LINSCOTT LAW & GREENSPAN engineers

FOCUSED SITE ACCESS ANALYSIS

KAISER PERMANENTE FOOTHILL RANCH MOB

Lake Forest, California

April 18, 2011

(Revision of February 9, 2011 Report)

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EXECUTIVE SUMMARY

Project Description

- The Project site is located on the southwest quadrant of the intersection of Lake Forest Drive and Towne Center Drive, just north of the Foothill Transportation Corridor (SR-241) in the City of Lake Forest, California. The proposed Project includes the construction of a 36,022 square-feet (SF) Medical Office Building in two phases with access proposed via two driveways located along Towne Center Drive. The easterly Project driveway is proposed as full-access and the westerly Project driveway is proposed as right-in/right-out only.

Project Trip Generation

- The proposed Project is forecast to generate 1,301 daily trips (one half arriving and one half departing), with 83 trips (66 inbound, 17 outbound) produced in the AM peak hour and 125 trips (34 inbound, 91 outbound) produced in the PM peak hour on a "typical" weekday.

Project Study Area

- The Project study area covers six (6) existing key study intersections and one (1) future Project driveway. The key study intersections and Project driveway are:

  1. Bake Parkway at Towne Center Drive
  2. Auto Center Drive (West) at Towne Center Drive
  3. Auto Center Drive (East)/Driveway 1 [Future] at Towne Center Drive
  4. Lake Forest Drive at Towne Center Drive
  5. Lake Forest Drive at SR-241 Northbound On-Ramp
  6. Lake Forest Drive at SR-241 Southbound Off-Ramp
  7. Driveway 2 at Towne Center Drive [Future]

Traffic Impact Analysis

Existing Conditions

- All six (6) key study intersections currently operate at acceptable LOS B or better under Existing traffic conditions.

Existing With Project Conditions

- All six (6) key study intersections are forecast to operate at acceptable LOS C or better for the Existing With Project traffic conditions when compared to the LOS standards defined in this report.

Project-Specific Traffic Improvements

Existing With Project Conditions

- Since there were no impacted intersections under the Existing With Project traffic conditions, no improvements have been recommended.

Site Access & On-Site Circulation

- Both Project driveways are forecast to operate at acceptable levels of service B or better during the AM and PM peak hours under the Existing With Project Traffic Conditions.

- The maximum vehicle queue calculated for the eastbound left-turn lane at the intersection of Lake Forest Drive at Towne Centre Drive for the Existing With Project traffic conditions occurs during the PM peak hour. The vehicle queue for this eastbound left-turn lane is forecast to have a maximum queue of three (3) vehicles, which equates to a queue length of 75 feet (assuming an average car length of 25 feet). Based on this analysis, the existing 150-foot eastbound left-turn lane at the intersection of Lake Forest Drive and Towne Centre Drive, can be shortened to a minimum length of 75 feet.

- The maximum vehicle queue calculated for the proposed westbound left-turn lane into the Project site at the intersection of Auto Center Drive (East)/Driveway 1 and Towne Centre Drive for the Existing With Project traffic conditions occurs during both the AM and PM peak hours. The vehicle queue on this westbound left-turn lane is forecast to have a maximum queue of one (1) vehicle, which equates to a queue length of 25 feet. Based on this analysis a 60-foot westbound left-turn lane is recommended for access into the Project site at the intersection of Auto Center Drive (East)/Driveway 1 and Towne Centre Drive.

- As a result of the left turn access analysis at the intersection of Auto Center Drive (East)/Driveway 1 and Towne Centre Drive for the Existing With Project traffic conditions, it is recommended that the existing eastbound left-turn pocket at the intersection of Lake Forest Drive at Towne Centre Drive be shortened to 100 feet from its current 150 feet length to provide for a 60-foot westbound left-turn pocket for access into the Project site at the intersection of Auto Center Drive (East)/Driveway 1 and Towne Centre Drive with a 90 feet reverse curve transition between pockets.

- The on-site circulation was evaluated in terms of vehicle-pedestrian conflicts. Based on our review of the preliminary site plan, the overall layout does not create significant vehicle-pedestrian conflict points and the driveway throat lengths are sufficient such that access to aisles is not impacted by internal vehicle queuing/stacking. The on-site circulation is acceptable based on our review of the proposed site plan. Project traffic is not anticipated to cause significant queuing/stacking on the Project driveways. In addition, turning movements into and out of the Project site at the Project driveways are anticipated to operate at acceptable service levels. As such, motorists entering and exiting the Project site from this driveway will be able to do so comfortably, safely, and without undue congestion.

FOCUSED SITE ACCESS ANALYSIS

KAISER PERMANENTE FOOTHILL RANCH MOB

Lake Forest, California

April 18, 2011

(Revision of February 9, 2011 Report)

1.0 INTRODUCTION

This traffic impact analysis report addresses the potential traffic impacts and circulation needs associated with the proposed Kaiser Permanente Foothill Ranch MOB (hereinafter referred to as Project) in the City of Lake Forest, California. The proposed Project site is located on the southwest quadrant of the intersection of Lake Forest Drive and Towne Center Drive, just north of the Foothill Transportation Corridor (SR-241). The proposed Project includes the construction of a 36,022 square-feet (SF) Medical Office Building in two phases with access proposed via two driveways located along Towne Center Drive.

This report documents the findings and recommendations of a traffic impact analysis conducted by Linscott, Law & Greenspan, Engineers (LLG) to determine the potential impacts the Project may have on the local and/or regional network in the vicinity of the Project site. The traffic impact analysis evaluates the operating conditions at six (6) key existing study intersections and one (1) future Project driveway within the Project vicinity, estimates the trip generation potential of the proposed Project and forecasts existing operating conditions without and with the proposed Project. It should be noted that no Buildout analysis was conducted as this Project is consistent with the City of Lake Forest General Plan and zoning designations as well as the City's Traffic Analysis Model.

This traffic impact analysis report is consistent with the requirements and procedures outlined in the *2009 Orange County Congestion Management Program (CMP).* It should be noted that the City of Lake Forest adheres to the *Orange County Congestion Management Program TIA Guidelines.*

The Project site has been visited and an inventory of adjacent area roadways and intersections was performed. Existing (i.e. baseline) peak hours and daily traffic information has been collected at six (6) key study intersections on a "typical" weekday for use in the preparation of intersection level of service calculations. This focused site access analysis report analyzes Existing (i.e. baseline) and Existing With Project weekday AM and PM peak hour traffic conditions.

1.1 Study Area

The study intersections listed below are locations that could potentially be impacted by the proposed Project. Six (6) key existing study intersections and one (1) future Project driveway listed below were selected for evaluation based on discussions with City of Lake Forest staff. The key study intersections listed below provide local access to the study area and define the extent of the boundaries for this traffic impact investigation:

1. Bake Parkway at Towne Center Drive

2. Auto Center Drive (West) at Towne Center Drive
3. Auto Center Drive (East)/Driveway 1 [Future] at Towne Center Drive
4. Lake Forest Drive at Towne Center Drive
5. Lake Forest Drive at SR-241 Northbound On-Ramp
6. Lake Forest Drive at SR-241 Southbound Off-Ramp
7. Driveway 2 at Towne Center Drive [Future]

Figure 1-1 presents a Vicinity Map, which illustrates the general location of the Project and depicts the study locations and surrounding street system.

The ICU/Delay and corresponding Level of Service (LOS) calculations at the key study locations were used to evaluate the potential traffic-related impacts associated with the proposed Project. When necessary, this report recommends intersection improvements that may be required to accommodate Project traffic volumes and restore/maintain an acceptable Level of Service and/or addresses the impact of the Project.

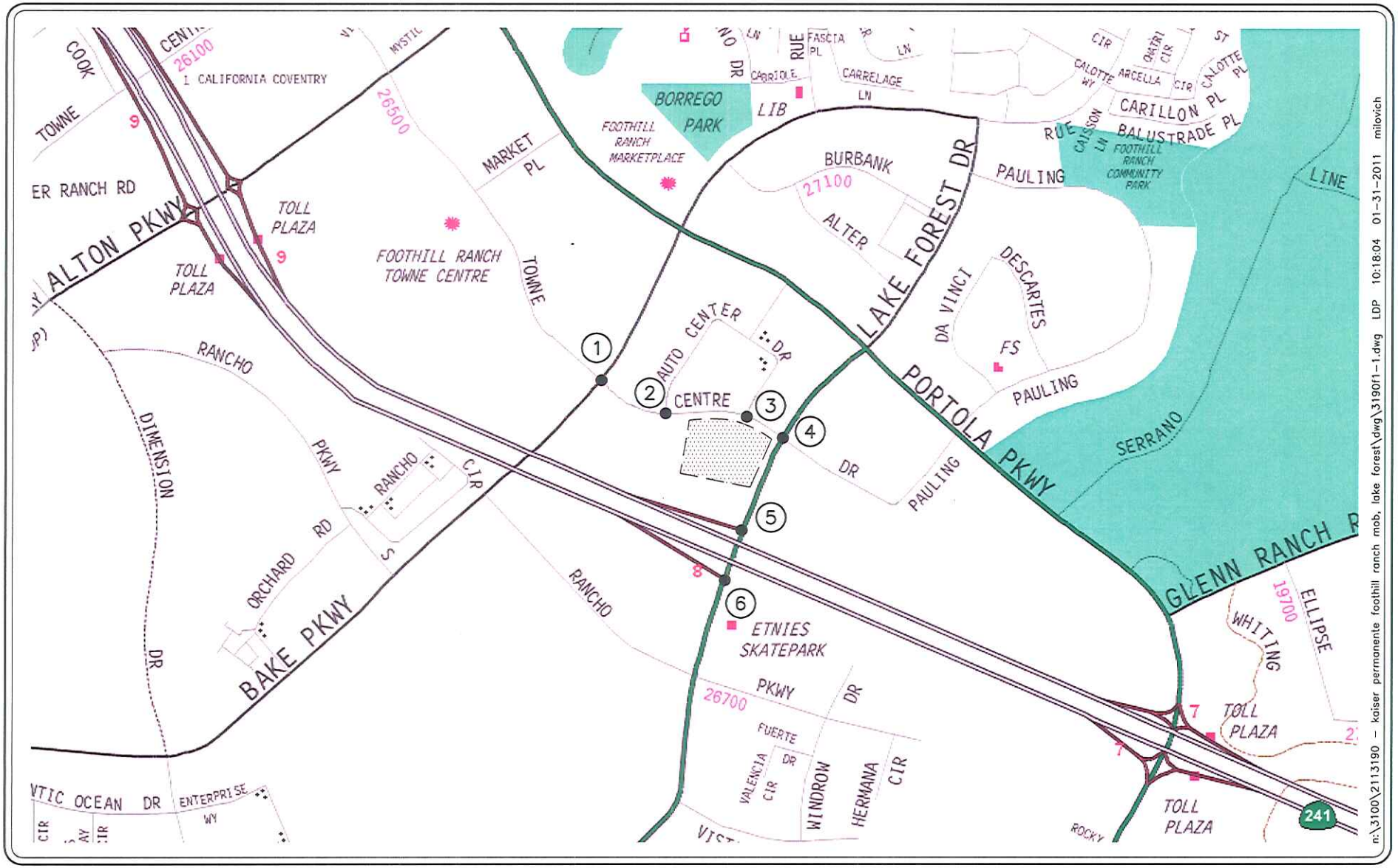
Included in this Focused Site Access Analysis are:

- Existing traffic counts,
- Estimated Project traffic generation/distribution/assignment for the proposed Project,
- AM and PM peak hour LOS analyses for Existing (i.e. Baseline) Conditions,
- AM and PM peak hour LOS analyses for Existing (i.e. Baseline) conditions with Project traffic,
- Project-Specific Traffic Improvements,
- Fair-Share Analysis, and
- Site Access and On-Site Circulation Analysis.

1.2 Traffic Impact Analysis Scenarios

The following scenarios are those for which ICU/Delay and corresponding LOS calculations have been performed at the key intersections:

A. Existing (i.e. Baseline) Traffic Conditions,
B. Existing (i.e. Baseline) With Project Traffic Conditions, and
C. Scenario (B) with Recommended Improvements, if any,



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: THOMAS GUIDE

KEY

(#) = STUDY INTERSECTION

= PROJECT SITE

FIGURE 1–1

VICINITY MAP

KAISER PERMANENTE FOOTHILL RANCH MOB, LAKE FOREST

2.0 PROJECT DESCRIPTION AND LOCATION

The Project site is located on the southwest quadrant of the intersection of Lake Forest Drive and Towne Center Drive, just north of the Foothill Transportation Corridor (SR-241) in the City of Lake Forest, California. The proposed Project includes the construction of a 36,022 square-feet (SF) Medical Office Building in two phases with access proposed via two driveways located along Towne Center Drive. The first phase will consist of a 21,225 SF medical office building (MOB) and phase 2 will consist of a 14,797 SF expansion to the existing MOB.

Figure 2-1 presents the existing site for the proposed Project, which is vacant. ***Figure 2-2*** presents the proposed site plan for the Project, prepared by Frank R. Webb Architects.

2.1 Site Access

As shown in *Figure 2-2*, vehicular access to the Project site will be provided via two (2) driveways located along Towne Centre Drive. The easterly Project driveway (Driveway 1) is proposed as full-access and the westerly Project driveway (Driveway 2) is proposed as right-in/right-out only.

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: GOOGLE EARTH

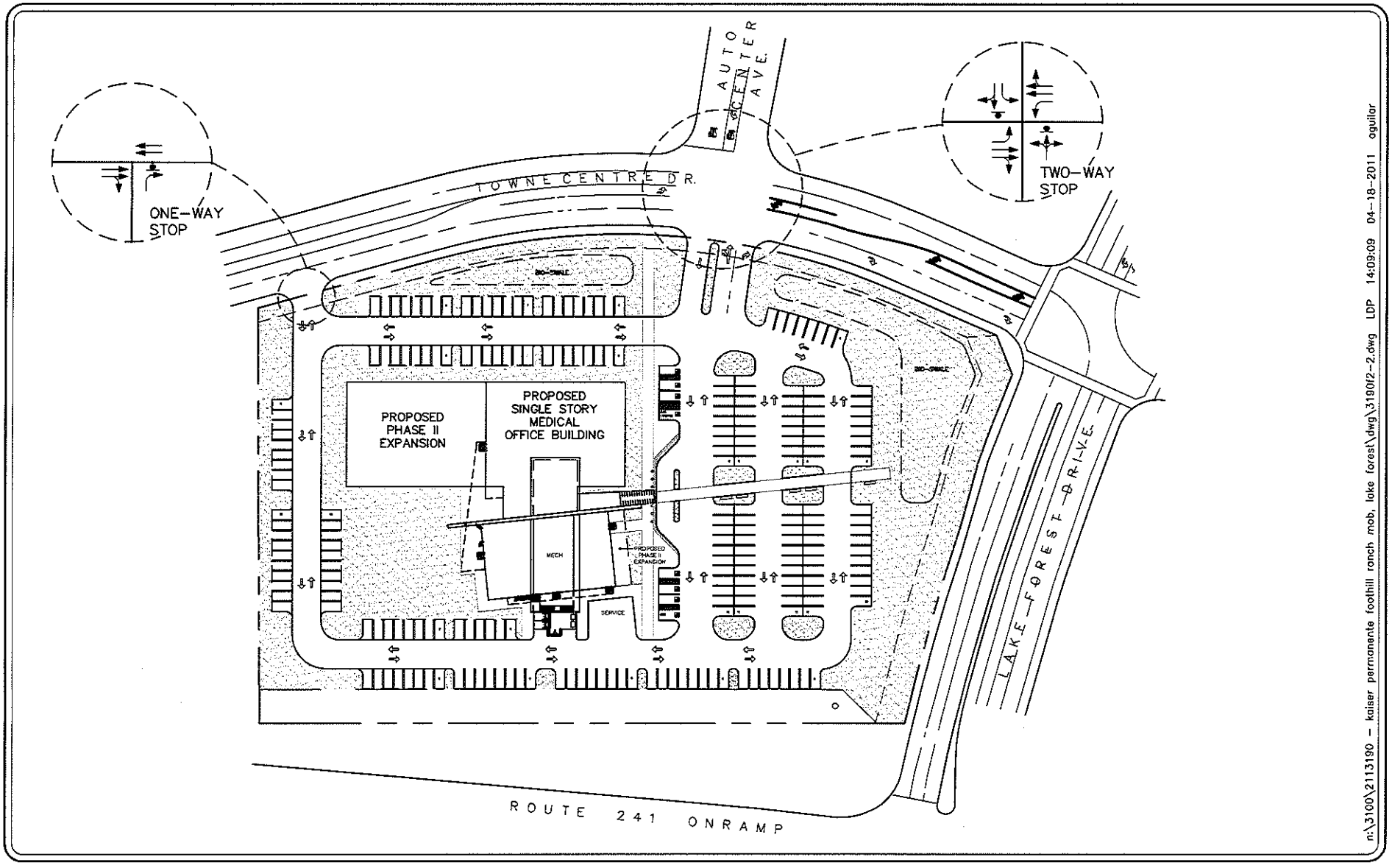
KEY

= PROJECT SITE

FIGURE 2-1

EXISTING SITE

KAISER PERMANENTE FOOTHILL RANCH MOB, LAKE FOREST



LINSCOTT LAW & GREENSPAN engineers

SOURCE: FRANK R. WEBB ARCHITECTS

NO SCALE

FIGURE 2-2

PROPOSED SITE PLAN

KAISER PERMANENTE FOOTHILL RANCH MOB, LAKE FOREST

3.0 ANALYSIS CONDITIONS AND METHODOLOGY

3.1 Existing Street Network

The Foothill Toll Road (SR-241) provides primary regional access to the proposed Project. The SR-241 Toll Road runs in the northwest-southeast direction, south of the Project site. The principal local network of streets serving the Project site consists of Portola Parkway, Towne Centre Drive, Bake Parkway, Lake Forest Drive and Auto Center Drive. The following discussion provides a brief synopsis of the key area streets.

Portola Parkway is a northwest-southeast roadway located north and east of the Project site. On-street parking is not permitted on either side of the roadway within the Project vicinity. Portola Parkway is a six-lane divided roadway. The posted speed limit is 45 miles per hour (mph).

Towne Centre Drive is a northwest-southeast roadway that borders the Project site on the north side. On-street parking is not permitted on either side of the roadway within the Project vicinity. Towne Centre Drive is a four-lane divided roadway. The intersections of Towne Centre Drive at Bake Parkway and Lake Forest Drive are controlled by traffic signals. It should be noted that the Project site access is provided via two (2) driveways located along Towne Center Drive.

Bake Parkway is a northeast-southwest roadway located west of the Project site. On-street parking is not permitted on either side of the roadway within the Project vicinity. Bake Parkway is a four-lane divided roadway.

Lake Forest Drive is a northeast-southwest roadway that borders the Project site on the east. On-street parking is not permitted on either side of the roadway within the Project vicinity. Lake Forest Drive is a four-lane divided roadway. The posted speed limit is 50 mph. The intersections of Lake Forest Drive at SR-241 Northbound On-Ramp and SR-241 Southbound Off-Ramp are controlled by traffic signals.

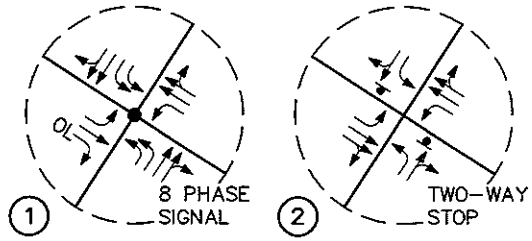
Auto Center Drive is located north of the Project site. Parking is permitted on both sides of Auto Centre Drive. Auto Center Drive is primarily a two-lane divided roadway.

Figure 3-1 presents an inventory of the existing roadway conditions within the study area evaluated in this report. The number of travel lanes and intersection controls for the key area study intersections and roadway segments are identified.

3.2 Existing Traffic Volumes

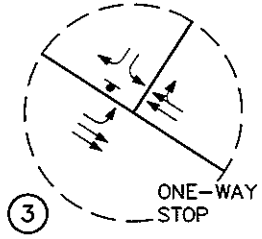
Existing AM and PM peak hour traffic volumes for the six (6) key study intersections evaluated in this report were collected by Transportation Studies, Inc. in October and November 2010 and January 2011. ***Appendix A*** contains the existing intersection turning movement traffic count data.

Figures 3-2 and ***3-3*** present the existing AM and PM peak hour traffic volumes, respectively, for the six (6) key study intersections.

