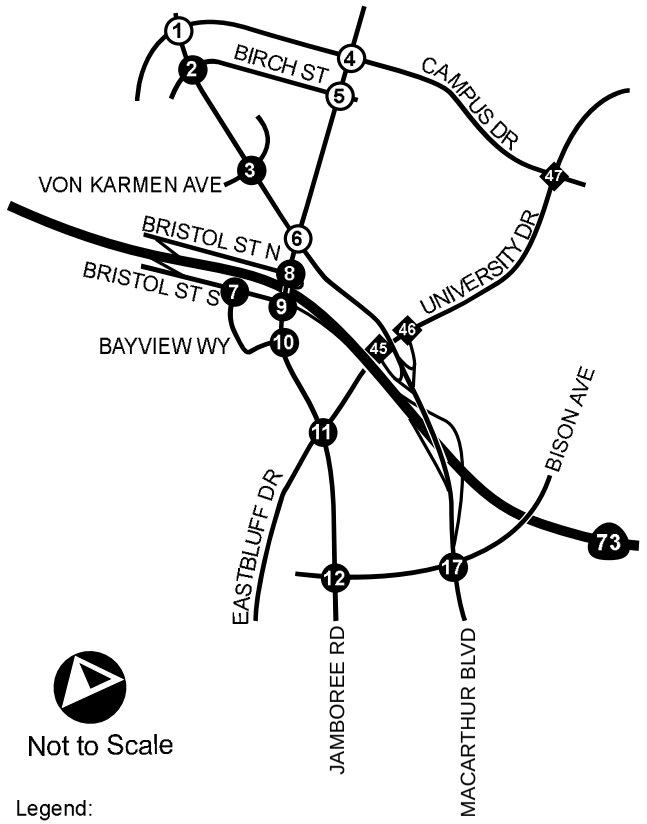
Forecast Year 2013 With Committed Projects Without Project Traffic

Exhibits 19, 20 and 21 show forecast year 2013 with committed projects without project traffic a.m. and p.m. peak hour volumes at the study intersections.

Forecast Year 2013 With Committed Projects Without Project Traffic Intersection Level of Service

Table 13 summarizes forecast year 2013 with committed projects without project traffic a.m. peak hour and p.m. peak hour LOS of the 35 study intersections requiring ICU analysis after application of the TPO one percent analysis; detailed LOS analysis sheets are contained in Appendix B.





Legend:

XX/XX AM/PM Intersection Volumes

(XX) City of Newport Beach Intersection

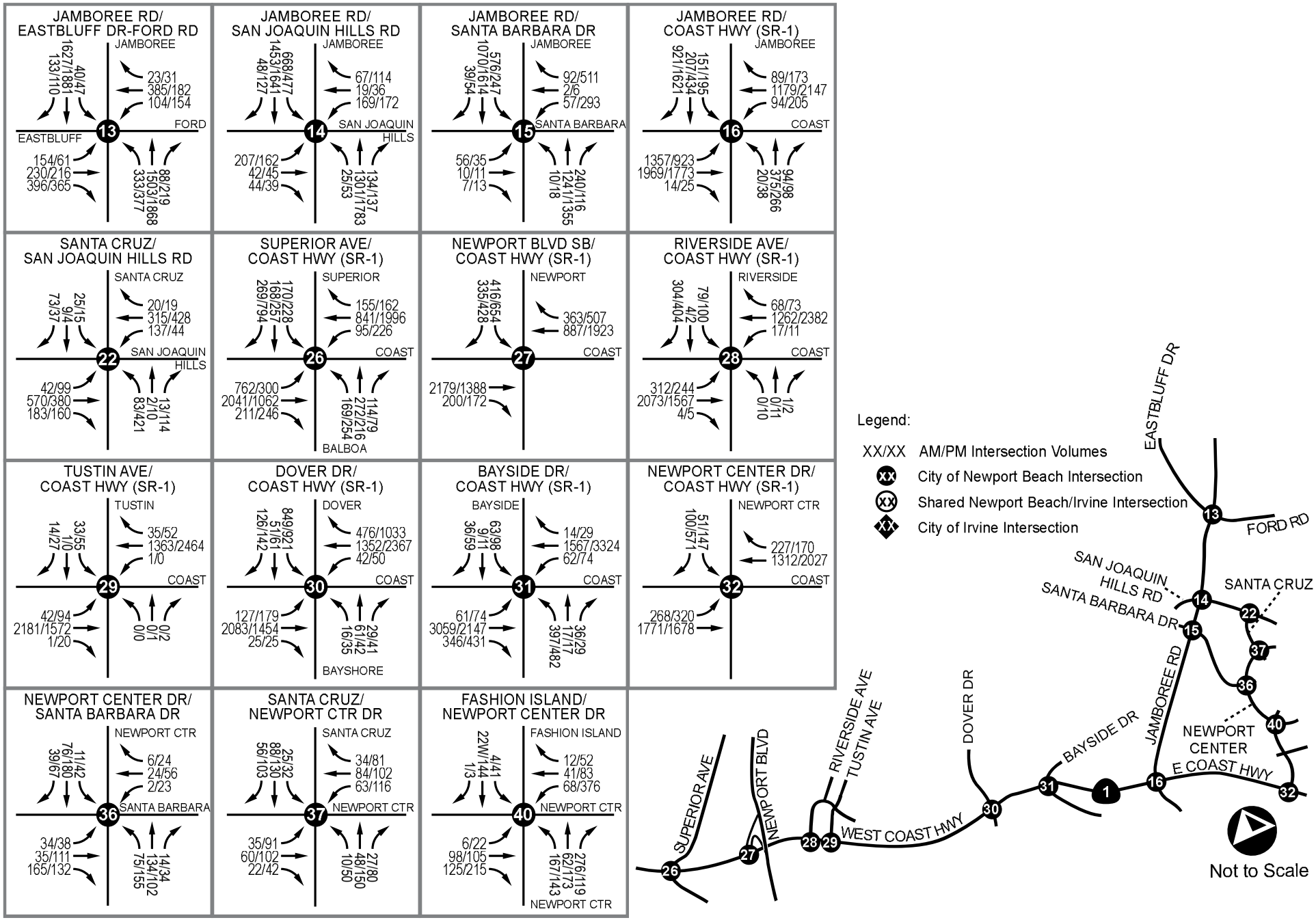
(XX) Shared Newport Beach/Irvine Intersection

XX City of Irvine Intersection

Area 1 - Forecast Year 2013 With Committed Projects Without Project AM/PM Peak Hour Intersection Volumes

H:\pdata\10106783\Traffic\Exhibits\Exh19.ai JUL/2009

Exhibit 19

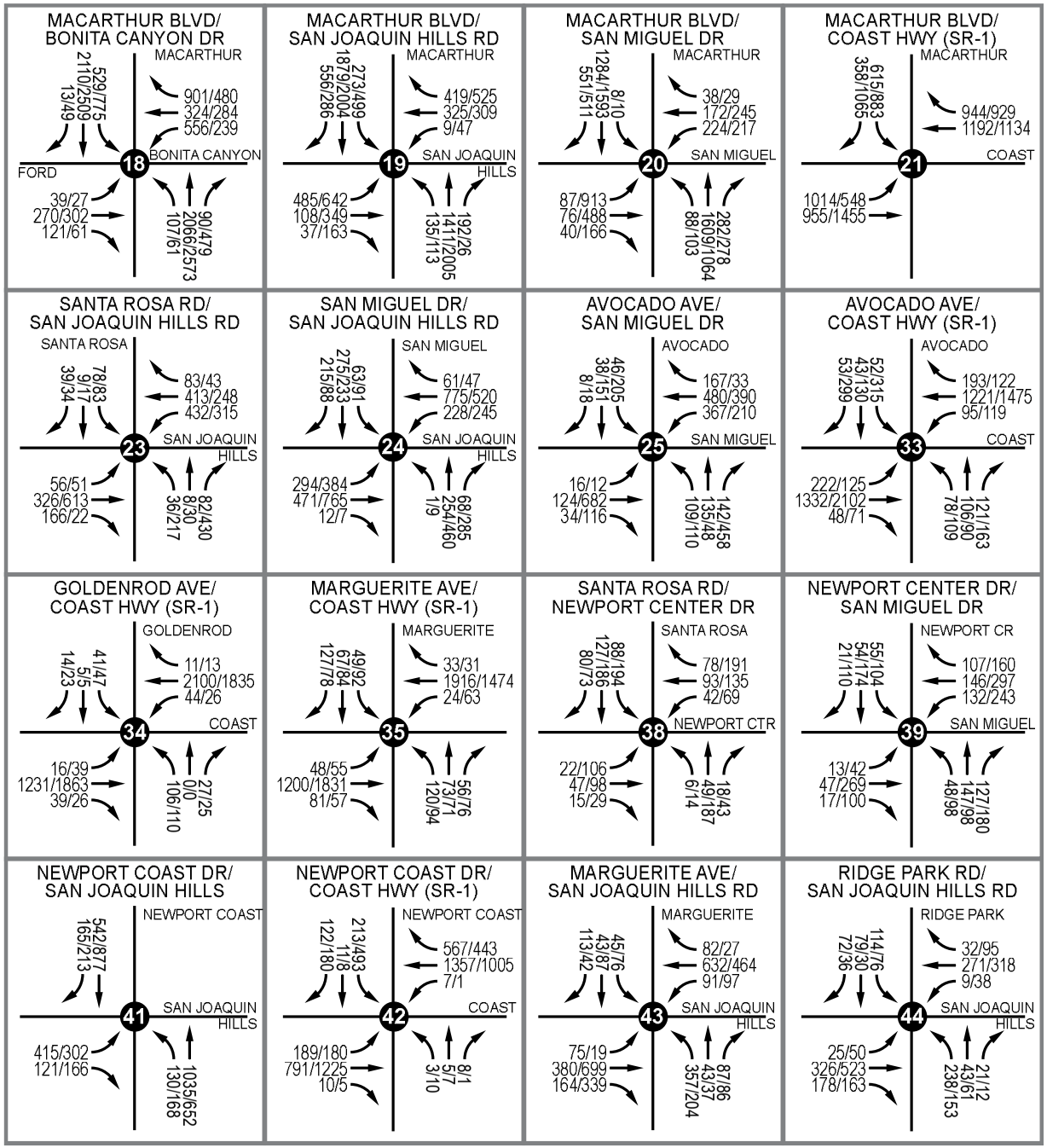


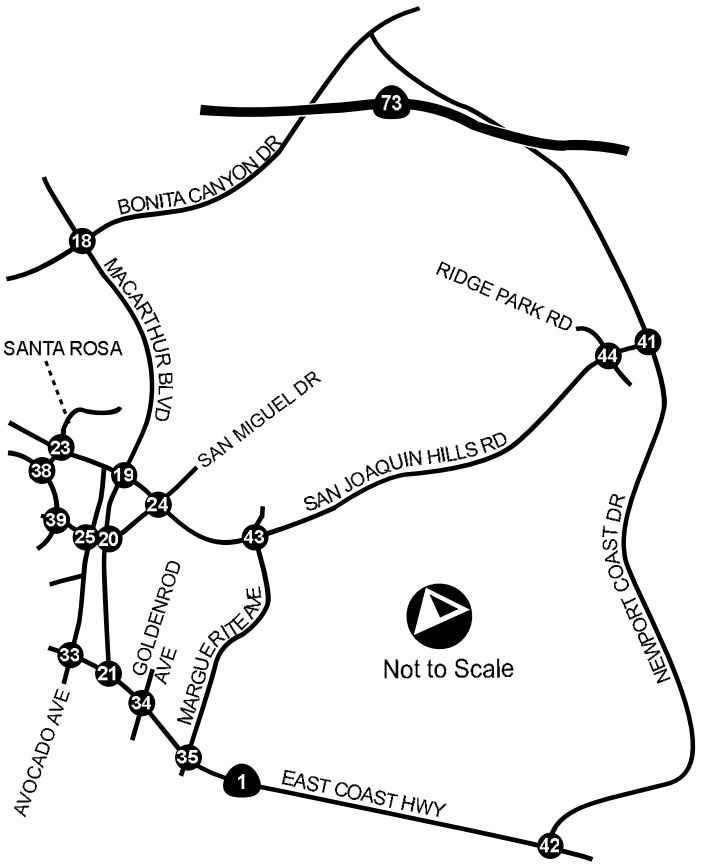
Area 2 - Forecast Year 2013 With Committed Projects Without Project AM/PM Peak Hour Intersection Volumes

H:\pdata\10106783\Traffic\Exhibits\Exh20.ai

JUL/2009

Exhibit 20





Legend:

XX/XX AM/PM Intersection Volumes

(XX) City of Newport Beach Intersection

(XX) Shared Newport Beach/Irvine Intersection

XX City of Irvine Intersection

Area 3 - Forecast Year 2013 With Committed Projects Without Project AM/PM Peak Hour Intersection Volumes

RBF

H:\pdata\10106783\Traffic\Exhibits\Exh21.ai JUL/2009

Exhibit 21

Table 13
Forecast Year 2013 With Committed Projects
Without Project Traffic AM & PM Peak Hour LOS

Int. No.	Study Intersection	AM Peak Hour	PM Peak Hour
		V/C – LOS	V/C – LOS
3	MacArthur Blvd/Von Karmen Ave	0.38 – A	0.54 – A
6	Jamboree Rd/MacArthur Blvd	0.62 – B	0.71 – C
8	Jamboree Rd/Bristol St N	0.60 – A	0.56 – A
9	Jamboree Rd/Bristol St S	0.70 – B	0.72 – C
10	Jamboree Rd/Bayview Way	0.41 – A	0.48 – A
11	Jamboree Rd/Eastbluff-University	0.62 – B	0.61 – B
12	Jamboree Rd/Bison Ave	0.46 – A	0.52 – A
13	Jamboree Rd/Eastbluff-Ford	0.64 – B	0.65 – B
14	Jamboree Rd/San Joaquin Hills Rd	0.60 – A	0.64 – B
16	Jamboree Rd/E Coast Hwy (SR-1)	0.71 – C	0.76 – C
17	MacArthur Blvd/Bison Ave	0.63 – B	0.69 – B
18	MacArthur Blvd/Ford-Bonita Canyon	0.75 – C	0.81 – D
19	MacArthur Blvd/San Joaquin Hills Rd	0.69 – B	0.87 – D
20	MacArthur Blvd/San Miguel Dr	0.45 – A	0.73 – C
21	MacArthur Blvd/E Coast Hwy (SR-1)	0.76 – C	0.68 – B
22	Santa Cruz Dr/San Joaquin Hills Rd	0.31 – A	0.31 – A
23	Santa Rosa Dr/San Joaquin Hills Rd	0.29 – A	0.45 – A
24	San Miguel Dr/San Joaquin Hills Rd	0.40 – A	0.55 – A
25	Avocado Ave/San Miguel Dr	0.33 – A	0.73 – C
26	Balboa-Superior/W Coast Hwy (SR-1)	0.68 – B	0.70 – B
27	Newport Blvd SB/W Coast Hwy (SR-1)	0.89 – D	0.70 – B
28	Riverside Ave/W Coast Hwy (SR-1)	0.71 – C	0.76 – C
29	Tustin Ave/W Coast Hwy (SR-1)	0.71 – C	0.62 – B
30	Dover Dr/W Coast Hwy (SR-1)	0.67 – B	0.77 – C
31	Bayside Dr/E Coast Hwy (SR-1)	0.81 – D	0.74 – C
32	Newport Ctr Dr/E Coast Hwy (SR-1)	0.39 – A	0.57 – A
33	Avocado Ave/E Coast Hwy (SR-1)	0.50 – A	0.75 – C
34	Goldenrod Ave/E Coast Hwy (SR-1)	0.79 – C	0.73 – C
35	Marguerite Ave/E Coast Hwy (SR-1)	0.84 – D	0.77 – C
38	Santa Rosa Dr/Newport Ctr Dr	0.15 – A	0.38 – A
39	Newport Ctr Dr/San Miguel Dr	0.22 – A	0.46 – A

Note: V/C = volume to capacity ratio.

Table 13 (continued)
Forecast Year 2013 With Committed Projects
Without Project Traffic AM & PM Peak Hour LOS

Int. No.	Study Intersection	AM Peak Hour	PM Peak Hour
		V/C – LOS	V/C – LOS
40	Fashion Island/Newport Ctr Dr	0.19 – A	0.40 – A
42	Newport Coast Dr/E Coast Hwy (SR-1)	0.47 – A	0.48 – A
43	Marguerite Ave/San Joaquin Hills Rd	0.42 – A	0.44 – A
45	MacArthur SB Ramps/University Dr	0.47 – A	0.41 – A
46	MacArthur NB Ramps/University Dr	0.47 – A	0.60 – A
47	University Dr/Campus Dr	0.84 – D	0.79 – C

Note: V/C = volume to capacity ratio.

As shown in Table 13, all of the study intersections are forecast to continue to operate at an acceptable LOS according to agency performance criteria for forecast year 2013 with committed projects without project traffic.

FORECAST YEAR 2013 WITH COMMITTED PROJECTS WITH PROJECT TRAFFIC

This section analyzes the impact of the addition of trips forecast to be generated by the proposed project to forecast year 2013 with committed projects without project traffic.

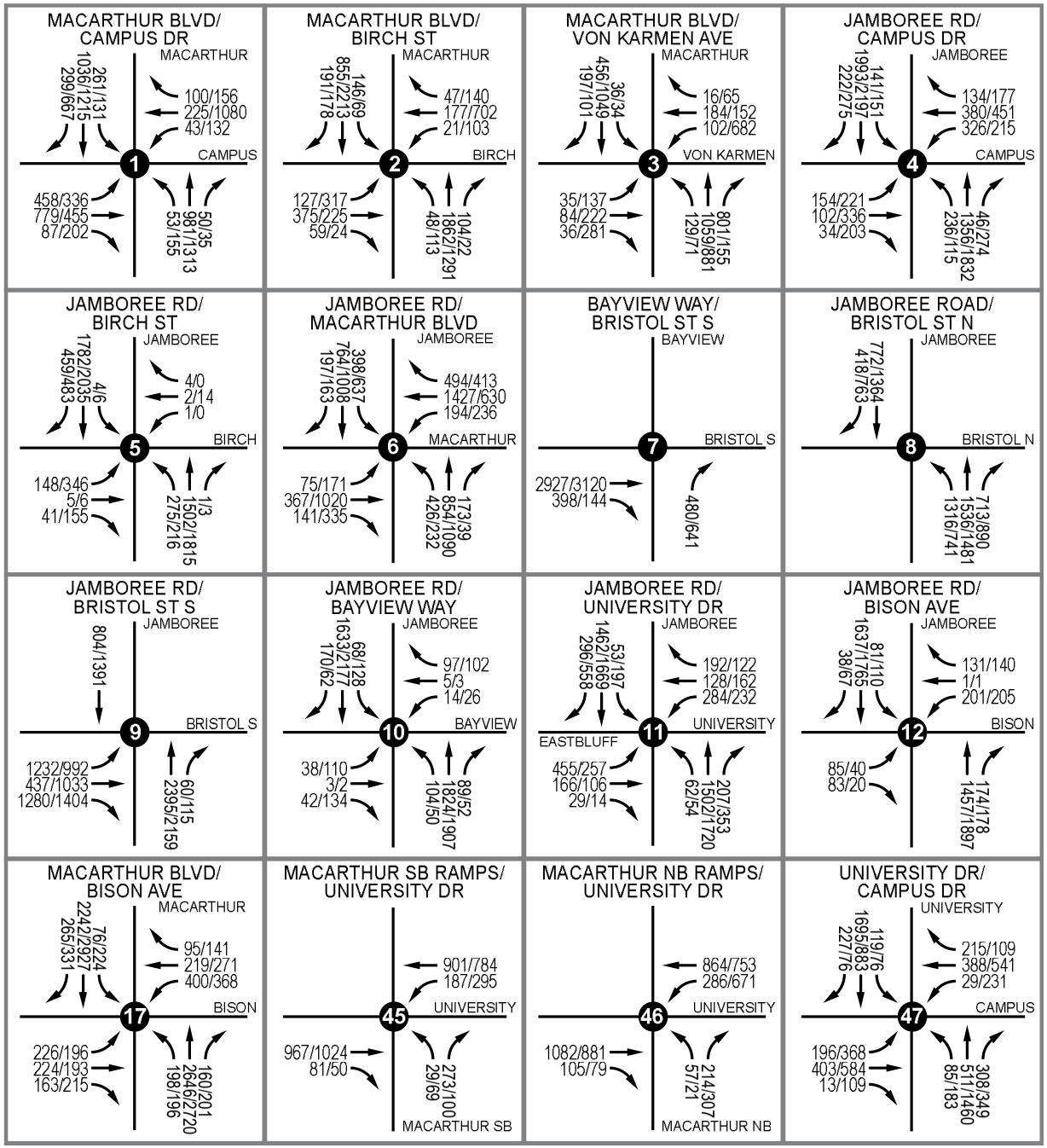
Forecast Year 2013 With Committed Projects With Project Traffic

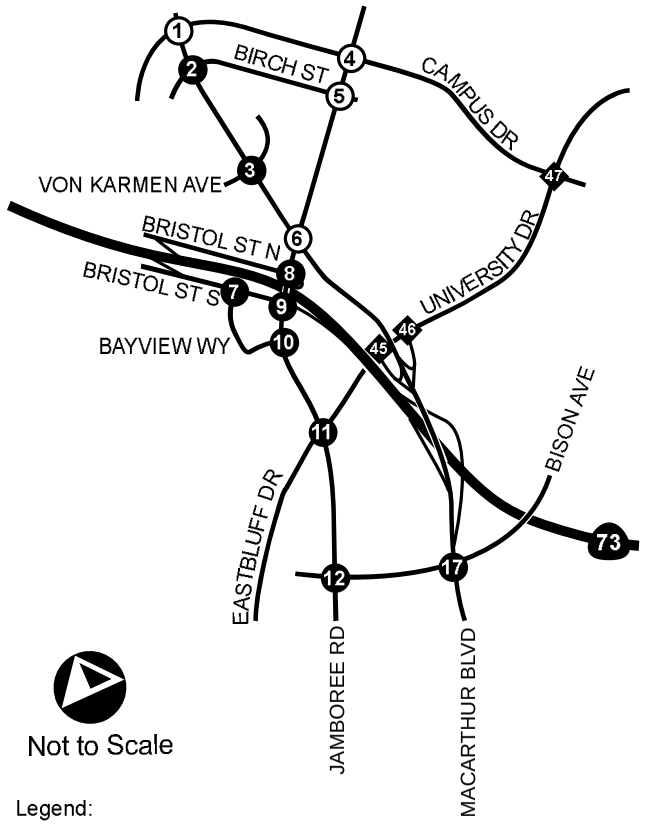
Forecast year 2013 with committed projects with project traffic a.m. and p.m. peak hour volumes were derived by adding project-generated trips to forecast year 2013 with committed projects without project traffic.

Exhibits 22, 23 and 24 show forecast year 2013 with committed projects with project traffic a.m. and p.m. peak hour volumes at the study intersections.

Forecast Year 2013 With Committed Projects With Project Traffic Intersection Level of Service

Table 14 summarizes forecast year 2013 with committed projects with project traffic a.m. peak hour and p.m. peak hour LOS of the 35 study intersections requiring ICU analysis after application of the TPO one percent analysis; detailed LOS analysis sheets are contained in Appendix B.





