Appendix G

Traffic Study

City of Lake Forest

SPORTS PARK AND RECREATION CENTER

Traffic Study

March 2010

AUSTIN-FOUST ASSOCIATES, INC.

Draft

City of Lake Forest

SPORTS PARK AND RECREATION CENTER

Traffic Study

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City of Lake Forest
SPORTS PARK AND RECREATION CENTER
Traffic Study

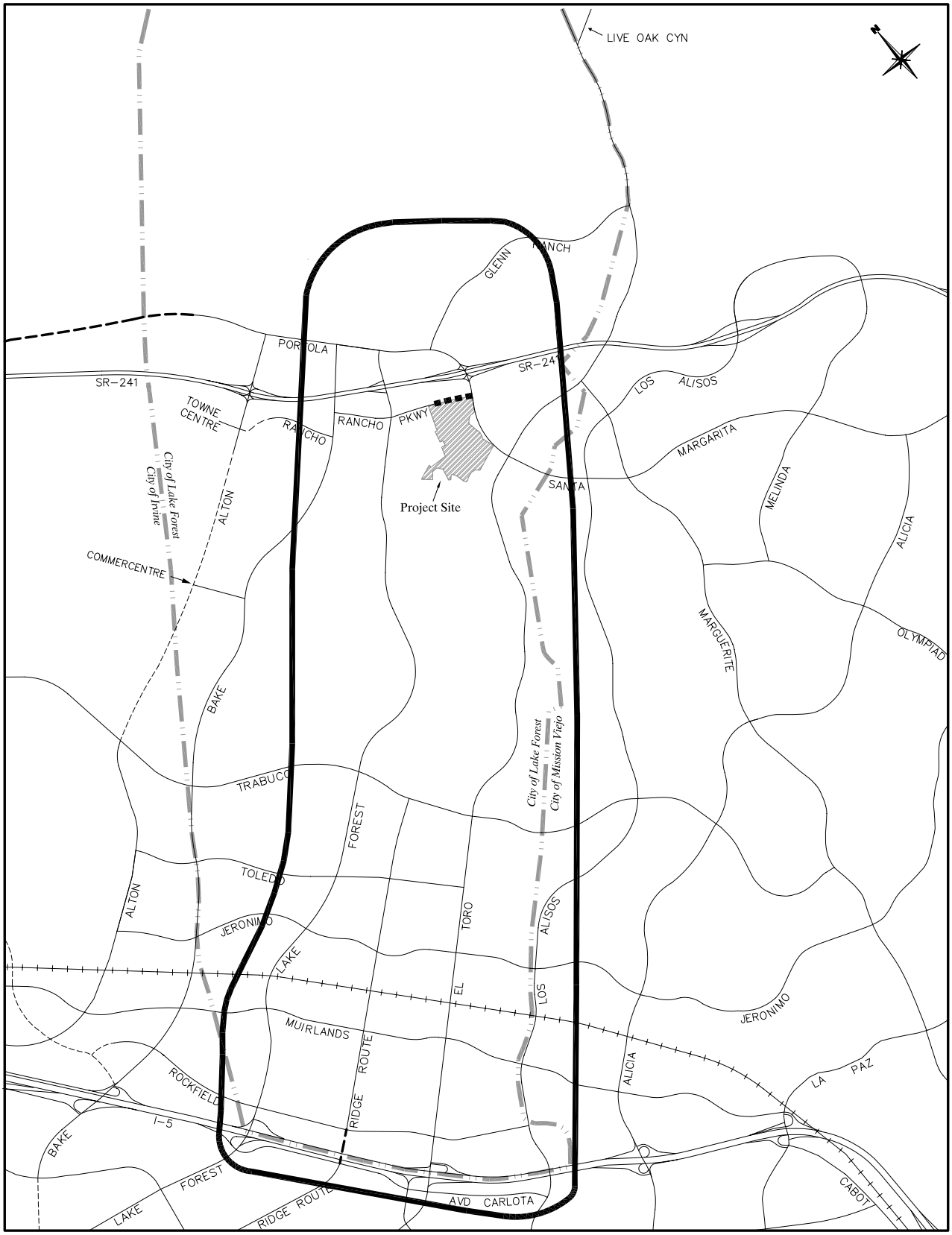
INTRODUCTION

This report presents the results of a traffic analysis performed for the proposed Sports Park and Recreation Center project on the southwest corner of Portola Parkway and future extension of Rancho Parkway in the City of Lake Forest. The report addresses the traffic impacts related to the proposed project, and has been prepared for the City of Lake Forest in support of the project Environmental Impact Report (EIR) for this project. The report contains documentation of the methodology and assumptions used in the analysis, and presents the results and findings of the traffic impacts of the proposed project.

PROJECT DESCRIPTION

Figure 1 shows the study area and the project location in relation to the surrounding circulation system. Located in the northeastern portion of the City of Lake Forest, the proposed project illustrated in Figure 2 is adjacent to the intersection of Portola Parkway and future Rancho Parkway on the southwest corner and involves three parcels currently owned by Rados, Baker and the County of Orange. The City of Lake Forest proposes to acquire these properties for development of the Sports Park project. The proposed project being analyzed in this report is the development of an approximate 67.1-acre sports park facility. Based on the Consensus Master Plan (July 2009), the proposed project will encompass a total of 87.7 acres with 67.1 acres in active use and 20.6 acres in a passive use easement. The proposed recreational facilities include lighted sports facilities with baseball, soccer and multi-purpose fields, and basketball and/or tennis courts, a community center including a gymnasium as well as meeting/multi-purpose rooms, and children's playgrounds.

As can be seen in Figure 2, access to the sports park and recreation center complex is proposed via four driveways. These driveways are assumed to be phased in the following order as the related property becomes available. Driveway 1A is on Portola Parkway, a six lane major arterial, just south of the intersection of Portola Parkway and Rancho Parkway, Driveway 1B is at the current terminus of Vista Terrace, a two-lane local road, and Driveways 2 and 3 are located along the future extension of Rancho Parkway, a four-lane primary arterial, just west of the intersection of Portola Parkway and Rancho Parkway.



Legend

- Existing roadway
- Future roadway per MPAH (not analyzed)
- Study Area Boundary
- Project Location
- Future roadway in by 2015
- Future roadway in with-project only
- City Limits

Figure 1

PROJECT LOCATION

Legend

XX Access points

Figure 2

PROJECT SITE

The proposed project is anticipated to occur in two to three phases as property becomes available. However, for purposes of this analysis, full buildout of the proposed sports park and recreation center facilities is assumed to occur in one phase with the project opening during 2011 which is referred to in this report as short-term conditions. This is considered a worst-case analysis because it would place all the project trips on the current roadway network without the benefit of any future improvements particularly those that will be funded by the Lake Forest Transportation Mitigation Program (LFTM). An analysis in which other growth is assumed as well as roadway improvements will be conducted for short-term conditions (referred to in this report as year 2015 cumulative analysis).

Table 1 summarizes the land use and trip generation for no-project, which are existing land uses, and with-project conditions for the project site under short-term conditions. Table 1 also shows that the existing passive use park and portion of the mining/utility use south of the future extension of Rancho Parkway are replaced by the proposed project. The trip rates for the sports park are based on case studies of similar parks conducted throughout Orange County and Los Angeles County and assume that all facilities/park amenities (i.e., community/recreation center and all fields) are in concurrent use.

The proposed project includes 20.6 acres of passive use easement and the 67.1 sports park and recreation center that encompasses 13 acres of the Rados parcel, 16.1 acres of the Baker parcel and 38 acres of the County parcel and generates 3,642 average daily trips (ADT).

PROJECT TRIP DISTRIBUTION

Trip distribution patterns for the proposed project land uses are presented in Figures 3 and 4 for the two short-term conditions analyzed in this report (year 2011 project opening and year 2015 cumulative) which are based on the City of Lake Forest's traffic model's distribution of daily project traffic. These percentages differ slightly in the peak hours, and the traffic model uses the individual peak hour distribution patterns to assign peak hour trips.

The study area used for the analysis was determined from the distribution of project trips on the adjacent circulation system and impact criteria guidelines defined in this report. It is based on where project traffic dissipates to less than significant levels (i.e., change in intersection capacity utilization (ICU) of less than .03). Generally these thresholds are met when the project trip distribution is below 10 percent. For example, the intersection of Bake Parkway and Rancho Parkway South carries a significant amount of project traffic, but beyond that location, project traffic dissipates to less than a significant amount.

Table 1

SHORT-TERM CONDITIONS (YEAR 2011 AND YEAR 2015 CUMULATIVE) PROJECT SITE
LAND USE AND TRIP GENERATION SUMMARY

Land Use	Parcel	Units	AM Peak Hour			PM Peak Hour			ADT
			In	Out	Total	In	Out	Total	
No-Project									
Vacant	Rados	13 Acre	0	0	0	0	0	0	0
Mining/Utility	Baker	16.1 Acre	25	15	40	9	12	21	401
Park (a)	County	58.6 Acre	1	0	1	1	1	2	93
Total		87.7 Acre	26	15	41	10	13	23	494
With-Project									
Sports Park	Rados	13 Acre	0	0	0	44	53	97	699
Sports Park	Baker	16.1 Acre	0	0	0	55	66	121	866
Park (b)	County	20.6 Acre	0	0	0	0	0	0	33
Sports Park	County	38 Acre	0	0	0	129	156	285	2,077
Total With-Project									
Park (b)		20.6 Acre	0	0	0	0	0	0	33
Sports Park		67.1 Acre	0	0	0	228	275	503	3,609
Total		87.7 Acre	0	0	0	228	275	503	3,642
Difference			-26	-15	-41	218	262	480	3,148
Trip Rates									
Park		Acre	.01	.00	.01	.02	.02	.04	1.59
Sports Park		Acre	.01	.00	.01	3.40	4.10	7.50	53.80
Mining/Utility		Acre	1.57	.92	2.49	.59	.73	1.32	24.9
Vacant		Acre	.00	.00	.00	.00	.00	.00	.00

(a) Currently a passive use park.
(b) Passive use easement.

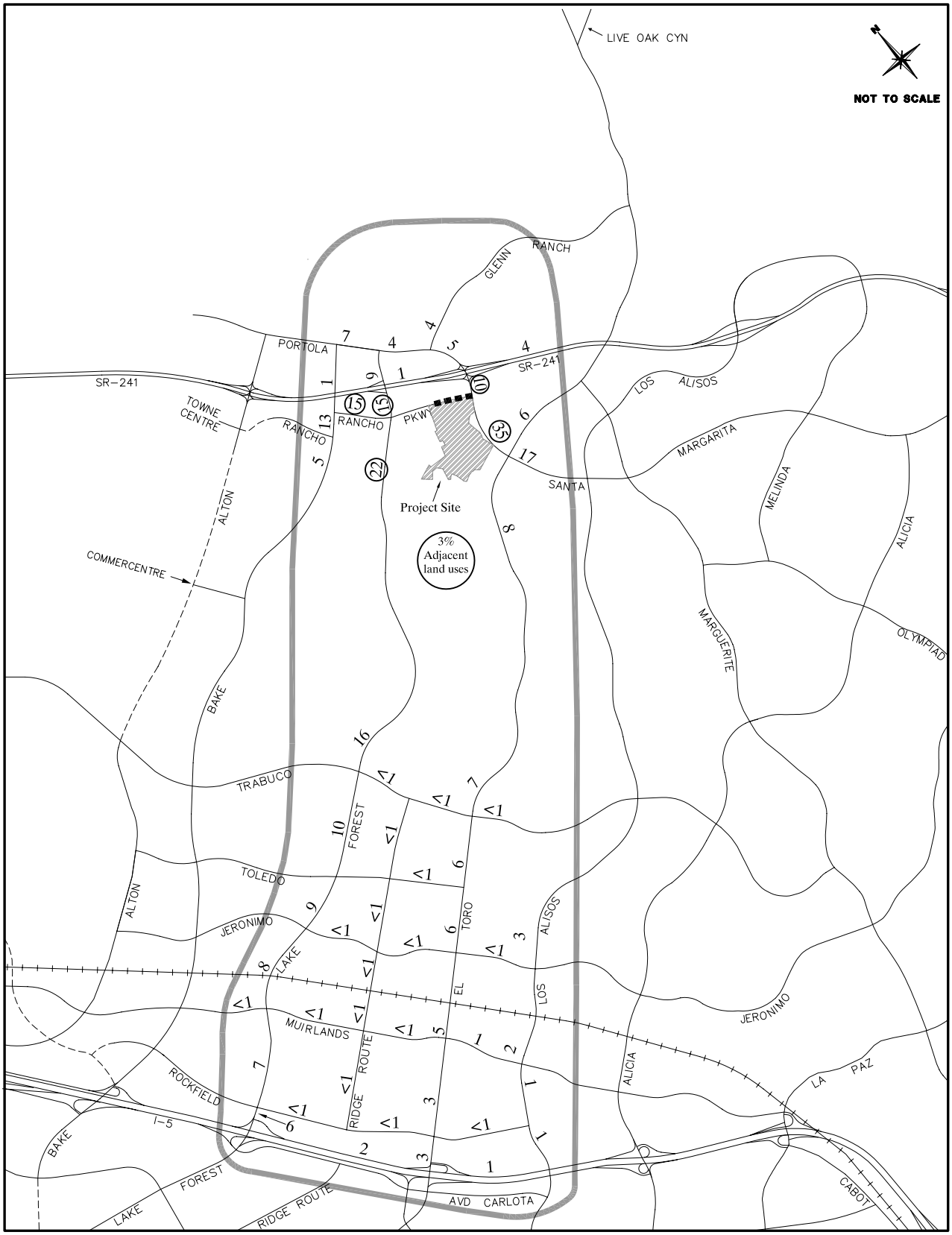
Abbreviation: ADT – average daily trips

Legend

———	Existing Roadway
▬ ▬ ▬	Study Area Boundary
▬ ▬ ▬	Future roadway in with-project only
(XX)	Project cordon trip distribution (adds to 100)
XX	Percent of project trip distribution
<1	Denotes insignificant/nominal trip distribution

Figure 3

SHORT-TERM (YEAR 2011)
PROJECT TRIP DISTRIBUTION



Legend

- Existing Roadway — Study Area Boundary
- Future Roadway in by 2015
- Future roadway in with-project only
- (XX) Project cordon trip distribution (adds to 100)
- XX Percent of project trip distribution
- <1 Denotes insignificant/nominal trip distribution

Figure 4

SHORT-TERM (YEAR 2015 CUMULATIVE)
PROJECT TRIP DISTRIBUTION

ANALYSIS SCOPE AND TRAFFIC FORECASTING METHODOLOGY

The proposed project is analyzed under opening year conditions referred to as short-term conditions in this report (expected in year 2011) and cumulative conditions (year 2015). A comparison is made of the levels of service of with-project conditions to no-project, which has existing land uses (i.e., mining/utility and park uses) assumed on the project site. The extension of Rancho Parkway to Portola Parkway is assumed with the proposed project and is referred to as a project feature.

Average daily traffic (ADT) and peak hour volumes on the circulation system for existing conditions in the project area are first identified, and then the ADT and peak hour forecasts for short-term conditions (year 2011 and year 2015 cumulative) are presented. Existing ADT and peak hour counts were conducted in 2008. Short-term year 2011 forecast volumes used in the analysis were derived using two steps. First, a growth factor of two (2) percent per year for a total of six (6) percent was applied to the existing 2008 counts to derive year 2011 no-project conditions. Then the City's Lake Forest Traffic Analysis Model (LFTAM) was used to derive the change in traffic due to the proposed project land uses including the addition of the Rancho Parkway extension to Portola Parkway as a project feature. The circulation system for year 2011 in other parts of the study area assumes existing conditions.

In the cumulative analysis year 2015, Alton Parkway is assumed to be connected between Towne Centre Drive and Irvine Boulevard. Also, a linear growth of traffic and development is assumed between now and year 2030, therefore a growth of 25 percent in the Opportunities Study Area (OSA) is assumed for cumulative analysis purposes including the current General Plan land use assumptions in the Shea/Baker area. The proposed project is assumed to be built out under with-project conditions for worst-case analysis purposes.

Mitigation measures needed to reduce project impacts to a level of insignificance are identified if necessary for year 2011 and/or year 2015 cumulative. Should the project require mitigation measures, reference will be first made of any LFTM improvements because the proposed project is part of the OSA Program.

The LFTAM is derived from the Orange County Transportation Analysis Model (OCTAM) which is maintained by the Orange County Transportation Authority (OCTA). The LFTAM was developed according to the Orange County sub-area traffic modeling guidelines that have been adopted

by the OCTA, and the OCTA has certified the traffic model as being consistent with the OCTAM regional model. OCTA recognizes the role of the sub-area models for local roadways, and purpose of their certification is to enable the sub-area models to provide that type of information, but with an overall consistent regional context.

For descriptive purposes, the modeling processes in the LFTAM can be divided into the following three general components:

1. Trip Generation
2. Trip Distribution/Mode Choice
3. Traffic Assignment

In the trip generation component of the traffic model, the amount of vehicle traffic generated by existing and future land use development is estimated. In the LFTAM, land use data is defined according to specific land use categories. The information is quantified by traffic analysis zones (TAZs) that have been defined in the City of Lake Forest as well as throughout the remainder of the study model area. For trip generation purposes, land use data is typically comprised of detailed information by acreage or floor area for non-residential uses and number of dwelling units by density classification for residential uses. As part of the modeling process, the land use data is converted to socioeconomic categories such as dwelling units, population, employment, workers per household and income. The socioeconomic categories applied in the traffic model are the same categories that are applied in the OCTAM regional model. Vehicle trip generation estimates for the LFTAM are produced using socioeconomic trip generation rates that yield similar trip generation to land use based trip generation rates.

In the trip distribution/mode choice component of the traffic model, vehicle trip generation estimates are distributed using regional travel forecast data from the OCTAM model, thereby incorporating regional trip distribution patterns into the LFTAM. The regional traffic data is obtained from the OCTAM regional model in the form of vehicle trips, and hence also incorporates mode choice relationships (i.e., vehicle occupancy, transit trips, etc.) established in the OCTAM regional model. The resulting vehicle trip patterns are converted to actual traffic volumes on the roadway system in the traffic assignment component of the LFTAM. The traffic assignment component applies procedures that are sensitive to the capacity of the circulation system network and give forecast peak hour (AM and PM) volumes as well as ADT traffic volumes on that network.

ANALYSIS OF PEAK PERIODS

The peak of the use for the project site would usually occur on Saturday and the analysis in this report is for an average weekday in which peak conditions of the adjacent street are analyzed. To address a comment made during the Notice of Preparation (NOP) review period by the City of Mission Viejo regarding impacts within their City, peak hour traffic counts were taken on this roadway segment on an average weekday and weekend days (from Thursday to Tuesday) to determine if the peak is different than the average weekday peak (see Table 2 for the results and Appendix B for actual count sheets).

Table 2
Santa Margarita Parkway just east of El Toro Road

Daily Count	Day	Date (2009)
33,178	Thursday/Tuesday *	July 30/August 4
34,412	Friday	July 31
28,025	Saturday	August 1
24,894	Sunday	August 2
30,570	Monday	August 3

* Partial day of counts that were combined.

Figure 5 shows a comparison of the counts that were taken, on a combination Thursday/Tuesday (partial counts were taken on these days), and Friday through Monday. As can be seen from this figure, during a typical weekday on this road, two peak periods (8:00 AM – 10:00 AM and 5:00 PM – 7:00 PM) occur and one peak period in a typical weekend day (in this case, Saturday, between 12:00 PM and 3:00 PM). The two weekday peak periods present the worst case over the one peak period in the highest weekend day (Saturday). In addition, the combination of the weekday background traffic with project traffic results in higher traffic volumes than the combination of weekend (i.e., Saturday) background traffic with project traffic. Therefore the forecasts presented in this report are based on the worst case.

LEVEL OF SERVICE AND PROJECT MITIGATION CRITERIA

In this report, a set of performance criteria is utilized to identify future level of service (LOS) deficiencies on the study area circulation system and also to define impacts and peak hour Intersection Capacity Utilization (ICU) values of significance. Traffic LOS is designated “A” through “F” with LOS “A” representing free flow conditions and LOS “F” representing severe traffic congestion. Tables 3 and 4 summarize the general LOS descriptions for intersections and freeways/tollways, respectively.

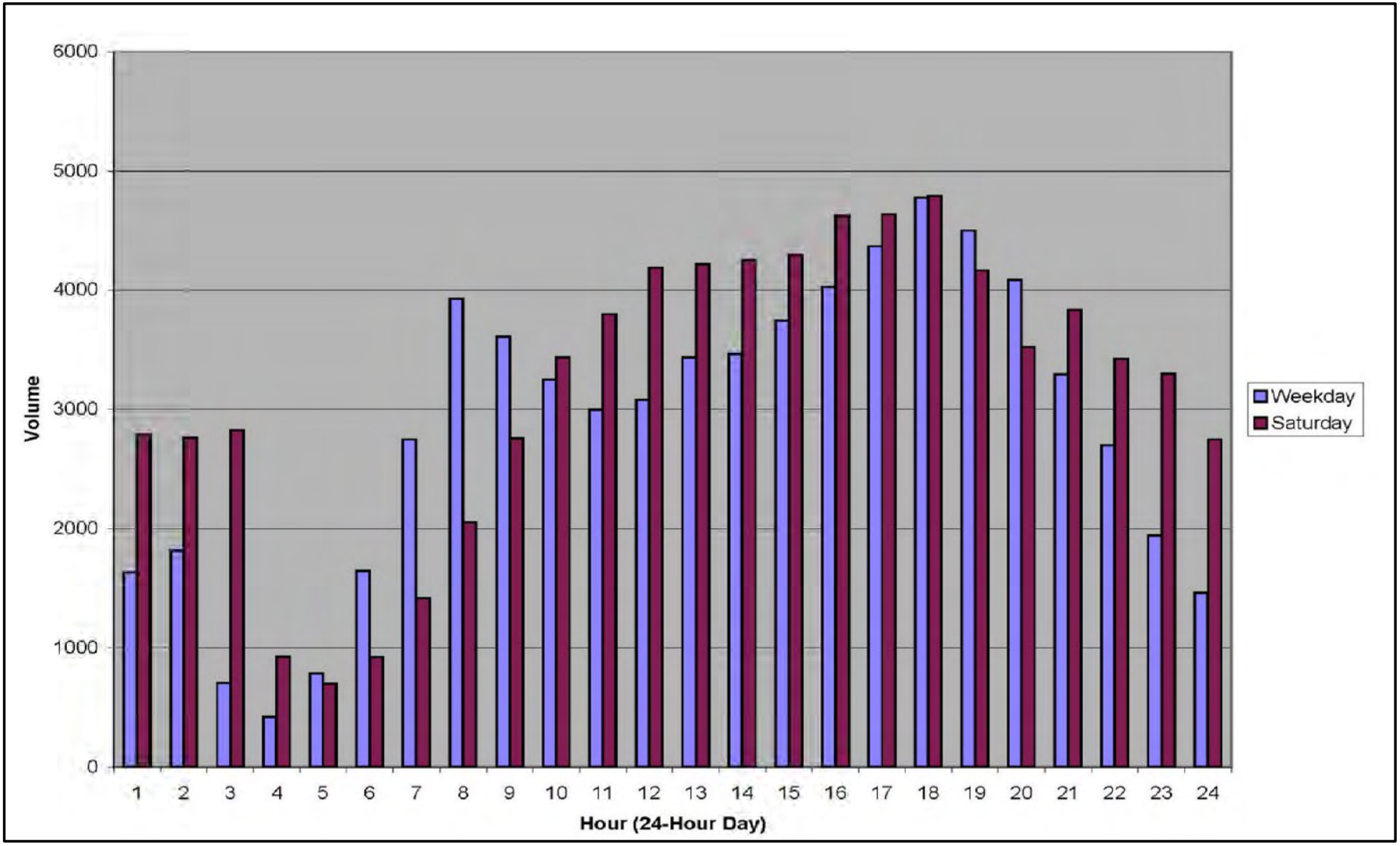


Figure 5

SANTA MARGARITA PARKWAY JUST SOUTH OF EL TORO ROAD 24-HOUR COUNTS

Table 3

LEVEL OF SERVICE DESCRIPTIONS – SIGNALIZED INTERSECTIONS

Levels of service (LOS) for signalized intersections are defined in terms of either average control delay that is measured in seconds (HCM methodology) or intersection capacity utilization (ICU) values as follows:

LOS	Description	Average Delay (sec)[1]	ICU[2]
A	LOS "A" describes operations with low control delay, up to 10 seconds per vehicle. This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.	≤ 10.0	≤ .60
B	LOS "B" describes operations with control delay greater than 10 and up to 20 seconds per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than the LOS "A," causing higher levels of delay.	10.1 – 20.0	.61 - .70
C	LOS "C" describes operations with control delay greater than 20 and up to 35 seconds per vehicle. These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.	20.1 – 35.0	.71 - .80
D	LOS "D" describes operations with control delay greater than 35 and up to 55 seconds per vehicle. At LOS "D," the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high V/C ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	35.1 – 55.0	.81 - .90
E	LOS "E" describes operations with control delay greater than 55 and up to 80 seconds per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent.	55.1 – 80.0	.91 – 1.00
F	LOS "F" describes operations with control delay in excess of 80 seconds per vehicle. This level, considered unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of lane groups. It may also occur at high V/C ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.	> 80.0	> 1.00

[1] Source: *Highway Capacity Manual 2000 (HCM 2000)*, Transportation Research Board, National Research Council.
[2] Source: Orange County Congestion Management Program (CMP).

Table 4

LEVEL OF SERVICE DESCRIPTIONS – FREEWAYS/TOLLWAYS

LOS	Description	Volume/ Capacity[1]
A	LOS "A" describes free-flow operations. Free-flow speeds (FFS) prevail. Vehicles are almost completely unimpeded in their ability to maneuver with the traffic stream. The effects of incidents or point breakdowns are easily absorbed at this level.	.00 – .30
B	LOS "B" represents reasonably free-flow, and FFS are maintained. The ability to maneuver with the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high. The effects of minor incidents and point breakdowns are still easily absorbed.	.31 – .50
C	LOS "C" provides for flow with speeds at or near the FFS of the freeway/tollway. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver. Minor incidents may still be absorbed, but the local deterioration in service will be substantial. Queues may be expected to form behind any significant blockage.	.51 – .71
D	LOS "D" is the level at which speeds begin to decline slightly with increasing flows and density begins to increase somewhat more quickly. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort levels. Even minor incidents can be expected to create queuing, because the traffic stream has little space to absorb disruptions.	.72 – .89
E	At its highest density value, LOS "E" describes operation at capacity. Operations at this level are volatile, because there are virtually no usable gaps in the traffic stream. Vehicles are closely spaces, leaving little room to maneuver with the traffic stream at speeds that still exceed 49 miles per hour. Any disruption of the traffic stream, such as vehicles entering from a ramp or a vehicle changing lanes, can establish a disruption wave that propagates throughout the upstream traffic flow. At capacity, the traffic stream has no ability to dissipate even the most minor disruption, and any incident can be expected to produce a serious breakdown with extensive queuing. Maneuverability with the traffic stream is extremely limited, and the level of physical and psychological comfort afforded the driver is poor.	.90 – 1.00
F	LOS "F" describes breakdowns in vehicular flow. Such conditions generally exist within queues forming behind breakdown points, and are the result of a bottleneck downstream point. LOS "F" is also used to describe conditions at the point of the breakdown or bottleneck and the queue discharge flow that occurs at speeds lower than the lowest speed for LOS "E," as well as the operations within the queue that forms upstream. Whenever LOS "F" conditions exist, they have the potential to extend upstream for significant distances.	>1.00

[1] Source: *Highway Capacity Manual 2000 (HCM 2000)*, Transportation Research Board, National Research Council.

The intersection criteria involve the use of peak hour ICU values. The ICU ranges that correspond to LOS "A" through "F" were previously presented in Table 3. By practice, the ICU methodology assumes that intersections are signalized. LOS "D" (ICU not to exceed .90) is the performance standard for the intersections in the study area.

The freeway/tollway mainline and freeway/tollway ramp criteria are based on peak hour V/C ratios (as previously presented in Table 4). The freeway/tollway mainline and ramp capacities applied in this analysis are based on information contained in the Caltrans Highway Design Manual and the Caltrans Ramp Meter Design Manual. LOS "E" (V/C not to exceed 1.00) has been established by Caltrans as the operating standard for freeway/tollway mainline segments and freeway/tollway ramps. This standard is also consistent with the LOS "E" standard specified in the Orange County CMP for CMP facilities (the freeway/tollway system in the study area is included in the CMP roadway network).

The overall performance criteria applied in this study are summarized in Table 5. The criteria include components for intersections, freeway/tollway ramps, and freeway/tollway mainline segments and are based on LOS calculation methodologies and performance standards that have been adopted by the City of Lake Forest and by the OCTA as part of the CMP. The performance criteria applied here is the same as used in previous OSA traffic analyses.

EXISTING CONDITIONS

Existing Circulation System and Average Daily Traffic Volumes

The existing circulation system in the study area is illustrated in Figure 6 together with existing midblock lanes on arterial roadways and the number of existing travel lanes on freeway/tollway mainline segments. Current average daily traffic (ADT) volumes are illustrated in Figure 7. The arterial volumes are from 2008 counts and the volumes on I-5 and SR-241 are 2007 counts published by the California Department of Transportation (Caltrans) for the California State Highway system.

Existing Peak Hour Intersection Levels of Service

Peak hour intersection turn movement counts were collected for the signalized intersection locations shown in Figure 8. The ICU values based on these counts are summarized in Table 6 and illustrated in Figures 9 and 10 for AM and PM peak hours, respectively. The AM and PM peak hour is

Table 5

PERFORMANCE CRITERIA FOR LOCATIONS ANALYZED WITHIN THE STUDY AREA

I. Intersections

V/C Calculation Methodology

Level of service to be based on peak hour intersection capacity utilization (ICU) values calculated using the following assumptions:

Saturation Flow Rate: 1,700 vehicles/hour/lane
Clearance Interval: .05
Right-Turn-On-Red Utilization Factor*: .75
* "De facto" right-turn lane is assumed in the ICU calculation if 19 feet from edge to outside of through-lane exists and parking is prohibited during peak periods.

Performance Standard

Level of Service D (peak hour ICU less than or equal to .90).

Mitigation Requirement

For ICU greater than the acceptable level of service, mitigation of the project contribution is required to bring intersection back to acceptable level of service or to no-project conditions if project contribution is .02 or greater for all intersections in the study area.

II. Freeway/Tollway Ramps

V/C Calculation Methodology

Level of service to be based on peak hour volume/capacity (V/C) ratios calculated using the following capacities:

Metered On-Ramps

A maximum capacity of 900 vehicles per hour (vph) for a one-lane metered on-ramp with only one mixed-flow lane at the meter.

A maximum capacity of 1,080 (20 percent greater than 900) vph for a one-lane metered on-ramp with one mixed-flow lane at the meter plus one high occupancy vehicle (HOV) preferential lane at the meter.

A maximum capacity of 1,500 vph for a one-lane metered on-ramp with two mixed-flow lanes at the meter.

A maximum capacity of 1,800 vph for a two-lane metered on-ramp with two mixed-flow lanes at the meter.

(continued)

Table 5 (cont)
PERFORMANCE CRITERIA FOR LOCATIONS ANALYZED WITHIN THE STUDY AREA

II. Freeway/Tollway Ramps (cont)

V/C Calculation Methodology (cont)

Toll Ramps (On-Ramps and Off-Ramps)

A maximum capacity of 1,500 vph for a one-lane toll ramp with one cash (stopped) lane and one FasTrak (unstopped) lane.

Non-Metered and Non-Tolled On-Ramps and Off-Ramps

A maximum capacity of 1,500 vph for a one-lane ramp.

A maximum capacity of 2,250 (50 percent greater than 1,500) vph for a two-lane on-ramp that tapers to one merge lane at or beyond the freeway mainline gore point and for a two-lane off-ramp with only one auxiliary lane.

A maximum capacity of 3,000 vph for a two-lane on-ramp that does not taper to one merge lane and for a two-lane off-ramp with two auxiliary lanes.

Performance Standard

Level of Service E (peak hour V/C less than or equal to 1.00).

Mitigation Requirement

For V/C greater than the acceptable level of service, mitigation of the project contribution is required to bring ramp back to acceptable level of service or to no-project conditions if project contribution is .02 or greater for all ramps in the study area.

III. Freeway/Tollway Mainline Segments

V/C Calculation Methodology

Level of service to be based on peak hour V/C ratios calculated using the following capacities:

2,000 vehicles per hour per lane (vphpl) for mixed-flow (general purpose) lanes.

1,600 vphpl for a one-lane buffer-separated HOV facility.

1,750 vphpl for a two-lane buffer-separated HOV facility.

Performance Standard

Level of Service E (peak hour V/C less than or equal to 1.00).

(continued)

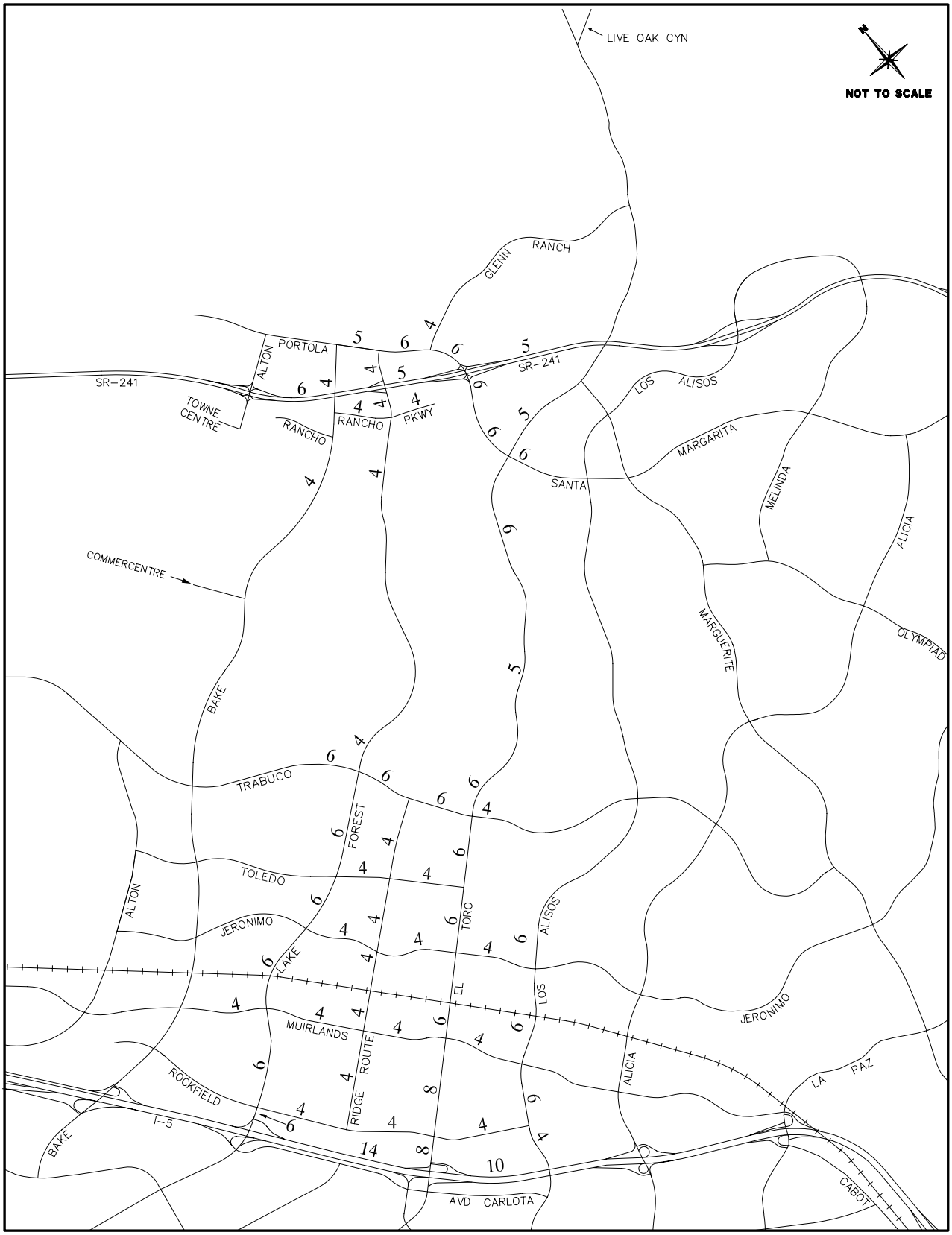
Table 5 (cont)
PERFORMANCE CRITERIA FOR LOCATIONS ANALYZED WITHIN THE STUDY AREA

III. Freeway/Tollway Mainline Segments

Mitigation Requirement

For V/C greater than the acceptable level of service, mitigation of the project contribution is required to bring freeway/tollway mainline location back to acceptable level of service or to no-project conditions if project contribution is greater than .03 (the impact threshold specified in the CMP).