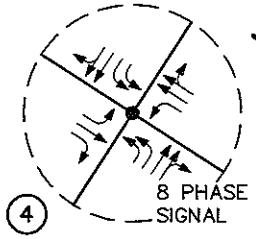


BAKE PKWY @ TOWNE CENTRE DR

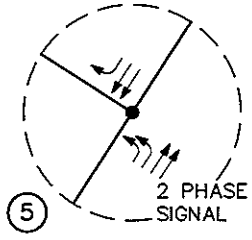
AUTO CENTER DR (W) @ TOWNE CENTRE DR



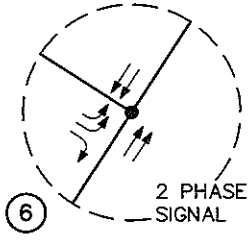
AUTO CENTER DR (E) @ TOWNE CENTRE DR



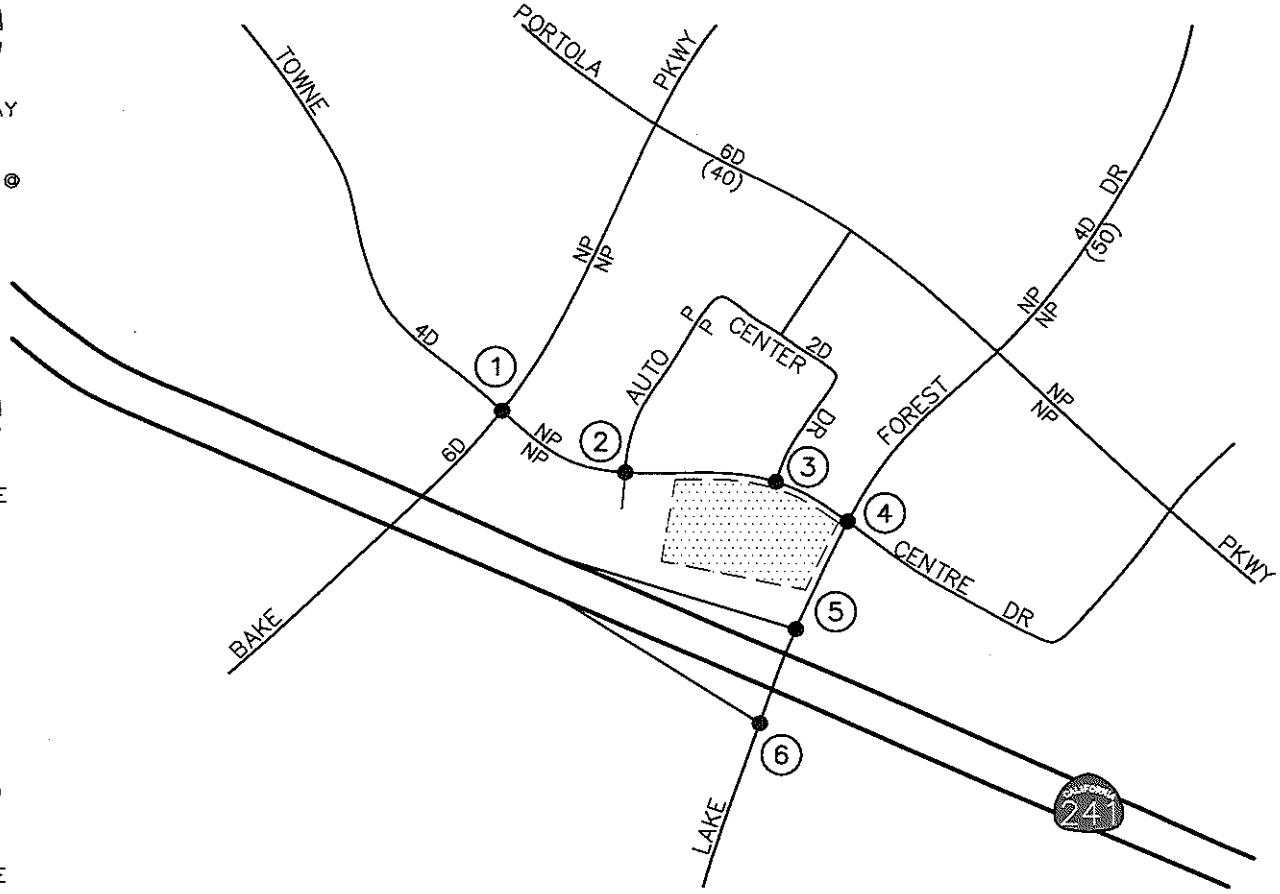
LAKE FOREST DR @ TOWNE CENTRE DR



LAKE FOREST DR @ SR-241 NORTHBOUND ON-RAMP



LAKE FOREST DR @ SR-241 SOUTHBOUND OFF-RAMP



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N NO SCALE

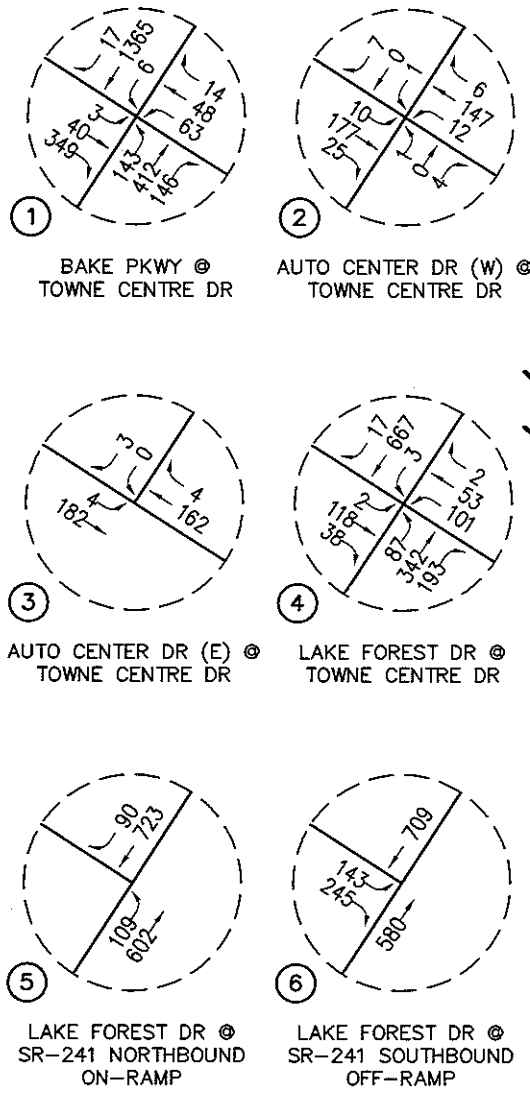
KEY

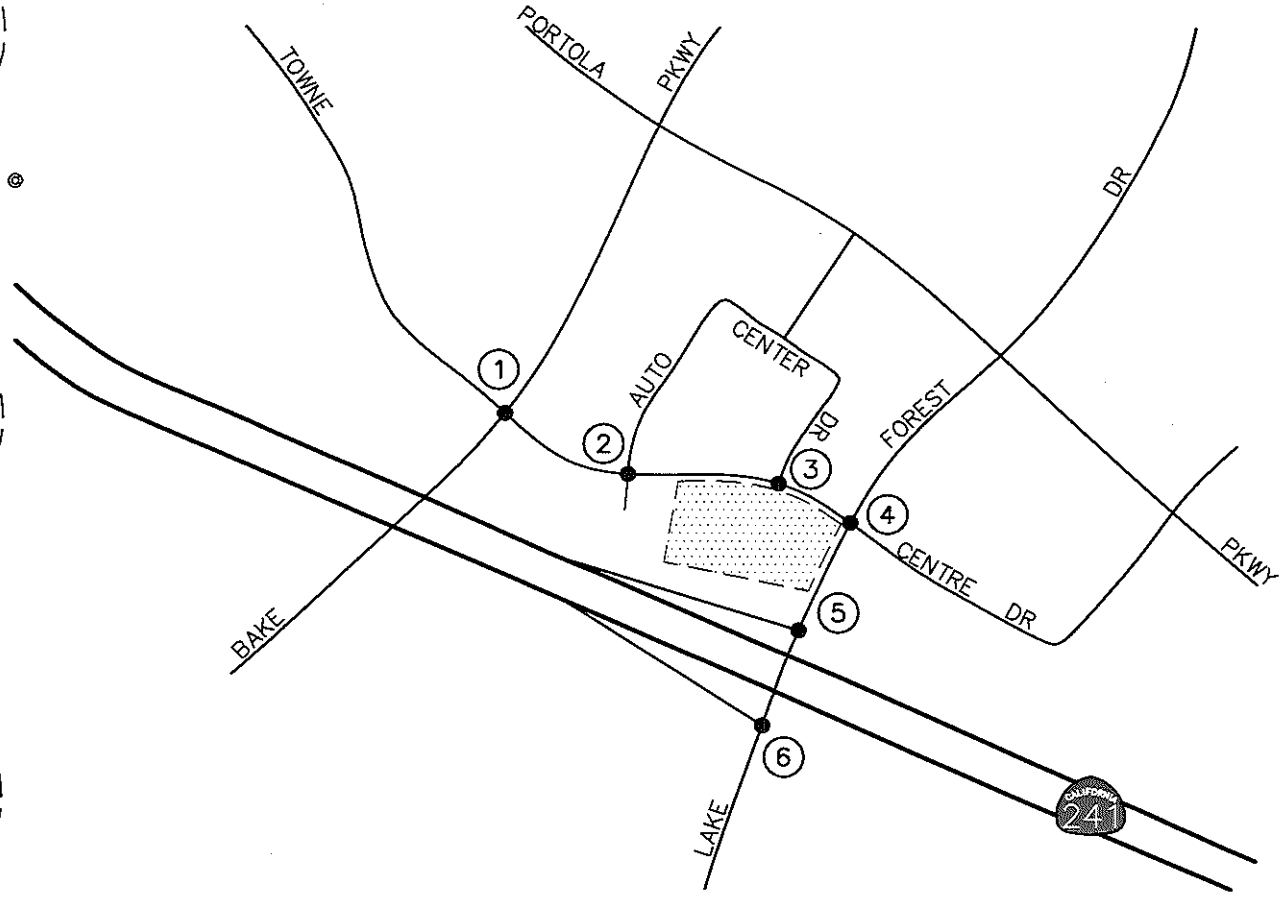
- ← = APPROACH LANE ASSIGNMENT
- ● = TRAFFIC SIGNAL, ⊤ = STOP SIGN
- P = PARKING, NP = NO PARKING
- U = UNDIVIDED, D = DIVIDED
- 2 = NUMBER OF TRAVEL LANES
- (XX)= POSTED SPEED LIMIT (MPH)
- OL = RIGHT-TURN OVERLAP
- ▒ = PROJECT SITE

FIGURE 3-1

EXISTING ROADWAY CONDITIONS AND INTERSECTION CONTROLS

KAISER PERMANENTE FOOTHILL RANCH MOB, LAKE FOREST





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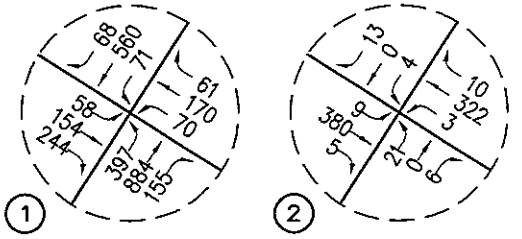
N NO SCALE

KEY
= PROJECT SITE

FIGURE 3-2

EXISTING AM PEAK HOUR TRAFFIC VOLUMES

KAISER PERMANENTE FOOTHILL RANCH MOB, LAKE FOREST

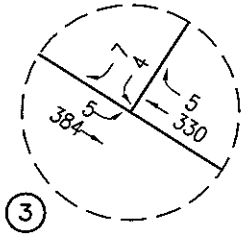


1

BAKE PKWY @
TOWNE CENTRE DR

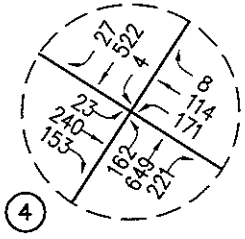
2

AUTO CENTER DR (W) @
TOWNE CENTRE DR



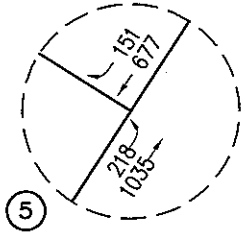
3

AUTO CENTER DR (E) @
TOWNE CENTRE DR



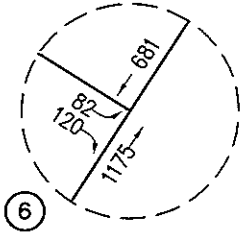
4

LAKE FOREST DR @
TOWNE CENTRE DR



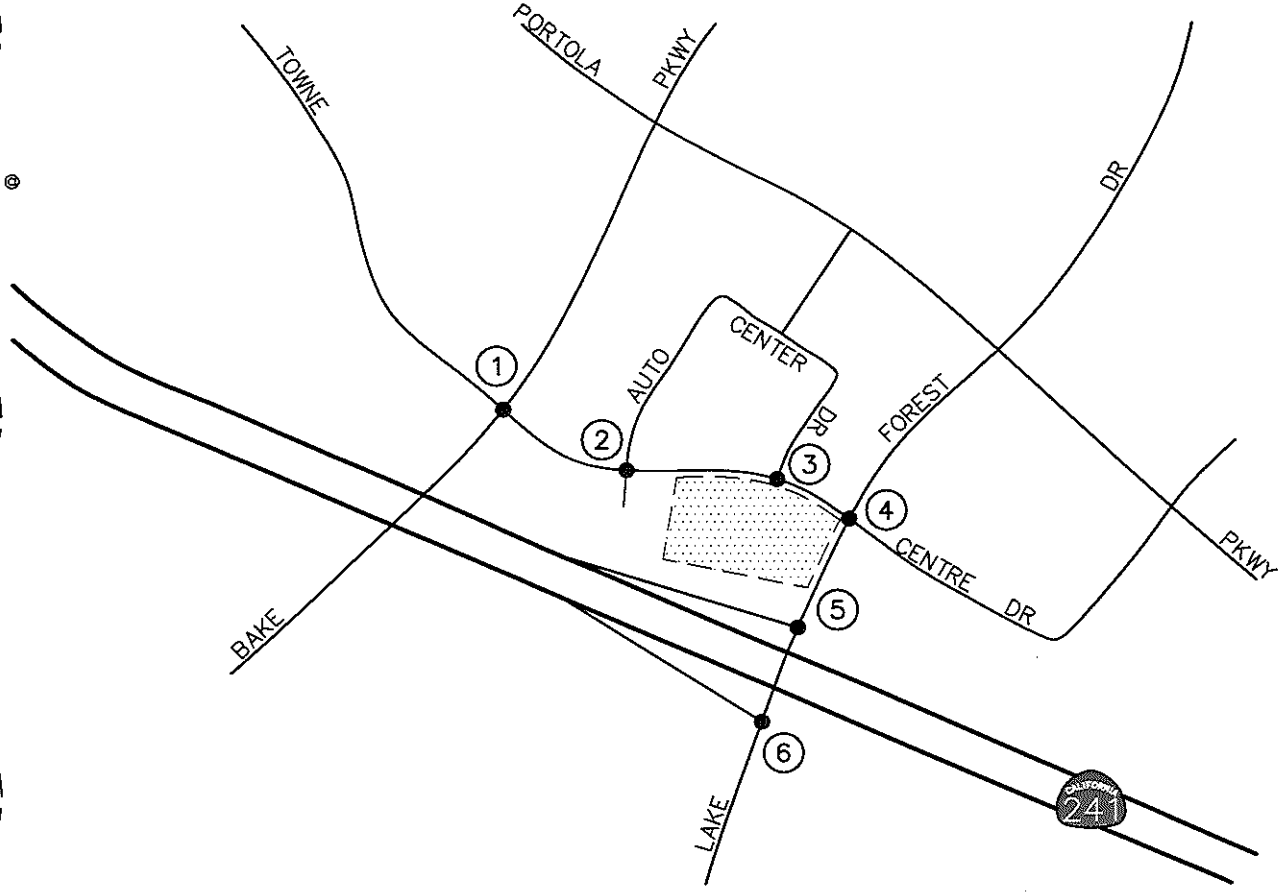
5

LAKE FOREST DR @
SR-241 NORTHBOUND
ON-RAMP



6

LAKE FOREST DR @
SR-241 SOUTHBOUND
OFF-RAMP



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N NO SCALE

KEY
= PROJECT SITE

FIGURE 3-3

EXISTING PM PEAK HOUR TRAFFIC VOLUMES

KAISER PERMANENTE FOOTHILL RANCH MOB, LAKE FOREST

3.3 Level Of Service (LOS) Analysis Methodologies

AM and PM peak hour operating conditions for the key study intersections were evaluated using the *Intersection Capacity Utilization (ICU) Methodology* for signalized intersections and the methodology outlined in *Chapter 17 of the Highway Capacity Manual 2000 (HCM 2000)* for unsignalized intersections.

3.3.1 *Intersection Capacity Utilization (ICU) Method of Analysis (Signalized Intersections)*

In conformance with the 2009 Orange County CMP requirements, AM and PM peak hour operating conditions for the key signalized study intersections were evaluated using the Intersection Capacity Utilization (ICU) method. The ICU technique is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements.

The ICU numerical value represents the percent signal (green) time and thus capacity, required by existing and/or future traffic. It should be noted that the ICU methodology assumes uniform traffic distribution per intersection approach lane and optimal signal timing. The ICU calculations use a lane capacity of 1,700 vehicles per hour (vph) for through and all turn lanes. A clearance adjustment factor of 0.05 was added to each Level of Service calculation.

The ICU value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance. The ICU value is the sum of the critical volume to capacity ratios at an intersection; it is not intended to be indicative of the LOS of each of the individual turning movements. The six qualitative categories of Level of Service have been defined along with the corresponding ICU value range and are shown in ***Table 3-1***.

3.3.2 *Highway Capacity Manual (HCM) Method of Analysis (Unsignalized Intersections)*

In conformance with the 2009 Orange County CMP requirements, AM and PM peak hour operating conditions for the key unsignalized study intersections were evaluated using the HCM 2000 unsignalized methodology for stop-controlled intersections. For all-way stop-controlled intersections, this methodology estimates the average control delay for each of the subject movements and determines the level of service for each movement. The overall average control delay measured in seconds per vehicle and level of service is then calculated for the entire intersection. The HCM control delay value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance.

For one-way and two-way stop-controlled (minor street stop-controlled) intersections, this methodology estimates the worst side street delay, measured in seconds per vehicle and determines the level of service for that approach. The HCM delay value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance. The six qualitative categories of Level of Service have been defined along with the corresponding HCM control delay value range, as shown in ***Table 3-2***.

3.4 Impact Criteria and Thresholds

The City of Lake Forest considers LOS D to be the minimum acceptable condition that should be maintained during the AM and PM peak hours for all intersections. For this report, impacts to local and regional transportation systems shall be considered significant if the Project increases traffic demand at a key study intersection by 1.0% of capacity (ICU increase ≥ 0.01), causing or worsening LOS E or F (ICU > 0.90).

At key unsignalized study intersections, a "significant" traffic impact is defined as a Project that adds 1.0 second of delay at an intersection operating at LOS E or F.

TABLE 3-1

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (ICU METHODOLOGY)[1]

Level of Service (LOS)	Intersection Capacity Utilization Value (V/C)	Level of Service Description
A	≤ 0.60	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	0.61 – 0.70	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.71 – 0.80	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.81 – 0.90	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.91 – 1.00	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.00	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Potentially very long delays with continuously increasing queue lengths.

[1] Source: *Transportation Research Board Circular 212 - Interim Materials on Highway Capacity.*

TABLE 3-2

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS (HCM METHODOLOGY)[2]

Level of Service (LOS)	Highway Capacity Manual (HCM) Delay Value (sec/veh)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

[2] Source: *Highway Capacity Manual 2000,* Chapter 17 (Unsignalized Intersections).

4.0 TRAFFIC FORECASTING METHODOLOGY

In order to estimate the traffic impact characteristics of the Project, a multi-step process has been utilized. The first step is traffic generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations and/or rates to the Project development tabulation.

The second step of the forecasting process is traffic distribution, which identifies the origins and destinations of inbound and outbound Project traffic. These origins and destinations are typically based on demographics and existing/expected future travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of Project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds.

Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway segments and intersection turning movements throughout the study area.

With the forecasting process complete and Project traffic assignments developed, the impact of the Project is isolated by comparing operational (LOS) conditions at selected key intersections using expected future traffic volumes with and without forecast Project traffic. If necessary, the need for site-specific and/or cumulative local area traffic improvements can then be evaluated.

5.0 PROJECT TRAFFIC CHARACTERISTICS

5.1 Project Traffic Generation Forecast

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation rates used in the traffic forecasting procedure are found in the Eighth Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2008].

Table 5-1 summarizes the trip generation rates used in forecasting the vehicular trips generated by the proposed Project and presents the forecast daily and peak hour Project traffic volumes for a "typical" weekday. The trip generation potential for the proposed Project was forecast using ITE Land Use Code 720: Medical-Dental Office Building. As shown in *Table 5-1*, the proposed Project is forecast to generate 1,301 daily trips (one half arriving and one half departing), with 83 trips (66 inbound, 17 outbound) produced in the AM peak hour and 125 trips (34 inbound, 91 outbound) produced in the PM peak hour on a "typical" weekday.

It should be noted that the trip generation methodology and forecasts were approved by City of Lake Forest staff prior to proceeding with further analysis.

5.2 Project Traffic Distribution and Assignment

The directional traffic distribution patterns at the key study intersections for the proposed Project are presented in ***Figure 5-1***. Traffic volumes, both entering and exiting the site, have been distributed and assigned to the adjacent street system based on the following considerations:

- the site's proximity to major traffic carriers (i.e. SR-241 Freeway, Bake Parkway, etc.),
- expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals,
- the traffic-carrying capacity and travel speed available on roadways serving the Project site,
- existing intersection traffic volumes,
- ingress/egress availability at the Project site and
- input from City of Lake Forest staff.

The Project trip distribution pattern was submitted to the City staff for their review and approval prior to proceeding with further analyses. It should be noted that some Project traffic may utilize Auto Center Drive via Portola Parkway to access the site, but the traffic volume that will use this route will be negligible and thus no project traffic was assigned to this route.

The anticipated AM and PM peak hour Project traffic volumes at the key study intersections are presented in ***Figures 5-2*** and ***5-3***, respectively. The traffic volume assignments presented in the above mentioned figures reflect the traffic distribution characteristics shown in *Figure 5-1* and the traffic generation forecast presented in the *Table 5-1*.