Legend:

XX/XX AM/PM Intersection Volumes

(XX) City of Newport Beach Intersection

(XX) Shared Newport Beach/Irvine Intersection

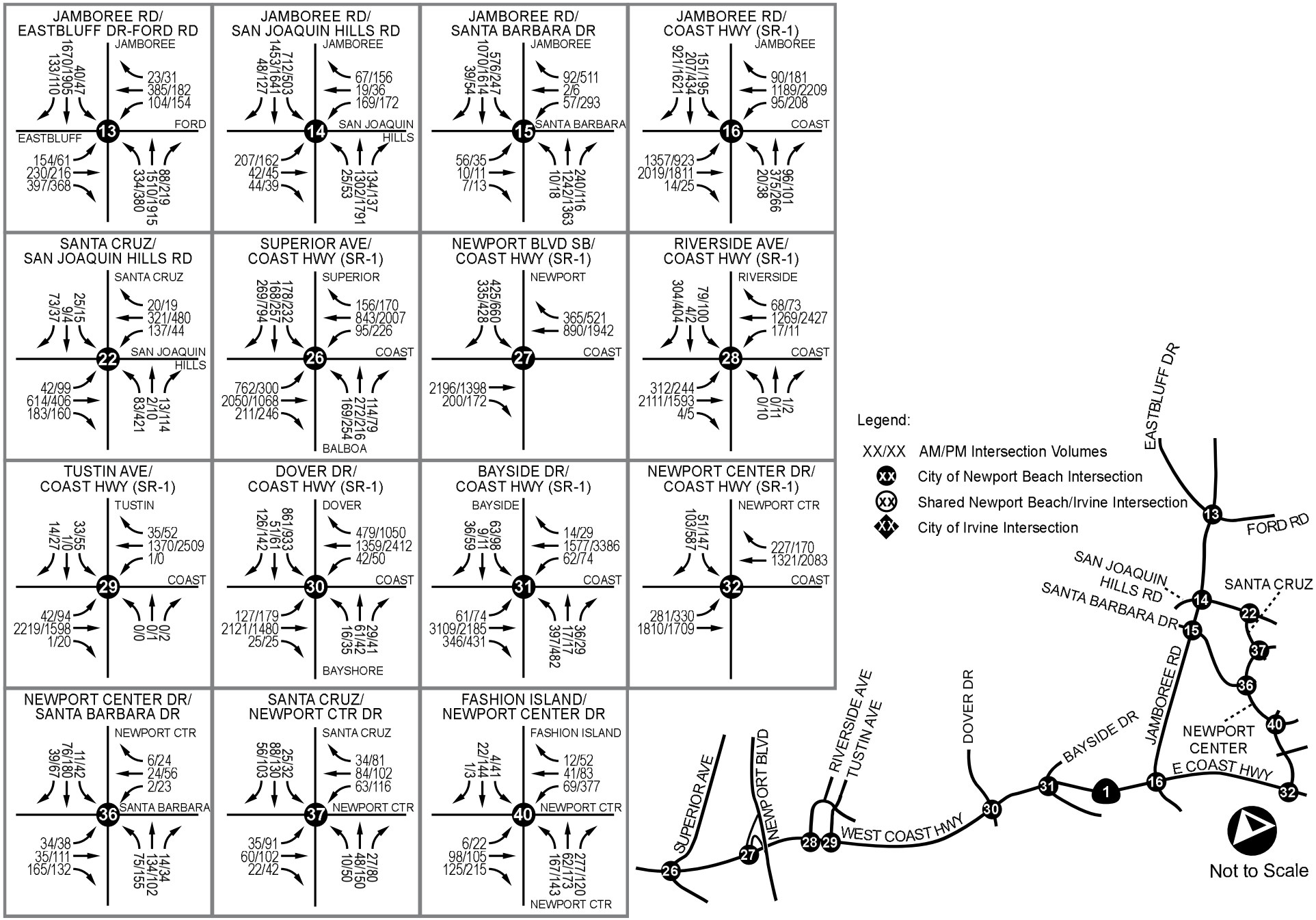
XX City of Irvine Intersection

Area 1 - Forecast Year 2013 With Committed Projects With Project AM/PM Peak Hour Intersection Volumes

RBF

H:\pdata\10106783\Traffic\Exhibits\Exh22.ai JUL/2009

Exhibit 22

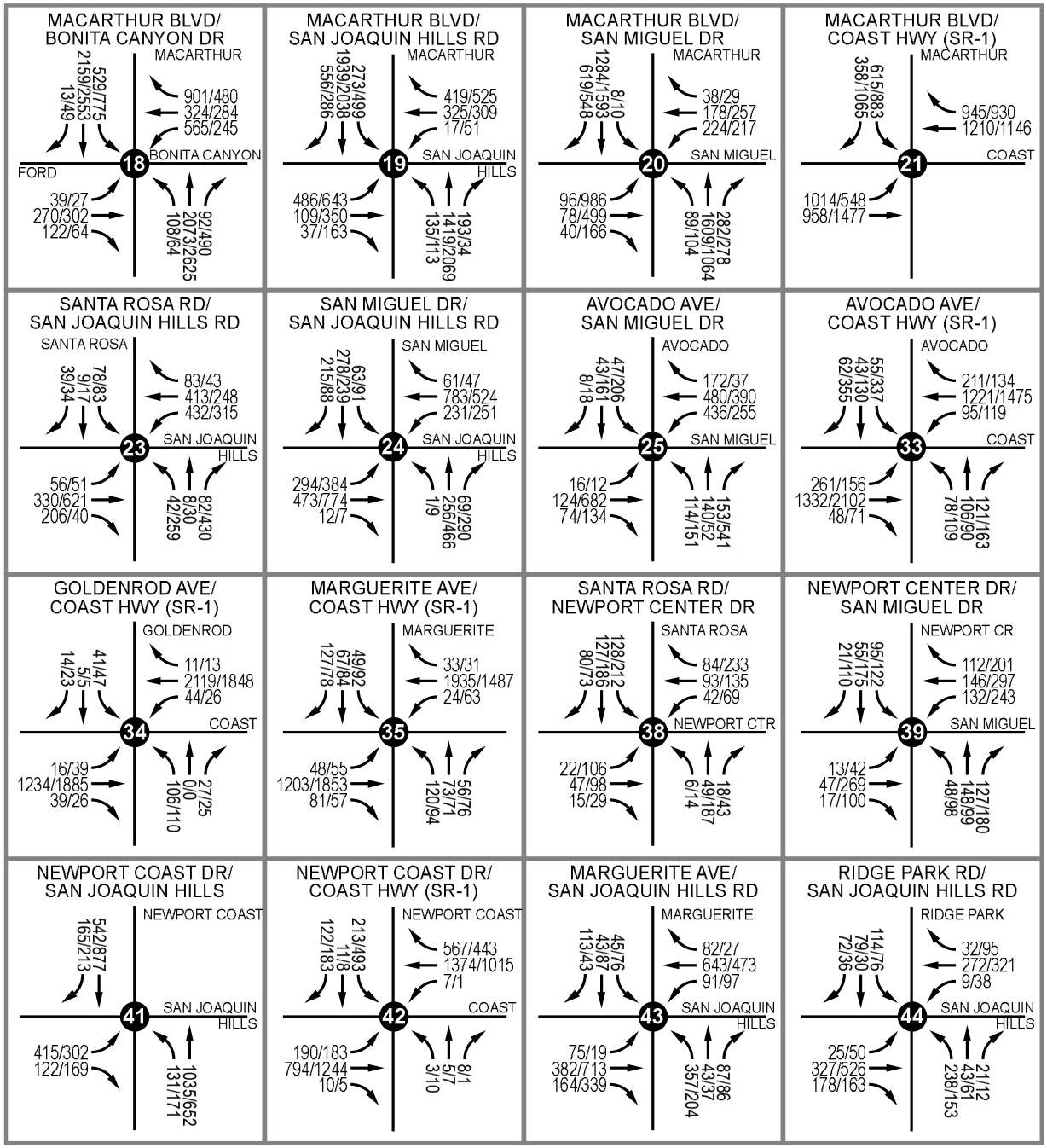


Area 2 - Forecast Year 2013 With Committed Projects With Project AM/PM Peak Hour Intersection Volumes

RBF

H:\pdata\10106783\Traffic\Exhibits\Exh23.ai JUL/2009

Exhibit 23



Area 3 - Forecast Year 2013 With Committed Projects With Project AM/PM Peak Hour Intersection Volumes

RBF

H:\pdata\10106783\Traffic\Exhibits\Exh24.ai JUL/2009

Exhibit 24

Table 14
Forecast Year 2013 With Committed Projects With Project Traffic AM & PM Peak Hour LOS

Int. No.	Study Intersection	Forecast Year 2013 With Committed Projects Without Project Traffic		Forecast Year 2013 With Committed Projects With Project Traffic		Increase in V/C		Significant Impact?
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
		V/C – LOS	V/C – LOS	V/C – LOS	V/C – LOS	AM	PM	
3	MacArthur Blvd/Von Karmen Ave	0.38 – A	0.54 – A	0.38 – A	0.55 – A	0.00	0.01	No
6	Jamboree Rd/MacArthur Blvd	0.62 – B	0.71 – C	0.62 – B	0.71 – C	0.00	0.00	No
8	Jamboree Rd/Bristol St N	0.60 – A	0.56 – A	0.60 – A	0.56 – A	0.00	0.00	No
9	Jamboree Rd/Bristol St S	0.70 – B	0.72 – C	0.71 – C	0.73 – C	0.01	0.01	No
10	Jamboree Rd/Bayview Way	0.41 – A	0.48 – A	0.41 – A	0.49 – A	0.00	0.01	No
11	Jamboree Rd/Eastbluff-University	0.62 – B	0.61 – B	0.63 – B	0.62 – B	0.01	0.01	No
12	Jamboree Rd/Bison Ave	0.46 – A	0.52 – A	0.46 – A	0.53 – A	0.00	0.01	No
13	Jamboree Rd/Eastbluff-Ford	0.64 – B	0.65 – B	0.65 – B	0.65 – B	0.01	0.00	No
14	Jamboree Rd/San Joaquin Hills Rd	0.60 – A	0.64 – B	0.61 – B	0.68 – B	0.01	0.04	No
16	Jamboree Rd/E Coast Hwy (SR-1)	0.71 – C	0.76 – C	0.71 – C	0.77 – C	0.00	0.01	No
17	MacArthur Blvd/Bison Ave	0.63 – B	0.69 – B	0.63 – B	0.69 – B	0.00	0.00	No
18	MacArthur Blvd/Ford-Bonita Canyon	0.75 – C	0.81 – D	0.75 – C	0.82 – D	0.00	0.01	No
19	MacArthur Blvd/San Joaquin Hills Rd	0.69 – B	0.87 – D	0.70 – B	0.88 – D	0.01	0.01	No
20	MacArthur Blvd/San Miguel Dr	0.45 – A	0.73 – C	0.49 – A	0.75 – C	0.04	0.02	No
21	MacArthur Blvd/E Coast Hwy (SR-1)	0.76 – C	0.68 – B	0.76 – C	0.69 – B	0.00	0.01	No
22	Santa Cruz Dr/San Joaquin Hills Rd	0.31 – A	0.31 – A	0.32 – A	0.32 – A	0.01	0.01	No
23	Santa Rosa Dr/San Joaquin Hills Rd	0.29 – A	0.45 – A	0.32 – A	0.46 – A	0.03	0.01	No
24	San Miguel Dr/San Joaquin Hills Rd	0.40 – A	0.55 – A	0.40 – A	0.56 – A	0.00	0.01	No
25	Avocado Ave/San Miguel Dr	0.33 – A	0.73 – C	0.34 – A	0.80 – C	0.01	0.07	No
26	Balboa-Superior/W Coast Hwy (SR-1)	0.68 – B	0.70 – B	0.68 – B	0.70 – B	0.00	0.00	No

Note: V/C = volume to capacity ratio.

Table 14 (continued)
Forecast Year 2013 With Committed Projects With Project Traffic AM & PM Peak Hour LOS

Int. No.	Study Intersection	Forecast Year 2013 With Committed Projects Without Project Traffic		Forecast Year 2013 With Committed Projects With Project Traffic		Increase in V/C		Significant Impact?
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
		V/C – LOS	V/C – LOS	V/C – LOS	V/C – LOS	AM	PM	
27	Newport Blvd SB/W Coast Hwy (SR-1)	0.89 – D	0.70 – B	0.90 – D	0.70 – B	0.01	0.00	No
28	Riverside Ave/W Coast Hwy (SR-1)	0.71 – C	0.76 – C	0.72 – C	0.76 – C	0.01	0.00	No
29	Tustin Ave/W Coast Hwy (SR-1)	0.71 – C	0.62 – B	0.72 – C	0.63 – B	0.01	0.01	No
30	Dover Dr/W Coast Hwy (SR-1)	0.67 – B	0.77 – C	0.68 – B	0.78 – C	0.01	0.01	No
31	Bayside Dr/E Coast Hwy (SR-1)	0.81 – D	0.74 – C	0.82 – D	0.75 – C	0.01	0.01	No
32	Newport Ctr Dr/E Coast Hwy (SR-1)	0.39 – A	0.57 – A	0.39 – A	0.58 – A	0.00	0.01	No
33	Avocado Ave/E Coast Hwy (SR-1)	0.50 – A	0.75 – C	0.52 – A	0.76 – C	0.02	0.01	No
34	Goldenrod Ave/E Coast Hwy (SR-1)	0.79 – C	0.73 – C	0.79 – C	0.74 – C	0.00	0.01	No
35	Marguerite Ave/E Coast Hwy (SR-1)	0.84 – D	0.77 – C	0.84 – D	0.78 – C	0.00	0.01	No
38	Santa Rosa Dr/Newport Ctr Dr	0.15 – A	0.38 – A	0.17 – A	0.42 – A	0.02	0.04	No
39	Newport Ctr Dr/San Miguel Dr	0.22 – A	0.46 – A	0.25 – A	0.47 – A	0.03	0.01	No
40	Fashion Island/Newport Ctr Dr	0.19 – A	0.40 – A	0.19 – A	0.40 – A	0.00	0.00	No
42	Newport Coast Dr/E Coast Hwy (SR-1)	0.47 – A	0.48 – A	0.48 – A	0.49 – A	0.01	0.01	No
43	Marguerite Ave/San Joaquin Hills Rd	0.42 – A	0.44 – A	0.42 – A	0.44 – A	0.00	0.00	No
45	MacArthur SB Ramps/University Dr	0.47 – A	0.41 – A	0.47 – A	0.41 – A	0.00	0.00	No
46	MacArthur NB Ramps/University Dr	0.47 – A	0.60 – A	0.47 – A	0.60 – A	0.00	0.00	No
47	University Dr/Campus Dr	0.84 – D	0.79 – C	0.84 – D	0.79 – C	0.00	0.00	No

Note: V/C = volume to capacity ratio.

As shown in Table 14, with the addition of project-generated trips, the study intersections are forecast to continue to operate at an acceptable LOS according to agency performance criteria for forecast year 2013 with committed projects with project traffic.

As also shown in Table 14, based on City of Newport Beach and City of Irvine-established thresholds of significance, the addition of project-generated trips is forecast to result in no significant impacts at the study intersections for forecast year 2013 with committed projects with project traffic.

FORECAST YEAR 2013 WITH COMMITTED AND CUMULATIVE PROJECTS CEQA ANALYSIS

This section extends the forecast year 2013 with committed projects analysis to include trips associated with cumulative projects in addition to committed projects for CEQA analysis purposes.

Trip generation and distribution of cumulative projects in the study area was obtained from City of Newport Beach staff and added to peak hour volumes to obtain forecast year 2013 with committed and cumulative projects without project conditions traffic volumes. Cumulative project information provided by the City of Newport Beach is contained in Appendix E. Table 15 summarizes the cumulative projects included in this analysis.

Table 15
Cumulative Projects Summary

Cumulative Project
Newport Coast
Mariner's Medical Arts
WPI-Newport LLC
Banning Ranch
Sunset Ridge Park
Old Newport GPA
Marina Park
Pres Office Building B
Conexant/Koll Conceptual Plan
Coast Community College District

FORECAST YEAR 2013 WITH COMMITTED AND CUMULATIVE PROJECTS WITHOUT PROJECT TRAFFIC

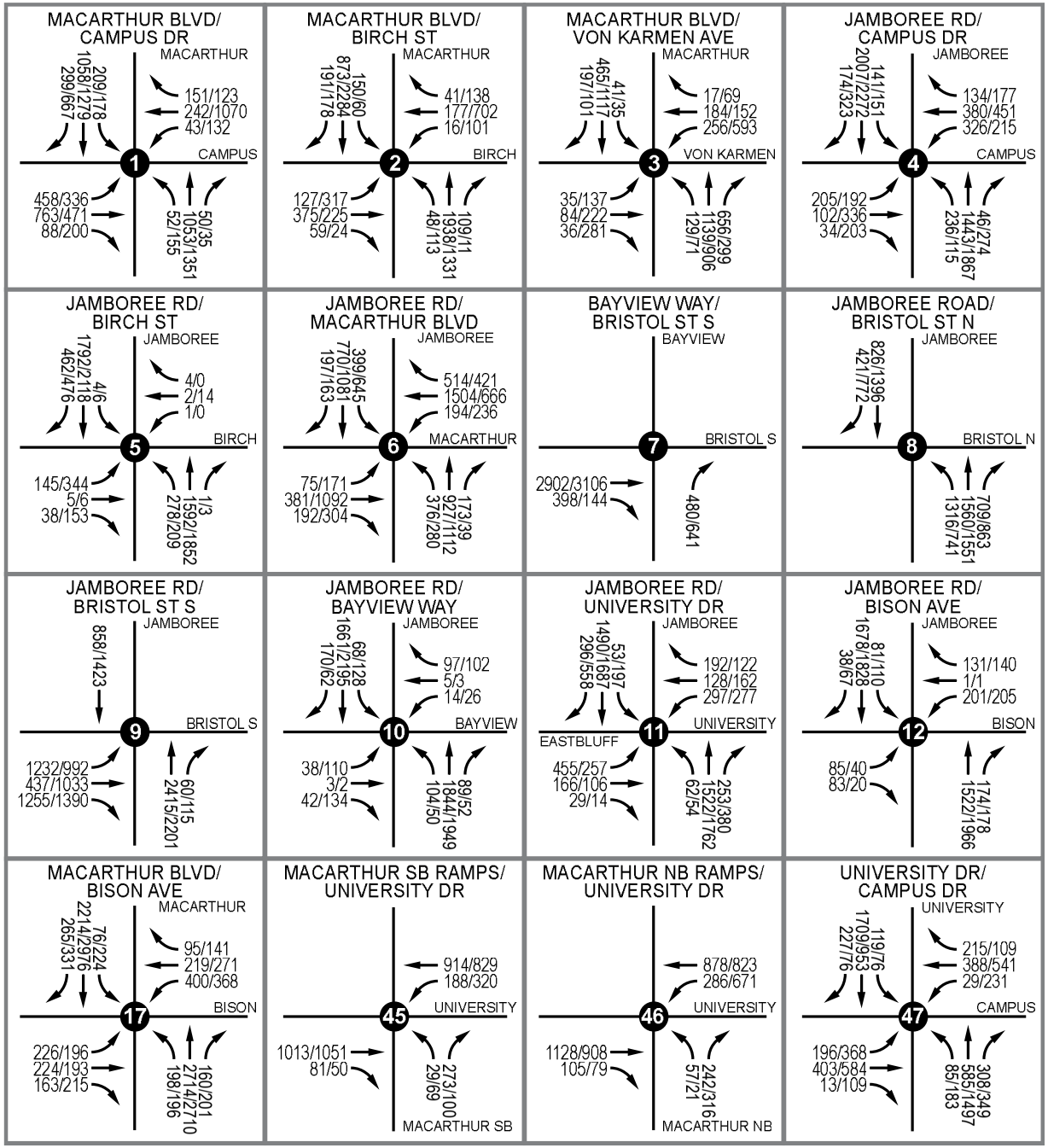
Since the proposed project is planned to open in 2012, forecast year 2013 with committed and cumulative projects without project traffic are examined to establish a baseline for project comparison.

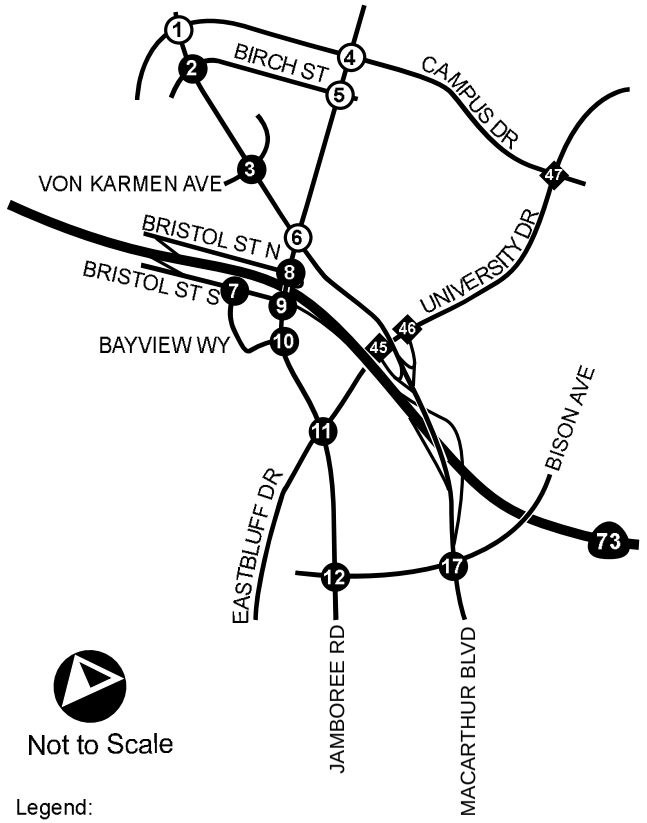
Forecast Year 2013 With Committed And Cumulative Projects Without Project Traffic

Exhibits 25, 26 and 27 show forecast year 2013 with committed and cumulative projects without project traffic a.m. and p.m. peak hour volumes at the study intersections.

Forecast Year 2013 With Committed And Cumulative Projects Without Project Traffic Intersection Level of Service

Table 16 summarizes forecast year 2013 with committed and cumulative projects without project traffic a.m. peak hour and p.m. peak hour LOS of the 35 study intersections requiring ICU analysis after application of the TPO one percent analysis from the forecast year 2013 with committed projects TPO analysis; detailed LOS analysis sheets are contained in Appendix B.