Abbreviations: CMP – Orange County Congestion Management Program



Legend

XX Midblock lanes

Figure 6

EXISTING CIRCULATION SYSTEM
WITHIN STUDY AREA

Figure 7

EXISTING ADT VOLUMES (000s)

Legend

X Intersection location

Figure 8

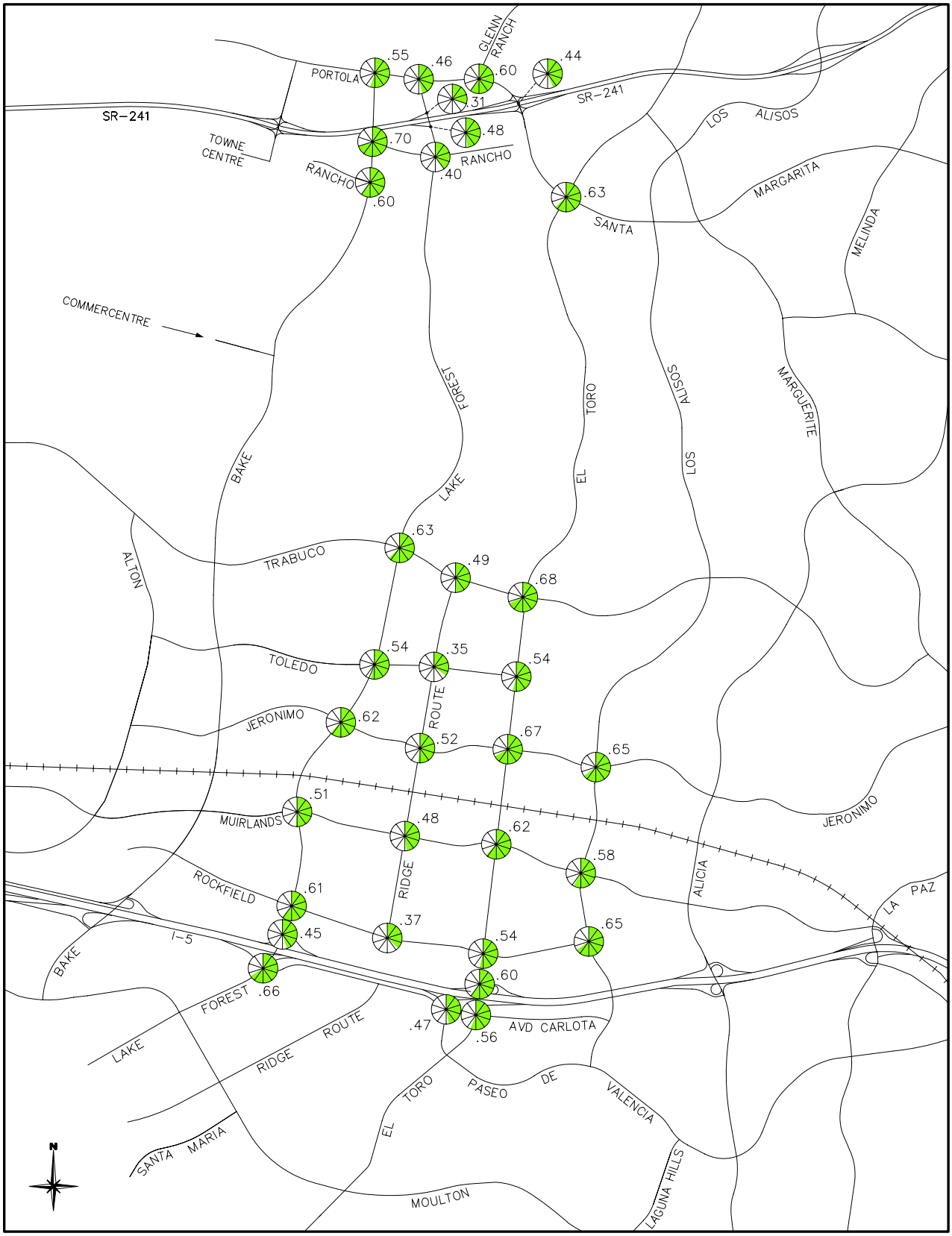
EXISTING INTERSECTION LOCATION MAP

Table 6

EXISTING (2008) INTERSECTION LOS SUMMARY

Loc. # North-South (NS) Road at East-West (EW) Road	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
2. Bake & Portola	.55	A	.61	B
3. Lake Forest & Portola	.46	A	.65	B
4. Glenn Ranch & Portola	.60	A	.55	A
5. Portola & SR-241 Ramps	.44	A	.63	B
7. Lake Forest & SR-241 NB Ramp	.31	A	.38	A
8. Lake Forest & SR-241 SB Ramp	.48	A	.45	A
9. Bake & Rancho N	.70	B	.66	B
10. Lake Forest & Rancho	.40	A	.47	A
11. Bake & Rancho S	.60	A	.74	C
12. El Toro & Portola/Santa Margarita	.63	B	.66	B
15. Lake Forest & Trabuco	.63	B	.65	B
16. Ridge Route & Trabuco	.49	A	.58	A
17. El Toro & Trabuco	.68	B	.62	B
19. Lake Forest & Toledo	.54	A	.49	A
20. Ridge Route & Toledo	.35	A	.28	A
21. El Toro & Toledo	.54	A	.47	A
23. Lake Forest & Jeronimo	.62	B	.64	B
24. Ridge Route & Jeronimo	.52	A	.49	A
25. El Toro & Jeronimo	.67	B	.82	D
26. Los Alisos & Jeronimo	.65	B	.79	C
27. Lake Forest & Muirlands	.51	A	.45	A
28. Ridge Route & Muirlands	.48	A	.59	A
29. El Toro & Muirlands	.62	B	.54	A
30. Los Alisos & Muirlands	.58	A	.71	C
31. Lake Forest & Rockfield	.61	B	.69	B
32. Ridge Route & Rockfield	.37	A	.49	A
33. El Toro & Rockfield	.54	A	.63	B
34. Los Alisos & Rockfield	.65	B	.61	B
35. Lake Forest & I-5 NB Ramps	.45	A	.62	B
36. Lake Forest & I-5/Carlota	.66	B	.70	B
37. Paseo De Valencia & Carlota	.47	A	.55	A
38. El Toro & Bridger/I-5 NB Ramps	.60	A	.66	B
39. El Toro & Avd Carlota	.56	A	.82	D

Abbreviations: ICU – intersection capacity utilization
LOS – level of service
NB – northbound
SB – southbound

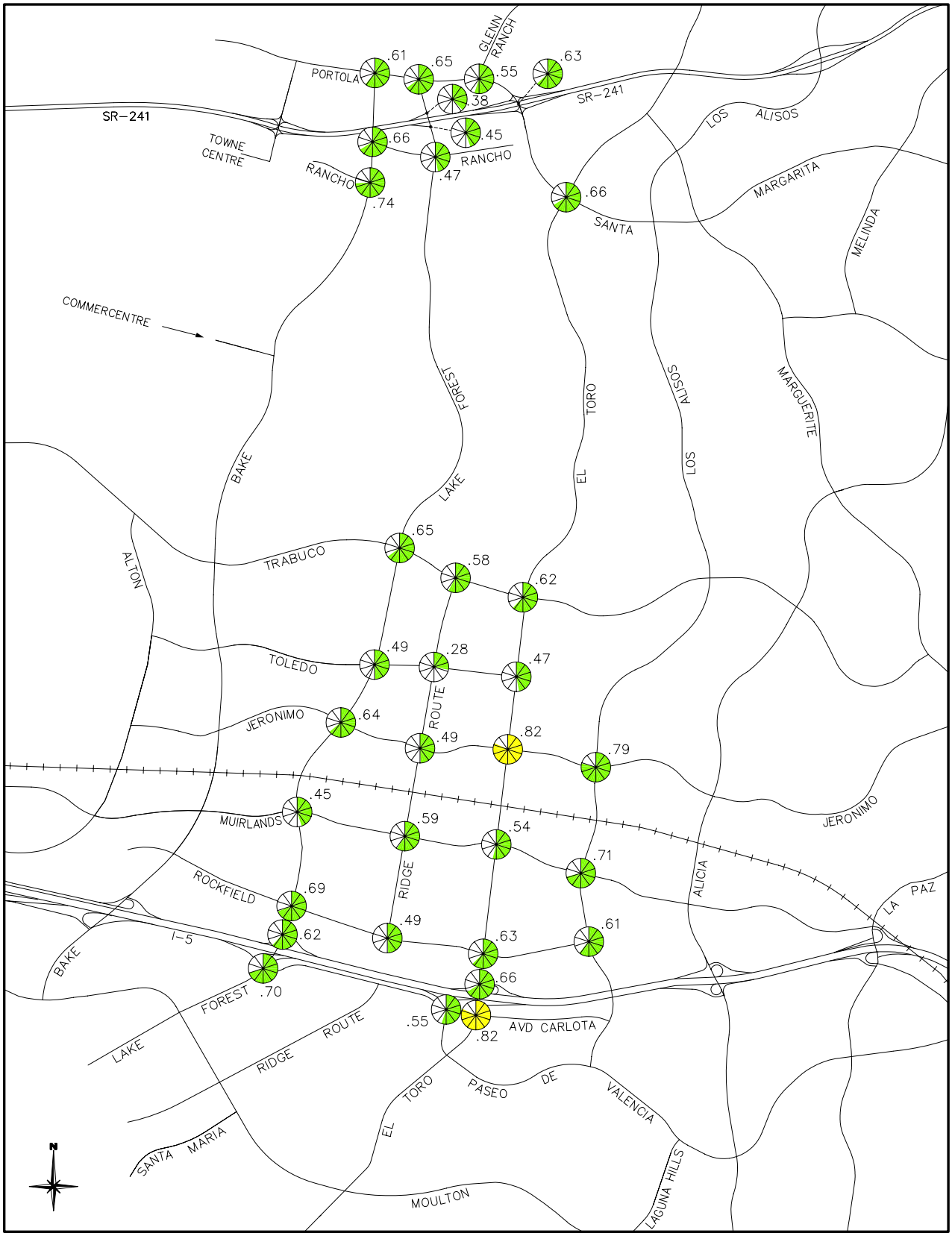


Legend

- LOS A - C (<.80)
- LOS D (<.90)
- LOS E (<1.0)
- LOS F (>1.0)

Figure 9

EXISTING AM PEAK HOUR ICUs AND LEVEL OF SERVICE



Legend

- LOS A - C (<.80)
- LOS D (<.90)
- LOS E (<1.0)
- LOS F (>1.0)

Figure 10

EXISTING PM PEAK HOUR ICUs AND LEVEL OF SERVICE

typically determined from counts that are conducted in a 7:00 to 9:00 AM peak period and 4:00 to 6:00 PM peak period, respectively. Actual ICU worksheets can be found in Appendix C. As can be seen here, all locations are LOS "D" or better and meet the performance criteria.

Existing Peak Hour Freeway/Tollway Ramp Levels of Service

Existing AM and PM peak hour ramp volumes were taken from intersection counts at each location in the study area where freeway/tollway ramps intersect the arterial system. The observed peak hour ramp volumes were applied together with the ramp capacities described earlier to calculate existing AM and PM peak hour ramp V/C ratios and corresponding LOSs. The freeway ramp analysis presented here, which analyzes individual ramp locations, differs from the previous peak hour intersection analysis that included ramp intersections with arterial streets. The ramp analysis involves the peak hour V/C of the ramp itself whereas the intersection analysis involves the ICU value of the ramp intersection with the arterial street. Figure 11 illustrates the interchange locations where freeway/tollway ramps were analyzed, and Table 7 summarizes existing peak hour V/C ratios for freeway/tollway ramps in the study area. The results indicate that all ramp locations in the study area currently operate better than the acceptable LOS "E" performance standard.

Existing Peak Hour Freeway/Tollway Mainline Levels of Service

To determine existing peak hour operating conditions for mainline freeway and tollway segments, peak hour traffic count data was compiled for the freeway and tollway system in the traffic analysis study area. AM and PM peak hour traffic count data was obtained from Caltrans, and that data was supplemented with AM and PM peak hour ramp volumes taken from intersection count data at locations where freeway/tollway ramps intersect the arterial system (the freeway/tollway ramp data was used to determine mainline peak hour volumes upstream and/or downstream from the locations where Caltrans counts were available).

The observed AM and PM peak hour freeway/tollway mainline volumes were applied together with the capacities previously described for mixed-flow (general purpose) lanes and high-occupancy vehicle (HOV) lanes to calculate existing peak hour V/C ratios, by direction, for freeway/tollway mainline segments in the study area. When evaluating existing freeway/tollway conditions (i.e., based on traffic count data), the V/C and LOS criteria are applicable only in situations where the observed traffic volume occurs in stable flow. When the peak hour V/C ratio on a freeway/tollway mainline segment

Legend

Freeway/tollway ramp interchange location

Figure 11

EXISTING INTERCHANGE LOCATIONS

Table 7

EXISTING FREEWAY/TOLLWAY RAMP LOS SUMMARY

Interchange	Ramp	Lanes	Peak Hour Capacity	AM Peak Hour			PM Peak Hour		
				Volume	V/C	LOS	Volume	V/C	LOS
I-5 at Lake Forest	SB Direct On	1	1,500	291	.19	A	509	.34	A
	SB Loop On	1	1,080	446	.41	A	399	.37	A
	NB On	2	1,800	906	.50	A	783	.44	A
	SB Off	2	3,000	1,730	.58	A	2,309	.77	C
	NB Off	1	1,500	984	.66	B	568	.38	A
I-5 at El Toro	SB Direct On	1	1,080	245	.23	A	507	.47	A
	SB Loop On	1	1,500	595	.40	A	834	.56	A
	NB Direct On	1	1,500	1,236	.82	D	948	.63	B
	NB Loop On	1	1,080	707	.47	A	898	.60	A
	SB Off	2	3,000	1,536	.51	A	1,263	.42	A
	NB Off	1	1,500	893	.60	A	1,198	.80	C
SR-241 at Lake Forest	NB On	2	2,250	170	.08	A	424	.19	A
	SB Off	1	1,500	533	.36	A	212	.14	A
SR-241 at Portola (East)	SB On	1	1,500	249	.17	A	747	.50	A
	NB On	2	2,250	763	.34	A	321	.14	A
	SB Off	1	1,500	251	.17	A	516	.34	A
	NB Off	2	2,250	961	.43	A	326	.14	A

nears 1.0, unstable conditions can occur which may result in a breakdown in traffic flow. This breakdown in flow causes a reduction in capacity (vehicle speeds drop below the speed at which maximum capacity is available), and hence the V/C increases, causing a further reduction in speed. The result is stop-and-go conditions. At the same time, the reduction in capacity and increase in V/C causes queue build-up and the stop-and-go conditions can extend for a considerable distance upstream of the problem freeway/tollway segment. Furthermore, this occurrence, and its severity (i.e., length of queue), can vary from day to day even when day-to-day fluctuations in traffic volumes are relatively small.

Speed and travel time measurements taken by Caltrans for the freeway/tollway system give a measure of when and where such conditions occur (i.e., for the day or days on which such measurements are taken). Specific LOS values are assigned based on the measured speeds, the LOS being derived by comparing the measured speed with a minimum desirable operating speed (typically 35 mph). The travel time studies also reveal deficient freeway/tollway segments that are not in themselves a capacity problem, but which are adversely affected by queue build-up from a deficient segment downstream. Hence, LOS values as determined from speed measurements may not equate to the V/C because a queue can extend back from a deficient segment to a segment with a relatively low V/C.

For these reasons, the V/C LOS is not always a true indication of the actual operating LOS on a freeway/tollway segment, particularly when a high V/C ratio on a given segment adversely affects upstream segments because of queue build-up. The upstream segment may have a relatively low V/C and thereby imply satisfactory operating conditions, but stop-and-go conditions extending back to this segment would cause it to actually be operating under congested conditions.

Table 8 summarizes existing AM and PM peak hour V/C ratios for freeway/tollway mainline segments in the study area. The table shows the LOSs derived from the V/C ratios together with operating LOSs determined from Caltrans field measurements as summarized in the 2007 Orange County Congestion Management Program (Orange County Transportation Authority, 2007 Edition). The existing peak hour freeway/tollway mainline segment V/C and/or speed/travel time survey LOS analysis results indicate that I-5 in the study area currently operates at LOS “F” (i.e., worse than the LOS “E” performance standard).

Note that future traffic volumes presented in this report represent “demand” and no attempt is made to estimate operating conditions such as discussed here (i.e., only the V/C LOS based on the future demand traffic volume is reported).

Table 8

EXISTING FREEWAY/TOLLWAY MAINLINE PEAK HOUR LOS SUMMARY

Location	Direction	Lanes	Peak Hour Capacity	AM Peak Hour				PM Peak Hour			
				Volume	V/C	V/C LOS	Caltrans LOS (a)	Volume	V/C	V/C LOS	Caltrans LOS (a)
I-5 n/o Lake Forest	Northbound	8+2H	19,500	14,570	.75	D	F^0	11,200	.57	C	E
	Southbound	8+2H	19,500	10,420	.53	C	E	14,780	.76	D	F^2
I-5 n/o El Toro	Northbound	6+2H	15,500	14,648	.95	E	F^0	10,985	.71	C	E
	Southbound	6+2H	15,500	9,427	.61	C	E	13,379	.86	D	F^3
I-5 n/o Alicia	Northbound	4+1H	9,600	13,598	1.42	F	F^3	10,337	1.08	F	E
	Southbound	4+1H	9,600	8,731	.91	E	E	13,457	1.40	F	F^3
SR-241 n/o Lake Forest	Northbound	3	6,000	4,560	.76	D	D	1,630	.27	A	B
	Southbound	3	6,000	1,290	.22	A	B	3,730	.62	C	D
SR-241 n/o Portola East	Northbound	3	6,000	4,390	.73	D	D	1,206	.20	A	B
	Southbound	2	4,000	757	.19	A	B	3,518	.88	D	D
SR-241 n/o Los Alisos	Northbound	3	6,000	4,588	.76	D	D	1,211	.20	A	B
	Southbound	2	4,000	755	.19	A	B	3,749	.94	E	D

Abbreviations: H – high-occupancy vehicle lane
LOS – level of service
V/C – volume/capacity ratio

(a) Caltrans LOS values are from speed and travel time surveys carried out by Caltrans as summarized in the 2007 Orange County Congestion Management Program. The measured speeds in each segment reflect queue build-up from a downstream deficient segment and/or other prevailing conditions at the time the surveys were conducted. The superscript values for LOS "F" (i.e., 0, 1, 2, 3) represent different lengths of time during which congested conditions occur in the peak period.

PLANNED CIRCULATION SYSTEM

Figures 12 and 13 show the midblock travel lanes on individual arterial road and freeway/tollway mainline segments of the study area circulation system for short-term conditions year 2011 and year 2015 cumulative. The short-term circulation system for year 2011 used in this analysis assumes the current existing circulation system for the study area. In the cumulative analysis year 2015, Alton Parkway is assumed to be connected between Towne Centre Drive and Irvine Boulevard. For worst-case analysis purposes, the proposed project is assumed to be built out under with-project year 2011 and year 2015 cumulative conditions along with the extension of Rancho Parkway to Portola Parkway from its current terminus just east of Lake Forest Drive as a project feature. The new intersection formed at Portola Parkway and Rancho Parkway will be analyzed (lane geometrics assumed are presented in Appendix C).

TRAFFIC IMPACTS WITHIN STUDY AREA

In this section, future levels of service on the study area circulation system are summarized for year 2011 and year 2015 cumulative conditions assuming buildout of the proposed project. Traffic volumes and performance evaluation results for conditions with and without the proposed project land uses. Project impacts are identified by applying the performance criteria outlined earlier in this report. Should the project require mitigation measures for year 2011 and/or year 2015 cumulative, reference will be first made of any LFTM improvements because the proposed project is part of the OSA Program.

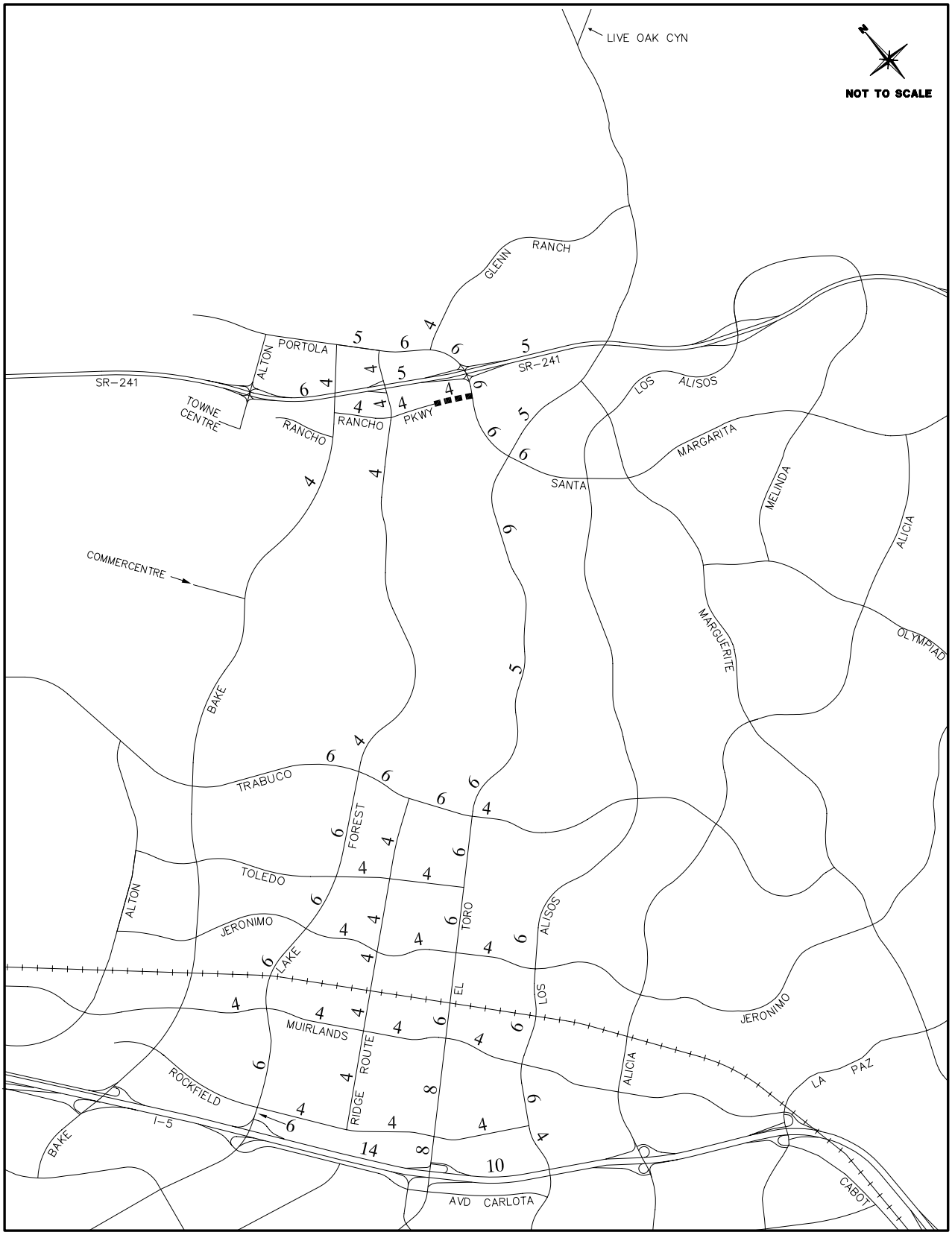
Short-Term (Year 2011) Average Daily Traffic Volumes

Short-term (year 2011) ADT forecasts are illustrated in Figures 14 and 15 for no-project and with-project conditions, respectively. The roadway network used here is the current existing circulation system with Rancho Parkway extended to Portola Parkway under with-project conditions.

Short-Term (Year 2011) Peak Hour Intersection Levels of Service

Figure 16 illustrates the intersection locations that were analyzed based on short-term (year 2011) traffic conditions, and Table 9 summarizes the AM and PM peak hour ICU values and the corresponding LOS for with and without project conditions. The ICUs are also illustrated in Figures 17 through 20. Actual turn volumes and ICU calculation worksheets are provided in Appendix C.

(Text continued on page 41)



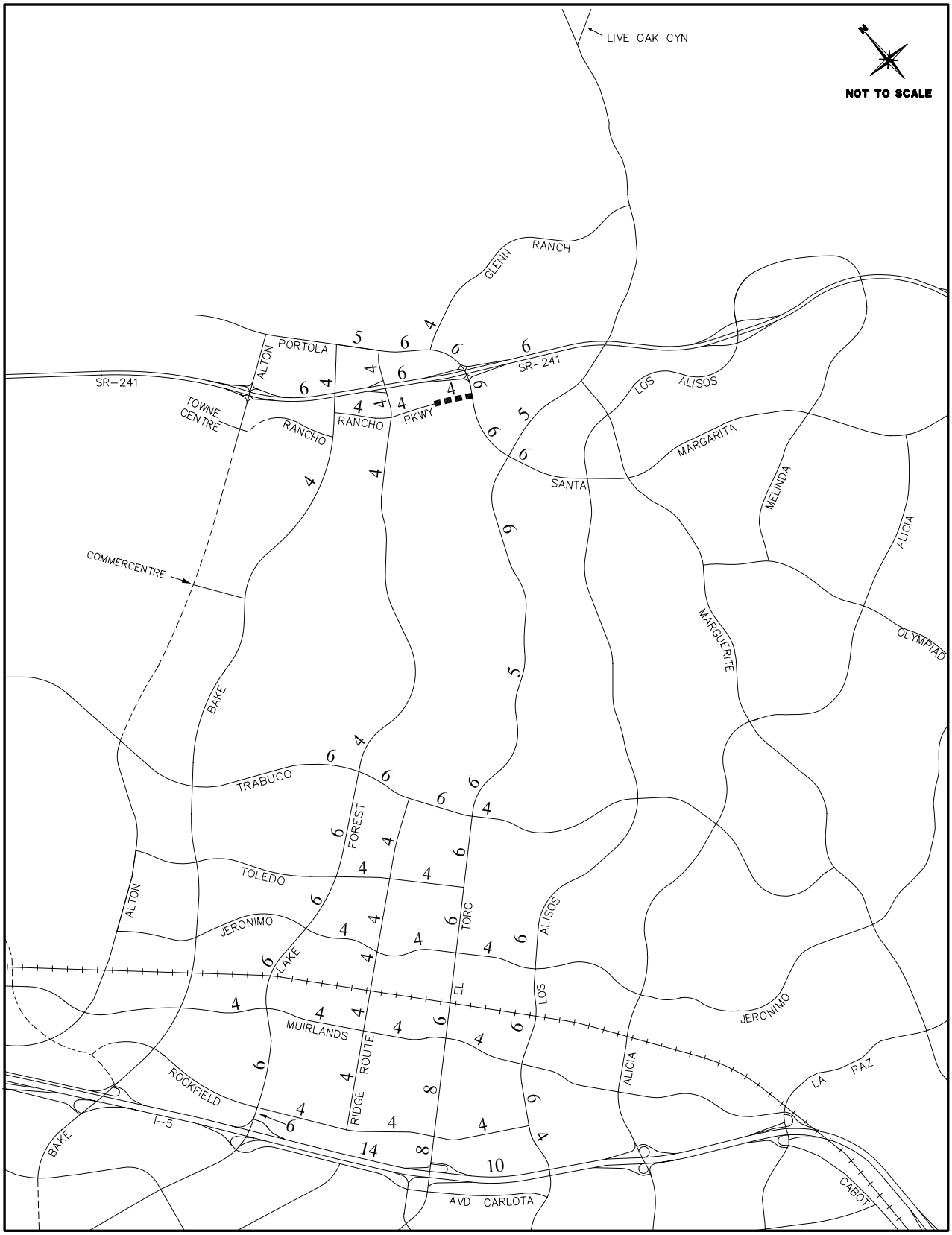
Legend

▪▪▪▪▪ Roadway in with-project only

XX Midblock lanes

Figure 12

SHORT-TERM (YEAR 2011) CIRCULATION SYSTEM WITHIN STUDY AREA



Legend

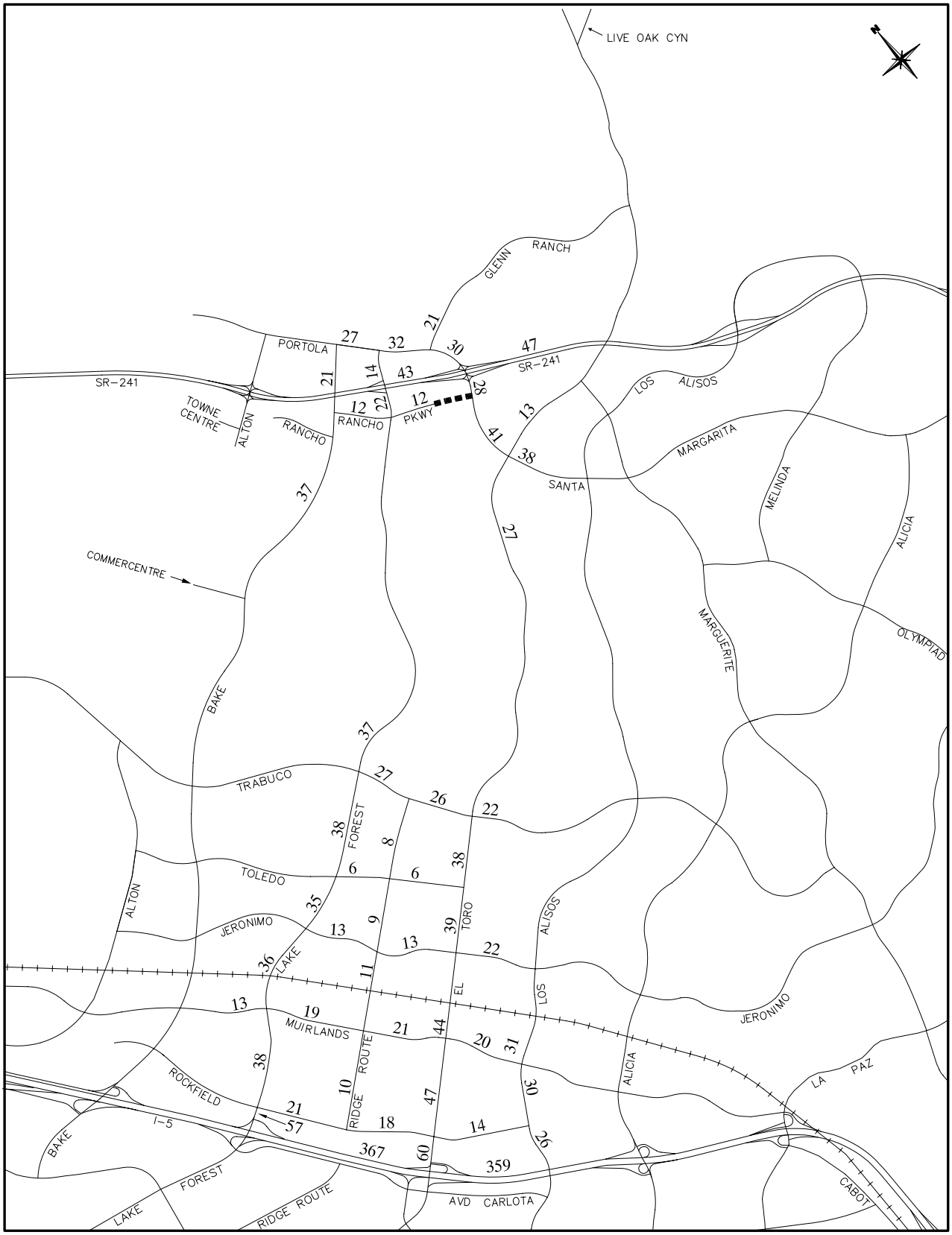
- Future roadway in by 2015
- Future roadway in with-project only
- XX Midblock lanes

Figure 13

SHORT-TERM (YEAR 2015 CUMULATIVE)
CIRCULATION SYSTEM WITHIN STUDY AREA

Figure 14

SHORT-TERM (YEAR 2011) ADT VOLUMES (000s)
- NO-PROJECT



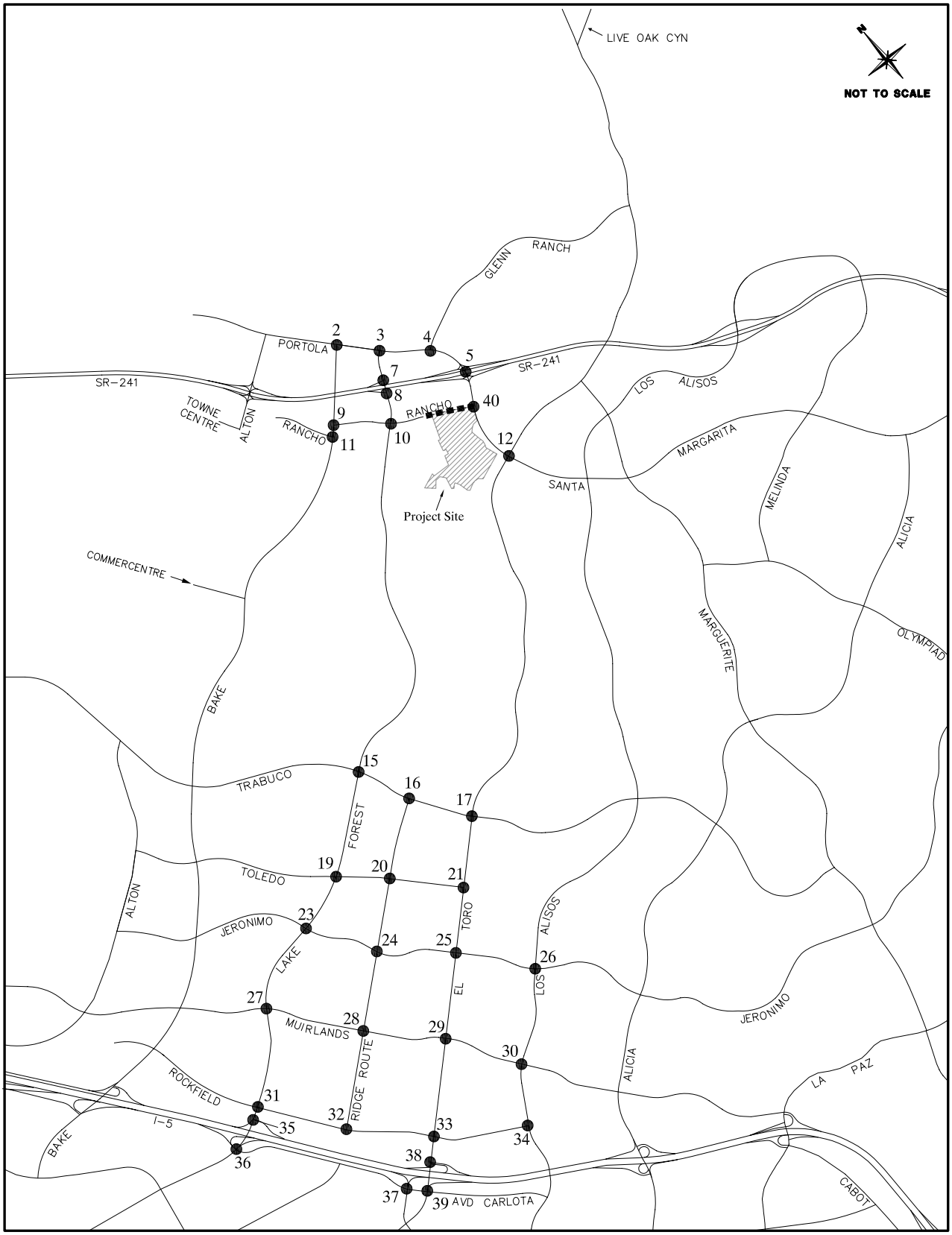
Legend

Existing Roadway

Future roadway in with-project only

Figure 15

SHORT-TERM (YEAR 2011) ADT VOLUMES (000s)
- WITH-PROJECT



Legend

X Intersection location

Future roadway in with-project only

Figure 16

SHORT-TERM (YEAR 2011)
INTERSECTION LOCATION MAP

Table 9

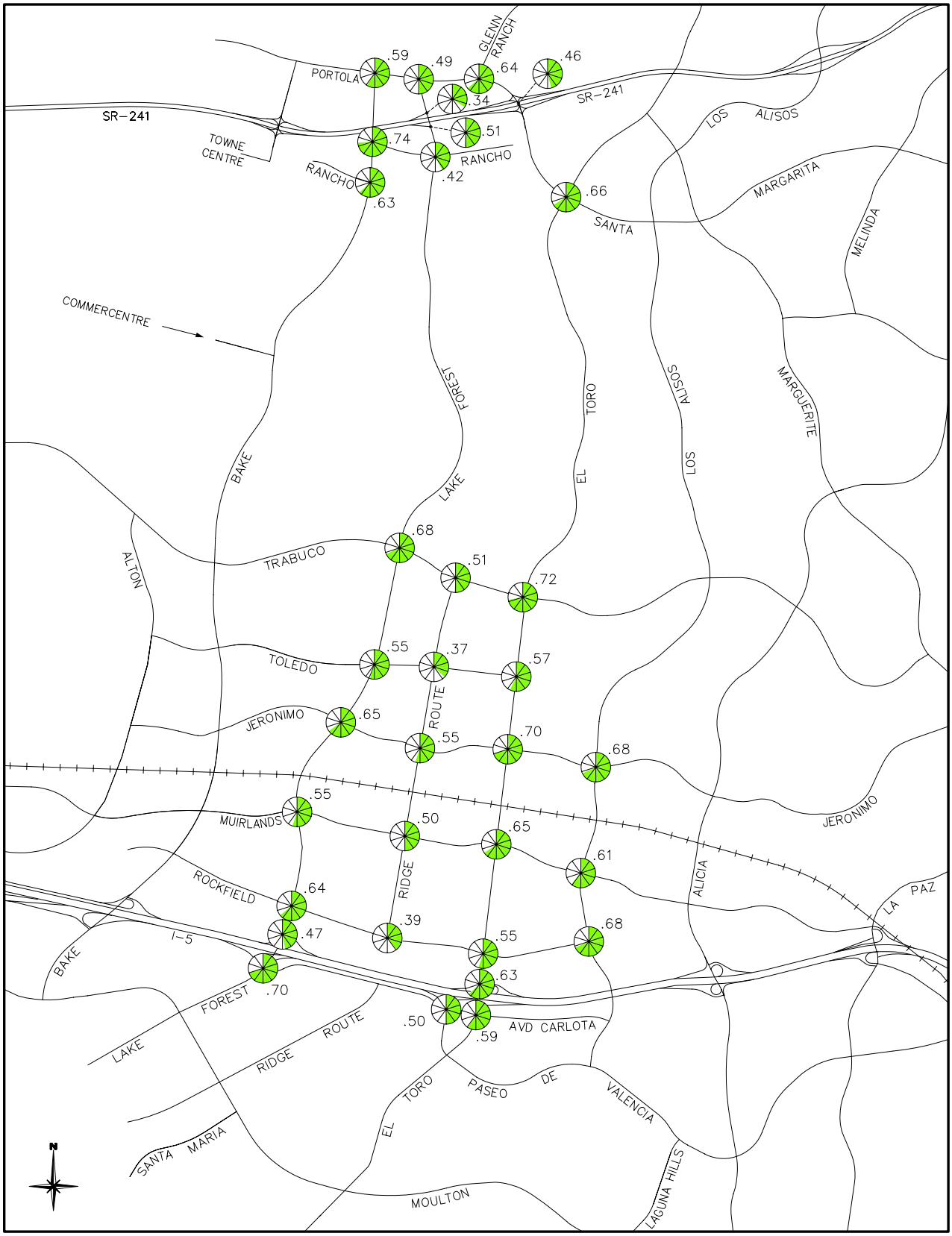
SHORT-TERM (YEAR 2011) INTERSECTION LOS SUMMARY WITHIN STUDY AREA

	No-Project				With-Project				Difference	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
Intersection	**ICU**	**LOS**	**ICU**	**LOS**	**ICU**	**LOS**	**ICU**	**LOS**	**AM**	**PM**
2. Bake & Portola	.59	A	.65	B	.56	A	.63	B	-.03	-.02
3. Lake Forest & Portola	.49	A	.68	B	.44	A	.55	A	-.05	-.13
4. Glenn Ranch & Portola	.64	B	.57	A	.55	A	.54	A	-.09	-.03
5. Portola & SR-241 Ramps	.46	A	.65	B	.43	A	.56	A	-.03	-.09
7. Lake Forest & SR-241 NB	.34	A	.40	A	.29	A	.35	A	-.05	-.05
8. Lake Forest & SR-241 SB	.51	A	.48	A	.42	A	.41	A	-.09	-.07
9. Bake & Rancho North	.74	C	.70	B	.80	C	.70	B	.06	.00
10. Lake Forest & Rancho	.42	A	.49	A	.62	B	.77	C	.20	.28
11. Bake & Rancho South	.63	B	.78	C	.64	B	.80	C	.01	.02
12. El Toro & Portola/Santa Margarita	.66	B	.67	B	.78	C	.76	C	.12	.09
15. Lake Forest & Trabuco	.68	B	.68	B	.70	B	.69	B	.02	.01
16. Ridge Route & Trabuco	.51	A	.61	B	.50	A	.60	A	-.01	-.01
17. El Toro & Trabuco	.72	C	.70	B	.69	B	.69	B	-.03	-.01
19. Lake Forest & Toledo	.55	A	.52	A	.55	A	.50	A	.00	-.02
20. Ridge Route & Toledo	.37	A	.31	A	.36	A	.30	A	-.01	-.01
21. El Toro & Toledo	.57	A	.49	A	.59	A	.49	A	.02	.00
23. Lake Forest & Jeronimo	.65	B	.68	B	.65	B	.66	B	.00	-.02
24. Ridge Route & Jeronimo	.55	A	.51	A	.54	A	.50	A	-.01	-.01
25. El Toro & Jeronimo	.70	B	.86	D	.69	B	.84	D	-.01	-.02
26. Los Alisos & Jeronimo	.68	B	.84	D	.68	B	.82	D	.00	-.02
27. Lake Forest & Muirlands	.55	A	.48	A	.55	A	.47	A	.00	-.01
28. Ridge Route & Muirlands	.50	A	.61	B	.50	A	.61	B	.00	.00
29. El Toro & Muirlands	.65	B	.56	A	.64	B	.55	A	-.01	-.01
30. Los Alisos & Muirlands	.61	B	.75	C	.60	A	.76	C	-.01	.01

