KUNZMAN ASSOCIATES, INC.

TTM 15594

TRAFFIC IMPACT ANALYSIS - REVISED

February 28, 2012

Traffic Engineering | Transportation Planning | Parking | Noise/Vibration | Expert Witness
Air Quality | Global Climate Change | Health Risk Assessment

KUNZMAN ASSOCIATES, INC.

TTM 15594

TRAFFIC IMPACT ANALYSIS - REVISED

February 28, 2012

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Table of Contents

APPENDICES

Appendix A – Glossary of Transportation Terms

Appendix B – Traffic Count Worksheets

Appendix C – Explanation and Calculation of Intersection Capacity Utilization/Delay

List of Tables

List of Figures

TTM 15594

Traffic Impact Analysis - Revised

This report contains the revised traffic impact analysis for the TTM 15594 project. The proposed development is located along both sides of Peachwood north of Tamarisk in the City of Lake Forest. The proposed development consists of 85 single-family detached residential dwelling units.

The traffic report contains documentation of existing traffic conditions, future traffic generated by the project, distribution of the project traffic to roads outside the project, existing plus project traffic conditions, and an analysis of Opening Year (2015) traffic conditions without and with the project. Each of these topics is contained in a separate section of the report. The first section is "Executive Summary", and subsequent sections expand upon this section. In this way, information on any particular aspect of the study can be easily located by the reader.

Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with those terms unique to transportation engineering, a glossary of terms is provided within Appendix A.

I. Executive Summary

This section summarizes the existing traffic conditions, project traffic impacts, and the proposed mitigation measures.

A. Existing Traffic Conditions

1. The project site is currently undeveloped and not generating significant traffic.

2. Pursuant to the scoping agreement with City of Lake Forest staff, the study area includes the following intersections:

   Bake Parkway (NS) at:
   - Irvine Boulevard/Trabuco Road (EW) - #1

   Peachwood (NS) at:
   - Tamarisk (EW) - #2
   - Calle Pradera (EW) - #3
   - Palmwood Drive (EW) - #4
   - Trabuco Road (EW) - #5

   Lake Forest Drive (NS) at:
   - Trabuco Road (EW) - #6

3. The study area intersections currently operate at Level of Service C or better during the peak hours for Existing traffic conditions (see Table 1).

B. Traffic Impacts

1. The proposed development consists of 85 single-family detached residential dwelling units. The project site will have access to Peachwood and Tamarisk.

2. The proposed development is projected to generate approximately 813 daily vehicle trips, 64 of which will occur during the morning peak hour and 85 of which will occur during the evening peak hour (see Table 2).

3. The study area intersections are projected to operate at Level of Service C or better during the peak hours for Existing Plus Project traffic conditions (see Table 3).

4. The study area intersections are projected to operate at Level of Service D or better during the peak hours for Opening Year (2015) Without Project traffic conditions (see Table 4).

5. The study area intersections are projected to operate at Level of Service D or better during the peak hours for Opening Year (2015) With Project traffic conditions (see Table 5).

6. Table 6 depicts the Opening Year (2015) With Project traffic contribution at the study area intersection. As shown in Table 6, the project site does not significantly impact the study area intersections.

C. Recommendations

The following measures are recommended traffic conditions for the project:

1. Site-specific circulation and access recommendations are depicted on Figure 22.

2. Construct Tamarisk from Peachwood to the west project boundary at its ultimate half-section width including landscaping and parkway improvements in conjunction with development, as necessary.

3. Construct Peachwood from Tamarisk to the south project boundary at its modified half-section width including landscaping and parkway improvements in conjunction with development, as necessary.

4. Sufficient on-site parking shall be provided to meet City of Lake Forest parking code requirements.

5. Sight distance at the project access should be reviewed with respect to California Department of Transportation/City of Lake Forest standards in conjunction with the preparation of final grading, landscaping, and street improvement plans.

6. On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the project.

7. As is the case for any roadway design, the City of Lake Forest should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

8. The project is included in the City Lake Forest Transportation Management Program. The project's fair share of mitigation measures in the study area have been calculated by the City of Lake Forest. The project shall contribute $218,000 in Lake Forest Transportation Management Fees as its fair share of the planned improvements totaling $9,881,000.

II. Project Description

This section discusses the project's location and proposed development. Figure 1 shows the project location map. Figure 2 illustrates the site plan.

A. Location

The proposed development is located along both sides of Peachwood north of Tamarisk in the City of Lake Forest.

B. Previously Proposed Development

The previously proposed development consisted of 85 single-family detached residential dwelling units. The previously proposed project took access to Peachwood and Tamarisk.

C. Proposed Development

The proposed development consists of 85 single-family detached residential dwelling units. The project site will have access to Peachwood and Tamarisk.

D. Development Comparison

Both the previously proposed project and the proposed project consist of 85 single-family detached residential dwelling units and will have access to Peachwood and Tamarisk. The project does not generate traffic above the Opportunity Study Area Environmental Impact Report certified by the City of Lake Forest in 2008. The project will not result in any new impacts.

Figure 1
Project Location Map

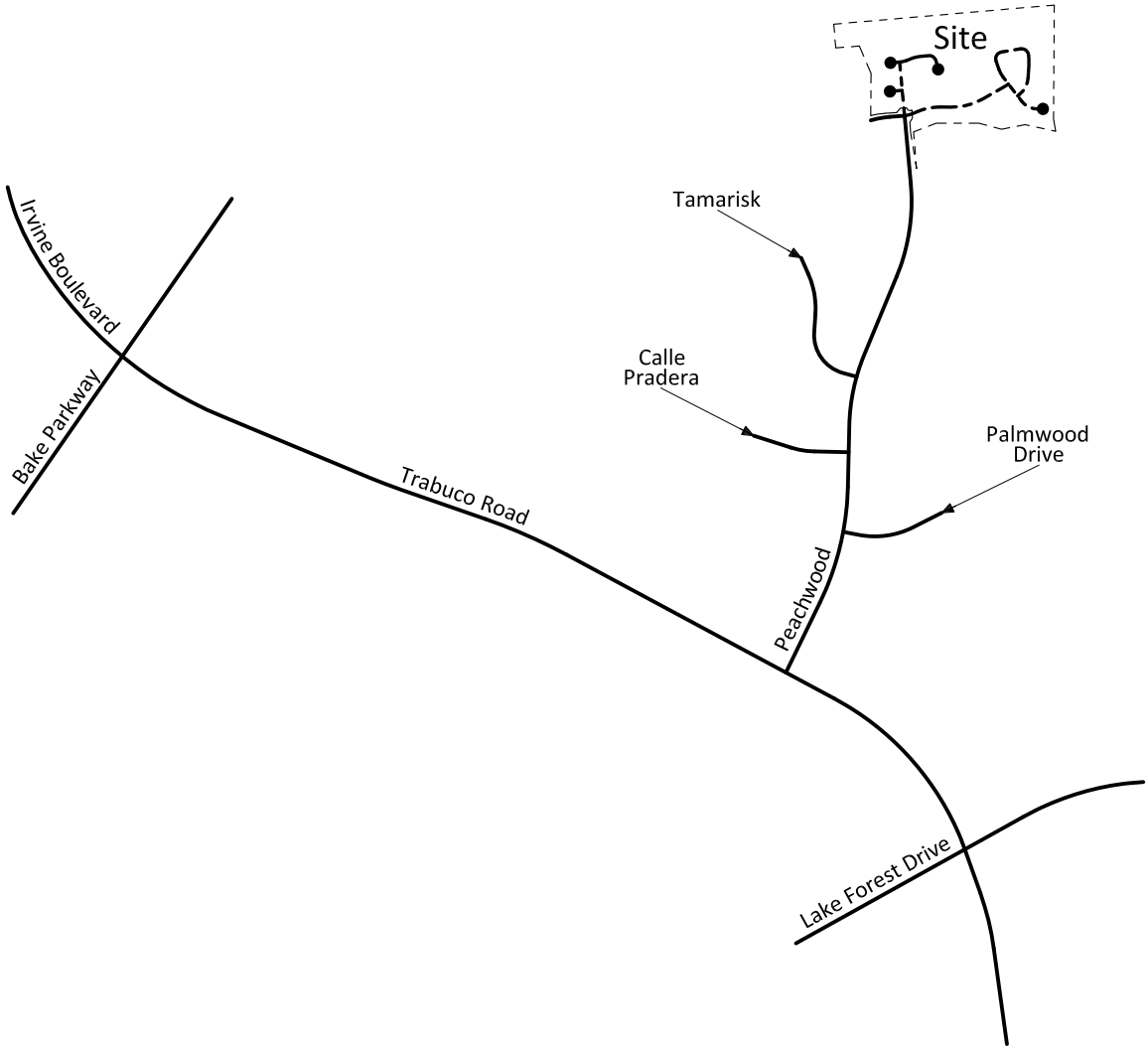

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Figure 2
Site Plan

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III. Existing Traffic Conditions

The traffic conditions as they exist today are discussed below and illustrated on Figures 3 to 8.

A. Surrounding Street System

Study area roadways that will be utilized by the development include Bake Parkway, Peachwood, Lake Forest Drive, Tamarisk, Calle Pradera, Palmwood Drive, and Irvine Boulevard/Trabuco Road.

Bake Parkway: This north-south roadway currently is six lanes divided in the study area. A divided roadway can either be divided by a painted median or a raised median. It is classified as a 6 Lane Divided Roadway (120 foot right-of-way) on the City of Lake Forest General Plan Circulation Element. Bake Parkway currently carries approximately 38,800 to 41,400 vehicles per day in the study area.

Peachwood: This north-south roadway currently is four lanes undivided to four lanes divided in the study area. A divided roadway can either be divided by a painted median or a raised median. It is not classified on the City of Lake Forest General Plan Circulation Element. Peachwood currently carries approximately 2,300 to 7,900 vehicles per day in the study area.

Lake Forest Drive: This north-south roadway currently is four lanes divided to six lanes divided in the study area. A divided roadway can either be divided by a painted median or a raised median. It is classified as a 6 Lane Divided Roadway (120 foot right-of-way) on the City of Lake Forest General Plan Circulation Element. Lake Forest Drive currently carries approximately 25,300 to 27,400 vehicles per day in the study area.

Tamarisk: This east-west roadway currently is two lanes undivided in the study area. It is not classified on the City of Lake Forest General Plan Circulation Element. Tamarisk currently carries approximately 900 vehicles per day in the study area.

Calle Pradera: This east-west roadway currently is two lanes undivided in the study area. It is not classified on the City of Lake Forest General Plan Circulation Element. Calle Pradera currently carries approximately 900 vehicles per day in the study area.

Palmwood Drive: This east-west roadway currently is two lanes undivided in the study area. It is not classified on the City of Lake Forest General Plan Circulation Element. Palmwood Drive currently carries approximately 4,300 vehicles per day in the study area.

Irvine Boulevard/Trabuco Road: This east-west roadway currently is five lanes divided to six lanes divided in the study area. A divided roadway can either be divided by a painted median or a raised median. It is classified as a 6 Lane Divided Roadway (120 foot right-of-way) on the City of Lake Forest General Plan Circulation Element. Trabuco Road currently carries approximately 23,100 to 26,400 vehicles per day in the study area.

B. Existing Travel Lanes and Intersection Controls

Figure 3 identifies the existing roadway conditions for study area roadways. The number of through lanes for existing roadways and the existing intersection controls are identified.

C. Existing Average Daily Traffic Volumes

Figure 4 depicts the existing average daily traffic volumes. The existing average daily traffic volumes have been obtained from factored peak hour counts obtained by Kunzman Associates, Inc. in September 2011 (see Appendix B) using the following formula for each intersection leg:

PM Peak Hour (Approach Volume + Exit Volume) x 10.0 = Leg Volume.

D. Existing Levels of Service

The technique used to assess the operation of a signalized intersection is known as Intersection Capacity Utilization. To calculate an Intersection Capacity Utilization value, the volume of traffic using the intersection is compared with the capacity of the intersection. The Intersection Capacity Utilization represents that portion of the hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity. The technique used to assess the operation of an unsignalized intersection is known as the Intersection Delay Method based on the 2000 Highway Capacity Manual – Transportation Research Board Special Report 209. To calculate delay, the volume of traffic using the intersection is compared with the capacity of the intersection. The signalized intersections are considered deficient (Level of Service F) if the overall intersection critical volume to capacity ratio equals or exceeds 1.0, even if the Level of Service defined by the delay value is below the defined Level of Service standard. The volume to capacity ratio is defined as the critical volumes divided by the intersection capacity. A volume to capacity ratio greater than 1.0 implies an infinite queue. Both methodologies are described in Appendix C.

The Intersection Capacity Utilization calculations assume a per-lane capacity of 1,700 vehicles per hour for each travel lane (through or turning) through an intersection. A clearance factor of 0.05 or five (5) percent of the total intersection capacity is included in the Intersection Capacity Utilization calculation.