TABLE 5-1

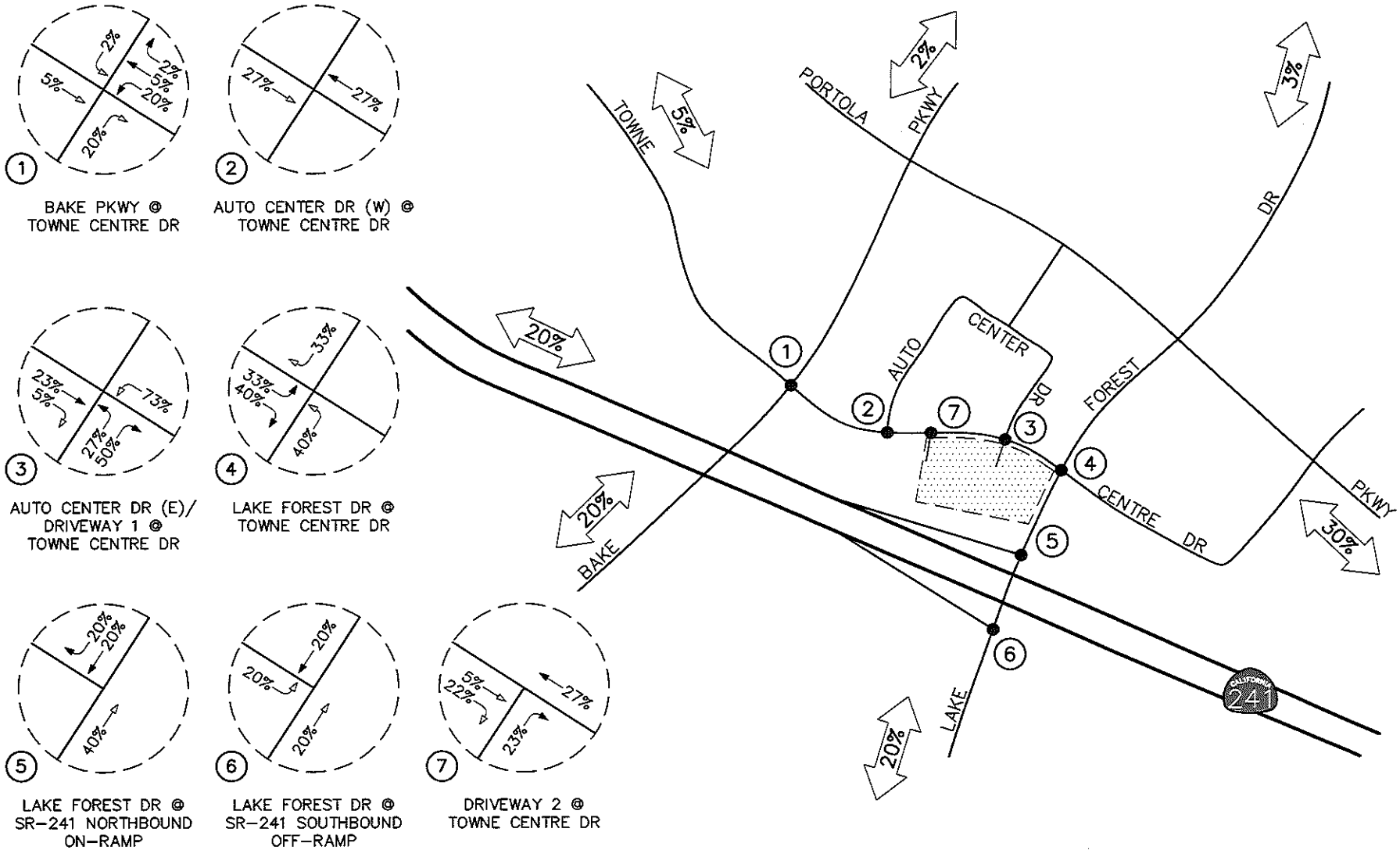
PROJECT TRAFFIC GENERATION RATES AND FORECAST[3]

Land Use	Daily	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Trip Generation Factors:							
• 720: Medical-Dental Office Building (TE/TSF)	36.13	1.82	0.48	2.30	0.93	2.53	3.46
Proposed Project Trip Generation Forecast:							
• Medical Office Building - (36,022 SF)	1,301	66	17	83	34	91	125

Notes:

- TE/TSF = Trip ends per 1,000 square-feet of development
- SF = Square-feet of gross floor area

[3] Source: *Trip Generation, 8th Edition, Institute of Transportation Engineers (ITE) [Washington, D.C. (2008)].*



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

⟵ = INBOUND PERCENTAGE

⟵ = OUTBOUND PERCENTAGE

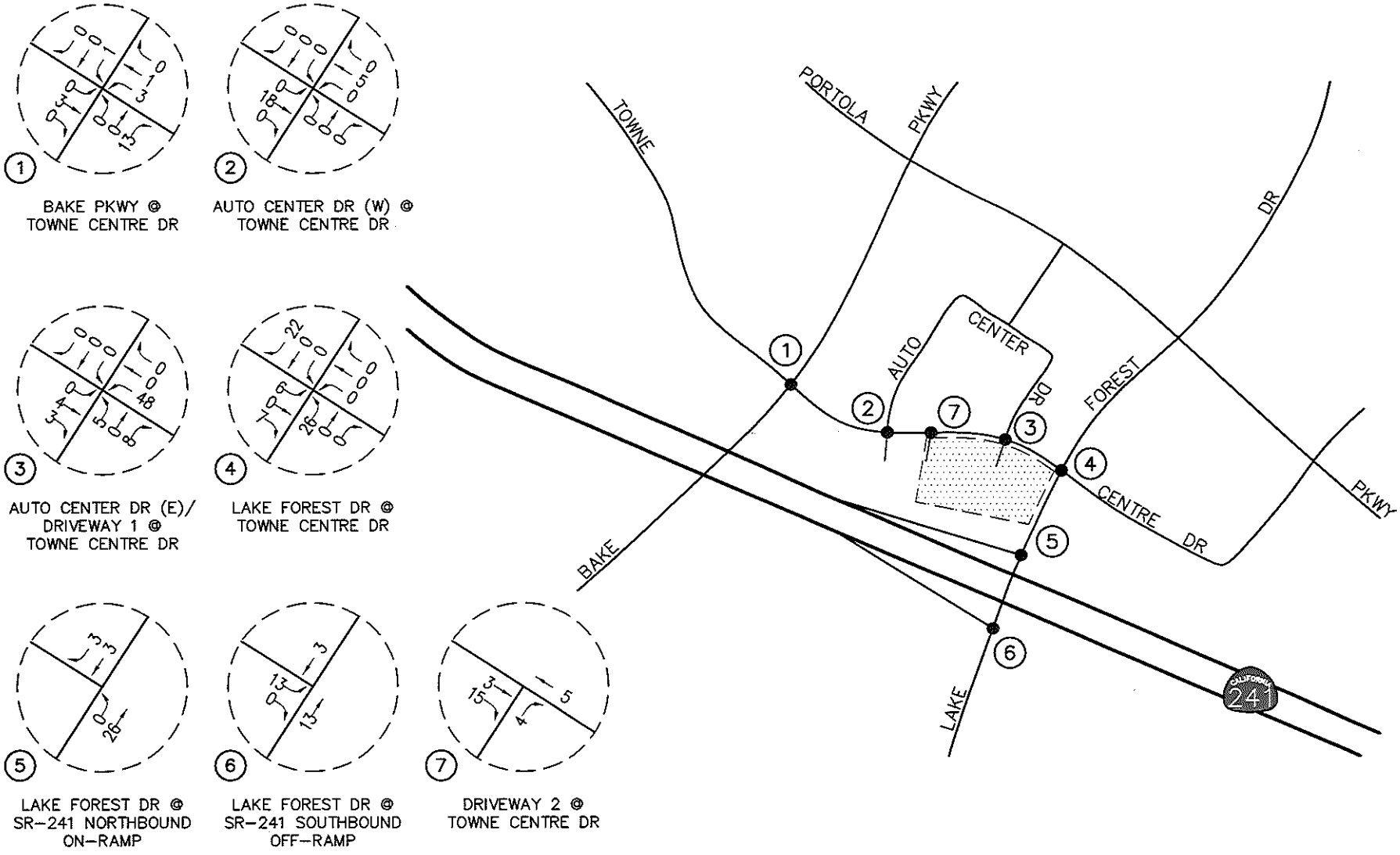
(#) = STUDY INTERSECTION

▒ = PROJECT SITE

FIGURE 5-1

PROJECT TRIP DISTRIBUTION PATTERN

KAISER PERMANENTE FOOTHILL RANCH MOB, LAKE FOREST



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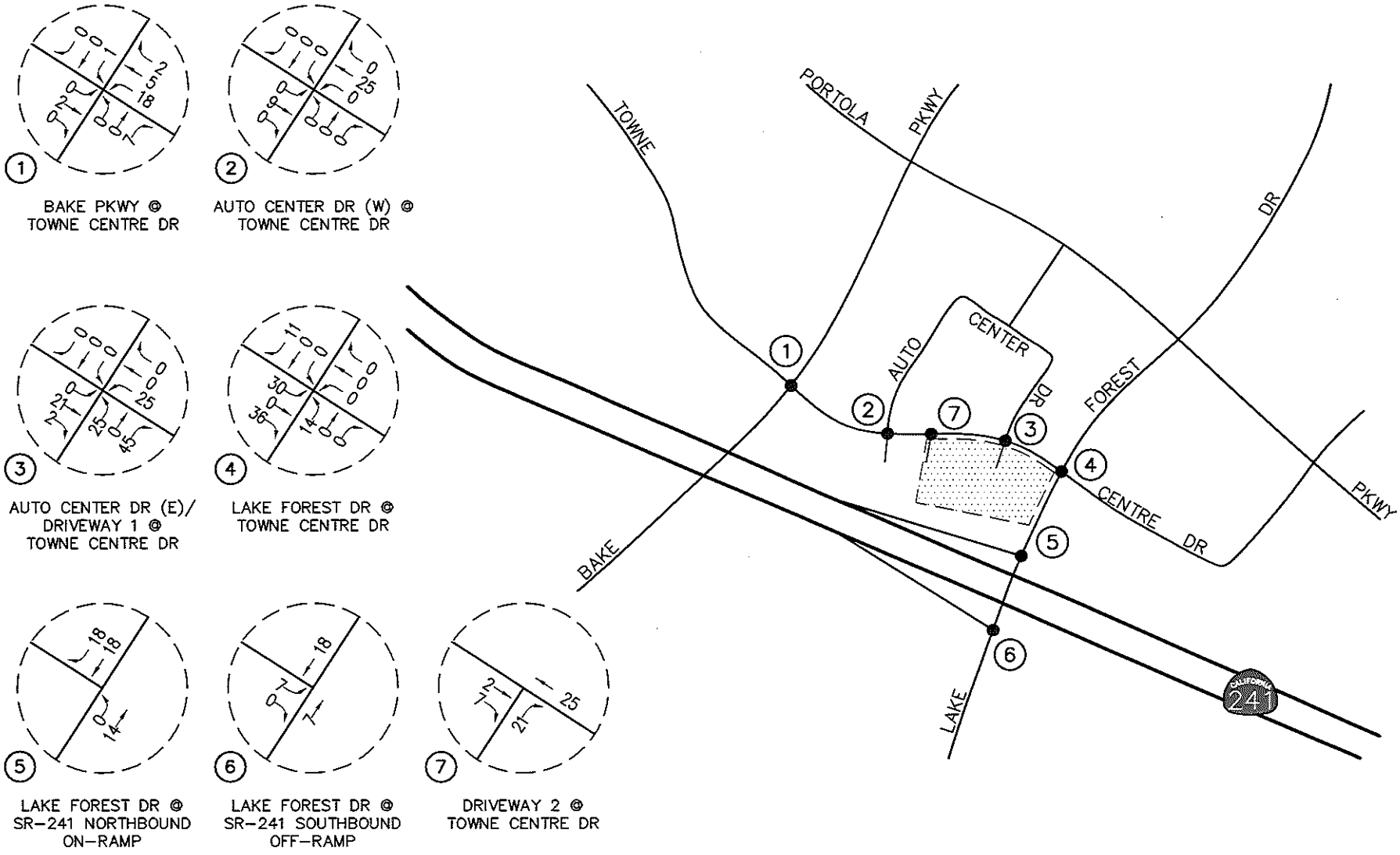
N NO SCALE

KEY
= PROJECT SITE

FIGURE 5-2

AM PEAK HOUR PROJECT TRAFFIC VOLUMES

KAISER PERMANENTE FOOTHILL RANCH MOB, LAKE FOREST



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N NO SCALE

KEY
= PROJECT SITE

FIGURE 5-3

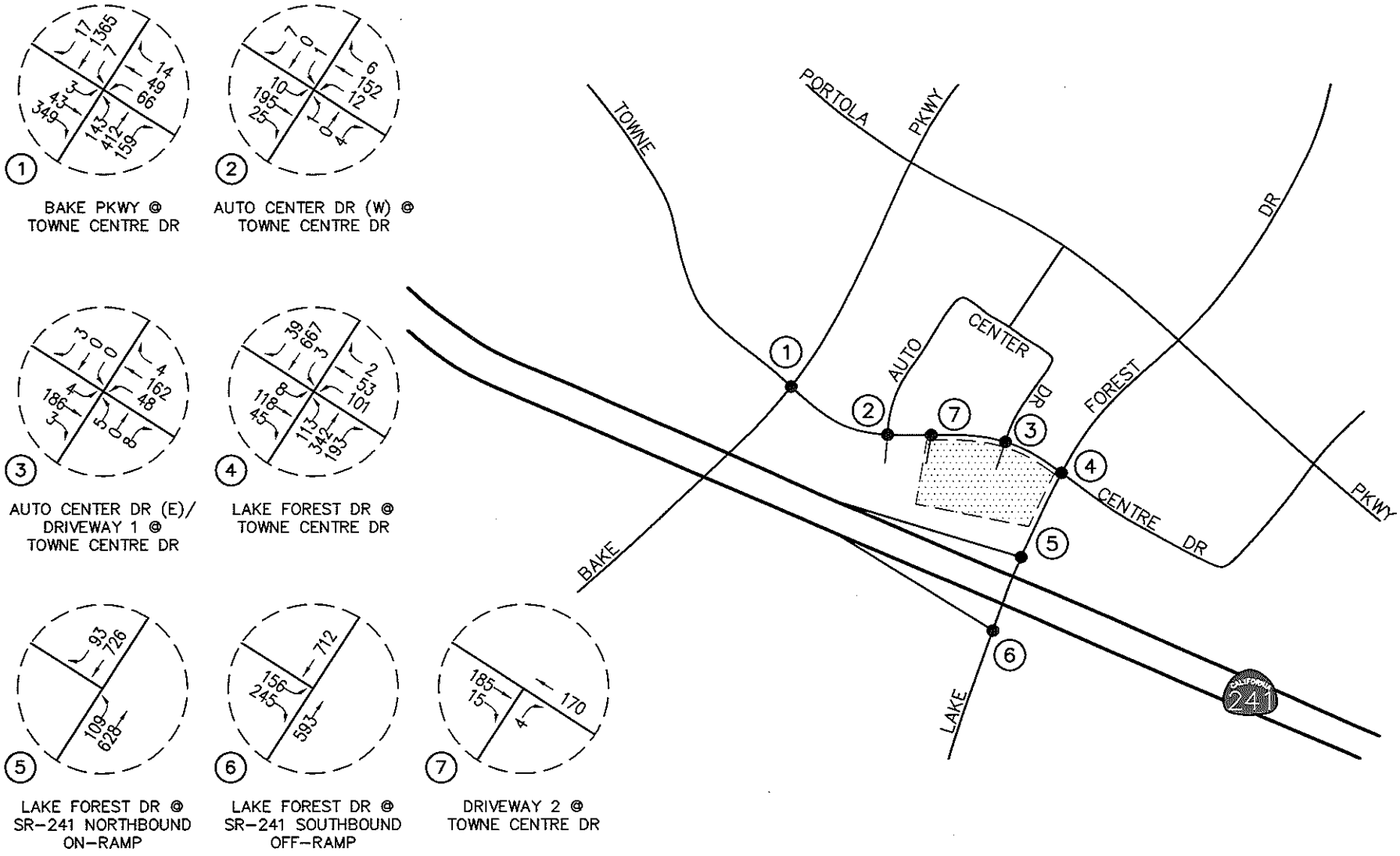
PM PEAK HOUR PROJECT TRAFFIC VOLUMES

KAISER PERMANENTE FOOTHILL RANCH MOB, LAKE FOREST

6.0 FUTURE TRAFFIC CONDITIONS

6.1 Existing With Project Traffic Volumes

The estimates of Project-generated traffic volumes were added to the Existing traffic conditions to develop traffic projections for the Existing With Project traffic conditions. The anticipated Existing With Project traffic conditions AM and PM peak hour traffic volumes at the six (6) key study intersections and one (1) Project driveway are presented in ***Figures 6-1*** and ***6-2***, respectively.



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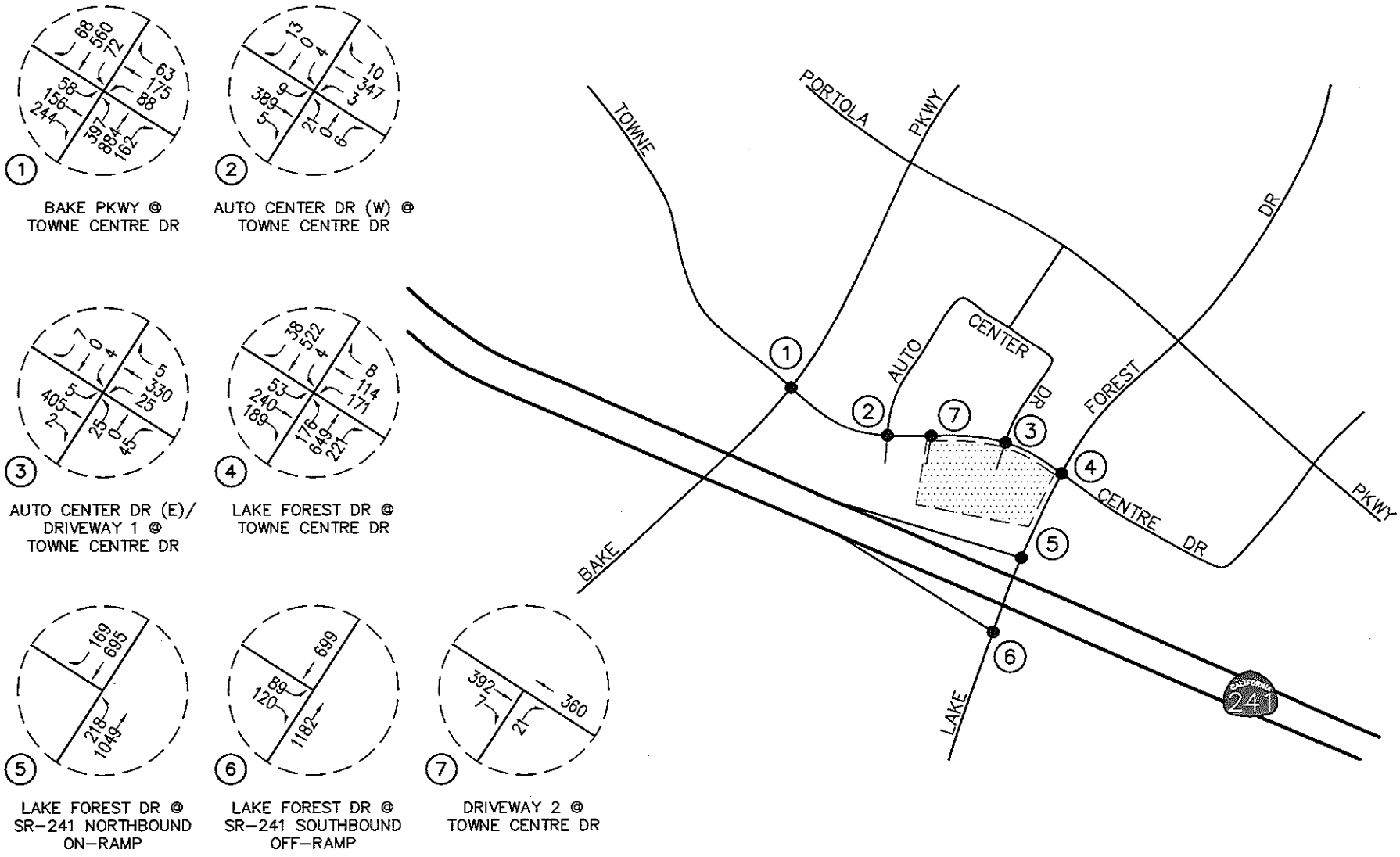
N NO SCALE

KEY
= PROJECT SITE

FIGURE 6-1

EXISTING WITH PROJECT AM PEAK HOUR TRAFFIC VOLUMES

KAISER PERMANENTE FOOTHILL RANCH MOB, LAKE FOREST



LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY
= PROJECT SITE

FIGURE 6-2

EXISTING WITH PROJECT PM PEAK HOUR TRAFFIC VOLUMES

KAISER PERMANENTE FOOTHILL RANCH MOB, LAKE FOREST

7.0 EXISTING CONDITIONS TRAFFIC IMPACT ANALYSIS

The existing conditions analysis establishes the basis for the future forecasts for the Project. This analysis was based on existing intersection counts collected in October 2010, November 2010 and January 2011. The existing conditions analysis reflects these counts as well as existing lane configurations for all analyzed intersections.

7.1 Existing Conditions Intersection Capacity Analysis

Table 7-1 summarizes the peak hour Level of Service results at the six (6) key study intersections for existing traffic conditions, with and without the Project. The first column (1) of ICU/Delay LOS values in *Table 7-1* presents a summary of Existing AM and PM peak hour traffic conditions. The second column (2) in *Table 7-1* presents forecast Existing With Project traffic conditions. The third column (3) of *Table 7-1* shows whether the traffic associated with the Project will have a significant impact based on the LOS standards and the significance impact criteria defined in this report. The fourth column (4) of *Table 7-1* presents the Level of Service with the implementation of traffic mitigation improvements, if necessary.

The City of Lake Forest considers LOS D to be the minimum acceptable condition that should be maintained during the AM and PM peak hours for all intersections. For this report, impacts to local and regional transportation systems shall be considered significant if the Project increases traffic demand at a key study intersection by 1.0% of capacity (ICU increase ≥ 0.01), causing or worsening LOS E or F (ICU > 0.90).

At key unsignalized study intersections, a "significant" traffic impact is defined as a Project that adds 1.0 second of delay at an intersection operating at LOS E or F.

7.1.1 *Existing Traffic Conditions*

Review of column (1) of *Table 7-1* indicates that all six (6) key study intersections currently operate at acceptable LOS B or better under Existing traffic conditions.

7.1.2 *Existing With Project Traffic Conditions*

Review of column (2) of *Table 7-1* indicates that all six (6) key study intersections are forecast to operate at acceptable LOS C or better for the Existing With Project traffic conditions when compared to the LOS standards defined in this report.

To supplement the level of service results as presented in *Table 7-1*, ***Figure 7-1*** graphically represents the comparison between Existing and Existing With Project traffic conditions level of service results for the AM and PM peak hours.

Appendix B contains the ICU/Delay level of service calculation worksheets for the Existing Traffic Conditions.