Table 9 (cont.)
SHORT-TERM (YEAR 2011) INTERSECTION LOS SUMMARY WITHIN STUDY AREA

	No-Project				With-Project				Difference	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
Intersection	**ICU**	**LOS**	**ICU**	**LOS**	**ICU**	**LOS**	**ICU**	**LOS**	**AM**	**PM**
31. Lake Forest & Rockfield	.64	B	.73	C	.65	B	.74	C	.01	.01
32. Ridge Route & Rockfield	.39	A	.52	A	.39	A	.50	A	.00	-.02
33. El Toro & Rockfield	.55	A	.66	B	.57	A	.68	B	.02	.02
34. Los Alisos & Rockfield	.68	B	.66	B	.68	B	.65	B	.00	-.01
35. Lake Forest & I-5 NB	.47	A	.66	B	.48	A	.65	B	.01	-.01
36. Lake Forest & I-5/Carlota	.70	B	.73	C	.67	B	.73	C	-.03	.00
37. Paseo De Valencia & Carlota	.50	A	.58	A	.50	A	.59	A	.00	.01
38. El Toro & Bridger/I-5 NB	.63	B	.70	B	.62	B	.69	B	-.01	-.01
39. El Toro & Avd Carlota	.59	A	.85	D	.60	A	.86	D	.01	.01
40. Portola & Rancho	--	--	--	--	.49	A	.68	B	.49	.68

Abbreviations: ICU – intersection capacity utilization LOS – level of service NB – northbound SB – southbound

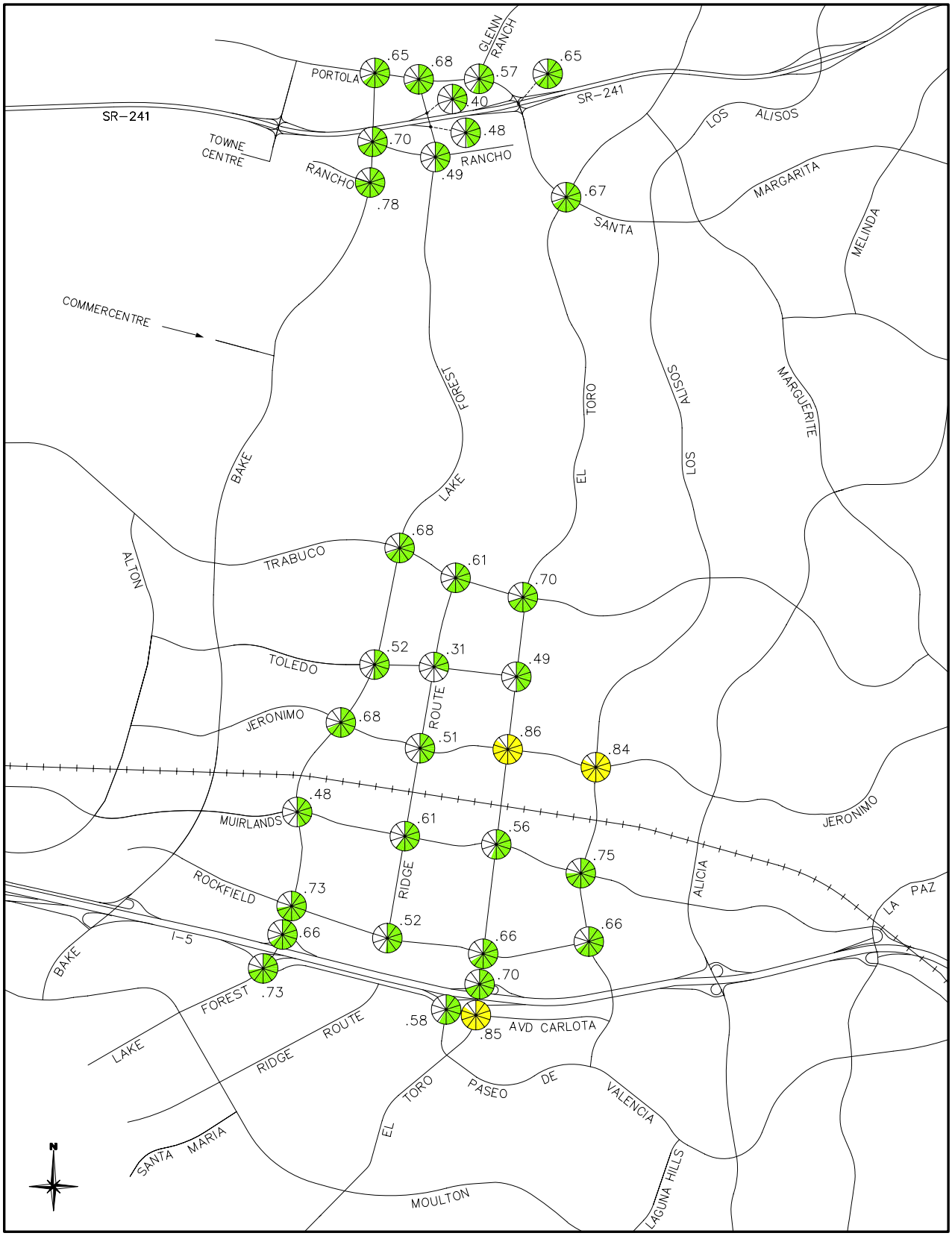


Legend

- LOS A - C (<.80)
- LOS D (<.90)
- LOS E (<1.0)
- LOS F (>1.0)

Figure 17

SHORT-TERM (YEAR 2011) AM PEAK HOUR ICUs AND LEVEL OF SERVICE - NO-PROJECT

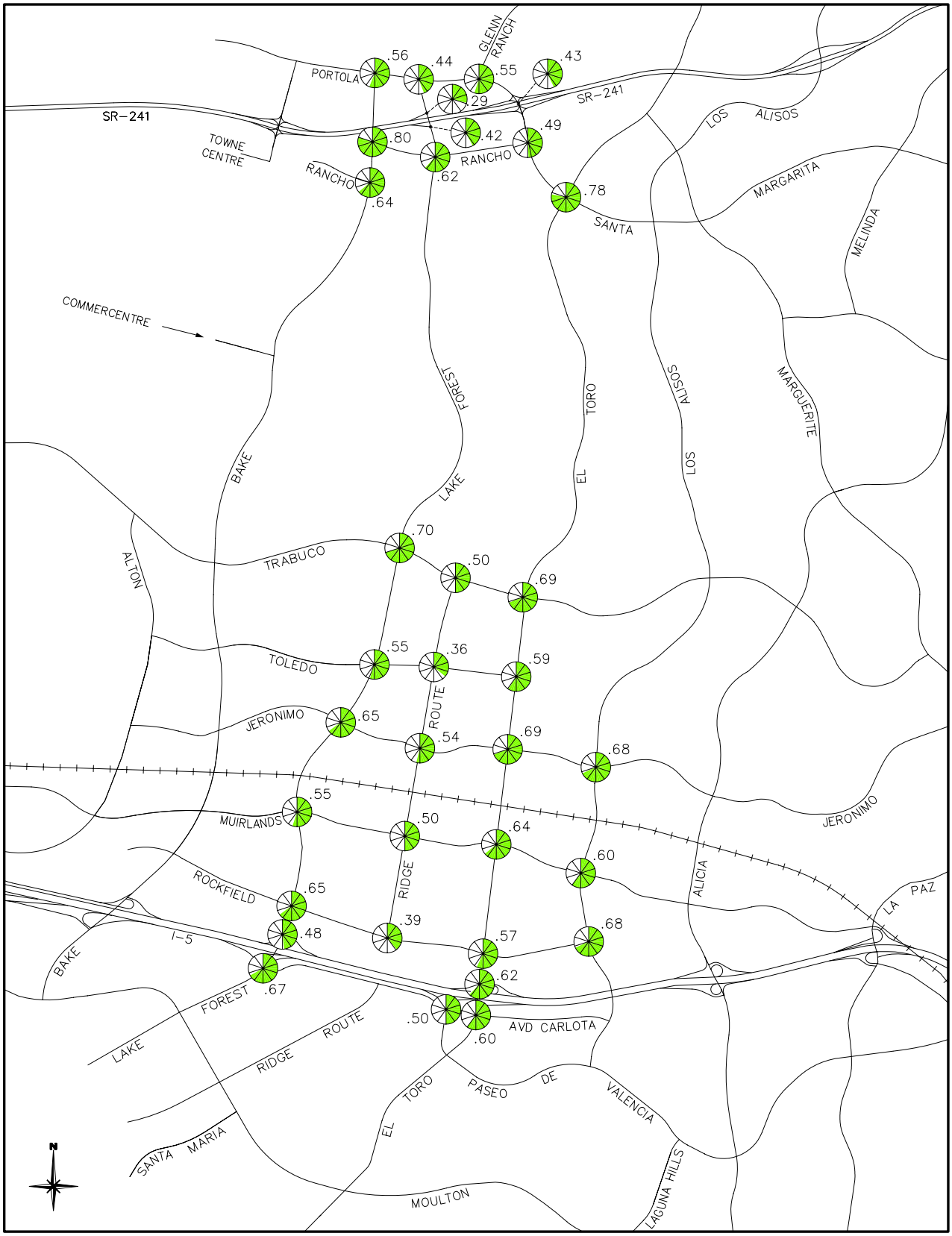


Legend

- LOS A - C (<.80)
- LOS D (<.90)
- LOS E (<1.0)
- LOS F (>1.0)

Figure 18

SHORT-TERM (YEAR 2011) PM PEAK HOUR ICUs AND LEVEL OF SERVICE - NO-PROJECT

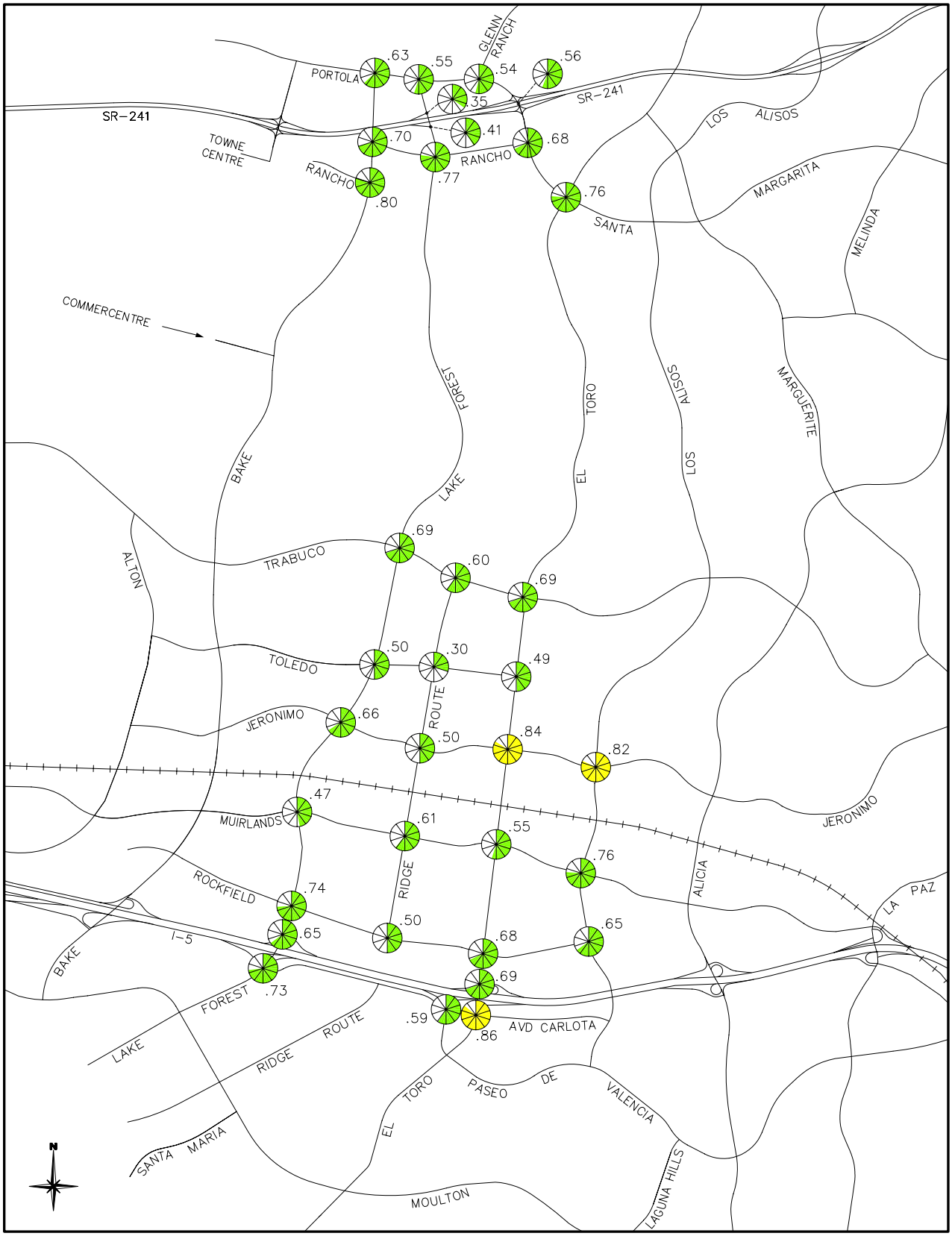


Legend

- LOS A - C (<.80)
- LOS D (<.90)
- LOS E (<1.0)
- LOS F (>1.0)

Figure 19

SHORT-TERM (YEAR 2011) AM PEAK HOUR ICUs AND LEVEL OF SERVICE - WITH-PROJECT



Legend

- LOS A - C (<.80)
- LOS D (<.90)
- LOS E (<1.0)
- LOS F (>1.0)

Figure 20

SHORT-TERM (YEAR 2011) PM PEAK HOUR ICUs AND LEVEL OF SERVICE - WITH-PROJECT

Based on the peak hour intersection performance criteria and impact thresholds established for the analysis, no intersection within the study area is significantly impacted by the proposed project land uses under short-term (year 2011) conditions.

Short-Term (Year 2011) Peak Hour Freeway/Tollway Ramp Levels of Service

Figure 21 illustrates the interchange locations where freeway ramps were analyzed based on year short-term (year 2011) conditions. Short-term (year 2011) AM and PM peak hour ramp volumes and V/C ratios for with and without project are summarized in Table 10. Based on the peak hour ramp performance criteria and impact thresholds established for the analysis, no freeway ramp is forecast to be significantly impacted by the proposed project land uses under short-term (year 2011) conditions.

Short-Term (Year 2011) Peak Hour Freeway/Tollway Mainline Levels of Service

Short-term (year 2011) with-project AM and PM freeway mainline peak hour volumes and V/C ratios for with and without project are summarized in Table 11. Based on the peak hour mainline performance criteria and impact thresholds established for the analysis, no freeway mainline segment is forecast to be significantly impacted by the proposed project land uses under year short-term (year 2011) conditions (i.e., the project does not cause LOS "F" conditions or contributes more than a .03 V/C to an already deficient LOS "F" condition). It should be noted that the LOS thresholds and significance criteria used here are from the CMP and do not necessarily represent Caltrans policy.

Short-Term (Year 2015 Cumulative) Average Daily Traffic Volumes

Short-term (cumulative analysis year 2015) ADT forecasts are illustrated in Figures 22 and 23 for no-project and with-project conditions, respectively. In the cumulative analysis year 2015, the roadway network used assumes that Alton Parkway is connected between Towne Centre Drive and Irvine Boulevard and that with-project conditions, Rancho Parkway is extended to Portola Parkway.

Short-Term (Year 2015 Cumulative) Peak Hour Intersection Levels of Service

Figure 24 illustrates the intersection locations that were analyzed based on short-term (year 2015) traffic conditions, and Table 12 summarizes the AM and PM peak hour ICU values and the corresponding

Legend

Freeway/tollway ramp interchange location

Future roadway in with-project only

Figure 21

SHORT-TERM (YEAR 2011)
INTERCHANGE LOCATIONS

Table 10

SHORT-TERM (YEAR 2011) FREEWAY/TOLLWAY RAMP LOS SUMMARY

Interchange	Ramp	Lanes	Peak Hour Capacity	No-Project						With-Project					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
I-5 at Lake Forest	SB Direct On	1	1,500	309	.21	A	540	.36	A	297	.20	A	550	.37	A
	SB Loop On	1	1,080	473	.44	A	423	.39	A	478	.44	A	417	.39	A
	NB On	2	1,800	960	.53	A	830	.46	A	995	.55	A	834	.46	A
	SB Off	2	3,000	1,834	.61	B	2,448	.82	D	1,808	.60	A	2,383	.79	C
	NB Off	1	1,500	1,043	.70	B	602	.40	A	1,030	.69	B	595	.40	A
I-5 at El Toro	SB Direct On	1	1,080	261	.24	A	538	.50	A	254	.24	A	531	.49	A
	SB Loop On	1	1,500	631	.42	A	883	.59	A	634	.42	A	871	.58	A
	NB Direct On	1	1,500	1,311	.87	D	1,005	.67	B	1,353	.90	D	998	.67	B
	NB Loop On	1	1,500	749	.50	A	952	.63	B	749	.50	A	969	.65	B
	SB Off	2	3,000	1,628	.54	A	1,338	.45	A	1,654	.55	A	1,327	.44	A
	NB Off	1	1,500	947	.63	B	1,270	.85	D	946	.63	B	1,277	.85	D
SR-241 at Lake Forest	NB On	2	2,250	180	.08	A	449	.20	A	208	.09	A	448	.20	A
	SB Off	1	1,500	565	.38	A	224	.15	A	546	.36	A	258	.17	A
SR-241 at Portola (East)	SB On	1	1,500	264	.18	A	792	.53	A	242	.16	A	843	.56	A
	NB On	2	2,250	809	.36	A	341	.15	A	771	.34	A	356	.16	A
	SB Off	1	1,500	266	.18	A	547	.36	A	278	.19	A	513	.34	A
	NB Off	2	2,250	1,019	.45	A	345	.15	A	1,086	.48	A	341	.15	A

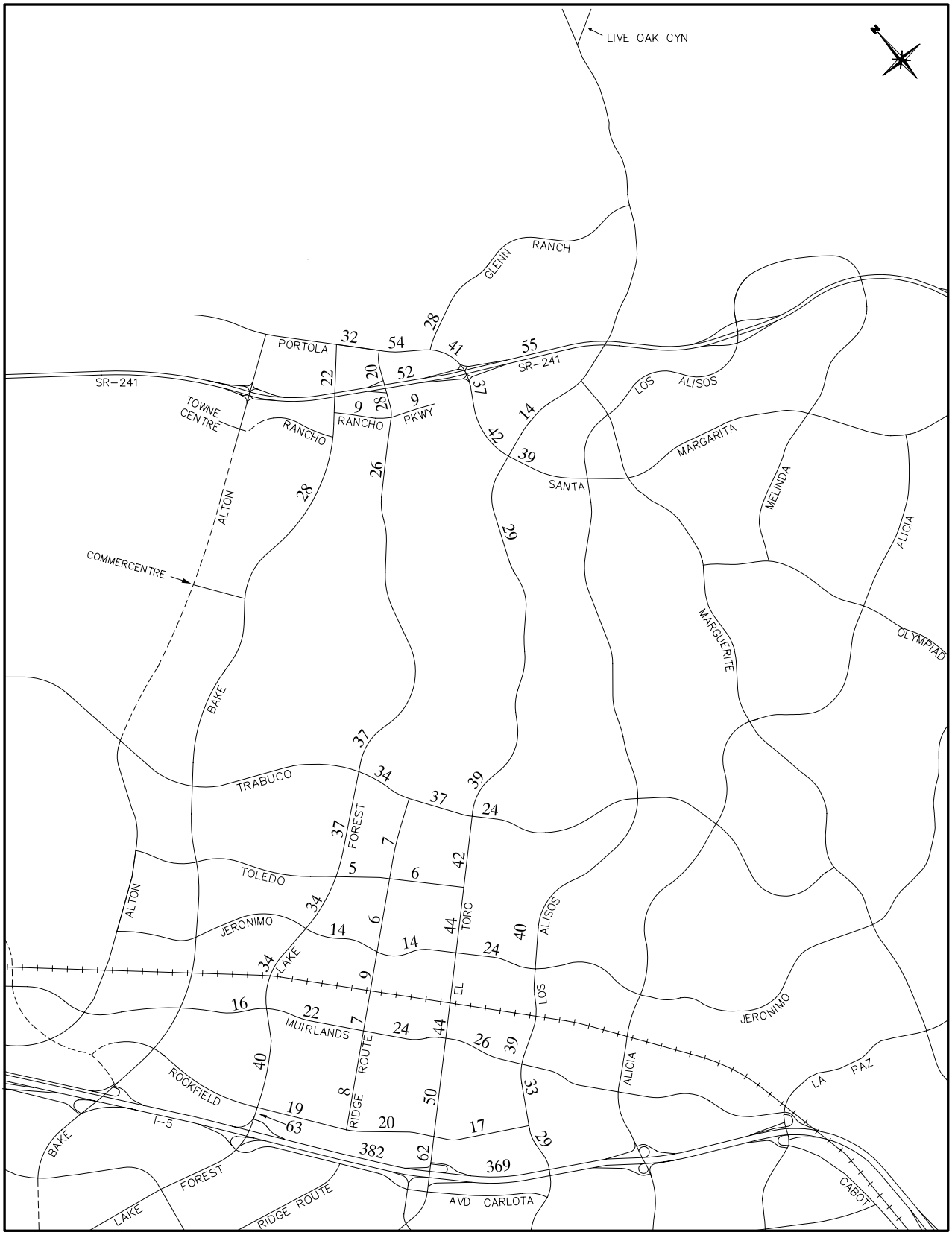
Abbreviations: LOS – level of service
NB – northbound
SB – southbound
V/C – volume/capacity ratio

Table 11

SHORT-TERM (YEAR 2011) FREEWAY/TOLLWAY MAINLINE LOS SUMMARY

Location	Direction	Lanes	Peak Hour Capacity	No-Project						With-Project					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
I-5 n/o Lake Forest	Northbound	8+2H	19,500	15,444	.79	D	11,872	.61	C	15,499	.79	D	11,877	.61	C
	Southbound	8+2H	19,500	11,045	.57	C	15,667	.80	D	11,045	.57	C	15,667	.80	D
I-5 n/o El Toro	Northbound	6+2H	15,500	15,527	1.00	E	11,644	.75	D	15,536	1.00	E	11,644	.75	D
	Southbound	6+2H	15,500	9,993	.64	C	14,182	.91	E	9,993	.64	C	14,188	.92	E
I-5 n/o Alicia	Northbound	4+1H	9,600	14,414	1.50	F	10,957	1.14	F	14,414	1.50	F	10,957	1.14	F
	Southbound	4+1H	9,600	9,255	.96	E	14,264	1.49	F	9,255	.96	E	14,264	1.49	F
SR-241 n/o Lake Forest	Northbound	3	6,000	4,834	.81	D	1,728	.29	A	4,834	.81	D	1,728	.29	A
	Southbound	3	6,000	1,367	.23	A	3,954	.66	C	1,367	.23	A	3,954	.66	C
SR-241 n/o Portola East	Northbound	3	6,000	4,653	.78	D	1,278	.21	A	4,653	.78	D	1,278	.21	A
	Southbound	2	4,000	802	.20	A	3,729	.93	C	818	.21	A	3,729	.93	C
SR-241 n/o Los Alisos	Northbound	3	6,000	4,863	.81	D	1,284	.21	A	4,863	.81	D	1,284	.21	A
	Southbound	2	4,000	800	.20	A	3,974	.99	C	800	.21	A	3,974	.99	C

Abbreviations: H – high-occupancy vehicle lane
LOS – level of service
V/C – volume/capacity ratio

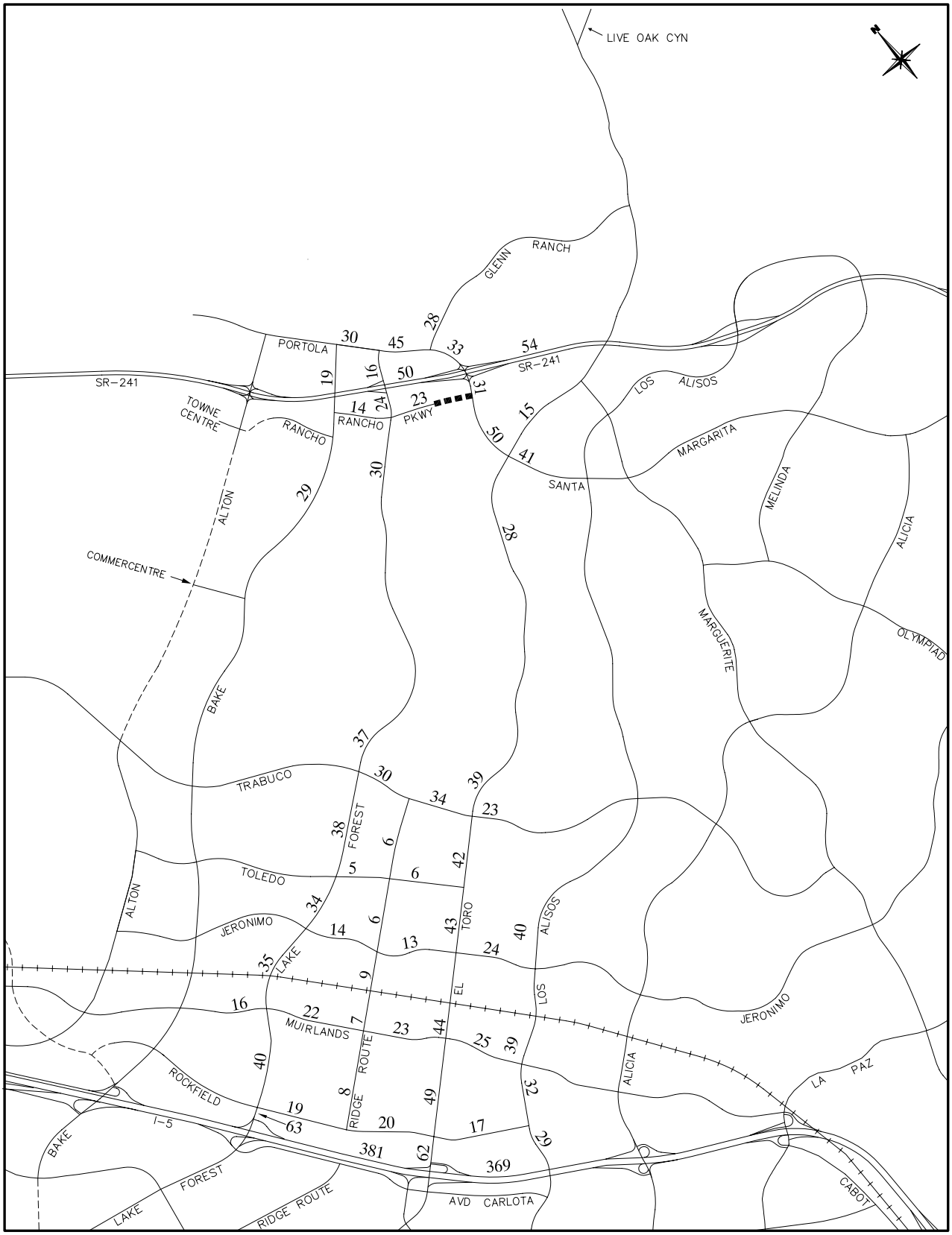


Legend

——— Existing roadway
– – – – Future roadway in by 2015

Figure 22

SHORT-TERM (YEAR 2015 CUMULATIVE)
ADT VOLUMES (000s)
- NO-PROJECT

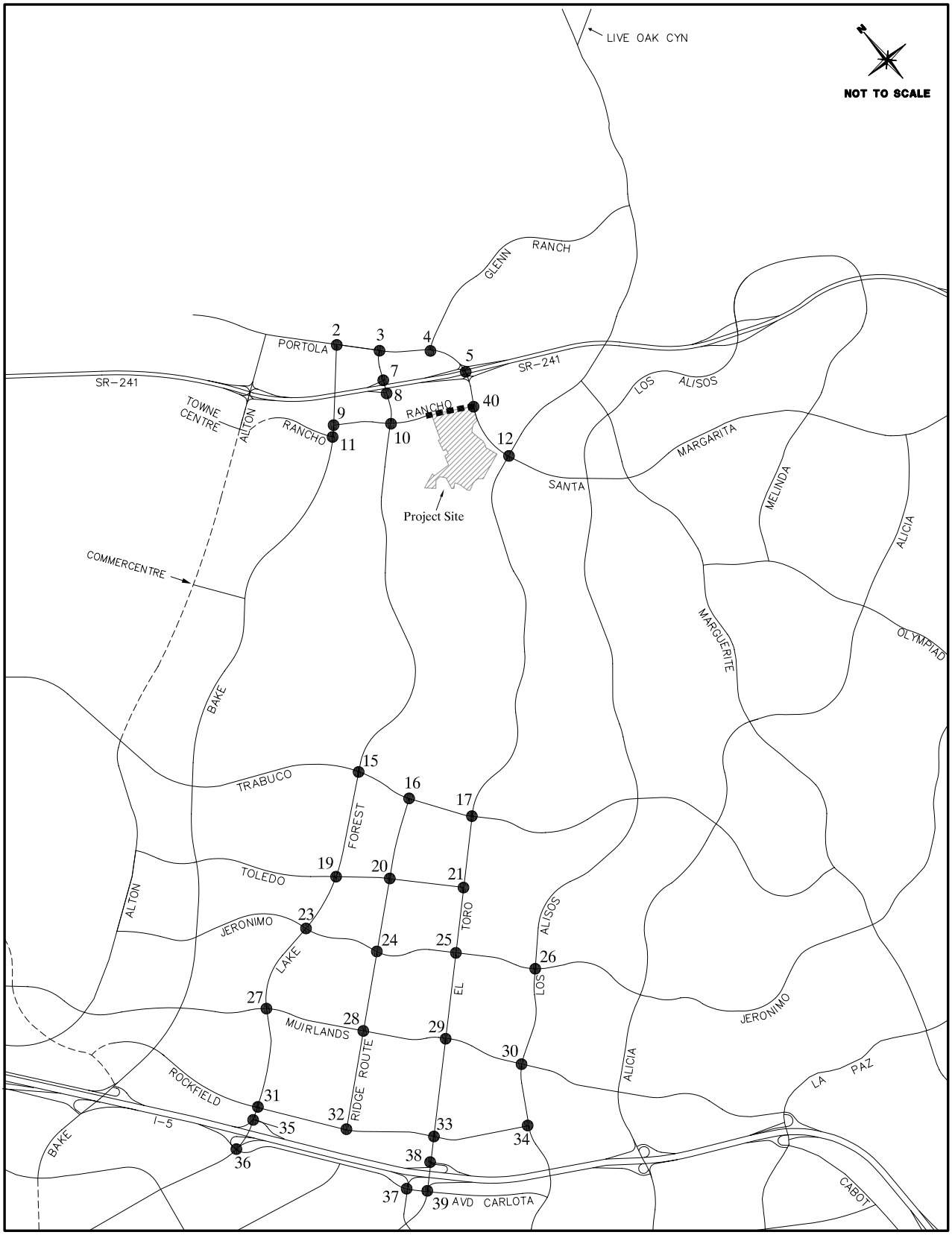


Legend

- Existing roadway
- Future roadway in by 2015
- Future roadway in with-project only

Figure 23

SHORT-TERM (YEAR 2015 CUMULATIVE)
ADT VOLUMES (000s)
- WITH-PROJECT



Legend

X Intersection location

Future roadway in with-project only

Future roadway in by 2015

Figure 24

SHORT-TERM (YEAR 2015 CUMULATIVE)
INTERSECTION LOCATION MAP

Table 12

SHORT-TERM (YEAR 2015 CUMULATIVE) INTERSECTION LOS SUMMARY WITHIN STUDY AREA

	No-Project				With-Project				Difference	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
Intersection	**ICU**	**LOS**	**ICU**	**LOS**	**ICU**	**LOS**	**ICU**	**LOS**	**AM**	**PM**
2. Bake & Portola	.59	A	.82	D	.57	A	.81	D	-.02	-.01
3. Lake Forest & Portola (a)	.60	A	.99	E	.57	A	.78	C	-.03	-.21
4. Glenn Ranch & Portola	.72	C	.69	B	.63	B	.64	B	-.09	-.05
5. Portola & SR-241 Ramps	.55	A	.69	B	.48	A	.64	B	-.07	-.05
7. Lake Forest & SR-241 NB	.38	A	.44	A	.31	A	.38	A	-.07	-.06
8. Lake Forest & SR-241 SB	.50	A	.53	A	.42	A	.45	A	-.08	-.08
9. Bake & Rancho North	.58	A	.73	C	.66	B	.74	C	.08	.01
10. Lake Forest & Rancho (a) (b)	.50	A	.67	B	.61	B	.92	E	.11	.25
11. Bake & Rancho South	.62	B	.66	B	.63	B	.70	B	.01	.04
12. El Toro & Portola/Santa Margarita	.68	B	.81	D	.70	B	.89	D	.02	.08
15. Lake Forest & Trabuco	.78	C	.86	D	.81	D	.84	D	.03	-.02
16. Ridge Route & Trabuco	.52	A	.63	B	.49	A	.61	B	-.03	-.02
17. El Toro & Trabuco	.71	C	.71	C	.66	B	.68	B	-.05	-.03
19. Lake Forest & Toledo	.50	A	.47	A	.50	A	.46	A	.00	-.01
20. Ridge Route & Toledo	.32	A	.34	A	.31	A	.32	A	-.01	-.02
21. El Toro & Toledo	.56	A	.59	A	.57	A	.56	A	.01	-.03
23. Lake Forest & Jeronimo	.69	B	.74	C	.67	B	.74	C	-.02	.00
24. Ridge Route & Jeronimo	.45	A	.58	A	.43	A	.56	A	-.02	-.02
25. El Toro & Jeronimo	.78	C	.79	C	.81	D	.79	C	.03	.00
26. Los Alisos & Jeronimo	.76	C	.88	D	.77	C	.90	D	.01	.02
27. Lake Forest & Muirlands	.65	B	.85	D	.62	B	.86	D	-.03	.01
28. Ridge Route & Muirlands	.49	A	.66	B	.49	A	.66	B	.00	.00
29. El Toro & Muirlands	.64	B	.81	D	.66	B	.79	C	.02	-.02
30. Los Alisos & Muirlands (a)	.89	D	.91	E	.86	D	.91	E	-.03	.00

Table 12 (cont.)
SHORT-TERM (YEAR 2015 CUMULATIVE) INTERSECTION LOS SUMMARY WITHIN STUDY AREA

	No-Project				With-Project				Difference	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
Intersection	**ICU**	**LOS**	**ICU**	**LOS**	**ICU**	**LOS**	**ICU**	**LOS**	**AM**	**PM**
31. Lake Forest & Rockfield	.68	B	.74	C	.68	B	.76	C	.00	.02
32. Ridge Route & Rockfield	.44	A	.57	A	.44	A	.56	A	.00	-.01
33. El Toro & Rockfield	.52	A	.66	B	.52	A	.66	B	.00	.00
34. Los Alisos & Rockfield	.79	C	.81	D	.80	C	.80	C	.01	-.01
35. Lake Forest & I-5 NB	.57	A	.64	B	.57	A	.64	B	.00	.00
36. Lake Forest & I-5/Carlota	.64	B	.81	D	.64	B	.82	D	.00	.01
37. Paseo De Valencia & Carlota	.50	A	.75	C	.49	A	.74	C	-.01	-.01
38. El Toro & Bridger/I-5 NB	.64	B	.67	B	.64	B	.67	B	.00	.00
39. El Toro & Avd Carlota (a)	.61	B	.99	E	.60	A	.99	E	-.01	.00
40. Portola & Rancho	--	--	--	--	.53	A	.66	B	--	--

Abbreviations: ICU – intersection capacity utilization LOS – level of service NB – northbound SB – southbound

(a) This location is forecast to operate deficiently in the AM and/or PM peak hour under no-project and/or with-project conditions (i.e., the forecasted LOS is worse than the adopted LOS performance standard.
(b) Significantly impacted by the proposed project according to the performance criteria.

LOS for with and without project conditions. The ICUs are also illustrated in Figures 25 through 28. Actual turn volumes and ICU calculation worksheets are provided in Appendix C.