The Levels of Service for the existing traffic conditions have been calculated and are shown in Table 1. Existing Levels of Service are based upon weekday morning and weekday evening peak hour intersection turning movement counts obtained by Kunzman Associates, Inc. in September 2011 (see Figures 5 and 6). Traffic count worksheets are provided in Appendix B.

There are two peak hours in a weekday. The morning peak hour is between 7:00 AM and 9:00 AM, and the evening peak hour is between 4:00 PM and 6:00 PM. The actual peak hour within the two-hour interval is the four consecutive 15-minute periods with the highest total volume when all movements are added together. Thus, the evening peak hour

at one intersection may be 4:45 PM to 5:45 PM if those four consecutive 15-minute periods have the highest combined volume.

The study area intersections currently operate at Level of Service C or better during the peak hours for Existing traffic conditions (see Table 1). Existing Level of Service worksheets are provided in Appendix C.

E. Existing General Plan Circulation Element

Figure 7 shows the current City of Lake Forest General Plan Circulation Element. Both existing and future roadways are included in the Circulation Element of the General Plan and are graphically depicted on Figure 7. This figure shows the nature and extent of arterial highways that are needed to adequately serve the ultimate development depicted by the land use element of the General Plan. Figure 8 depicts the current City of Lake Forest General Plan roadway cross-sections.

Table 1

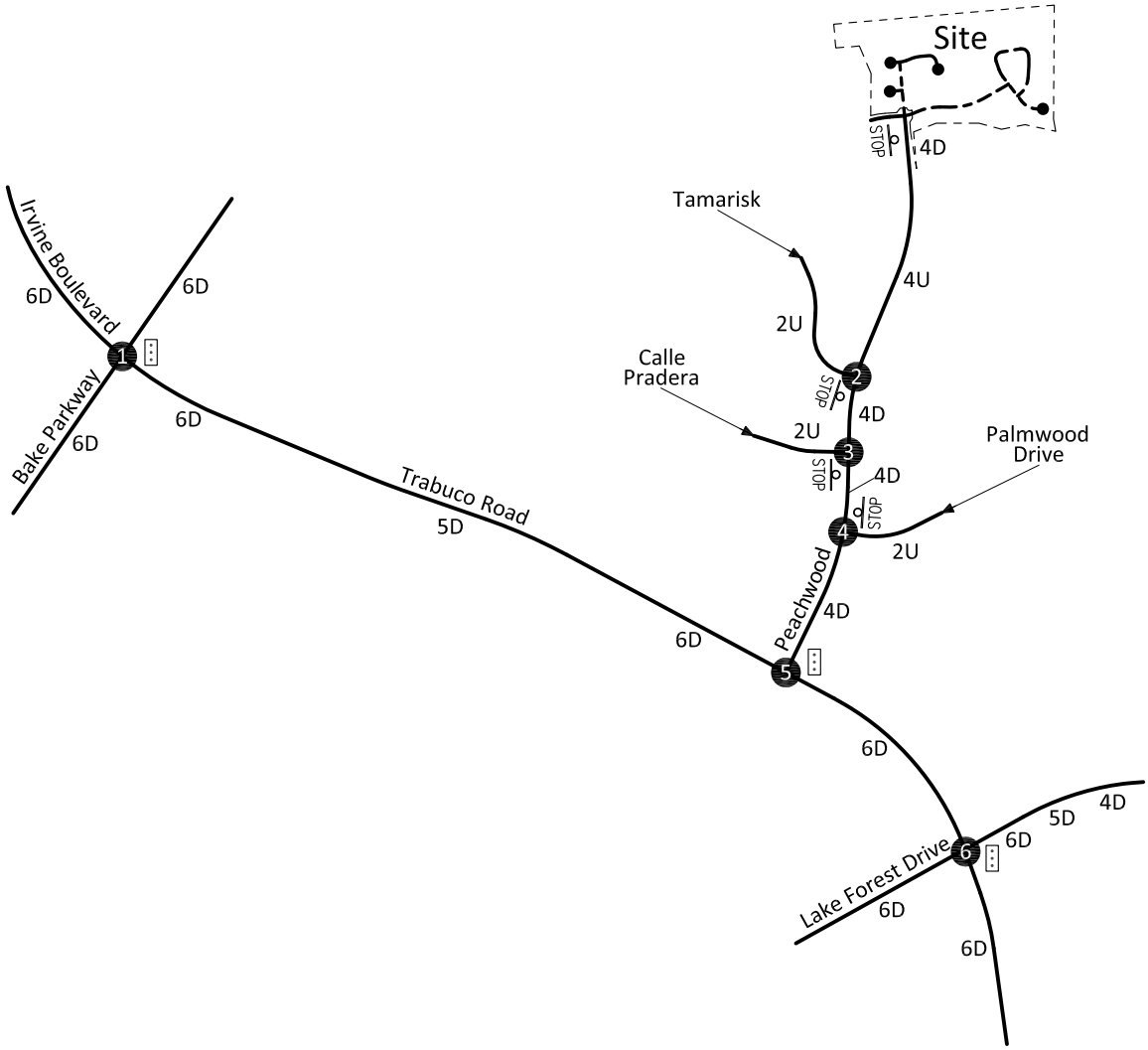
Existing Levels of Service

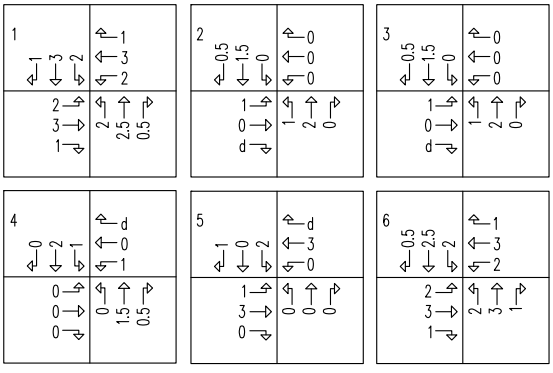
Intersection	Traffic Control [2]	Intersection Approach Lanes [1]												Level of Service	
		Northbound			Southbound			Eastbound			Westbound				
		L	T	R	L	T	R	L	T	R	L	T	R	Morning	Evening
Bake Parkway (NS) at:															
Irvine Boulevard/Trabuco Road (EW) - #1	TS	2	2.5	0.5	2	3	1	2	3	1	2	3	1	0.767-C	0.688-B
Peachwood (NS) at:															
Tamarisk (EW) - #2	CSS	1	2	0	0	1.5	0.5	1	0	d	0	0	0	8.9-A	8.5-A
Calle Pradera (EW) - #3	CSS	1	2	0	0	1.5	0.5	1	0	d	0	0	0	9.2-A	8.7-A
Palmwood Drive (EW) - #4	CSS	0	1.5	0.5	1	2	0	0	0	0	1	0	d	13.6-B	13.3-B
Trabuco Road (EW) -#5	TS	0	0	0	2	0	1	1	3	0	0	3	d	0.442-A	0.376-A
Lake Forest Drive (NS) at:															
Trabuco Road (EW) -#6	TS	2	3	1	2	2.5	0.5	2	3	1	2	3	1	0.551-A	0.581-A

[1] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width (19 feet per the City of Lake Forest) for right turning vehicles to travel outside the through lanes. Defacto right turn lanes have been designated with a "d". L = Left; T = Through; R = Right

[2] TS = Traffic Signal; CSS = Cross Street Stop

Figure 3
Existing Through Travel Lanes and Intersection Controls





Legend

- = Traffic Signal
- STOP = Stop Sign
- 4 = Through Travel Lanes
- D = Divided
- U = Undivided
- d = Defacto Right Turn Lane

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KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

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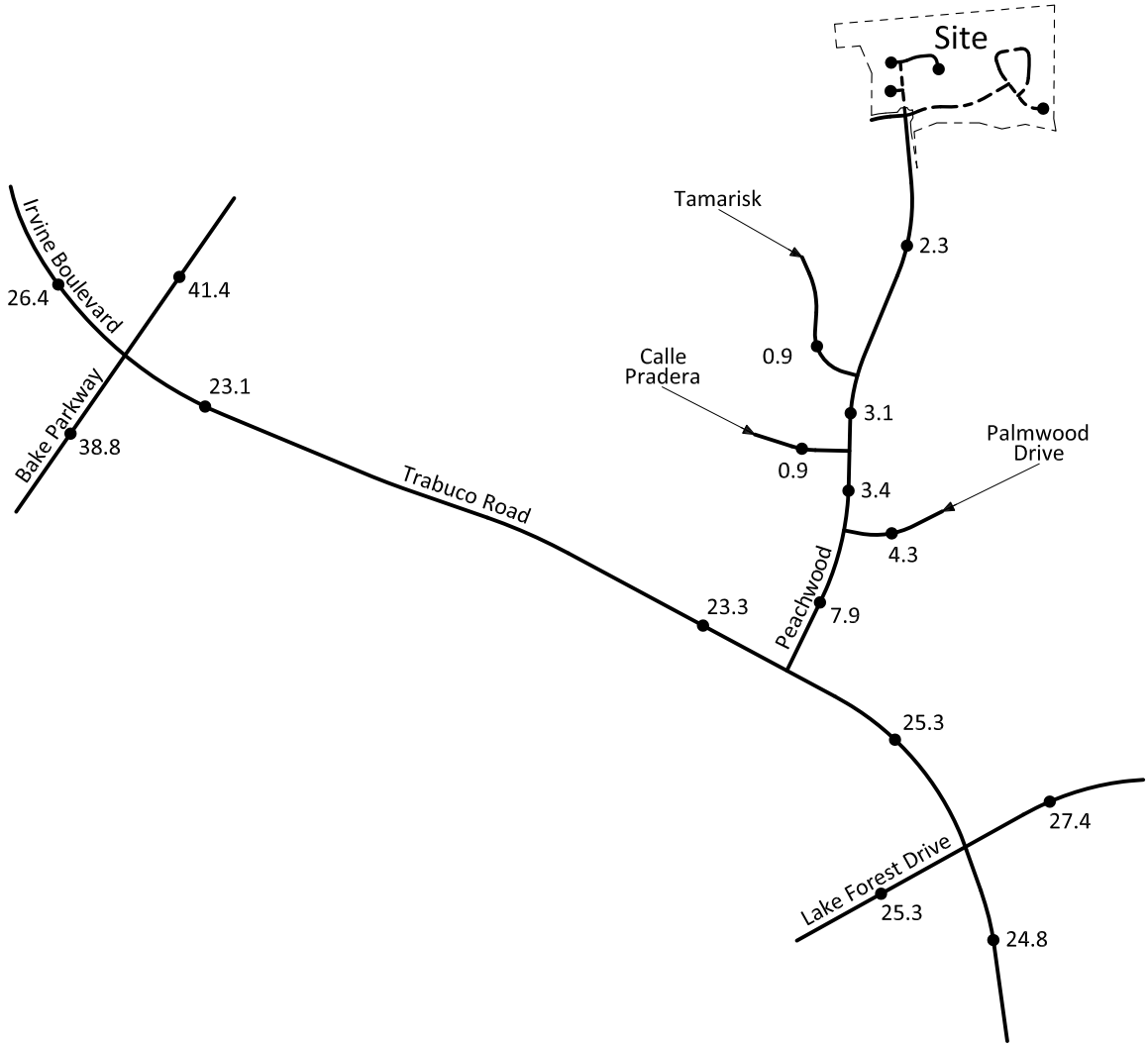
Figure 4
Existing Average Daily Traffic Volumes



Legend

24.8 = Vehicles Per Day (1,000's)