TABLE 7-1

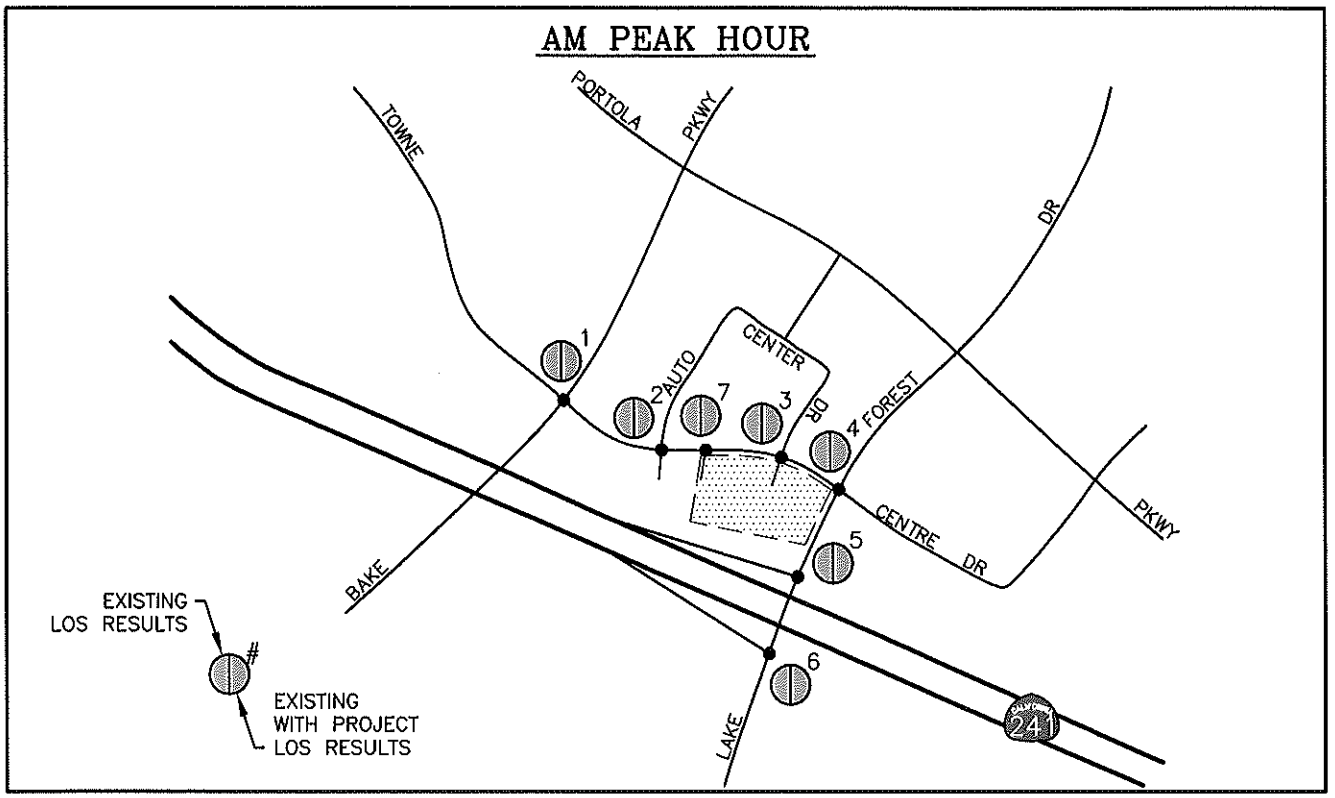
EXISTING CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[4]

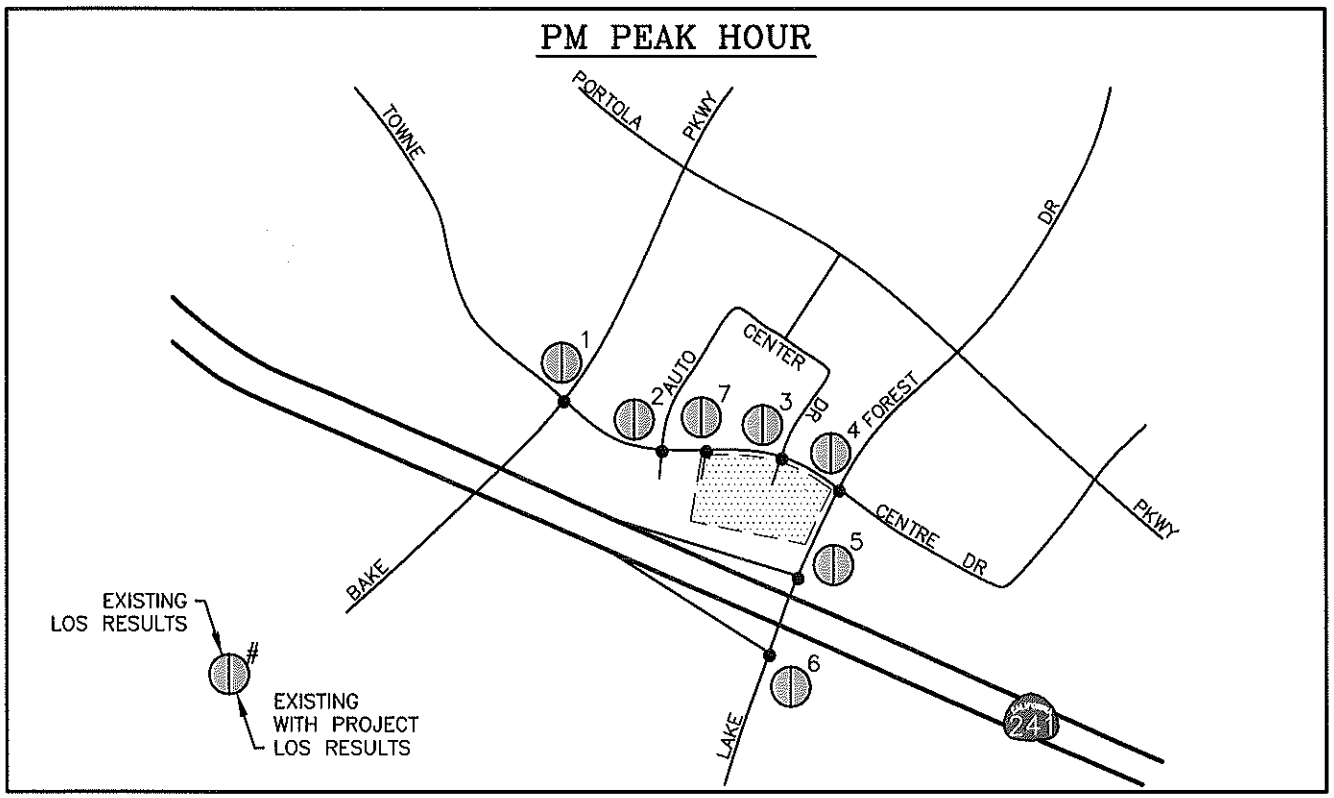
Key Intersection		Time Period	(1) Existing Traffic Conditions		(2) Existing With Project Traffic Conditions		(3) Significant Impact		(4) Existing With Project With Improvements	
			ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay Increase	Yes/No	ICU/Delay	LOS
1.	Bake Parkway at	AM	0.699	B	0.701	C	0.002	No	--	--
	Towne Centre Drive	PM	0.508	A	0.522	A	0.014	No	--	--
2.	Auto Center Drive (West) at	AM	9.2 s/v	A	9.3 s/v	A	0.1 s/v	No	--	--
	Towne Centre Drive	PM	13.3 s/v	B	13.6 s/v	B	0.3 s/v	No	--	--
3.	Auto Center Drive (East)/Driveway 1 at	AM	8.7 s/v	A	10.0 s/v	A	1.3 s/v	No	--	--
	Towne Centre Drive[5]	PM	10.5 s/v	B	12.4 s/v	B	1.9 s/v	No	--	--
4.	Lake Forest Drive at	AM	0.406	A	0.420	A	0.014	No	--	--
	Towne Centre Drive	PM	0.549	A	0.549	A	0.000	No	--	--
5.	Lake Forest Drive at	AM	0.295	A	0.296	A	0.001	No	--	--
	SR-241 Northbound On-Ramp	PM	0.354	A	0.359	A	0.005	No	--	--
6.	Lake Forest Drive at	AM	0.403	A	0.404	A	0.001	No	--	--
	SR-241 Southbound Off-Ramp	PM	0.466	A	0.468	A	0.002	No	--	--

Notes:

- ICU = Intersection Capacity Utilization
- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions.
- **Bold ICU/Delay LOS values** indicate adverse service levels.

[4] *Appendix B* contains the ICU/Delay LOS calculation worksheets for all study intersections.
[5] Driveway 1 is developed in conjunction with the Project.





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LINSCOTT LAW & GREENSPAN engineers

N
NO SCALE

KEY
= LOS E/F
= LOS D
= LOS A/B/C
= STUDY INTERSECTION
= PROJECT SITE

FIGURE 7-1

EXISTING VS. EXISTING WITH PROJECT AM AND PM PEAK HOUR LEVEL OF SERVICE RESULTS COMPARISON

KAISER PERMANENTE FOOTHILL RANCH MOB, LAKE FOREST

8.0 PROJECT-SPECIFIC TRAFFIC IMPROVEMENTS

For those intersections where projected traffic volumes are expected to result in significant impacts, this report recommends traffic improvements that change the intersection geometry to increase capacity. These capacity improvements involve roadway widening and/or re-striping to reconfigure (add lanes) roadways to specific approaches of a key intersection and/or roadway segments. The identified improvements are expected to:

- Address the impact of existing traffic and Project traffic, and
- Improve Levels of Service to an acceptable range and/or to pre-project conditions.

8.1 Existing With Project Traffic Conditions Recommended Improvements

The results of the intersection analyses for Existing With Project traffic conditions summarized in *Table 7-1* indicate that the proposed Project is not forecast to have a significant impact at any of the six (6) key intersections. As there are no significant impacts, no traffic mitigation measures are required or recommended for the intersections.

9.0 SITE ACCESS AND INTERNAL CIRCULATION ANALYSIS

9.1 Site Access

As previously detailed and presented in *Figure 2-2*, access to the Project site will be will be provided via two (2) driveways located along Towne Centre Drive. The easterly Project driveway (Driveway 1) is proposed as full-access and the westerly Project driveway (Driveway 2) is proposed as right-in/right-out only.

9.1.1 *Existing With Project Traffic Conditions*

Table 9-1 summarizes the levels of service at the Project driveways for Existing With Project traffic conditions. The operations analysis for the Project driveways is based on the *Highway Capacity Manual 2000* (HCM 2000) Method of Analysis for unsignalized intersections.

As shown in column (1) of *Table 9-1* both the Project driveways are forecast to operate at acceptable levels of service B or better during the AM and PM peak hours under the Existing With Project Traffic Conditions.

Appendix C contains the Delay/LOS calculation worksheets for the Existing With Project Traffic Conditions for the Project Driveways.

9.2 Stacking/Storage and Queuing Analysis

A stacking/storage analysis was performed for the existing eastbound left-turn lane at the intersection of Lake Forest Drive at Towne Centre Drive and for the westbound left-turn lane for the proposed access into the Project site at the intersection of Auto Center Drive (East)/Driveway 1 and Towne Centre Drive. The queuing evaluation was conducted based on projected Existing With Project peak hour traffic volumes and the *Highway Capacity Manual 2000* (HCM) signalized and unsignalized methodology.

9.2.1 *Existing With Project Traffic Conditions*

Based on the signalized HCM service level calculations, which calculates a critical (95th percentile) queue value in number of vehicles per lane, the maximum vehicle queue calculated for the eastbound left-turn lane at the intersection of Lake Forest Drive at Towne Centre Drive for the Existing With Project traffic conditions occurs during the PM peak hour. The vehicle queue for this eastbound left-turn lane is forecast to have a maximum queue of three (3) vehicles, which equates to a queue length of 75 feet (assuming an average car length of 25 feet). Based on this analysis, the existing 150-foot eastbound left-turn lane at the intersection of Lake Forest Drive and Towne Centre Drive, can be shortened to a minimum length of 75 feet.

Appendix D contains the Delay/LOS calculation worksheets for the Existing With Project Traffic Conditions for the intersection of Lake Forest Drive at Towne Centre Drive.

Based on the unsignalized HCM service level calculations, which calculates a critical (95th percentile) queue value in number of vehicles per lane, the maximum vehicle queue calculated for

the proposed westbound left-turn lane into the Project site at the intersection of Auto Center Drive (East)/Driveway 1 and Towne Centre Drive for the Existing With Project traffic conditions occurs during both the AM and PM peak hours. The vehicle queue on this westbound left-turn lane is forecast to have a maximum queue of one (1) vehicle, which equates to a queue length of 25 feet. Based on this analysis a 60-foot westbound left-turn lane is recommended for access into the Project site at the intersection of Auto Center Drive (East)/Driveway 1 and Towne Centre Drive.

Appendix C contains the Delay/LOS calculation worksheets for the Existing With Project Traffic Conditions for the intersection of Auto Center Drive (East)/Driveway 1 at Towne Centre Drive.

Based on the above, ***Figure 9-1*** shows the recommended site access improvements for the intersections of Auto Center Drive (East)/Driveway 1 at Towne Centre Drive and Lake Forest Drive at Towne Centre Drive. Specifically, it is recommended that the existing eastbound left-turn pocket at the intersection of Lake Forest Drive at Towne Centre Drive be shortened to 100 feet from its current 150 feet length to provide for a 60-foot westbound left-turn pocket for access into the Project site at the intersection of Auto Center Drive (East)/Driveway 1 and Towne Centre Drive with a 90 feet reverse curve transition between pockets.

9.3 Internal Circulation

The on-site circulation was evaluated in terms of vehicle-pedestrian conflicts. Based on our review of the preliminary site plan, the overall layout does not create significant vehicle-pedestrian conflict points and the driveway throat lengths are sufficient such that access to aisles is not impacted by internal vehicle queuing/stacking. The on-site circulation is acceptable based on our review of the proposed site plan Project traffic is not anticipated to cause significant queuing/stacking on the Project driveways. In addition, turning movements into and out of the Project site at the Project driveways are anticipated to operate at acceptable service levels. As such, motorists entering and exiting the Project site from this driveway will be able to do so comfortably, safely, and without undue congestion..

TABLE 9-1

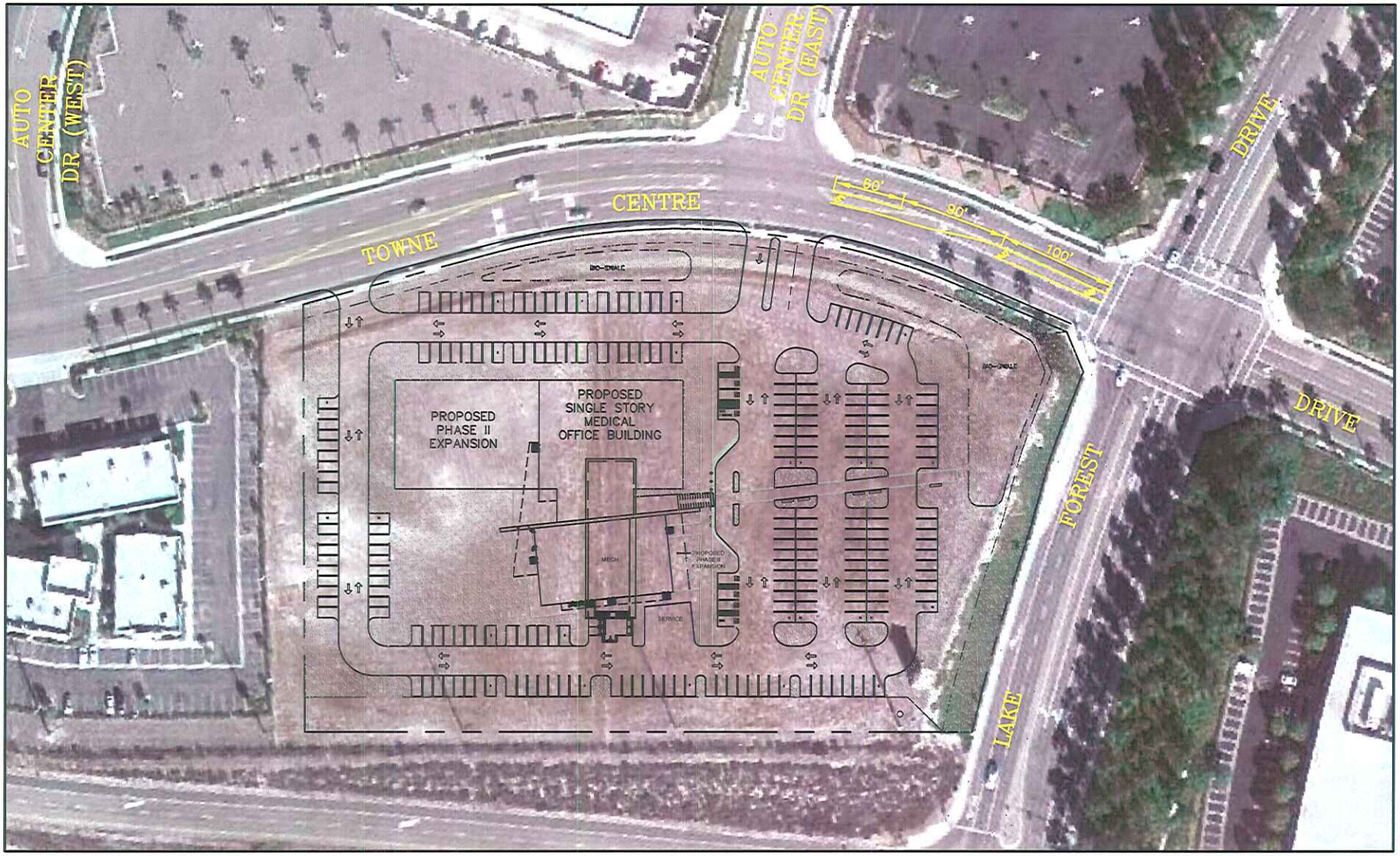
PROJECT DRIVEWAY PEAK HOUR CAPACITY ANALYSIS SUMMARY[6]

Key Intersection		Time Period	(1) Existing With Project Traffic Conditions	
			Delay	LOS
3.	Auto Center Drive (East)/Driveway 1 at Towne Centre Drive	AM	10.0 s/v	A
		PM	12.4 s/v	B
7.	Driveway 2 at Towne Centre Drive	AM	8.8 s/v	A
		PM	9.5 s/v	A

Notes:

- s/v = seconds per vehicle (delay).
- LOS = Level of Service, please refer to *Table 3-2* for the LOS definitions.

[6] *Appendix C* contains the Delay/LOS calculation worksheets for the Project driveways.



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SOURCE: GOOGLE EARTH

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

FIGURE 9-1

RECOMMENDED SITE ACCESS IMPROVEMENTS

KAISER PERMANENTE FOOTHILL RANCH MOB, LAKE FOREST

APPENDIX A

EXISTING TRAFFIC VOLUMES

1

Transportation Studies, Inc.
2680 Walnut Avenue, Suite C
Tustin, CA. 92780

City: LAKE FOREST
N-S Direction: TOWNE CENTRE DRIVE
E-W Direction: BAKE PARKWAY

File Name : H1010008
Site Code : 00001944
Start Date : 11/18/2010
Page No : 1

Groups Printed- Turning Movements

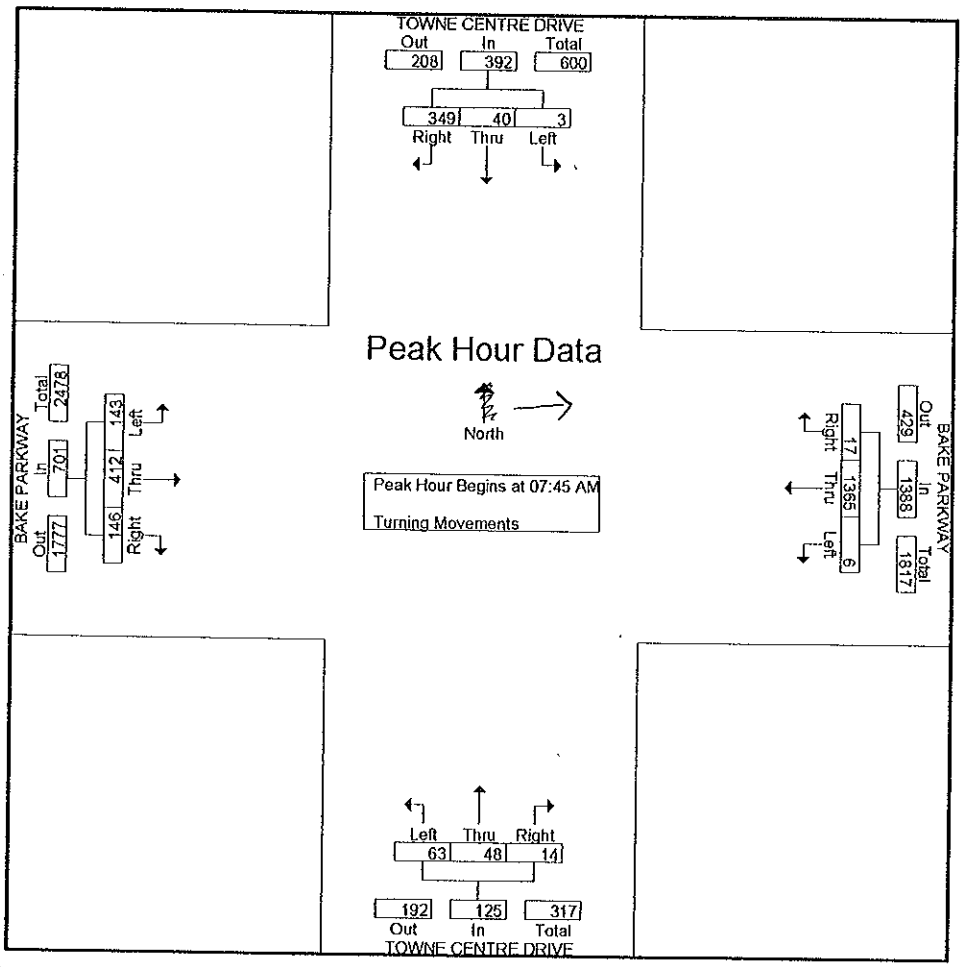
	TOWNE CENTRE DRIVE Southbound			BAKE PARKWAY Westbound			TOWNE CENTRE DRIVE Northbound			BAKE PARKWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	70	5	2	8	280	2	1	5	8	15	81	36	513
07:15 AM	73	10	1	4	311	1	3	10	5	22	89	37	566
07:30 AM	83	9	0	3	322	1	2	11	13	35	84	33	596
07:45 AM	90	11	1	5	334	1	4	14	16	37	88	38	639
Total	316	35	4	20	1247	5	10	40	42	109	342	144	2314
08:00 AM	96	12	1	4	340	2	3	13	18	41	112	38	680
08:15 AM	85	10	0	3	363	2	4	11	14	37	105	32	666
08:30 AM	78	7	1	5	328	1	3	10	15	31	107	35	621
08:45 AM	73	7	0	4	305	2	2	9	10	28	119	33	592
Total	332	36	2	16	1336	7	12	43	57	137	443	138	2559
*** BREAK ***													
04:00 PM	72	38	12	15	139	11	7	35	16	40	219	98	702
04:15 PM	67	31	14	18	151	14	9	39	18	44	201	93	699
04:30 PM	70	40	13	17	144	15	14	43	21	37	220	104	738
04:45 PM	63	30	12	13	136	18	14	40	13	39	210	91	679
Total	272	139	51	63	570	58	44	157	68	160	850	386	2818
05:00 PM	57	39	14	18	139	20	15	46	17	43	227	112	747
05:15 PM	54	45	19	20	141	18	18	41	19	36	227	90	728
05:30 PM	67	41	19	16	127	17	15	39	21	43	201	81	687
05:45 PM	51	37	14	15	130	14	16	49	22	41	193	89	671
Total	229	162	66	69	537	69	64	175	79	163	848	372	2833
Grand Total	1149	372	123	168	3690	139	130	415	246	569	2483	1040	10524
Apprch %	69.9	22.6	7.5	4.2	92.3	3.5	16.4	52.5	31.1	13.9	60.7	25.4	
Total %	10.9	3.5	1.2	1.6	35.1	1.3	1.2	3.9	2.3	5.4	23.6	9.9	

Transportation Studies, Inc.
2680 Walnut Avenue, Suite C
Tustin, CA. 92780

City: LAKE FOREST
N-S Direction: TOWNE CENTRE DRIVE
E-W Direction: BAKE PARKWAY

File Name : H1010008
Site Code : 00001944
Start Date : 11/18/2010
Page No : 2

	TOWNE CENTRE DRIVE Southbound				BAKE PARKWAY Westbound				TOWNE CENTRE DRIVE Northbound				BAKE PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	90	11	1	102	5	334	1	340	4	14	16	34	37	88	38	163	639
08:00 AM	96	12	1	109	4	340	2	346	3	13	18	34	41	112	38	191	680
08:15 AM	85	10	0	95	3	363	2	368	4	11	14	29	37	105	32	174	666
08:30 AM	78	7	1	86	5	328	1	334	3	10	15	28	31	107	35	173	621
Total Volume	349	40	3	392	17	1365	6	1388	14	48	63	125	146	412	143	701	2606
% App. Total	89	10.2	0.8		1.2	98.3	0.4		11.2	38.4	50.4		20.8	58.8	20.4		
PHF	.909	.833	.750	.899	.850	.940	.750	.943	.875	.857	.875	.919	.890	.920	.941	.918	.958