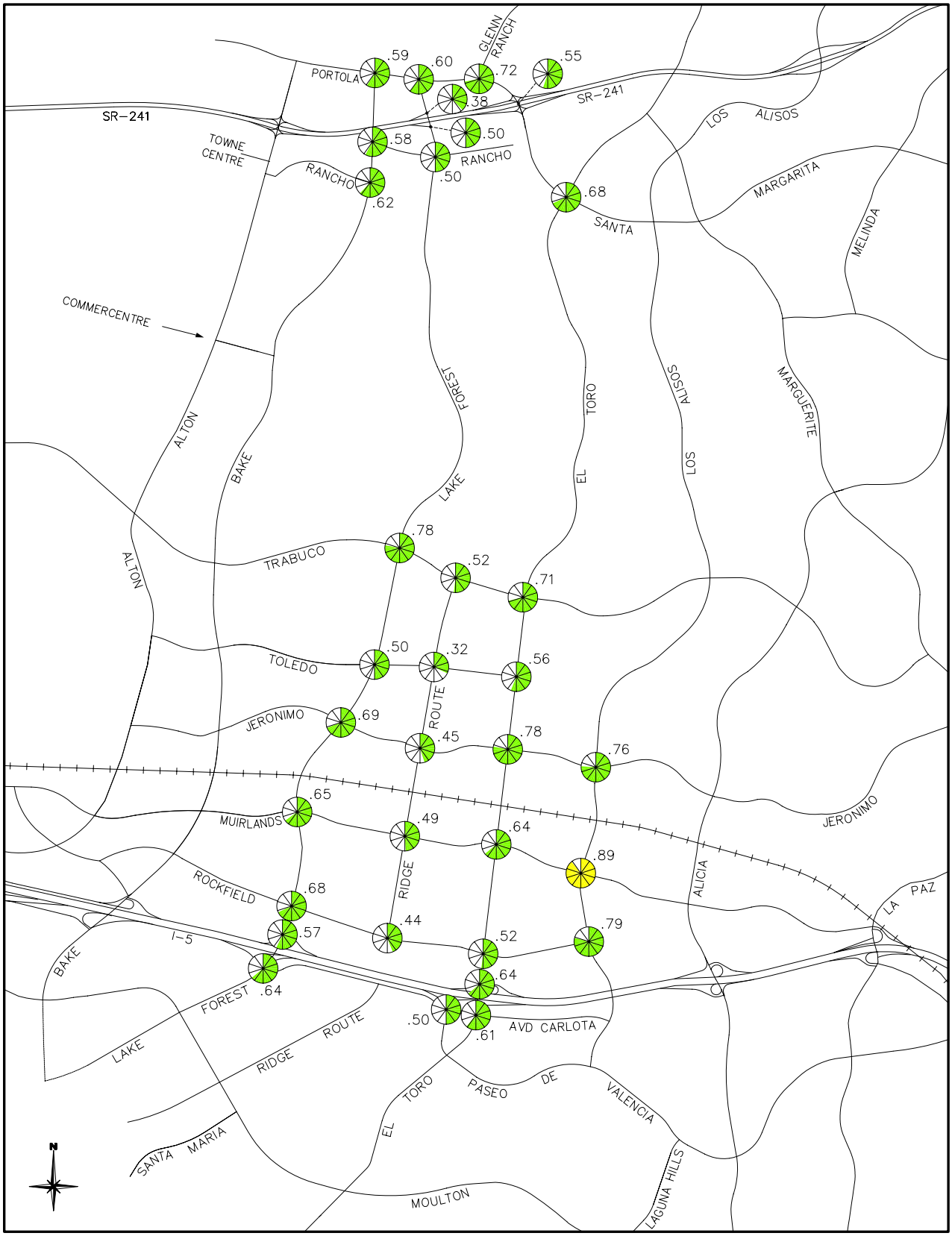
Based on the peak hour intersection performance criteria and impact thresholds established for the analysis, one intersection, Lake Forest Drive and Rancho Parkway, within the study area is significantly impacted by the proposed project land uses under short-term (year 2015 cumulative) conditions (no-project PM peak hour ICU of .67 increases to .92 for with-project).

The LFTM Program is a feature of the OSA Program which provides improvements to 18 intersections potentially impacted by future development of the OSA properties. This program includes improvements at the intersection of Lake Forest Drive and Rancho Parkway which would mitigate the project impact resulting from the Sports Park/Recreation Center project. These improvements are not considered new mitigation; rather they are included in the list of LFTM improvements and are fully funded. The analysis in this report indicates that the improvements should be implemented no later than year 2015. The improvements listed in LFTM for the intersection of Lake Forest Drive and Rancho Parkway exceed what is required to mitigate the impacts of the Sports Park/Recreation Center project. Therefore, the EIR will include a mitigation measure to ensure that the minimum improvements necessary to accommodate the proposed project (a second eastbound through lane on Rancho Parkway) will be constructed no later than year 2015.

It should be noted that three intersections are forecast to operate deficiently in both the no-project and with-project scenarios. Impacts to these intersections are not attributable to the proposed Sports Park/Recreation Center project and will be improved with implementation of the LFTM Program.

Short-Term (Year 2015 Cumulative) Peak Hour Freeway/Tollway Ramp Levels of Service

Figure 29 illustrates the interchange locations where freeway ramps were analyzed based on year short-term (year 2015 cumulative) conditions. Short-term (year 2015 cumulative) AM and PM peak hour ramp volumes and V/C ratios for with and without project are summarized in Table 13. Based on the peak hour ramp performance criteria and impact thresholds established for the analysis, no freeway ramp is forecast to be significantly impacted by the proposed project land uses under short-term (year 2015 cumulative) conditions.

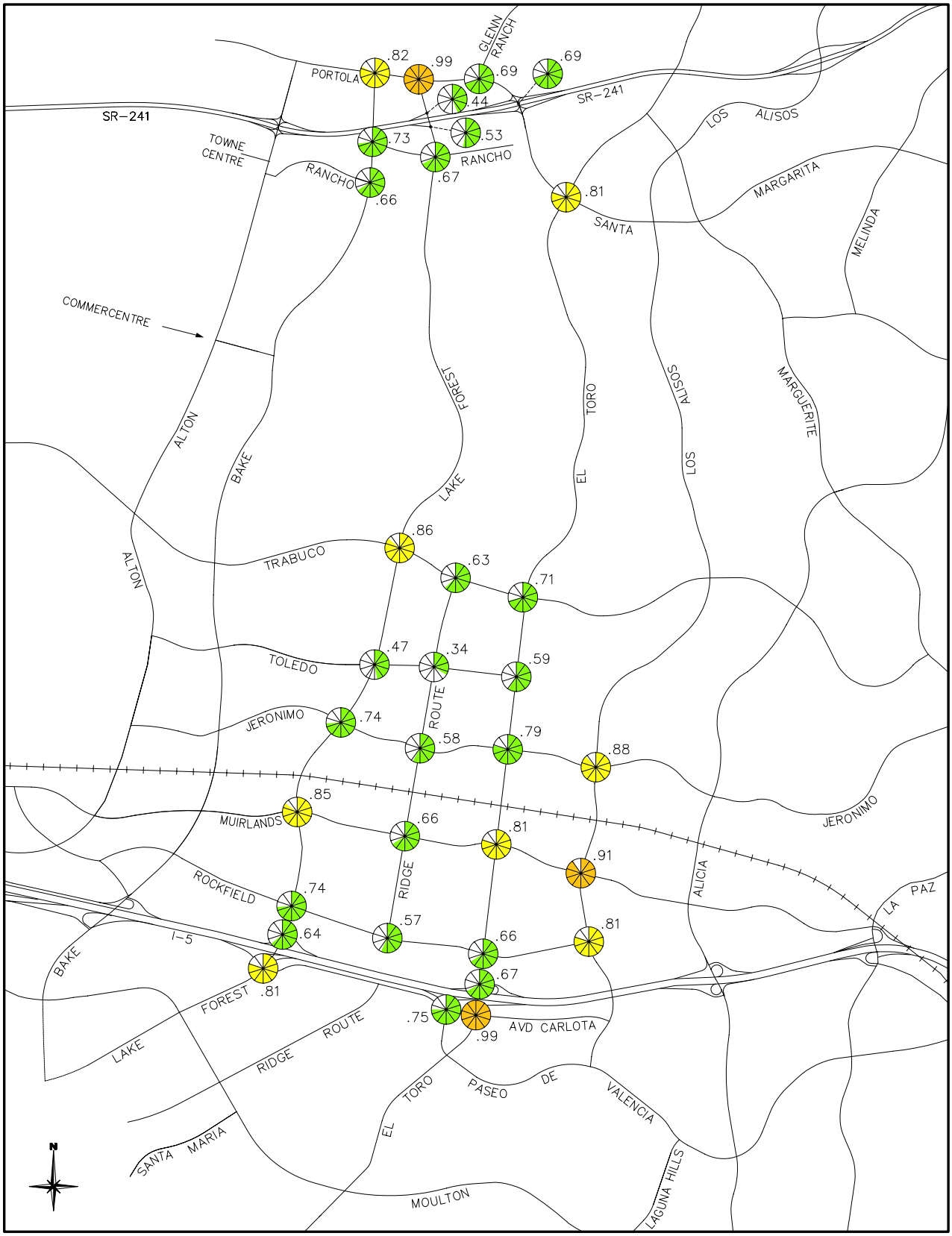


Legend

- LOS A - C (<.80)
- LOS D (<.90)
- LOS E (<1.0)
- LOS F (>1.0)

Figure 25

SHORT-TERM (YEAR 2015 CUMULATIVE)
AM PEAK HOUR ICUs AND LEVEL OF SERVICE
- NO-PROJECT

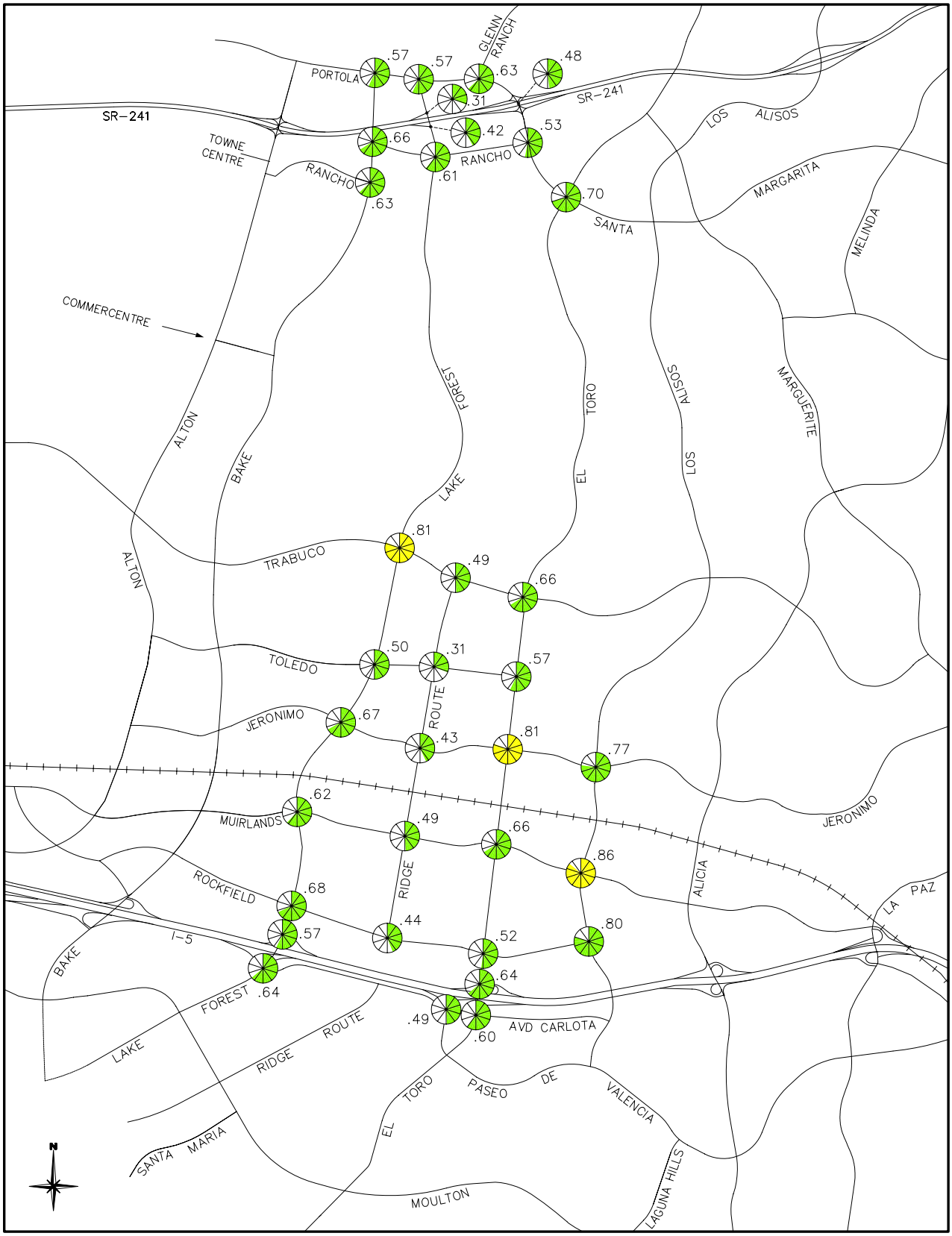


Legend

- LOS A - C (<.80)
- LOS D (<.90)
- LOS E (<1.0)
- LOS F (>1.0)

Figure 26

SHORT-TERM (YEAR 2015 CUMULATIVE)
PM PEAK HOUR ICUs AND LEVEL OF SERVICE
- NO-PROJECT

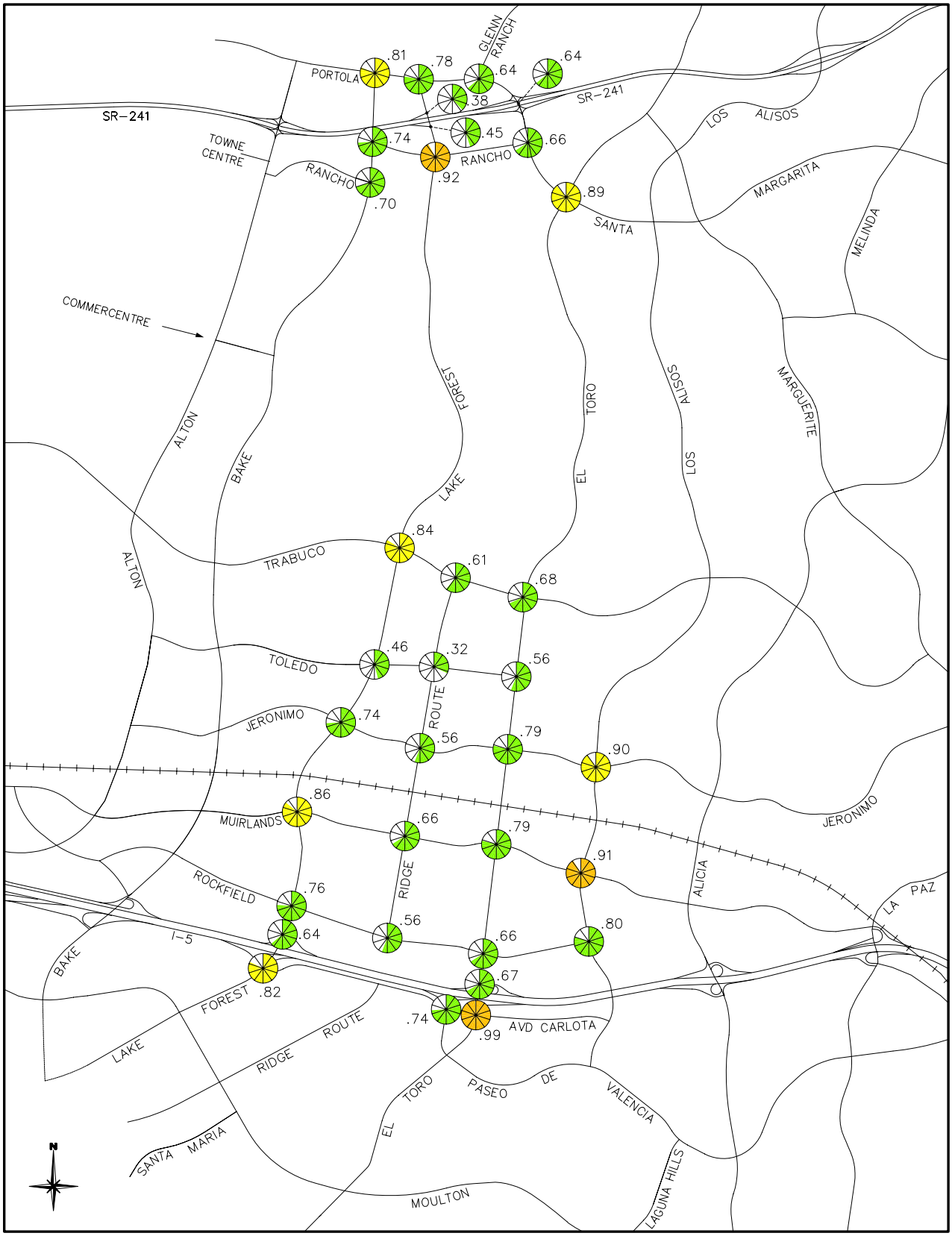


Legend

- LOS A - C (<.80)
- LOS D (<.90)
- LOS E (<1.0)
- LOS F (>1.0)

Figure 27

SHORT-TERM (YEAR 2015 CUMULATIVE)
AM PEAK HOUR ICUs AND LEVEL OF SERVICE
- WITH-PROJECT



Legend

- LOS A - C (<.80)
- LOS D (<.90)
- LOS E (<1.0)
- LOS F (>1.0)

Figure 28

SHORT-TERM (YEAR 2015 CUMULATIVE)
PM PEAK HOUR ICUs AND LEVEL OF SERVICE
- WITH-PROJECT

Legend

- Existing Roadway
- Future roadway in by 2015
- Future roadway in with-project only
- Freeway/tollway ramp interchange location

Figure 29

SHORT-TERM (YEAR 2015 CUMULATIVE)
INTERCHANGE LOCATIONS

Table 13

SHORT-TERM (YEAR 2015 CUMULATIVE) FREEWAY/TOLLWAY RAMP LOS SUMMARY

Interchange	Ramp	Lanes	Peak Hour Capacity	No-Project						With-Project					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
I-5 at Lake Forest	SB Direct On	1	1,500	309	.21	A	920	.61	B	297	.20	A	930	.62	B
	SB Loop On	1	1,080	550	.51	A	570	.53	A	540	.50	A	570	.53	A
	NB On	2	1,800	1,400	.78	C	1,000	.56	A	1,370	.76	C	1,000	.56	A
	SB Off	2	3,000	1,990	.66	B	3,070	1.02	F	1,990	.66	B	3,090	1.03	F
	NB Off	1	1,500	1,160	.77	C	620	.41	A	1,150	.77	C	600	.40	A
I-5 at El Toro	SB Direct On	1	1,080	261	.24	A	538	.50	A	254	.24	A	531	.49	A
	SB Loop On	1	1,500	620	.41	A	1,070	.71	C	600	.40	A	1,060	.71	C
	NB Direct On	1	1,500	1,311	.87	D	1,005	.67	B	1,353	.90	D	998	.67	B
	NB Loop On	1	1,500	910	.61	B	1,120	.75	C	910	.61	B	1,120	.75	C
	SB Off	2	3,000	1,520	.51	A	1,510	.50	A	1,540	.51	A	1,470	.49	A
	NB Off	1	1,500	1,150	.77	C	1,150	.77	C	1,140	.76	C	1,160	.77	C
SR-241 at Lake Forest	NB On	2	2,250	200	.09	A	590	.26	A	230	.10	A	600	.27	A
	SB Off	1	1,500	560	.37	A	310	.21	A	570	.38	A	320	.21	A
SR-241 at Portola (East)	SB On	1	1,500	280	.19	A	980	.65	B	250	.17	A	1,070	.71	C
	NB On	2	2,250	900	.40	A	390	.17	A	810	.36	A	370	.16	A
	SB Off	1	1,500	380	.25	A	670	.45	A	360	.24	A	600	.40	A
	NB Off	2	2,250	1,660	.74	C	390	.17	A	1,670	.74	C	400	.18	A

Abbreviations: LOS – level of service
NB – northbound
SB – southbound
V/C – volume/capacity ratio

Short-Term (Year 2015 Cumulative) Peak Hour Freeway/Tollway Mainline Levels of Service

Short-term (year 2015 cumulative) with-project AM and PM freeway mainline peak hour volumes and V/C ratios for with and without project are summarized in Table 14. Based on the peak hour mainline performance criteria and impact thresholds established for the analysis, no freeway mainline segment is forecast to be significantly impacted by the proposed project land uses under year short-term (year 2015 cumulative) conditions (i.e., the project does not cause LOS "F" conditions or contributes more than a .03 V/C to an already deficient LOS "F" condition). It should be noted that the LOS thresholds and significance criteria used here are from the CMP and do not necessarily represent Caltrans policy.

SPECIAL ISSUES

This section includes a preliminary analysis of the signalization needs for the major entrance to the sports park proposed on the planned extension of Rancho Parkway to Portola Parkway. It is considered preliminary since detailed site planning for the sports park has yet to be completed at this time.

Traffic signal warrants based on peak hour volumes as adopted by the Federal Highway Administration and Caltrans were used here to determine the need for signalization. In applying this warrant, the volumes of both the major and minor street must meet or exceed those shown on the curves in Figure 30 for conditions when the speed on the major street is 40 (mph) or higher which is expected to be experienced by Rancho Parkway.

Determining the major street approach for the signal warrant involves calculating the number of vehicles approaching the intersection on both major street legs. The highest total volume for either the continuous east and west approach or the north and south approach during either AM and PM is determined to be the major street approach for both peak hours. The minor street peak hour signal warrant volume is the number of peak hour vehicles approaching the intersection on only the highest volume leg. The highest volume for either the AM or PM determines the minor approach for both peak hours.

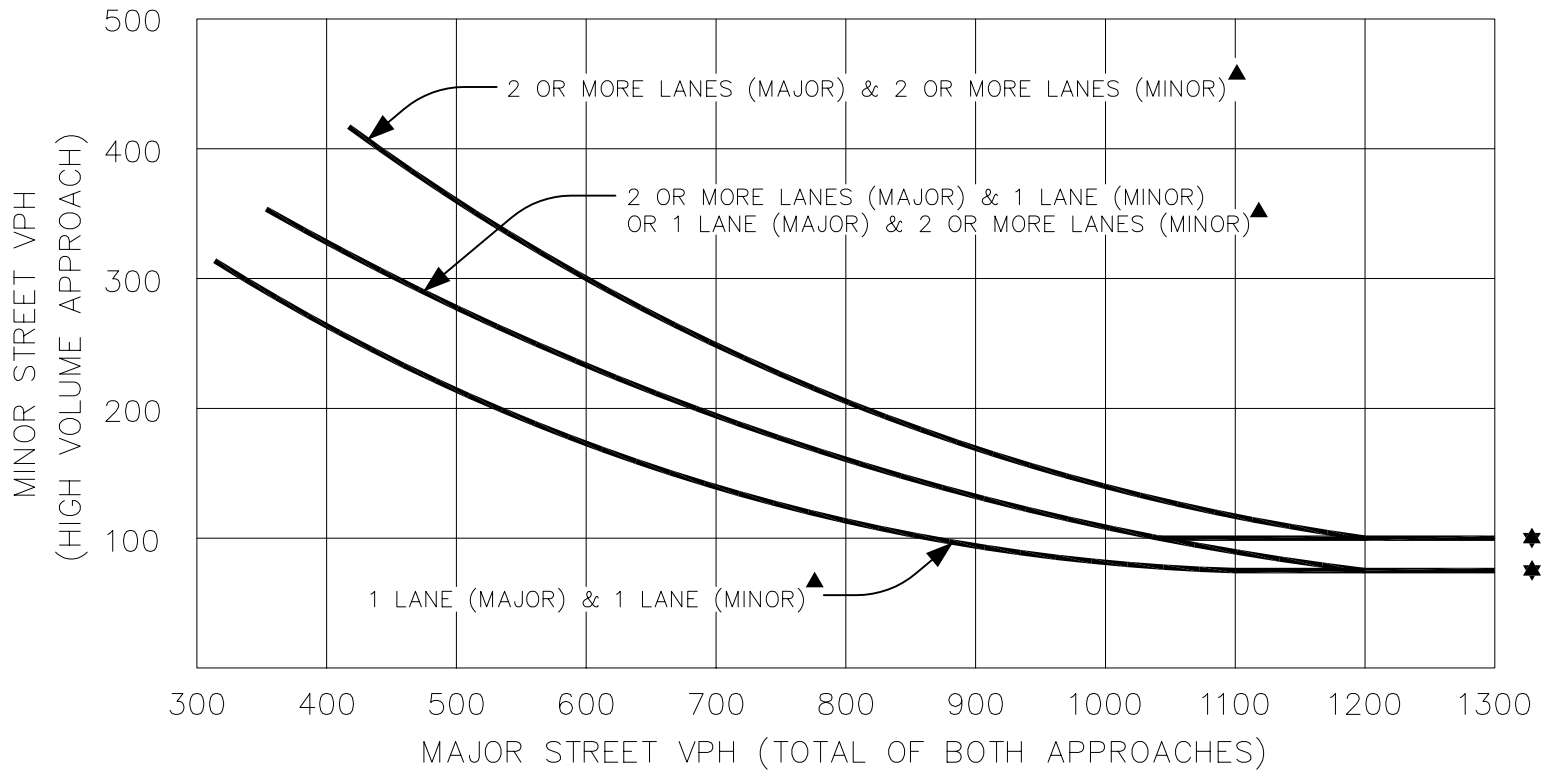
The signal warrant analysis has been carried out for the intersection of the main entrance to the proposed sports park on Rancho Parkway. Since the worst-case volume on the major street (Rancho

Table 14

SHORT-TERM (YEAR 2015 CUMULATIVE) FREEWAY/TOLLWAY MAINLINE LOS SUMMARY

Location	Direction	Lanes	Peak Hour Capacity	No-Project						With-Project					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
I-5 n/o Lake Forest	Northbound	8+2H	19,500	15,508	.80	D	12,651	.65	C	15,508	.80	D	12,682	.65	C
	Southbound	8+2H	19,500	11,806	.61	C	15,990	.82	D	11,844	.61	C	15,996	.82	D
I-5 n/o El Toro	Northbound	6+2H	15,500	15,527	1.00	E	12,269	.79	D	15,553	1.00	E	12,275	.79	D
	Southbound	6+2H	15,500	10,546	.68	C	14,546	.94	E	10,559	.68	C	14,546	.94	E
I-5 n/o Alicia	Northbound	4+1H	9,600	14,414	1.50	F	11,439	1.19	F	14,414	1.50	F	11,454	1.19	F
	Southbound	4+1H	9,600	9,661	1.01	F	14,370	1.50	F	9,661	1.01	F	14,370	1.50	F
SR-241 n/o Lake Forest	Northbound	3	6,000	5,079	.85	D	2,419	.40	B	5,079	.85	D	2,419	.40	B
	Southbound	3	6,000	2,027	.34	B	4,522	.75	D	2,027	.34	B	4,533	.76	D
SR-241 n/o Portola East	Northbound	3	6,000	4,957	.83	D	1,836	.31	B	4,957	.83	D	1,836	.31	B
	Southbound	3	6,000	1,387	.23	A	4,265	.71	C	1,387	.23	A	4,265	.71	C
SR-241 n/o Los Alisos	Northbound	3	6,000	4,863	.81	D	1,636	.27	A	4,863	.81	D	1,636	.27	A
	Southbound	3	6,000	1,195	.20	A	4,022	.67	C	1,195	.20	A	4,022	.67	C

Abbreviations: H – high-occupancy vehicle lane
LOS – level of service
V/C – volume/capacity ratio



▲ NOTE: THESE CURVES ARE RECOMMENDED FOR USE IN AREAS WHERE THE POSTED SPEED LIMIT ON THE MAJOR STREET IS 40 MPH OR HIGHER.

▲

✸ NOTE: 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES, AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

Figure 30

PEAK HOUR SIGNAL WARRANTS
(HIGHER SPEEDS)

Parkway) is forecast to be over 1,500 vehicles in the PM peak hour under year 2015 cumulative with-project conditions, only a minimum volume of 75 vehicles on the minor street (proposed project access driveway) is required to determine if signal warrants are met. This indicates that of the total forecast volume in the PM peak hour of 503 only 15 percent of vehicles arriving and leaving the sports park would meet signal warrants. It is likely that this will occur and based on the application of the warrant, traffic signals should be installed at the proposed access intersection at Rancho Parkway under year 2015 cumulative with-project conditions. However, signals typically are not installed until warrants are met.

FINDINGS AND CONCLUSIONS

The proposed project involves the development of a sports park and recreation center oriented toward youth, adult, and senior recreation activities. The development of the proposed project has relatively modest impacts on the surrounding street system during the AM and PM peak hours. The results of the analysis presented here indicate that the proposed project does not adversely impact any locations with the exception of Lake Forest Drive and Rancho Parkway in year 2015 cumulative in the PM peak hour. The improvements for this location are included in the LFTM Program and according to the analysis presented in this report their implementation would be required sooner than later. These improvements are needed as well as the Rancho Parkway extension to Portola Parkway and new intersection to accommodate the proposed project.

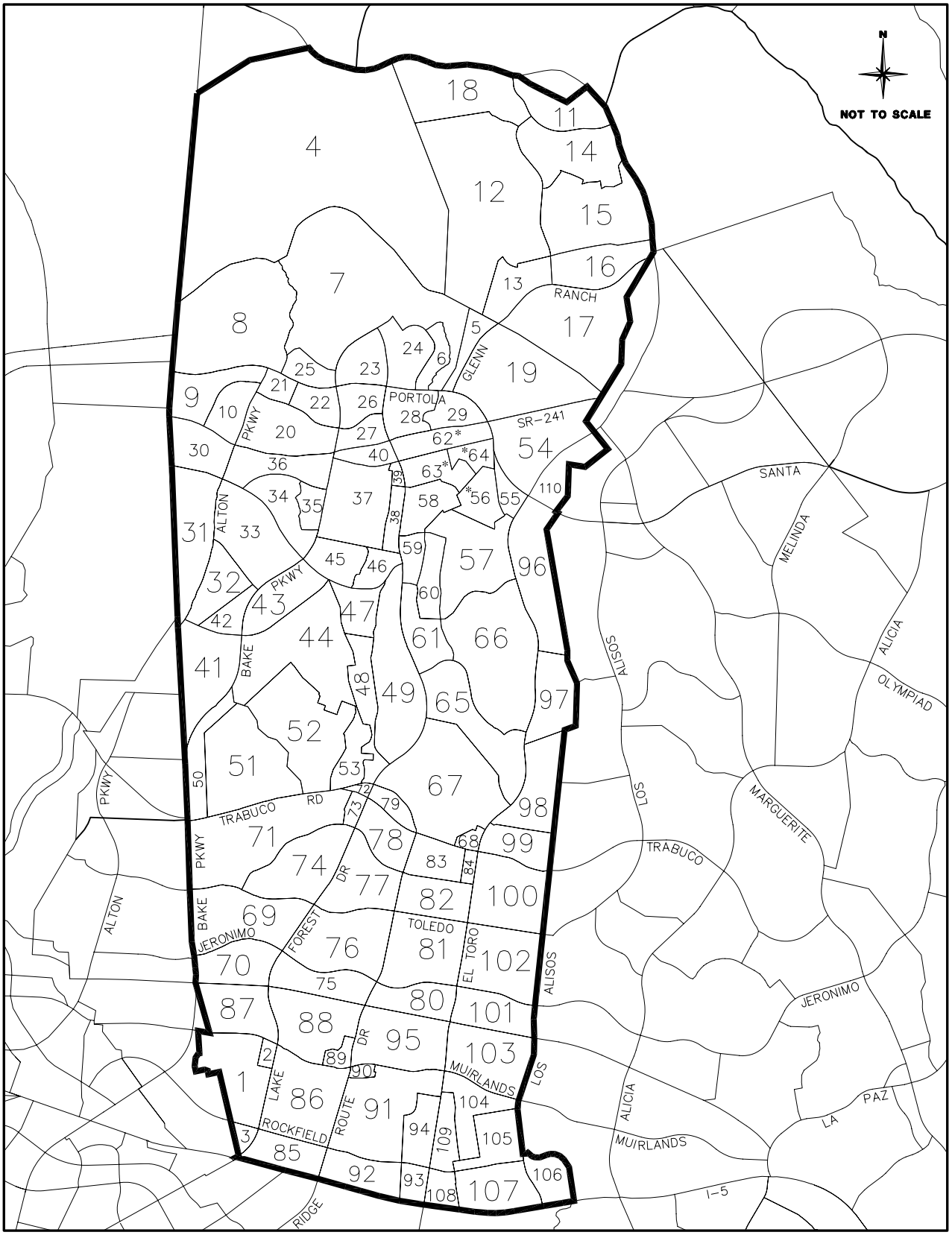
REFERENCES

1. "City of Lake Forest Vacant Land Opportunities Phase III Traffic Study," Austin-Foust Associates, Inc., July 8, 2005.

2. "City of Lake Forest Vacant Land Opportunities Phase III Alternative 7 (Hybrid Alternative) Traffic Study," Austin-Foust Associates, Inc., November 7, 2007 (Approved by Lake Forest City Council on June 3, 2008).

3. "City of Lake Forest Vacant Land Opportunities Phase III Alternative 8 Traffic Study," Austin-Foust Associates, Inc., September 2009.