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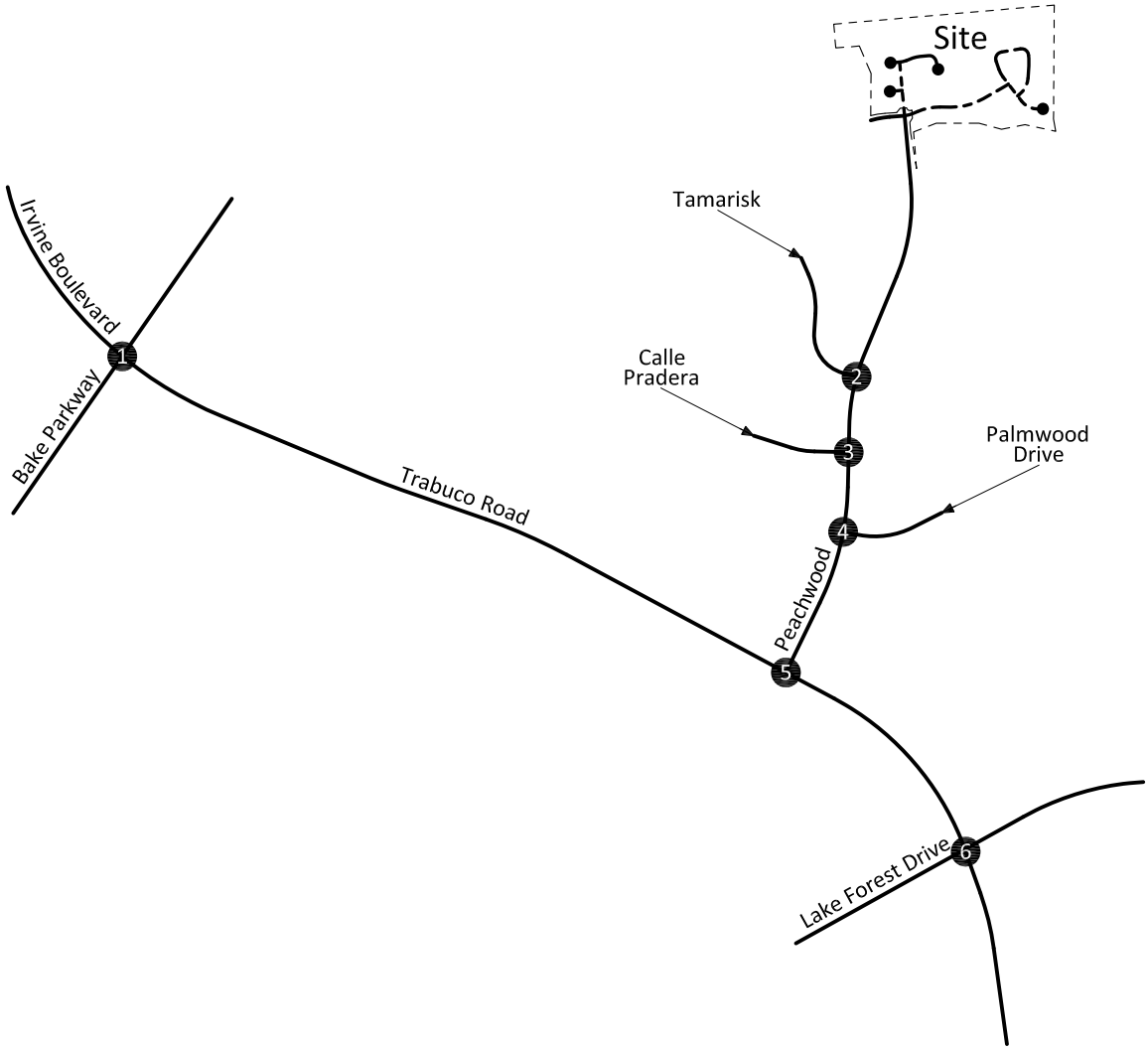
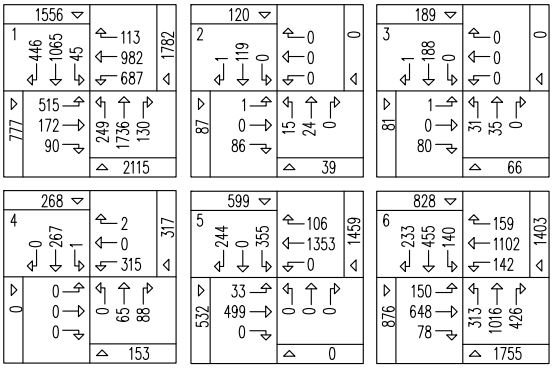
Figure 5
Existing Morning Peak Hour Intersection Turning Movement Volumes





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KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

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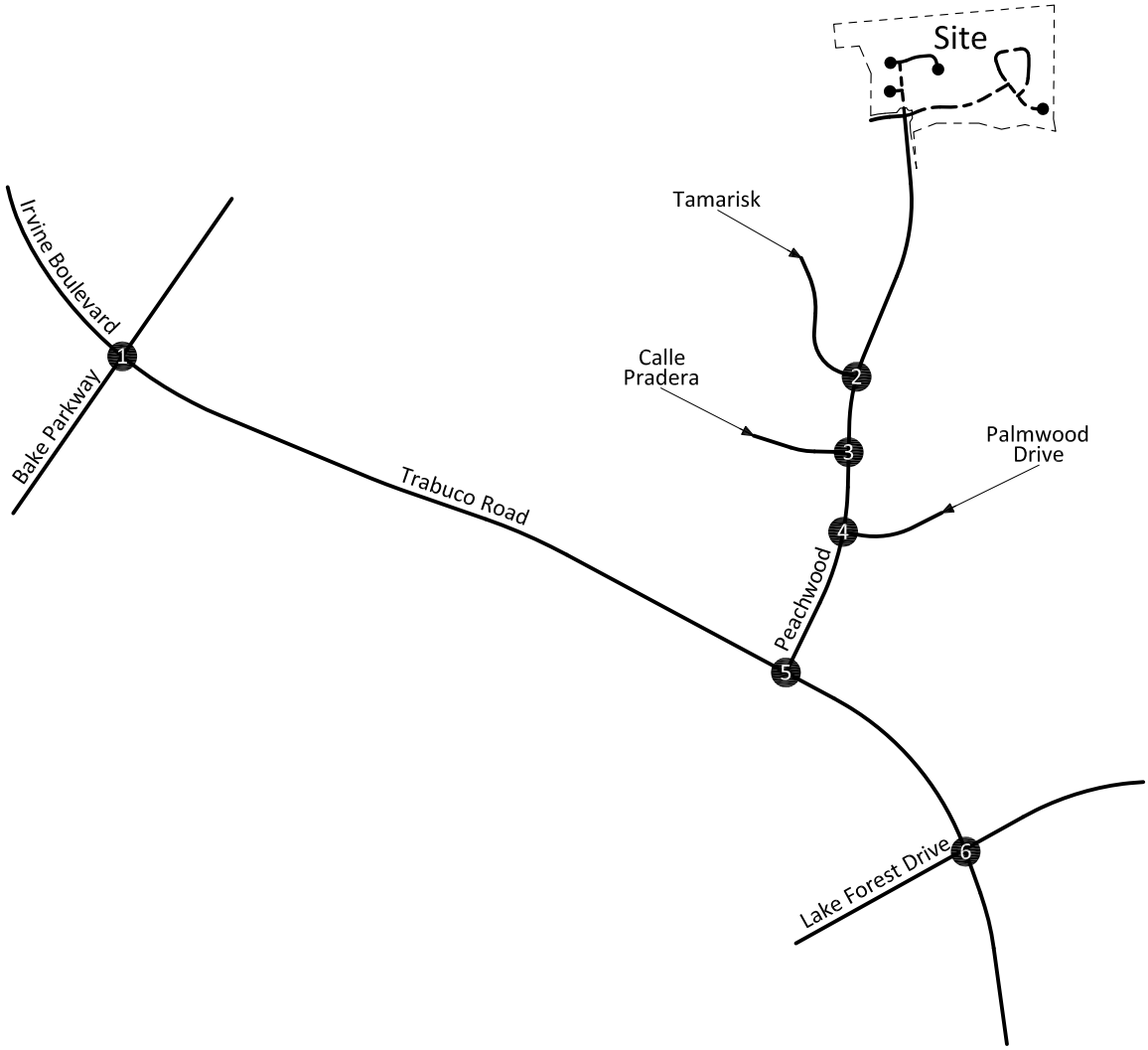
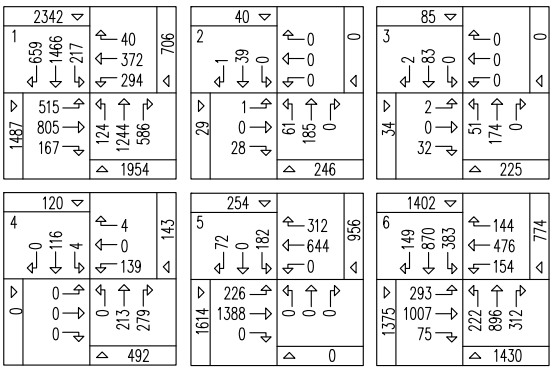
Figure 6
Existing Evening Peak Hour Intersection Turning Movement Volumes





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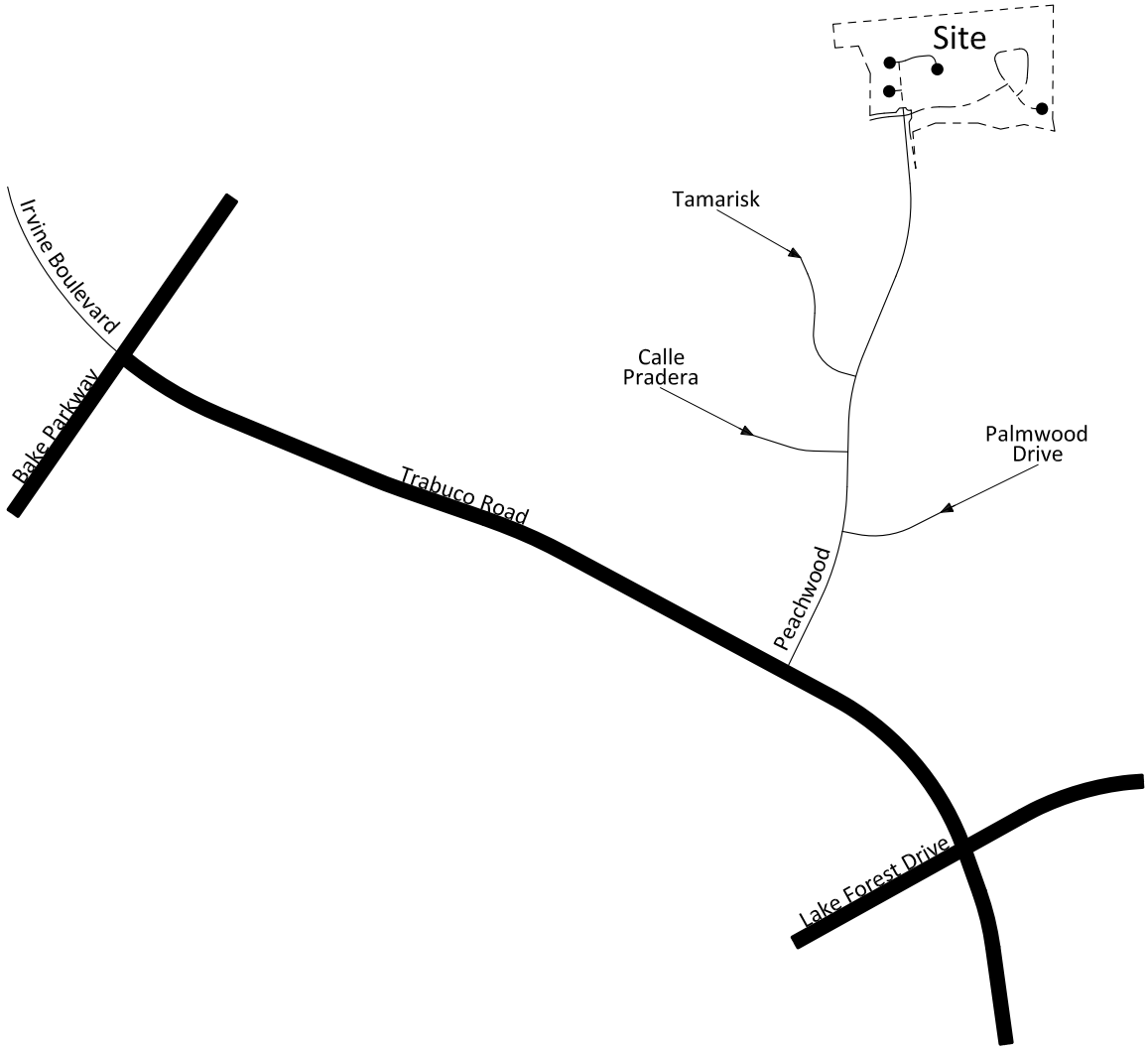
KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 35 YEARS OF EXCELLENT SERVICE