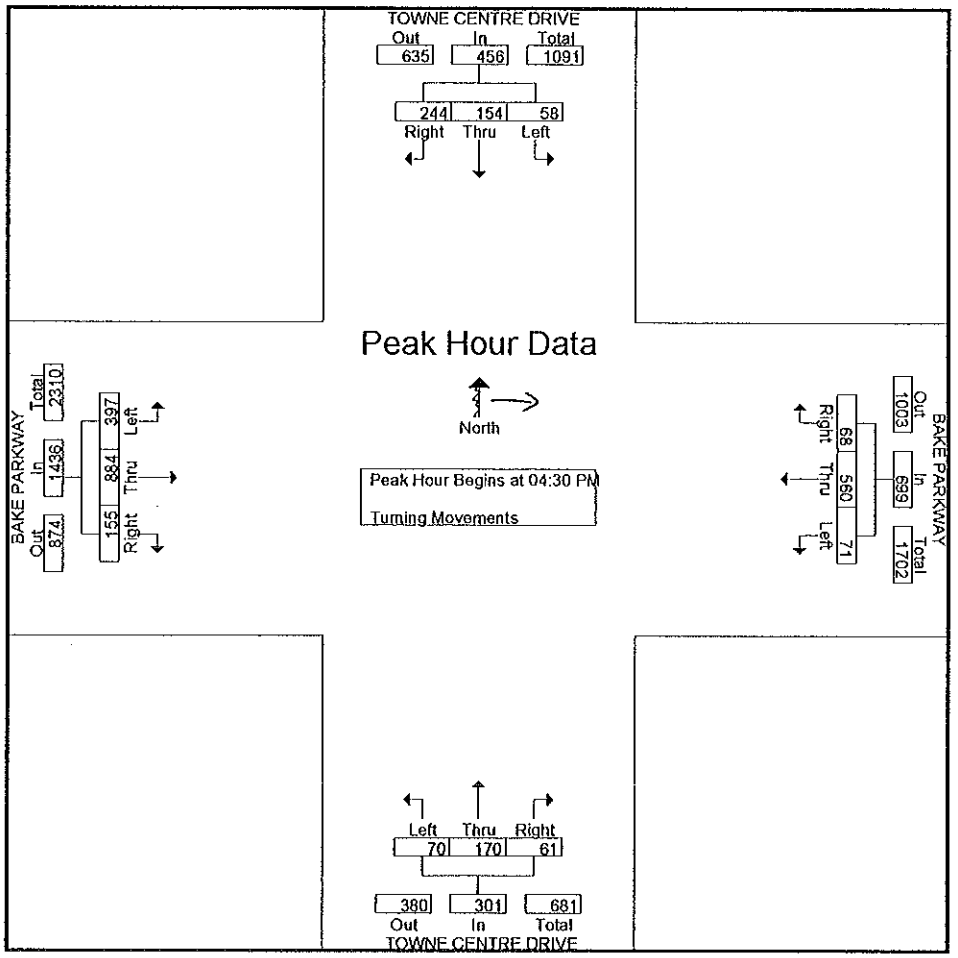


Transportation Studies, Inc.
2680 Walnut Avenue, Suite C
Tustin, CA. 92780

City: LAKE FOREST
N-S Direction: TOWNE CENTRE DRIVE
E-W Direction: BAKE PARKWAY

File Name : H1010008
Site Code : 00001944
Start Date : 11/18/2010
Page No : 3

	TOWNE CENTRE DRIVE Southbound				BAKE PARKWAY Westbound				TOWNE CENTRE DRIVE Northbound				BAKE PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	70	40	13	123	17	144	15	176	14	43	21	78	37	220	104	361	738
04:45 PM	63	30	12	105	13	136	18	167	14	40	13	67	39	210	91	340	679
05:00 PM	57	39	14	110	18	139	20	177	15	46	17	78	43	227	112	382	747
05:15 PM	54	45	19	118	20	141	18	179	18	41	19	78	36	227	90	353	728
Total Volume	244	154	58	456	68	560	71	699	61	170	70	301	155	884	397	1436	2892
% App. Total	53.5	33.8	12.7		9.7	80.1	10.2		20.3	56.5	23.3		10.8	61.6	27.6		
PHF	.871	.856	.763	.927	.850	.972	.888	.976	.847	.924	.833	.965	.901	.974	.886	.940	.968



2

Transportation Studies, Inc.
2680 Walnut Avenue, Suite C
Tustin, CA. 92780

City: LAKE FOREST
N-S Direction: AUTO CENTER DRIVE (W)
E-W Direction: TOWNE CENTRE DRIVE

File Name : H11010
Site Code : 0000570
Start Date : 1/25/2011
Page No : 1

Groups Printed- Turning Movements

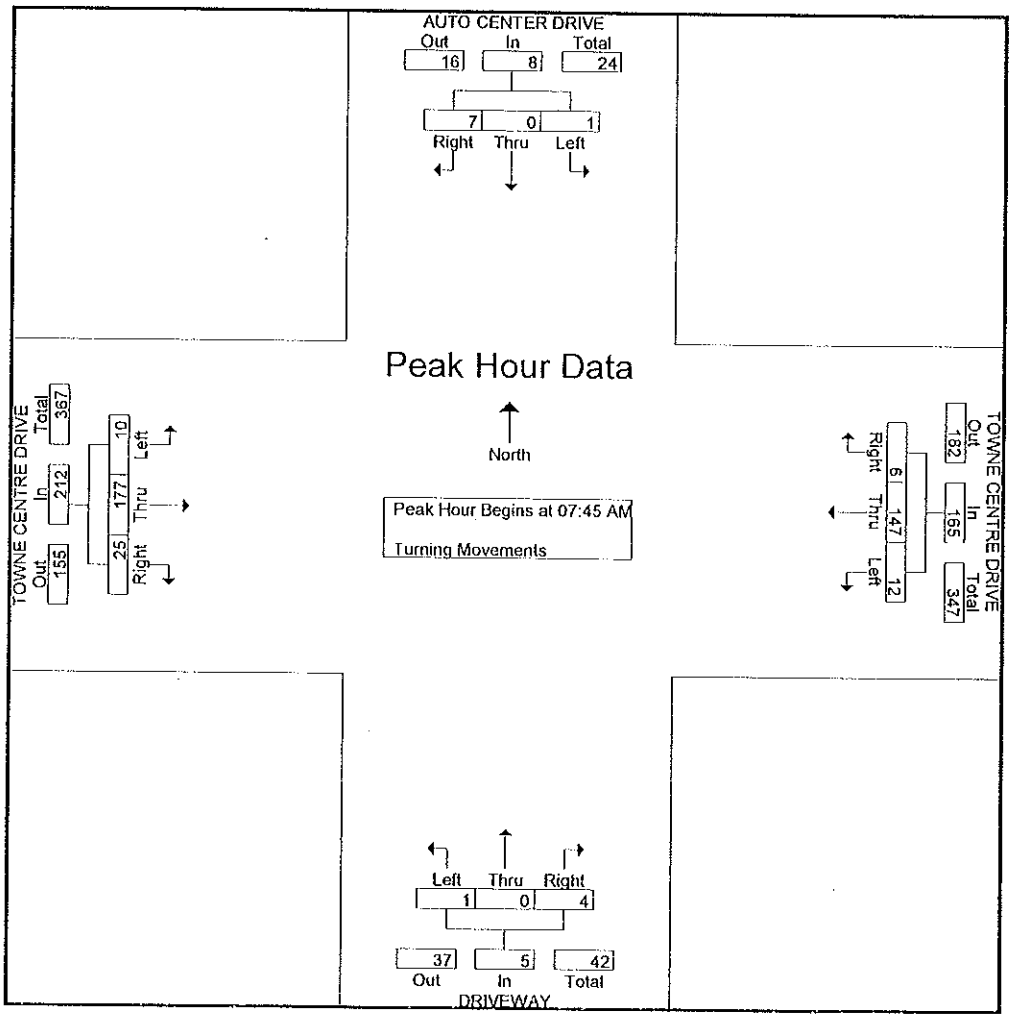
	AUTO CENTER DRIVE Southbound			TOWNE CENTRE DRIVE Westbound			DRIVEWAY Northbound			TOWNE CENTRE DRIVE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	2	1	0	1	10	1	0	0	0	2	17	2	36
07:15 AM	1	0	0	0	20	2	1	0	0	5	19	1	49
07:30 AM	1	0	0	0	29	0	0	0	0	4	39	1	74
07:45 AM	3	0	0	1	36	2	0	0	0	6	49	2	99
Total	7	1	0	2	95	5	1	0	0	17	124	6	258
08:00 AM	1	0	0	2	43	4	1	0	0	8	51	3	113
08:15 AM	2	0	1	2	37	3	2	0	0	5	40	2	94
08:30 AM	1	0	0	1	31	3	1	0	1	6	37	3	84
08:45 AM	2	0	0	2	29	5	0	0	0	3	40	2	83
Total	6	0	1	7	140	15	4	0	1	22	168	10	374
*** BREAK ***													
04:00 PM	3	0	1	2	60	1	2	0	1	2	86	3	161
04:15 PM	5	0	0	2	64	0	3	0	2	3	88	2	169
04:30 PM	2	0	1	3	74	1	2	0	4	2	98	2	189
04:45 PM	4	0	0	2	94	2	1	0	3	1	91	2	200
Total	14	0	2	9	292	4	8	0	10	8	363	9	719
05:00 PM	4	0	1	2	81	0	1	0	8	0	94	2	193
05:15 PM	3	0	2	3	73	0	2	0	6	2	97	3	191
05:30 PM	2	0	2	5	74	1	1	0	7	1	94	1	188
05:45 PM	3	0	1	2	76	0	2	0	4	0	83	3	174
Total	12	0	6	12	304	1	6	0	25	3	368	9	746
Grand Total	39	1	9	30	831	25	19	0	36	50	1023	34	2097
Apprch %	79.6	2	18.4	3.4	93.8	2.8	34.5	0	65.5	4.5	92.4	3.1	
Total %	1.9	0	0.4	1.4	39.6	1.2	0.9	0	1.7	2.4	48.8	1.6	

Transportation Studies, Inc.
2680 Walnut Avenue, Suite C
Tustin, CA. 92780

City: LAKE FOREST
N-S Direction: AUTO CENTER DRIVE (W)
E-W Direction: TOWNE CENTRE DRIVE

File Name : H1101032
Site Code : 00005700
Start Date : 1/25/2011
Page No : 2

	AUTO CENTER DRIVE Southbound				TOWNE CENTRE DRIVE Westbound				DRIVEWAY Northbound				TOWNE CENTRE DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	3	0	0	3	1	36	2	39	0	0	0	0	6	49	2	57	99
08:00 AM	1	0	0	1	2	43	4	49	1	0	0	1	8	51	3	62	113
08:15 AM	2	0	1	3	2	37	3	42	2	0	0	2	5	40	2	47	94
08:30 AM	1	0	0	1	1	31	3	35	1	0	1	2	6	37	3	46	84
Total Volume	7	0	1	8	6	147	12	165	4	0	1	5	25	177	10	212	390
% App. Total	87.5	0	12.5		3.6	89.1	7.3		80	0	20		11.8	83.5	4.7		
PHF	.583	.000	.250	.667	.750	.855	.750	.842	.500	.000	.250	.625	.781	.868	.833	.855	.863

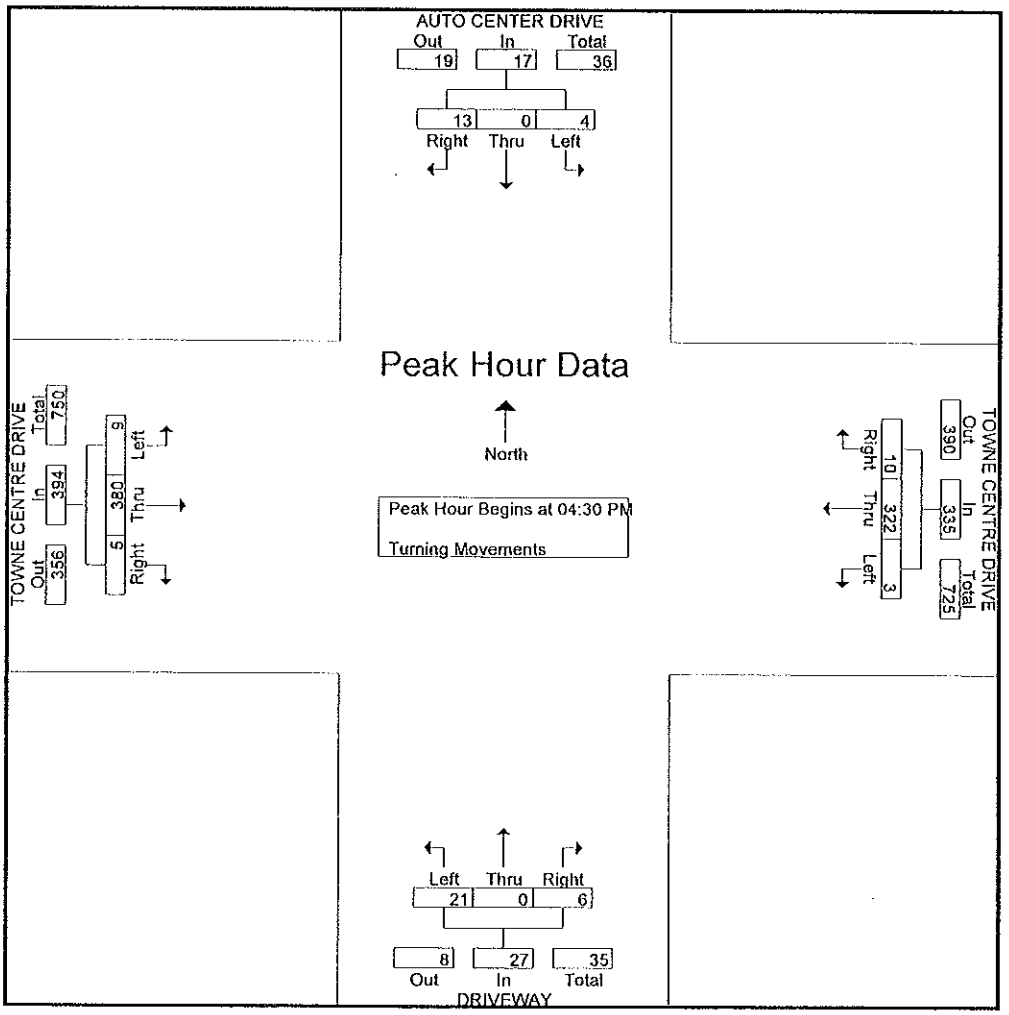


Transportation Studies, Inc.
2680 Walnut Avenue, Suite C
Tustin, CA. 92780

City: LAKE FOREST
N-S Direction: AUTO CENTER DRIVE (W)
E-W Direction: TOWNE CENTRE DRIVE

File Name : H110101
Site Code : 0000570
Start Date : 1/25/2011
Page No : 3

	AUTO CENTER DRIVE Southbound				TOWNE CENTRE DRIVE Westbound				DRIVEWAY Northbound				TOWNE CENTRE DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	2	0	1	3	3	74	1	78	2	0	4	6	2	98	2	102	189
04:45 PM	4	0	0	4	2	94	2	98	1	0	3	4	1	91	2	94	200
05:00 PM	4	0	1	5	2	81	0	83	1	0	8	9	0	94	2	96	193
05:15 PM	3	0	2	5	3	73	0	76	2	0	6	8	2	97	3	102	191
Total Volume	13	0	4	17	10	322	3	335	6	0	21	27	5	380	9	394	773
% App. Total	76.5	0	23.5		3	96.1	0.9		22.2	0	77.8		1.3	96.4	2.3		
PHF	.813	.000	.500	.850	.833	.856	.375	.855	.750	.000	.656	.750	.625	.969	.750	.966	.966



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Transportation Studies, Inc.
2680 Walnut Avenue, Suite C
Tustin, CA. 92780

City: LAKE FOREST
N-S Direction: AUTO CENTER DRIVE (E)
E-W Direction: TOWNE CENTRE DRIVE

File Name : h1101033
Site Code : 00005724
Start Date : 1/25/2011
Page No : 1

Groups Printed- Turning Movements

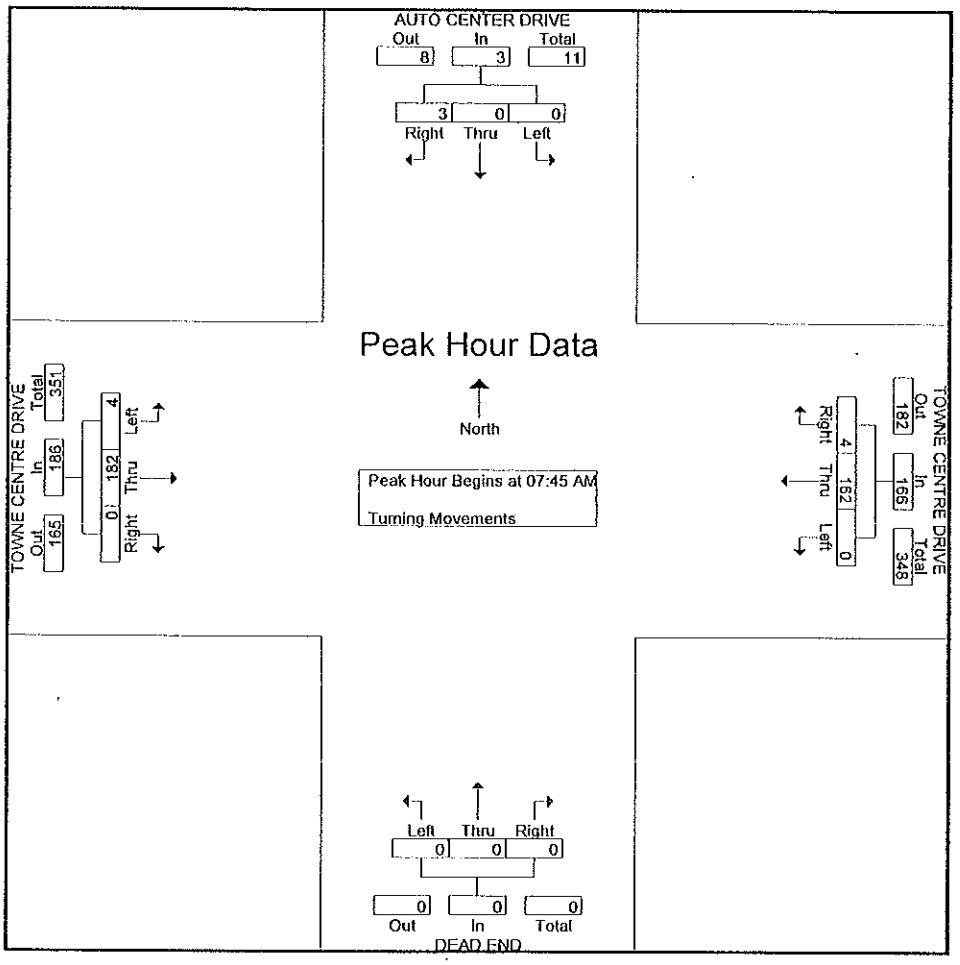
	AUTO CENTER DRIVE Southbound			TOWNE CENTRE DRIVE Westbound			DEAD END Northbound			TOWNE CENTRE DRIVE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	1	12	0	0	0	0	0	17	0	30
07:15 AM	0	0	0	0	22	0	0	0	0	0	20	0	42
07:30 AM	0	0	0	2	29	0	0	0	0	0	38	0	69
07:45 AM	0	0	0	0	39	0	0	0	0	0	48	1	88
Total	0	0	0	3	102	0	0	0	0	0	123	1	229
08:00 AM	0	0	0	0	50	0	0	0	0	0	51	0	101
08:15 AM	1	0	0	2	41	0	0	0	0	0	44	1	89
08:30 AM	2	0	0	2	32	0	0	0	0	0	39	2	77
08:45 AM	1	0	0	1	35	0	0	0	0	0	36	2	75
Total	4	0	0	5	158	0	0	0	0	0	170	5	342
*** BREAK ***													
04:00 PM	2	0	2	2	58	0	0	0	0	0	91	1	156
04:15 PM	1	0	1	3	66	0	0	0	0	0	88	2	161
04:30 PM	3	0	0	2	77	0	0	0	0	0	95	2	179
04:45 PM	1	0	0	0	97	0	0	0	0	0	96	0	194
Total	7	0	3	7	298	0	0	0	0	0	370	5	690
05:00 PM	3	0	2	2	80	0	0	0	0	0	95	0	182
05:15 PM	0	0	2	1	76	0	0	0	0	0	98	3	180
05:30 PM	0	0	0	0	77	0	0	0	0	0	96	0	173
05:45 PM	0	0	0	1	81	0	0	0	0	0	84	2	168
Total	3	0	4	4	314	0	0	0	0	0	373	5	703
Grand Total	14	0	7	19	872	0	0	0	0	0	1036	16	1964
Apprch %	66.7	0	33.3	2.1	97.9	0	0	0	0	0	98.5	1.5	
Total %	0.7	0	0.4	1	44.4	0	0	0	0	0	52.7	0.8	

Transportation Studies, Inc.
2680 Walnut Avenue, Suite C
Tustin, CA. 92780

City: LAKE FOREST
N-S Direction: AUTO CENTER DRIVE (E)
E-W Direction: TOWNE CENTRE DRIVE

File Name : h1101033
Site Code : 00005724
Start Date : 1/25/2011
Page No : 2

	AUTO CENTER DRIVE Southbound				TOWNE CENTRE DRIVE Westbound				DEAD END Northbound				TOWNE CENTRE DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	0	39	0	39	0	0	0	0	0	48	1	49	88
08:00 AM	0	0	0	0	0	50	0	50	0	0	0	0	0	51	0	51	101
08:15 AM	1	0	0	1	2	41	0	43	0	0	0	0	0	44	1	45	89
08:30 AM	2	0	0	2	2	32	0	34	0	0	0	0	0	39	2	41	77
Total Volume	3	0	0	3	4	162	0	166	0	0	0	0	0	182	4	186	355
% App. Total	100	0	0		2.4	97.6	0		0	0	0		0	97.8	2.2		
PHF	.375	.000	.000	.375	.500	.810	.000	.830	.000	.000	.000	.000	.000	.892	.500	.912	.879