Appendix A
Land Use and Trip Generation



Legend

City of Lake Forest boundary

* Zones affected by project

Figure A-1

LAKE FOREST TRAFFIC ANALYSIS MODEL (LFTAM) ZONE SYSTEM - CITY OF LAKE FOREST

Table A-1

SHORT-TERM (YEAR 2011 AND YEAR 2015 CUMULATIVE) AFFECTED ZONES LAND USE AND TRIP GENERATION COMPARISON

Zone	Land Use Category	Units	----No-Project---- Amount	ADT	---With-Project--- Amount	ADT	--- Difference --- Amount	ADT
56	36 Park	Acre	58.60	93	20.60	33	-38.00	-60
	46 Sports Park	Acre	--	--	38.00	2,044	38.00	2,044
	SUB-TOTAL			93		2,077		1,984
63	42 Business Park	TSF	435.72	5,560	435.72	5,560	0.00	0
	46 Sports Park	Acre	--	--	13.00	699	13.00	699
	47 Vacant	ACRE	13.20	0	--	--	-13.20	0
	SUB-TOTAL			5,560		6,259		699
64	41 Mining/Utility	Acre	16.10	401	--	--	-16.10	-401
	46 Sports Park	Acre	--	--	16.10	866	16.10	866
	SUB-TOTAL			401		866		465
TOTAL	36 Park	Acre	58.60	93	20.60	33	-38.00	-60
	41 Mining/Utility	Acre	16.10	401	--	--	-16.10	-401
	42 Business Park	TSF	435.72	5,560	435.72	5,560	0.00	0
	46 Sports Park	Acre	--	--	67.10	3,609	67.10	3,609
	47 Vacant	ACRE	13.20	0	--	--	-13.20	0
	TOTAL			6,054		9,202		3,148

Table A-2

SHORT-TERM (YEAR 2011 AND YEAR 2015 CUMULATIVE) AFFECTED ZONES ZONAL LAND USE AND TRIP GENERATION

Zone	Land Use Type	Units	-- AM Peak Hour -- In	Out	Total	-- PM Peak Hour -- In	Out	Total	ADT
NO-PROJECT									
56	36 Park	58.60 Acre	1	0	1	1	1	2	93
	SUB-TOTAL		1	0	1	1	1	2	93
63	42 Business Park	435.72 TSF	523	100	623	131	431	562	5560
	47 Vacant	13.20 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		523	100	623	131	431	562	5560
64	41 Mining/Utility	16.10 Acre	25	15	40	9	12	21	401
	SUB-TOTAL		25	15	40	9	12	21	401
TOTAL (NO-PROJECT)									
36 Park		58.60 Acre	1	0	1	1	1	2	93
41 Mining/Utility		16.10 Acre	25	15	40	9	12	21	401
42 Business Park		435.72 TSF	523	100	623	131	431	562	5560
47 Vacant		13.20 ACRE	0	0	0	0	0	0	0
TOTAL (NO-PROJECT)			549	115	664	141	444	585	6054
WITH-PROJECT									
56	36 Park	20.60 Acre	0	0	0	0	0	0	33
	46 Sports Park	38.00 Acre	0	0	0	129	156	285	2044
	SUB-TOTAL		0	0	0	129	156	285	2077
63	42 Business Park	435.72 TSF	523	100	623	131	431	562	5560
	46 Sports Park	13.00 Acre	0	0	0	44	53	97	699
	SUB-TOTAL		523	100	623	175	484	659	6259
64	46 Sports Park	16.10 Acre	0	0	0	55	66	121	866
	SUB-TOTAL		0	0	0	55	66	121	866
TOTAL (WITH-PROJECT)									
36 Park		20.60 Acre	0	0	0	0	0	0	33
42 Business Park		435.72 TSF	523	100	623	131	431	562	5560
46 Sports Park		67.10 Acre	0	0	0	228	275	503	3609
TOTAL (WITH-PROJECT)			523	100	623	359	706	1065	9202
DIFFERENCE			-26	-15	-41	218	262	480	3148
TRIP RATES									
36 Park		Acre	.01	.00	.01	.02	.02	.04	1.59
41 Mining/Utility		Acre	1.57	.92	2.49	.59	.73	1.32	24.90
42 Business Park		TSF	1.20	.23	1.43	.30	.99	1.29	12.76
46 Sports Park		Acre	.01	.00	.01	3.40	4.10	7.50	53.80
47 Vacant		ACRE	.00	.00	.00	.00	.00	.00	.00

Appendix B
Santa Margarita Parkway Count Sheets

TRAFFIC DATA SERVICES, INC. LOCATION CODE 07908.001

LOCATION - SANTA MARGARITA PKWY-BTN EL TORO/LOS ALISOS BLVD VOLUMES FOR - TUESDAY 8/4/09

AM							PM						
TIME	EB		WB		TOTAL		TIME	EB		WB		TOTAL	
12:00 - 12:15	44		26		70		12:00 - 12:15	-		-		-	
12:15 - 12:30	43		26		69		12:15 - 12:30	-		-		-	
12:30 - 12:45	26		22		48		12:30 - 12:45	-		-		-	
12:45 - 1:00	25	138	21	95	46	233	12:45 - 1:00	-	-	-	-	-	-
1:00 - 1:15	35		14		49		1:00 - 1:15	-		-		-	
1:15 - 1:30	21		16		37		1:15 - 1:30	-		-		-	
1:30 - 1:45	15		7		22		1:30 - 1:45	-		-		-	
1:45 - 2:00	13	84	14	51	27	135	1:45 - 2:00	-	-	-	-	-	-
2:00 - 2:15	15		7		22		2:00 - 2:15	-		-		-	
2:15 - 2:30	12		8		20		2:15 - 2:30	-		-		-	
2:30 - 2:45	6		8		14		2:30 - 2:45	-		-		-	
2:45 - 3:00	7	40	10	33	17	73	2:45 - 3:00	-	-	-	-	-	-
3:00 - 3:15	10		10		20		3:00 - 3:15	-		-		-	
3:15 - 3:30	14		12		26		3:15 - 3:30	-		-		-	
3:30 - 3:45	5		20		25		3:30 - 3:45	-		-		-	
3:45 - 4:00	12	41	18	60	30	101	3:45 - 4:00	-	-	-	-	-	-
4:00 - 4:15	8		13		21		4:00 - 4:15	-		-		-	
4:15 - 4:30	10		17		27		4:15 - 4:30	-		-		-	
4:30 - 4:45	12		42		54		4:30 - 4:45	-		-		-	
4:45 - 5:00	20	50	50	122	70	172	4:45 - 5:00	-	-	-	-	-	-
5:00 - 5:15	26		64		90		5:00 - 5:15	-		-		-	
5:15 - 5:30	25		66		91		5:15 - 5:30	-		-		-	
5:30 - 5:45	34		101		135		5:30 - 5:45	-		-		-	
5:45 - 6:00	50	135	128	359	178	494	5:45 - 6:00	-	-	-	-	-	-
6:00 - 6:15	52		130		182		6:00 - 6:15	-		-		-	
6:15 - 6:30	56		150		206		6:15 - 6:30	-		-		-	
6:30 - 6:45	80		224		304		6:30 - 6:45	-		-		-	
6:45 - 7:00	100	288	260	764	360	1052	6:45 - 7:00	-	-	-	-	-	-
7:00 - 7:15	90		298		388		7:00 - 7:15	-		-		-	
7:15 - 7:30	118		367		485		7:15 - 7:30	-		-		-	
7:30 - 7:45	124		329		453		7:30 - 7:45	-		-		-	
7:45 - 8:00	159	491	389	1383	548	1874	7:45 - 8:00	-	-	-	-	-	-
8:00 - 8:15	150		331		481		8:00 - 8:15	-		-		-	
8:15 - 8:30	133		371		504		8:15 - 8:30	-		-		-	
8:30 - 8:45	132		334		466		8:30 - 8:45	-		-		-	
8:45 - 9:00	182	597	327	1363	509	1960	8:45 - 9:00	-	-	-	-	-	-
9:00 - 9:15	184		303		487		9:00 - 9:15	-		-		-	
9:15 - 9:30	120		284		404		9:15 - 9:30	-		-		-	
9:30 - 9:45	134		272		406		9:30 - 9:45	-		-		-	
9:45 - 10:00	146	584	238	1097	384	1681	9:45 - 10:00	-	-	-	-	-	-
10:00 - 10:15	-		-		-		10:00 - 10:15	-		-		-	
10:15 - 10:30	-		-		-		10:15 - 10:30	-		-		-	
10:30 - 10:45	-		-		-		10:30 - 10:45	-		-		-	
10:45 - 11:00	-	-	-	-	-	-	10:45 - 11:00	-	-	-	-	-	-
11:00 - 11:15	-		-		-		11:00 - 11:15	-		-		-	
11:15 - 11:30	-		-		-		11:15 - 11:30	-		-		-	
11:30 - 11:45	-		-		-		11:30 - 11:45	-		-		-	
11:45 - 12:00	-	-	-	-	-	-	11:45 - 12:00	-	-	-	-	-	-
TOTALS	2,448		5,327		7,775			-		-		-	
ADT'S								2,448		5,327		7,775	

TRAFFIC DATA SERVICES, INC. LOCATION CODE 07908.001

LOCATION - SANTA MARGARITA PKWY-BTN EL TORO/LOS ALISOS BLVD VOLUMES FOR - THURSDAY 7/30/09

AM								PM							
TIME	EB		WB		TOTAL			TIME	EB		WB		TOTAL		
12:00 - 12:15	-		-		-			12:00 - 12:15	294		262		556		
12:15 - 12:30	-		-		-			12:15 - 12:30	256		330		586		
12:30 - 12:45	-		-		-			12:30 - 12:45	279		258		537		
12:45 - 1:00	-	-	-	-	-	-		12:45 - 1:00	357	1186	258	1108	615	2294	
1:00 - 1:15	-		-		-			1:00 - 1:15	298		253		551		
1:15 - 1:30	-		-		-			1:15 - 1:30	267		244		511		
1:30 - 1:45	-		-		-			1:30 - 1:45	228		243		471		
1:45 - 2:00	-	-	-	-	-	-		1:45 - 2:00	246	1039	256	996	502	2035	
2:00 - 2:15	-		-		-			2:00 - 2:15	250		248		498		
2:15 - 2:30	-		-		-			2:15 - 2:30	242		239		481		
2:30 - 2:45	-		-		-			2:30 - 2:45	266		275		541		
2:45 - 3:00	-	-	-	-	-	-		2:45 - 3:00	244	1002	226	988	470	1990	
3:00 - 3:15	-		-		-			3:00 - 3:15	236		218		454		
3:15 - 3:30	-		-		-			3:15 - 3:30	300		225		525		
3:30 - 3:45	-		-		-			3:30 - 3:45	308		218		526		
3:45 - 4:00	-	-	-	-	-	-		3:45 - 4:00	336	1180	220	881	556	2061	
4:00 - 4:15	-		-		-			4:00 - 4:15	316		226		542		
4:15 - 4:30	-		-		-			4:15 - 4:30	336		254		590		
4:30 - 4:45	-		-		-			4:30 - 4:45	396		249		645		
4:45 - 5:00	-	-	-	-	-	-		4:45 - 5:00	364	1412	224	953	588	2365	
5:00 - 5:15	-		-		-			5:00 - 5:15	400		222		622		
5:15 - 5:30	-		-		-			5:15 - 5:30	489		255		744		
5:30 - 5:45	-		-		-			5:30 - 5:45	462		250		712		
5:45 - 6:00	-	-	-	-	-	-		5:45 - 6:00	412	1763	267	994	679	2757	
6:00 - 6:15	-		-		-			6:00 - 6:15	442		257		699		
6:15 - 6:30	-		-		-			6:15 - 6:30	360		248		608		
6:30 - 6:45	-		-		-			6:30 - 6:45	390		234		624		
6:45 - 7:00	-	-	-	-	-	-		6:45 - 7:00	315	1507	244	983	559	2490	
7:00 - 7:15	-		-		-			7:00 - 7:15	278		248		526		
7:15 - 7:30	-		-		-			7:15 - 7:30	290		230		520		
7:30 - 7:45	-		-		-			7:30 - 7:45	296		214		510		
7:45 - 8:00	-	-	-	-	-	-		7:45 - 8:00	225	1089	220	912	445	2001	
8:00 - 8:15	-		-		-			8:00 - 8:15	220		200		420		
8:15 - 8:30	-		-		-			8:15 - 8:30	231		176		407		
8:30 - 8:45	-		-		-			8:30 - 8:45	214		166		380		
8:45 - 9:00	-	-	-	-	-	-		8:45 - 9:00	193	858	142	684	335	1542	
9:00 - 9:15	-		-		-			9:00 - 9:15	193		144		337		
9:15 - 9:30	-		-		-			9:15 - 9:30	216		134		350		
9:30 - 9:45	-		-		-			9:30 - 9:45	236		114		350		
9:45 - 10:00	-	-	-	-	-	-		9:45 - 10:00	164	809	116	508	280	1317	
10:00 - 10:15	168		210		378			10:00 - 10:15	156		84		240		
10:15 - 10:30	168		190		358			10:15 - 10:30	140		84		224		
10:30 - 10:45	164		202		366			10:30 - 10:45	125		72		197		
10:45 - 11:00	166	666	212	814	378	1480		10:45 - 11:00	108	529	69	309	177	838	
11:00 - 11:15	161		217		378			11:00 - 11:15	92		65		157		
11:15 - 11:30	191		240		431			11:15 - 11:30	96		48		144		
11:30 - 11:45	206		250		456			11:30 - 11:45	76		39		115		
11:45 - 12:00	209	767	266	973	475	1740		11:45 - 12:00	56	320	21	173	77	493	
TOTALS		1,433		1,787		3,220				12,694		9,489		22,183	
ADT'S										14,127		11,276		25,403	

TRAFFIC DATA SERVICES, INC. LOCATION CODE 07908.001

LOCATION - SANTA MARGARITA PKWY-BTN EL TORO/LOS ALISOS BLVD VOLUMES FOR - FRIDAY 7/31/09

AM								PM							
TIME	EB		WB		TOTAL			TIME	EB		WB		TOTAL		
12:00 - 12:15	50		39		89			12:00 - 12:15	234		262		496		
12:15 - 12:30	38		20		58			12:15 - 12:30	270		315		585		
12:30 - 12:45	41		24		65			12:30 - 12:45	238		281		519		
12:45 - 1:00	26	155	16	99	42	254		12:45 - 1:00	362	1104	290	1148	652	2252	
1:00 - 1:15	36		31		67			1:00 - 1:15	283		294		577		
1:15 - 1:30	36		19		55			1:15 - 1:30	250		263		513		
1:30 - 1:45	24		14		38			1:30 - 1:45	260		258		518		
1:45 - 2:00	17	113	9	73	26	186		1:45 - 2:00	238	1031	227	1042	465	2073	
2:00 - 2:15	22		16		38			2:00 - 2:15	270		272		542		
2:15 - 2:30	10		10		20			2:15 - 2:30	268		253		521		
2:30 - 2:45	20		10		30			2:30 - 2:45	276		259		535		
2:45 - 3:00	19	71	7	43	26	114		2:45 - 3:00	282	1096	244	1028	526	2124	
3:00 - 3:15	24		14		38			3:00 - 3:15	293		238		531		
3:15 - 3:30	12		10		22			3:15 - 3:30	286		244		530		
3:30 - 3:45	11		14		25			3:30 - 3:45	324		240		564		
3:45 - 4:00	16	63	10	48	26	111		3:45 - 4:00	341	1244	190	912	531	2156	
4:00 - 4:15	4		19		23			4:00 - 4:15	362		284		646		
4:15 - 4:30	12		20		32			4:15 - 4:30	357		247		604		
4:30 - 4:45	20		20		40			4:30 - 4:45	382		250		632		
4:45 - 5:00	18	54	52	111	70	165		4:45 - 5:00	420	1521	242	1023	662	2544	
5:00 - 5:15	22		43		65			5:00 - 5:15	439		259		698		
5:15 - 5:30	28		62		90			5:15 - 5:30	463		290		753		
5:30 - 5:45	44		92		136			5:30 - 5:45	480		270		750		
5:45 - 6:00	50	144	114	311	164	455		5:45 - 6:00	444	1826	236	1055	680	2881	
6:00 - 6:15	54		120		174			6:00 - 6:15	400		263		663		
6:15 - 6:30	60		140		200			6:15 - 6:30	334		272		606		
6:30 - 6:45	88		206		294			6:30 - 6:45	342		274		616		
6:45 - 7:00	105	307	237	703	342	1010		6:45 - 7:00	304	1380	238	1047	542	2427	
7:00 - 7:15	124		262		386			7:00 - 7:15	280		258		538		
7:15 - 7:30	130		335		465			7:15 - 7:30	280		200		480		
7:30 - 7:45	136		318		454			7:30 - 7:45	224		232		456		
7:45 - 8:00	162	552	390	1305	552	1857		7:45 - 8:00	243	1027	202	892	445	1919	
8:00 - 8:15	154		358		512			8:00 - 8:15	218		208		426		
8:15 - 8:30	156		399		555			8:15 - 8:30	209		196		405		
8:30 - 8:45	158		380		538			8:30 - 8:45	227		170		397		
8:45 - 9:00	194	662	331	1468	525	2130		8:45 - 9:00	227	881	142	716	369	1597	
9:00 - 9:15	213		249		462			9:00 - 9:15	164		142		306		
9:15 - 9:30	152		272		424			9:15 - 9:30	197		138		335		
9:30 - 9:45	211		230		441			9:30 - 9:45	198		138		336		
9:45 - 10:00	156	732	231	982	387	1714		9:45 - 10:00	164	723	116	534	280	1257	
10:00 - 10:15	176		208		384			10:00 - 10:15	164		112		276		
10:15 - 10:30	174		236		410			10:15 - 10:30	145		110		255		
10:30 - 10:45	208		220		428			10:30 - 10:45	134		92		226		
10:45 - 11:00	168	726	246	910	414	1636		10:45 - 11:00	102	545	94	408	196	953	
11:00 - 11:15	221		252		473			11:00 - 11:15	112		76		188		
11:15 - 11:30	202		232		434			11:15 - 11:30	116		76		192		
11:30 - 11:45	206		264		470			11:30 - 11:45	121		53		174		
11:45 - 12:00	266	895	247	995	513	1890		11:45 - 12:00	96	445	57	262	153	707	
TOTALS		4,474		7,048		11,522				12,823		10,067		22,890	
ADT'S										17,297		17,115		34,412	

TRAFFIC DATA SERVICES, INC. LOCATION CODE 07908.001

LOCATION - SANTA MARGARITA PKWY-BTN EL TORO/LOS ALISOS BLVD VOLUMES FOR - SATURDAY 8/1/09

AM							PM						
TIME	EB		WB		TOTAL		TIME	EB		WB		TOTAL	
12:00 - 12:15	60		44		104		12:00 - 12:15	260		299		559	
12:15 - 12:30	52		48		100		12:15 - 12:30	272		304		576	
12:30 - 12:45	61		28		89		12:30 - 12:45	232		249		481	
12:45 - 1:00	50	223	28	148	78	371	12:45 - 1:00	256	1020	266	1118	522	2138
1:00 - 1:15	48		19		67		1:00 - 1:15	238		297		535	
1:15 - 1:30	55		16		71		1:15 - 1:30	264		296		560	
1:30 - 1:45	42		30		72		1:30 - 1:45	270		216		486	
1:45 - 2:00	27	172	22	87	49	259	1:45 - 2:00	235	1007	256	1065	491	2072
2:00 - 2:15	32		14		46		2:00 - 2:15	275		245		520	
2:15 - 2:30	26		17		43		2:15 - 2:30	252		248		500	
2:30 - 2:45	20		21		41		2:30 - 2:45	266		244		510	
2:45 - 3:00	18	96	13	65	31	161	2:45 - 3:00	271	1064	214	951	485	2015
3:00 - 3:15	18		6		24		3:00 - 3:15	225		217		442	
3:15 - 3:30	22		15		37		3:15 - 3:30	252		213		465	
3:30 - 3:45	8		14		22		3:30 - 3:45	265		220		485	
3:45 - 4:00	17	65	11	46	28	111	3:45 - 4:00	254	996	246	896	500	1892
4:00 - 4:15	9		10		19		4:00 - 4:15	239		260		499	
4:15 - 4:30	16		16		32		4:15 - 4:30	240		239		479	
4:30 - 4:45	16		20		36		4:30 - 4:45	217		220		437	
4:45 - 5:00	13	54	20	66	33	120	4:45 - 5:00	228	924	225	944	453	1868
5:00 - 5:15	18		19		37		5:00 - 5:15	241		232		473	
5:15 - 5:30	16		22		38		5:15 - 5:30	206		246		452	
5:30 - 5:45	29		38		67		5:30 - 5:45	218		232		450	
5:45 - 6:00	32	95	48	127	80	222	5:45 - 6:00	207	872	246	956	453	1828
6:00 - 6:15	35		38		73		6:00 - 6:15	244		222		466	
6:15 - 6:30	24		60		84		6:15 - 6:30	240		271		511	
6:30 - 6:45	60		76		136		6:30 - 6:45	217		232		449	
6:45 - 7:00	57	176	102	276	159	452	6:45 - 7:00	218	919	198	923	416	1842
7:00 - 7:15	80		102		182		7:00 - 7:15	190		186		376	
7:15 - 7:30	83		100		183		7:15 - 7:30	243		184		427	
7:30 - 7:45	72		102		174		7:30 - 7:45	170		185		355	
7:45 - 8:00	106	341	152	456	258	797	7:45 - 8:00	217	820	175	730	392	1550
8:00 - 8:15	98		136		234		8:00 - 8:15	221		161		382	
8:15 - 8:30	120		138		258		8:15 - 8:30	228		181		409	
8:30 - 8:45	118		170		288		8:30 - 8:45	196		152		348	
8:45 - 9:00	148	484	187	631	335	1115	8:45 - 9:00	166	811	139	633	305	1444
9:00 - 9:15	149		167		316		9:00 - 9:15	197		140		337	
9:15 - 9:30	163		186		349		9:15 - 9:30	180		133		313	
9:30 - 9:45	159		208		367		9:30 - 9:45	160		132		292	
9:45 - 10:00	188	659	218	779	406	1438	9:45 - 10:00	158	695	92	497	250	1192
10:00 - 10:15	168		205		373		10:00 - 10:15	138		116		254	
10:15 - 10:30	191		244		435		10:15 - 10:30	156		103		259	
10:30 - 10:45	194		263		457		10:30 - 10:45	126		66		192	
10:45 - 11:00	219	772	248	960	467	1732	10:45 - 11:00	92	512	66	351	158	863
11:00 - 11:15	180		274		454		11:00 - 11:15	102		76		178	
11:15 - 11:30	221		254		475		11:15 - 11:30	98		49		147	
11:30 - 11:45	223		245		468		11:30 - 11:45	102		42		144	
11:45 - 12:00	232	856	324	1097	556	1953	11:45 - 12:00	81	383	40	207	121	590
TOTALS		3,993		4,738		8,731			10,023		9,271		19,294
ADT'S									14,016		14,009		28,025

TRAFFIC DATA SERVICES, INC. LOCATION CODE 07908.001

LOCATION - SANTA MARGARITA PKWY-BTN EL TORO/LOS ALISOS BLVD VOLUMES FOR - SUNDAY 8/2/09

AM							PM						
TIME	EB		WB		TOTAL		TIME	EB		WB		TOTAL	
12:00 - 12:15	78		48		126		12:00 - 12:15	227		214		441	
12:15 - 12:30	48		44		92		12:15 - 12:30	200		244		444	
12:30 - 12:45	50		40		90		12:30 - 12:45	228		242		470	
12:45 - 1:00	55	231	30	162	85	393	12:45 - 1:00	300	955	226	926	526	1881
1:00 - 1:15	48		30		78		1:00 - 1:15	358		260		618	
1:15 - 1:30	50		23		73		1:15 - 1:30	278		242		520	
1:30 - 1:45	46		21		67		1:30 - 1:45	234		246		480	
1:45 - 2:00	27	171	21	95	48	266	1:45 - 2:00	258	1128	259	1007	517	2135
2:00 - 2:15	22		20		42		2:00 - 2:15	238		276		514	
2:15 - 2:30	18		8		26		2:15 - 2:30	251		207		458	
2:30 - 2:45	29		16		45		2:30 - 2:45	260		216		476	
2:45 - 3:00	25	94	11	55	36	149	2:45 - 3:00	256	1005	242	941	498	1946
3:00 - 3:15	15		13		28		3:00 - 3:15	232		200		432	
3:15 - 3:30	6		9		15		3:15 - 3:30	239		180		419	
3:30 - 3:45	9		22		31		3:30 - 3:45	222		228		450	
3:45 - 4:00	15	45	11	55	26	100	3:45 - 4:00	238	931	206	814	444	1745
4:00 - 4:15	8		9		17		4:00 - 4:15	222		238		460	
4:15 - 4:30	8		8		16		4:15 - 4:30	212		245		457	
4:30 - 4:45	9		16		25		4:30 - 4:45	206		207		413	
4:45 - 5:00	10	35	8	41	18	76	4:45 - 5:00	234	874	203	893	437	1767
5:00 - 5:15	19		20		39		5:00 - 5:15	218		196		414	
5:15 - 5:30	13		19		32		5:15 - 5:30	219		206		425	
5:30 - 5:45	19		20		39		5:30 - 5:45	208		192		400	
5:45 - 6:00	26	77	25	84	51	161	5:45 - 6:00	215	860	184	778	399	1638
6:00 - 6:15	22		23		45		6:00 - 6:15	191		204		395	
6:15 - 6:30	26		44		70		6:15 - 6:30	214		220		434	
6:30 - 6:45	44		48		92		6:30 - 6:45	196		186		382	
6:45 - 7:00	40	132	61	176	101	308	6:45 - 7:00	194	795	180	790	374	1585
7:00 - 7:15	45		66		111		7:00 - 7:15	204		152		356	
7:15 - 7:30	44		73		117		7:15 - 7:30	209		158		367	
7:30 - 7:45	59		88		147		7:30 - 7:45	164		149		313	
7:45 - 8:00	74	222	120	347	194	569	7:45 - 8:00	172	749	138	597	310	1346
8:00 - 8:15	72		96		168		8:00 - 8:15	168		168		336	
8:15 - 8:30	78		115		193		8:15 - 8:30	173		182		355	
8:30 - 8:45	72		162		234		8:30 - 8:45	144		129		273	
8:45 - 9:00	86	308	209	582	295	890	8:45 - 9:00	154	639	134	613	288	1252
9:00 - 9:15	92		176		268		9:00 - 9:15	154		132		286	
9:15 - 9:30	96		160		256		9:15 - 9:30	136		131		267	
9:30 - 9:45	106		144		250		9:30 - 9:45	166		82		248	
9:45 - 10:00	146	440	166	646	312	1086	9:45 - 10:00	188	644	112	457	300	1101
10:00 - 10:15	131		175		306		10:00 - 10:15	177		88		265	
10:15 - 10:30	164		205		369		10:15 - 10:30	117		62		179	
10:30 - 10:45	219		200		419		10:30 - 10:45	92		41		133	
10:45 - 11:00	206	720	253	833	459	1553	10:45 - 11:00	100	486	37	228	137	714
11:00 - 11:15	186		294		480		11:00 - 11:15	76		46		122	
11:15 - 11:30	180		282		462		11:15 - 11:30	78		51		129	
11:30 - 11:45	185		226		411		11:30 - 11:45	72		34		106	
11:45 - 12:00	188	739	248	1050	436	1789	11:45 - 12:00	48	274	39	170	87	444
TOTALS		3,214		4,126		7,340			9,340		8,214		17,554
ADT'S									12,554		12,340		24,894

TRAFFIC DATA SERVICES, INC. LOCATION CODE 07908.001

LOCATION - SANTA MARGARITA PKWY-BTN EL TORO/LOS ALISOS BLVD VOLUMES FOR - MONDAY 8/3/09

AM							PM						
TIME	EB		WB		TOTAL		TIME	EB		WB		TOTAL	
12:00 - 12:15	40		37		77		12:00 - 12:15	250		216		466	
12:15 - 12:30	43		20		63		12:15 - 12:30	218		220		438	
12:30 - 12:45	27		16		43		12:30 - 12:45	188		251		439	
12:45 - 1:00	22	132	17	90	39	222	12:45 - 1:00	207	863	244	931	451	1794
1:00 - 1:15	42		27		69		1:00 - 1:15	216		245		461	
1:15 - 1:30	28		8		36		1:15 - 1:30	218		231		449	
1:30 - 1:45	19		6		25		1:30 - 1:45	224		208		432	
1:45 - 2:00	18	107	14	55	32	162	1:45 - 2:00	234	892	192	876	426	1768
2:00 - 2:15	10		9		19		2:00 - 2:15	240		200		440	
2:15 - 2:30	9		10		19		2:15 - 2:30	206		206		412	
2:30 - 2:45	7		6		13		2:30 - 2:45	224		206		430	
2:45 - 3:00	11	37	8	33	19	70	2:45 - 3:00	253	923	233	845	486	1768
3:00 - 3:15	12		12		24		3:00 - 3:15	251		208		459	
3:15 - 3:30	13		14		27		3:15 - 3:30	255		212		467	
3:30 - 3:45	8		13		21		3:30 - 3:45	284		204		488	
3:45 - 4:00	13	46	17	56	30	102	3:45 - 4:00	284	1074	205	829	489	1903
4:00 - 4:15	5		12		17		4:00 - 4:15	306		224		530	
4:15 - 4:30	12		22		34		4:15 - 4:30	340		225		565	
4:30 - 4:45	20		30		50		4:30 - 4:45	344		228		572	
4:45 - 5:00	19	56	44	108	63	164	4:45 - 5:00	392	1382	233	910	625	2292
5:00 - 5:15	20		64		84		5:00 - 5:15	412		253		665	
5:15 - 5:30	25		62		87		5:15 - 5:30	517		258		775	
5:30 - 5:45	34		97		131		5:30 - 5:45	448		256		704	
5:45 - 6:00	49	128	112	335	161	463	5:45 - 6:00	428	1805	230	997	658	2802
6:00 - 6:15	50		122		172		6:00 - 6:15	436		229		665	
6:15 - 6:30	38		154		192		6:15 - 6:30	378		242		620	
6:30 - 6:45	76		208		284		6:30 - 6:45	333		222		555	
6:45 - 7:00	85	249	263	747	348	996	6:45 - 7:00	286	1433	231	924	517	2357
7:00 - 7:15	90		309		399		7:00 - 7:15	259		196		455	
7:15 - 7:30	132		328		460		7:15 - 7:30	270		181		451	
7:30 - 7:45	110		318		428		7:30 - 7:45	244		191		435	
7:45 - 8:00	142	474	356	1311	498	1785	7:45 - 8:00	200	973	180	748	380	1721
8:00 - 8:15	139		380		519		8:00 - 8:15	214		145		359	
8:15 - 8:30	128		348		476		8:15 - 8:30	202		156		358	
8:30 - 8:45	156		323		479		8:30 - 8:45	178		140		318	
8:45 - 9:00	164	587	310	1361	474	1948	8:45 - 9:00	160	754	109	550	269	1304
9:00 - 9:15	170		268		438		9:00 - 9:15	192		133		325	
9:15 - 9:30	136		280		416		9:15 - 9:30	182		102		284	
9:30 - 9:45	132		260		392		9:30 - 9:45	149		101		250	
9:45 - 10:00	182	620	200	1008	382	1628	9:45 - 10:00	140	663	103	439	243	1102
10:00 - 10:15	139		172		311		10:00 - 10:15	114		106		220	
10:15 - 10:30	150		212		362		10:15 - 10:30	116		78		194	
10:30 - 10:45	140		212		352		10:30 - 10:45	112		64		176	
10:45 - 11:00	178	607	184	780	362	1387	10:45 - 11:00	72	414	50	298	122	712
11:00 - 11:15	183		216		399		11:00 - 11:15	86		48		134	
11:15 - 11:30	178		231		409		11:15 - 11:30	73		36		109	
11:30 - 11:45	216		251		467		11:30 - 11:45	88		39		127	
11:45 - 12:00	202	779	210	908	412	1687	11:45 - 12:00	36	283	27	150	63	433
TOTALS		3,822		6,792		10,614			11,459		8,497		19,956
ADT'S									15,281		15,289		30,570

Appendix C
Intersection Capacity Utilization (ICU) Worksheets

This appendix summarizes information pertaining to the intersection analysis sections of the study.

ICU Calculation Methodology

The ICU calculation procedure is based on a critical movement methodology that shows the amount of capacity utilized by each critical movement at an intersection. A capacity of 1,700 vehicles per hour per lane is assumed together with a .05 clearance interval. A "de facto" right-turn lane is used in the ICU calculation for cases where a curb lane is wide enough to separately serve both through and right-turn traffic (typically with a width of 19 feet or more from curb to outside of through-lane with parking prohibited during peak periods). Such lanes are treated the same as striped right-turn lanes during the ICU calculations, but they are denoted on the ICU calculation worksheets using the letter "d" in place of a numerical entry for right-turn lanes.

The methodology also incorporates a check for right-turn capacity utilization. Both right-turn-on-green (RTOG) and right-turn-on-red (RTOR) capacity availability are calculated and checked against the total right-turn capacity need. If insufficient capacity is available, then an adjustment is made to the total capacity utilization value. The following example shows how this adjustment is made.

Example for Northbound Right

1. Right-Turn-On-Green (RTOG)

If NBT is critical move, then:
RTOG = V/C (NBT)
Otherwise,
RTOG = V/C (NBL) + V/C (SBT) - V/C (SBL)

2. Right-Turn-On-Red (RTOR)

If WBL is critical move, then:
RTOR = V/C (WBL)
Otherwise,
RTOR = V/C (EBL) + V/C (WBT) - V/C (EBT)

3. Right-Turn Overlap Adjustment

If the northbound right is assumed to overlap with the adjacent westbound left, adjustments to the RTOG and RTOR values are made as follows:

RTOG = RTOG + V/C (WBL)
RTOR = RTOR - V/C (WBL)

4. Total Right-Turn Capacity (RTC) Availability For NBR

RTC = RTOG + factor x RTOR
Where factor = RTOR saturation flow factor (0% for County intersections, 75% for intersections in all other jurisdictions within the study area)

Right-turn adjustment is then as follows: Additional ICU = V/C (NBR) – RTC

A zero or negative value indicates that adequate capacity is available and no adjustment is necessary. A positive value indicates that the available RTOR and RTOG capacity does not adequately accommodate the right-turn V/C, therefore the right-turn is essentially considered to be a critical movement. In such cases, the right-turn adjustment is noted on the ICU worksheet and it is included in the total capacity utilization value. When it is determined that a right-turn adjustment is required for more than one right-turn movement, the word "multi" is printed on the worksheet instead of an actual right-turn movement reference, and the right-turn adjustments are cumulatively added to the total capacity utilization value. In such cases, further operational evaluation is typically carried out to determine if under actual operational conditions, the critical right-turns would operate simultaneously, and therefore a right-turn adjustment credit should be applied.

Shared Lane V/C Methodology

For intersection approaches where shared usage of a lane is permitted by more than one turn movement (e.g., left/through, through/right, left/through/right), the individual turn volumes are evaluated to determine whether dedication of the shared lane is warranted to any one given turn movement. The following example demonstrates how this evaluation is carried out:

Example for Shared Left/Through Lane

1. Average Lane Volume (ALV)

$$ALV = \frac{\text{Left-Turn Volume + Through Volume}}{\text{Total Left + Through Approach Lanes (including shared lane)}}$$

2. ALV for Each Approach

$$\text{ALV (Left)} = \frac{\text{Left-Turn Volume}}{\text{Left Approach Lanes (including shared lane)}}$$

$$\text{ALV (Through)} = \frac{\text{Through Volume}}{\text{Through Approach Lanes (including shared lane)}}$$

3. Lane Dedication is Warranted

If ALV (Left) is greater than ALV then full dedication of the shared lane to the left-turn approach is warranted. Left-turn and through V/C ratios for this case are calculated as follows:

$$\text{V/C (Left)} = \frac{\text{Left-Turn Volume}}{\text{Left Approach Capacity (including shared lane)}}$$

$$\text{V/C (Through)} = \frac{\text{Through Volume}}{\text{Through Approach Capacity (excluding shared lane)}}$$

Similarly, if ALV (Through) is greater than ALV then full dedication to the through approach is warranted, and left-turn and through V/C ratios are calculated as follows:

$$\text{V/C (Left)} = \frac{\text{Left-Turn Volume}}{\text{Left Approach Capacity (excluding shared lane)}}$$

$$\text{V/C (Through)} = \frac{\text{Through Volume}}{\text{Through Approach Capacity (including shared lane)}}$$

4. Lane Dedication is not Warranted

If ALV (Left) and ALV (Through) are both less than ALV, the left/through lane is assumed to be truly shared and each left, left/through or through approach lane carries an evenly distributed volume of traffic equal to ALV. A combined left/through V/C ratio is calculated as follows:

$$\text{V/C (Left/Through)} = \frac{\text{Left-Turn Volume + Through Volume}}{\text{Total Left + Through Approach Capacity (including shared lane)}}$$

This V/C (Left/Through) ratio is assigned as the V/C (Through) ratio for the critical movement analysis and ICU summary listing.

If split phasing has not been designated for this approach, the relative proportion of V/C (Through) that is attributed to the left-turn volume is estimated as follows:

If approach has more than one left-turn (including shared lane), then:

V/C (Left) = V/C (Through)

If approach has only one left-turn lane (shared lane), then:

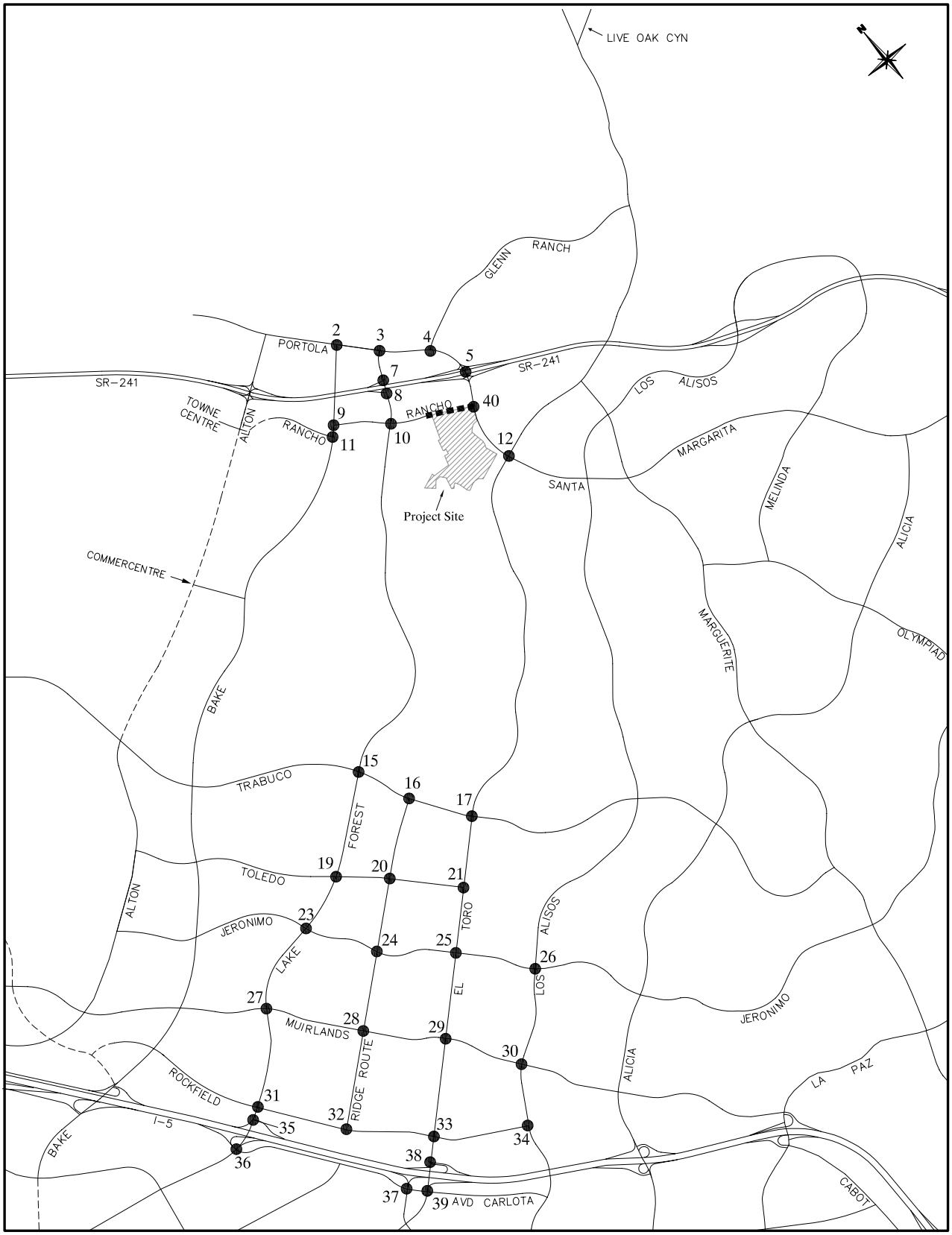
$$\text{V/C (Left)} = \frac{\text{Left-Turn Volume}}{\text{Single Approach Lane Capacity}}$$

If this left-turn movement is determined to be a critical movement, the V/C (Left) value is posted in brackets on the ICU summary printout.

These same steps are carried out for shared through/right lanes. If full dedication of a shared through/right lane to the right-turn movement is warranted, the right-turn V/C value calculated in step three is checked against the RTOR and RTOG capacity. When an approach contains more than one shared lane (e.g., left/through and through/right), steps one and two listed above are carried out for the three turn movements combined. Step four is carried out if dedication is not warranted for either of the shared lanes. If dedication of one of the shared lanes is warranted to one movement or another, step three is carried out for the two movements involved, and then steps one through four are repeated for the two movements involved in the other shared lane.