Figure 7
City of Lake Forest General Plan Circulation Element



4365/7

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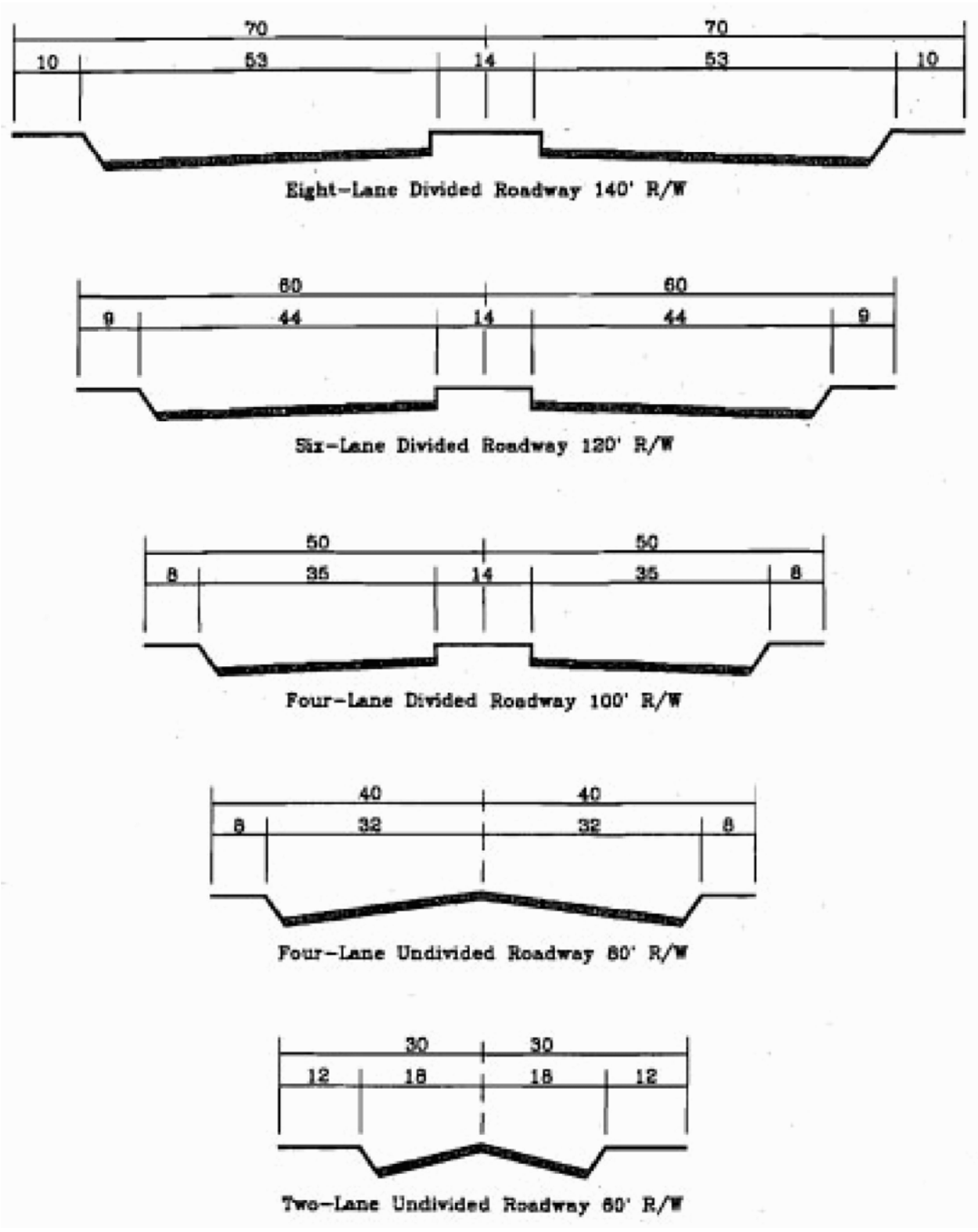
Figure 8
City of Lake Forest General Plan Circulation Element Roadway Cross-Sections



Source: City of Lake Forest

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IV. Project Traffic

The proposed development consists of 85 single-family detached residential dwelling units. The project site will have access to Peachwood and Tamarisk.

A. Trip Generation

The traffic generated by the project is determined by multiplying an appropriate trip generation rate by the quantity of land use. Trip generation rates are predicated on the assumption that energy costs, the availability of roadway capacity, the availability of vehicles to drive, and our life styles remain similar to what we know today. A major change in these variables may affect trip generation rates.

Trip generation rates were determined for daily traffic, morning peak hour inbound and outbound traffic and evening peak hour inbound and outbound traffic for the proposed land use. By multiplying the traffic generation rates by the land use quantity, the traffic volumes are determined. Table 2 exhibits the traffic generation rates and peak hour volumes and project daily traffic volumes. The traffic generation rates are from the Institute of Transportation Engineers, Trip Generation, 8th Edition, 2008.

The proposed development is projected to generate approximately 813 daily vehicle trips, 64 of which will occur during the morning peak hour and 85 of which will occur during the evening peak hour.

Both the previously proposed project and the proposed project consist of 85 single-family detached residential dwelling units and will have access to Peachwood and Tamarisk. The project does not generate traffic above the Opportunity Study Area Environmental Impact Report certified by the City of Lake Forest in 2008. The project will not result in any new impacts.

B. Trip Distribution

Figure 9 contains the directional distribution of the project traffic for the proposed land use. To determine the traffic distribution for the proposed project, peak hour traffic counts of the existing directional distribution of traffic for existing areas in the vicinity of the site, and other additional information on future development and traffic impacts in the area were reviewed.

C. Trip Assignment

Based on the identified traffic generation and distribution, project average daily traffic volumes have been calculated and shown on Figure 10. Morning and evening peak hour intersection turning movement volumes expected from the project are shown on Figures 11 and 12, respectively.

Table 2

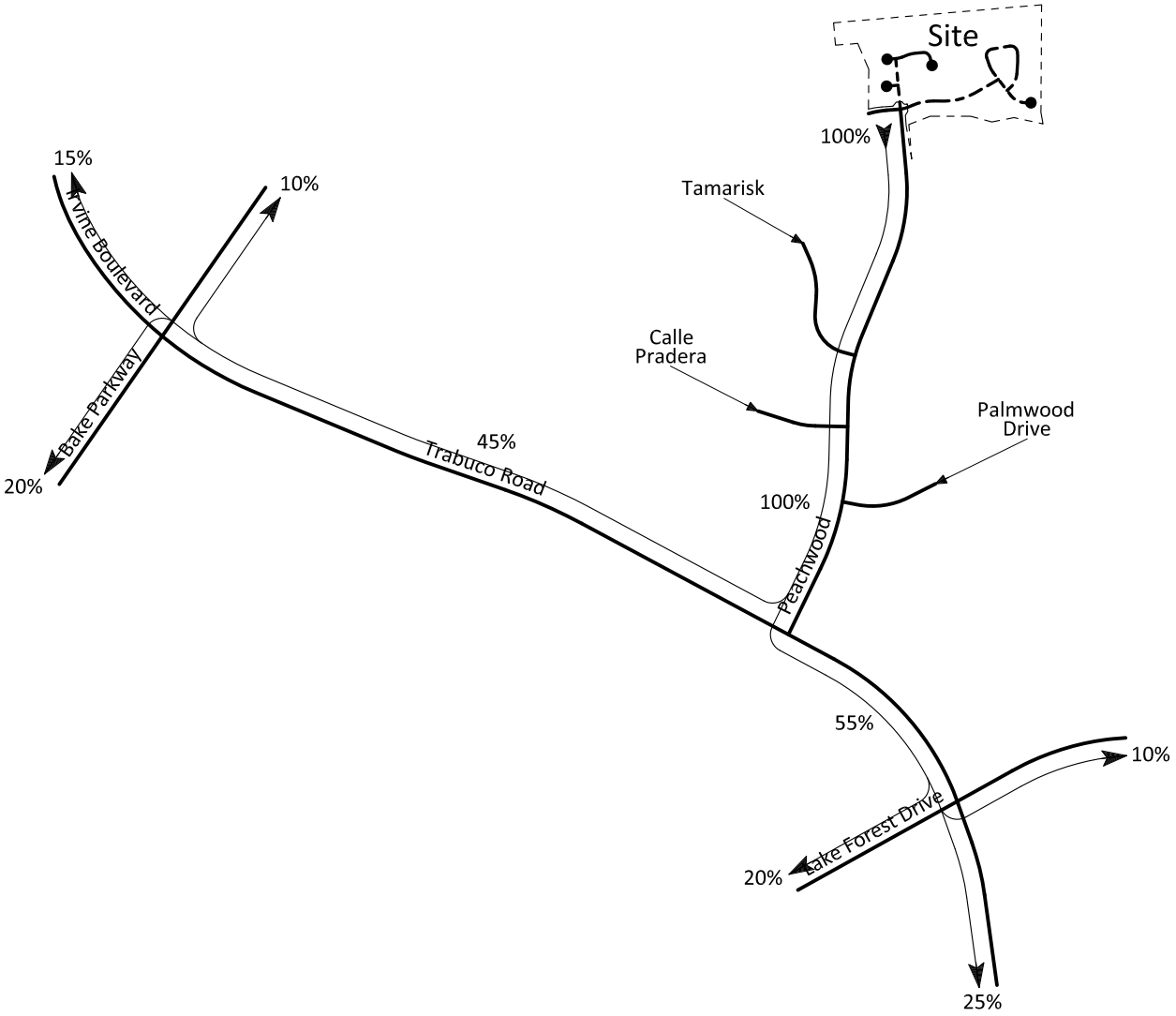
Project Traffic Generation[1]

Land Use	Quantity	Units[2]	Weekday						
			Morning Peak Hour			Evening Peak Hour			Daily
			Inbound	Outbound	Total	Inbound	Outbound	Total	
Trip Generation Rates									
Single-Family Detached Residential	85	DU	0.19	0.56	0.75	0.64	0.37	1.01	9.57
Trips Generated									
Single-Family Detached Residential	85	DU	16	48	64	54	31	85	813

[1] Source: Institute of Transportation Engineers, Trip Generation, 8th Edition, 2008, Land Use Category 210.

[2] DU = Dwelling Unit

Figure 9
Project Traffic Distribution



Legend

10% = Percent To/From Project

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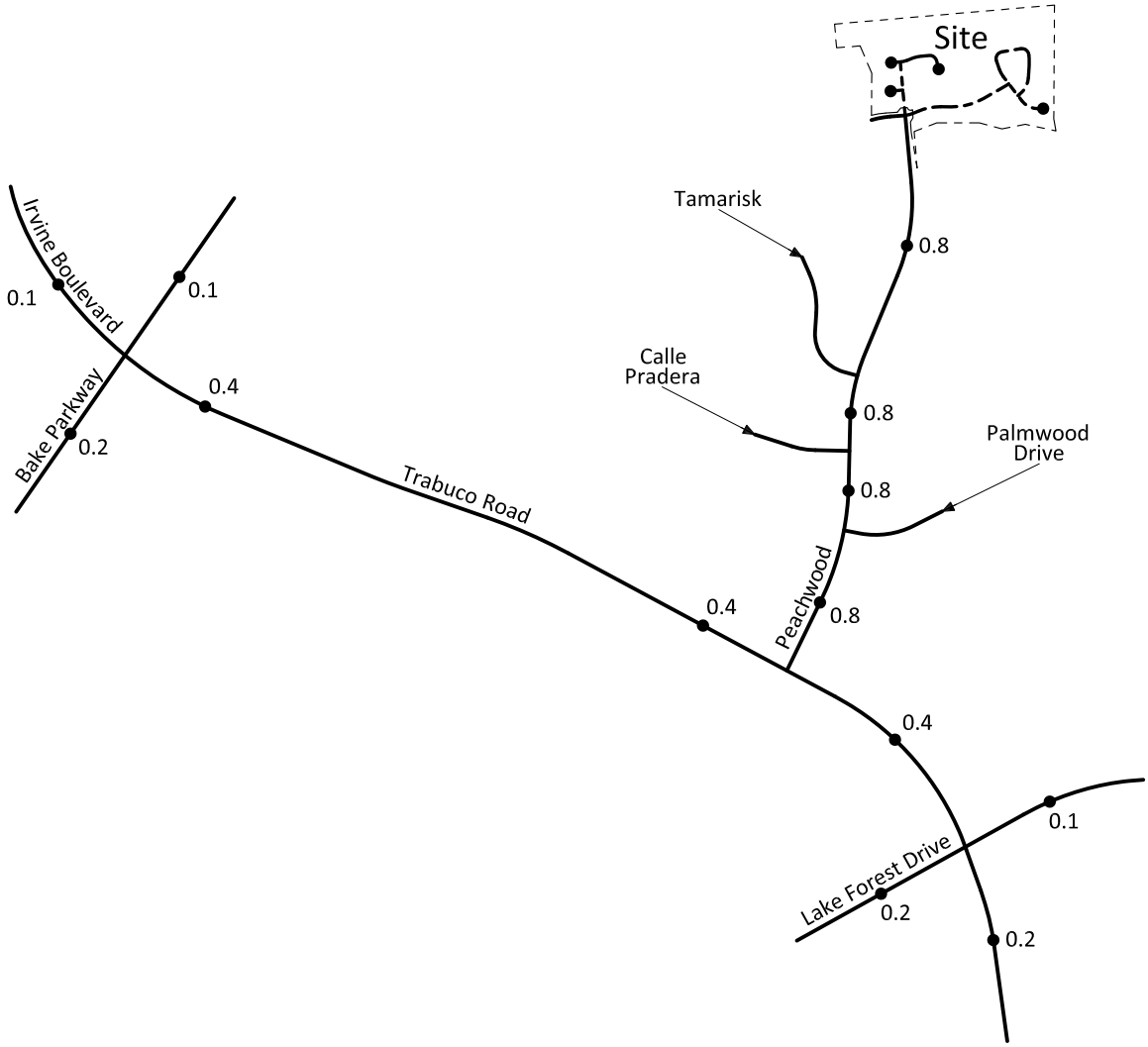
4365/9

Figure 10
Project Average Daily Traffic Volumes



Legend

0.2 = Vehicles Per Day (1,000's)