Legend:

XX/XX AM/PM Intersection Volumes

XX City of Newport Beach Intersection

XX Shared Newport Beach/Irvine Intersection

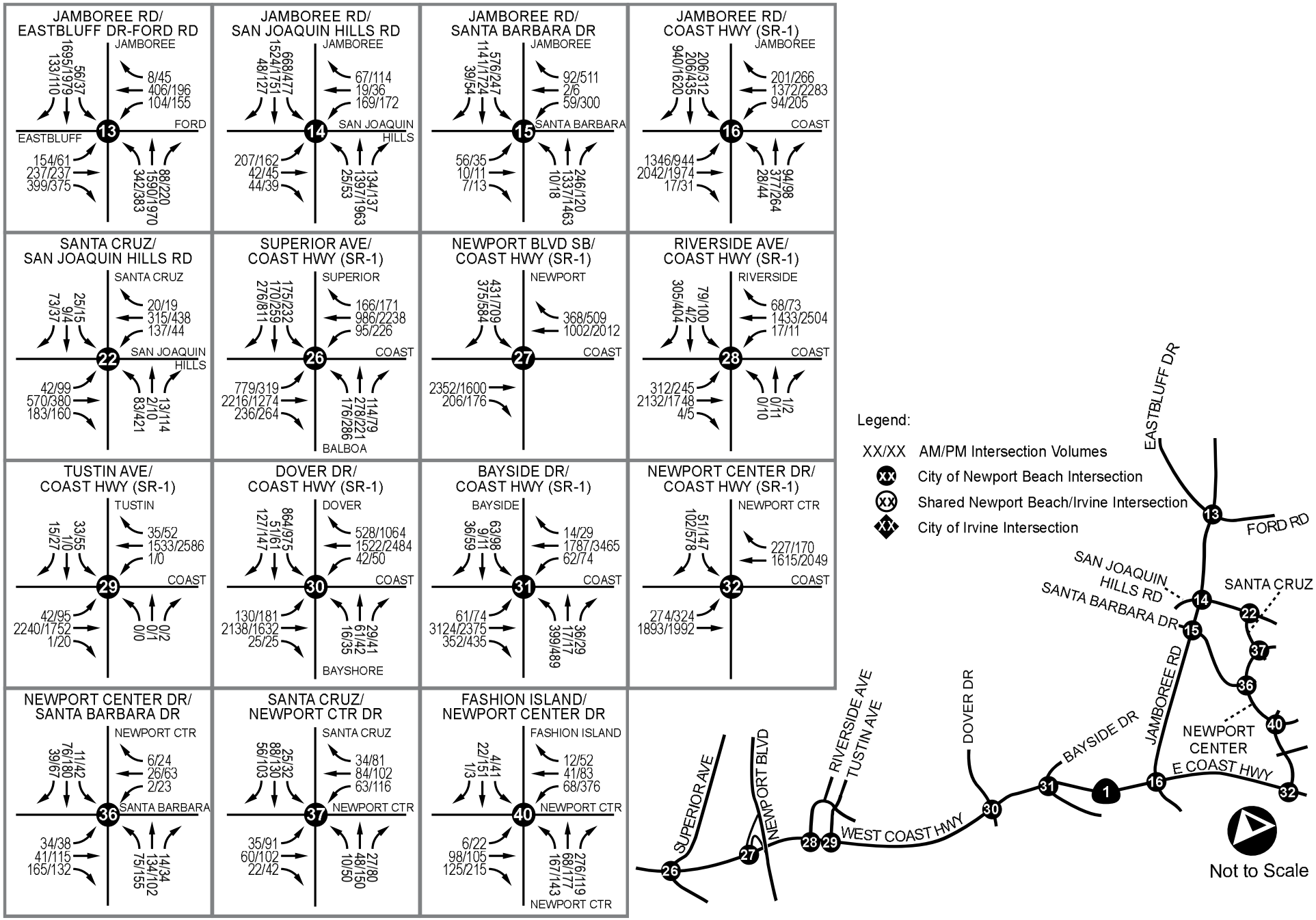
XX City of Irvine Intersection

Area 1 - Forecast Year 2013 With Committed And Cumulative Projects Without Project AM/PM Peak Hour Intersection Volumes

RBF

H:\pdata\10106783\Traffic\Exhibits\Exh25.ai JUL/2009

Exhibit 25

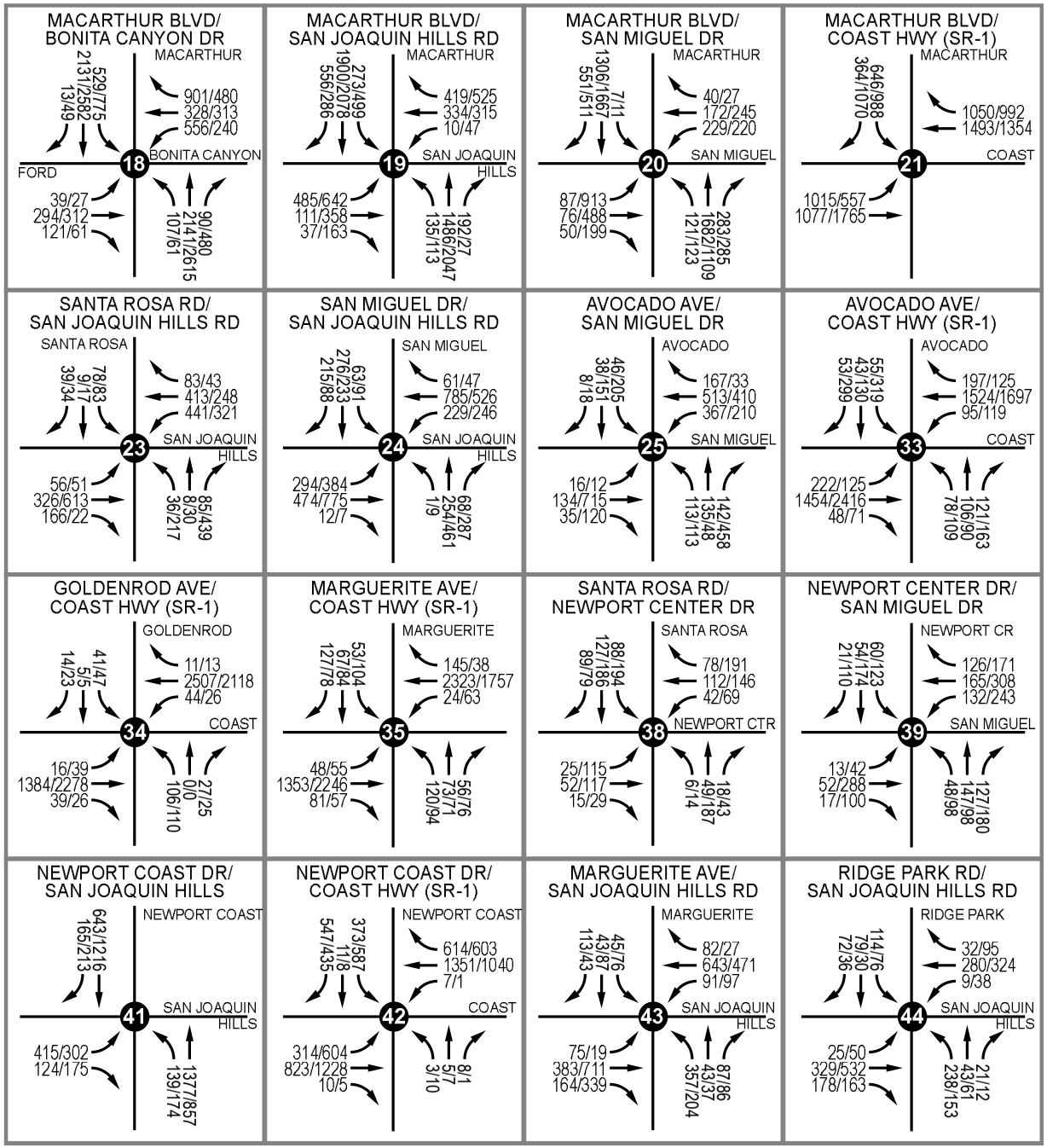


Area 2 - Forecast Year 2013 With Committed And Cumulative Projects Without Project AM/PM Peak Hour Intersection Volumes

RBF

H:\pdata\10106783\Traffic\Exhibits\Exh26.ai JUL/2009

Exhibit 26



Area 3 - Forecast Year 2013 With Committed And Cumulative Projects Without Project AM/PM Peak Hour Intersection Volumes

RBF

H:\pdata\10106783\Traffic\Exhibits\Exh27.ai JUL/2009

Exhibit 27

Table 16
Forecast Year 2013 With Committed And Cumulative Projects
Without Project Traffic AM & PM Peak Hour LOS

Int. No.	Study Intersection	AM Peak Hour	PM Peak Hour
		V/C – LOS	V/C – LOS
3	MacArthur Blvd/Von Karmen Ave	0.40 – A	0.53 – A
6	Jamboree Rd/MacArthur Blvd	0.66 – B	0.73 – C
8	Jamboree Rd/Bristol St N	0.61 – B	0.57 – A
9	Jamboree Rd/Bristol St S	0.70 – B	0.73 – C
10	Jamboree Rd/Bayview Way	0.42 – A	0.49 – A
11	Jamboree Rd/Eastbluff-University	0.64 – B	0.63 – B
12	Jamboree Rd/Bison Ave	0.47 – A	0.55 – A
13	Jamboree Rd/Eastbluff-Ford	0.67 – B	0.68 – B
14	Jamboree Rd/San Joaquin Hills Rd	0.62 – B	0.68 – B
16	Jamboree Rd/E Coast Hwy (SR-1)	0.77 – C	0.86 – D
17	MacArthur Blvd/Bison Ave	0.64 – B	0.70 – B
18	MacArthur Blvd/Ford-Bonita Canyon	0.77 – C	0.82 – D
19	MacArthur Blvd/San Joaquin Hills Rd	0.69 – B	0.88 – D
20	MacArthur Blvd/San Miguel Dr	0.47 – A	0.75 – C
21	MacArthur Blvd/E Coast Hwy (SR-1)	0.83 – D	0.77 – C
22	Santa Cruz Dr/San Joaquin Hills Rd	0.31 – A	0.31 – A
23	Santa Rosa Dr/San Joaquin Hills Rd	0.29 – A	0.46 – A
24	San Miguel Dr/San Joaquin Hills Rd	0.40 – A	0.55 – A
25	Avocado Ave/San Miguel Dr	0.34 – A	0.74 – C
26	Balboa-Superior/W Coast Hwy (SR-1)	0.72 – C	0.75 – C
27	Newport Blvd SB/W Coast Hwy (SR-1)	**0.97 – E**	0.87 – D
28	Riverside Ave/W Coast Hwy (SR-1)	0.73 – C	0.78 – C
29	Tustin Ave/W Coast Hwy (SR-1)	0.73 – C	0.65 – B
30	Dover Dr/W Coast Hwy (SR-1)	0.69 – B	0.80 – C
31	Bayside Dr/E Coast Hwy (SR-1)	0.82 – D	0.76 – C
32	Newport Ctr Dr/E Coast Hwy (SR-1)	0.44 – A	0.57 – A
33	Avocado Ave/E Coast Hwy (SR-1)	0.56 – A	0.82 – D
34	Goldenrod Ave/E Coast Hwy (SR-1)	**0.91 – E**	0.86 – D
35	Marguerite Ave/E Coast Hwy (SR-1)	**1.000 – E**	0.90 – D
38	Santa Rosa Dr/Newport Ctr Dr	0.15 – A	0.39 – A
39	Newport Ctr Dr/San Miguel Dr	0.23 – A	0.48 – A
40	Fashion Island/Newport Ctr Dr	0.19 – A	0.41 – A

Note: V/C = volume to capacity ratio. Deficient intersection operation shown in **bold.**

Table 16 (continued)
Forecast Year 2013 With Committed And Cumulative Projects
Without Project Traffic AM & PM Peak Hour LOS

Int. No.	Study Intersection	AM Peak Hour	PM Peak Hour
		V/C – LOS	V/C – LOS
42	Newport Coast Dr/E Coast Hwy (SR-1)	0.60 – A	0.78 – C
43	Marguerite Ave/San Joaquin Hills Rd	0.42 – A	0.44 – A
45	MacArthur SB Ramps/University Dr	0.48 – A	0.42 – A
46	MacArthur NB Ramps/University Dr	0.50 – A	0.61 – B
47	University Dr/Campus Dr	0.84 – D	0.81 – D

Note: V/C = volume to capacity ratio. Deficient intersection operation shown in **bold.**

As shown in Table 16, the study intersections are forecast to continue to operate at an acceptable LOS according to agency performance criteria for forecast year 2013 with committed and cumulative projects without project traffic with the exception of the following intersections:

- Newport Boulevard Southbound Ramps/West Coast Highway (SR-1) (p.m. peak hour only);
- Goldenrod Avenue/East Coast Highway (SR-1) (a.m. peak hour only); and
- Marguerite Avenue/East Coast Highway (SR-1) (a.m. peak hour only).

FORECAST YEAR 2013 WITH COMMITTED AND CUMULATIVE PROJECTS WITH PROJECT TRAFFIC

This section analyzes the impact of the addition of trips forecast to be generated by the proposed project to forecast year 2013 with committed and cumulative projects without project traffic.

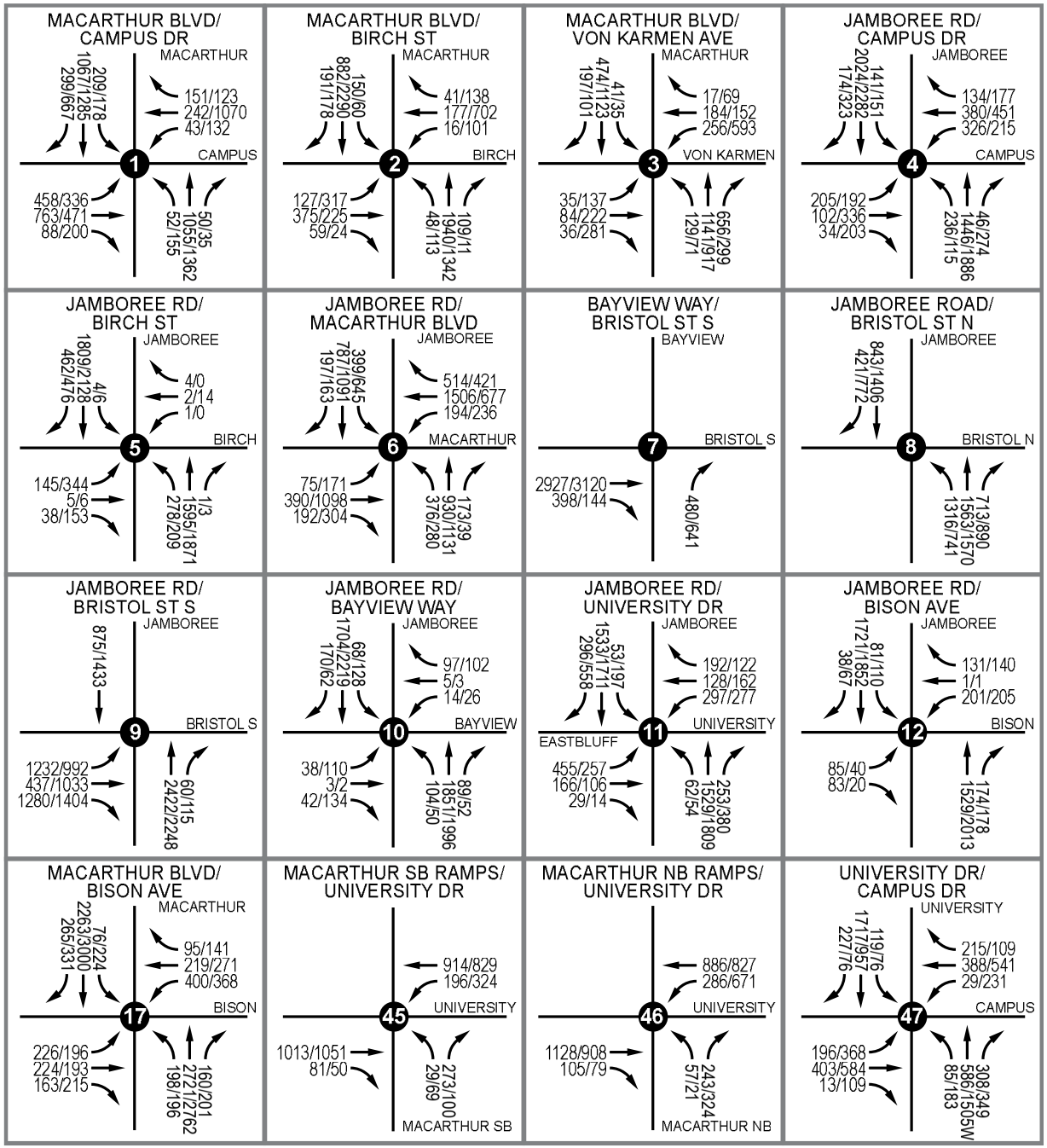
Forecast Year 2013 With Committed And Cumulative Projects With Project Traffic

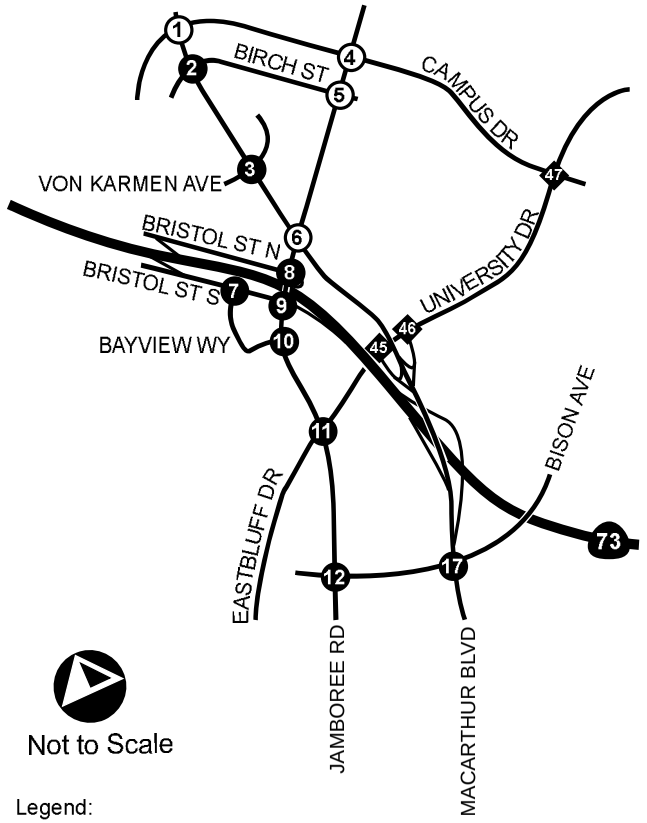
Forecast year 2013 with committed and cumulative projects with project traffic a.m. and p.m. peak hour volumes were derived by adding project-generated trips to forecast year 2013 with committed and cumulative projects without project traffic.

Exhibits 28, 29 and 30 show forecast year 2013 with committed and cumulative projects with project traffic a.m. and p.m. peak hour volumes at the study intersections.

Forecast Year 2013 With Committed And Cumulative Projects With Project Traffic Intersection Level of Service

Table 17 summarizes forecast year 2013 with committed and cumulative projects with project traffic a.m. peak hour and p.m. peak hour LOS of the 35 study intersections requiring ICU analysis after application of the TPO one percent analysis from the forecast year 2013 with committed projects TPO analysis; detailed LOS analysis sheets are contained in Appendix B.





Legend:

XX/XX AM/PM Intersection Volumes

XX City of Newport Beach Intersection

XX Shared Newport Beach/Irvine Intersection

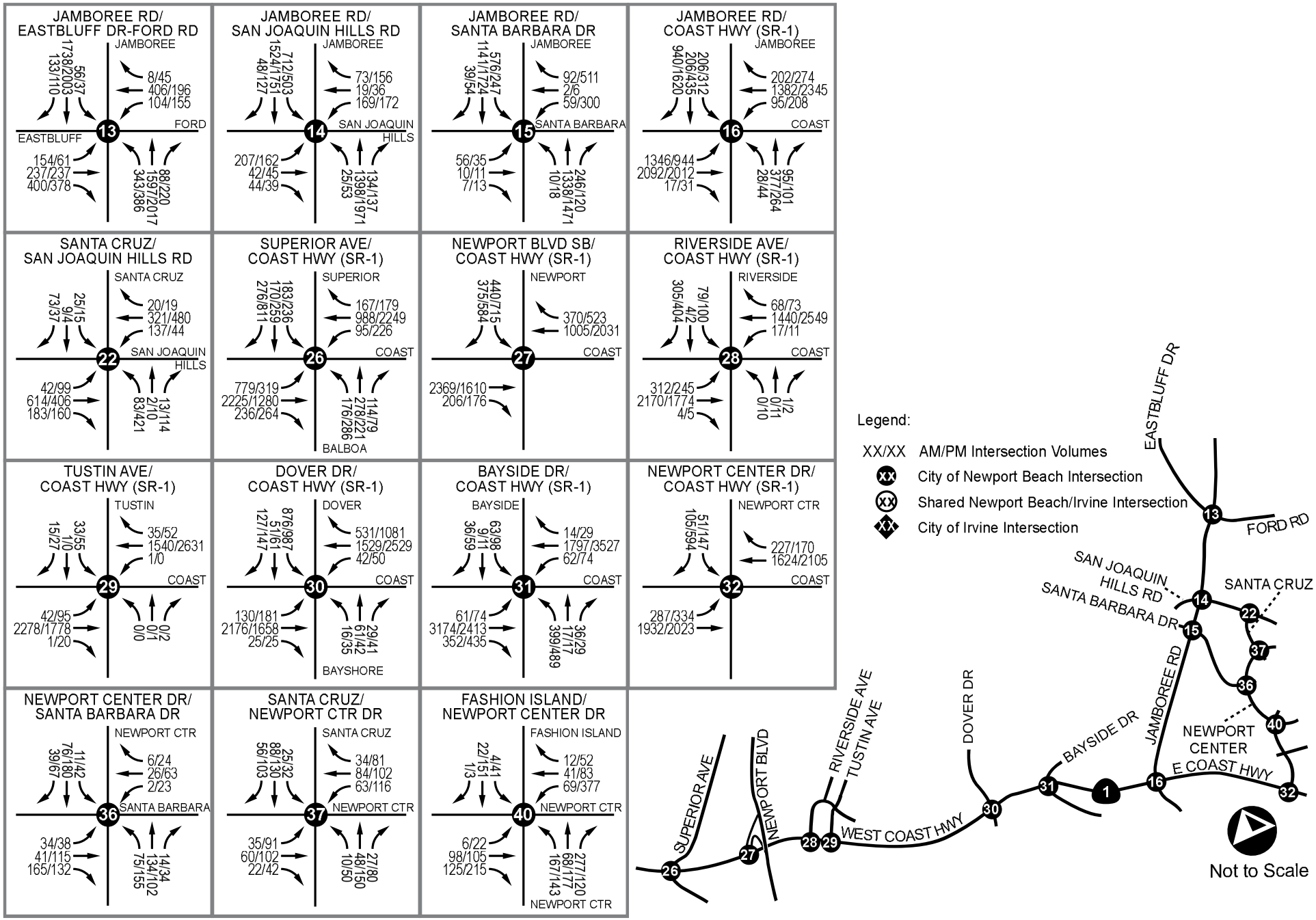
XX City of Irvine Intersection

Area 1 - Forecast Year 2013 With Committed And Cumulative Projects With Project AM/PM Peak Hour Intersection Volumes