Figure C-1 illustrates the intersections that were analyzed in this study. This is followed by AM and PM peak hour intersection capacity utilization (ICU) worksheets for two future short-term traffic conditions (year 2011 and year 2015 cumulative). The ICU data set is presented according to intersection number and contains the following scenarios in the order shown:

- Existing Count
- Short-Term (Year 2011) No-Project
- Short-Term (Year 2011) With-Project
- Short-Term (Year 2015 Cumulative) No-Project
- Short-Term (Year 2015 Cumulative) With-Project
- Short-Term (Year 2015 Cumulative) With-Project and Improvements



Legend

X Intersection location

Future roadway in with-project only

Future roadway in by 2015

Figure C-1

SHORT-TERM (YEAR 2015 CUMULATIVE)
INTERSECTION LOCATION MAP

2. Bake & Portola

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	68	.04*	288	.17*
NBT	1.5	5100	143	{.04}	317	{.11}
NBR	1.5		188		498	
SBL	1	1700	127	.07	206	.12
SBT	2	3400	417	.12*	310	.09*
SBR	d	1700	239	.14	171	.10
EBL	1	1700	275	.16	244	.14*
EBT	3	5100	232	.05*	501	.10
EBR	d	1700	257	.15	128	.08
WBL	2	3400	758	.22*	418	.12
WBT	2	3400	307	.09	542	.16*
WBR	d	1700	46	.03	63	.04
Right Turn Adjustment			EBR	.07*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.55**		**.61**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	72	.04*	305	.18*
NBT	1.5	5100	152	{.04}	336	{.11}
NBR	1.5		199		528	
SBL	1	1700	135	.08	218	.13
SBT	2	3400	442	.13*	329	.10*
SBR	d	1700	253	.15	181	.11
EBL	1	1700	291	.17	259	.15*
EBT	3	5100	246	.05*	531	.10
EBR	d	1700	272	.16	136	.08
WBL	2	3400	803	.24*	443	.13
WBT	2	3400	325	.10	575	.17*
WBR	d	1700	49	.03	67	.04
Right Turn Adjustment			EBR	.08*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.59**		**.65**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	71	.04*	290	.17*
NBT	1.5	5100	146	{.04}	334	{.11}
NBR	1.5		137		472	
SBL	1	1700	136	.08	222	.13
SBT	2	3400	423	.12*	333	.10*
SBR	d	1700	238	.14	175	.10
EBL	1	1700	290	.17*	245	.14*
EBT	3	5100	267	.05	542	.11
EBR	d	1700	282	.17	133	.08
WBL	2	3400	714	.21	377	.11
WBT	2	3400	335	.10*	593	.17*
WBR	d	1700	50	.03	67	.04
Right Turn Adjustment			EBR	.08*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.56**		**.63**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	130	.08*	330	.19
NBT	1.5	5100	130	{.04}	330	{.17}*
NBR	1.5		140		930	
SBL	1	1700	130	.08	260	.15*
SBT	2	3400	290	.09*	310	.09
SBR	d	1700	230	.14	330	.19
EBL	1	1700	300	.18	370	.22*
EBT	3	5100	290	.06*	700	.14
EBR	d	1700	90	.05	140	.08
WBL	2	3400	1070	.31*	700	.21
WBT	2	3400	600	.18	770	.23*
WBR	d	1700	60	.04	160	.09
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.59**		**.82**

2. Bake & Portola

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	120	.07*	330	.19
NBT	1.5	5100	130	{.04}	320	{.15}*
NBR	1.5		100		870	
SBL	1	1700	130	.08	260	.15*
SBT	2	3400	290	.09*	310	.09
SBR	d	1700	230	.14	320	.19
EBL	1	1700	300	.18*	370	.22*
EBT	3	5100	290	.06	710	.14
EBR	d	1700	90	.05	140	.08
WBL	2	3400	940	.28	600	.18
WBT	2	3400	600	.18*	800	.24*
WBR	d	1700	70	.04	160	.09
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.57**		**.81**

3. Lake Forest & Portola

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	30	.02	94	.06
NBT	2	3400	151	.04*	192	.06*
NBR	d	1700	185	.11	425	.25
SBL	1	1700	207	.12*	180	.11*
SBT	2	3400	192	.06	147	.04
SBR	d	1700	6	.00	11	.01
EBL	2	3400	21	.01	11	.00
EBT	3	5100	447	.09*	1091	.21*
EBR	d	1700	49	.03	80	.05
WBL	2	3400	559	.16*	363	.11*
WBT	3	5100	1076	.21	901	.18
WBR	d	1700	266	.16	169	.10
Right Turn Adjustment					NBR	.11*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.46**		**.65**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	32	.02	100	.06
NBT	2	3400	160	.05*	204	.06*
NBR	d	1700	196	.12	450	.26
SBL	1	1700	219	.13*	191	.11*
SBT	2	3400	204	.06	156	.05
SBR	d	1700	6	.00	12	.01
EBL	2	3400	22	.01	12	.00
EBT	3	5100	474	.09*	1156	.23*
EBR	d	1700	52	.03	85	.05
WBL	2	3400	593	.17*	385	.11*
WBT	3	5100	1141	.22	955	.19
WBR	d	1700	282	.17	179	.11
Right Turn Adjustment					NBR	.12*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.49**		**.68**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	38	.02	104	.06
NBT	2	3400	152	.04*	225	.07*
NBR	d	1700	130	.08	266	.16
SBL	1	1700	228	.13*	189	.11*
SBT	2	3400	229	.07	164	.05
SBR	d	1700	9	.01	12	.01
EBL	2	3400	25	.01*	17	.01
EBT	3	5100	422	.08	1087	.21*
EBR	d	1700	61	.04	101	.06
WBL	2	3400	399	.12	333	.10*
WBT	3	5100	1054	.21*	896	.18
WBR	d	1700	276	.16	174	.10
Right Turn Adjustment					NBR	.01*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.44**		**.55**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	30	.02	70	.04
NBT	2	3400	100	.03*	70	.02*
NBR	d	1700	360	.21	780	.46
SBL	1	1700	250	.15*	240	.14*
SBT	2	3400	70	.02	120	.04
SBR	d	1700	10	.01	10	.01
EBL	2	3400	10	.00	10	.00
EBT	3	5100	560	.11*	1520	.30*
EBR	d	1700	30	.02	30	.02
WBL	2	3400	900	.26*	590	.17*
WBT	3	5100	1830	.36	1190	.23
WBR	d	1700	270	.16	190	.11
Right Turn Adjustment					NBR	.31*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.60**		**.99**

3. Lake Forest & Portola

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	40	.02	100	.06
NBT	2	3400	120	.04*	100	.03*
NBR	d	1700	240	.14	470	.28
SBL	1	1700	230	.14*	220	.13*
SBT	2	3400	90	.03	140	.04
SBR	d	1700	10	.01	10	.01
EBL	2	3400	20	.01*	10	.00
EBT	3	5100	510	.10	1470	.29*
EBR	d	1700	50	.03	40	.02
WBL	2	3400	710	.21	480	.14*
WBT	3	5100	1700	.33*	1090	.21
WBR	d	1700	260	.15	160	.09
Right Turn Adjustment					NBR	.14*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.57**		**.78**

4. Glenn Ranch & Portola

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	83	.05	89	.05
NBT	2	3400	18	.01*	27	.02*
NBR	0	0	32	.02	64	.04
SBL	2	3400	349	.10*	335	.10*
SBT	2	3400	54	.02	20	.01
SBR	f		471		283	
EBL	2	3400	343	.10*	707	.21
EBT	3	5100	619	.12	1837	.36*
EBR	1	1700	77	.05	47	.03
WBL	2	3400	174	.05	45	.01*
WBT	3	5100	1715	.34*	826	.16
WBR	1	1700	300	.18	226	.13
Right Turn Adjustment					NBR	.01*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.60**		**.55**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	88	.05	94	.06
NBT	2	3400	19	.01*	29	.02*
NBR	0	0	34	.02	68	.04
SBL	2	3400	370	.11*	355	.10*
SBT	2	3400	57	.02	21	.01
SBR	f		499		300	
EBL	2	3400	364	.11*	749	.22*
EBT	3	5100	656	.13	1947	.38
EBR	1	1700	82	.05	50	.03
WBL	2	3400	184	.05	48	.01
WBT	3	5100	1818	.36*	876	.17*
WBR	1	1700	318	.19	240	.14
Right Turn Adjustment					NBR	.01*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.64**		**.57**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	92	.05	94	.06
NBT	2	3400	17	.01*	26	.02*
NBR	0	0	31	.02	73	.04
SBL	2	3400	378	.11*	357	.11*
SBT	2	3400	55	.02	22	.01
SBR	f		485		285	
EBL	2	3400	376	.11*	739	.22*
EBT	3	5100	528	.10	1613	.32
EBR	1	1700	86	.05	37	.02
WBL	2	3400	196	.06	56	.02
WBT	3	5100	1390	.27*	697	.14*
WBR	1	1700	306	.18	229	.13
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.55**		**.54**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	60	.04	90	.05
NBT	2	3400	20	.01*	30	.02*
NBR	0	0	30	.02	70	.04
SBL	2	3400	510	.15*	350	.10*
SBT	2	3400	50	.01	20	.01
SBR	f		940		670	
EBL	2	3400	460	.14*	1070	.31*
EBT	3	5100	760	.15	2080	.41
EBR	1	1700	30	.02	60	.04
WBL	2	3400	110	.03	50	.01
WBT	3	5100	1870	.37*	1060	.21*
WBR	1	1700	60	.04	370	.22
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for WBR						
TOTAL CAPACITY UTILIZATION				**.72**		**.69**

4. Glenn Ranch & Portola

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	60	.04	80	.05
NBT	2	3400	20	.01*	20	.01*
NBR	0	0	30	.02	70	.04
SBL	2	3400	510	.15*	360	.11*
SBT	2	3400	50	.01	20	.01
SBR	f		910		670	
EBL	2	3400	440	.13*	1060	.31*
EBT	3	5100	570	.11	1670	.33
EBR	1	1700	30	.02	70	.04
WBL	2	3400	110	.03	50	.01
WBT	3	5100	1470	.29*	840	.16*
WBR	1	1700	60	.04	390	.23
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for WBR

TOTAL CAPACITY UTILIZATION **.63** **.64**

5. Portola & SR-241 Ramps

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	515	.15*	162	.05*
NBT	3	5100	1133	.22	726	.14
NBR	f		56		59	
SBL	2	3400	193	.06	688	.20
SBT	2	3400	557	.16*	1454	.43*
SBR	f		248		159	
EBL	1	1700	136	.08*	162	.10*
EBT	0	0	0		0	
EBR	f		115		354	
WBL	2	3400	93	.03	56	.02
WBT	0	0	0		0	
WBR	f		868		270	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.44**		**.63**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	546	.16*	172	.05*
NBT	3	5100	1201	.24	770	.15
NBR	f		59		63	
SBL	2	3400	205	.06	729	.21
SBT	2	3400	590	.17*	1541	.45*
SBR	f		263		169	
EBL	1	1700	144	.08*	172	.10*
EBT	0	0	0		0	
EBR	f		122		375	
WBL	2	3400	99	.03	59	.02
WBT	0	0	0		0	
WBR	f		920		286	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.46**		**.65**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	508	.15*	185	.05*
NBT	3	5100	889	.17	608	.12
NBR	f		87		116	
SBL	2	3400	155	.05	727	.21
SBT	2	3400	516	.15*	1214	.36*
SBR	f		263		171	
EBL	1	1700	141	.08*	169	.10*
EBT	0	0	0		0	
EBR	f		137		344	
WBL	2	3400	277	.08	71	.02
WBT	0	0	0		0	
WBR	f		809		270	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.43**		**.56**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	630	.19*	300	.09*
NBT	3	5100	1300	.25	1150	.23
NBR	f		10		20	
SBL	2	3400	270	.08	960	.28
SBT	2	3400	820	.24*	1490	.44*
SBR	f		270		90	
EBL	1	1700	120	.07*	190	.11*
EBT	0	0	0		0	
EBR	f		260		480	
WBL	2	3400	50	.01	10	.00
WBT	0	0	0		0	
WBR	f		1610		380	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.55**		**.69**

5. Portola & SR-241 Ramps

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	550	.16*	280	.08
NBT	3	5100	940	.18	950	.19*
NBR	f		40		100	
SBL	2	3400	210	.06	970	.29*
SBT	2	3400	690	.20*	1110	.33
SBR	f		260		90	
EBL	1	1700	120	.07*	180	.11*
EBT	0	0	0		0	
EBR	f		240		420	
WBL	2	3400	130	.04	30	.01
WBT	0	0	0		0	
WBR	f		1540		370	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.48**		**.64**

7. Lake Forest & SR-241 NB

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	81	.02*	223	.07
NBT	2	3400	805	.24	1126	.33*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3400	818	.24*	776	.23
SBR	1	1700	89	.05	201	.12
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.31** **.38**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	86	.03*	236	.07
NBT	2	3400	853	.25	1194	.35*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3400	867	.26*	823	.24
SBR	1	1700	94	.06	213	.13
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.34** **.40**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	89	.03	237	.07*
NBT	2	3400	831	.24*	988	.29
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3400	559	.16	780	.23*
SBR	1	1700	119	.07	211	.12
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.29** **.35**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	120	.04*	270	.08
NBT	2	3400	970	.29	1330	.39*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3400	970	.29*	890	.26
SBR	1	1700	80	.05	320	.19
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.38** **.44**

7. Lake Forest & SR-241 NB

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	140	.04	290	.09*
NBT	2	3400	890	.26*	1040	.31
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3400	720	.21	810	.24*
SBR	1	1700	90	.05	310	.18
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.31**		**.38**

8. Lake Forest & SR-241 SB

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3400	678	.20	1268	.37*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3400	822	.24*	771	.23
SBR	0	0	0		0	
EBL	2	3400	215	.06*	88	.03*
EBT	0	0	0		0	
EBR	1	1700	318	.19	124	.07
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.13*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.48**		**.45**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3400	719	.21	1344	.40*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3400	871	.26*	817	.24
SBR	0	0	0		0	
EBL	2	3400	228	.07*	93	.03*
EBT	0	0	0		0	
EBR	1	1700	337	.20	131	.08
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.13*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.51**		**.48**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3400	702	.21*	1123	.33*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3400	563	.17	774	.23
SBR	0	0	0		0	
EBL	2	3400	226	.07*	109	.03*
EBT	0	0	0		0	
EBR	1	1700	320	.19	149	.09
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.09*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.42**		**.41**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3400	790	.23	1480	.44*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3400	970	.29*	890	.26
SBR	0	0	0		0	
EBL	2	3400	290	.09*	120	.04*
EBT	0	0	0		0	
EBR	1	1700	270	.16	190	.11
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.07*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.50**		**.53**

8. Lake Forest & SR-241 SB

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3400	730	.21	1210	.36*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3400	720	.21*	810	.24
SBR	0	0	0		0	
EBL	2	3400	290	.09*	120	.04*
EBT	0	0	0		0	
EBR	1	1700	280	.16	200	.12
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.07*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.42**		**.45**

9. Bake & Rancho N

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3400	1635	.48*	1067	.31
NBR	d	1700	219	.13	53	.03
SBL	1	1700	265	.16*	49	.03
SBT	2	3400	745	.22	1886	.55*
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	35	.01*	199	.06*
WBT	0	0	0		0	
WBR	2	3400	26	.01	158	.05
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.70**		**.66**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3400	1733	.51*	1131	.33
NBR	d	1700	232	.14	56	.03
SBL	1	1700	281	.17*	52	.03
SBT	2	3400	790	.23	1999	.59*
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	37	.01*	211	.06*
WBT	0	0	0		0	
WBR	2	3400	28	.01	167	.05
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.74**		**.70**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3400	1662	.49*	973	.29
NBR	d	1700	329	.19	354	.21
SBL	1	1700	278	.16*	11	.01
SBT	2	3400	673	.20	1908	.56*
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	344	.10*	317	.09*
WBT	0	0	0		0	
WBR	2	3400	3	.00	159	.05
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.80**		**.70**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3400	700	.21	1770	.52*
NBR	d	1700	190	.11	290	.17
SBL	1	1700	70	.04	150	.09*
SBT	2	3400	1660	.49*	870	.26
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	150	.04*	240	.07*
WBT	0	0	0		0	
WBR	2	3400	70	.02	200	.06
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.58**		**.73**

9. Bake & Rancho N

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3400	640	.19	1630	.48*
NBR	d	1700	290	.17	550	.32
SBL	1	1700	60	.04	150	.09*
SBT	2	3400	1470	.43*	770	.23
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	610	.18*	400	.12*
WBT	0	0	0		0	
WBR	2	3400	30	.01	180	.05
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.66**		**.74**

10. Lake Forest & Rancho

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	102	.06*	177	.10
NBT	2	3400	547	.16	870	.26*
NBR	d	1700	90	.05	11	.01
SBL	1	1700	159	.09	87	.05*
SBT	2	3400	852	.25*	691	.20
SBR	d	1700	92	.05	79	.05
EBL	1	1700	40	.02	129	.08*
EBT	1	1700	62	.04*	19	.01
EBR	1	1700	47	.03	159	.09
WBL	1	1700	6	.00	62	.04
WBT	2	3400	10	.00	88	.03*
WBR	1	1700	4	.00	125	.07
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.40** **.47**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	108	.06*	188	.11*
NBT	2	3400	580	.17	922	.27
NBR	d	1700	95	.06	12	.01
SBL	1	1700	169	.10	92	.05
SBT	2	3400	903	.27*	732	.22*
SBR	d	1700	98	.06	84	.05
EBL	1	1700	42	.02	137	.08*
EBT	1	1700	66	.04*	20	.01
EBR	1	1700	50	.03	169	.10
WBL	1	1700	6	.00	66	.04
WBT	2	3400	11	.00	93	.03*
WBR	1	1700	4	.00	132	.08
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.42** **.49**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	10	.01	130	.08*
NBT	2	3400	606	.18*	885	.26
NBR	d	1700	160	.09	267	.16
SBL	1	1700	81	.05*	70	.04
SBT	2	3400	758	.22	800	.24*
SBR	d	1700	7	.00	14	.01
EBL	1	1700	6	.00	31	.02
EBT	1	1700	199	.12*	513	.30*
EBR	1	1700	35	.02	47	.03
WBL	1	1700	367	.22*	165	.10*
WBT	2	3400	474	.14	324	.10
WBR	1	1700	1	.00	54	.03
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.62** **.77**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	220	.13*	260	.15
NBT	2	3400	690	.20	1170	.34*
NBR	d	1700	220	.13	120	.07
SBL	1	1700	250	.15	120	.07*
SBT	2	3400	840	.25*	840	.25
SBR	d	1700	230	.14	140	.08
EBL	1	1700	50	.03	170	.10
EBT	1	1700	50	.03*	80	.05*
EBR	1	1700	80	.05	170	.10
WBL	1	1700	60	.04*	220	.13*
WBT	2	3400	50	.01	90	.03
WBR	1	1700	70	.04	270	.16
Right Turn Adjustment					WBR	.03*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.50** **.67**

10. Lake Forest & Rancho

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	120	.07	240	.14*
NBT	2	3400	680	.20*	1090	.32
NBR	d	1700	330	.19	460	.27
SBL	1	1700	190	.11*	120	.07
SBT	2	3400	810	.24	850	.25*
SBR	d	1700	60	.04	70	.04
EBL	1	1700	20	.01	30	.02
EBT	1	1700	170	.10*	490	.29*
EBR	1	1700	60	.04	100	.06
WBL	1	1700	260	.15*	330	.19*
WBT	2	3400	660	.19	330	.10
WBR	1	1700	60	.04	210	.12
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.61**		**.92**

2015 With-Project & Improvements

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	120	.07	240	.14*
NBT	2	3400	680	.20*	1090	.32
NBR	d	1700	330	.19	460	.27
SBL	1	1700	190	.11*	120	.07
SBT	2	3400	810	.24	850	.25*
SBR	d	1700	60	.04	70	.04
EBL	1	1700	20	.01	30	.02
EBT	2	3400	170	.05*	490	.14*
EBR	1	1700	60	.04	100	.06
WBL	1	1700	260	.15*	330	.19*
WBT	2	3400	660	.19	330	.10
WBR	1	1700	60	.04	210	.12
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.56**		**.77**

11. Bake & Rancho S

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	79	.05	170	.10*
NBT	2	3400	1696	.50*	976	.29
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3400	699	.21	1838	.54*
SBR	1	1700	94	.06	251	.15
EBL	2	3400	167	.05*	159	.05*
EBT	0	0	0		0	
EBR	1	1700	50	.03	177	.10
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.60**		**.74**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	84	.05	180	.11*
NBT	2	3400	1798	.53*	1035	.30
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3400	741	.22	1948	.57*
SBR	1	1700	100	.06	266	.16
EBL	2	3400	177	.05*	169	.05*
EBT	0	0	0		0	
EBR	1	1700	53	.03	188	.11
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.63**		**.78**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	62	.04	195	.11*
NBT	2	3400	1821	.54*	1125	.33
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3400	892	.26	1967	.58*
SBR	1	1700	138	.08	263	.15
EBL	2	3400	181	.05*	219	.06*
EBT	0	0	0		0	
EBR	1	1700	51	.03	168	.10
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.64**		**.80**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	130	.08*	60	.04
NBT	2	3400	780	.23	1870	.55*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3400	1540	.45*	970	.29
SBR	1	1700	200	.12	230	.14
EBL	2	3400	150	.04*	210	.06*
EBT	0	0	0		0	
EBR	1	1700	30	.02	130	.08
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.62**		**.66**

11. Bake & Rancho S

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	110	.06*	50	.03
NBT	2	3400	810	.24	1910	.56*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3400	1600	.47*	1010	.30
SBR	1	1700	410	.24	250	.15
EBL	2	3400	170	.05*	290	.09*
EBT	0	0	0		0	
EBR	1	1700	30	.02	120	.07
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.63**		**.70**

12. El Toro & Portola/Santa M

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	308	.18*	264	.16*
NBT	3	5100	171	.03	521	.10
NBR	f		387		611	
SBL	1	1700	31	.02	26	.02
SBT	3	5100	618	.12*	243	.05*
SBR	1	1700	231	.14	88	.05
EBL	2	3400	44	.01	176	.05
EBT	3	5100	451	.09*	1304	.26*
EBR	1	1700	267	.16	376	.22
WBL	2	3400	634	.19*	459	.14*
WBT	4	6800	1122	.17	621	.09
WBR	d	1700	24	.01	58	.03
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.63**		**.66**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	326	.19*	280	.16*
NBT	3	5100	181	.04	552	.11
NBR	f		410		648	
SBL	1	1700	33	.02	28	.02
SBT	3	5100	655	.13*	258	.05*
SBR	1	1700	245	.14	93	.05
EBL	2	3400	47	.01	187	.06
EBT	3	5100	478	.09*	1382	.27*
EBR	1	1700	283	.17	399	.23
WBL	2	3400	672	.20*	487	.14*
WBT	4	6800	1189	.17	658	.10
WBR	d	1700	25	.01	61	.04
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.66**		**.67**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	430	.25*	336	.20*
NBT	3	5100	155	.03	514	.10
NBR	f		362		496	
SBL	1	1700	35	.02	28	.02
SBT	3	5100	590	.12*	197	.04*
SBR	1	1700	420	.25	193	.11
EBL	2	3400	68	.02	355	.10
EBT	3	5100	618	.12*	1679	.33*
EBR	1	1700	313	.18	478	.28
WBL	2	3400	532	.16*	464	.14*
WBT	4	6800	1471	.22	784	.12
WBR	d	1700	27	.02	54	.03
Right Turn Adjustment			SBR	.08*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.78**		**.76**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	350	.21*	360	.21*
NBT	3	5100	150	.03	480	.09
NBR	f		350		600	
SBL	1	1700	50	.03	330	.19
SBT	3	5100	500	.10*	590	.12*
SBR	1	1700	170	.10	610	.36
EBL	2	3400	40	.01	330	.10
EBT	3	5100	590	.12*	1130	.22*
EBR	1	1700	330	.19	650	.38
WBL	2	3400	690	.20*	470	.14*
WBT	4	6800	1380	.20	900	.13
WBR	d	1700	20	.01	50	.03
Right Turn Adjustment					SBR	.07*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.68**		**.81**

12. El Toro & Portola/Santa M

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	370	.22*	400	.24*
NBT	3	5100	160	.03	420	.08
NBR	f		310		470	
SBL	1	1700	50	.03	340	.20
SBT	3	5100	470	.09*	560	.11*
SBR	1	1700	300	.18	660	.39
EBL	2	3400	50	.01*	430	.13
EBT	3	5100	620	.12	1380	.27*
EBR	1	1700	390	.23	690	.41
WBL	2	3400	450	.13	430	.13*
WBT	4	6800	1700	.25*	1020	.15
WBR	d	1700	20	.01	40	.02
Right Turn Adjustment			SBR	.08*	SBR	.09*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.70**		**.89**

15. Lake Forest & Trabuco

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	178	.05*	256	.08*
NBT	3	5100	862	.17	976	.19
NBR	1	1700	100	.06	423	.25
SBL	2	3400	165	.05	341	.10
SBT	3	5100	1227	.28*	1062	.25*
SBR	0	0	221		194	
EBL	2	3400	142	.04*	320	.09
EBT	3	5100	431	.08	1115	.22*
EBR	1	1700	305	.18	146	.09
WBL	2	3400	372	.11	177	.05*
WBT	3	5100	1095	.21*	568	.11
WBR	1	1700	377	.22	272	.16
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.63**		**.65**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	189	.06*	271	.08*
NBT	3	5100	914	.18	1035	.20
NBR	1	1700	106	.06	448	.26
SBL	2	3400	175	.05	361	.11
SBT	3	5100	1301	.30*	1126	.26*
SBR	0	0	234		206	
EBL	2	3400	151	.04*	339	.10
EBT	3	5100	457	.09	1182	.23*
EBR	1	1700	323	.19	155	.09
WBL	2	3400	394	.12	188	.06*
WBT	3	5100	1161	.23*	602	.12
WBR	1	1700	400	.24	288	.17
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.68**		**.68**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	198	.06*	266	.08*
NBT	3	5100	957	.19	1074	.21
NBR	1	1700	79	.05	496	.29
SBL	2	3400	142	.04	220	.06
SBT	3	5100	1346	.31*	1201	.28*
SBR	0	0	239		210	
EBL	2	3400	160	.05*	329	.10
EBT	3	5100	455	.09	1190	.23*
EBR	1	1700	313	.18	146	.09
WBL	2	3400	398	.12	183	.05*
WBT	3	5100	1186	.23*	615	.12
WBR	1	1700	252	.15	229	.13
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.70**		**.69**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	260	.08*	270	.08
NBT	3	5100	870	.17	1020	.20*
NBR	1	1700	90	.05	690	.41
SBL	2	3400	330	.10	500	.15*
SBT	3	5100	1130	.25*	1010	.23
SBR	0	0	170		140	
EBL	2	3400	150	.04	220	.06
EBT	3	5100	630	.12*	1170	.23*
EBR	1	1700	440	.26	200	.12
WBL	2	3400	690	.20*	320	.09*
WBT	3	5100	1080	.21	590	.12
WBR	1	1700	550	.32	520	.31
Right Turn Adjustment			EBR	.08*	NBR	.14*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.78**		**.86**

15. Lake Forest & Trabuco

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	260	.08*	270	.08*
NBT	3	5100	880	.17	1070	.21
NBR	1	1700	80	.05	740	.44
SBL	2	3400	270	.08	340	.10
SBT	3	5100	1170	.27*	1090	.25*
SBR	0	0	200		160	
EBL	2	3400	170	.05	220	.06
EBT	3	5100	610	.12*	1160	.23*
EBR	1	1700	440	.26	210	.12
WBL	2	3400	720	.21*	280	.08*
WBT	3	5100	1040	.20	580	.11
WBR	1	1700	390	.23	440	.26
Right Turn Adjustment			EBR	.08*	NBR	.15*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.81**		**.84**

16. Ridge Route & Trabuco

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	231	.14*	167	.10*
NBT	0	0	0		0	
NBR	1	1700	218	.13	295	.17
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	543	.11	1724	.34*
EBR	d	1700	286	.17	167	.10
WBL	1	1700	234	.14	138	.08*
WBT	3	5100	1548	.30*	776	.15
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.01*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.49**		**.58**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	245	.14*	177	.10*
NBT	0	0	0		0	
NBR	1	1700	231	.14	313	.18
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	576	.11	1827	.36*
EBR	d	1700	303	.18	177	.10
WBL	1	1700	248	.15	146	.09*
WBT	3	5100	1641	.32*	823	.16
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.01*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.51**		**.61**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	252	.15*	182	.11*
NBT	0	0	0		0	
NBR	1	1700	231	.14	310	.18
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	525	.10	1768	.35*
EBR	d	1700	298	.18	149	.09
WBL	1	1700	272	.16	143	.08*
WBT	3	5100	1523	.30*	775	.15
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.01*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.50**		**.60**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	190	.11*	210	.12*
NBT	0	0	0		0	
NBR	1	1700	100	.06	210	.12
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	720	.14	2050	.40*
EBR	d	1700	200	.12	130	.08
WBL	1	1700	110	.06	100	.06*
WBT	3	5100	1860	.36*	1110	.22
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.52**		**.63**

16. Ridge Route & Trabuco

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	190	.11*	210	.12*
NBT	0	0	0		0	
NBR	1	1700	90	.05	200	.12
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	680	.13	1950	.38*
EBR	d	1700	150	.09	100	.06
WBL	1	1700	120	.07	100	.06*
WBT	3	5100	1700	.33*	980	.19
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.49**		**.61**

17. El Toro & Trabuco

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	257	.08*	327	.10
NBT	3	5100	689	.14	1169	.23*
NBR	1	1700	123	.07	372	.22
SBL	2	3400	197	.06	261	.08*
SBT	3	5100	1579	.31*	969	.19
SBR	1	1700	444	.26	190	.11
EBL	2	3400	182	.05*	497	.15
EBT	3	5100	306	.06	1119	.22*
EBR	d	1700	162	.10	202	.12
WBL	2	3400	269	.08	144	.04*
WBT	3	5100	977	.19*	459	.09
WBR	d	1700	166	.10	165	.10
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.68** **.62**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	272	.08*	347	.10
NBT	3	5100	730	.14	1239	.24*
NBR	1	1700	130	.08	394	.23
SBL	2	3400	209	.06	277	.08*
SBT	3	5100	1674	.33*	1027	.20
SBR	1	1700	471	.28	201	.12
EBL	2	3400	193	.06	527	.16
EBT	3	5100	324	.06*	1186	.23*
EBR	d	1700	172	.10	214	.13
WBL	2	3400	285	.08	153	.05
WBT	3	5100	1036	.20*	487	.10*
WBR	d	1700	176	.10	175	.10
Clearance Interval				.05*		.05*
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION **.72** **.70**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	212	.06*	330	.10
NBT	3	5100	800	.16	1213	.24*
NBR	1	1700	131	.08	386	.23
SBL	2	3400	216	.06	294	.09*
SBT	3	5100	1624	.32*	1040	.20
SBR	1	1700	483	.28	208	.12
EBL	2	3400	184	.05	505	.15
EBT	3	5100	290	.06*	1147	.22*
EBR	d	1700	164	.10	215	.13
WBL	2	3400	281	.08	148	.04
WBT	3	5100	1000	.20*	458	.09*
WBR	d	1700	162	.10	183	.11
Clearance Interval				.05*		.05*
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION **.69** **.69**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	410	.12*	480	.14
NBT	3	5100	1040	.20	1440	.28*
NBR	1	1700	130	.08	570	.34
SBL	2	3400	290	.09	260	.08*
SBT	3	5100	1440	.28*	880	.17
SBR	1	1700	450	.26	180	.11
EBL	2	3400	200	.06*	590	.17
EBT	3	5100	320	.06	1160	.23*
EBR	d	1700	260	.15	360	.21
WBL	2	3400	280	.08	190	.06*
WBT	3	5100	1000	.20*	520	.10
WBR	d	1700	220	.13	150	.09
Right Turn Adjustment					NBR	.01*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.71** **.71**

17. El Toro & Trabuco

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	340	.10*	450	.13
NBT	3	5100	1110	.22	1390	.27*
NBR	1	1700	120	.07	550	.32
SBL	2	3400	290	.09	270	.08*
SBT	3	5100	1400	.27*	930	.18
SBR	1	1700	410	.24	130	.08
EBL	2	3400	160	.05*	570	.17
EBT	3	5100	310	.06	1110	.22*
EBR	d	1700	270	.16	330	.19
WBL	2	3400	280	.08	190	.06*
WBT	3	5100	950	.19*	490	.10
WBR	d	1700	230	.14	160	.09
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.66**		**.68**

19. Lake Forest & Toledo

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	81	.05*	61	.04
NBT	3	5100	1069	.21	1327	.26*
NBR	d	1700	69	.04	97	.06
SBL	1	1700	66	.04	61	.04*
SBT	3	5100	1514	.30*	1222	.24
SBR	d	1700	64	.04	22	.01
EBL	1	1700	27	.02	117	.07
EBT	2	3400	86	.05*	337	.11*
EBR	0	0	90	.05	48	
WBL	1	1700	147	.09*	54	.03*
WBT	2	3400	311	.11	73	.03
WBR	0	0	48		25	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.54**		**.49**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	86	.05*	65	.04
NBT	3	5100	1133	.22	1407	.28*
NBR	d	1700	73	.04	103	.06
SBL	1	1700	70	.04	65	.04*
SBT	3	5100	1605	.31*	1295	.25
SBR	d	1700	68	.04	23	.01
EBL	1	1700	29	.02	124	.07
EBT	2	3400	91	.05*	357	.12*
EBR	0	0	95	.06	51	
WBL	1	1700	156	.09*	57	.03*
WBT	2	3400	330	.11	77	.03
WBR	0	0	51		26	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.55**		**.52**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	92	.05*	60	.04
NBT	3	5100	1152	.23	1429	.28*
NBR	d	1700	76	.04	97	.06
SBL	1	1700	71	.04	70	.04*
SBT	3	5100	1623	.32*	1355	.27
SBR	d	1700	43	.03	21	.01
EBL	1	1700	34	.02*	134	.08
EBT	2	3400	90	.05	340	.11*
EBR	0	0	94	.06	50	
WBL	1	1700	109	.06	35	.02*
WBT	2	3400	329	.11*	72	.03
WBR	0	0	54		27	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.55**		**.50**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	70	.04*	60	.04
NBT	3	5100	800	.16	1420	.28*
NBR	d	1700	30	.02	60	.04
SBL	1	1700	50	.03	60	.04*
SBT	3	5100	1650	.32*	1120	.22
SBR	d	1700	30	.02	80	.05
EBL	1	1700	20	.01	80	.05
EBT	2	3400	90	.05*	190	.08*
EBR	0	0	80		80	
WBL	1	1700	70	.04*	30	.02*
WBT	2	3400	170	.06	70	.04
WBR	0	0	30		50	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.50**		**.47**

19. Lake Forest & Toledo

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	70	.04*	50	.03
NBT	3	5100	810	.16	1440	.28*
NBR	d	1700	30	.02	40	.02
SBL	1	1700	50	.03	50	.03*
SBT	3	5100	1620	.32*	1140	.22
SBR	d	1700	40	.02	80	.05
EBL	1	1700	20	.01	110	.06*
EBT	2	3400	100	.05*	150	.07
EBR	0	0	80		80	
WBL	1	1700	60	.04*	30	.02
WBT	2	3400	140	.05	70	.04*
WBR	0	0	30		50	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.50**		**.46**

20. Ridge Route & Toledo

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	49	.03	20	.01
NBT	2	3400	305	.12*	319	.10*
NBR	0	0	109		22	
SBL	1	1700	64	.04*	18	.01*
SBT	2	3400	379	.13	243	.08
SBR	0	0	73		27	
EBL	1	1700	62	.04*	77	.05
EBT	2	3400	144	.05	345	.11*
EBR	0	0	40		36	
WBL	1	1700	115	.07	25	.01*
WBT	2	3400	279	.10*	109	.04
WBR	0	0	59		35	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.35** **.28**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	52	.03*	21	.01
NBT	2	3400	323	.13	338	.11*
NBR	0	0	116		23	
SBL	1	1700	68	.04	19	.01*
SBT	2	3400	402	.14*	258	.08
SBR	0	0	77		29	
EBL	1	1700	66	.04*	82	.05
EBT	2	3400	153	.06	366	.12*
EBR	0	0	42		38	
WBL	1	1700	122	.07	26	.02*
WBT	2	3400	296	.11*	116	.05
WBR	0	0	63		37	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.37** **.31**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	54	.03*	18	.01
NBT	2	3400	343	.13	338	.11*
NBR	0	0	114		19	
SBL	1	1700	59	.03	14	.01*
SBT	2	3400	410	.14*	237	.08
SBR	0	0	81		35	
EBL	1	1700	66	.04	82	.05
EBT	2	3400	157	.06*	351	.11*
EBR	0	0	41		36	
WBL	1	1700	136	.08*	31	.02*
WBT	2	3400	242	.09	87	.04
WBR	0	0	64		39	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.36** **.30**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	40	.02	40	.02
NBT	2	3400	220	.09*	330	.11*
NBR	0	0	80		40	
SBL	1	1700	70	.04*	60	.04*
SBT	2	3400	310	.11	190	.06
SBR	0	0	50		10	
EBL	1	1700	50	.03	90	.05
EBT	2	3400	140	.05*	310	.11*
EBR	0	0	30		50	
WBL	1	1700	160	.09*	50	.03*
WBT	2	3400	180	.07	70	.04
WBR	0	0	60		80	.05
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.32** **.34**

20. Ridge Route & Toledo

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	40	.02	40	.02
NBT	2	3400	210	.09*	340	.11*
NBR	0	0	90		40	
SBL	1	1700	60	.04*	50	.03*
SBT	2	3400	310	.11	190	.06
SBR	0	0	50		10	
EBL	1	1700	50	.03	90	.05
EBT	2	3400	150	.05*	260	.09*
EBR	0	0	30		40	
WBL	1	1700	140	.08*	60	.04*
WBT	2	3400	150	.06	60	.04
WBR	0	0	60		70	.04
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.31**		**.32**

21. El Toro & Toledo

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	131	.08*	80	.05
NBT	3	5100	1005	.20	1595	.31*
NBR	d	1700	11	.01	19	.01
SBL	1	1700	2	.00	3	.00
SBT	3	5100	1854	.36*	1317	.26
SBR	d	1700	207	.12	54	.03
EBL	1.5		59	{.02}*	304	{.10}*
EBT	0.5	3400	19	.02	22	.10
EBR	1	1700	110	.06	148	.09
WBL	0	0	20		11	
WBT	1	1700	27	.03*	3	.01*
WBR	0	0	6		3	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.54**		**.47**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	139	.08*	85	.05
NBT	3	5100	1065	.21	1691	.33*
NBR	d	1700	12	.01	20	.01
SBL	1	1700	2	.00	3	.00
SBT	3	5100	1965	.39*	1396	.27
SBR	d	1700	219	.13	57	.03
EBL	1.5		63	{.02}*	322	{.10}*
EBT	0.5	3400	20	.02	23	.10
EBR	1	1700	117	.07	157	.09
WBL	0	0	21		12	
WBT	1	1700	29	.03*	3	.01*
WBR	0	0	6		3	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.57**		**.49**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	144	.08*	96	.06
NBT	3	5100	1076	.21	1671	.33*
NBR	d	1700	13	.01	20	.01
SBL	1	1700	2	.00	3	.00
SBT	3	5100	2029	.40*	1399	.27
SBR	d	1700	178	.10	30	.02
EBL	1.5		63	{.03}*	313	{.10}*
EBT	0.5	3400	23	.03	21	.10
EBR	1	1700	107	.06	150	.09
WBL	0	0	21		12	
WBT	1	1700	29	.03*	2	.01*
WBR	0	0	6		3	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.59**		**.49**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	130	.08*	120	.07
NBT	3	5100	1560	.31	2180	.43*
NBR	d	1700	10	.01	20	.01
SBL	1	1700	10	.01	10	.01*
SBT	3	5100	1940	.38*	1290	.25
SBR	d	1700	170	.10	70	.04
EBL	1.5		50	{.02}*	240	{.08}*
EBT	0.5	3400	10	.02	20	.08
EBR	1	1700	120	.07	140	.08
WBL	0	0	20		10	
WBT	1	1700	20	.03*	10	.02*
WBR	0	0	10		10	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.56**		**.59**

21. El Toro & Toledo

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	140	.08*	110	.06
NBT	3	5100	1540	.30	2130	.42*
NBR	d	1700	10	.01	20	.01
SBL	1	1700	10	.01	10	.01*
SBT	3	5100	1980	.39*	1310	.26
SBR	d	1700	130	.08	70	.04
EBL	1.5		50	{.02}*	200	{.06}*
EBT	0.5	3400	10	.02	20	.06
EBR	1	1700	120	.07	140	.08
WBL	0	0	20		10	
WBT	1	1700	20	.03*	10	.02*
WBR	0	0	10		10	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.57**		**.56**