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4365/10

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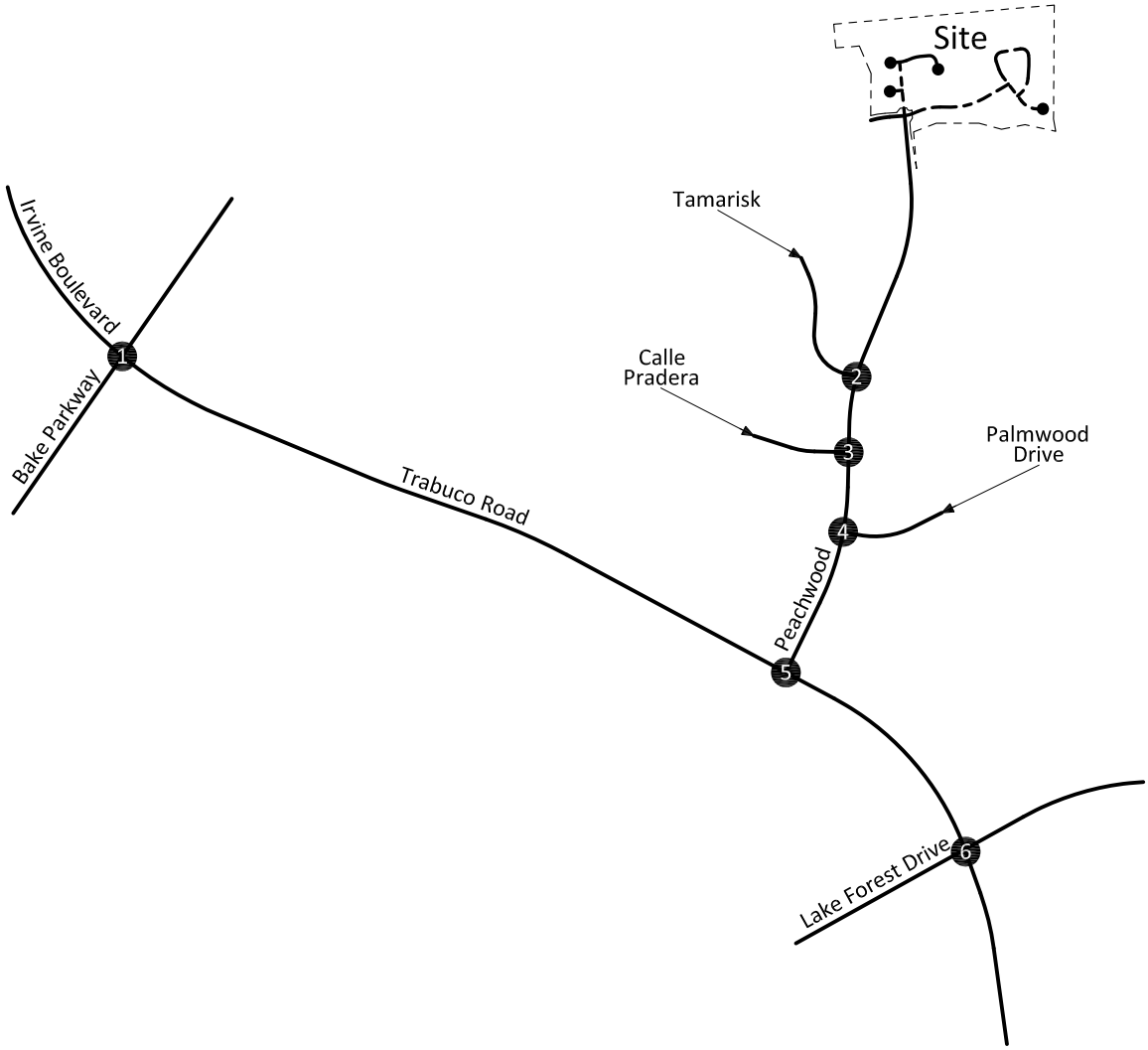
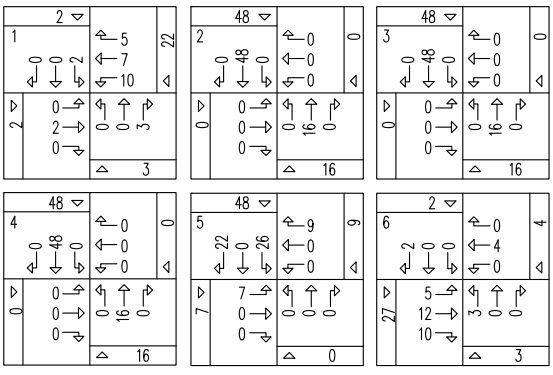
Figure 11
Project Morning Peak Hour Intersection Turning Movement Volumes





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KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

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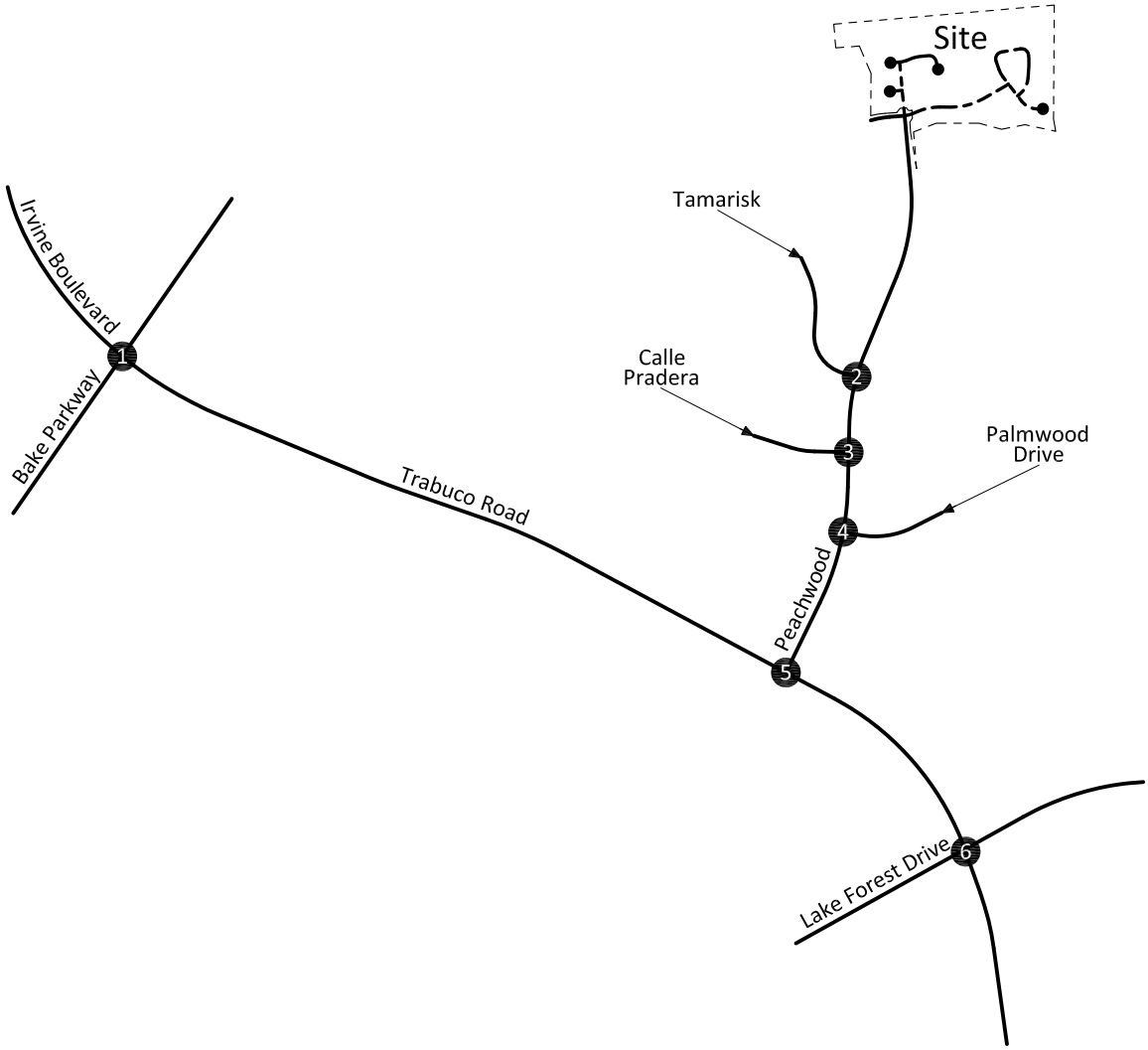
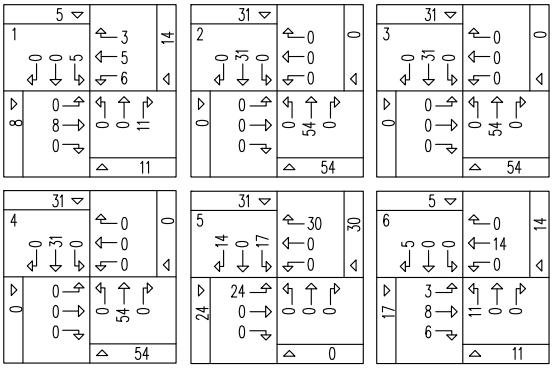
Figure 12
Project Evening Peak Hour Intersection Turning Movement Volumes





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KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

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V. Existing Plus Project Traffic Conditions

In this section, Existing Plus Project traffic conditions are discussed. Figures 13 to 15 depict the Existing Plus Project traffic conditions.

A. Method of Projection

To assess Existing Plus Project traffic conditions, existing traffic is combined with project traffic.

B. Existing Plus Project Average Daily Traffic Volumes

Existing Plus Project average daily traffic volumes are as illustrated on Figure 13.

C. Existing Plus Project Levels of Service

The technique used to assess the operation of a signalized intersection is known as Intersection Capacity Utilization. To calculate an Intersection Capacity Utilization value, the volume of traffic using the intersection is compared with the capacity of the intersection. The Intersection Capacity Utilization represents that portion of the hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity. The technique used to assess the operation of an unsignalized intersection is known as the Intersection Delay Method based on the 2000 Highway Capacity Manual – Transportation Research Board Special Report 209. To calculate delay, the volume of traffic using the intersection is compared with the capacity of the intersection. The signalized intersections are considered deficient (Level of Service F) if the overall intersection critical volume to capacity ratio equals or exceeds 1.0, even if the Level of Service defined by the delay value is below the defined Level of Service standard. The volume to capacity ratio is defined as the critical volumes divided by the intersection capacity. A volume to capacity ratio greater than 1.0 implies an infinite queue. Both methodologies are described in Appendix C.

The Levels of Service for the Existing Plus Project traffic conditions have been calculated and are shown in Table 3. Existing Plus Project morning and evening peak hour intersection turning movement volumes are shown on Figures 14 and 15, respectively.

The study area intersections are projected to operate at Level of Service C or better during the peak hours for Existing Plus Project traffic conditions (see Table 3). Existing Plus Project Level of Service worksheets are provided in Appendix C.