RBF

H:\pdata\10106783\Traffic\Exhibits\Exh28.ai JUL/2009

Exhibit 28

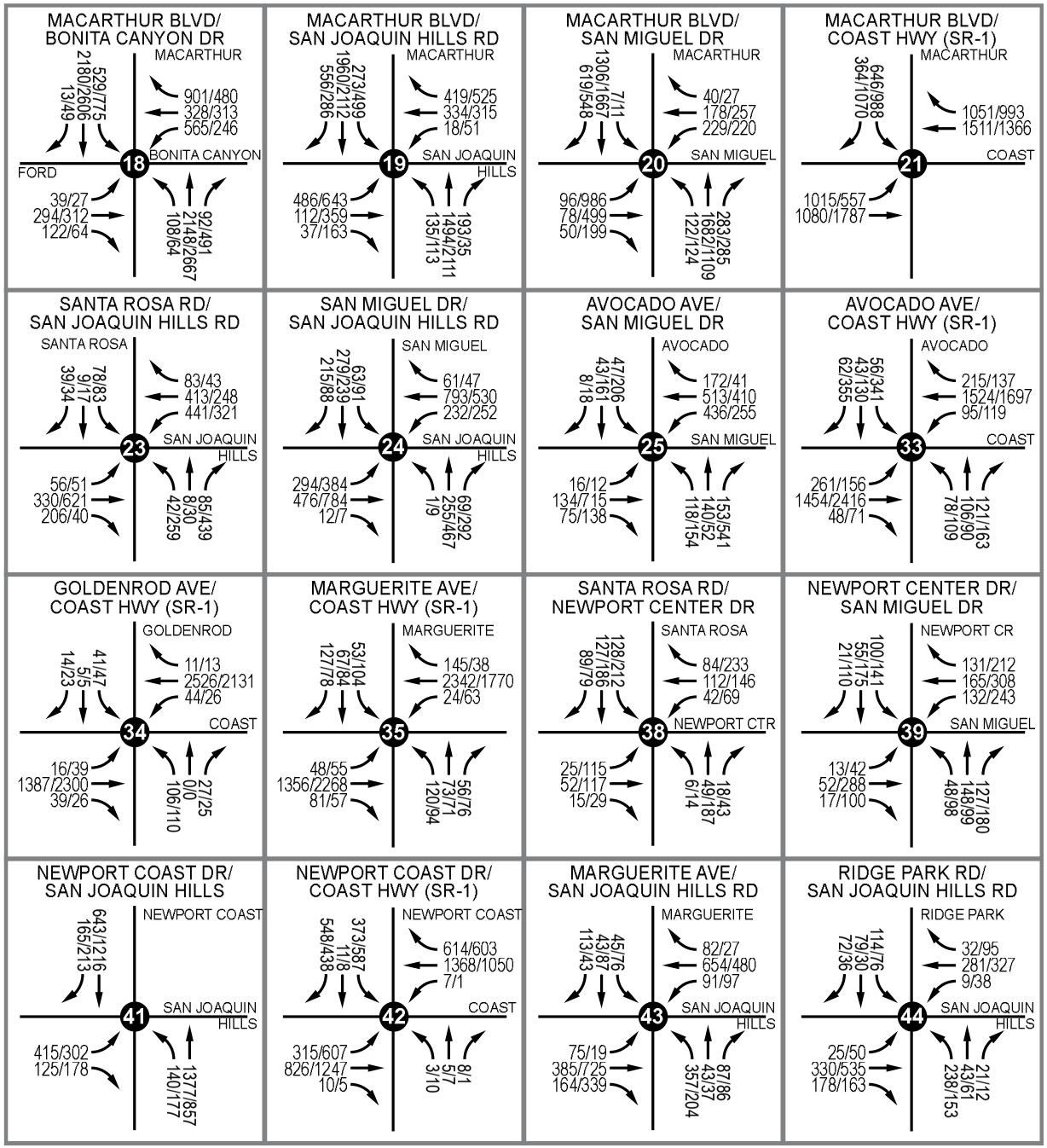


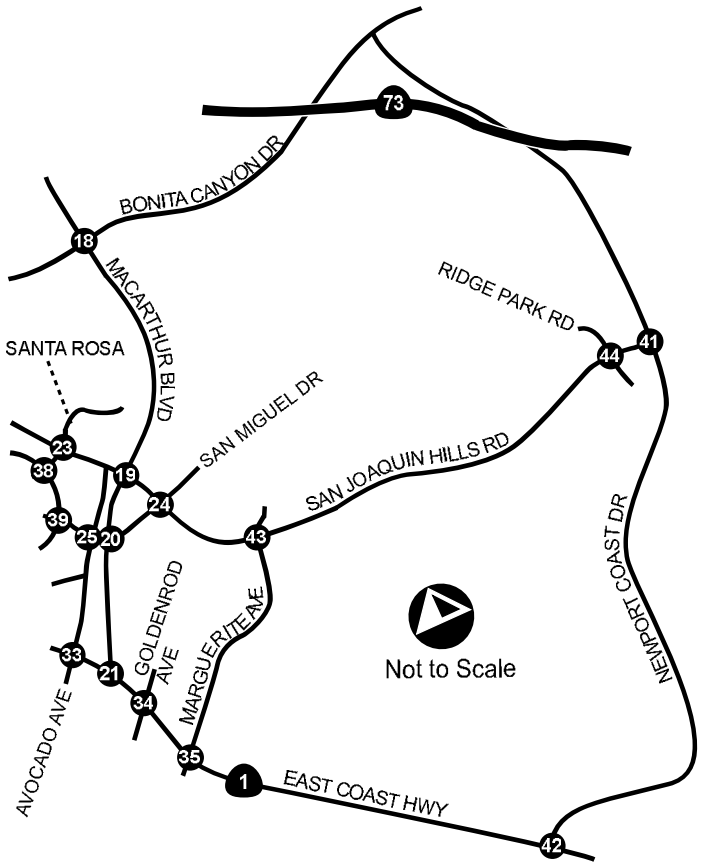
Area 2 - Forecast Year 2013 With Committed And Cumulative Projects With Project AM/PM Peak Hour Intersection Volumes

RBF

H:\pdata\10106783\Traffic\Exhibits\Exh29.ai JUL/2009

Exhibit 29





Legend:

XX/XX AM/PM Intersection Volumes

(XX) City of Newport Beach Intersection

(XX) Shared Newport Beach/Irvine Intersection

◆XX◆ City of Irvine Intersection

Area 3 - Forecast Year 2013 With Committed And Cumulative Projects With Project AM/PM Peak Hour Intersection Volumes

RBF

H:\pdata\10106783\Traffic\Exhibits\Exh30.ai JUL/2009

Exhibit 30

Table 17
Forecast Year 2013 With Committed And Cumulative Projects With Project Traffic AM & PM Peak Hour LOS

Int. No.	Study Intersection	Forecast Year 2013 With Committed And Cumulative Projects Without Project Traffic		Forecast Year 2013 With Committed And Cumulative Projects With Project Traffic		Increase in V/C		Significant Impact?
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
		V/C – LOS	V/C – LOS	V/C – LOS	V/C – LOS	AM	PM	
3	MacArthur Blvd/Von Karmen Ave	0.40 – A	0.53 – A	0.40 – A	0.53 – A	0.001	0.001	No
6	Jamboree Rd/MacArthur Blvd	0.66 – B	0.73 – C	0.66 – B	0.74 – C	0.001	0.006	No
8	Jamboree Rd/Bristol St N	0.61 – B	0.57 – A	0.61 – B	0.57 – A	0.003	0.002	No
9	Jamboree Rd/Bristol St S	0.70 – B	0.73 – C	0.71 – C	0.74 – C	0.008	0.006	No
10	Jamboree Rd/Bayview Way	0.42 – A	0.49 – A	0.42 – A	0.50 – A	0.001	0.007	No
11	Jamboree Rd/Eastbluff-University	0.64 – B	0.63 – B	0.65 – B	0.64 – B	0.009	0.009	No
12	Jamboree Rd/Bison Ave	0.47 – A	0.55 – A	0.47 – A	0.56 – A	0.001	0.010	No
13	Jamboree Rd/Eastbluff-Ford	0.67 – B	0.68 – B	0.68 – B	0.69 – B	0.010	0.006	No
14	Jamboree Rd/San Joaquin Hills Rd	0.62 – B	0.68 – B	0.63 – B	0.72 – C	0.014	0.036	No
16	Jamboree Rd/E Coast Hwy (SR-1)	0.77 – C	0.86 – D	0.77 – C	0.87 – D	0.002	0.010	No
17	MacArthur Blvd/Bison Ave	0.64 – B	0.70 – B	0.64 – B	0.71 – C	0.001	0.003	No
18	MacArthur Blvd/Ford-Bonita Canyon	0.77 – C	0.82 – D	0.77 – C	0.83 – D	0.004	0.010	No
19	MacArthur Blvd/San Joaquin Hills Rd	0.69 – B	0.88 – D	0.71 – C	0.90 – D	0.013	0.014	No
20	MacArthur Blvd/San Miguel Dr	0.47 – A	0.75 – C	0.51 – A	0.77 – C	0.041	0.026	No
21	MacArthur Blvd/E Coast Hwy (SR-1)	0.83 – D	0.77 – C	0.83 – D	0.77 – C	0.004	0.002	No
22	Santa Cruz Dr/San Joaquin Hills Rd	0.31 – A	0.31 – A	0.32 – A	0.32 – A	0.009	0.009	No
23	Santa Rosa Dr/San Joaquin Hills Rd	0.29 – A	0.46 – A	0.32 – A	0.46 – A	0.027	0.005	No
24	San Miguel Dr/San Joaquin Hills Rd	0.40 – A	0.55 – A	0.41 – A	0.56 – A	0.002	0.009	No
25	Avocado Ave/San Miguel Dr	0.34 – A	0.74 – C	0.35 – A	0.81 – D	0.009	0.072	No
26	Balboa-Superior/W Coast Hwy (SR-1)	0.72 – C	0.75 – C	0.72 – C	0.76 – C	0.004	0.003	No

Note: V/C = volume to capacity ratio; deficient intersection operation shown in **bold**.

Table 17 (continued)
Forecast Year 2013 With Committed And Cumulative Projects With Project Traffic AM & PM Peak Hour LOS

Int. No.	Study Intersection	Forecast Year 2013 With Committed And Cumulative Projects Without Project Traffic		Forecast Year 2013 With Committed And Cumulative Projects With Project Traffic		Increase in V/C		Significant Impact?
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
		V/C – LOS	V/C – LOS	V/C – LOS	V/C – LOS	AM	PM	
27	Newport Blvd SB/W Coast Hwy (SR-1)	**0.97 – E**	0.87 – D	**0.98 – E**	0.87 – D	0.006	0.003	No
28	Riverside Ave/W Coast Hwy (SR-1)	0.73 – C	0.78 – C	0.74 – C	0.79 – C	0.011	0.010	No
29	Tustin Ave/W Coast Hwy (SR-1)	0.73 – C	0.65 – B	0.74 – C	0.67 – B	0.011	0.010	No
30	Dover Dr/W Coast Hwy (SR-1)	0.69 – B	0.80 – C	0.70 – B	0.82 – D	0.010	0.012	No
31	Bayside Dr/E Coast Hwy (SR-1)	0.82 – D	0.76 – C	0.83 – D	0.77 – C	0.011	0.010	No
32	Newport Ctr Dr/E Coast Hwy (SR-1)	0.44 – A	0.57 – A	0.44 – A	0.59 – A	0.006	0.015	No
33	Avocado Ave/E Coast Hwy (SR-1)	0.56 – A	0.82 – D	0.59 – A	0.83 – D	0.025	0.007	No
34	Goldenrod Ave/E Coast Hwy (SR-1)	**0.91 – E**	0.86 – D	**0.92 – E**	0.87 – D	0.006	0.007	No
35	Marguerite Ave/E Coast Hwy (SR-1)	**1.000 – E**	0.90 – D	**1.00 – E**	**0.91 – E**	0.006	0.007	No
38	Santa Rosa Dr/Newport Ctr Dr	0.15 – A	0.39 – A	0.17 – A	0.43 – A	0.017	0.037	No
39	Newport Ctr Dr/San Miguel Dr	0.23 – A	0.48 – A	0.25 – A	0.48 – A	0.025	0.011	No
40	Fashion Island/Newport Ctr Dr	0.19 – A	0.41 – A	0.19 – A	0.41 – A	0.001	0.001	No
42	Newport Coast Dr/E Coast Hwy (SR-1)	0.60 – A	0.78 – C	0.60 – A	0.79 – C	0.004	0.004	No
43	Marguerite Ave/San Joaquin Hills Rd	0.42 – A	0.44 – A	0.42 – A	0.44 – A	0.003	0.005	No
45	MacArthur SB Ramps/University Dr	0.48 – A	0.42 – A	0.48 – A	0.42 – A	0.003	0.001	No
46	MacArthur NB Ramps/University Dr	0.50 – A	0.61 – B	0.50 – A	0.62 – B	0.000	0.005	No
47	University Dr/Campus Dr	0.84 – D	0.81 – D	0.85 – D	0.82 – D	0.003	0.001	No

Note: V/C = volume to capacity ratio; SB = Southbound, NB = Northbound; deficient intersection operation shown in **bold**.

As shown in Table 17, with the addition of project-generated trips, the study intersections are forecast to continue to operate at an acceptable LOS according to agency performance criteria for forecast year 2013 with committed and cumulative projects with project traffic with the exception of the following intersections:

- Newport Boulevard Southbound Ramps/West Coast Highway (SR-1) (p.m. peak hour only);
- Goldenrod Avenue/East Coast Highway (SR-1) (a.m. peak hour only); and
- Marguerite Avenue/East Coast Highway (SR-1) (both a.m. and p.m. peak hour).

Based on City of Newport Beach and City of Irvine-established thresholds of significance, the addition of project-generated trips is forecast to result in no significant impacts at the study intersections for forecast year 2013 with committed and cumulative projects with project traffic. There is no significant impact at the deficiently operating study intersections since the volume-to-capacity increase from project trips is less than 0.010.

FORECAST GENERAL PLAN BUILDOUT WITHOUT PROJECT TRAFFIC

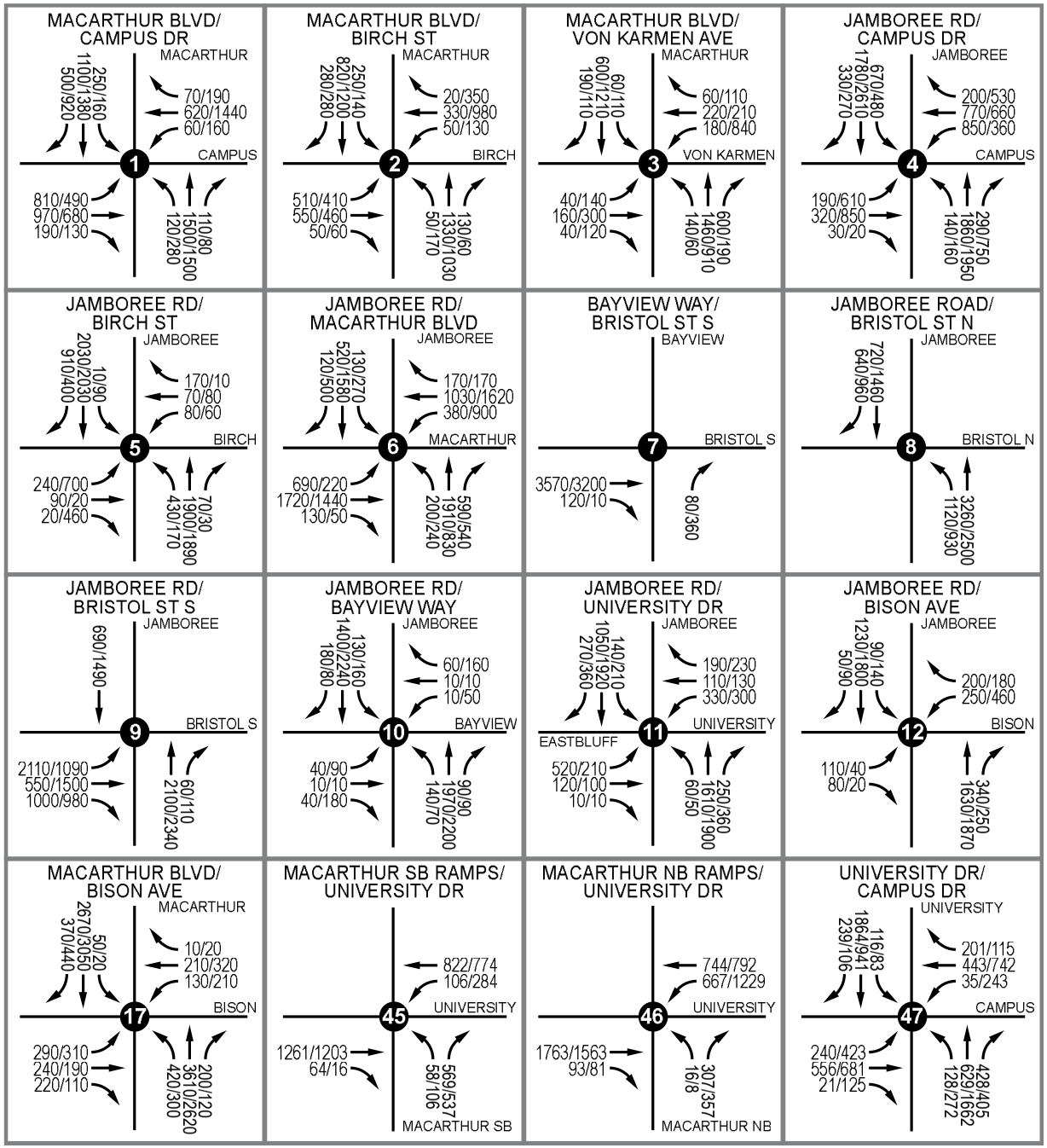
Forecast General Plan buildout without project conditions are based on General Plan Buildout traffic volumes, with buildout intersection geometrics, contained in *City of Newport Beach General Plan Transportation Study (Urban Crossroads, 2006)* and post-2030 traffic volumes provided by the City of Irvine.

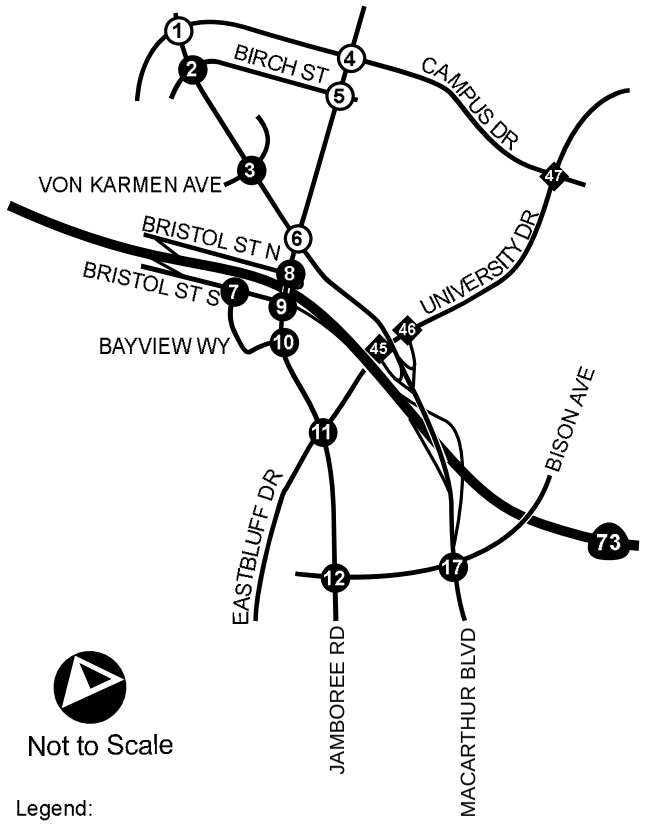
Forecast General Plan Buildout Without Project Traffic

Exhibits 31, 32 and 33 show forecast General Plan buildout without project traffic a.m. peak hour and p.m. peak hour volumes at the study intersections. Exhibits 34, 35 and 36 show forecast General Plan buildout without project traffic study intersection geometry.

Forecast General Plan Buildout Without Project Traffic Peak Hour Intersection Level of Service

Table 18 summarizes forecast General Plan buildout without project traffic a.m. peak hour and p.m. peak hour LOS of the study intersections; detailed LOS analysis sheets are contained in Appendix B.





Legend:

XX/XX AM/PM Intersection Volumes

(XX) City of Newport Beach Intersection

(XX) Shared Newport Beach/Irvine Intersection

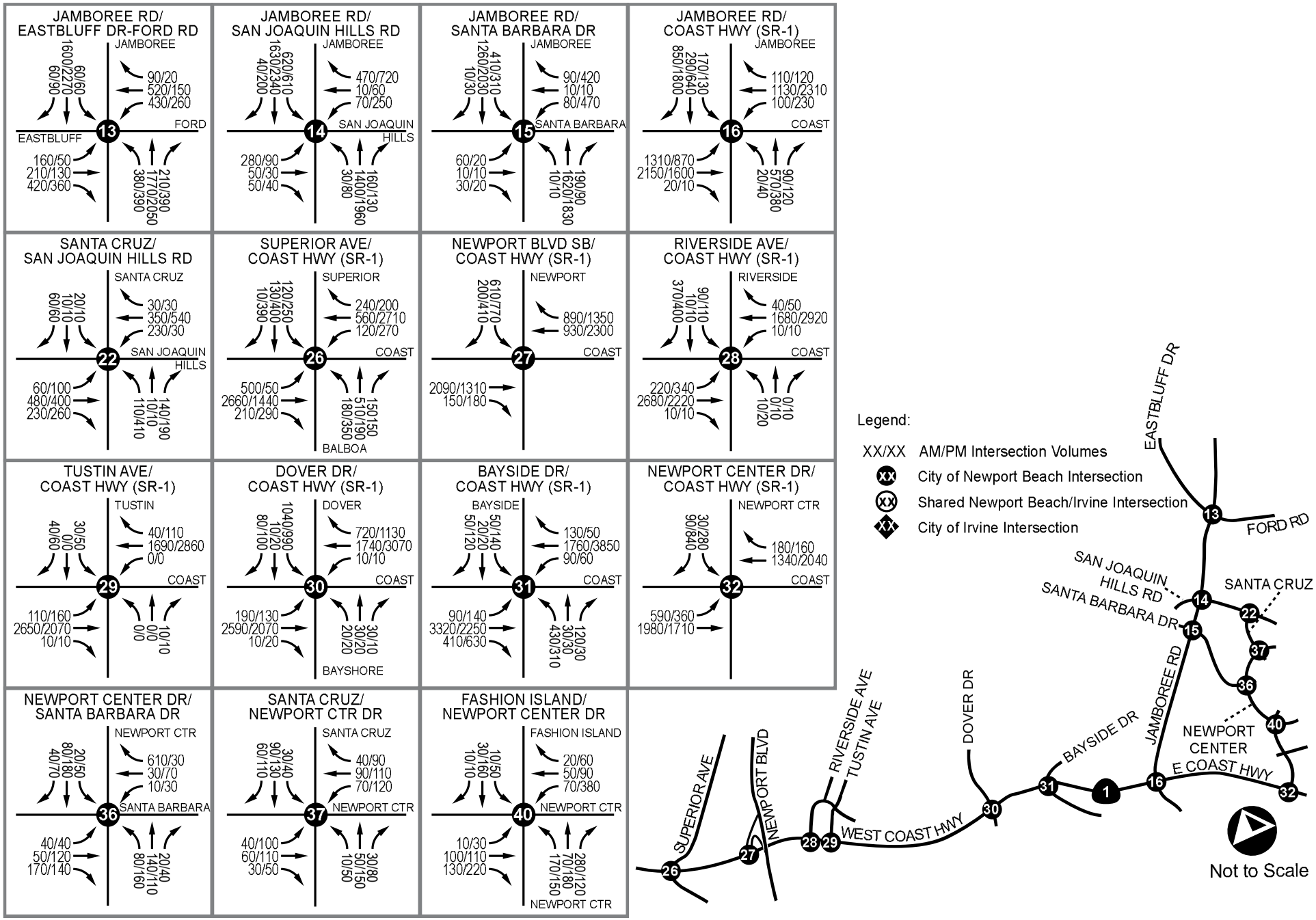
XX City of Irvine Intersection

Area 1 - Forecast General Plan Buildout Without Project AM/PM Peak Hour Intersection Volumes

RBF

H:\pdata\10106783\Traffic\Exhibits\Exh31.ai JUL/2009

Exhibit 31

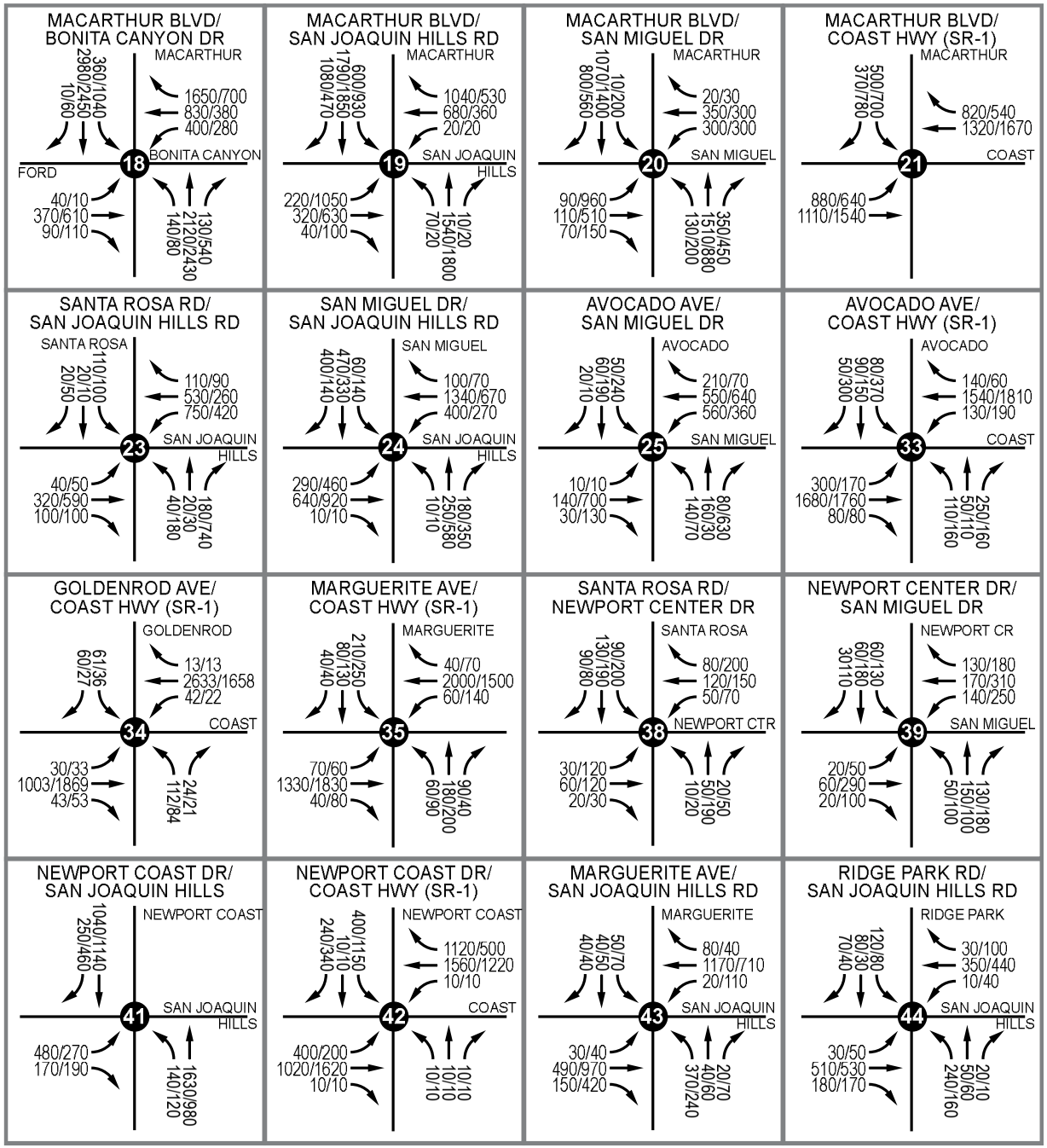


Area 2 - Forecast General Plan Buildout
Without Project AM/PM Peak Hour Intersection Volumes