23. Lake Forest & Jeronimo

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	100	.06*	75	.04
NBT	3	5100	912	.18	1274	.25*
NBR	1	1700	140	.08	193	.11
SBL	1	1700	174	.10	143	.08*
SBT	3	5100	1226	.24*	1067	.21
SBR	1	1700	290	.17	94	.06
EBL	1	1700	71	.04*	144	.08
EBT	2	3400	205	.09	643	.21*
EBR	0	0	113		80	
WBL	1	1700	228	.13	85	.05*
WBT	2	3400	604	.23*	152	.08
WBR	0	0	185		112	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.62**		**.64**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	106	.06*	79	.05
NBT	3	5100	967	.19	1350	.26*
NBR	1	1700	148	.09	205	.12
SBL	1	1700	184	.11	152	.09*
SBT	3	5100	1300	.25*	1131	.22
SBR	1	1700	307	.18	100	.06
EBL	1	1700	75	.04*	153	.09
EBT	2	3400	217	.10	682	.23*
EBR	0	0	120		85	
WBL	1	1700	242	.14	90	.05*
WBT	2	3400	640	.25*	161	.08
WBR	0	0	196		119	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.65**		**.68**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	96	.06*	69	.04
NBT	3	5100	992	.19	1342	.26*
NBR	1	1700	136	.08	208	.12
SBL	1	1700	187	.11	159	.09*
SBT	3	5100	1255	.25*	1150	.23
SBR	1	1700	320	.19	111	.07
EBL	1	1700	81	.05*	167	.10
EBT	2	3400	213	.10	639	.21*
EBR	0	0	122		78	
WBL	1	1700	256	.15	80	.05*
WBT	2	3400	611	.24*	169	.09
WBR	0	0	192		127	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.65**		**.66**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	80	.05*	70	.04
NBT	3	5100	780	.15	1610	.32*
NBR	1	1700	130	.08	180	.11
SBL	1	1700	220	.13	120	.07*
SBT	3	5100	1340	.26*	1030	.20
SBR	1	1700	210	.12	200	.12
EBL	1	1700	80	.05	150	.09
EBT	2	3400	310	.13*	670	.21*
EBR	0	0	120		60	
WBL	1	1700	340	.20*	160	.09*
WBT	2	3400	590	.25	270	.11
WBR	0	0	250		90	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.69**		**.74**

23. Lake Forest & Jeronimo

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	90	.05*	70	.04
NBT	3	5100	790	.15	1610	.32*
NBR	1	1700	120	.07	180	.11
SBL	1	1700	220	.13	120	.07*
SBT	3	5100	1330	.26*	1060	.21
SBR	1	1700	210	.12	200	.12
EBL	1	1700	80	.05	150	.09
EBT	2	3400	300	.12*	660	.21*
EBR	0	0	120		50	
WBL	1	1700	320	.19*	160	.09*
WBT	2	3400	560	.24	270	.11
WBR	0	0	250		90	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.67**		**.74**

24. Ridge Route & Jeronimo

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	65	.04	48	.03
NBT	2	3400	243	.07*	323	.10*
NBR	d	1700	80	.05	136	.08
SBL	1	1700	160	.09*	67	.04*
SBT	2	3400	320	.09	241	.07
SBR	d	1700	178	.10	29	.02
EBL	1	1700	112	.07*	59	.03
EBT	2	3400	303	.13	794	.25*
EBR	0	0	147		61	
WBL	1	1700	123	.07	77	.05*
WBT	2	3400	700	.24*	285	.11
WBR	0	0	110		72	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.52**		**.49**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	69	.04	51	.03
NBT	2	3400	258	.08*	342	.10*
NBR	d	1700	85	.05	144	.08
SBL	1	1700	170	.10*	71	.04*
SBT	2	3400	339	.10	255	.08
SBR	d	1700	189	.11	31	.02
EBL	1	1700	119	.07*	63	.04
EBT	2	3400	321	.14	842	.27*
EBR	0	0	156		65	
WBL	1	1700	130	.08	82	.05*
WBT	2	3400	742	.25*	302	.11
WBR	0	0	117		76	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.55**		**.51**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	63	.04	51	.03
NBT	2	3400	265	.08*	344	.10*
NBR	d	1700	87	.05	137	.08
SBL	1	1700	170	.10*	72	.04*
SBT	2	3400	304	.09	254	.07
SBR	d	1700	237	.14	30	.02
EBL	1	1700	120	.07*	68	.04
EBT	2	3400	316	.14	804	.26*
EBR	0	0	160		69	
WBL	1	1700	163	.10	81	.05*
WBT	2	3400	691	.24*	308	.11
WBR	0	0	128		69	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.54**		**.50**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	170	.10*	60	.04
NBT	2	3400	270	.08	310	.09*
NBR	d	1700	70	.04	150	.09
SBL	1	1700	20	.01	100	.06*
SBT	2	3400	230	.07*	190	.06
SBR	d	1700	20	.01	40	.02
EBL	1	1700	130	.08*	70	.04
EBT	2	3400	640	.21	1010	.32*
EBR	0	0	90		70	
WBL	1	1700	10	.01	100	.06*
WBT	2	3400	460	.15*	360	.13
WBR	0	0	40		90	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.45**		**.58**

24. Ridge Route & Jeronimo

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	160	.09*	60	.04
NBT	2	3400	280	.08	310	.09*
NBR	d	1700	70	.04	160	.09
SBL	1	1700	20	.01	100	.06*
SBT	2	3400	230	.07*	200	.06
SBR	d	1700	20	.01	40	.02
EBL	1	1700	130	.08*	70	.04
EBT	2	3400	630	.21	970	.31*
EBR	0	0	90		70	
WBL	1	1700	10	.01	90	.05*
WBT	2	3400	430	.14*	360	.13
WBR	0	0	40		90	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.43**		**.56**

25. El Toro & Jeronimo

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	81	.05*	84	.05
NBT	3	5100	853	.17	1440	.28*
NBR	1	1700	247	.15	354	.21
SBL	1	1700	237	.14	304	.18*
SBT	3	5100	1594	.31*	1074	.21
SBR	d	1700	130	.08	39	.02
EBL	1	1700	95	.06	103	.06
EBT	2	3400	251	.13*	662	.23*
EBR	0	0	176		104	
WBL	2	3400	443	.13*	257	.08*
WBT	2	3400	508	.15	271	.08
WBR	1	1700	181	.11	210	.12
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.67**		**.82**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	86	.05*	89	.05
NBT	3	5100	904	.18	1526	.30*
NBR	1	1700	262	.15	375	.22
SBL	1	1700	251	.15	322	.19*
SBT	3	5100	1690	.33*	1138	.22
SBR	d	1700	138	.08	41	.02
EBL	1	1700	101	.06	109	.06
EBT	2	3400	266	.13*	702	.24*
EBR	0	0	187		110	
WBL	2	3400	470	.14*	272	.08*
WBT	2	3400	538	.16	287	.08
WBR	1	1700	192	.11	223	.13
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.70**		**.86**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	85	.05*	91	.05
NBT	3	5100	914	.18	1536	.30*
NBR	1	1700	259	.15	371	.22
SBL	1	1700	248	.15	310	.18*
SBT	3	5100	1706	.33*	1145	.22
SBR	d	1700	168	.10	23	.01
EBL	1	1700	107	.06	76	.04
EBT	2	3400	264	.13*	695	.24*
EBR	0	0	186		126	
WBL	2	3400	455	.13*	254	.07*
WBT	2	3400	510	.15	296	.09
WBR	1	1700	179	.11	231	.14
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.69**		**.84**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	90	.05	70	.04
NBT	3	5100	1440	.28*	1720	.34*
NBR	1	1700	230	.14	130	.08
SBL	1	1700	300	.18*	180	.11*
SBT	3	5100	1670	.33	980	.19
SBR	d	1700	210	.12	340	.20
EBL	1	1700	120	.07*	240	.14*
EBT	2	3400	310	.10	470	.17
EBR	0	0	40		120	
WBL	2	3400	290	.09	240	.07
WBT	2	3400	680	.20*	510	.15*
WBR	1	1700	80	.05	350	.21
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.78**		**.79**

25. El Toro & Jeronimo

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	80	.05	70	.04
NBT	3	5100	1420	.28*	1690	.33*
NBR	1	1700	250	.15	130	.08
SBL	1	1700	350	.21*	200	.12*
SBT	3	5100	1700	.33	980	.19
SBR	d	1700	160	.09	340	.20
EBL	1	1700	120	.07*	240	.14*
EBT	2	3400	300	.10	450	.17
EBR	0	0	40		130	
WBL	2	3400	280	.08	230	.07
WBT	2	3400	680	.20*	510	.15*
WBR	1	1700	80	.05	340	.20
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.81**		**.79**

26. Los Alisos & Jeronimo

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	161	.09*	202	.12
NBT	3	5100	542	.11	1351	.26*
NBR	d	1700	63	.04	79	.05
SBL	1	1700	267	.16	188	.11*
SBT	3	5100	1204	.24*	633	.12
SBR	d	1700	156	.09	71	.04
EBL	1	1700	150	.09*	388	.23*
EBT	2	3400	516	.15	760	.22
EBR	d	1700	166	.10	196	.12
WBL	1	1700	196	.12	202	.12
WBT	2	3400	625	.18*	471	.14*
WBR	1	1700	126	.07	171	.10
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.65**		**.79**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	171	.10*	214	.13
NBT	3	5100	575	.11	1432	.28*
NBR	d	1700	67	.04	84	.05
SBL	1	1700	283	.17	199	.12*
SBT	3	5100	1276	.25*	671	.13
SBR	d	1700	165	.10	75	.04
EBL	1	1700	159	.09*	411	.24*
EBT	2	3400	547	.16	806	.24
EBR	d	1700	176	.10	208	.12
WBL	1	1700	208	.12	214	.13
WBT	2	3400	662	.19*	499	.15*
WBR	1	1700	134	.08	181	.11
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.68**		**.84**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	183	.11*	222	.13
NBT	3	5100	550	.11	1428	.28*
NBR	d	1700	81	.05	73	.04
SBL	1	1700	289	.17	187	.11*
SBT	3	5100	1269	.25*	673	.13
SBR	d	1700	138	.08	69	.04
EBL	1	1700	161	.09*	395	.23
EBT	2	3400	526	.15	806	.24*
EBR	d	1700	188	.11	197	.12
WBL	1	1700	211	.12	236	.14*
WBT	2	3400	622	.18*	477	.14
WBR	1	1700	140	.08	182	.11
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.68**		**.82**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	160	.09*	210	.12
NBT	3	5100	660	.13	1490	.29*
NBR	d	1700	250	.15	310	.18
SBL	1	1700	320	.19	260	.15*
SBT	3	5100	1280	.25*	970	.19
SBR	d	1700	450	.26	130	.08
EBL	1	1700	170	.10	380	.22
EBT	2	3400	590	.17*	820	.24*
EBR	d	1700	170	.10	200	.12
WBL	1	1700	340	.20*	260	.15*
WBT	2	3400	860	.25	390	.11
WBR	1	1700	210	.12	250	.15
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.76**		**.88**

26. Los Alisos & Jeronimo

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	160	.09*	200	.12
NBT	3	5100	680	.13	1460	.29*
NBR	d	1700	250	.15	330	.19
SBL	1	1700	290	.17	260	.15*
SBT	3	5100	1270	.25*	970	.19
SBR	d	1700	460	.27	140	.08
EBL	1	1700	170	.10	380	.22
EBT	2	3400	630	.19*	800	.24*
EBR	d	1700	190	.11	210	.12
WBL	1	1700	330	.19*	290	.17*
WBT	2	3400	850	.25	390	.11
WBR	1	1700	240	.14	250	.15
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.77**		**.90**

27. Lake Forest & Muirlands

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	74	.02*	55	.02
NBT	3	5100	739	.14	1283	.25*
NBR	1	1700	79	.05	134	.08
SBL	2	3400	122	.04	178	.05*
SBT	3	5100	1188	.23*	935	.18
SBR	1	1700	183	.11	63	.04
EBL	2	3400	84	.02*	51	.02
EBT	2	3400	131	.04	174	.05*
EBR	1	1700	40	.02	21	.01
WBL	2	3400	256	.08	164	.05*
WBT	2	3400	649	.19*	189	.06
WBR	1	1700	187	.11	142	.08
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.51**		**.45**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	78	.02*	58	.02
NBT	3	5100	783	.15	1360	.27*
NBR	1	1700	84	.05	142	.08
SBL	2	3400	129	.04	189	.06*
SBT	3	5100	1259	.25*	991	.19
SBR	1	1700	194	.11	67	.04
EBL	2	3400	89	.03*	54	.02
EBT	2	3400	139	.04	184	.05*
EBR	1	1700	42	.02	22	.01
WBL	2	3400	271	.08	174	.05*
WBT	2	3400	688	.20*	200	.06
WBR	1	1700	198	.12	151	.09
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.55**		**.48**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	79	.02*	53	.02
NBT	3	5100	787	.15	1350	.26*
NBR	1	1700	88	.05	136	.08
SBL	2	3400	129	.04	179	.05*
SBT	3	5100	1293	.25*	998	.20
SBR	1	1700	129	.08	77	.05
EBL	2	3400	91	.03*	37	.01
EBT	2	3400	147	.04	217	.06*
EBR	1	1700	32	.02	26	.02
WBL	2	3400	262	.08	180	.05*
WBT	2	3400	672	.20*	202	.06
WBR	1	1700	202	.12	145	.09
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.55**		**.47**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	40	.01*	60	.02
NBT	3	5100	700	.14	1480	.29*
NBR	1	1700	110	.06	290	.17
SBL	2	3400	80	.02	150	.04*
SBT	3	5100	1660	.33*	1000	.20
SBR	1	1700	220	.13	100	.06
EBL	2	3400	70	.02*	330	.10
EBT	2	3400	240	.07	1180	.35*
EBR	1	1700	30	.02	180	.11
WBL	2	3400	250	.07	420	.12*
WBT	2	3400	800	.24*	230	.07
WBR	1	1700	110	.06	90	.05
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.65**		**.85**

27. Lake Forest & Muirlands

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	40	.01*	70	.02
NBT	3	5100	710	.14	1520	.30*
NBR	1	1700	120	.07	300	.18
SBL	2	3400	70	.02	140	.04*
SBT	3	5100	1650	.32*	1020	.20
SBR	1	1700	190	.11	110	.06
EBL	2	3400	70	.02*	310	.09
EBT	2	3400	240	.07	1170	.34*
EBR	1	1700	30	.02	180	.11
WBL	2	3400	260	.08	430	.13*
WBT	2	3400	760	.22*	230	.07
WBR	1	1700	120	.07	80	.05
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.62**		**.86**

28. Ridge Route & Muirlands

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	103	.06*	107	.06
NBT	2	3400	153	.05	259	.08*
NBR	d	1700	88	.05	167	.10
SBL	1	1700	151	.09*	183	.11*
SBT	2	3400	286	.08	195	.06
SBR	d	1700	79	.05	52	.03
EBL	1	1700	54	.03*	87	.05
EBT	2	3400	325	.10	1034	.30*
EBR	1	1700	39	.02	68	.04
WBL	1	1700	135	.08	83	.05*
WBT	2	3400	853	.25*	443	.13
WBR	1	1700	97	.06	100	.06
Clearance Interval				.05*		.05*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION **.48** **.59**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	109	.06*	113	.07
NBT	2	3400	162	.05	275	.08*
NBR	d	1700	93	.05	177	.10
SBL	1	1700	160	.09	194	.11*
SBT	2	3400	303	.09*	207	.06
SBR	d	1700	84	.05	55	.03
EBL	1	1700	57	.03*	92	.05
EBT	2	3400	344	.10	1096	.32*
EBR	1	1700	41	.02	72	.04
WBL	1	1700	143	.08	88	.05*
WBT	2	3400	904	.27*	470	.14
WBR	1	1700	103	.06	106	.06
Clearance Interval				.05*		.05*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION **.50** **.61**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	111	.07*	115	.07
NBT	2	3400	157	.05	258	.08*
NBR	d	1700	91	.05	178	.10
SBL	1	1700	143	.08	177	.10*
SBT	2	3400	320	.09*	227	.07
SBR	d	1700	82	.05	54	.03
EBL	1	1700	57	.03*	101	.06
EBT	2	3400	348	.10	1105	.33*
EBR	1	1700	41	.02	68	.04
WBL	1	1700	158	.09	88	.05*
WBT	2	3400	881	.26*	470	.14
WBR	1	1700	99	.06	114	.07
Clearance Interval				.05*		.05*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION **.50** **.61**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	80	.05	110	.06
NBT	2	3400	260	.08*	260	.08*
NBR	d	1700	120	.07	210	.12
SBL	1	1700	10	.01	100	.06*
SBT	2	3400	200	.06*	150	.04
SBR	d	1700	30	.02	40	.02
EBL	1	1700	20	.01*	20	.01
EBT	2	3400	440	.13	1400	.41*
EBR	1	1700	40	.02	70	.04
WBL	1	1700	100	.06	110	.06*
WBT	2	3400	990	.29*	670	.20
WBR	1	1700	70	.04	90	.05
Clearance Interval				.05*		.05*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION **.49** **.66**

28. Ridge Route & Muirlands

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	80	.05	100	.06
NBT	2	3400	260	.08*	280	.08*
NBR	d	1700	130	.08	200	.12
SBL	1	1700	10	.01	100	.06*
SBT	2	3400	200	.06*	160	.05
SBR	d	1700	30	.02	40	.02
EBL	1	1700	20	.01*	20	.01
EBT	2	3400	440	.13	1400	.41*
EBR	1	1700	40	.02	70	.04
WBL	1	1700	110	.06	110	.06*
WBT	2	3400	970	.29*	670	.20
WBR	1	1700	70	.04	90	.05
Clearance Interval				.05*		.05*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION **.49** **.66**

29. El Toro & Muirlands

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	132	.04*	265	.08
NBT	3	5100	754	.15	1485	.29*
NBR	1	1700	110	.06	334	.20
SBL	2	3400	217	.06	226	.07*
SBT	3	5100	1495	.29*	1043	.20
SBR	1	1700	351	.21	132	.08
EBL	2	3400	157	.05*	71	.02
EBT	2	3400	254	.07	196	.06*
EBR	1	1700	161	.09	90	.05
WBL	2	3400	270	.08	232	.07*
WBT	2	3400	638	.19*	313	.09
WBR	1	1700	254	.15	157	.09
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.62**		**.54**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	140	.04*	281	.08
NBT	3	5100	799	.16	1574	.31*
NBR	1	1700	117	.07	354	.21
SBL	2	3400	230	.07	240	.07*
SBT	3	5100	1585	.31*	1106	.22
SBR	1	1700	372	.22	140	.08
EBL	2	3400	166	.05*	75	.02
EBT	2	3400	269	.08	208	.06*
EBR	1	1700	171	.10	95	.06
WBL	2	3400	286	.08	246	.07*
WBT	2	3400	676	.20*	332	.10
WBR	1	1700	269	.16	166	.10
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.65**		**.56**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	137	.04*	294	.09
NBT	3	5100	845	.17	1573	.31*
NBR	1	1700	117	.07	359	.21
SBL	2	3400	232	.07	215	.06*
SBT	3	5100	1583	.31*	1136	.22
SBR	1	1700	378	.22	132	.08
EBL	2	3400	168	.05*	84	.02
EBT	2	3400	258	.08	201	.06*
EBR	1	1700	173	.10	96	.06
WBL	2	3400	307	.09	234	.07*
WBT	2	3400	661	.19*	333	.10
WBR	1	1700	245	.14	170	.10
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.64**		**.55**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	120	.04*	260	.08
NBT	3	5100	1450	.28	1610	.32*
NBR	1	1700	100	.06	420	.25
SBL	2	3400	220	.06	200	.06*
SBT	3	5100	1560	.31*	1030	.20
SBR	1	1700	200	.12	50	.03
EBL	2	3400	90	.03*	80	.02
EBT	2	3400	280	.08	920	.27*
EBR	1	1700	140	.08	350	.21
WBL	2	3400	280	.08	390	.11*
WBT	2	3400	720	.21*	500	.15
WBR	1	1700	130	.08	180	.11
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.64**		**.81**

29. El Toro & Muirlands

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	140	.04	250	.07
NBT	3	5100	1470	.29*	1570	.31*
NBR	1	1700	80	.05	420	.25
SBL	2	3400	270	.08*	170	.05*
SBT	3	5100	1560	.31	1040	.20
SBR	1	1700	180	.11	50	.03
EBL	2	3400	90	.03*	80	.02
EBT	2	3400	270	.08	910	.27*
EBR	1	1700	160	.09	360	.21
WBL	2	3400	290	.09	380	.11*
WBT	2	3400	710	.21*	510	.15
WBR	1	1700	100	.06	200	.12
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.66**		**.79**

30. Los Alisos & Muirlands

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	183	.11*	194	.11
NBT	3	5100	547	.11	1319	.26*
NBR	d	1700	187	.11	304	.18
SBL	1	1700	282	.17	186	.11*
SBT	3	5100	1045	.20*	677	.13
SBR	d	1700	252	.15	172	.10
EBL	1	1700	111	.07*	311	.18*
EBT	2	3400	399	.12	691	.20
EBR	d	1700	155	.09	236	.14
WBL	1	1700	177	.10	131	.08
WBT	2	3400	523	.15*	378	.11*
WBR	d	1700	109	.06	160	.09
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.58**		**.71**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	194	.11*	206	.12
NBT	3	5100	580	.11	1398	.27*
NBR	d	1700	198	.12	322	.19
SBL	1	1700	299	.18	197	.12*
SBT	3	5100	1108	.22*	718	.14
SBR	d	1700	267	.16	182	.11
EBL	1	1700	118	.07*	330	.19*
EBT	2	3400	423	.12	732	.22
EBR	d	1700	164	.10	250	.15
WBL	1	1700	188	.11	139	.08
WBT	2	3400	554	.16*	401	.12*
WBR	d	1700	116	.07	170	.10
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.61**		**.75**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	176	.10*	204	.12
NBT	3	5100	609	.12	1419	.28*
NBR	d	1700	203	.12	320	.19
SBL	1	1700	312	.18	198	.12*
SBT	3	5100	1103	.22*	746	.15
SBR	d	1700	265	.16	171	.10
EBL	1	1700	108	.06	325	.19*
EBT	2	3400	424	.12*	705	.21
EBR	d	1700	163	.10	253	.15
WBL	1	1700	191	.11*	137	.08
WBT	2	3400	552	.16	421	.12*
WBR	d	1700	94	.06	164	.10
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.60**		**.76**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	270	.16*	190	.11
NBT	3	5100	700	.14	1650	.32*
NBR	d	1700	90	.05	230	.14
SBL	1	1700	320	.19	270	.16*
SBT	3	5100	1310	.26*	830	.16
SBR	d	1700	150	.09	310	.18
EBL	1	1700	190	.11*	410	.24*
EBT	2	3400	470	.14	750	.22
EBR	d	1700	110	.06	200	.12
WBL	1	1700	210	.12	130	.08
WBT	2	3400	1060	.31*	470	.14*
WBR	d	1700	160	.09	350	.21
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.89**		**.91**

30. Los Alisos & Muirlands

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	260	.15*	190	.11
NBT	3	5100	710	.14	1630	.32*
NBR	d	1700	90	.05	220	.13
SBL	1	1700	300	.18	280	.16*
SBT	3	5100	1290	.25*	840	.16
SBR	d	1700	200	.12	300	.18
EBL	1	1700	180	.11*	400	.24*
EBT	2	3400	500	.15	730	.21
EBR	d	1700	110	.06	190	.11
WBL	1	1700	210	.12	120	.07
WBT	2	3400	1010	.30*	470	.14*
WBR	d	1700	180	.11	340	.20
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.86**		**.91**

31. Lake Forest & Rockfield

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	419	.12*	406	.12
NBT	3	5100	1083	.21	1759	.34*
NBR	1	1700	166	.10	676	.40
SBL	2	3400	81	.02	201	.06*
SBT	4	6800	1620	.25*	1221	.19
SBR	0	0	58		68	
EBL	2	3400	17	.01	154	.05
EBT	2	3400	52	.02*	367	.11*
EBR	2	3400	109	.03	434	.13
WBL	2	3400	570	.17*	434	.13*
WBT	2	3400	329	.10	195	.06
WBR	1	1700	47	.03	125	.07
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.61**		**.69**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	444	.13*	430	.13
NBT	3	5100	1148	.23	1865	.37*
NBR	1	1700	176	.10	717	.42
SBL	2	3400	86	.03	213	.06*
SBT	4	6800	1717	.26*	1294	.20
SBR	0	0	61		72	
EBL	2	3400	18	.01	163	.05
EBT	2	3400	55	.02*	389	.11*
EBR	2	3400	116	.03	460	.14
WBL	2	3400	604	.18*	460	.14*
WBT	2	3400	349	.10	207	.06
WBR	1	1700	50	.03	132	.08
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.64**		**.73**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	462	.14*	420	.12
NBT	3	5100	1159	.23	1875	.37*
NBR	1	1700	180	.11	686	.40
SBL	2	3400	91	.03	216	.06*
SBT	4	6800	1754	.27*	1282	.20
SBR	0	0	51		84	
EBL	2	3400	15	.00	161	.05
EBT	2	3400	49	.01*	393	.12*
EBR	2	3400	119	.04	464	.14
WBL	2	3400	601	.18*	472	.14*
WBT	2	3400	358	.11	208	.06
WBR	1	1700	46	.03	123	.07
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.65**		**.74**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	580	.17*	600	.18
NBT	3	5100	1110	.22	1700	.33*
NBR	1	1700	150	.09	470	.28
SBL	2	3400	130	.04	150	.04*
SBT	4	6800	1820	.28*	1190	.19
SBR	0	0	70		130	
EBL	2	3400	70	.02*	190	.06
EBT	2	3400	150	.04	670	.20*
EBR	2	3400	210	.06	300	.09
WBL	2	3400	450	.13	420	.12*
WBT	2	3400	540	.16*	210	.06
WBR	1	1700	110	.06	160	.09
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.68**		**.74**

31. Lake Forest & Rockfield

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	580	.17*	590	.17
NBT	3	5100	1120	.22	1750	.34*
NBR	1	1700	170	.10	470	.28
SBL	2	3400	130	.04	150	.04*
SBT	4	6800	1810	.28*	1190	.20
SBR	0	0	80		140	
EBL	2	3400	70	.02*	180	.05
EBT	2	3400	140	.04	680	.20*
EBR	2	3400	200	.06	300	.09
WBL	2	3400	440	.13	430	.13*
WBT	2	3400	530	.16*	210	.06
WBR	1	1700	110	.06	160	.09
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.68**		**.76**

32. Ridge Route & Rockfield

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0.5		44		26	
NBT	1.5	3400	33	.03*	25	.02*
NBR	0		40		21	
SBL	0.5		144	.08*	155	.09*
SBT	1.5	3400	16	.01	26	.02
SBR	d	1700	242	.14	113	.07
EBL	1	1700	95	.06*	334	.20*
EBT	2	3400	237	.08	953	.30
EBR	0	0	20		54	
WBL	1	1700	15	.01	19	.01
WBT	2	3400	412	.14*	319	.13*
WBR	0	0	59		138	
Right Turn Adjustment			SBR	.01*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.37** **.49**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0.5		47		28	
NBT	1.5	3400	35	.04*	26	.02*
NBR	0		42		22	
SBL	0.5		153	.09*	164	.10*
SBT	1.5	3400	17	.01	28	.02
SBR	d	1700	257	.15	120	.07
EBL	1	1700	101	.06*	354	.21*
EBT	2	3400	251	.08	1010	.31
EBR	0	0	21		57	
WBL	1	1700	16	.01	20	.01
WBT	2	3400	437	.15*	338	.14*
WBR	0	0	63		146	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.39** **.52**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0.5		46		28	
NBT	1.5	3400	35	.04*	28	.02*
NBR	0		42		22	
SBL	0.5		155	.09*	154	.09*
SBT	1.5	3400	18	.01	35	.02
SBR	d	1700	278	.16	128	.08
EBL	1	1700	97	.06*	342	.20*
EBT	2	3400	264	.08	1002	.31
EBR	0	0	16		53	
WBL	1	1700	16	.01	20	.01
WBT	2	3400	414	.14*	327	.14*
WBR	0	0	58		143	
Right Turn Adjustment			SBR	.01*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.39** **.50**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0.5		70		30	
NBT	1.5	3400	40	.04*	20	.02*
NBR	0		40		10	
SBL	0.5		160	.09*	130	.08*
SBT	1.5	3400	10	.01	20	.01
SBR	d	1700	270	.16	120	.07
EBL	1	1700	50	.03*	330	.19
EBT	2	3400	190	.06	1340	.41*
EBR	0	0	10		50	
WBL	1	1700	10	.01	20	.01*
WBT	2	3400	530	.18*	430	.16
WBR	0	0	80		130	
Right Turn Adjustment			SBR	.05*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.44** **.57**

32. Ridge Route & Rockfield

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0.5		60		30	
NBT	1.5	3400	40	.04*	20	.02*
NBR	0		40		10	
SBL	0.5		150	.09*	130	.08*
SBT	1.5	3400	10	.01	20	.01
SBR	d	1700	270	.16	130	.08
EBL	1	1700	70	.04*	340	.20
EBT	2	3400	200	.06	1330	.40*
EBR	0	0	10		40	
WBL	1	1700	10	.01	20	.01*
WBT	2	3400	520	.18*	420	.16
WBR	0	0	80		130	
Right Turn Adjustment			SBR	.04*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.44**		**.56**

33. El Toro & Rockfield

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	265	.08*	461	.14*
NBT	4	6800	981	.14	1640	.24
NBR	d	1700	124	.07	194	.11
SBL	2	3400	115	.03	161	.05
SBT	4	6800	1599	.25*	1214	.19*
SBR	0	0	72		108	
EBL	2	3400	80	.02	352	.10
EBT	2	3400	154	.05*	516	.15*
EBR	f		227		292	
WBL	2	3400	366	.11*	336	.10*
WBT	2	3400	235	.07	206	.06
WBR	1	1700	97	.06	118	.07
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.54**		**.63**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	281	.08*	489	.14*
NBT	4	6800	1040	.15	1738	.26
NBR	d	1700	131	.08	206	.12
SBL	2	3400	122	.04	171	.05
SBT	4	6800	1695	.26*	1287	.21*
SBR	0	0	76		114	
EBL	2	3400	85	.03	373	.11
EBT	2	3400	163	.05*	547	.16*
EBR	f		241		310	
WBL	2	3400	388	.11*	356	.10*
WBT	2	3400	249	.07	218	.06
WBR	1	1700	103	.06	125	.07
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.55**		**.66**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	279	.08*	496	.15*
NBT	4	6800	1064	.16	1735	.26
NBR	d	1700	121	.07	221	.13
SBL	2	3400	115	.03	157	.05
SBT	4	6800	1697	.26*	1275	.21*
SBR	0	0	67		119	
EBL	2	3400	94	.03	362	.11
EBT	2	3400	155	.05*	530	.16*
EBR	f		241		323	
WBL	2	3400	436	.13*	371	.11*
WBT	2	3400	231	.07	212	.06
WBR	1	1700	103	.06	113	.07
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.57**		**.68**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	220	.06*	310	.09*
NBT	4	6800	1110	.16	1620	.24
NBR	d	1700	40	.02	270	.16
SBL	2	3400	200	.06	210	.06
SBT	4	6800	1450	.23*	1480	.23*
SBR	0	0	130		70	
EBL	2	3400	170	.05	480	.14
EBT	2	3400	80	.02*	680	.20*
EBR	f		170		220	
WBL	2	3400	530	.16*	290	.09*
WBT	2	3400	160	.05	280	.08
WBR	1	1700	110	.06	110	.06
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.52**		**.66**

33. El Toro & Rockfield

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	220	.06*	310	.09*
NBT	4	6800	1110	.16	1560	.23
NBR	d	1700	40	.02	250	.15
SBL	2	3400	190	.06	220	.06
SBT	4	6800	1530	.24*	1490	.23*
SBR	0	0	120		70	
EBL	2	3400	160	.05	470	.14
EBT	2	3400	80	.02*	670	.20*
EBR	f		170		230	
WBL	2	3400	510	.15*	290	.09*
WBT	2	3400	160	.05	270	.08
WBR	1	1700	120	.07	100	.06
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.52**		**.66**

34. Los Alisos & Rockfield

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	179	.11*	203	.12*
NBT	2	3400	666	.20	1177	.35
NBR	0	0	3		4	
SBL	1	1700	22	.01	28	.02
SBT	2	3400	868	.39*	710	.30*
SBR	0	0	448		300	
EBL	1.5		230	{.07}*	403	{.13}*
EBT	0.5	3400	13	.07	49	.13
EBR	1	1700	154	.09	268	.16
WBL	0	0	11		4	
WBT	1	1700	36	.03*	21	.01*
WBR	d	1700	55	.03	40	.02
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.65** **.61**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	190	.11*	215	.13*
NBT	2	3400	706	.21	1248	.37
NBR	0	0	3		4	
SBL	1	1700	23	.01	30	.02
SBT	2	3400	920	.41*	753	.32*
SBR	0	0	475		318	
EBL	1.5		244	{.08}*	427	{.14}*
EBT	0.5	3400	14	.08	52	.14
EBR	1	1700	163	.10	284	.17
WBL	0	0	12		4	
WBT	1	1700	38	.03*	22	.02*
WBR	d	1700	58	.03	42	.02
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.68** **.66**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	179	.11*	211	.12*
NBT	2	3400	716	.21	1267	.37
NBR	0	0	3		4	
SBL	1	1700	19	.01	35	.02
SBT	2	3400	889	.41*	769	.32*
SBR	0	0	512		325	
EBL	1.5		243	{.08}*	421	{.14}*
EBT	0.5	3400	14	.08	57	.14
EBR	1	1700	157	.09	276	.16
WBL	0	0	12		4	
WBT	1	1700	36	.03*	22	.02*
WBR	d	1700	61	.04	42	.02
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.68** **.65**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	210	.12*	310	.18*
NBT	2	3400	880	.26	1410	.42
NBR	0	0	10		10	
SBL	1	1700	10	.01	10	.01
SBT	2	3400	980	.46*	910	.34*
SBR	0	0	590		250	
EBL	1.5		230	{.09}*	600	{.19}*
EBT	0.5	3400	90	.09	40	.19
EBR	1	1700	270	.16	310	.18
WBL	0	0	20		20	
WBT	1	1700	100	.07*	70	.05*
WBR	d	1700	40	.02	20	.01
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.79** **.81**

34. Los Alisos & Rockfield

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	220	.13*	300	.18*
NBT	2	3400	880	.26	1440	.43
NBR	0	0	10		10	
SBL	1	1700	10	.01	20	.01
SBT	2	3400	990	.46*	920	.34*
SBR	0	0	570		240	
EBL	1.5		230	{.09}*	560	{.18}*
EBT	0.5	3400	90	.09	40	.18
EBR	1	1700	250	.15	310	.18
WBL	0	0	20		20	
WBT	1	1700	100	.07*	70	.05*
WBR	d	1700	40	.02	20	.01
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.80**		**.80**

35. Lake Forest & I-5 NB

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	1262	.25	2353	.46*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	1264	.25*	1355	.27
SBR	f		906		783	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	464	.14*	193	.06*
WBT	0	0	0		0	
WBR	2	3400	520	.15	375	.11
Right Turn Adjustment			WBR	.01*	WBR	.05*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.45**		**.62**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	1338	.26	2494	.49*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	1340	.26*	1436	.28
SBR	f		960		830	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	492	.14*	205	.06*
WBT	0	0	0		0	
WBR	2	3400	551	.16	397	.12
Right Turn Adjustment			WBR	.02*	WBR	.06*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.47**		**.66**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	1379	.27*	2469	.48*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	1343	.26	1435	.28
SBR	f		995		834	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	493	.15*	201	.06*
WBT	0	0	0		0	
WBR	2	3400	537	.16	394	.12
Right Turn Adjustment			WBR	.01*	WBR	.06*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.48**		**.65**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	1670	.33*	2380	.47*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	1060	.21	1370	.27
SBR	f		1400		1000	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	520	.15*	200	.06*
WBT	0	0	0		0	
WBR	2	3400	640	.19	420	.12
Right Turn Adjustment			WBR	.04*	WBR	.06*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.57**		**.64**

35. Lake Forest & I-5 NB

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	1710	.34*	2410	.47*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	1060	.21	1370	.27
SBR	f		1370		1000	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	530	.16*	190	.06*
WBT	0	0	0		0	
WBR	2	3400	620	.18	410	.12
Right Turn Adjustment			WBR	.02*	WBR	.06*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.57**		**.64**

36. Lake Forest & I-5/Carlota

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	560	.09	1177	.19*
NBR	0	0	58		113	
SBL	2	3400	261	.08	258	.08*
SBT	3	5100	901	.18*	546	.11
SBR	f		446		399	
EBL	2.5		848	.17	1383	
EBT	1.5	6800	263	.15*	615	.29*
EBR	1	1700	619	.36	311	.18
WBL	1	1700	118	.07*	145	.09*
WBT	0	0	0		0	
WBR	2	3400	145	.04	302	.09
Right Turn Adjustment			EBR	.21*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.66**		**.70**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	594	.10	1248	.20*
NBR	0	0	61		120	
SBL	2	3400	277	.08	273	.08*
SBT	3	5100	955	.19*	579	.11
SBR	f		473		423	
EBL	2.5		899	.18	1466	
EBT	1.5	6800	279	.16*	652	.31*
EBR	1	1700	656	.39	330	.19
WBL	1	1700	125	.07*	154	.09*
WBT	0	0	0		0	
WBR	2	3400	154	.05	320	.09
Right Turn Adjustment			EBR	.23*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.70**		**.73**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	599	.10	1261	.20*
NBR	0	0	61		118	
SBL	2	3400	281	.08	273	.08*
SBT	3	5100	950	.19*	579	.11
SBR	f		478		417	
EBL	2.5		922	.18	1441	
EBT	1.5	6800	275	.16*	642	.31*
EBR	1	1700	611	.36	300	.18
WBL	1	1700	121	.07*	153	.09*
WBT	0	0	0		0	
WBR	2	3400	155	.05	317	.09
Right Turn Adjustment			EBR	.20*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.67**		**.73**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	640	.10*	1060	.17*
NBR	0	0	50		80	
SBL	2	3400	330	.10*	380	.11*
SBT	3	5100	770	.15	650	.13
SBR	f		550		570	
EBL	2.5		940		1840	
EBT	1.5	6800	430	.20*	880	.40*
EBR	1	1700	620	.36	350	.21
WBL	1	1700	120	.07*	130	.08*
WBT	0	0	0		0	
WBR	2	3400	170	.05	400	.12
Right Turn Adjustment			EBR	.12*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.64**		**.81**