Table 3

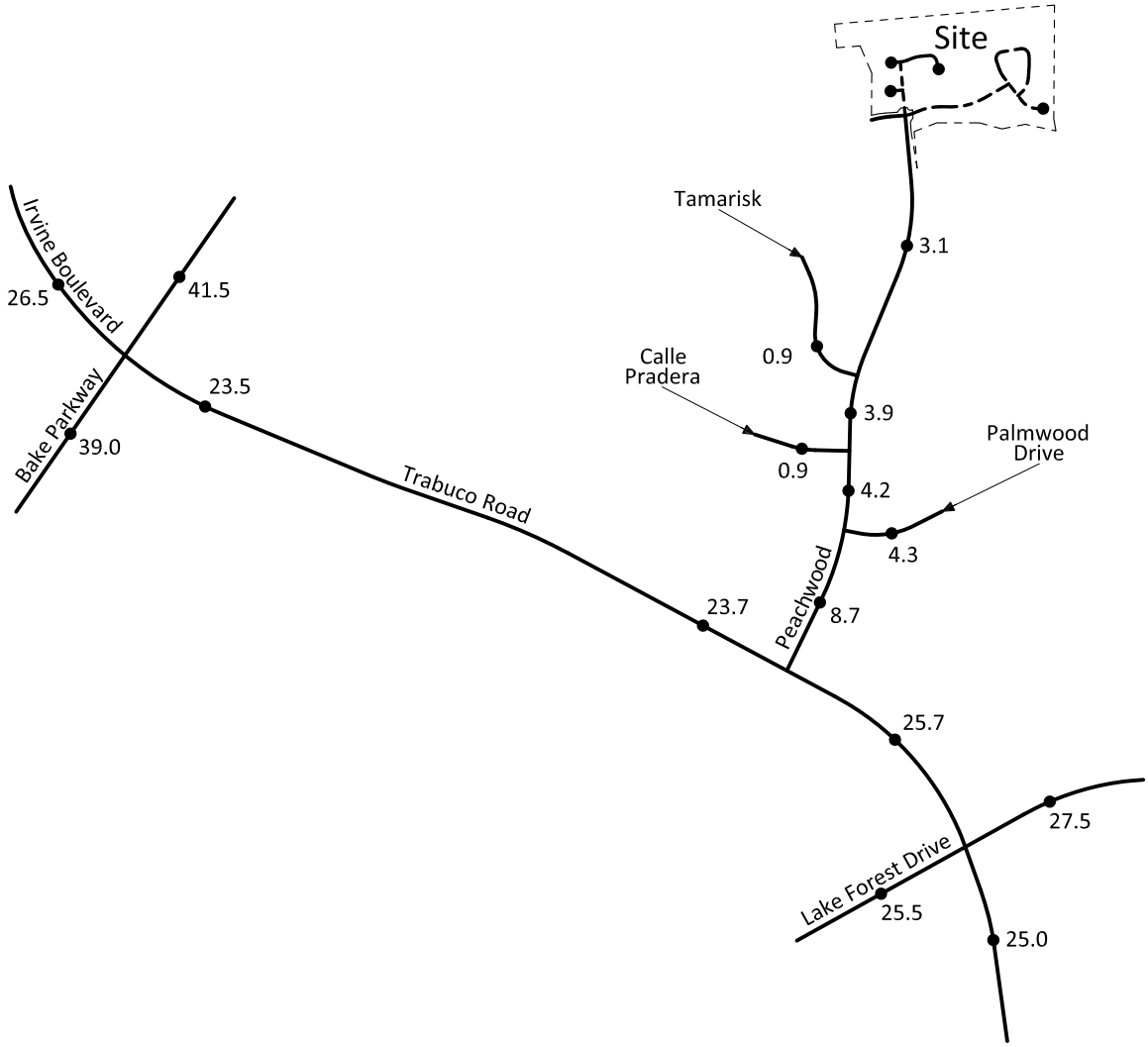
Existing Plus Project Levels of Service

Intersection	Traffic Control [2]	Intersection Approach Lanes [1]												Level of Service	
		Northbound			Southbound			Eastbound			Westbound				
		L	T	R	L	T	R	L	T	R	L	T	R	Morning	Evening
Bake Parkway (NS) at:															
Irvine Boulevard/Trabuco Road (EW) - #1	TS	2	2.5	0.5	2	3	1	2	3	1	2	3	1	0.769-C	0.695-B
Peachwood (NS) at:															
Tamarisk (EW) - #2	CSS	1	2	0	0	1.5	0.5	1	0	d	0	0	0	9.1-A	8.6-A
Calle Pradera (EW) - #3	CSS	1	2	0	0	1.5	0.5	1	0	d	0	0	0	9.3-A	8.8-A
Palmwood Drive (EW) - #4	CSS	0	1.5	0.5	1	2	0	0	0	0	1	0	d	14.5-B	14.5-B
Trabuco Road (EW) -#5	TS	0	0	0	2	0	1	1	3	0	0	3	d	0.456-A	0.406-A
Lake Forest Drive (NS) at:															
Trabuco Road (EW) -#6	TS	2	3	1	2	2.5	0.5	2	3	1	2	3	1	0.553-A	0.583-A

[1] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width (19 feet per the City of Lake Forest) for right turning vehicles to travel outside the through lanes. Defacto right turn lanes have been designated with a "d". L = Left; T = Through; R = Right

[2] TS = Traffic Signal; CSS = Cross Street Stop

Figure 13
Existing Plus Project Average Daily Traffic Volumes



Legend

25.0 = Vehicles Per Day (1,000's)

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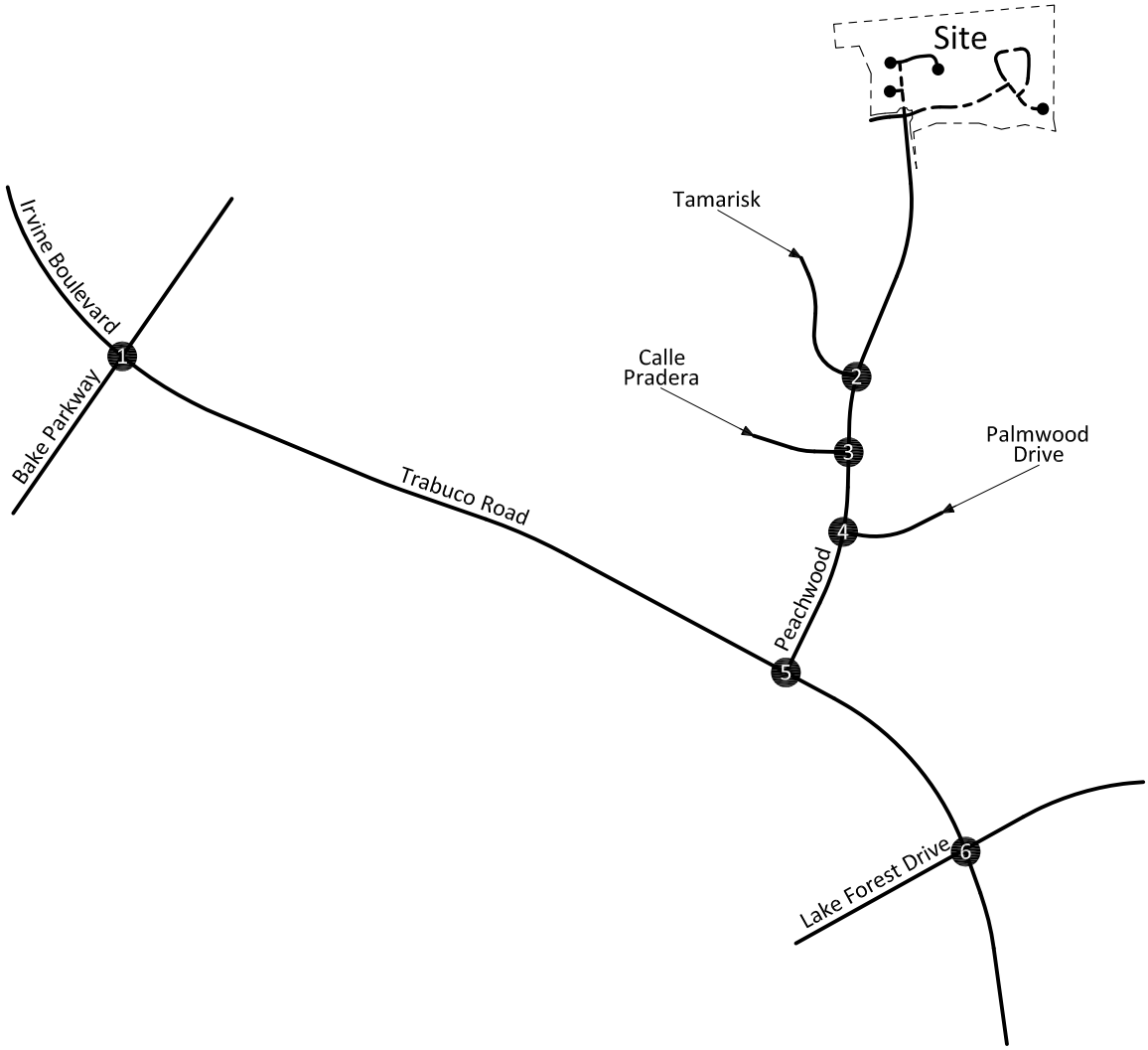
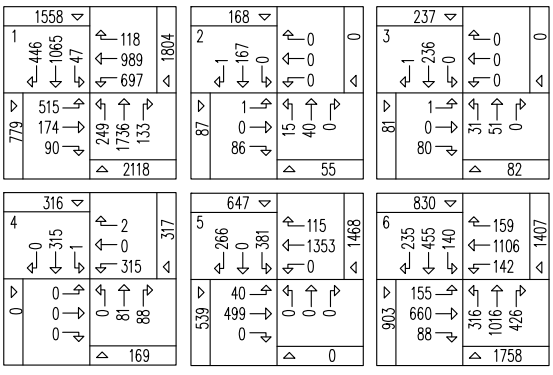
OVER 35 YEARS OF EXCELLENT SERVICE

Figure 14
Existing Plus Project
Morning Peak Hour Intersection Turning Movement Volumes





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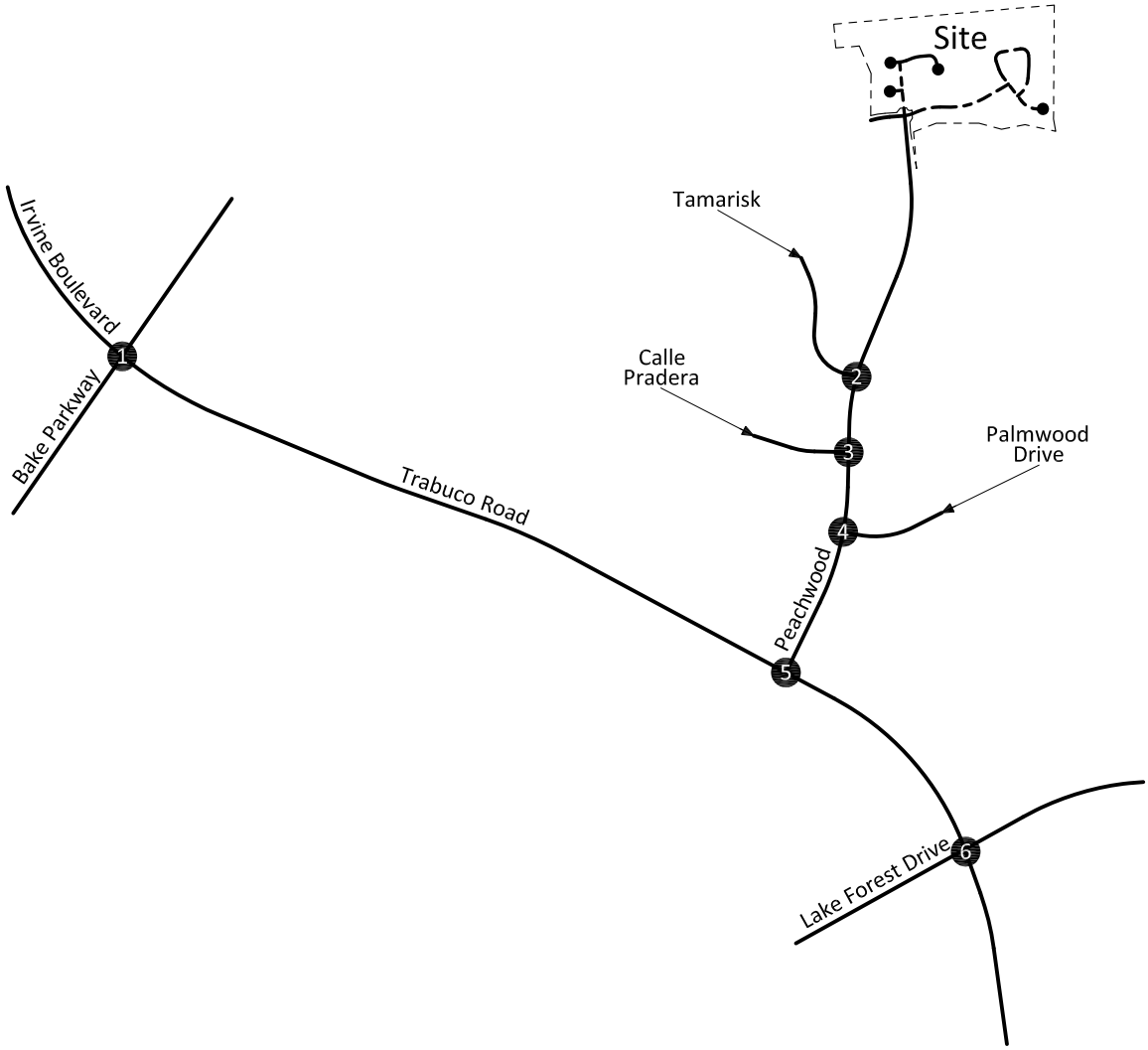
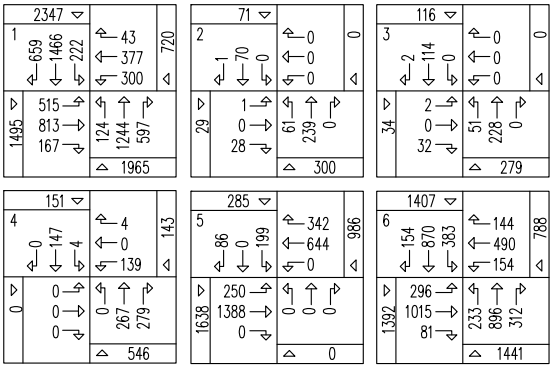
KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 35 YEARS OF EXCELLENT SERVICE

Figure 15
Existing Plus Project
Evening Peak Hour Intersection Turning Movement Volumes





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KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 35 YEARS OF EXCELLENT SERVICE

VI. Opening Year (2015) Without Project Traffic Conditions

In this section, Opening Year (2015) Without Project traffic conditions are discussed. Figures 16 to 18 depict the Opening Year (2015) Without Project traffic conditions.

A. Method of Projection

To assess Opening Year (2015) Without Project traffic conditions, existing traffic is combined with areawide growth.