RBF

H:\pdata\10106783\Traffic\Exhibits\Exh32.ai JUL/2009

Exhibit 32

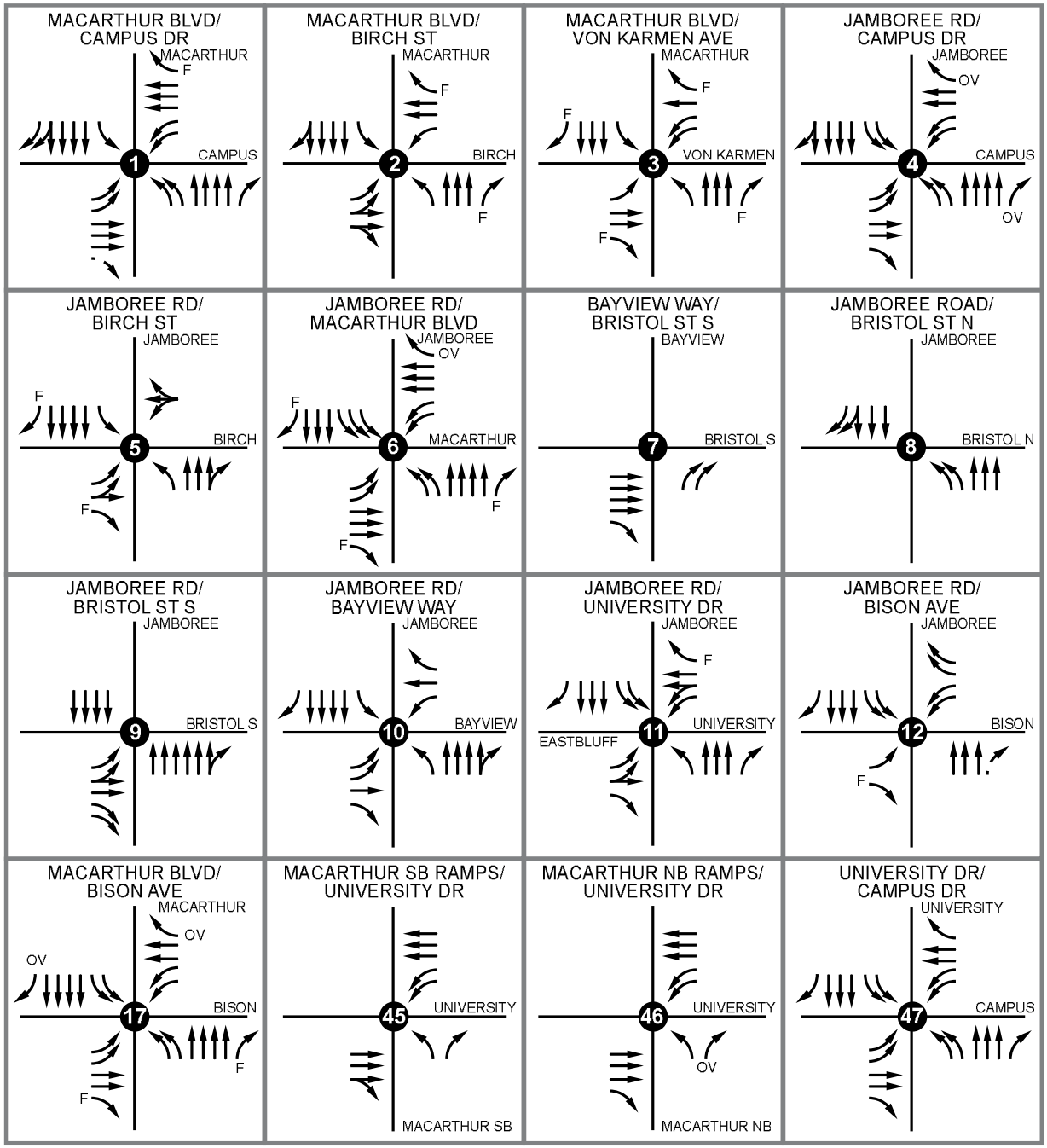


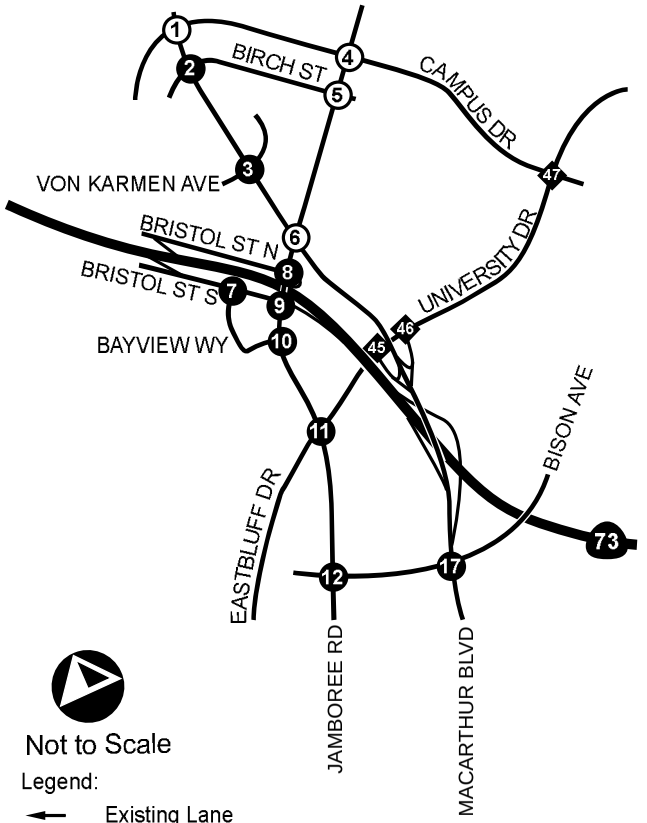
Area 3 - Forecast General Plan Buildout
Without Project AM/PM Peak Hour Intersection Volumes

RBF

H:\pdata\10106783\Traffic\Exhibits\Exh33.ai JUL/2009

Exhibit 33





Not to Scale

Legend:

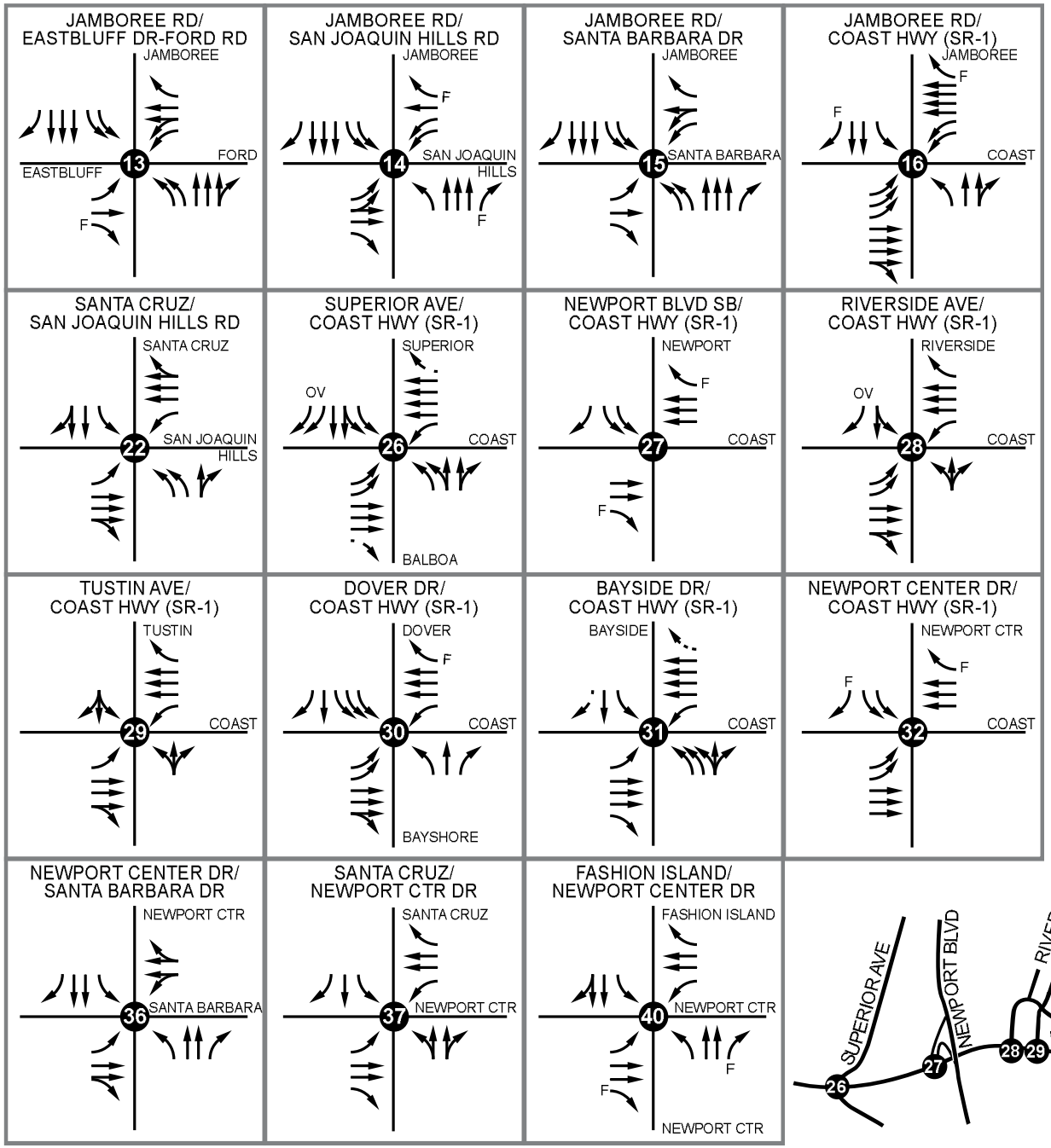
- Existing Lane
- F — Free Right-Turn Lane
- Defacto Right-Turn Lane
- OV — Right-Turn Overlap
- XX — City of Newport Beach Intersection
- XX — Shared Newport Beach/Irvine Intersection
- XX — City of Irvine Intersection

RBF

Area 1 - Forecast General Plan Buildout Study Intersection Geometry

H:\pdata\10106783\Traffic\Exhibits\Exh34.ai JUL/2009

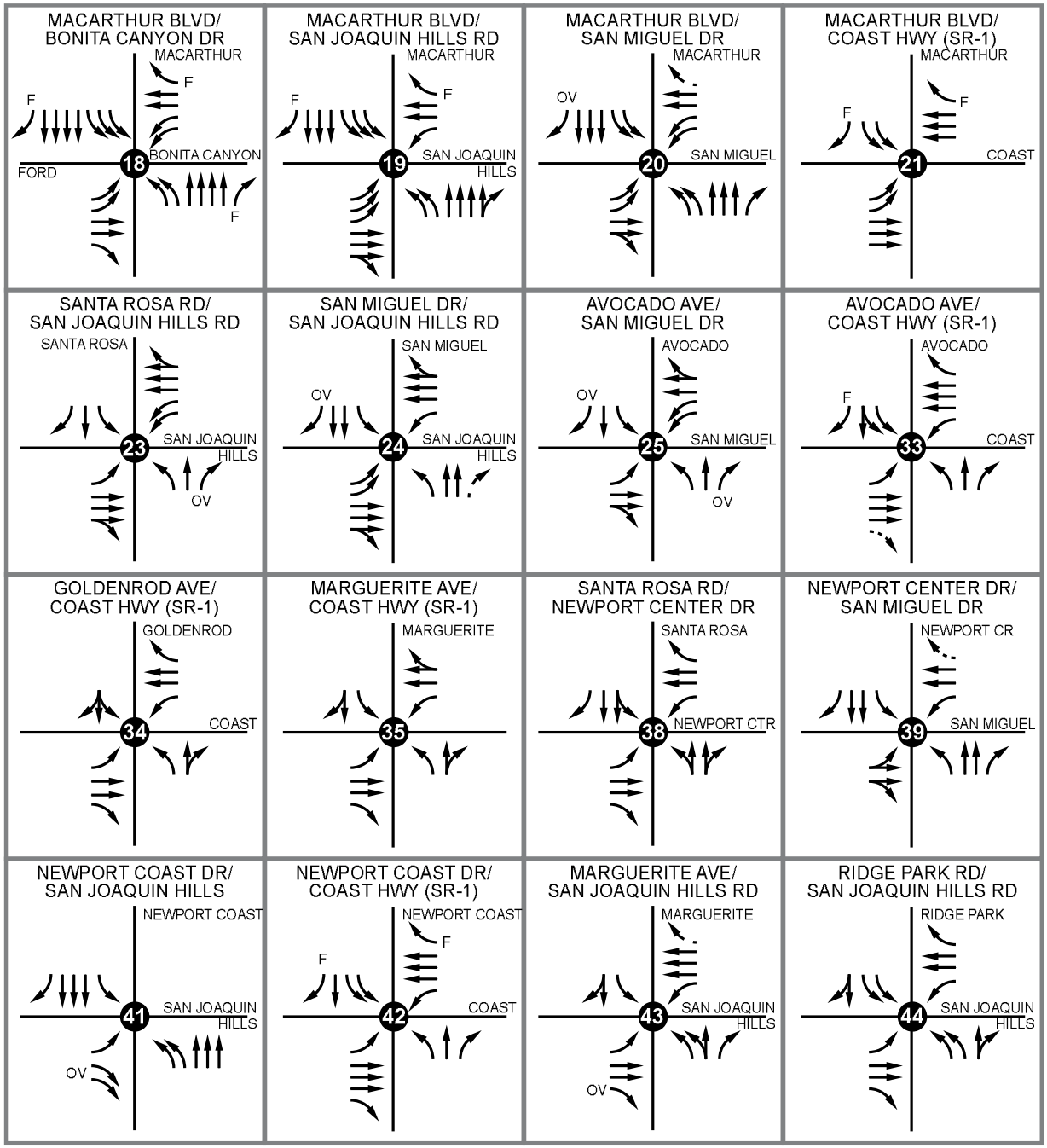
Exhibit 34

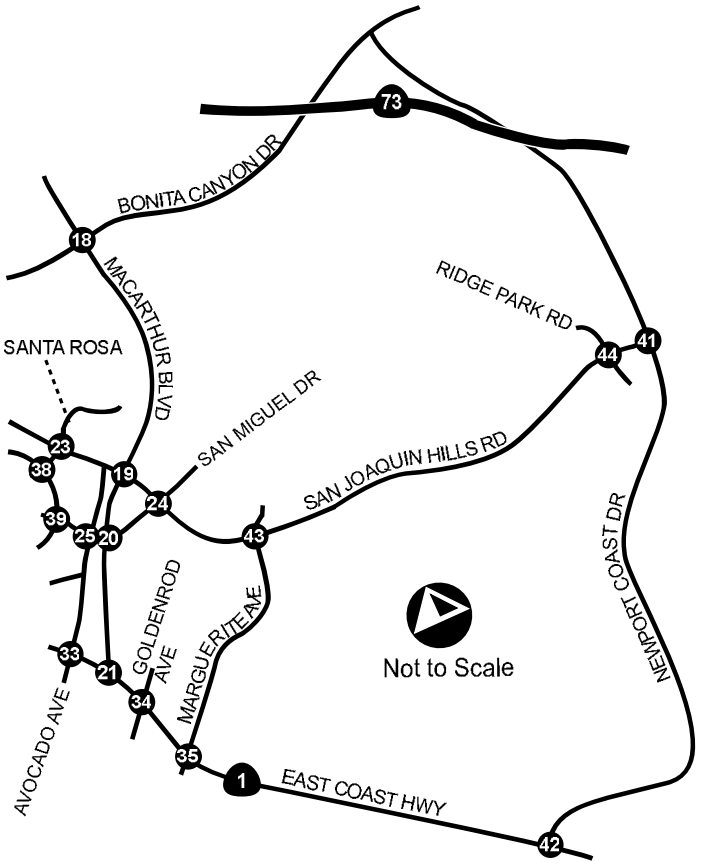


Area 2 - Forecast General Plan Buildout Study Intersection Geometry

H:\pdata\10106783\Traffic\Exhibits\Exh35.ai JUL/2009

Exhibit 35





Legend:

- Existing Lane
- F — Free Right-Turn Lane
- Defacto Right-Turn Lane
- OV — Right-Turn Overlap
- XX — City of Newport Beach Intersection
- (XX) — Shared Newport Beach/Irvine Intersection
- XX — City of Irvine Intersection

Area 3 - Forecast General Plan Buildout Study Intersection Geometry

H:\pdata\10106783\Traffic\Exhibits\Exh36.ai JUL/2009

Exhibit 36

Table 18
Forecast General Plan Buildout Without Project - AM & PM Peak Hour LOS

Int. No.	Study Intersection	AM Peak Hour	PM Peak Hour
		V/C – LOS	V/C – LOS
1	MacArthur Blvd/Campus Dr	0.77 – C	0.83 – D
2	MacArthur Blvd/Birch St	0.77 – C	0.84 – D
3	MacArthur Blvd/Von Karmen Ave	0.50 – A	0.65 – B
4	Jamboree Rd/Campus Dr	0.87 – D	0.90 – D
5	Jamboree Rd/Birch St	0.89 – D	0.78 – C
6	Jamboree Rd/MacArthur Blvd	0.87 – D	0.82 – D
7	Bayview Way/Bristol St	0.58 – A	0.61 – B
8	Jamboree Rd/Bristol St N	0.68 – B	0.67 – B
9	Jamboree Rd/Bristol St S	0.88 – D	0.80 – C
10	Jamboree Rd/Bayview Way	0.45 – A	0.60 – A
11	Jamboree Rd/Eastbluff-University	0.68 – B	0.65 – B
12	Jamboree Rd/Bison Ave	0.52 – A	0.60 – A
13	Jamboree Rd/Eastbluff-Ford	0.78 – C	0.76 – C
14	Jamboree Rd/San Joaquin Hills Rd	0.600 – A	0.71 – C
15	Jamboree Rd/Santa Barbara Dr	0.56 – A	0.75 – C
16	Jamboree Rd/E Coast Hwy (SR-1)	0.76 – C	0.78 – C
17	MacArthur Blvd/Bison Ave	0.74 – C	0.77 – C
18	MacArthur Blvd/Ford-Bonita Canyon	0.78 – C	0.87 – D
19	MacArthur Blvd/San Joaquin Hills Rd	0.65 – B	0.81 – D
20	MacArthur Blvd/San Miguel Dr	0.66 – B	0.75 – C
21	MacArthur Blvd/E Coast Hwy (SR-1)	0.71 – C	0.77 – C
22	Santa Cruz Dr/San Joaquin Hills Rd	0.37 – A	0.35 – A
23	Santa Rosa Dr/San Joaquin Hills Rd	0.40 – A	0.67 – B
24	San Miguel Dr/San Joaquin Hills Rd	0.55 – A	0.67 – B
25	Avocado Ave/San Miguel Dr	0.37 – A	0.80 – C
26	Balboa-Superior/W Coast Hwy (SR-1)	0.90 – D	0.75 – C
27	Newport Blvd SB/W Coast Hwy (SR-1)	0.84 – D	0.74 – C
28	Riverside Ave/W Coast Hwy (SR-1)	0.74 – C	0.87 – D
29	Tustin Ave/W Coast Hwy (SR-1)	0.60 – A	0.77 – C
30	Dover Dr/W Coast Hwy (SR-1)	0.78 – C	0.90 – D
31	Bayside Dr/E Coast Hwy (SR-1)	0.90 – D	0.85 – D
32	Newport Ctr Dr/E Coast Hwy (SR-1)	0.47 – A	0.63 – B
33	Avocado Ave/E Coast Hwy (SR-1)	0.72 – C	0.75 – C
34	Goldenrod Ave/E Coast Hwy (SR-1)	0.99 – E	0.69 – B

Table 18 (continued)
Forecast General Plan Buildout Without Project - AM & PM Peak Hour LOS

Int. No.	Study Intersection	AM Peak Hour	PM Peak Hour
		V/C – LOS	V/C – LOS
35	Marguerite Ave/E Coast Hwy (SR-1)	0.98 – E	0.97 – E
36	Newport Ctr Dr/Santa Barbara Dr	0.19 – A	0.26 – A
37	Santa Cruz Dr/Newport Ctr Dr	0.13 – A	0.23 – A
38	Santa Rosa Dr/Newport Ctr Dr	0.16 – A	0.41 – A
39	Newport Ctr Dr/San Miguel Dr	0.24 – A	0.49 – A
40	Fashion Island/Newport Ctr Dr	0.19 – A	0.42 – A
41	Newport Coast Dr/San Joaquin Hills Rd	0.64 – B	0.49 – A
42	Newport Coast Dr/E Coast Hwy (SR-1)	0.71 – C	0.75 – C
43	Marguerite Ave/San Joaquin Hills Rd	0.44 – A	0.52 – A
44	Ridge Park Rd/San Joaquin Hills Rd	0.33 – A	0.28 – A
45	MacArthur SB Ramps/University Dr	0.68 – B	0.69 – B
46	MacArthur NB Ramps/University Dr	0.60 – A	0.72 – C
47	University Dr/Campus Dr	0.65 – B	0.74 – C

Note: V/C = volume to capacity ratio.

As shown in Table 18, the study intersections are forecast to operate at an acceptable LOS according to agency performance criteria for forecast General Plan buildout without project traffic.