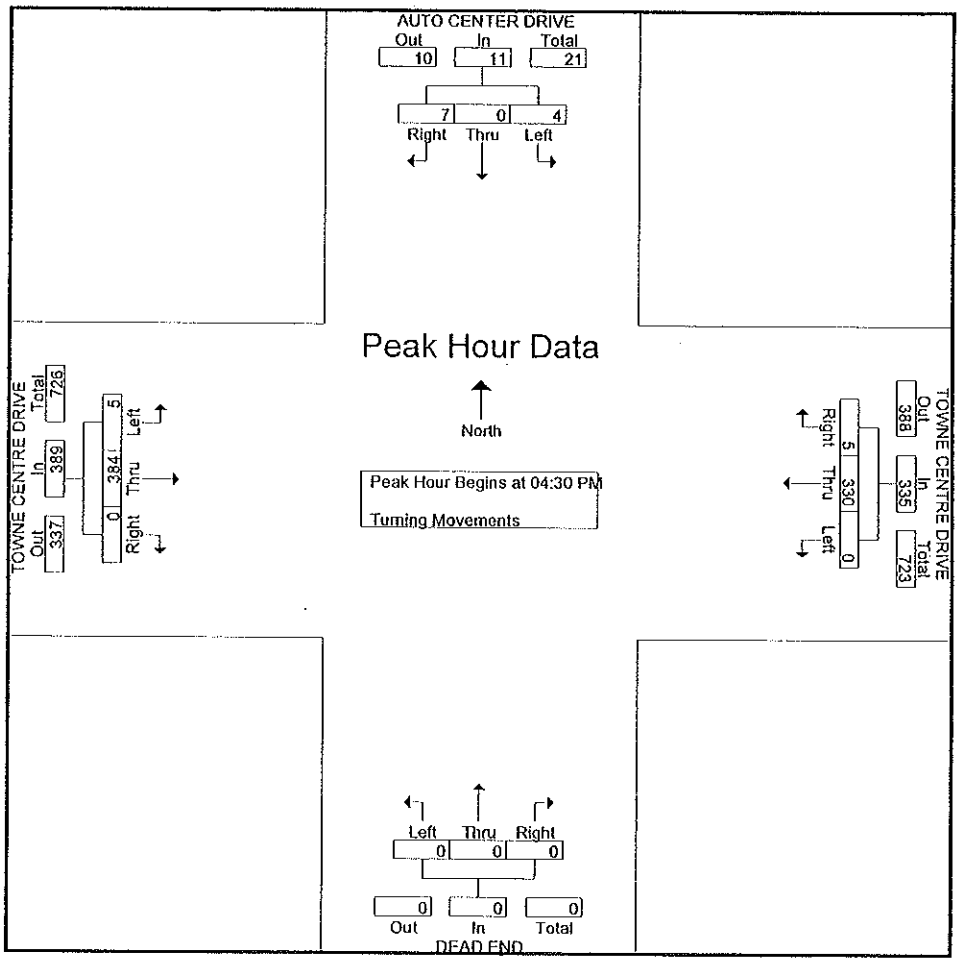


Transportation Studies, Inc.
2680 Walnut Avenue, Suite C
Tustin, CA. 92780

City: LAKE FOREST
N-S Direction: AUTO CENTER DRIVE (E)
E-W Direction: TOWNE CENTRE DRIVE

File Name : h1101033
Site Code : 00005724
Start Date : 1/25/2011
Page No : 3

	AUTO CENTER DRIVE Southbound				TOWNE CENTRE DRIVE Westbound				DEAD END Northbound				TOWNE CENTRE DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	3	0	0	3	2	77	0	79	0	0	0	0	0	95	2	97	179
04:45 PM	1	0	0	1	0	97	0	97	0	0	0	0	0	96	0	96	194
05:00 PM	3	0	2	5	2	80	0	82	0	0	0	0	0	95	0	95	182
05:15 PM	0	0	2	2	1	76	0	77	0	0	0	0	0	98	3	101	180
Total Volume	7	0	4	11	5	330	0	335	0	0	0	0	0	384	5	389	735
% App. Total	63.6	0	36.4		1.5	98.5	0		0	0	0		0	98.7	1.3		
PHF	.583	.000	.500	.550	.625	.851	.000	.863	.000	.000	.000	.000	.000	.980	.417	.963	.947



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Transportation Studies, Inc.
2680 Walnut Avenue, Suite C
Tustin, CA. 92780

City: LAKE FOREST
N-S Direction: TOWNE CENTRE DRIVE
E-W Direction: LAKE FOREST DRIVE

File Name : H1010023
Site Code : 00005056
Start Date : 10/26/2010
Page No : 1

Groups Printed- Turning Movements

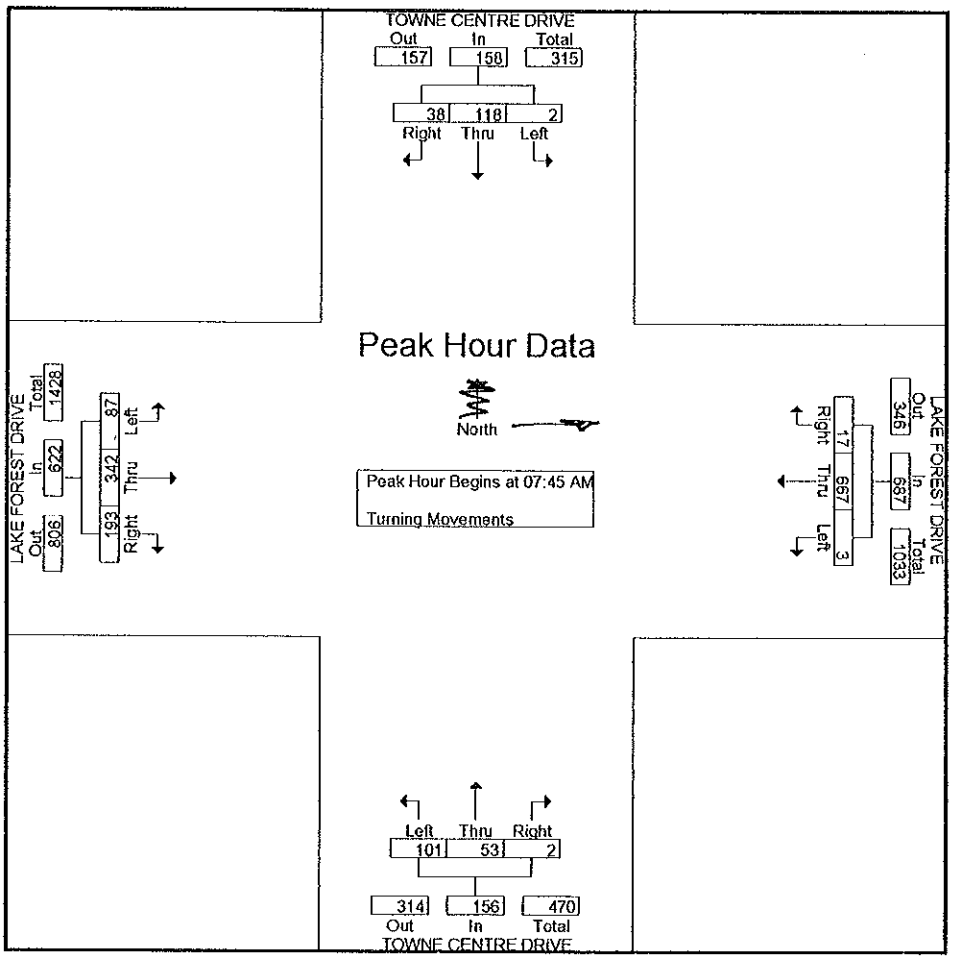
	TOWNE CENTRE DRIVE Southbound			LAKE FOREST DRIVE Westbound			TOWNE CENTRE DRIVE Northbound			LAKE FOREST DRIVE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	4	24	0	0	95	2	0	4	12	22	61	14	238
07:15 AM	9	34	1	1	123	2	0	8	15	39	58	20	310
07:30 AM	12	33	2	4	143	0	0	16	20	41	49	12	332
07:45 AM	12	28	2	3	163	0	1	10	30	49	87	26	411
Total	37	119	5	8	524	4	1	38	77	151	255	72	1291
08:00 AM	13	33	0	4	173	2	0	16	28	55	80	17	421
08:15 AM	8	19	0	9	159	0	0	17	22	52	90	22	398
08:30 AM	5	38	0	1	172	1	1	10	21	37	85	22	393
08:45 AM	17	27	0	7	161	2	0	13	15	29	85	31	387
Total	43	117	0	21	665	5	1	56	86	173	340	92	1599
*** BREAK ***													
04:30 PM	33	49	2	5	119	1	1	21	29	41	139	35	475
04:45 PM	37	49	3	5	117	0	1	17	29	46	133	38	475
Total	70	98	5	10	236	1	2	38	58	87	272	73	950
05:00 PM	37	53	8	5	118	1	1	32	47	48	173	45	568
05:15 PM	55	58	6	12	149	1	1	26	48	59	174	40	629
05:30 PM	35	66	7	4	121	2	5	30	44	57	153	29	553
05:45 PM	26	63	2	6	134	0	1	26	32	57	149	48	544
Total	153	240	23	27	522	4	8	114	171	221	649	162	2294
06:00 PM	28	58	4	6	121	0	0	26	20	43	115	40	461
06:15 PM	62	43	5	8	107	2	0	25	24	48	163	36	523
Grand Total	393	675	42	80	2175	16	12	297	436	723	1794	475	7118
Apprch %	35.4	60.8	3.8	3.5	95.8	0.7	1.6	39.9	58.5	24.2	60	15.9	
Total %	5.5	9.5	0.6	1.1	30.6	0.2	0.2	4.2	6.1	10.2	25.2	6.7	

Transportation Studies, Inc.
2680 Walnut Avenue, Suite C
Tustin, CA. 92780

City: LAKE FOREST
N-S Direction: TOWNE CENTRE DRIVE
E-W Direction: LAKE FOREST DRIVE

File Name : H1010023
Site Code : 00005056
Start Date : 10/26/2010
Page No : 2

	TOWNE CENTRE DRIVE Southbound				LAKE FOREST DRIVE Westbound				TOWNE CENTRE DRIVE Northbound				LAKE FOREST DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	12	28	2	42	3	163	0	166	1	10	30	41	49	87	26	162	411
08:00 AM	13	33	0	46	4	173	2	179	0	16	28	44	55	80	17	152	421
08:15 AM	8	19	0	27	9	159	0	168	0	17	22	39	52	90	22	164	398
08:30 AM	5	38	0	43	1	172	1	174	1	10	21	32	37	85	22	144	393
Total Volume	38	118	2	158	17	667	3	687	2	53	101	156	193	342	87	622	1623
% App. Total	24.1	74.7	1.3		2.5	97.1	0.4		1.3	34	64.7		31	55	14		
PHF	.731	.776	.250	.859	.472	.964	.375	.959	.500	.779	.842	.886	.877	.950	.837	.948	.964

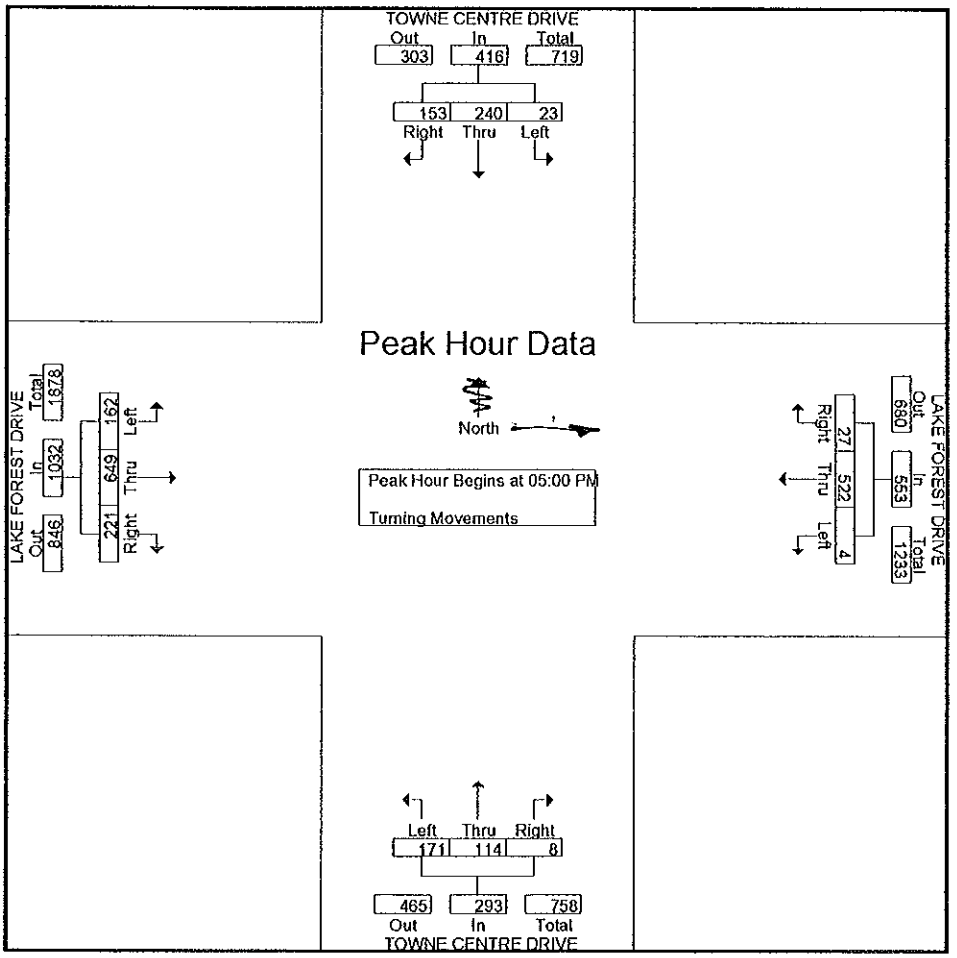


Transportation Studies, Inc.
2680 Walnut Avenue, Suite C
Tustin, CA. 92780

City: LAKE FOREST
N-S Direction: TOWNE CENTRE DRIVE
E-W Direction: LAKE FOREST DRIVE

File Name : H1010023
Site Code : 00005056
Start Date : 10/26/2010
Page No : 3

	TOWNE CENTRE DRIVE Southbound				LAKE FOREST DRIVE Westbound				TOWNE CENTRE DRIVE Northbound				LAKE FOREST DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	37	53	8	98	5	118	1	124	1	32	47	80	48	173	45	266	568
05:15 PM	55	58	6	119	12	149	1	162	1	26	48	75	59	174	40	273	629
05:30 PM	35	66	7	108	4	121	2	127	5	30	44	79	57	153	29	239	553
05:45 PM	26	63	2	91	6	134	0	140	1	26	32	59	57	149	48	254	544
Total Volume	153	240	23	416	27	522	4	553	8	114	171	293	221	649	162	1032	2294
% App. Total	36.8	57.7	5.5		4.9	94.4	0.7		2.7	38.9	58.4		21.4	62.9	15.7		
PHF	.695	.909	.719	.874	.563	.876	.500	.853	.400	.891	.891	.916	.936	.932	.844	.945	.912



5

Transportation Studies, Inc.
2680 Walnut Avenue, Suite C
Tustin, CA. 92780

City: LAKE FOREST
N-S Direction: SR-241 NB ON RAMP
E-W Direction: LAKE FOREST DRIVE

File Name : H1010024
Site Code : 00005056
Start Date : 10/13/2010
Page No : 1

Groups Printed- Turning Movements

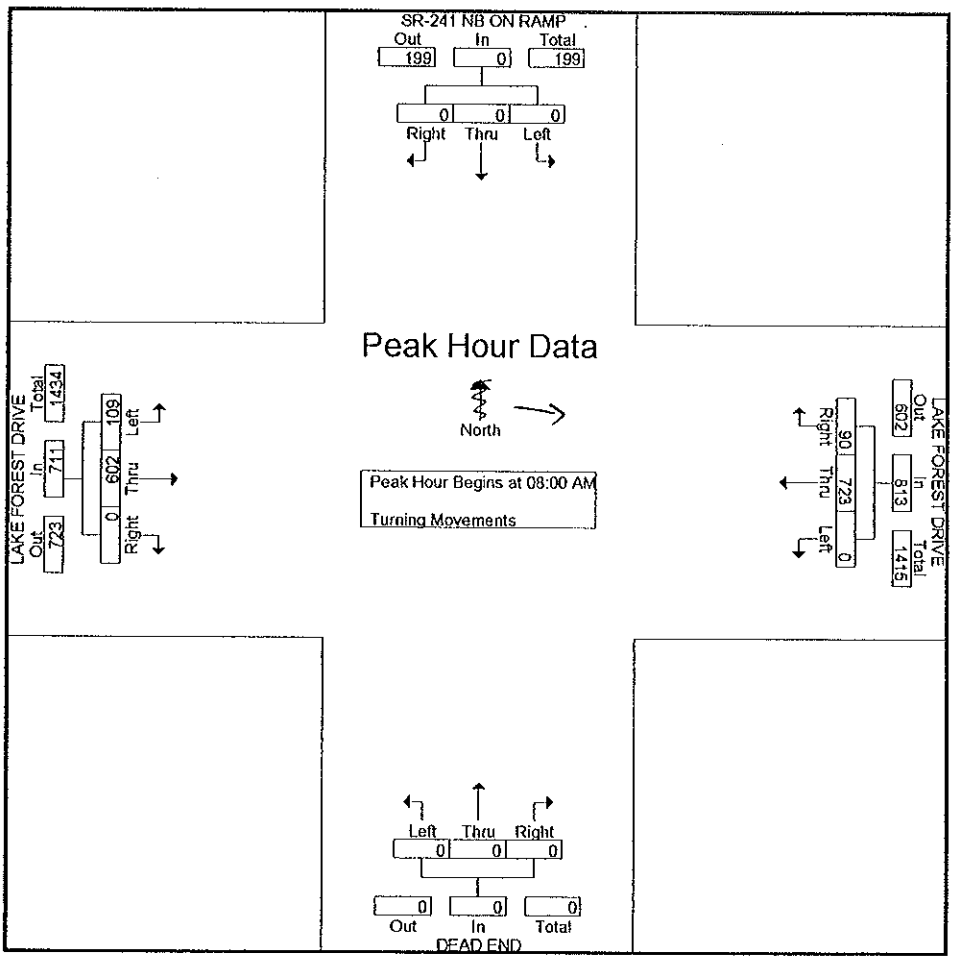
	SR-241 NB ON RAMP Southbound			LAKE FOREST DRIVE Westbound			DEAD END Northbound			LAKE FOREST DRIVE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	14	102	0	0	0	0	0	108	22	246
07:15 AM	0	0	0	27	110	0	0	0	0	0	102	33	272
07:30 AM	0	0	0	22	161	0	0	0	0	0	108	22	313
07:45 AM	0	0	0	24	168	0	0	0	0	0	143	25	360
Total	0	0	0	87	541	0	0	0	0	0	461	102	1191
08:00 AM	0	0	0	24	234	0	0	0	0	0	156	22	436
08:15 AM	0	0	0	19	172	0	0	0	0	0	147	30	368
08:30 AM	0	0	0	25	140	0	0	0	0	0	149	35	349
08:45 AM	0	0	0	22	177	0	0	0	0	0	150	22	371
Total	0	0	0	90	723	0	0	0	0	0	602	109	1524
*** BREAK ***													
04:30 PM	0	0	0	25	146	0	0	0	0	0	216	34	421
04:45 PM	0	0	0	27	156	0	0	0	0	0	216	37	436
Total	0	0	0	52	302	0	0	0	0	0	432	71	857
05:00 PM	0	0	0	38	169	0	0	0	0	0	234	46	487
05:15 PM	0	0	0	42	172	0	0	0	0	0	296	70	580
05:30 PM	0	0	0	40	169	0	0	0	0	0	281	54	544
05:45 PM	0	0	0	31	167	0	0	0	0	0	224	48	470
Total	0	0	0	151	677	0	0	0	0	0	1035	218	2081
06:00 PM	0	0	0	30	159	0	0	0	0	0	234	23	446
06:15 PM	0	0	0	31	155	0	0	0	0	0	232	25	443
Grand Total	0	0	0	441	2557	0	0	0	0	0	2996	548	6542
Apprch %	0	0	0	14.7	85.3	0	0	0	0	0	84.5	15.5	
Total %	0	0	0	6.7	39.1	0	0	0	0	0	45.8	8.4	

Transportation Studies, Inc.
2680 Walnut Avenue, Suite C
Tustin, CA. 92780

City: LAKE FOREST
N-S Direction: SR-241 NB ON RAMP
E-W Direction: LAKE FOREST DRIVE

File Name : H1010024
Site Code : 00005056
Start Date : 10/13/2010
Page No : 2

	SR-241 NB ON RAMP Southbound				LAKE FOREST DRIVE Westbound				DEAD END Northbound				LAKE FOREST DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	24	234	0	258	0	0	0	0	0	156	22	178	436
08:15 AM	0	0	0	0	19	172	0	191	0	0	0	0	0	147	30	177	368
08:30 AM	0	0	0	0	25	140	0	165	0	0	0	0	0	149	35	184	349
08:45 AM	0	0	0	0	22	177	0	199	0	0	0	0	0	150	22	172	371
Total Volume	0	0	0	0	90	723	0	813	0	0	0	0	0	602	109	711	1524
% App. Total	0	0	0		11.1	88.9	0		0	0	0		0	84.7	15.3		
PHF	.000	.000	.000	.000	.900	.772	.000	.788	.000	.000	.000	.000	.000	.965	.779	.966	.874



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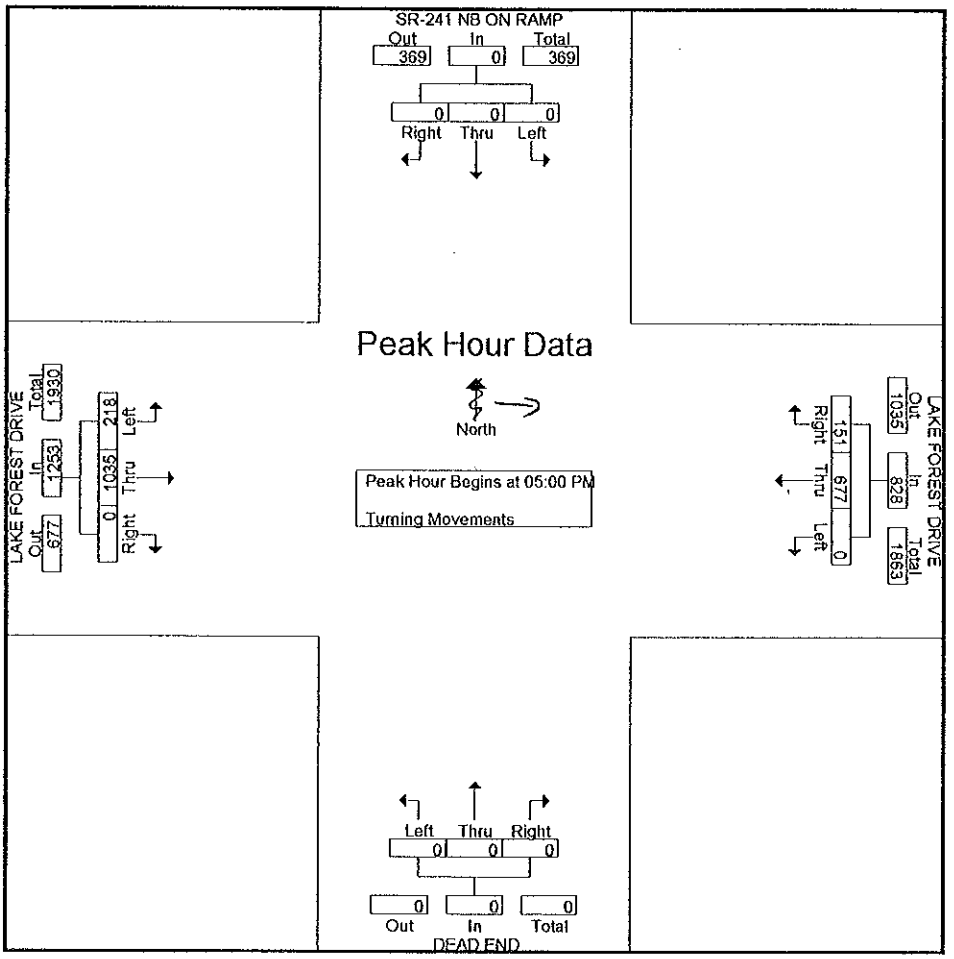
Tustin, CA. 92780