For Opening Year (2015) Without Project traffic conditions, an areawide growth rate has been utilized to account for areawide growth on study area roadways. Opening Year (2015) Without Project traffic volumes have been calculated based on a 1.46 percent annual growth over existing traffic volumes over a four (4) year period. The areawide growth rate has been obtained from the City of Lake Forest Lake Forest Transportation Model.

Areawide growth has been added to daily and peak hour traffic volumes on surrounding roadways. The project is included in the Lake Forest Transportation Model therefore; project traffic has been removed from the traffic model intersections.

B. Opening Year (2015) Without Project Average Daily Traffic Volumes

Opening Year (2015) Without Project average daily traffic volumes are as illustrated on Figure 16.

C. Opening Year (2015) Without Project Levels of Service

The technique used to assess the operation of a signalized intersection is known as Intersection Capacity Utilization. To calculate an Intersection Capacity Utilization value, the volume of traffic using the intersection is compared with the capacity of the intersection. The Intersection Capacity Utilization represents that portion of the hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity. The technique used to assess the operation of an unsignalized intersection is known as the Intersection Delay Method based on the 2000 Highway Capacity Manual – Transportation Research Board Special Report 209. To calculate delay, the volume of traffic using the intersection is compared with the capacity of the intersection. The signalized intersections are considered deficient (Level of Service F) if the overall intersection critical volume to capacity ratio equals or exceeds 1.0, even if the Level of Service defined by the delay value is below the defined Level of Service standard. The volume to capacity ratio is defined as the critical volumes divided by the intersection capacity. A volume to capacity ratio greater than 1.0 implies an infinite queue. Both methodologies are described in Appendix C.

The Levels of Service for the Opening Year (2015) Without Project traffic conditions have been calculated and are shown in Table 4. Opening Year (2015) Without Project morning and evening peak hour intersection turning movement volumes are shown on Figures 17 and 18, respectively.

The study area intersections are projected to operate at Level of Service C or better during the peak hours for Opening Year (2015) Without Project traffic conditions (see Table 4). Opening Year (2015) Without Project Level of Service worksheets are provided in Appendix D.

Table 4

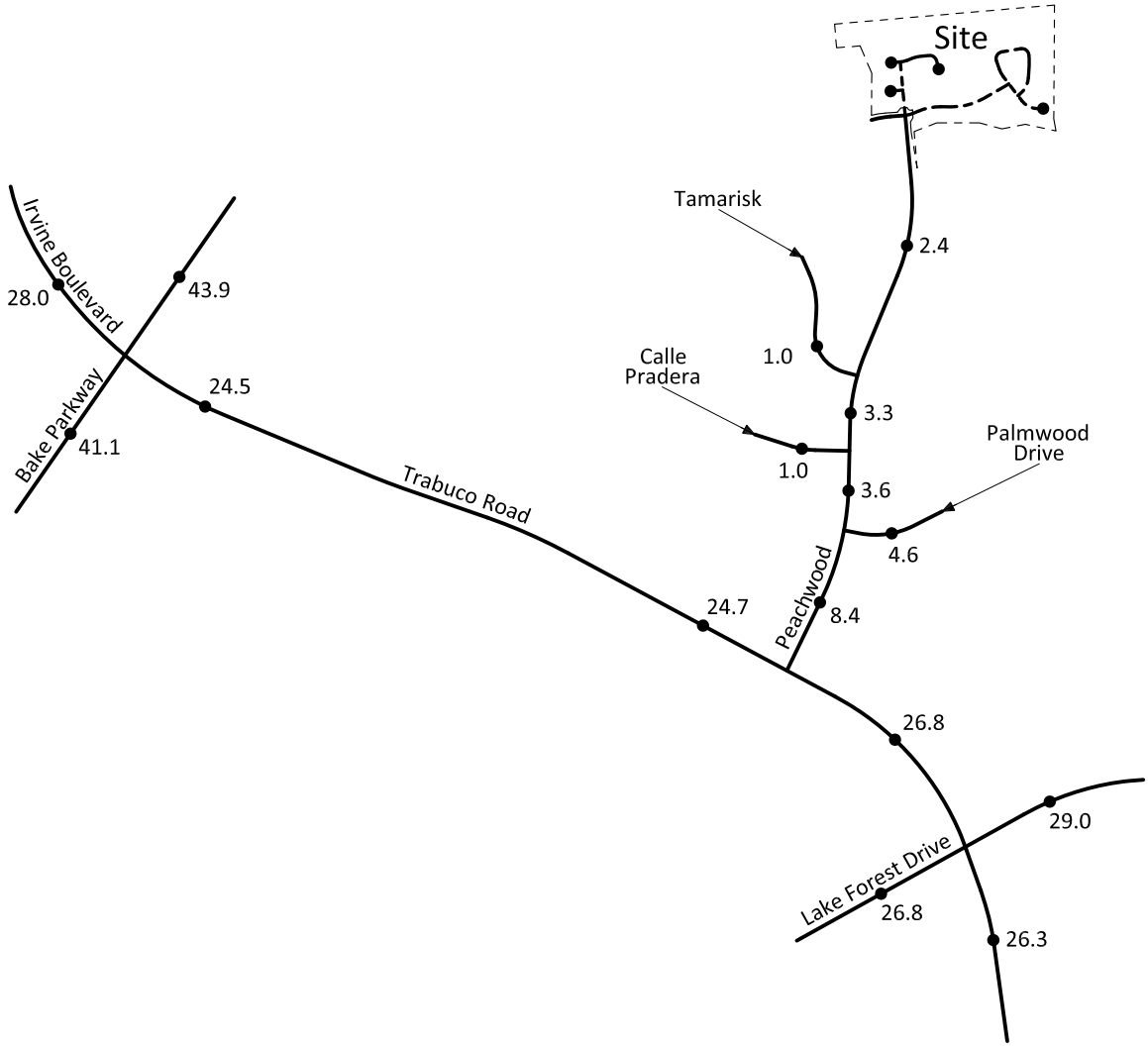
Opening Year (2015) Without Project Levels of Service

Intersection	Traffic Control [2]	Intersection Approach Lanes [1]												Level of Service	
		Northbound			Southbound			Eastbound			Westbound				
		L	T	R	L	T	R	L	T	R	L	T	R	Morning	Evening
Bake Parkway (NS) at:															
Irvine Boulevard/Trabuco Road (EW) - #1	TS	2	2.5	0.5	2	3	1	2	3	1	2	3	1	0.807-D	0.720-C
Peachwood (NS) at:															
Tamarisk (EW) - #2	CSS	1	2	0	0	1.5	0.5	1	0	d	0	0	0	9.0-A	8.6-A
Calle Pradera (EW) - #3	CSS	1	2	0	0	1.5	0.5	1	0	d	0	0	0	9.2-A	8.8-A
Palmwood Drive (EW) - #4	CSS	0	1.5	0.5	1	2	0	0	0	0	1	0	d	14.4-B	13.9-B
Trabuco Road (EW) -#5	TS	0	0	0	2	0	1	1	3	0	0	3	d	0.466-A	0.395-A
Lake Forest Drive (NS) at:															
Trabuco Road (EW) -#6	TS	2	3	1	2	2.5	0.5	2	3	1	2	3	1	0.578-A	0.611-B

[1] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width (19 feet per the City of Lake Forest) for right turning vehicles to travel outside the through lanes. Defacto right turn lanes have been designated with a "d". L = Left; T = Through; R = Right

[2] TS = Traffic Signal; CSS = Cross Street Stop

Figure 16
Opening Year (2015) Without Project
Average Daily Traffic Volumes



Legend

26.3 = Vehicles Per Day (1,000's)

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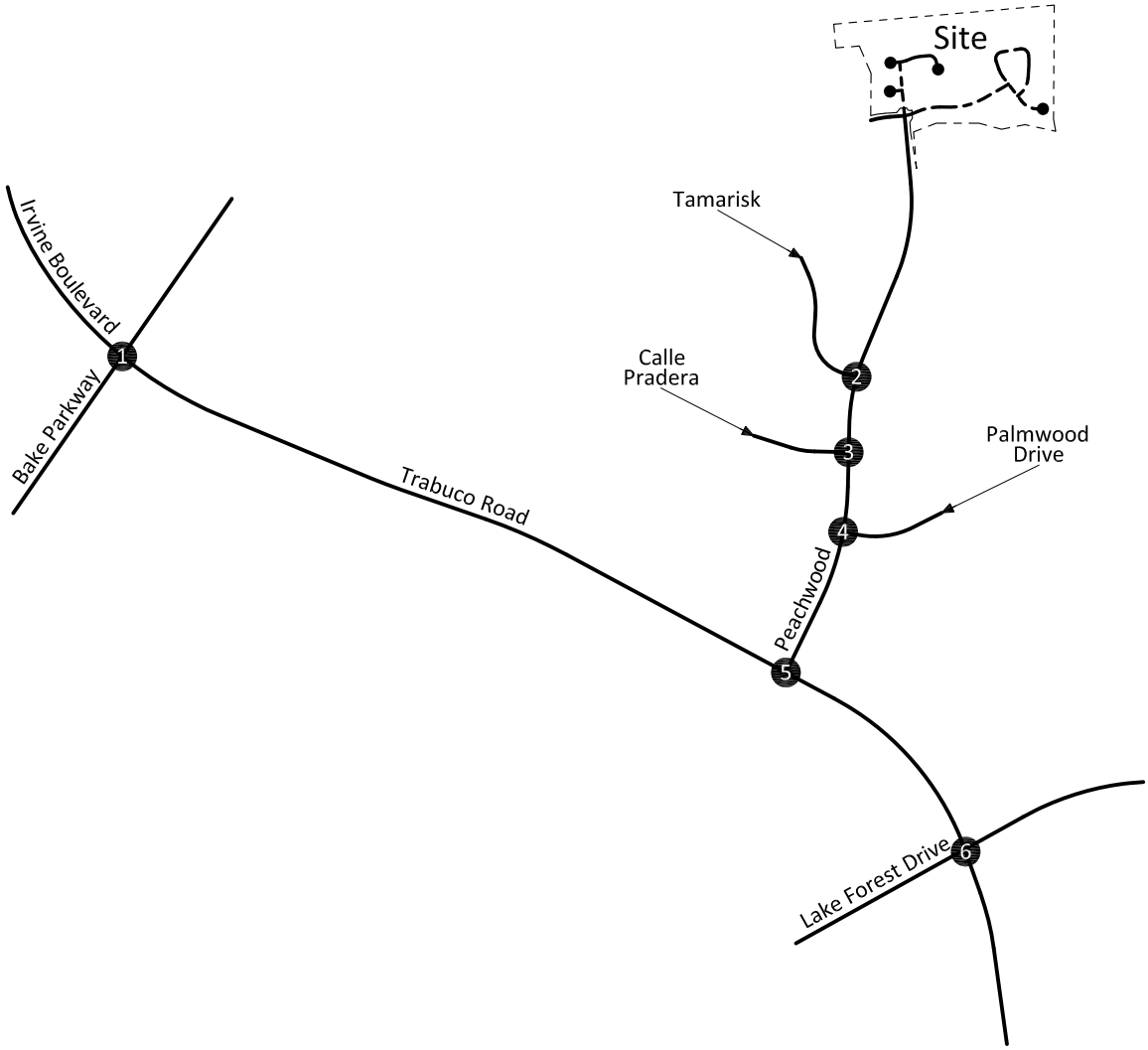
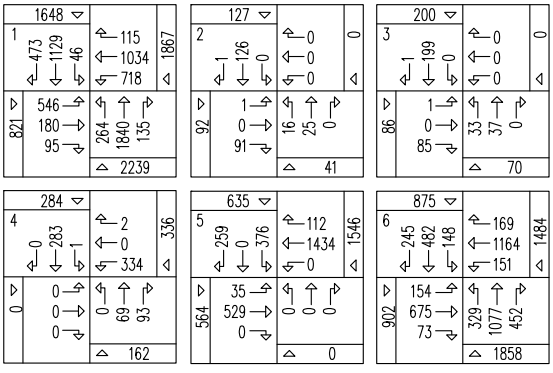
OVER 35 YEARS OF EXCELLENT SERVICE

Figure 17
Opening Year (2015) Without Project
Morning Peak Hour Intersection Turning Movement Volumes