FORECAST GENERAL PLAN BUILDOUT WITH PROJECT TRAFFIC

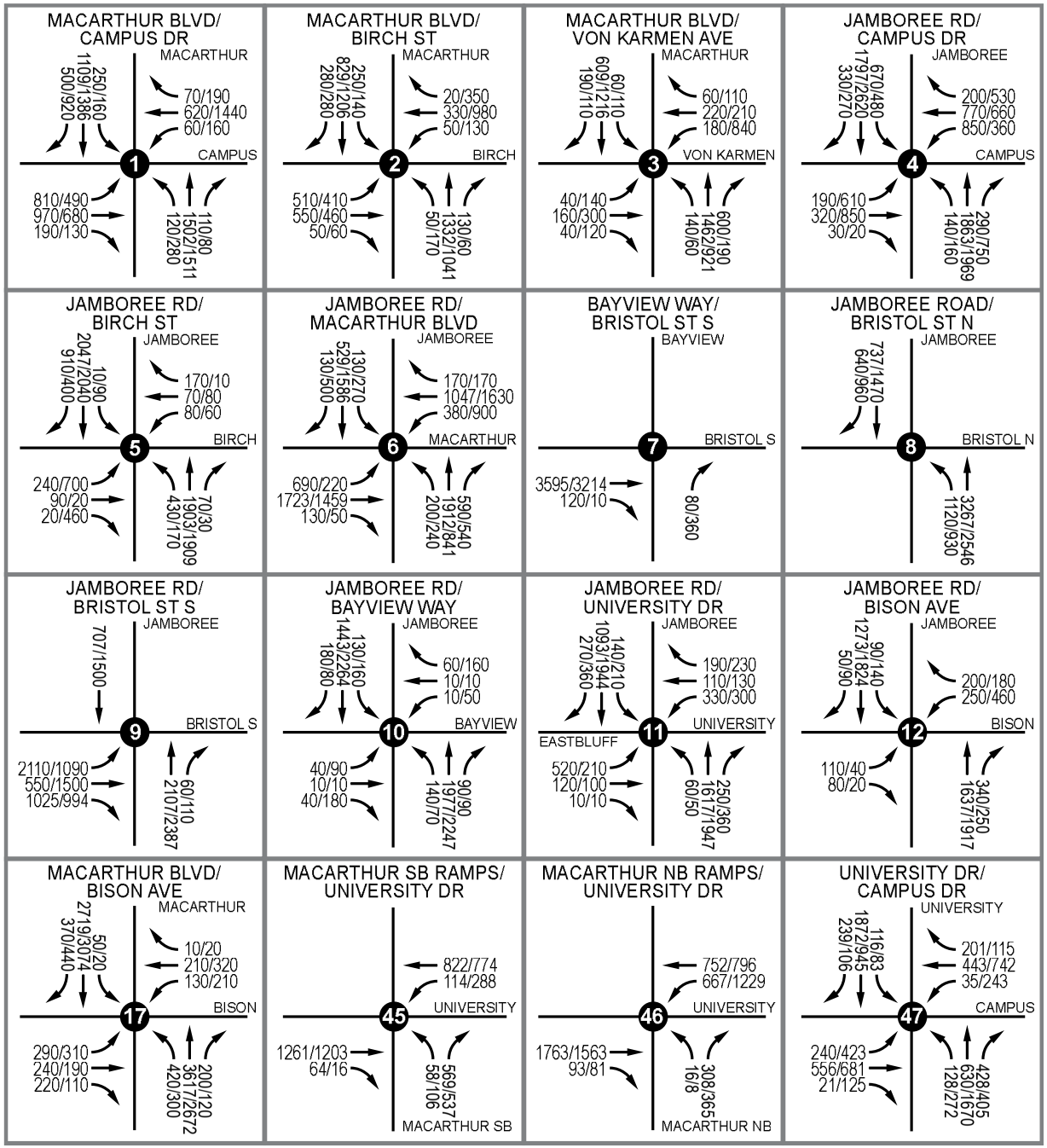
This section analyzes the impact of the addition of trips forecast to be generated by the proposed project to forecast General Plan buildout without project traffic. The full trip generation of the proposed project has been applied to the General Plan buildout with project traffic scenario. For the purposes of this analysis, project trip assignment has been manually added to the General Plan baseline (Forecast General Plan Buildout without project traffic) to derive Forecast General Plan Buildout with project traffic.

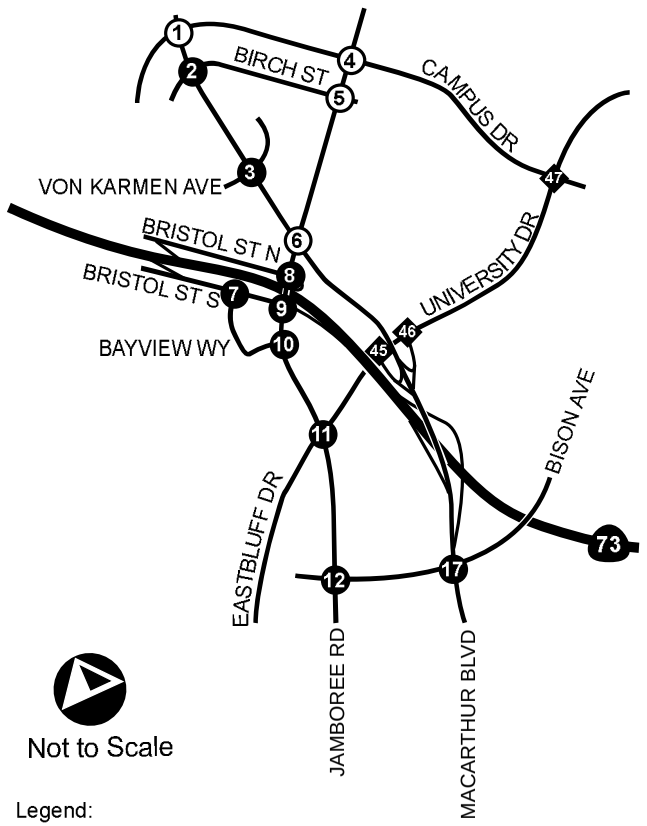
Forecast General Plan Buildout With Project Conditions Traffic

Exhibits 37, 38 and 39 show forecast General Plan buildout with project traffic a.m. peak hour and p.m. peak hour volumes at the study intersections.

Forecast General Plan Buildout With Project Traffic Peak Hour Intersection Level of Service

Table 19 summarizes forecast General Plan buildout with project traffic a.m. peak hour and p.m. peak hour LOS of the study intersections; detailed LOS analysis sheets are contained in Appendix B.





Legend:

XX/XX AM/PM Intersection Volumes

XX City of Newport Beach Intersection

XX Shared Newport Beach/Irvine Intersection

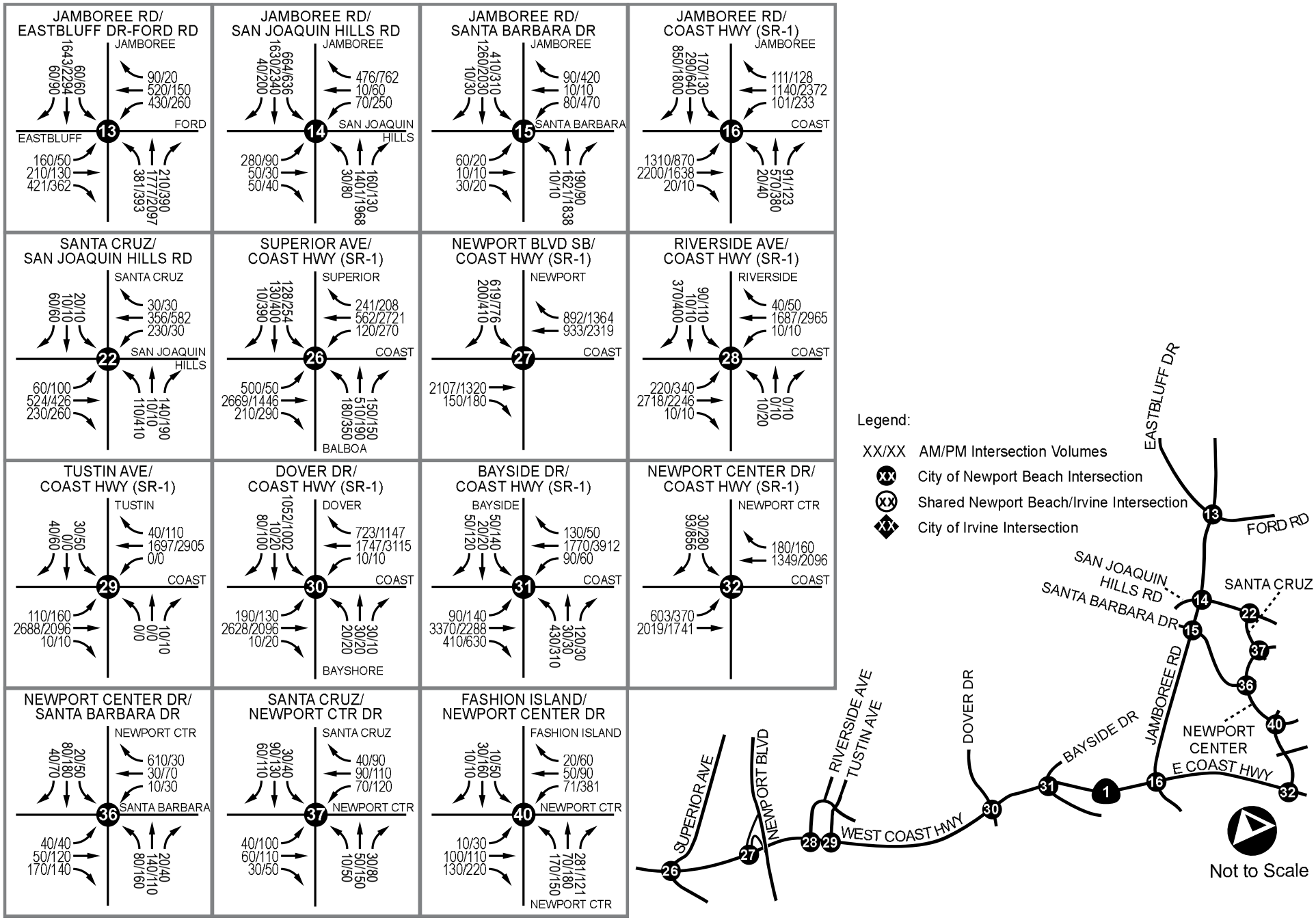
XX City of Irvine Intersection

Area 1 - Forecast General Plan Buildout With Project AM/PM Peak Hour Intersection Volumes

RBF

H:\pdata\10106783\Traffic\Exhibits\Exh37.ai JUL/2009

Exhibit 37



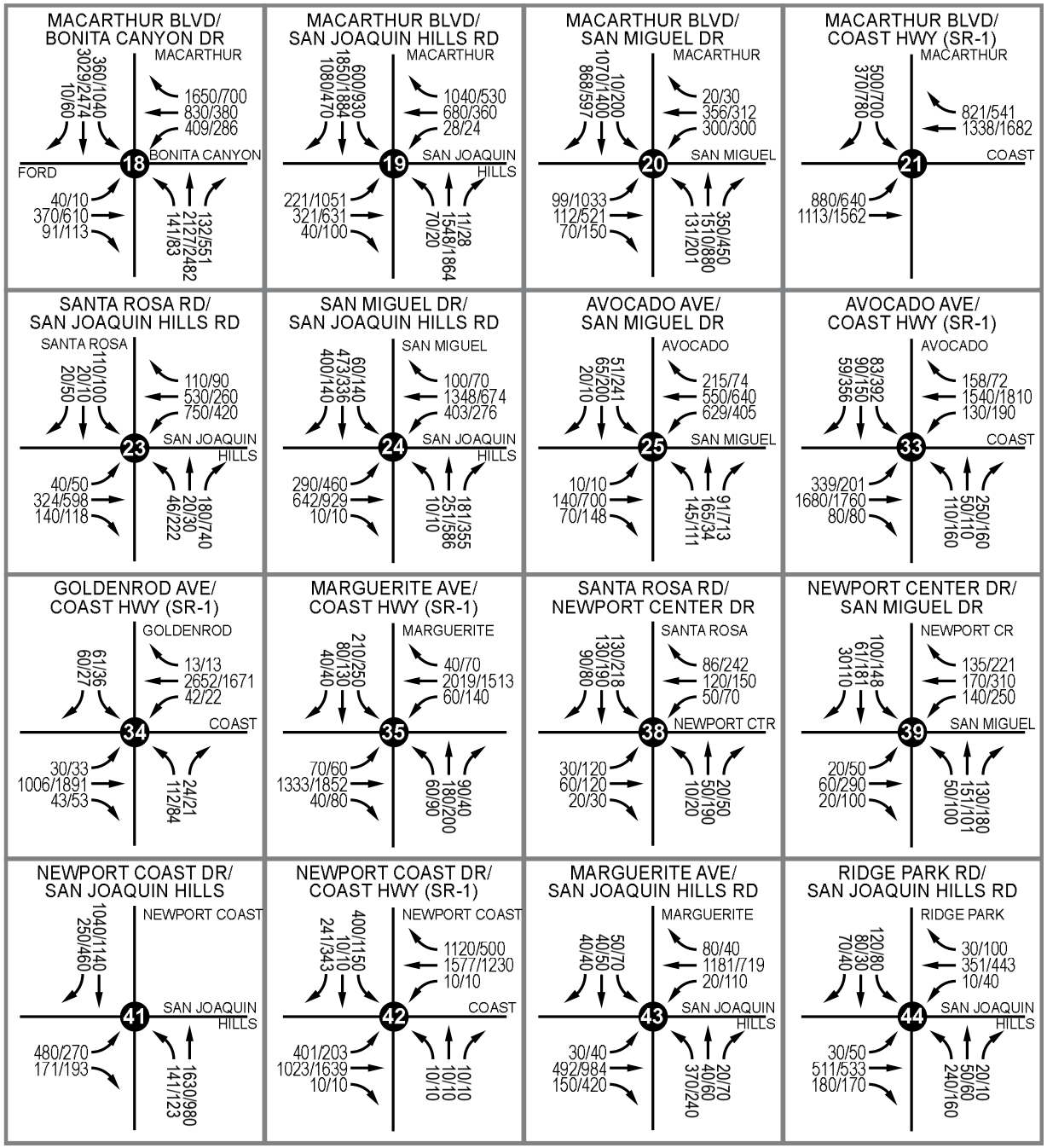
Area 2 - Forecast General Plan Buildout
With Project AM/PM Peak Hour Intersection Volumes

RBF

H:\pdata\10106783\Traffic\Exhibits\Exh38.ai

JUL/2009

Exhibit 38



Area 3 - Forecast General Plan Buildout
With Project AM/PM Peak Hour Intersection Volumes

RBF

H:\pdata\10106783\Traffic\Exhibits\Exh39.ai JUL/2009

Exhibit 39

Table 19
Forecast General Plan Buildout With Project Traffic AM & PM Peak Hour LOS

Int. No.	Study Intersection	Forecast General Plan Buildout Without Project Traffic		Forecast General Plan Buildout With Project Traffic		Increase in V/C		Significant Impact?
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
		V/C – LOS	V/C – LOS	V/C – LOS	V/C – LOS	AM	PM	
1	MacArthur Blvd/Campus Dr	0.77 – C	0.83 – D	0.77 – C	0.83 – D	0.000	0.001	No
2	MacArthur Blvd/Birch St	0.77 – C	0.84 – D	0.77 – C	0.84 – D	0.000	0.001	No
3	MacArthur Blvd/Von Karmen Ave	0.50 – A	0.65 – B	0.51 – A	0.65 – B	0.001	0.001	No
4	Jamboree Rd/Campus Dr	0.87 – D	0.90 – D	0.87 – D	0.90 – D	0.000	0.000	No
5	Jamboree Rd/Birch St	0.89 – D	0.78 – C	0.89 – D	0.78 – C	0.003	0.004	No
6	Jamboree Rd/MacArthur Blvd	0.87 – D	0.82 – D	0.87 – D	0.82 – D	0.004	0.004	No
7	Bayview Way/Bristol St	0.58 – A	0.61 – B	0.59 – A	0.62 – B	0.004	0.002	No
8	Jamboree Rd/Bristol St N	0.68 – B	0.67 – B	0.68 – B	0.67 – B	0.002	0.001	No
9	Jamboree Rd/Bristol St S	0.88 – D	0.80 – C	0.89 – D	0.80 – C	0.001	0.005	No
10	Jamboree Rd/Bayview Way	0.45 – A	0.60 – A	0.45 – A	0.61 – B	0.001	0.007	No
11	Jamboree Rd/Eastbluff-University	0.68 – B	0.65 – B	0.68 – B	0.66 – B	0.002	0.010	No
12	Jamboree Rd/Bison Ave	0.52 – A	0.60 – A	0.52 – A	0.61 – B	0.001	0.010	No
13	Jamboree Rd/Eastbluff-Ford	0.78 – C	0.76 – C	0.79 – C	0.77 – C	0.010	0.006	No
14	Jamboree Rd/San Joaquin Hills Rd	0.600 – A	0.71 – C	0.61 – B	0.72 – C	0.014	0.010	No
15	Jamboree Rd/Santa Barbara Dr	0.56 – A	0.75 – C	0.56 – A	0.76 – C	0.001	0.002	No
16	Jamboree Rd/E Coast Hwy (SR-1)	0.76 – C	0.78 – C	0.76 – C	0.79 – C	0.002	0.010	No
17	MacArthur Blvd/Bison Ave	0.74 – C	0.77 – C	0.74 – C	0.77 – C	0.001	0.004	No
18	MacArthur Blvd/Ford-Bonita Canyon	0.78 – C	0.87 – D	0.79 – C	0.88 – D	0.008	0.010	No
19	MacArthur Blvd/San Joaquin Hills Rd	0.65 – B	0.81 – D	0.67 – B	0.82 – D	0.013	0.012	No
20	MacArthur Blvd/San Miguel Dr	0.66 – B	0.75 – C	0.70 – B	0.78 – C	0.041	0.027	No
21	MacArthur Blvd/E Coast Hwy (SR-1)	0.71 – C	0.77 – C	0.71 – C	0.77 – C	0.004	0.002	No
22	Santa Cruz Dr/San Joaquin Hills Rd	0.37 – A	0.35 – A	0.38 – A	0.36 – A	0.009	0.009	No
23	Santa Rosa Dr/San Joaquin Hills Rd	0.40 – A	0.67 – B	0.41 – A	0.67 – B	0.009	0.005	No
24	San Miguel Dr/San Joaquin Hills Rd	0.55 – A	0.67 – B	0.55 – A	0.68 – B	0.002	0.008	No

Note: V/C = volume to capacity ratio; deficient intersection operation shown in **bold**.

Table 19 (continued)
Forecast General Plan Buildout With Project Traffic AM & PM Peak Hour LOS

Int. No.	Study Intersection	Forecast General Plan Buildout Without Project Traffic		Forecast General Plan Buildout With Project Traffic		Increase in V/C		Significant Impact?
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
		V/C – LOS	V/C – LOS	V/C – LOS	V/C – LOS	AM	PM	
25	Avocado Ave/San Miguel Dr	0.37 – A	0.80 – C	0.39 – A	0.86 – D	0.024	0.058	No
26	Balboa-Superior/W Coast Hwy (SR-1)	0.90 – D	0.75 – C	0.90 – D	0.75 – C	0.004	0.002	No
27	Newport Blvd SB/W Coast Hwy (SR-1)	0.84 – D	0.74 – C	0.85 – D	0.74 – C	0.008	0.004	No
28	Riverside Ave/W Coast Hwy (SR-1)	0.74 – C	0.87 – D	0.74 – C	0.88 – D	0.008	0.009	No
29	Tustin Ave/W Coast Hwy (SR-1)	0.60 – A	0.77 – C	0.61 – B	0.77 – C	0.008	0.009	No
30	Dover Dr/W Coast Hwy (SR-1)	0.78 – C	0.90 – D	0.79 – C	0.91 – E	0.011	0.012	No
31	Bayside Dr/E Coast Hwy (SR-1)	0.90 – D	0.85 – D	0.91 – E	0.86 – D	0.010	0.009	**Yes**
32	Newport Ctr Dr/E Coast Hwy (SR-1)	0.47 – A	0.63 – B	0.48 – A	0.64 – B	0.006	0.015	No
33	Avocado Ave/E Coast Hwy (SR-1)	0.72 – C	0.75 – C	0.75 – C	0.77 – C	0.024	0.024	No
34	Goldenrod Ave/E Coast Hwy (SR-1)	0.99 – E	0.69 – B	0.99 – E	0.70 – B	0.006	0.007	No
35	Marguerite Ave/E Coast Hwy (SR-1)	0.98 – E	0.97 – E	0.99 – E	0.97 – E	0.006	0.007	No
36	Newport Ctr Dr/Santa Barbara Dr	0.19 – A	0.26 – A	0.19 – A	0.26 – A	0.000	0.000	No
37	Santa Cruz Dr/Newport Ctr Dr	0.13 – A	0.23 – A	0.13 – A	0.23 – A	0.000	0.000	No
38	Santa Rosa Dr/Newport Ctr Dr	0.16 – A	0.41 – A	0.18 – A	0.44 – A	0.016	0.038	No
39	Newport Ctr Dr/San Miguel Dr	0.24 – A	0.49 – A	0.26 – A	0.50 – A	0.024	0.012	No
40	Fashion Island/Newport Ctr Dr	0.19 – A	0.42 – A	0.19 – A	0.42 – A	0.000	0.000	No
41	Newport Coast Dr/San Joaquin Hills Rd	0.64 – B	0.49 – A	0.64 – B	0.50 – A	0.000	0.001	No
42	Newport Coast Dr/E Coast Hwy (SR-1)	0.71 – C	0.75 – C	0.71 – C	0.75 – C	0.004	0.004	No
43	Marguerite Ave/San Joaquin Hills Rd	0.44 – A	0.52 – A	0.44 – A	0.53 – A	0.002	0.004	No
44	Ridge Park Rd/San Joaquin Hills Rd	0.33 – A	0.28 – A	0.34 – A	0.29 – A	0.001	0.001	No
45	MacArthur SB Ramps/University Dr	0.68 – B	0.69 – B	0.68 – B	0.69 – B	0.002	0.002	No
46	MacArthur NB Ramps/University Dr	0.60 – A	0.72 – C	0.60 – A	0.72 – C	0.000	0.000	No
47	University Dr/Campus Dr	0.65 – B	0.74 – C	0.66 – B	0.75 – C	0.002	0.002	No

Note: V/C = volume to capacity ratio; deficient intersection operation and significant impact shown in **bold**.

As shown in Table 19, with the addition of project-generated trips, the study intersections are forecast to continue to operate at an acceptable LOS according to agency performance criteria for forecast General Plan buildout with project traffic with the exception of the Bayside Drive/East Coast Highway (SR-1) study intersection.

Under General Plan buildout with project traffic the following three intersections are projected to operate at LOS "E," but are all intersections defined in the General Plan as being locations where LOS "E" is acceptable:

- Dover Drive/West Coast Highway (SR-1);
- Goldenrod Avenue/East Coast Highway (SR-1); and
- Marguerite Avenue/East Coast Highway (SR-1).

The one remaining LOS" E" location is the Bayside Drive/Coast Highway intersection where the addition of project traffic would increase the ICU from 0.900 to 0.910. Based on the City of Newport Beach's thresholds of significance, the addition of project-generated trips is forecast to result in a significant impact at the Bayside Drive/Coast Highway intersection for Forecast General Plan buildout with project traffic.