City: LAKE FOREST
N-S Direction: SR-241 NB ON RAMP
E-W Direction: LAKE FOREST DRIVE

File Name : H1010024
Site Code : 00005056
Start Date : 10/13/2010
Page No : 3

	SR-241 NB ON RAMP Southbound				LAKE FOREST DRIVE Westbound				DEAD END Northbound				LAKE FOREST DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	38	169	0	207	0	0	0	0	0	234	46	280	487
05:15 PM	0	0	0	0	42	172	0	214	0	0	0	0	0	296	70	366	580
05:30 PM	0	0	0	0	40	169	0	209	0	0	0	0	0	281	54	335	544
05:45 PM	0	0	0	0	31	167	0	198	0	0	0	0	0	224	48	272	470
Total Volume	0	0	0	0	151	677	0	828	0	0	0	0	0	1035	218	1253	2081
% App. Total	0	0	0		18.2	81.8	0		0	0	0		0	82.6	17.4		
PHF	.000	.000	.000	.000	.899	.984	.000	.967	.000	.000	.000	.000	.000	.874	.779	.856	.897



6

Transportation Studies, Inc.
2680 Walnut Avenue, Suite C
Tustin, CA. 92780

City: LAKE FOREST
N-S Direction: SR-241 SB OFF RAMP
E-W Direction: LAKE FOREST DRIVE

File Name : H1010025
Site Code : 00005056
Start Date : 10/14/2010
Page No : 1

Groups Printed- Turning Movements

	SR-241 SB OFF RAMP Southbound			LAKE FOREST DRIVE Westbound			DEAD END Northbound			LAKE FOREST DRIVE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	43	0	19	0	113	0	0	0	0	0	88	0	263
07:15 AM	36	0	27	0	99	0	0	0	0	0	108	0	270
07:30 AM	37	0	28	0	176	0	0	0	0	0	126	0	367
07:45 AM	66	0	41	0	164	0	0	0	0	0	128	0	399
Total	182	0	115	0	552	0	0	0	0	0	450	0	1299
08:00 AM	65	0	36	0	192	0	0	0	0	0	161	0	454
08:15 AM	64	0	33	0	185	0	0	0	0	0	138	0	420
08:30 AM	50	0	33	0	168	0	0	0	0	0	153	0	404
08:45 AM	62	0	29	0	188	0	0	0	0	0	114	0	393
Total	241	0	131	0	733	0	0	0	0	0	566	0	1671
*** BREAK ***													
04:30 PM	25	0	16	0	148	0	0	0	0	0	216	0	405
04:45 PM	28	0	14	0	153	0	0	0	0	0	261	0	456
Total	53	0	30	0	301	0	0	0	0	0	477	0	861
05:00 PM	34	0	20	0	172	0	0	0	0	0	261	0	487
05:15 PM	32	0	18	0	166	0	0	0	0	0	333	0	549
05:30 PM	26	0	24	0	182	0	0	0	0	0	282	0	514
05:45 PM	33	0	24	0	154	0	0	0	0	0	280	0	491
Total	125	0	86	0	674	0	0	0	0	0	1156	0	2041
06:00 PM	29	0	16	0	179	0	0	0	0	0	280	0	504
06:15 PM	27	0	17	0	158	0	0	0	0	0	212	0	414
Grand Total	657	0	395	0	2597	0	0	0	0	0	3141	0	6790
Apprch %	62.5	0	37.5	0	100	0	0	0	0	0	100	0	
Total %	9.7	0	5.8	0	38.2	0	0	0	0	0	46.3	0	

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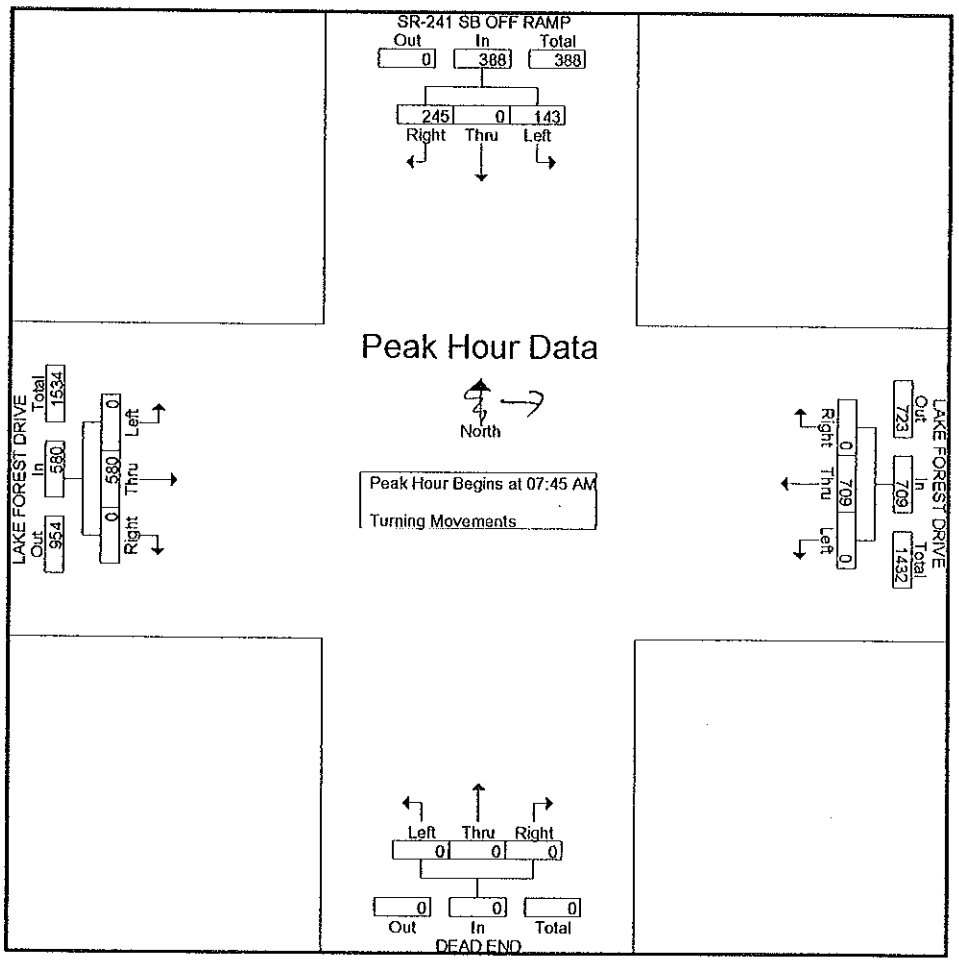
City: LAKE FOREST
N-S Direction: SR-241 SB OFF RAMP
E-W Direction: LAKE FOREST DRIVE

File Name : H1010025
Site Code : 00005056
Start Date : 10/14/2010
Page No : 2

	SR-241 SB OFF RAMP Southbound				LAKE FOREST DRIVE Westbound				DEAD END Northbound				LAKE FOREST DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	66	0	41	107	0	164	0	164	0	0	0	0	0	128	0	128	399
08:00 AM	65	0	36	101	0	192	0	192	0	0	0	0	0	161	0	161	454
08:15 AM	64	0	33	97	0	185	0	185	0	0	0	0	0	138	0	138	420
08:30 AM	50	0	33	83	0	168	0	168	0	0	0	0	0	153	0	153	404
Total Volume	245	0	143	388	0	709	0	709	0	0	0	0	0	580	0	580	1677
% App. Total	63.1	0	36.9		0	100	0		0	0	0		0	100	0		
PHF	.928	.000	.872	.907	.000	.923	.000	.923	.000	.000	.000	.000	.000	.901	.000	.901	.923

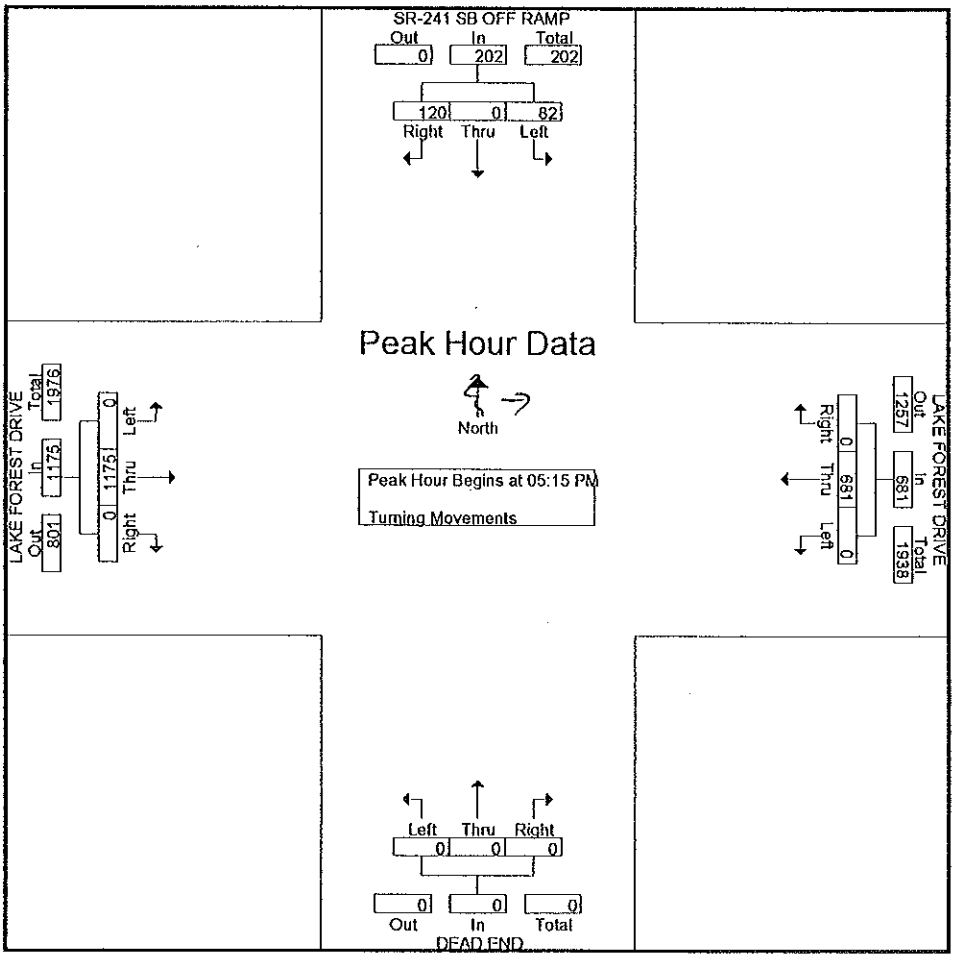


Transportation Studies, Inc.
2680 Walnut Avenue, Suite C
Tustin, CA. 92780

City: LAKE FOREST
N-S Direction: SR-241 SB OFF RAMP
E-W Direction: LAKE FOREST DRIVE

File Name : H1010025
Site Code : 00005056
Start Date : 10/14/2010
Page No : 3

	SR-241 SB OFF RAMP Southbound				LAKE FOREST DRIVE Westbound				DEAD END Northbound				LAKE FOREST DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	32	0	18	50	0	166	0	166	0	0	0	0	0	333	0	333	549
05:30 PM	26	0	24	50	0	182	0	182	0	0	0	0	0	282	0	282	514
05:45 PM	33	0	24	57	0	154	0	154	0	0	0	0	0	280	0	280	491
06:00 PM	29	0	16	45	0	179	0	179	0	0	0	0	0	280	0	280	504
Total Volume	120	0	82	202	0	681	0	681	0	0	0	0	0	1175	0	1175	2058
% App. Total	59.4	0	40.6		0	100	0		0	0	0		0	100	0		
PHF	.909	.000	.854	.886	.000	.935	.000	.935	.000	.000	.000	.000	.000	.882	.000	.882	.937



APPENDIX B

EXISTING TRAFFIC CONDITIONS INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX B-I

EXISTING TRAFFIC CONDITIONS

AM Existing (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Bake Parkway at Towne Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.699
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	B

Street Name:	Bake Parkway						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lanes:	2 0	1 1	0	2 0	1 1	0	1 0	1 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	143	412	146	6	1365	17	3	40	349	63	48	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	143	412	146	6	1365	17	3	40	349	63	48	14
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	143	412	146	6	1365	17	3	40	349	63	48	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	143	412	146	6	1365	17	3	40	349	63	48	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	143	412	146	6	1365	17	3	40	349	63	48	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	143	412	146	6	1365	17	3	40	349	63	48	14
OvlAdjVol:									278			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.48	0.52	2.00	1.98	0.02	1.00	1.00	1.00	1.00	1.55	0.45
Final Sat.:	3400	2510	890	3400	3358	42	1700	1700	1700	1700	2632	768
Capacity Analysis Module:												
Vol/Sat:	0.04	0.16	0.16	0.00	0.41	0.41	0.00	0.02	0.21	0.04	0.02	0.02
OvlAdjV/S:									0.16			
Crit Moves:	****				****				****	****		

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AM Existing (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #2 Auto Center Drive (West) at Towne Center Drive

****

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: A[9.2]

****

Street Name:	Auto Center Drive (West)						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0 1 0			1 0 0 1 0			1 0 1 1 0			1 0 1 1 0		
Volume Module:												
Base Vol:	1	0	4	1	0	7	10	177	25	12	147	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	0	4	1	0	7	10	177	25	12	147	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	0	4	1	0	7	10	177	25	12	147	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1	0	4	1	0	7	10	177	25	12	147	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	0	4	1	0	7	10	177	25	12	147	6
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	307	387	101	283	396	77	153	xxxx	xxxxx	202	xxxx	xxxxx
Potent Cap.:	628	551	941	653	544	976	1440	xxxx	xxxxx	1382	xxxx	xxxxx
Move Cap.:	616	542	941	642	536	976	1440	xxxx	xxxxx	1382	xxxx	xxxxx
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.01	0.01	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	10.9	xxxx	xxxxx	10.6	xxxx	xxxxx	7.5	xxxx	xxxxx	7.6	xxxx	xxxxx
LOS by Move:	B	*	*	B	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	941	xxxx	xxxx	976	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	0.0	xxxxx	xxxx	0.0	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	8.8	xxxxx	xxxx	8.7	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	A	*	*	A	*	*	*	*	*	*
ApproachDel:		9.2			9.0			xxxxxx			xxxxxx	
ApproachLOS:		A			A			*			*	

****

Note: Queue reported is the number of cars per lane.

****

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AM Existing (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #3 Auto Center Drive (East)/Driveway 1 at Towne Center Drive

****

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: A[8.7]

****

Street Name:	Auto Center Drive (East)/Driveway						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0 0	0	1 0	0 0	1	1 0	2 0	0	0 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	0	3	4	182	0	0	162	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	3	4	182	0	0	162	4
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	3	4	182	0	0	162	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	3	4	182	0	0	162	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	3	4	182	0	0	162	4
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	263	xxxx	83	166	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	709	xxxx	966	1424	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	708	xxxx	966	1424	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	0.00	0.00	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.0	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.7	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	A	A	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			8.7			xxxxxx			xxxxxx		
ApproachLOS:	*			A			*			*		

****

Note: Queue reported is the number of cars per lane.

****

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AM Existing (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Lake Forest Drive at Towne Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.406
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	20	Level Of Service:	A

Street Name:	Lake Forest Drive						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lanes:	2 0	1 1	0	2 0	1 1	0	1 0	1 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	87	342	193	3	667	17	2	118	38	101	53	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	87	342	193	3	667	17	2	118	38	101	53	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	87	342	193	3	667	17	2	118	38	101	53	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	87	342	193	3	667	17	2	118	38	101	53	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	87	342	193	3	667	17	2	118	38	101	53	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	87	342	193	3	667	17	2	118	38	101	53	2
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.28	0.72	2.00	1.95	0.05	1.00	1.00	1.00	1.00	1.93	0.07
Final Sat.:	3400	2173	1227	3400	3315	85	1700	1700	1700	1700	3276	124
Capacity Analysis Module:												
Vol/Sat:	0.03	0.16	0.16	0.00	0.20	0.20	0.00	0.07	0.02	0.06	0.02	0.02
Crit Moves:	****				****			****		****		

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AM Existing (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Lake Forest Drive at SR-241 Northbound On-Ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	0.295
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	17	Level Of Service:	A

Street Name:	Lake Forest Drive						SR-241 Northbound On-Ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lanes:	2 0	2 0	0	0 0	2 0	1	0 0	0 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	109	602	0	0	723	90	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	109	602	0	0	723	90	0	0	0	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	109	602	0	0	723	90	0	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	109	602	0	0	723	90	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	109	602	0	0	723	90	0	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	109	602	0	0	723	90	0	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Final Sat.:	3400	3400	0	0	3400	1700	0	0	0	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.03	0.18	0.00	0.00	0.21	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Crit Moves:	****				****							

AM Existing (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Lake Forest Drive at SR-241 Southbound Off-Ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	0.403
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	20	Level Of Service:	A

Street Name:	Lake Forest Drive						SR-241 Southbound Off-Ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lanes:	0 0 2	0 0		0 0 2	0 0		2 0 0	0 1		0 0 0	0 0	
Volume Module:												
Base Vol:	0	580	0	0	709	0	143	0	245	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	580	0	0	709	0	143	0	245	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	580	0	0	709	0	143	0	245	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	580	0	0	709	0	143	0	245	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	580	0	0	709	0	143	0	245	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	580	0	0	709	0	143	0	245	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3400	0	0	3400	0	3400	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.17	0.00	0.00	0.21	0.00	0.04	0.00	0.14	0.00	0.00	0.00
Crit Moves:	****				****				****			

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PM Existing (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Bake Parkway at Towne Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.508
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	24	Level Of Service:	A

Street Name:	Bake Parkway						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lanes:	2 0	1 1	0	2 0	1 1	0	1 0	1 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	397	884	155	71	560	68	58	154	244	70	170	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	397	884	155	71	560	68	58	154	244	70	170	61
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	397	884	155	71	560	68	58	154	244	70	170	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	397	884	155	71	560	68	58	154	244	70	170	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	397	884	155	71	560	68	58	154	244	70	170	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	397	884	155	71	560	68	58	154	244	70	170	61
OvlAdjVol:									46			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.70	0.30	2.00	1.78	0.22	1.00	1.00	1.00	1.00	1.47	0.53
Final Sat.:	3400	2893	507	3400	3032	368	1700	1700	1700	1700	2502	898
Capacity Analysis Module:												
Vol/Sat:	0.12	0.31	0.31	0.02	0.18	0.18	0.03	0.09	0.14	0.04	0.07	0.07
OvlAdjV/S:									0.03			
Crit Moves:		****			****			****			****	

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PM Existing (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #2 Auto Center Drive (West) at Towne Center Drive

****

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: B[13.3]

****

Street Name:	Auto Center Drive (West)						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0 1 0			1 0 0 1 0			1 0 1 1 0			1 0 1 1 0		
Volume Module:												
Base Vol:	21	0	6	4	0	13	9	380	5	3	322	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	0	6	4	0	13	9	380	5	3	322	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	21	0	6	4	0	13	9	380	5	3	322	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	21	0	6	4	0	13	9	380	5	3	322	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	21	0	6	4	0	13	9	380	5	3	322	10
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	568	739	193	541	736	166	332	xxxx	xxxxx	385	xxxx	xxxxx
Potent Cap.:	410	348	823	429	349	856	1239	xxxx	xxxxx	1185	xxxx	xxxxx
Move Cap.:	401	344	823	422	345	856	1239	xxxx	xxxxx	1185	xxxx	xxxxx
Volume/Cap:	0.05	0.00	0.01	0.01	0.00	0.02	0.01	xxxx	xxxx	0.00	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.2	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	14.5	xxxx	xxxxx	13.6	xxxx	xxxxx	7.9	xxxx	xxxxx	8.0	xxxx	xxxxx
LOS by Move:	B	*	*	B	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	823	xxxx	xxxx	856	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	0.0	xxxxx	xxxx	0.0	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	9.4	xxxxx	xxxx	9.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	A	*	*	A	*	*	*	*	*	*
ApproachDel:	13.3			10.3			xxxxxx			xxxxxx		
ApproachLOS:	B			B			*			*		

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Note: Queue reported is the number of cars per lane.

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PM Existing (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #3 Auto Center Drive (East)/Driveway 1 at Towne Center Drive

****

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: B[10.5]

****

Street Name:	Auto Center Drive (East)/Driveway						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0 0	0	1 0	0 0	1	1 0	2 0	0	0 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	4	0	7	5	384	0	0	330	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	4	0	7	5	384	0	0	330	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	4	0	7	5	384	0	0	330	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	4	0	7	5	384	0	0	330	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	4	0	7	5	384	0	0	330	5
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	535	xxxx	168	335	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	481	xxxx	854	1236	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	479	xxxx	854	1236	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	0.01	0.00	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	0.0	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	12.6	xxxx	9.3	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	A	A	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			10.5			xxxxxx			xxxxxx		
ApproachLOS:		*		B				*			*	

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Note: Queue reported is the number of cars per lane.