36. Lake Forest & I-5/Carlota

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	630	.10*	1080	.17*
NBR	0	0	40		70	
SBL	2	3400	330	.10*	370	.11*
SBT	3	5100	800	.16	650	.13
SBR	f		540		570	
EBL	2.5		970		1870	
EBT	1.5	6800	430	.21*	900	.41*
EBR	1	1700	590	.35	320	.19
WBL	1	1700	120	.07*	130	.08*
WBT	0	0	0		0	
WBR	2	3400	170	.05	390	.11
Right Turn Adjustment			EBR	.11*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.64**		**.82**

37. Paseo De Valencia & Carlota

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	179	.05*	165	.05
NBT	2	3400	33	.01	124	.06*
NBR	0	0	15		88	
SBL	2	3400	702	.21	873	.26*
SBT	2	3400	603	.25*	370	.11
SBR	0	0	231		20	
EBL	2	3400	116	.03*	219	.06
EBT	2	3400	171	.05	591	.17*
EBR	1	1700	85	.05	452	.27
WBL	1	1700	7	.00	18	.01*
WBT	2	3400	298	.09*	227	.07
WBR	1	1700	446	.26	491	.29
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.47**		**.55**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	190	.06*	175	.05
NBT	2	3400	35	.02	131	.07*
NBR	0	0	16		93	
SBL	2	3400	744	.22	925	.27*
SBT	2	3400	639	.26*	392	.12
SBR	0	0	245		21	
EBL	2	3400	123	.04*	232	.07
EBT	2	3400	181	.05	626	.18*
EBR	1	1700	90	.05	479	.28
WBL	1	1700	7	.00	19	.01*
WBT	2	3400	316	.09*	241	.07
WBR	1	1700	473	.28	520	.31
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.50**		**.58**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	185	.05*	175	.05
NBT	2	3400	42	.02	131	.07*
NBR	0	0	16		93	
SBL	2	3400	750	.22	906	.27*
SBT	2	3400	658	.27*	395	.12
SBR	0	0	246		26	
EBL	2	3400	119	.04*	224	.07
EBT	2	3400	172	.05	649	.19*
EBR	1	1700	89	.05	473	.28
WBL	1	1700	7	.00	19	.01*
WBT	2	3400	313	.09*	231	.07
WBR	1	1700	473	.28	516	.30
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.50**		**.59**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	160	.05	220	.06
NBT	2	3400	20	.01*	100	.06*
NBR	0	0	40	.02	270	.16
SBL	2	3400	920	.27*	1000	.29*
SBT	2	3400	590	.18	480	.15
SBR	0	0	10		30	
EBL	2	3400	90	.03*	440	.13*
EBT	2	3400	230	.07	690	.20
EBR	1	1700	110	.06	680	.40
WBL	1	1700	30	.02	50	.03
WBT	2	3400	470	.14*	360	.11*
WBR	1	1700	510	.30	530	.31
Right Turn Adjustment					Multi	.11*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.50**		**.75**

37. Paseo De Valencia & Carlota

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	160	.05	220	.06
NBT	2	3400	20	.01*	100	.06*
NBR	0	0	40	.02	270	.16
SBL	2	3400	920	.27*	960	.28*
SBT	2	3400	610	.18	480	.15
SBR	0	0	10		30	
EBL	2	3400	80	.02*	440	.13*
EBT	2	3400	240	.07	700	.21
EBR	1	1700	110	.06	670	.39
WBL	1	1700	30	.02	40	.02
WBT	2	3400	460	.14*	360	.11*
WBR	1	1700	500	.29	520	.31
Right Turn Adjustment					Multi	.11*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.49**		**.74**

38. El Toro & Bridger/I-5 NB

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	56	.03*	87	.05
NBT	2.5	6800	843	{.19}	1486	{.31}*
NBR	1.5		707		898	
SBL	0	0	0		0	
SBT	5	8500	2261	.28*	1808	.23
SBR	0	0	121		113	
EBL	1	1700	33	.02*	123	.07*
EBT	1	1700	7	.00	4	.00
EBR	1	1700	171	.10	199	.12
WBL	1.5		429		481	
WBT	0	5100	66	{.16}*	63	.23*
WBR	1.5		464		717	
Right Turn Adjustment			EBR	.06*		
Clearance Interval				.05*		.05*

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION **.60** **.66**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	59	.03*	92	.05
NBT	2.5	6800	894	{.21}	1575	{.32}*
NBR	1.5		749		952	
SBL	0	0	0		0	
SBT	5	8500	2397	.30*	1916	.24
SBR	0	0	128		120	
EBL	1	1700	35	.02*	130	.08*
EBT	1	1700	7	.00	4	.00
EBR	1	1700	181	.11	211	.12
WBL	1.5		455		510	
WBT	0	5100	70	{.16}*	67	.25*
WBR	1.5		492		760	
Right Turn Adjustment			EBR	.07*		
Clearance Interval				.05*		.05*

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION **.63** **.70**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	59	.03*	92	.05
NBT	2.5	6800	899	{.20}	1577	{.31}*
NBR	1.5		749		969	
SBL	0	0	0		0	
SBT	5	8500	2447	.30*	1923	.24
SBR	0	0	128		120	
EBL	1	1700	35	.02*	130	.08*
EBT	1	1700	7	.00	4	.00
EBR	1	1700	181	.11	211	.12
WBL	1.5		454		513	
WBT	0	5100	70	{.16}*	67	.25*
WBR	1.5		492		764	
Right Turn Adjustment			EBR	.06*		
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for EBR

TOTAL CAPACITY UTILIZATION **.62** **.69**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	60	.04*	160	.09*
NBT	2.5	6800	1050	{.24}	1440	{.32}
NBR	1.5		910		1120	
SBL	0	0	0		0	
SBT	5	8500	2310	.28*	1960	.24*
SBR	0	0	80		90	
EBL	1	1700	40	.02*	110	.06*
EBT	1	1700	10	.01	10	.01
EBR	1	1700	150	.09	220	.13
WBL	1.5		520		480	
WBT	0	5100	80	{.22}*	60	.23*
WBR	1.5		630		670	
Right Turn Adjustment			EBR	.03*		
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for EBR

TOTAL CAPACITY UTILIZATION **.64** **.67**

38. El Toro & Bridger/I-5 NB

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	60	.04*	160	.09*
NBT	2.5	6800	1060	{.25}	1350	{.31}
NBR	1.5		910		1120	
SBL	0	0	0		0	
SBT	5	8500	2360	.29*	1980	.24*
SBR	0	0	80		90	
EBL	1	1700	40	.02*	110	.06*
EBT	1	1700	10	.01	10	.01
EBR	1	1700	150	.09	220	.13
WBL	1.5		520		480	
WBT	0	5100	80	{.21}*	60	.23*
WBR	1.5		620		680	
Right Turn Adjustment			EBR	.03*		
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for EBR

TOTAL CAPACITY UTILIZATION **.64** **.67**

39. El Toro & Avd Carlota

Existing Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	949	.14	1759	.26*
NBR	d	1700	13	.01	49	.03
SBL	2	3400	115	.03	578	.17*
SBT	3	5100	890	.17*	721	.14
SBR	1	1700	620	.36	241	.14
EBL	1.5		592	.17*	829	
EBT	1.5	5100	227	.13	589	.28*
EBR	1	1700	118	.07	84	.05
WBL	1	1700	22	.01	46	.03
WBT	1	1700	100	.06*	90	.05*
WBR	1	1700	310	.18	390	.23
Right Turn Adjustment		Multi	.11*	WBR		.01*
Clearance Interval			.05*			.05*

Note: Assumes E/W Split Phasing
Note: Assumes Right-Turn Overlap for SBR WBR

TOTAL CAPACITY UTILIZATION **.56** **.82**

2011 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	1006	.15*	1865	.27*
NBR	d	1700	14	.01	52	.03
SBL	2	3400	122	.04*	613	.18*
SBT	3	5100	943	.18	764	.15
SBR	1	1700	657	.39	255	.15
EBL	1.5		628	.18*	879	
EBT	1.5	5100	241	.14	624	.29*
EBR	1	1700	125	.07	89	.05
WBL	1	1700	23	.01	49	.03
WBT	1	1700	106	.06*	95	.06*
WBR	1	1700	329	.19	413	.24
Right Turn Adjustment		Multi	.11*			
Clearance Interval			.05*			.05*

Note: Assumes E/W Split Phasing
Note: Assumes Right-Turn Overlap for SBR WBR

TOTAL CAPACITY UTILIZATION **.59** **.85**

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	1010	.15*	1861	.27*
NBR	d	1700	16	.01	61	.04
SBL	2	3400	123	.04*	613	.18*
SBT	3	5100	950	.19	788	.15
SBR	1	1700	656	.39	248	.15
EBL	1.5		615	.18*	886	
EBT	1.5	5100	230	.14	618	.29*
EBR	1	1700	148	.09	93	.05
WBL	1	1700	10	.01	59	.03
WBT	1	1700	104	.06*	90	.05*
WBR	1	1700	336	.20	422	.25
Right Turn Adjustment		Multi	.12*	WBR		.02*
Clearance Interval			.05*			.05*

Note: Assumes E/W Split Phasing
Note: Assumes Right-Turn Overlap for SBR WBR

TOTAL CAPACITY UTILIZATION **.60** **.86**

2015 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	880	.13	1590	.23*
NBR	d	1700	10	.01	50	.03
SBL	2	3400	100	.03	320	.09*
SBT	3	5100	960	.19*	780	.15
SBR	1	1700	800	.47	710	.42
EBL	1.5		850	.25*	900	
EBT	1.5	5100	250	.15	800	.33*
EBR	1	1700	170	.10	140	.08
WBL	1	1700	90	.05	40	.02
WBT	1	1700	130	.08*	80	.05*
WBR	1	1700	240	.14	640	.38
Right Turn Adjustment		Multi	.04*	WBR		.24*
Clearance Interval			.05*			.05*

Note: Assumes E/W Split Phasing
Note: Assumes Right-Turn Overlap for SBR WBR

TOTAL CAPACITY UTILIZATION **.61** **.99**

39. El Toro & Avd Carlota

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	880	.13	1590	.23*
NBR	d	1700	10	.01	50	.03
SBL	2	3400	100	.03	320	.09*
SBT	3	5100	960	.19*	790	.15
SBR	1	1700	790	.46	710	.42
EBL	1.5		860	.25*	820	
EBT	1.5	5100	260	.15	840	.33*
EBR	1	1700	160	.09	150	.09
WBL	1	1700	100	.06	40	.02
WBT	1	1700	120	.07*	90	.05*
WBR	1	1700	240	.14	640	.38
Right Turn Adjustment			Multi	.04*	WBR	.24*
Clearance Interval				.05*		.05*

Note: Assumes E/W Split Phasing
Note: Assumes Right-Turn Overlap for SBR WBR

TOTAL CAPACITY UTILIZATION **.60** **.99**

40. Portola & Rancho

2011 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	899	.26*	472	.14*
NBT	3	5100	1689	.33	1048	.21
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	849	.17*	1688	.33*
SBR	d	1700	178	.10	18	.01
EBL	1.5		31	.01*	49	.03*
EBT	0	5100	0		0	
EBR	1.5		287		926	.27
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					EBR	.13*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.49**		**.68**

2015 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	1030	.30*	500	.15*
NBT	3	5100	1320	.26	1600	.31
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	820	.16*	1460	.29*
SBR	d	1700	150	.09	30	.02
EBL	1.5		60	.02*	110	.06*
EBT	0	5100	0		0	
EBR	1.5		310		950	.28
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					EBR	.11*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.53**		**.66**

AUSTIN-FOUST ASSOCIATES, INC.
TRAFFIC ENGINEERING AND TRANSPORTATION PLANNING

MEMORANDUM

TO: Cheryl Kuta, Planning Manager, City of Lake Forest

FROM: Krys Saldivar, Austin-Foust Associates, Inc.

DATE: August 23, 2010

SUBJECT: **Lake Forest Sports Park and Recreation Center Alternative 7 Sensitivity Analysis**

Austin-Foust Associates, Inc. (AFA) has conducted a sensitivity analysis that assumes alternative land uses in the Opportunities Study Area, specifically for Alternative 7 versus Alternative 8 that is currently in the traffic study. The attached information presents the pages that are revised in the traffic study.

When you have reviewed the information we would be pleased to discuss the results by phone or meet in person.

Thank you for the opportunity to assist the City of Lake Forest in this important planning effort.

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Short-Term (Year 2015 Cumulative) Peak Hour Freeway/Tollway Mainline Levels of Service

Short-term (year 2015 cumulative) with-project AM and PM freeway mainline peak hour volumes and V/C ratios for with and without project are summarized in Table 14. Based on the peak hour mainline performance criteria and impact thresholds established for the analysis, no freeway mainline segment is forecast to be significantly impacted by the proposed project land uses under year short-term (year 2015 cumulative) conditions (i.e., the project does not cause LOS "F" conditions or contributes more than a .03 V/C to an already deficient LOS "F" condition). It should be noted that the LOS thresholds and significance criteria used here are from the CMP and do not necessarily represent Caltrans policy.

SPECIAL ISSUES

This section summarizes the special issues that were evaluated as part of the traffic analysis for the proposed Lake Forest Sports Park and Recreation Center project. The special issues addressed in this section deal with the following subject areas:

- **Signal Warrant Analysis** – This special issue presents a preliminary analysis for future traffic signal needs at the major entrance proposed on Rancho Parkway.

- **Alternative 7 Sensitivity Analysis** – This special issue presents an analysis of the proposed project assuming different background conditions than previously analyzed in this report.

Signal Warrant Analysis

This section includes a preliminary analysis of the signalization needs for the major entrance to the sports park proposed on the planned extension of Rancho Parkway to Portola Parkway. It is considered preliminary since detailed site planning for the sports park has yet to be completed at this time.

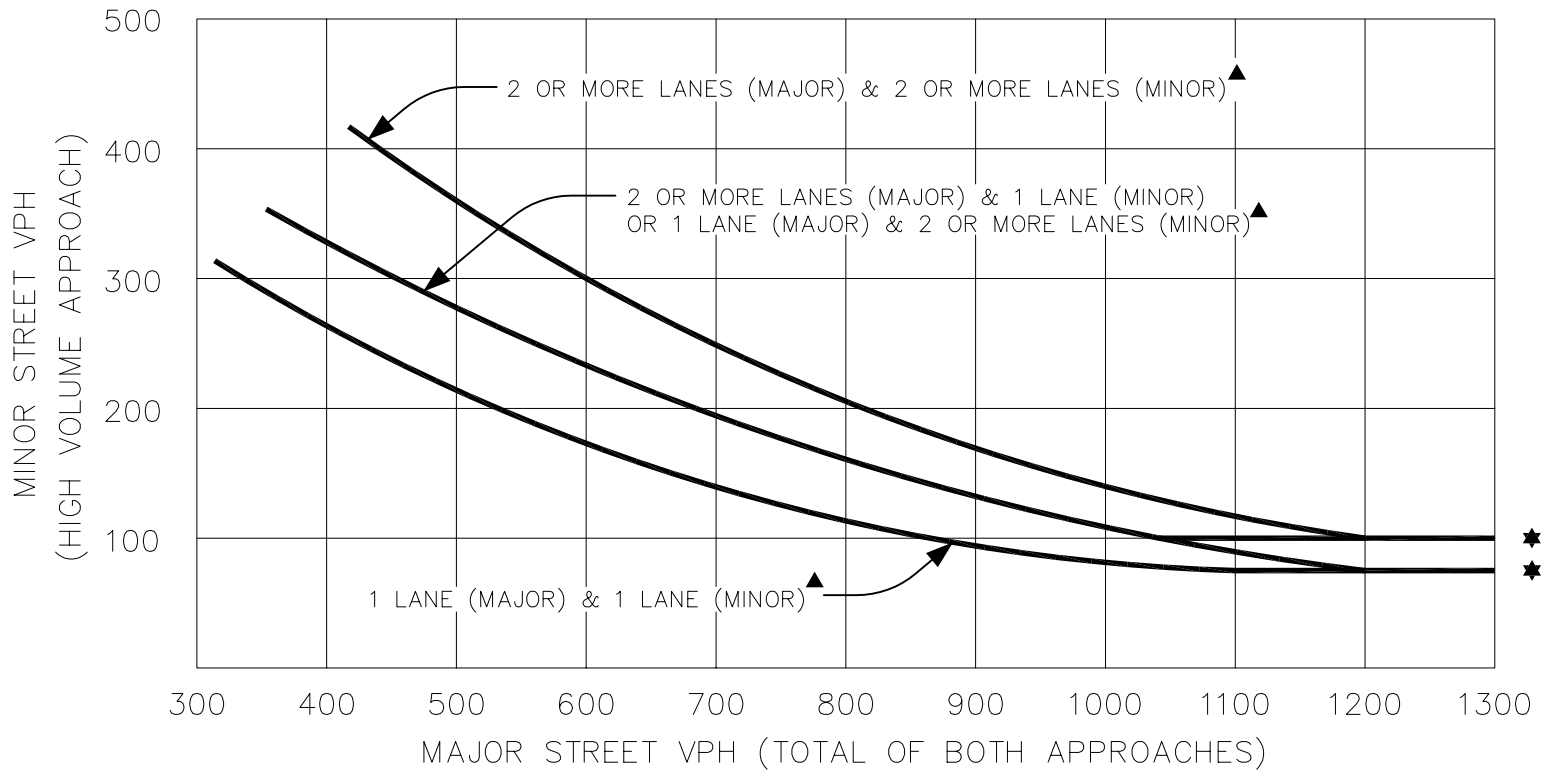
Traffic signal warrants based on peak hour volumes as adopted by the Federal Highway Administration and Caltrans were used here to determine the need for signalization. In applying this warrant, the volumes of both the major and minor street must meet or exceed those shown on the curves in Figure 30 for conditions when the speed on the major street is 40 (mph) or higher which is expected to be experienced by Rancho Parkway.

Table 14

SHORT-TERM (YEAR 2015 CUMULATIVE) FREEWAY/TOLLWAY MAINLINE LOS SUMMARY

Location	Direction	Lanes	Peak Hour Capacity	No-Project						With-Project					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
I-5 n/o Lake Forest	Northbound	8+2H	19,500	15,508	.80	D	12,651	.65	C	15,508	.80	D	12,682	.65	C
	Southbound	8+2H	19,500	11,806	.61	C	15,990	.82	D	11,844	.61	C	15,996	.82	D
I-5 n/o El Toro	Northbound	6+2H	15,500	15,527	1.00	E	12,269	.79	D	15,553	1.00	E	12,275	.79	D
	Southbound	6+2H	15,500	10,546	.68	C	14,546	.94	E	10,559	.68	C	14,546	.94	E
I-5 n/o Alicia	Northbound	4+1H	9,600	14,414	1.50	F	11,439	1.19	F	14,414	1.50	F	11,454	1.19	F
	Southbound	4+1H	9,600	9,661	1.01	F	14,370	1.50	F	9,661	1.01	F	14,370	1.50	F
SR-241 n/o Lake Forest	Northbound	3	6,000	5,079	.85	D	2,419	.40	B	5,079	.85	D	2,419	.40	B
	Southbound	3	6,000	2,027	.34	B	4,522	.75	D	2,027	.34	B	4,533	.76	D
SR-241 n/o Portola East	Northbound	3	6,000	4,957	.83	D	1,836	.31	B	4,957	.83	D	1,836	.31	B
	Southbound	3	6,000	1,387	.23	A	4,265	.71	C	1,387	.23	A	4,265	.71	C
SR-241 n/o Los Alisos	Northbound	3	6,000	4,863	.81	D	1,636	.27	A	4,863	.81	D	1,636	.27	A
	Southbound	3	6,000	1,195	.20	A	4,022	.67	C	1,195	.20	A	4,022	.67	C

Abbreviations: H – high-occupancy vehicle lane
LOS – level of service
V/C – volume/capacity ratio



▲ NOTE: THESE CURVES ARE RECOMMENDED FOR USE IN AREAS WHERE THE POSTED SPEED LIMIT ON THE MAJOR STREET IS 40 MPH OR HIGHER.

▲

✸ NOTE: 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES, AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

Figure 30

PEAK HOUR SIGNAL WARRANTS
(HIGHER SPEEDS)

Determining the major street approach for the signal warrant involves calculating the number of vehicles approaching the intersection on both major street legs. The highest total volume for either the continuous east and west approach or the north and south approach during either AM and PM is determined to be the major street approach for both peak hours. The minor street peak hour signal warrant volume is the number of peak hour vehicles approaching the intersection on only the highest volume leg. The highest volume for either the AM or PM determines the minor approach for both peak hours

The signal warrant analysis has been carried out for the intersection of the main entrance to the proposed sports park on Rancho Parkway. Since the worst-case volume on the major street (Rancho Parkway) is forecast to be over 1,500 vehicles in the PM peak hour under year 2015 cumulative with-project conditions, only a minimum volume of 75 vehicles on the minor street (proposed project access driveway) is required to determine if signal warrants are met. This indicates that of the total forecast volume in the PM peak hour of 503 only 15 percent of vehicles arriving and leaving the sports park would meet signal warrants. It is likely that this will occur and based on the application of the warrant, traffic signals should be installed at the proposed access intersection at Rancho Parkway under year 2015 cumulative with-project conditions. However, signals typically are not installed until warrants are met.

Alternative 7 Sensitivity Analysis

Alternative 7 was adopted in 2008 and included five participating landowners in the OSA. One of the five landowners, Site 1 Shea/Baker, at the start of this study had not yet signed a development agreement and was thus not a formal participant in the OSA. Therefore, the main body of this report assumed the current General Plan land uses in Shea/Baker which are mostly business park uses compared to residential use in Alternative 7. Buildout (2030) land use and trip generation for the OSA sites under cumulative conditions with current General Plan including non-participating Sites 1, 4 and 7, are summarized in Table 15 along with Alternative 7. As seen in Table 15, the trip generation is the highest under the Current General Plan and lowest under Alternative 7.

The proposed Sports Park and Recreation Center project is analyzed here for Alternative 7 and compared to the current General Plan results under short-range (year 2015 cumulative) conditions in this report. The 2011 analysis previously presented assumed only ambient growth in the area (i.e., no growth assumed in the OSA). Therefore the results are also applicable for Alternative 7.

Table 15

BUILDOUT LAND USE AND TRIP GENERATION SUMMARY
(CUMULATIVE CONDITIONS FOR OSA SITES 1-7 AND 9)

Land Use	Units	AM Peak Hour			PM Peak Hour			ADT
		In	Out	Total	In	Out	Total	
Alternative 7								
Single Family Detached	1,530 DU	290	857	1,147	994	551	1,545	14,642
Condominium	1,793 DU	304	898	1,202	807	591	1,398	14,613
Apartment	1,415 DU	141	581	722	566	311	877	9,509
Commercial (EQ)	160 TSF	167	107	274	475	515	990	11,388
Community Facility	44 TSF	36	7	43	100	108	208	2,002
Government Facility	44 TSF	87	11	98	39	87	126	1,228
Park	44 Acre	0	0	0	1	1	2	71
Business Park	2,041.7 TSF	2,450	470	2,920	613	2,021	2,634	26,052
Sports Park	63 Acre	1	0	1	214	258	472	3,389
Total Alternative 7		3,476	2,931	6,407	3,809	4,443	8,252	82,894
Current General Plan								
Single Family Detached	641 DU	122	359	481	415	232	647	6,134
Condominium	367 DU	62	184	246	165	121	286	2,991
Apartment	915 DU	91	376	467	366	201	567	6,149
Commercial (EQ)	780.52 TSF	513	328	841	1,464	1,586	3,050	35,062
Community Facility	44 TSF	36	7	43	100	108	208	2,002
Government Facility	44 TSF	87	11	98	39	87	126	1,228
Open Space	15.7 Acre	0	0	0	0	0	0	0
Park	36 Acre	0	0	0	0	0	0	59
Business Park	6,637.32 TSF	7,964	1,526	9,491	1,992	6,571	8,563	84,692
Sports Park	13 Acre	0	0	0	44	53	97	699
Total Current General Plan		8,875	2,791	11,667	4,585	8,959	13,544	139,016

The growth assumed in the OSA between existing to year 2015 is the same between Alternative 7 and the current General Plan assumptions which is around 25 percent. Also should the project require mitigation measures for Alternative 7 under year 2015 conditions, reference will be first made of any LFTM improvement.

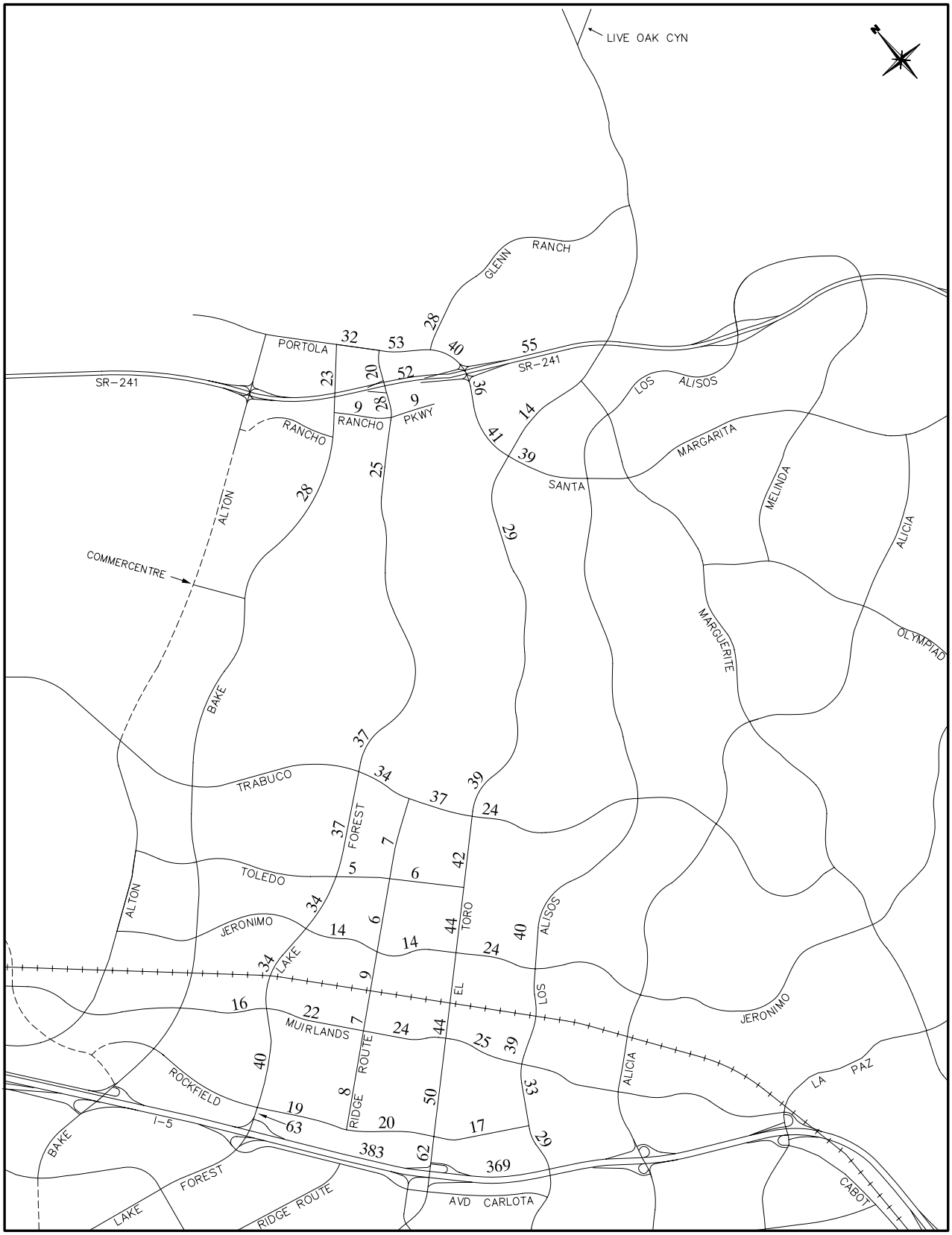
In the cumulative analysis year 2015, the ADT volumes for Alternative 7 under no-project and with-project conditions with buildout of the proposed project (year 2015) are presented in Figures 31 and 32. No significant changes in ADT volume can be seen when compared to the previous ADT volumes under current General Plan conditions. As such we would expect little change in the peak hour ICU results as well.

The future year 2015 ICU values and corresponding LOS for the intersections previously illustrated in Figure 24 and analyzed here are summarized in Table 16 (see Appendix C for detailed ICU calculations). Based on the peak hour intersection performance criteria and impact thresholds established for the analysis, one intersection, Lake Forest Drive and Rancho Parkway, within the study area is significantly impacted by the proposed project land uses under short-term (year 2015 cumulative) Alternative 7 conditions (no-project PM peak hour ICU of .67 increases to .92 for with-project) which is consistent with the previous 2015 results.

As mentioned before, the LFTM Program includes improvements at the intersection of Lake Forest Drive and Rancho Parkway which would mitigate the project impact resulting from the Sports Park/Recreation Center project. The analyses in this report for both Alternative 7 and current General Plan conditions in the OSA indicate that the improvements should be implemented no later than year 2015. Since the improvements listed in LFTM for the intersection of Lake Forest Drive and Rancho Parkway exceed what are required to mitigate the impacts of the Sports Park/Recreation Center project, the EIR will include a mitigation measure to ensure that the minimum improvements necessary to accommodate the proposed project (a second eastbound through lane on Rancho Parkway) will be constructed no later than year 2015 for either Alternative 7 and current General Plan conditions in the OSA.

FINDINGS AND CONCLUSIONS

The proposed project involves the development of a sports park and recreation center oriented toward youth, adult, and senior recreation activities. The development of the proposed project has

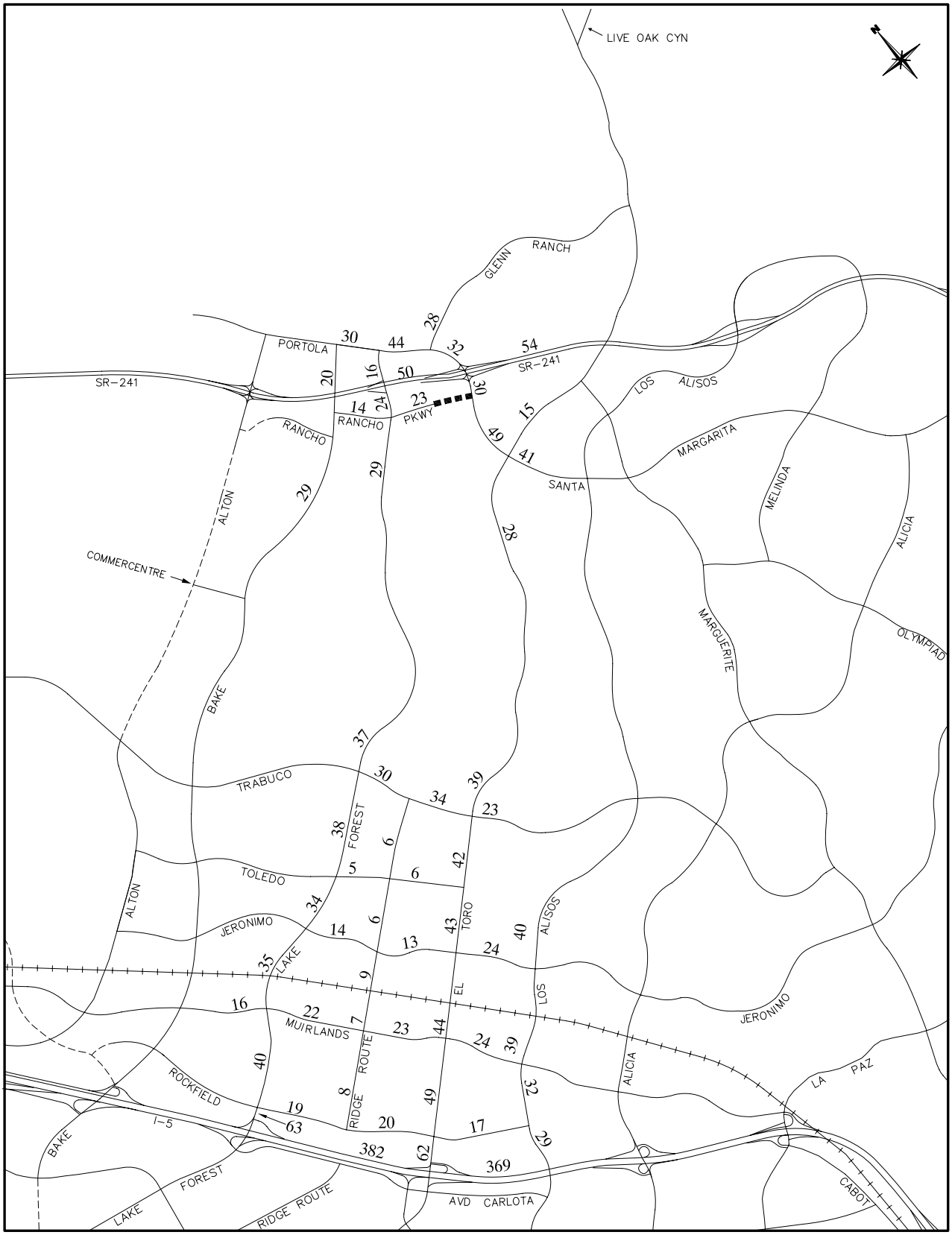


Legend

——— Existing roadway
– – – – Future roadway in by 2015

Figure 31

2015 ADT VOLUMES (000s)
- NO-PROJECT
(ALTERNATIVE 7)



Legend

- Existing roadway
- Future roadway in by 2015
- Future roadway in with-project only

Figure 32

2015 ADT VOLUMES (000s)
- WITH-PROJECT
(ALTERNATIVE 7)

relatively modest impacts on the surrounding street system during the AM and PM peak hours. The results of the analysis presented here indicate that the proposed project does not adversely impact any locations with the exception of Lake Forest Drive and Rancho Parkway in year 2015 cumulative in the PM peak hour. The improvements for this location are included in the LFTM Program and according to the analysis presented in this report their implementation would be required sooner than later. These improvements are needed as well as the Rancho Parkway extension to Portola Parkway and new intersection to accommodate the proposed project. The findings and conclusions mentioned here apply to either Alternative 7 or current General Plan conditions in the OSA.

Table 16

SHORT-TERM (YEAR 2015 CUMULATIVE) INTERSECTION LOS SUMMARY WITHIN STUDY AREA – ALTERNATIVE 7

Intersection	No-Project				With-Project				Difference	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
2. Bake & Portola	.58	A	.81	D	.56	A	.81	D	-.02	.00
3. Lake Forest & Portola (a)	.61	B	.98	E	.54	A	.76	C	-.07	-.22
4. Glenn Ranch & Portola	.70	B	.67	B	.62	B	.64	B	-.08	-.03
5. Portola & SR-241 Ramps	.54	A	.68	B	.48	A	.61	B	-.06	-.07
7. Lake Forest & SR-241 NB	.38	A	.44	A	.31	A	.38	A	-.07	-.06
8. Lake Forest & SR-241 SB	.50	A	.52	A	.42	A	.44	A	-.08	-.08
9. Bake & Rancho North	.57	A	.75	C	.65	B	.75	C	.08	.00
10. Lake Forest & Rancho (a) (b)	.49	A	.67	B	.63	B	.92	E	.14	.25
11. Bake & Rancho South	.61	B	.66	B	.63	B	.70	B	.02	.04
12. El Toro & Portola/Santa Margarita	.64	B	.80	C	.68	B	.89	D	.04	.09
15. Lake Forest & Trabuco	.78	C	.86	D	.81	D	.84	D	.03	-.02
16. Ridge Route & Trabuco	.51	A	.65	B	.48	A	.63	B	-.03	-.02
17. El Toro & Trabuco	.71	C	.70	B	.66	B	.68	B	-.05	-.02
19. Lake Forest & Toledo	.48	A	.47	A	.47	A	.46	A	-.01	-.01
20. Ridge Route & Toledo	.31	A	.32	A	.30	A	.32	A	-.01	.00
21. El Toro & Toledo	.58	A	.58	A	.59	A	.56	A	.01	-.02
23. Lake Forest & Jeronimo	.67	B	.73	C	.66	B	.72	C	-.01	-.01
24. Ridge Route & Jeronimo	.44	A	.57	A	.43	A	.54	A	-.01	-.03
25. El Toro & Jeronimo	.77	C	.76	C	.79	C	.77	C	.02	.01
26. Los Alisos & Jeronimo	.78	C	.89	D	.78	C	.89	D	.00	.00
27. Lake Forest & Muirlands	.63	B	.86	D	.61	B	.86	D	-.02	.00
28. Ridge Route & Muirlands	.49	A	.66	B	.49	A	.67	B	.00	.01
29. El Toro & Muirlands	.65	B	.81	D	.66	B	.79	C	.01	-.02
30. Los Alisos & Muirlands (a)	.89	D	.92	E	.85	D	.91	E	-.04	-.01

Table 16 (cont.)
SHORT-TERM (YEAR 2015 CUMULATIVE) INTERSECTION LOS SUMMARY WITHIN STUDY AREA – ALTERNATIVE 7

Intersection	No-Project				With-Project				Difference	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
31. Lake Forest & Rockfield	.67	B	.75	C	.67	B	.76	C	.00	.01
32. Ridge Route & Rockfield	.42	A	.57	A	.43	A	.57	A	.01	.00
33. El Toro & Rockfield	.54	A	.65	B	.55	A	.65	B	.01	.00
34. Los Alisos & Rockfield	.81	D	.81	D	.82	D	.78	C	.01	-.03
35. Lake Forest & I-5 NB	.57	A	.64	B	.57	A	.64	B	.00	.00
36. Lake Forest & I-5/Carlota	.64	B	.81	D	.63	B	.82	D	-.01	.01
37. Paseo De Valencia & Carlota	.51	A	.77	C	.50	A	.76	C	-.01	-.01
38. El Toro & Bridger/I-5 NB	.65	B	.67	B	.65	B	.67	B	.00	.00
39. El Toro & Avd Carlota (a)	.60	A	1.00	E	.59	A	1.00	E	-.01	.00
40. Portola & Rancho	--	--	--	--	.52	A	.62	B	--	--

Abbreviations: ICU – intersection capacity utilization LOS – level of service NB – northbound SB – southbound

(a) This location is forecast to operate deficiently in the AM and/or PM peak hour under no-project and/or with-project conditions (i.e., the forecasted LOS is worse than the adopted LOS performance standard.
(b) Significantly impacted by the proposed project according to the performance criteria.

REFERENCES

1. "City of Lake Forest Vacant Land Opportunities Phase III Traffic Study," Austin-Foust Associates, Inc., July 8, 2005.

2. "City of Lake Forest Vacant Land Opportunities Phase III Alternative 7 (Hybrid Alternative) Traffic Study," Austin-Foust Associates, Inc., November 7, 2007 (Approved by Lake Forest City Council on June 3, 2008).

3. "City of Lake Forest Vacant Land Opportunities Phase III Alternative 8 Traffic Study," Austin-Foust Associates, Inc., September 2009.