Forecast General Plan Buildout With Project Traffic Recommended Mitigation Measures

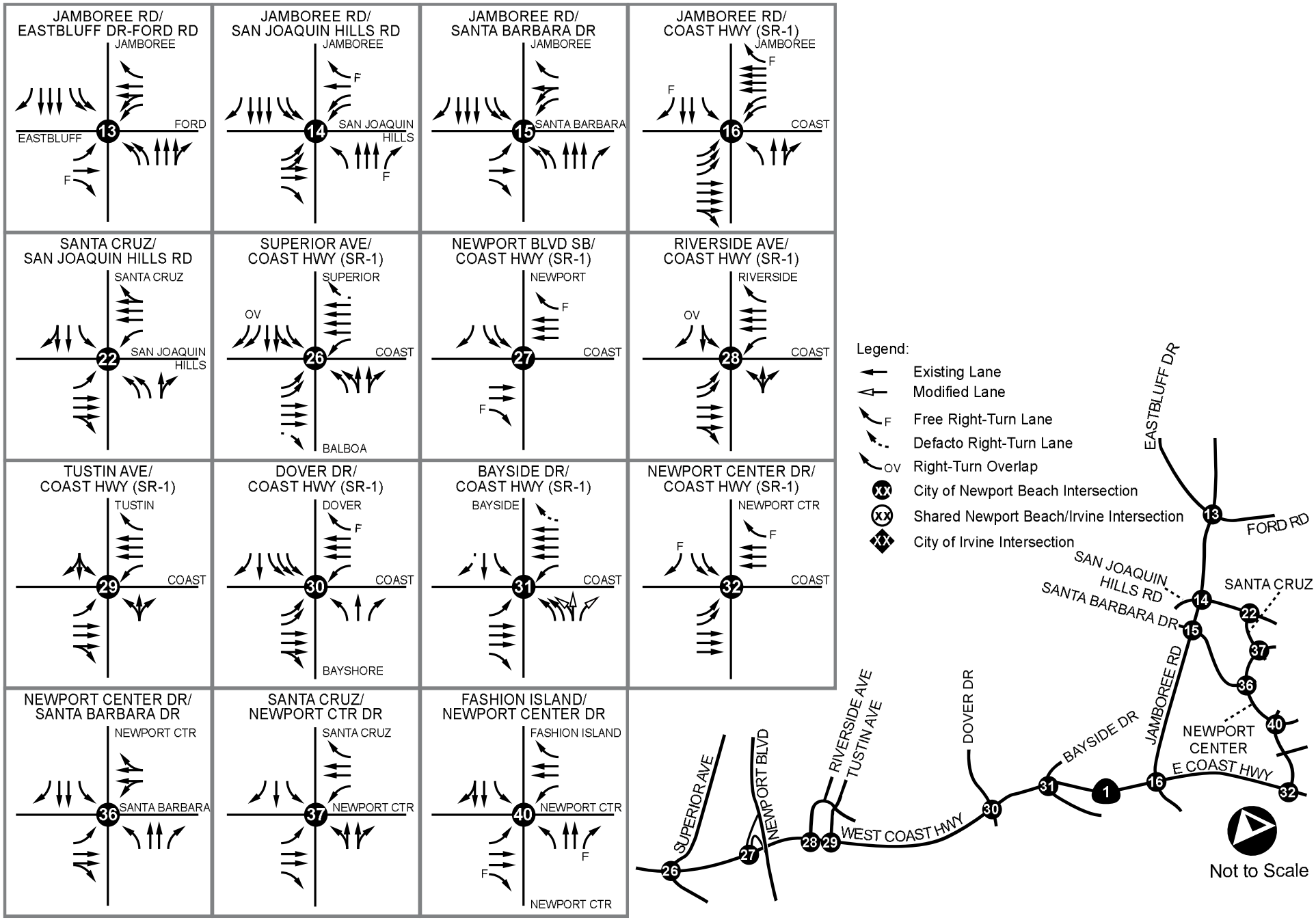
To offset the projected traffic impacts to a level considered less than significant at the projected buildout condition, the following mitigation measure is recommended:

Mitigation Measure No. 1 The project applicant shall re-stripe the northbound Bayside Drive approach to the East Coast Highway intersection from two left-turn lanes and a shared left/through/right lane to two left-turn lanes, a shared left/through lane and a right-turn lane. These required improvements shall be implemented within one year of when traffic counts done on behalf of the City in accordance with the schedule for traffic counts provided for in the City's Traffic Phasing Ordinance result in the finding that the intersection is operating at, or over, an ICU of 0.90.

Mitigated Forecast General Plan Buildout With Project Traffic Level of Service

Table 20 summarizes forecast General Plan buildout with project traffic a.m. peak hour and p.m. peak hour LOS of mitigated study intersections assuming implementation of the recommended mitigation measures; detailed LOS analysis sheets are contained in Appendix B.

Exhibit 40 shows mitigated forecast General Plan buildout with project traffic study intersection geometry.



Area 2 - Mitigated Forecast General Plan Buildout Study Intersection Geometry

H:\pdata\10106783\Traffic\Exhibits\Exh40.ai JUL/2009

Exhibit 40

Table 20
Mitigated Forecast General Plan Buildout
With Project Traffic AM & PM Peak Hour Intersection LOS

Int. No.	Study Intersection	Forecast General Plan Buildout Without Project Traffic		Mitigated Forecast General Plan Buildout With Project Traffic		Increase in V/C		Significant Impact?
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
		V/C – LOS	V/C – LOS	V/C – LOS	V/C – LOS	AM	PM	
31	Bayside Dr/E Coast Hwy (SR-1)	0.90 – D	0.85 – D	0.89 – D	0.86 – D	-0.014	0.009	No

Note: Delay shown in seconds per vehicle; Deficient intersection operation shown in **bold.**

As shown in Table 20, assuming implementation of the recommended mitigation measure, the project traffic impacts at the mitigated study intersection are reduced to a level considered less than significant during the a.m. peak hour for forecast General Plan buildout with project traffic.

ORANGE COUNTY CONGESTION MANAGEMENT PROGRAM INTERSECTION ANALYSIS

The purpose of the Congestion Management Program (CMP) is to develop a coordinated approach to managing and decreasing traffic congestion by linking the various transportation, land use and air quality planning programs throughout the County. The program is consistent with that of the Southern California Association of Governments (SCAG). The CMP program requires review of significant individual projects, which might on their own impact the CMP transportation system.

According to the CMP *(Orange County Transportation Authority, 2007)*, those proposed developments, which meet the following criteria shall be evaluated:

- Development projects that generate more than 2,400 daily trips (The threshold is 1,600 or more trips per day for development projects that will directly access a CMP Highway System link).
- Projects with a potential to create an impact of more than three percent of level of service E capacity.

This section evaluates the forecast impact of project-generated trips at the following Orange County CMP-monitored intersections:

- Jamboree Road/Macarthur Boulevard;
- MacArthur Boulevard/ East Coast Highway (SR-1); and
- Newport Boulevard Southbound Ramps/ West Coast Highway (SR-1).

CMP Intersection Analysis Methodology

The CMP advocates use of Intersection Capacity Utilization (ICU) intersection analysis methodology to analyze the operation of CMP intersections. The ICU analysis methodology describes the operation of a signalized intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on corresponding Volume/Capacity (V/C) ratios shown in Table 21.

Table 21
CMP LOS & V/C Ratio Ranges

LOS	V/C Ratio
A	< 0.61
B	0.61 to 0.70
C	0.71 to 0.80
D	0.81 to 0.90
E	0.91 to 1.00
F	> 1.00

Source: *2007 Orange County Congestion Management Program*

In accordance with the Orange County CMP, the ICU analysis assumes a capacity of 1,700 vehicles per hour (vph) for each travel lane (including turn lanes) through an intersection, with a lost time factor of 0.05 included in the lane capacity assumptions.

CMP Thresholds of Significance

To determine whether the addition of project-generated trips results in a significant impact at a CMP study facility, and thus requires mitigation, the Orange County CMP utilizes the following threshold of significance:

- A significant project impact occurs when a proposed project increases traffic demand at a CMP study facility by more than three percent of capacity (V/C > 0.03), causing or worsening LOS F (V/C >1.00).

Existing Plus Project Traffic CMP Intersection Peak Hour Level of Service

Table 22 summarizes existing plus project traffic a.m. peak hour and p.m. peak hour LOS of the CMP study intersections; detailed LOS analysis sheets are contained in Appendix G.

Table 22
Existing With & Without Project Traffic AM & PM Peak Hour CMP Intersection LOS

Study Intersection	Existing Conditions		Existing Plus Project Traffic		Increase in V/C		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
	V/C - LOS	V/C – LOS	V/C – LOS	V/C - LOS	AM	PM	
Jamboree Road/MacArthur Blvd	0.60 – A	0.68 – B	0.61 – B	0.68 – B	0.01	0.00	No
Macarthur Boulevard/E Coast Hwy (SR-1)	0.73 – C	0.67 – B	0.73 – C	0.67 – B	0.00	0.00	No
Newport Blvd SB/W Coast Hwy (SR-1)	0.83 – D	0.65 – B	0.84 – D	0.66 – B	0.01	0.01	No

As shown in Table 22, the addition of project-generated trips is forecast to result in no significant impacts at the CMP study intersections for existing plus project traffic.

Forecast Year 2013 With Committed Projects With Project Traffic CMP Intersection Peak Hour Level of Service

Table 23 summarizes forecast year 2013 with committed projects with project traffic a.m. peak hour and p.m. peak hour LOS of the CMP study intersections; detailed LOS analysis sheets are contained in Appendix G.

Table 23
Forecast Year 2013 With Committed Projects With & Without Project Traffic AM & PM Peak Hour CMP Intersection LOS

Study Intersection	Forecast Year 2013 With Committed Projects Without Project Traffic		Forecast Year 2013 With Committed Projects With Project Traffic		Increase in V/C		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
	V/C - LOS	V/C – LOS	V/C – LOS	V/C - LOS	AM	PM	
Jamboree Road/MacArthur Blvd	0.64 – B	0.72 – C	0.64 – B	0.72 – C	0.00	0.00	No
Macarthur Boulevard/E Coast Hwy (SR-1)	0.76 – C	0.69 – B	0.77 – C	0.70 – B	0.01	0.01	No
Newport Blvd SB/W Coast Hwy (SR-1)	0.89 – D	0.71 – C	0.89 – D	0.71 – C	0.00	0.00	No

As shown in Table 23, the addition of project-generated trips is forecast to result in no significant impacts at the CMP study intersections for forecast year 2013 with committed projects with project traffic.

Forecast Year 2013 With Committed And Cumulative Projects With Project Traffic CMP Intersection Peak Hour Level of Service

Table 24 summarizes forecast year 2013 with committed and cumulative projects with project traffic a.m. peak hour and p.m. peak hour LOS of the CMP study intersections; detailed LOS analysis sheets are contained in Appendix G.

Table 24
Forecast Year 2013 With Committed and Cumulative Projects
With & Without Project Traffic AM & PM Peak Hour CMP Intersection LOS

Study Intersection	Forecast Year 2013 With Committed And Cumulative Projects Without Project Traffic		Forecast Year 2013 With Committed And Cumulative Projects With Project Traffic		Increase in V/C		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
	V/C - LOS	V/C – LOS	V/C – LOS	V/C - LOS	AM	PM	
Jamboree Road/MacArthur Blvd	0.67 – B	0.74 – C	0.67 – B	0.75 – C	0.00	0.01	No
Macarthur Boulevard/E Coast Hwy (SR-1)	0.83 – D	0.77 – C	0.84 – D	0.77 – C	0.01	0.00	No
Newport Blvd SB/W Coast Hwy (SR-1)	0.96 – E	0.86 – D	0.97 – E	0.87 – D	0.01	0.01	No

As shown in Table 24, the addition of project-generated trips is forecast to result in no significant impacts at the CMP study intersections for forecast year 2013 with committed and cumulative projects with project traffic.

Forecast General Plan Buildout With Project Traffic CMP Intersection Peak Hour Level of Service

Table 25 summarizes forecast General Plan buildout with project traffic a.m. peak hour and p.m. peak hour LOS of the CMP study intersections; detailed LOS analysis sheets are contained in Appendix G.

Table 25
Forecast Year General Plan Buildout With & Without Project Traffic AM & PM Peak Hour CMP Intersection LOS

Study Intersection	Forecast General Plan Buildout Without Project Traffic		Forecast General Plan Buildout With Project Traffic		Increase in V/C		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
	V/C - LOS	V/C – LOS	V/C – LOS	V/C - LOS	AM	PM	
Jamboree Road/MacArthur Blvd	0.87 – D	0.82 – D	0.87 – D	0.82 – D	0.00	0.00	No
Macarthur Boulevard/E Coast Hwy (SR-1)	0.72 – C	0.77 – C	0.72 – C	0.77 – C	0.00	0.00	No
Newport Blvd SB/W Coast Hwy (SR-1)	0.84 – D	0.74 – C	0.85 – D	0.75 – C	0.01	0.01	No

As shown in Table 25, the addition of project-generated trips is forecast to result in no significant impacts at the CMP study intersections for forecast General Plan buildout with project traffic.

STATE HIGHWAY ANALYSIS

The purpose of the Caltrans *Guide for the Preparation of Traffic Impact Studies* (State of California Department of Transportation, December 2002) is to provide a safe and efficient State transportation system, provide consistency and uniformity in the identification of traffic impacts generated by local land use proposals, and consistency and equity in the identification of measures to mitigate the traffic impacts generated by land use proposals. The Caltrans traffic studies guide identifies review of substantial individual projects, which might on their own impact the State Highway transportation system.

Mitigation measures identified to reduce significant traffic impacts on State Highway facilities are subject to the following:

- The allocation of a public sector financial component;
- Securing fair share private sector financing from multiple development applicants; and
- Caltrans and Orange County Transportation Authority approval authority for the programming, scheduling, and construction.

Since there is no mechanism for development project proponents to pay fees or make fair share contributions towards improving State Highway facilities, implementation of potential mitigation measures on State Highway facilities is speculative in timing and scope.

State Highway Intersection Analysis

This section evaluates the forecast impact of project-generated trips at the following State Highway study intersections:

- Balboa Boulevard-Superior Avenue/ West Coast Highway (SR-1);
- Newport Boulevard Southbound Ramps/West Coast Highway (SR-1);
- Riverside Avenue/West Coast Highway (SR-1);
- Tustin Avenue/West Coast Highway (SR-1);
- Dover Drive/West Coast Highway (SR-1); and
- Bayside Drive/East Coast Highway (SR-1).

State Highway Intersection Analysis Methodology

Caltrans advocates use of Highway Capacity Manual (HCM) intersection analysis methodology to analyze the operation of signalized intersections. The HCM analysis methodology describes the operation of an intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding stopped delay experienced per vehicle as shown in Table 26.

Table 26
State Highway LOS & Delay Ranges

LOS	Delay (in seconds)
	Signalized Intersections
A	≤ 10.0
B	> 10.0 to ≤ 20.0
C	> 20.0 to ≤ 35.0
D	> 35.0 to ≤ 55.0
E	> 55.0 to ≤ 80.0
F	> 80.0

Source: Transportation Research Board, *Highway Capacity Manual*, HCM 2000 Edition (Washington D.C., 2000).

Level of service is based on the average stopped delay per vehicle for all movements of signalized intersections. The Caltrans target for peak hour intersection operation is LOS C or better.

State Highway Intersection Thresholds of Significance

While Caltrans has not established traffic thresholds of significance at State Highway intersections, this traffic analysis utilizes 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).

Existing Conditions

Table 27 summarizes existing a.m. peak hour and p.m. peak hour LOS of the State Highway study intersections; detailed LOS analysis sheets are contained in Appendix H.

Table 27
State Highway
Existing Conditions AM & PM Peak Hour LOS

Study Intersection	AM Peak Hour	PM Peak Hour
	Delay – LOS	Delay – LOS
Balboa-Superior/W Coast Hwy (SR-1)	24.3 – C	29.1 – C
Newport Blvd SB/W Coast Hwy (SR-1)	14.1 – B	16.4 – B
Riverside Ave/W Coast Hwy (SR-1)	11.3 – B	14.1 – B
Tustin Ave/W Coast Hwy (SR-1)	3.2 – A	5.6 – A
Dover Dr/W Coast Hwy (SR-1)	20.1 – C	21.4 – C
Bayside Dr/E Coast Hwy (SR-1)	12.3 – B	13.6 – B

Note: Delay shown in seconds per vehicle.

As shown in Table 27, the State Highway study intersections are currently operating at a acceptable LOS (LOS C or better) according to Caltrans performance criteria.

Existing Plus Project Traffic Peak Hour Intersection Level of Service

Table 28 summarizes existing plus project traffic a.m. peak hour and p.m. peak hour LOS of the State Highway study intersections; detailed LOS analysis sheets are contained in Appendix H.

Table 28
State Highway
Existing Plus Project Traffic AM & PM Peak Hour CMP Intersection LOS

Study Intersection	Existing Conditions		Existing Plus Project Traffic	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
	Delay - LOS	Delay – LOS	Delay – LOS	Delay - LOS
Balboa-Superior/W Coast Hwy (SR-1)	24.3 – C	29.1 – C	24.4 – C	29.1 – C
Newport Blvd SB/W Coast Hwy (SR-1)	14.1 – B	16.4 – B	14.2 – B	16.4 – B
Riverside Ave/W Coast Hwy (SR-1)	11.3 – B	14.1 – B	11.3 – B	14.1 – B
Tustin Ave/W Coast Hwy (SR-1)	3.2 – A	5.6 – A	3.3 – A	5.5 – A
Dover Dr/W Coast Hwy (SR-1)	20.1 – C	21.4 – C	20.1 – C	21.5 – C
Bayside Dr/E Coast Hwy (SR-1)	12.3 – B	13.6 – B	12.4 – B	13.5 – B

Forecast Year 2013 With Committed Projects Without Project Traffic

Table 29 summarizes forecast year 2013 with committed projects without project traffic a.m. peak hour and p.m. peak hour LOS of the State Highway study intersections; detailed LOS analysis sheets are contained in Appendix H.

Table 29
State Highway Forecast Year 2013 With Committed Projects Without Project Traffic AM & PM Peak Hour LOS

Study Intersection	AM Peak Hour	PM Peak Hour
	Delay – LOS	Delay – LOS
Balboa-Superior/W Coast Hwy (SR-1)	24.4 – C	29.8 – C
Newport Blvd SB/W Coast Hwy (SR-1)	16.4 – B	17.3 – B
Riverside Ave/W Coast Hwy (SR-1)	11.3 – B	14.0 – B
Tustin Ave/W Coast Hwy (SR-1)	3.4 – A	5.4 – A
Dover Dr/W Coast Hwy (SR-1)	19.9 – B	21.9 – C
Bayside Dr/E Coast Hwy (SR-1)	15.1 – B	16.5 – B

Note: Delay shown in seconds per vehicle.

As shown in Table 29, the State Highway study intersections are forecast to operate at an acceptable LOS (LOS C or better) according to Caltrans performance criteria for forecast year 2013 with committed projects without project traffic.

Forecast Year 2013 With Committed Projects With Project Traffic

Table 30 summarizes forecast year 2013 with committed projects with project traffic a.m. peak hour and p.m. peak hour LOS of the State Highway study intersections; detailed LOS analysis sheets are contained in Appendix H.

Table 30
State Highway Forecast Year 2013
With Committed Projects With Project Traffic AM & PM Peak Hour LOS

Study Intersection	Forecast Year 2013 With Committed Projects Without Project Traffic		Forecast Year 2013 With Committed Projects With Project Traffic		Increase in Delay		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
	Delay – LOS	Delay – LOS	Delay – LOS	Delay - LOS	AM	PM	
Balboa-Superior/W Coast Hwy (SR-1)	24.4 – C	29.8 – C	24.4 – C	29.8 – C	0.0	0.0	No
Newport Blvd SB/W Coast Hwy (SR-1)	16.4 – B	17.3 – B	16.6 – B	17.4 – B	0.2	0.1	No
Riverside Ave/W Coast Hwy (SR-1)	11.3 – B	14.0 – B	11.3 – B	14.0 – B	0.0	0.0	No
Tustin Ave/W Coast Hwy (SR-1)	3.4 – A	5.4 – A	3.4 – A	5.4 – A	0.0	0.0	No
Dover Dr/W Coast Hwy (SR-1)	19.9 – B	21.9 – C	20.0 – B	22.1 – C	0.1	0.2	No
Bayside Dr/E Coast Hwy (SR-1)	15.1 – B	16.5 – B	15.2 – B	16.5 – B	0.1	0.0	No

Note: Delay shown in seconds per vehicle.

As shown in Table 30, with the addition of project-generated trips, the State Highway study intersections are forecast to operate at an acceptable LOS (LOS C or better) according to Caltrans performance criteria for forecast year 2013 with committed projects with project traffic.

As also shown in Table 30, the addition of project-generated trips is forecast to result in no significant impacts at the State Highway study intersections for forecast year 2013 with committed projects with project traffic.

Forecast Year 2013 With Committed And Cumulative Projects Without Project Traffic

Table 31 summarizes forecast year 2013 with committed and cumulative projects without project traffic a.m. peak hour and p.m. peak hour LOS of the State Highway study intersections; detailed LOS analysis sheets are contained in Appendix H.

Table 31
State Highway Forecast Year 2013 With Committed And Cumulative Projects Without Project Traffic AM & PM Peak Hour LOS

Study Intersection	AM Peak Hour	PM Peak Hour
	Delay – LOS	Delay – LOS
Balboa-Superior/W Coast Hwy (SR-1)	24.5 – C	30.2 – C
Newport Blvd SB/W Coast Hwy (SR-1)	19.8 – B	21.1 – C
Riverside Ave/W Coast Hwy (SR-1)	11.4 – B	14.0 – B
Tustin Ave/W Coast Hwy (SR-1)	3.4 – A	5.5 – A
Dover Dr/W Coast Hwy (SR-1)	19.9 – B	22.6 – C
Bayside Dr/E Coast Hwy (SR-1)	15.0 – B	16.8 – B

Note: Delay shown in seconds per vehicle.

As shown in Table 31, the State Highway study intersections are forecast to operate at an acceptable LOS (LOS C or better) according to Caltrans performance criteria for forecast year 2013 with committed and cumulative projects without project traffic.

Forecast Year 2013 With Committed And Cumulative Projects With Project Traffic

Table 32 summarizes forecast year 2013 with committed and cumulative projects with project traffic a.m. peak hour and p.m. peak hour LOS of the State Highway study intersections; detailed LOS analysis sheets are contained in Appendix H.

Table 32
State Highway Forecast Year 2013 With Committed And Cumulative Projects With Project Traffic AM & PM Peak Hour LOS

Study Intersection	Forecast Year 2013 With Committed And Cumulative Projects Without Project Traffic		Forecast Year 2013 With Committed And Cumulative Projects With Project Traffic		Increase in Delay		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
	Delay – LOS	Delay – LOS	Delay – LOS	Delay - LOS	AM	PM	
Balboa-Superior/W Coast Hwy (SR-1)	24.5 – C	30.2 – C	24.6 – C	30.2 – C	0.1	0.0	No
Newport Blvd SB/W Coast Hwy (SR-1)	19.8 – B	21.1 – C	20.2 – C	21.2 – C	0.4	0.1	No
Riverside Ave/W Coast Hwy (SR-1)	11.4 – B	14.0 – B	11.4 – B	14.0 – B	0.0	0.0	No
Tustin Ave/W Coast Hwy (SR-1)	3.4 – A	5.5 – A	3.4 – A	5.5 – A	0.0	0.0	No
Dover Dr/W Coast Hwy (SR-1)	19.9 – B	22.6 – C	20.0 – B	22.8 – C	0.1	0.2	No
Bayside Dr/E Coast Hwy (SR-1)	15.0 – B	16.8 – B	15.2 – B	16.8 – B	0.2	0.0	No

Note: Delay shown in seconds per vehicle.

As shown in Table 32, with the addition of project-generated trips, the State Highway study intersections are forecast to operate at an acceptable LOS (LOS C or better) according to Caltrans performance criteria for forecast year 2013 with committed and cumulative projects with project traffic.

As also shown in Table 32, the addition of project-generated trips is forecast to result in no significant impacts at the State Highway study intersections for forecast year 2013 with committed and cumulative projects with project traffic.

Forecast General Plan Buildout Without Project Traffic

Table 33 summarizes forecast General Plan buildout without project traffic a.m. peak hour and p.m. peak hour LOS of the State Highway study intersections; detailed LOS analysis sheets are contained in Appendix H.

Table 33
State Highway Forecast General Plan Buildout
Without Project Traffic AM & PM Peak Hour LOS

Study Intersection	AM Peak Hour	PM Peak Hour
	Delay – LOS	Delay – LOS
Balboa-Superior/W Coast Hwy (SR-1)	24.0 – C	23.9 – C
Newport Blvd SB/W Coast Hwy (SR-1)	12.7 – B	14.7 – B
Riverside Ave/W Coast Hwy (SR-1)	10.3 – B	12.1 – B
Tustin Ave/W Coast Hwy (SR-1)	3.4 – A	5.9 – A
Dover Dr/W Coast Hwy (SR-1)	17.3 – B	16.4 – B
Bayside Dr/E Coast Hwy (SR-1)	16.3 – B	13.7 – B

Note: Delay shown in seconds per vehicle.