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PM Existing (Year 2011)
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Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Lake Forest Drive at Towne Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.549
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	26	Level Of Service:	A

Street Name:	Lake Forest Drive						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lanes:	2 0	1 1	0	2 0	1 1	0	1 0	1 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	162	649	221	4	522	27	23	240	153	171	114	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	162	649	221	4	522	27	23	240	153	171	114	8
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	162	649	221	4	522	27	23	240	153	171	114	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	162	649	221	4	522	27	23	240	153	171	114	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	162	649	221	4	522	27	23	240	153	171	114	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	162	649	221	4	522	27	23	240	153	171	114	8
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.49	0.51	2.00	1.90	0.10	1.00	1.00	1.00	1.00	1.87	0.13
Final Sat.:	3400	2536	864	3400	3233	167	1700	1700	1700	1700	3177	223
Capacity Analysis Module:												
Vol/Sat:	0.05	0.26	0.26	0.00	0.16	0.16	0.01	0.14	0.09	0.10	0.04	0.04
Crit Moves:		****		****				****		****		

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PM Existing (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Lake Forest Drive at SR-241 Northbound On-Ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	0.354
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	26	Level Of Service:	A

Street Name:	Lake Forest Drive						SR-241 Northbound On-Ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lanes:	2 0	2 0	0	0 0	2 0	1	0 0	0 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	218	1035	0	0	677	151	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	218	1035	0	0	677	151	0	0	0	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	218	1035	0	0	677	151	0	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	218	1035	0	0	677	151	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	218	1035	0	0	677	151	0	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	218	1035	0	0	677	151	0	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Final Sat.:	3400	3400	0	0	3400	1700	0	0	0	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.06	0.30	0.00	0.00	0.20	0.09	0.00	0.00	0.00	0.00	0.00	0.00
Crit Moves:		****										

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PM Existing (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Lake Forest Drive at SR-241 Southbound Off-Ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	0.466
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	22	Level Of Service:	A

Street Name:	Lake Forest Drive						SR-241 Southbound Off-Ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lanes:	0 0	2 0	0	0 0	2 0	0	2 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	1175	0	0	681	0	82	0	120	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1175	0	0	681	0	82	0	120	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1175	0	0	681	0	82	0	120	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1175	0	0	681	0	82	0	120	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1175	0	0	681	0	82	0	120	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1175	0	0	681	0	82	0	120	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3400	0	0	3400	0	3400	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.35	0.00	0.00	0.20	0.00	0.02	0.00	0.07	0.00	0.00	0.00
Crit Moves:		****		****					****			

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APPENDIX B-II

EXISTING WITH PROJECT TRAFFIC CONDITIONS

AM Existing With Project (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Bake Parkway at Towne Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.701
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	C

Street Name:	Bake Parkway						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lanes:	2 0	1 1	0	2 0	1 1	0	1 0	1 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	143	412	146	6	1365	17	3	40	349	63	48	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	143	412	146	6	1365	17	3	40	349	63	48	14
Added Vol:	0	0	13	1	0	0	0	3	0	3	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	143	412	159	7	1365	17	3	43	349	66	49	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	143	412	159	7	1365	17	3	43	349	66	49	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	143	412	159	7	1365	17	3	43	349	66	49	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	143	412	159	7	1365	17	3	43	349	66	49	14
OvlAdjVol:									278			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.44	0.56	2.00	1.98	0.02	1.00	1.00	1.00	1.00	1.56	0.44
Final Sat.:	3400	2453	947	3400	3358	42	1700	1700	1700	1700	2644	756
Capacity Analysis Module:												
Vol/Sat:	0.04	0.17	0.17	0.00	0.41	0.41	0.00	0.03	0.21	0.04	0.02	0.02
OvlAdjV/S:									0.16			
Crit Moves:	****				****				****	****		

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AM Existing With Project (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #2 Auto Center Drive (West) at Towne Center Drive

****

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: A[9.3]

****

Street Name:	Auto Center Drive (West)						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0	1 0		1 0 0	1 0		1 0 1	1 0		1 0 1	1 0	
Volume Module:												
Base Vol:	1	0	4	1	0	7	10	177	25	12	147	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	0	4	1	0	7	10	177	25	12	147	6
Added Vol:	0	0	0	0	0	0	0	18	0	0	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	0	4	1	0	7	10	195	25	12	152	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1	0	4	1	0	7	10	195	25	12	152	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	0	4	1	0	7	10	195	25	12	152	6
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	328	410	110	297	419	79	158	xxxx	xxxxx	220	xxxx	xxxxx
Potent Cap.:	607	535	929	638	528	972	1434	xxxx	xxxxx	1361	xxxx	xxxxx
Move Cap.:	595	526	929	628	520	972	1434	xxxx	xxxxx	1361	xxxx	xxxxx
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.01	0.01	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	11.1	xxxx	xxxxx	10.7	xxxx	xxxxx	7.5	xxxx	xxxxx	7.7	xxxx	xxxxx
LOS by Move:	B	*	*	B	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	929	xxxx	xxxx	972	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	0.0	xxxxx	xxxx	0.0	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	8.9	xxxxx	xxxx	8.7	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	A	*	*	A	*	*	*	*	*	*
ApproachDel:		9.3			9.0			xxxxxx			xxxxxx	
ApproachLOS:		A			A			*			*	

****

Note: Queue reported is the number of cars per lane.

****

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AM Existing With Project (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #3 Auto Center Drive (East)/Driveway 1 at Towne Center Drive

****

Average Delay (sec/veh): 1.3 Worst Case Level Of Service: A[10.0]

****

Street Name:	Auto Center Drive (East)/Driveway						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1! 0	0	1 0	0 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	0	3	4	182	0	0	162	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	3	4	182	0	0	162	4
Added Vol:	5	0	8	0	0	0	0	4	3	48	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	0	8	0	0	3	4	186	3	48	162	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	5	0	8	0	0	3	4	186	3	48	162	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	5	0	8	0	0	3	4	186	3	48	162	4
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	373	458	95	361	457	83	166	xxxx	xxxxx	189	xxxx	xxxxx
Potent Cap.:	564	503	950	575	503	966	1424	xxxx	xxxxx	1397	xxxx	xxxxx
Move Cap.:	547	484	950	554	484	966	1424	xxxx	xxxxx	1397	xxxx	xxxxx
Volume/Cap:	0.01	0.00	0.01	0.00	0.00	0.00	0.00	xxxx	xxxx	0.03	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	7.7	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	740	xxxxx	xxxx	xxxx	966	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.1	xxxxx	xxxxx	xxxx	0.0	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	10.0	xxxxx	xxxxx	xxxx	8.7	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	A	*	*	*	A	*	*	*	*	*	*
ApproachDel:		10.0			8.7			xxxxxx			xxxxxx	
ApproachLOS:		A			A			*			*	

****

Note: Queue reported is the number of cars per lane.

****

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AM Existing With Project (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Lake Forest Drive at Towne Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.420
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	21	Level Of Service:	A

Street Name:	Lake Forest Drive						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lanes:	2 0	1 1	0	2 0	1 1	0	1 0	1 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	87	342	193	3	667	17	2	118	38	101	53	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	87	342	193	3	667	17	2	118	38	101	53	2
Added Vol:	26	0	0	0	0	22	6	0	7	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	113	342	193	3	667	39	8	118	45	101	53	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	113	342	193	3	667	39	8	118	45	101	53	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	342	193	3	667	39	8	118	45	101	53	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	113	342	193	3	667	39	8	118	45	101	53	2
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.28	0.72	2.00	1.89	0.11	1.00	1.00	1.00	1.00	1.93	0.07
Final Sat.:	3400	2173	1227	3400	3212	188	1700	1700	1700	1700	3276	124
Capacity Analysis Module:												
Vol/Sat:	0.03	0.16	0.16	0.00	0.21	0.21	0.00	0.07	0.03	0.06	0.02	0.02
Crit Moves:	****				****			****		****		

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AM Existing With Project (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Lake Forest Drive at SR-241 Northbound On-Ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	0.296
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	17	Level Of Service:	A

Street Name:	Lake Forest Drive						SR-241 Northbound On-Ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lanes:	2 0	2 0	0	0 0	2 0	1	0 0	0 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	109	602	0	0	723	90	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	109	602	0	0	723	90	0	0	0	0	0	0
Added Vol:	0	26	0	0	3	3	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	109	628	0	0	726	93	0	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	109	628	0	0	726	93	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	109	628	0	0	726	93	0	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	109	628	0	0	726	93	0	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Final Sat.:	3400	3400	0	0	3400	1700	0	0	0	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.03	0.18	0.00	0.00	0.21	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Crit Moves:	****				****							

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AM Existing With Project (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Lake Forest Drive at SR-241 Southbound Off-Ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	0.404
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	20	Level Of Service:	A

Street Name:	Lake Forest Drive						SR-241 Southbound Off-Ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lanes:	0 0	2 0	0	0 0	2 0	0	2 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	580	0	0	709	0	143	0	245	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	580	0	0	709	0	143	0	245	0	0	0
Added Vol:	0	13	0	0	3	0	13	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	593	0	0	712	0	156	0	245	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	593	0	0	712	0	156	0	245	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	593	0	0	712	0	156	0	245	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	593	0	0	712	0	156	0	245	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3400	0	0	3400	0	3400	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.17	0.00	0.00	0.21	0.00	0.05	0.00	0.14	0.00	0.00	0.00
Crit Moves:	****				****				****			

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Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Bake Parkway at Towne Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.522
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	25	Level Of Service:	A

Street Name:	Bake Parkway						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lanes:	2 0	1 1	0	2 0	1 1	0	1 0	1 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	397	884	155	71	560	68	58	154	244	70	170	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	397	884	155	71	560	68	58	154	244	70	170	61
Added Vol:	0	0	7	1	0	0	0	2	0	18	5	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	397	884	162	72	560	68	58	156	244	88	175	63
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	397	884	162	72	560	68	58	156	244	88	175	63
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	397	884	162	72	560	68	58	156	244	88	175	63
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	397	884	162	72	560	68	58	156	244	88	175	63
OvlAdjVol:									46			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.69	0.31	2.00	1.78	0.22	1.00	1.00	1.00	1.00	1.47	0.53
Final Sat.:	3400	2873	527	3400	3032	368	1700	1700	1700	1700	2500	900
Capacity Analysis Module:												
Vol/Sat:	0.12	0.31	0.31	0.02	0.18	0.18	0.03	0.09	0.14	0.05	0.07	0.07
OvlAdjV/S:									0.03			
Crit Moves:		****		****				****			****	

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Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #2 Auto Center Drive (West) at Towne Center Drive

****

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: B[13.6]

****

Street Name:	Auto Center Drive (West)						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0	0 1	0	1 0	0 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	21	0	6	4	0	13	9	380	5	3	322	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	0	6	4	0	13	9	380	5	3	322	10
Added Vol:	0	0	0	0	0	0	0	9	0	0	25	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	21	0	6	4	0	13	9	389	5	3	347	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	21	0	6	4	0	13	9	389	5	3	347	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	21	0	6	4	0	13	9	389	5	3	347	10
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	589	773	197	571	770	179	357	xxxx	xxxxx	394	xxxx	xxxxx
Potent Cap.:	396	332	817	408	333	840	1213	xxxx	xxxxx	1176	xxxx	xxxxx
Move Cap.:	387	329	817	402	330	840	1213	xxxx	xxxxx	1176	xxxx	xxxxx
Volume/Cap:	0.05	0.00	0.01	0.01	0.00	0.02	0.01	xxxx	xxxx	0.00	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.2	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	14.8	xxxx	xxxxx	14.0	xxxx	xxxxx	8.0	xxxx	xxxxx	8.1	xxxx	xxxxx
LOS by Move:	B	*	*	B	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	817	xxxx	xxxx	840	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	0.0	xxxxx	xxxx	0.0	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	9.4	xxxxx	xxxx	9.4	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	A	*	*	A	*	*	*	*	*	*
ApproachDel:	13.6			10.5			xxxxxx			xxxxxx		
ApproachLOS:	B			B			*			*		

****

Note: Queue reported is the number of cars per lane.

****

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Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #3 Auto Center Drive (East)/Driveway 1 at Towne Center Drive

****

Average Delay (sec/veh): 1.4 Worst Case Level Of Service: B[12.4]

****

Street Name:	Auto Center Drive (East)/Driveway						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			1 0 0 1 0			1 0 1 1 0			1 0 1 1 0		
Volume Module:												
Base Vol:	0	0	0	4	0	7	5	384	0	0	330	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	4	0	7	5	384	0	0	330	5
Added Vol:	25	0	45	0	0	0	0	21	2	25	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	0	45	4	0	7	5	405	2	25	330	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	25	0	45	4	0	7	5	405	2	25	330	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	25	0	45	4	0	7	5	405	2	25	330	5
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	631	801	204	595	800	168	335	xxxx	xxxxx	407	xxxx	xxxxx
Potent Cap.:	370	320	810	392	321	854	1236	xxxx	xxxxx	1163	xxxx	xxxxx
Move Cap.:	359	312	810	363	312	854	1236	xxxx	xxxxx	1163	xxxx	xxxxx
Volume/Cap:	0.07	0.00	0.06	0.01	0.00	0.01	0.00	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	15.0	xxxx	xxxxx	7.9	xxxx	xxxxx	8.2	xxxx	xxxxx
LOS by Move:	*	*	*	C	*	*	A	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	559	xxxxx	xxxx	xxxx	854	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.4	xxxxx	xxxxx	xxxx	0.0	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	12.4	xxxxx	xxxxx	xxxx	9.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	*	A	*	*	*	*	*	*
ApproachDel:	12.4			11.4			xxxxxx			xxxxxx		
ApproachLOS:	B			B			*			*		

****

Note: Queue reported is the number of cars per lane.

****

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Lake Forest Drive at Towne Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.549
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	26	Level Of Service:	A

Street Name:	Lake Forest Drive						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lanes:	2 0	1 1	0	2 0	1 1	0	1 0	1 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	162	649	221	4	522	27	23	240	153	171	114	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	162	649	221	4	522	27	23	240	153	171	114	8
Added Vol:	14	0	0	0	0	11	30	0	36	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	176	649	221	4	522	38	53	240	189	171	114	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	176	649	221	4	522	38	53	240	189	171	114	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	176	649	221	4	522	38	53	240	189	171	114	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	176	649	221	4	522	38	53	240	189	171	114	8
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.49	0.51	2.00	1.86	0.14	1.00	1.00	1.00	1.00	1.87	0.13
Final Sat.:	3400	2536	864	3400	3169	231	1700	1700	1700	1700	3177	223
Capacity Analysis Module:												
Vol/Sat:	0.05	0.26	0.26	0.00	0.16	0.16	0.03	0.14	0.11	0.10	0.04	0.04
Crit Moves:		****		****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Lake Forest Drive at SR-241 Northbound On-Ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	0.359
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	27	Level Of Service:	A

Street Name:	Lake Forest Drive						SR-241 Northbound On-Ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lanes:	2 0	2 0	0	0 0	2 0	1	0 0	0 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	218	1035	0	0	677	151	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	218	1035	0	0	677	151	0	0	0	0	0	0
Added Vol:	0	14	0	0	18	18	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	218	1049	0	0	695	169	0	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	218	1049	0	0	695	169	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	218	1049	0	0	695	169	0	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	218	1049	0	0	695	169	0	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Final Sat.:	3400	3400	0	0	3400	1700	0	0	0	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.06	0.31	0.00	0.00	0.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00
Crit Moves:		****										

PM Existing With Project (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

****

Intersection #6 Lake Forest Drive at SR-241 Southbound Off-Ramp

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.468
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	22	Level Of Service:	A

****

Street Name:	Lake Forest Drive						SR-241 Southbound Off-Ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lanes:	0 0	2 0	0	0 0	2 0	0	2 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	1175	0	0	681	0	82	0	120	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1175	0	0	681	0	82	0	120	0	0	0
Added Vol:	0	7	0	0	18	0	7	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1182	0	0	699	0	89	0	120	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1182	0	0	699	0	89	0	120	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1182	0	0	699	0	89	0	120	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1182	0	0	699	0	89	0	120	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3400	0	0	3400	0	3400	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.35	0.00	0.00	0.21	0.00	0.03	0.00	0.07	0.00	0.00	0.00
Crit Moves:		****		****					****			

****

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APPENDIX B-III

EXISTING WITH PROJECT WITH IMPROVEMENTS TRAFFIC CONDITIONS

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APPENDIX C

PROJECT DRIVEWAY LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX C-I

EXISTING WITH PROJECT TRAFFIC CONDITIONS

AM Existing With Project (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #3 Auto Center Drive (East)/Driveway 1 at Towne Center Drive

****

Average Delay (sec/veh): 1.3 Worst Case Level Of Service: A[10.0]

****

Street Name:	Auto Center Drive (East)/Driveway						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1! 0	0	1 0	0 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	0	3	4	182	0	0	162	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	3	4	182	0	0	162	4
Added Vol:	5	0	8	0	0	0	0	4	3	48	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	0	8	0	0	3	4	186	3	48	162	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	5	0	8	0	0	3	4	186	3	48	162	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	5	0	8	0	0	3	4	186	3	48	162	4
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	373	458	95	361	457	83	166	xxxx	xxxxx	189	xxxx	xxxxx
Potent Cap.:	564	503	950	575	503	966	1424	xxxx	xxxxx	1397	xxxx	xxxxx
Move Cap.:	547	484	950	554	484	966	1424	xxxx	xxxxx	1397	xxxx	xxxxx
Volume/Cap:	0.01	0.00	0.01	0.00	0.00	0.00	0.00	xxxx	xxxx	0.03	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	7.7	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	740	xxxxx	xxxx	xxxx	966	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.1	xxxxx	xxxxx	xxxx	0.0	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	10.0	xxxxx	xxxxx	xxxx	8.7	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	A	*	*	*	A	*	*	*	*	*	*
ApproachDel:		10.0			8.7			xxxxxx			xxxxxx	
ApproachLOS:		A			A			*			*	

****

Note: Queue reported is the number of cars per lane.

****

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AM Existing With Project (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #7 Driveway 2 at Towne Center Drive

****

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: A[8.8]

****

Street Name:	Driveway 2						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 1			0 0 0 0 0			0 0 1 1 0			0 0 2 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	182	0	0	165	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	182	0	0	165	0
Added Vol:	0	0	4	0	0	0	0	3	15	0	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	4	0	0	0	0	185	15	0	170	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	4	0	0	0	0	185	15	0	170	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	4	0	0	0	0	185	15	0	170	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	100	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	943	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	943	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	0.0	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	8.8	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	A	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	8.8			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	A			*			*			*		

****

Note: Queue reported is the number of cars per lane.

****

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PM Existing With Project (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #3 Auto Center Drive (East)/Driveway 1 at Towne Center Drive

****

Average Delay (sec/veh): 1.4 Worst Case Level Of Service: B[12.4]

****

Street Name:	Auto Center Drive (East)/Driveway						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1! 0	0	1 0	0 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	4	0	7	5	384	0	0	330	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	4	0	7	5	384	0	0	330	5
Added Vol:	25	0	45	0	0	0	0	21	2	25	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	0	45	4	0	7	5	405	2	25	330	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	25	0	45	4	0	7	5	405	2	25	330	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	25	0	45	4	0	7	5	405	2	25	330	5
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	631	801	204	595	800	168	335	xxxx	xxxxx	407	xxxx	xxxxx
Potent Cap.:	370	320	810	392	321	854	1236	xxxx	xxxxx	1163	xxxx	xxxxx
Move Cap.:	359	312	810	363	312	854	1236	xxxx	xxxxx	1163	xxxx	xxxxx
Volume/Cap:	0.07	0.00	0.06	0.01	0.00	0.01	0.00	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	15.0	xxxx	xxxxx	7.9	xxxx	xxxxx	8.2	xxxx	xxxxx
LOS by Move:	*	*	*	C	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	559	xxxxx	xxxx	xxxx	854	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.4	xxxxx	xxxxx	xxxx	0.0	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	12.4	xxxxx	xxxxx	xxxx	9.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	*	A	*	*	*	*	*	*
ApproachDel:	12.4			11.4			xxxxxx			xxxxxx		
ApproachLOS:	B			B			*			*		

****

Note: Queue reported is the number of cars per lane.

****

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PM Existing With Project (Year 2011)
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #7 Driveway 2 at Towne Center Drive

****

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: A[9.5]

****

Street Name:	Driveway 2						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0 0	1	0 0	0 0	0	0 0	1 1	0	0 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	390	0	0	335	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	390	0	0	335	0
Added Vol:	0	0	21	0	0	0	0	2	7	0	25	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	21	0	0	0	0	392	7	0	360	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	21	0	0	0	0	392	7	0	360	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	21	0	0	0	0	392	7	0	360	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	200	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	814	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	814	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	0.03	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	0.1	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	9.5	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	A	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:		9.5			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		A			*			*			*	

****

Note: Queue reported is the number of cars per lane.

****

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APPENDIX D

QUEUING ANALYSIS CALCULATION WORKSHEETS

APPENDIX D-I

EXISTING WITH PROJECT TRAFFIC CONDITIONS

AM Existing With Project (Year 2011) - #4 HCM
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Lake Forest Drive at Towne Center Drive

Cycle (sec):	90	Critical Vol./Cap.(X):	0.423
Loss Time (sec):	16	Average Delay (sec/veh):	25.5
Optimal Cycle:	90	Level Of Service:	C

Street Name:	Lake Forest Drive						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	6	22	22	6	22	22	6	25	25	6	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 1	0	2 0	1 1	0	1 0	1 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	87	342	193	3	667	17	2	118	38	101	53	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	87	342	193	3	667	17	2	118	38	101	53	2
Added Vol:	26	0	0	0	0	22	6	0	7	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	113	342	193	3	667	39	8	118	45	101	53	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	113	342	193	3	667	39	8	118	45	101	53	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	342	193	3	667	39	8	118	45	101	53	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	113	342	193	3	667	39	8	118	45	101	53	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.90	0.90	0.92	0.94	0.94	0.95	1.00	0.85	0.95	0.95	0.95
Lanes:	2.00	1.28	0.72	2.00	1.89	0.11	1.00	1.00	1.00	1.00	1.93	0.07
Final Sat.:	3502	2183	1232	3502	3383	198	1805	1900	1615	1805	3461	131
Capacity Analysis Module:												
Vol/Sat:	0.03	0.16	0.16	0.00	0.20	0.20	0.00	0.06	0.03	0.06	0.02	0.02
Crit Moves:	****				****			****		****		
Green Time:	6.0	31.0	31.0	8.5	33.5	33.5	6.7	25.0	25.0	9.5	27.8	27.8
Volume/Cap:	0.48	0.45	0.45	0.01	0.53	0.53	0.06	0.22	0.10	0.53	0.05	0.05
Delay/Veh:	42.1	23.2	23.2	37.0	22.5	22.5	38.9	25.2	24.2	40.9	21.8	21.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.1	23.2	23.2	37.0	22.5	22.5	38.9	25.2	24.2	40.9	21.8	21.8
LOS by Move:	D	C	C	D	C	C	D	C	C	D	C	C
HCM2k95thQ:	3	11	11	0	16	16	0	5	2	7	1	1

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PM Existing With Project (Year 2011) - #4 HCM
Kaiser Permanente Foothill Ranch MOB, Lake Forest [2.11.3190.1]
Linscott, Law and Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Lake Forest Drive at Towne Center Drive

Cycle (sec):	90	Critical Vol./Cap.(X):	0.575
Loss Time (sec):	16	Average Delay (sec/veh):	29.4
Optimal Cycle:	90	Level Of Service:	C

Street Name:	Lake Forest Drive						Towne Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	6	22	22	6	22	22	6	25	25	6	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 1	0	2 0	1 1	0	1 0	1 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	162	649	221	4	522	27	23	240	153	171	114	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	162	649	221	4	522	27	23	240	153	171	114	8
Added Vol:	14	0	0	0	0	11	30	0	36	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	176	649	221	4	522	38	53	240	189	171	114	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	176	649	221	4	522	38	53	240	189	171	114	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	176	649	221	4	522	38	53	240	189	171	114	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	176	649	221	4	522	38	53	240	189	171	114	8
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.91	0.92	0.94	0.94	0.95	1.00	0.85	0.95	0.94	0.94
Lanes:	2.00	1.49	0.51	2.00	1.86	0.14	1.00	1.00	1.00	1.00	1.87	0.13
Final Sat.:	3502	2591	882	3502	3331	243	1805	1900	1615	1805	3340	234
Capacity Analysis Module:												
Vol/Sat:	0.05	0.25	0.25	0.00	0.16	0.16	0.03	0.13	0.12	0.09	0.03	0.03
Crit Moves:		****		****				****		****		
Green Time:	8.0	31.2	31.2	6.0	29.2	29.2	7.1	25.0	25.0	11.8	29.7	29.7
Volume/Cap:	0.57	0.72	0.72	0.02	0.48	0.48	0.37	0.45	0.42	0.72	0.10	0.10
Delay/Veh:	41.8	27.8	27.8	39.3	24.6	24.6	40.9	27.5	27.2	48.0	21.0	21.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.8	27.8	27.8	39.3	24.6	24.6	40.9	27.5	27.2	48.0	21.0	21.0
LOS by Move:	D	C	C	D	C	C	D	C	C	D	C	C
HCM2k95thQ:	5	20	20	0	13	13	3	10	8	12	3	3

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