As shown in Table 33, the State Highway study intersections are forecast to operate at an acceptable LOS (LOS C or better) according to Caltrans performance criteria for forecast General Plan buildout without project traffic.

Forecast General Plan Buildout With Project Traffic

Table 34 summarizes forecast General Plan buildout with project traffic a.m. peak hour and p.m. peak hour LOS of the State Highway study intersections; detailed LOS analysis sheets are contained in Appendix H.

Table 34
State Highway
Forecast General Plan Buildout With Project Traffic AM & PM Peak Hour LOS

Study Intersection	Forecast General Plan Buildout Without Project Traffic		Forecast General Plan Buildout With Project Traffic		Increase in Delay		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
	Delay – LOS	Delay – LOS	Delay – LOS	Delay - LOS	AM	PM	
Balboa-Superior/W Coast Hwy (SR-1)	24.0 – C	23.9 – C	24.1 – C	23.9 – C	0.1	0.0	No
Newport Blvd SB/W Coast Hwy (SR-1)	12.7 – B	14.7 – B	12.9 – B	14.7 – B	0.2	0.0	No
Riverside Ave/W Coast Hwy (SR-1)	10.3 – B	12.1 – B	10.2 – B	12.2 – B	-0.1	0.1	No
Tustin Ave/W Coast Hwy (SR-1)	3.4 – A	5.9 – A	3.4 – A	5.9 – A	0.0	0.0	No
Dover Dr/W Coast Hwy (SR-1)	17.3 – B	16.4 – B	17.4 – B	16.6 – B	0.1	0.2	No
Bayside Dr/E Coast Hwy (SR-1)	16.3 – B	13.7 – B	16.5 – B	13.7 – B	0.2	0.0	No

Note: Delay shown in seconds per vehicle.

As shown in Table 34, with the addition of project-generated trips, the State Highway study intersections are forecast to operate at an acceptable LOS (LOS C or better) according to Caltrans performance criteria for forecast General Plan buildout with project traffic.

As also shown in Table 34, the addition of project-generated trips is forecast to result in no significant impacts at the State Highway study intersections for forecast General Plan buildout with project traffic.

It should be noted that while the Bayside Drive/East Coast Highway (SR-1) intersection operates deficiently with the proposed project based on the ICU analysis methodology, it operates acceptably based on the HCM analysis methodology utilized by Caltrans.

SAN MIGUEL DRIVE GEOMETRIC IMPROVEMENTS ANALYSIS

This section analyzes the effects of proposed improvements to San Miguel Drive. The project includes improvements to San Miguel Drive, focusing on the segment between MacArthur Boulevard and Avocado Avenue. Although these intersections operate at acceptable levels of service, this segment of road has experienced operational issues due to the relatively short distance between these intersections and the relatively high number of turning movements. Through widening San Miguel Drive, the following geometric improvements would be provided:

- A third eastbound left turn lane from San Miguel Drive onto MacArthur Boulevard
- A third eastbound through lane at San Miguel Drive/Avocado Avenue
- A defacto eastbound right turn lane from San Miguel Drive onto MacArthur Boulevard
- A defacto westbound right turn lane from San Miguel Drive onto Avocado Avenue

In addition, the southbound Avocado Avenue approach to San Miguel Drive would be re-striped to provide for two left turn lanes. Exhibit 41 shows geometry with and without the proposed improvements at the affected study intersections.

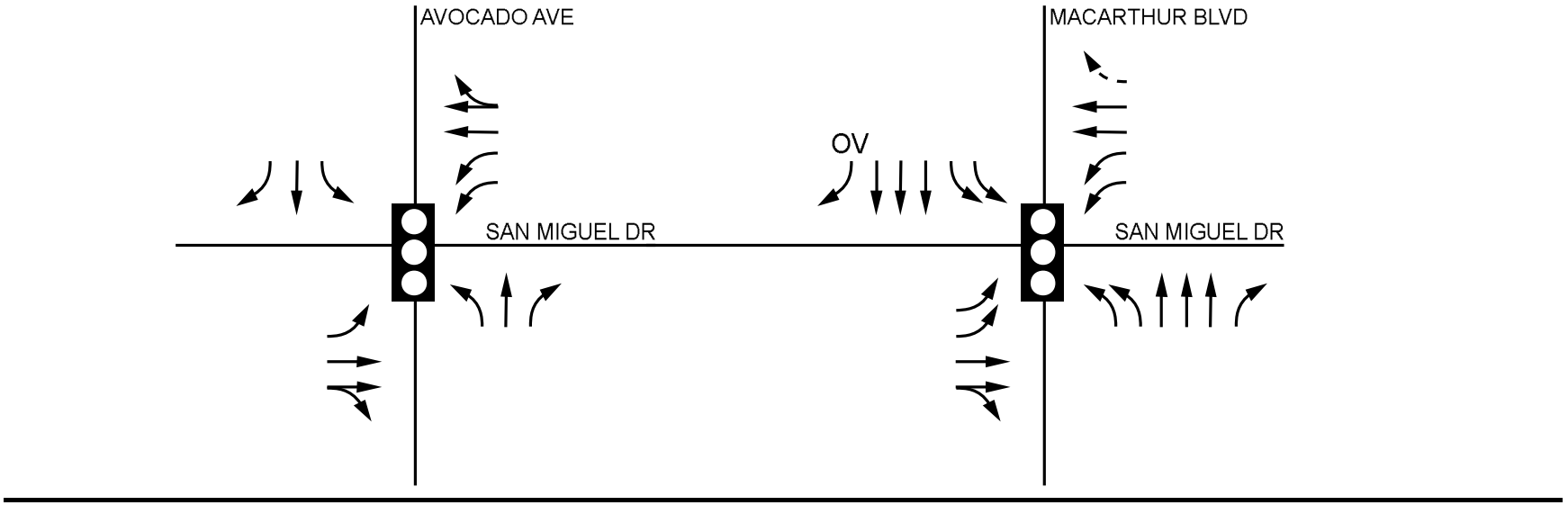
The improvements are proposed both to provide additional capacity and to improve the operational characteristics of the intersections of San Miguel Drive with Macarthur Boulevard and Avocado Avenue.

Table 35 summarizes a.m. and p.m. peak hour intersection LOS of the Macarthur Boulevard/San Miguel Drive and Avocado Avenue/San Miguel Drive intersections with and without the proposed San Miguel geometric improvements, for with project conditions to identify the capacity improvements that result from the improvements; detailed LOS analysis sheets for with geometric improvements are contained in Appendix F.

Table 35
Peak Hour Intersection LOS With and Without San Miguel Geometric Improvements

Study Intersection	MacArthur Boulevard/ San Miguel Drive		Avocado Avenue/ San Miguel Drive	
Scenario	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
	V/C – LOS	V/C – LOS	V/C – LOS	V/C – LOS
Existing Plus Project	0.49 – A	0.73 – C	0.34 – A	0.79 – C
Improved Existing Plus Project	0.49 – A	0.64 – B	0.29 – A	0.65 – B
Change in V/C With Improvements	0.000	-0.093	-0.043	-0.145
FY 2013 + Committed + Project	0.49 – A	0.75 – C	0.34 – A	0.80 – C
Improved FY 2013 + Committed + Project	0.49 – A	0.66 – B	0.29 – A	0.65 – B
Change in V/C With Improvements	-0.003	-0.094	-0.046	-0.150
FY 2013 + Cumulative & Committed + Project	0.51 – A	0.77 – C	0.35 – A	0.81 – D
Improved FY 2013 + Cumulative & Comm + Project	0.51 – A	0.68 – B	0.29 – A	0.66 – B
Change in V/C With Improvements	0.001	-0.094	-0.056	-0.153
General Plan Buildout Plus Project	0.70 – B	0.78 – C	0.39 – A	0.86 – D
Improved General Plan Buildout Plus Project	0.70 – B	0.68 – B	0.38 – A	0.70 – B
Change in V/C With Improvements	-0.002	-0.098	-0.009	-0.163

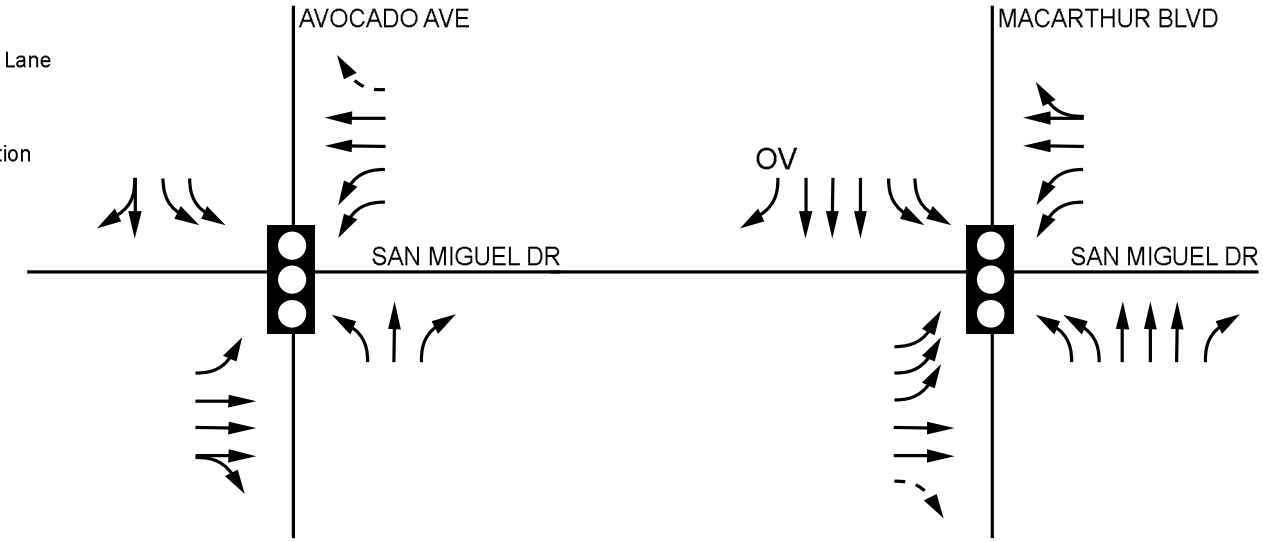
Existing Geometry



Proposed Geometry

Legend:

- Existing Lane
- Defacto Right-Turn Lane
- OV Right-Turn Overlap
- Signalized Intersection



RBF

San Miguel Geometric Improvements

H:\pdata\10106738\Traffic\Exhibits\Exh41.ai JUL/2009

Exhibit 41

As shown in Table 35, the LOS analysis indicates that a capacity enhancement is achieved for both the a.m. and p.m. peak hours with the more significant improvement occurring during the p.m. peak hour.

PROJECT PARKING ASSESSMENT

The proposed project includes a parking structure located adjacent to the proposed City Hall which is designed to provide 450 parking spaces. This parking structure is planned to provide the necessary parking for the City Hall and passive park uses as well as for the library expansion. The proposed project also includes another 25 parking spaces near the entry to the parking garage and 20 parking spaces to serve the dog park.

Demand Based Assessment

A parking study was conducted at the existing City Hall site on April 29, 2009 to identify the parking demand patterns, with a particular emphasis on identifying the peak demand. The results of the study indicated that the peak parking demand was 1.11 parking space per city employee present on the day of the study. This conclusion includes the demand associated with visitors to City Hall as well (it should be noted that were approximately 280 visitors to City Hall on the day the parking survey was done). Utilizing the observed demand for the projected 295 employees at the proposed City Hall, this would equate to a peak parking demand of 328 parking spaces. Increasing this demand by ten percent to allow for circulation purposes per ITE and ULI recommendations, results in a projected effective parking demand of 361 parking spaces for City Hall associated uses.

The existing Library parking lot provides a total of 210 parking spaces and is often effectively full, particularly on weekends. In a 2002 library parking study done for the City by Robert Rohlf, it was determined that weekend afternoons resulted in the peak demands but also found that on weekday mid-afternoons, as few as 20 spaces might be available during periods of high demand.

The current scenario equates to the provision of on-site parking at the approximate ratio of one space per 286 gross square feet of the library. Application of this demand ratio to the 71,500 SF would result in a total demand for 250 parking spaces to serve the library. Increasing this demand by ten percent to allow for circulation purposes results in a projected effective parking demand of 275 spaces for the library use. Consideration of the 210 existing library parking spaces would result in a projected demand of 65 parking spaces that should be considered for library use in the proposed garage on a weekday afternoon.

An additional component to be considered in this parking assessment is the provision of parking for city vehicles. Currently, there are 37 city vehicles that are parked at city hall between 3:00 PM and 9:00 AM. These vehicles and associated parking spaces were considered in the previously mentioned count program since those spaces are utilized for visitor parking the remainder of the day. However, the city vehicles would count as an additional increment of demand if the shared use of such parking spaces were not provided.

Combining the projected demand for the City Hall and library expansion would result in a projected demand for 463 parking spaces. Parking demand for the proposed park uses southerly of San Miguel Drive is anticipated to be negligible relative to the peak parking demand

given the combination of minimal demand associated with the passive park uses and the tendency for those uses to be outside the peak hours of the City Hall peak demand. Therefore, it can be concluded that the 475 parking spaces provided in the proposed parking structure and associated parking lot should be adequate to support the proposed uses southerly of San Miguel Drive.

The primary use within the 3.5 acre segment of park northerly of San Miguel Drive is for a dog park that would occupy approximately a half-acre of the site. To assess the potential parking demand for this use, a parking study was done at the Laguna Beach dog park on May, 14, 2009. The Laguna facility provides significantly more area for the dogs (approximately 2.5 acres) and would appear to serve a larger demand due to its location; therefore it would be expected to produce a higher demand. The Laguna Beach study showed a peak parking demand for 24 parking spaces during the day of observations. Therefore, since the much larger facility showed a peak demand of 24 parking spaces, it is anticipated that the 20 parking spaces proposed to be provided along Avocado Avenue for the park uses should be sufficient to meet the future demand for the northern park segment.

Code Based Assessment

As a cross-check to the demand-based projection of the parking demand, the proposed project was reviewed using applicable requirements from the Newport Village Zoning text and the City's Parking Code (Chapter 20.66 of the existing Zoning Code). Application of those requirements resulted in the following projected demand shown in Table 36.

Table 36
City Parking Requirements

Use	Parking Requirement	Spaces Required
98,000 Square-foot City Hall	1 space/300 square feet[1]	327
71,500 Square-foot Library	1 space/250 square feet2 Existing Parking	286 210 76 Net
14.3 Acre Park	Not specified[3]	N/A
City Vehicle Parking	N/A	37
	Total Required	440

1 = Rate for "Governmental Offices"

2 = From section 111.C.4 of the Newport Village Planned Community Development Plan

3 = City rates have no specific rate for park uses and the ITE rate for parks assumes extensive athletic uses which are not applicable

It can be seen that the code-based projection for the project is less than the projected demand based on field observations. This comparison, therefore, indicates that the projected peak parking demand of 463 parking spaces would exceed the standard City Code requirements.

The overall conclusion of this assessment is that the amount of parking proposed for the overall project is considered sufficient to meet anticipated demand.

CONSTRUCTION TRAFFIC IMPACTS

Construction of the project is anticipated to occur during 2010-2012. During the construction period, two types of construction traffic would be generated; construction employee trips and construction vehicle trips. This assessment quantifies the projected construction-related traffic and assesses the likelihood of its impacts during the 30-month construction period.

The basis of the employee-related trip generation is from the Project Manager of the City Hall project, who indicated that the maximum number of construction workers on-site at any one time would be a peak of 480. While this number of employees could result in a trip generation of 400 to 420 trips during the hour of their arrival and departure, it is important to recognize that this does not coincide with the peak hours of the streets. The typical construction schedule calls for employees to arrive on-site by 7:00 a.m. and to leave between 3:00 and 3:30 p.m. Because the morning and evening peak hours of the streets are outside these time frames and none of the intersections within the study area are operating near capacity, the potential impact of the construction employee trips is negligible

The trip generation related to construction vehicle trips is generally related to delivery-related vehicle trips which occur on a random basis throughout the site's construction hours. On a typical daily basis, such trips could overlap the morning peak hour of the roadways. Given the conclusion that even with the addition of background traffic projections and full project occupancy, no significant impacts were identified within the study area, the same conclusion can be anticipated during construction. In this particular case, however, where a significant haul operation will be necessary during the initial part of the construction period to export excess dirt from the site, a significant operational impact could occur during the AM peak hour of the streets used for the haul route. It has been projected that the dirt export operation could result in 200 round trips per day with 40 occurring per hour. Utilizing a passenger car equivalency of 3.0 per truck, this would equate to 240 round trips per hour. As a point of reference, this is the same order of magnitude of trips during the morning peak hour as is projected for the proposed project.

The projected haul route through the study area is anticipated to utilize MacArthur Boulevard in conjunction with SR 73. Therefore, the focus of this assessment is on the MacArthur Boulevard intersections from Coast Highway to the SR 73 ramps northerly of Bison Avenue.

Examination of the projected AM Peak Hour conditions along this stretch of MacArthur Boulevard for the "With Project" condition with consideration of both Committed and Cumulative projects (Table 17), shows that all affected intersections are projected to operate within a satisfactory range. Since this case is actually two years beyond the time when the haul operation is anticipated to occur and, therefore, includes extra traffic due to application of the one percent annual growth rate, it can be concluded that applicable capacity criteria would not be exceeded due to consideration of the haul operation.

Recognizing the recent history of operations issues at the intersections of San Miguel Drive with Avocado Avenue and MacArthur Boulevard, it is clear that conditions at these intersections would degrade if the haul route were to include the use of San Miguel Drive. Therefore, it is recommended that the haul route, when established, not include San Miguel Drive. Therefore, inclusion of the following Mitigation Measure is recommended:

Mitigation Measure No. 2 The haul route established for removal of excess dirt from the site should not include the use of San Miguel Drive between MacArthur Boulevard and Newport Center Drive.

MITIGATION MEASURES

To offset the projected traffic impacts to a level considered less than significant at the projected buildout condition, the following mitigation measure is recommended:

Mitigation Measure No. 1 The project applicant shall re-stripe the northbound Bayside Drive approach to the East Coast Highway intersection from two left-turn lanes and a shared left/through/right lane to two left turns, a shared left/through lane and a right turn lane. These required improvements shall be implemented within one year of when traffic counts done on behalf of the City in accordance with the schedule for traffic counts provided for in the City's Traffic Phasing Ordinance result in the finding that the intersection is operating at, or over, an ICU of 0.90.

To avoid having the project-related haul route traffic contribute to a potential operational issue at the intersections of Avocado Avenue/San Miguel Drive and MacArthur Boulevard/San Miguel Drive, the following mitigation measure is recommended.

Mitigation Measure No. 2 The haul route established for removal of excess dirt from the site should not include the use of San Miguel Drive between MacArthur Boulevard and Newport Center Drive.

CONCLUSIONS

The proposed project is forecast to generate approximately 3,070 daily trips, which include approximately 223 a.m. peak hour trips and approximately 352 p.m. peak hour trips.

Existing Analysis

An assessment was done of existing plus project conditions. The conclusion of the existing plus project conditions assessment was that all of the study intersections are forecast to operate at an acceptable level of service.

Year 2013 Analysis

In accordance with Traffic Phasing Ordinance (TPO) requirements, a TPO analysis was performed for forecast year 2013 with committed development to determine at which study intersections project trips will increase traffic on any leg by one percent or more during any peak hour one year after project completion.

Based on City of Newport Beach and City of Irvine-established thresholds of significance, the addition of project-generated trips is forecast to result in no significant impacts at the study intersections for forecast year 2013 with committed projects plus project traffic.

The study intersections are forecast to continue to operate at an acceptable LOS according to agency performance criteria for forecast year 2013 with committed and cumulative projects with project traffic with the exception of the Newport Boulevard Southbound Ramps/West Coast Highway (SR-1) study intersection. Based on City of Newport Beach established thresholds of significance, the addition of project-generated trips at the Newport Boulevard Southbound Ramps/West Coast Highway (SR-1) study intersection does not cause a significant impact since the volume-to-capacity increase from project trips is less than the established criteria of 0.010.

General Plan Analysis

With the addition of project-generated trips, the study intersections are forecast to continue to operate at an acceptable LOS according to agency performance criteria for forecast General Plan buildout with project traffic with the exception of the Bayside Drive/East Coast Highway (SR-1) study intersection.

Under General Plan buildout with project traffic the following three intersections are projected to operate at LOS "E," but are all intersections defined in the General Plan as being locations where LOS "E" is acceptable:

- Dover Drive/West Coast Highway (SR-1);
- Goldenrod Avenue/East Coast Highway (SR-1); and
- Marguerite Avenue/East Coast Highway (SR-1).

The one remaining LOS "E" location is the Bayside Drive/Coast Highway intersection where the addition of project traffic would increase the ICU from 0.900 to 0.910. Based on the City of Newport Beach's thresholds of significance, the addition of project-generated trips is forecast to result in a significant impact at the Bayside Drive/Coast Highway intersection for Forecast General Plan buildout with project traffic.

To offset the projected traffic impacts to a level considered less than significant at the projected buildout condition, the following mitigation measure is recommended:

Mitigation Measure No. 1 The project applicant shall re-stripe the northbound Bayside Drive approach to the East Coast Highway intersection from two left-turn lanes and a shared left/through/right lane to two left turns, a shared left/through lane and a right turn lane. These required improvements shall be implemented within one year of when traffic counts done on behalf of the City in accordance with the schedule for traffic counts provided for in the City's Traffic Phasing Ordinance result in the finding that the intersection is operating at, or over, an ICU of 0.90.

CMP Analysis

The following CMP monitored intersections were analyzed in accordance with Orange County Congestion Management Program (CMP) guidelines:

- Jamboree Road/Macarthur Boulevard;
- MacArthur Boulevard/ East Coast Highway (SR-1); and
- Newport Boulevard Southbound Ramps/ West Coast Highway (SR-1).

Based on Orange County CMP thresholds of significance, the addition of project-generated trips is forecast to result in no significant impacts at CMP monitored intersections.

State Highway Analysis

State Highway analysis was performed at study intersections along Coast Highway (SR-1) in accordance with the Caltrans *Guide for the Preparation of Traffic Impact Studies* (State of California Department of Transportation, December 2002). The addition of project-generated trips is forecast to result in no significant impacts at the State Highway study intersections for any of the analysis scenarios.

San Miguel Geometric Improvements

The project includes improvements to San Miguel Drive, focusing on the segment between MacArthur Boulevard and Avocado Avenue. The improvements are proposed both to provide additional capacity and to improve the operational characteristics of the intersections of San Miguel Drive with Macarthur Boulevard and Avocado Avenue. The LOS analysis indicates that a capacity enhancement is achieved for both the a.m. and p.m. peak hours with the more significant improvement occurring during the p.m. peak hour.

Parking Analysis

The proposed project includes a parking structure located adjacent to the proposed City Hall which is designed to provide 450 parking spaces. This parking structure is planned to provide the necessary parking for the City Hall and passive park uses as well as for the library expansion. The project also includes an additional 25 parking spaces near the entrance to the garage, resulting in a total of 475 parking spaces provided southerly of San Miguel Drive. Combining the projected demand for the City Hall and library expansion would result in a projected demand for 463 parking spaces. Parking demand for the proposed park uses southerly of San Miguel is anticipated to be negligible relative to the peak parking demand given the combination of minimal demand associated with the passive park uses and the tendency for those uses to be outside the peak hours of the City Hall peak demand. Therefore, it can be concluded that the 475 parking spaces provided should be more than adequate to support the proposed uses southerly of San Miguel.

Twenty parking spaces are to be provided northerly of San Miguel Drive, primarily to provide parking for the proposed dog park. Based on parking counts conducted at the Laguna Beach dog park it was determined that these 20 spaces should be sufficient to meet anticipated parking demand.

Construction Traffic

To avoid having the project-related haul route traffic contribute to a potential operational issue at the intersections of Avocado Avenue/San Miguel Drive and MacArthur Boulevard/San Miguel Drive, the following mitigation measure is recommended.

Mitigation Measure No. 2 The haul route established for removal of excess dirt from the site should not include the use of San Miguel Drive between MacArthur Boulevard and Newport Center Drive.