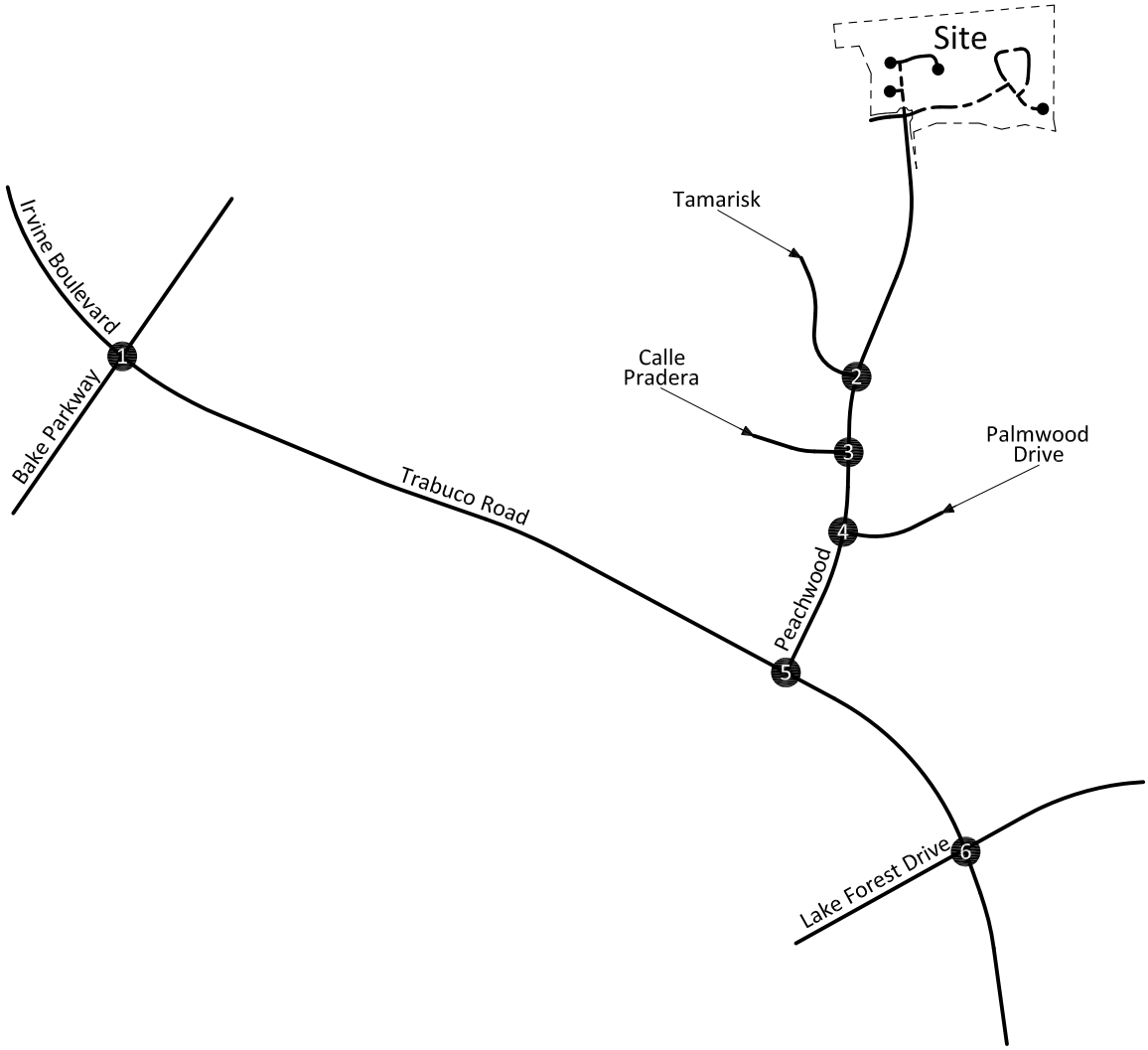
NTS

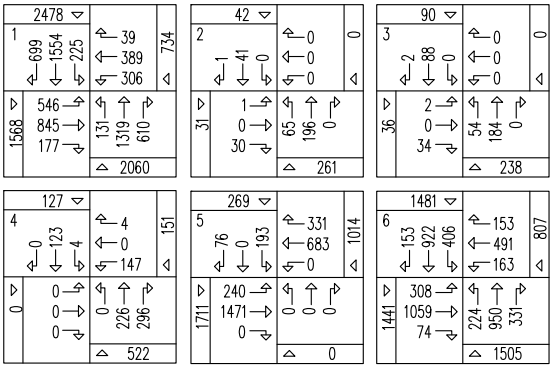
4365/17

KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 35 YEARS OF EXCELLENT SERVICE

Figure 18
Opening Year (2015) Without Project
Evening Peak Hour Intersection Turning Movement Volumes





NTS

4365/18

KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 35 YEARS OF EXCELLENT SERVICE

VII. Opening Year (2015) With Project Traffic Conditions

In this section, Opening Year (2015) With Project traffic conditions are discussed. Figures 19 to 21 depict the Opening Year (2015) With Project traffic conditions.

A. Method of Projection

To assess Opening Year (2015) With Project traffic conditions, existing traffic is combined with areawide growth and project traffic.

For Opening Year (2015) With Project traffic conditions, an areawide growth rate has been utilized to account for areawide growth on study area roadways. Opening Year (2015) With Project traffic volumes have been calculated based on a 1.46 percent annual growth over existing traffic volumes over a four (4) year period. The areawide growth rate has been obtained from the City of Lake Forest Lake Forest Transportation Model.

Areawide growth has been added to daily and peak hour traffic volumes on surrounding roadways. The project is included in the Lake Forest Transportation Model therefore; project traffic has been removed from the traffic model intersections. Project traffic is then added to all study area intersections.

B. Opening Year (2015) With Project Average Daily Traffic Volumes

Opening Year (2015) With Project average daily traffic volumes are as illustrated on Figure 19.

C. Opening Year (2015) With Project Levels of Service

The technique used to assess the operation of a signalized intersection is known as Intersection Capacity Utilization. To calculate an Intersection Capacity Utilization value, the volume of traffic using the intersection is compared with the capacity of the intersection. The Intersection Capacity Utilization represents that portion of the hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity. The technique used to assess the operation of an unsignalized intersection is known as the Intersection Delay Method based on the 2000 Highway Capacity Manual – Transportation Research Board Special Report 209. To calculate delay, the volume of traffic using the intersection is compared with the capacity of the intersection. The signalized intersections are considered deficient (Level of Service F) if the overall intersection critical volume to capacity ratio equals or exceeds 1.0, even if the Level of Service defined by the delay value is below the defined Level of Service standard. The volume to capacity ratio is defined as the critical volumes divided by the intersection capacity. A volume to capacity ratio greater than 1.0 implies an infinite queue. Both methodologies are described in Appendix C.

The Levels of Service for the Opening Year (2015) With Project traffic conditions have been calculated and are shown in Table 5. Opening Year (2015) With Project morning and

evening peak hour intersection turning movement volumes are shown on Figures 20 and 21, respectively.

The study area intersections are projected to operate at Level of Service D or better during the peak hours for Opening Year (2015) With Project traffic conditions (see Table 5). Opening Year (2015) With Project Level of Service worksheets are provided in Appendix C.

D. <u>Significant Transportation Impact</u>

The significant traffic impact criteria used by the City of Lake Forest is as follows:

1. Level of Service D (peak hour Intersection Capacity Utilization less than or equal to 0.90) for all intersections except Critical Intersections where Level of Service "E" (peak hour Intersection Utilization calculations less than or equal to 1.00) is acceptable with the requirement that regular monitoring take place.

2. If a project causes an the Intersection Capacity Utilization to become greater than the acceptable Level of Service, mitigation is required to bring the intersection back to an acceptable Level of service or to no-project conditions if the project contribution to the Intersection capacity Utilization is greater than 0.01.

Table 6 depicts the Opening Year (2015) With Project traffic contribution at the study area intersections. As shown in Table 6, the project site does not significantly impact the study area intersections.

Table 5

Opening Year (2015) With Project Levels of Service

Intersection	Traffic Control [2]	Intersection Approach Lanes [1]												Level of Service	
		Northbound			Southbound			Eastbound			Westbound				
		L	T	R	L	T	R	L	T	R	L	T	R	Morning	Evening
Bake Parkway (NS) at:															
Irvine Boulevard/Trabuco Road (EW) - #1	TS	2	2.5	0.5	2	3	1	2	3	1	2	3	1	0.810-D	0.727-C
Peachwood (NS) at:															
Tamarisk (EW) - #2	CSS	1	2	0	0	1.5	0.5	1	0	d	0	0	0	9.2-A	8.7-A
Calle Pradera (EW) - #3	CSS	1	2	0	0	1.5	0.5	1	0	d	0	0	0	9.4-A	8.9-A
Palmwood Drive (EW) - #4	CSS	0	1.5	0.5	1	2	0	0	0	0	1	0	d	15.4-C	15.2-C
Trabuco Road (EW) -#5	TS	0	0	0	2	0	1	1	3	0	0	3	d	0.480-A	0.426-A
Lake Forest Drive (NS) at:															
Trabuco Road (EW) -#6	TS	2	3	1	2	2.5	0.5	2	3	1	2	3	1	0.581-A	0.613-B

[1] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width (19 feet per the City of Lake Forest) for right turning vehicles to travel outside the through lanes. Defacto right turn lanes have been designated with a "d". L = Left; T = Through; R = Right

[2] TS = Traffic Signal; CSS = Cross Street Stop

Table 6

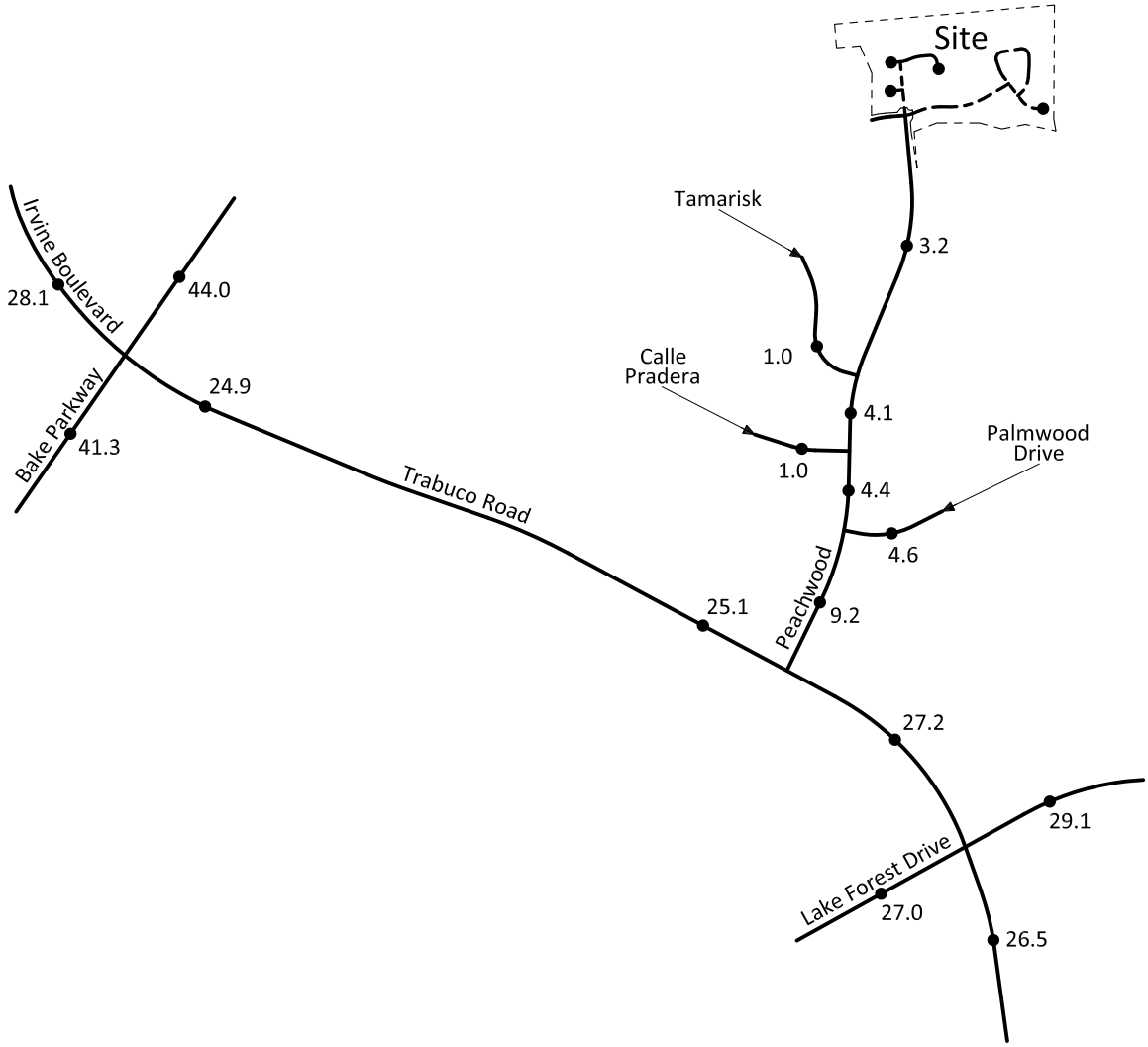
Opening Year (2015) With Project Traffic Contribution

Intersection	Peak Hour	Opening Year (2015) Without Project: Intersection Capacity Utilization and Delay	Opening Year (2015) Without Project: Level of Service	Opening Year (2015) With Project: Without Mitigation: Intersection Capacity Utilization and Delay	Without Mitigation: Level of Service	Without Mitigation: Project Impact	Without Mitigation: Significant Impact[1]	With Mitigation: Intersection Capacity Utilization and Delay	With Mitigation: Level of Service	With Mitigation: Project Impact	With Mitigation: Significant Impact
Bake Parkway (NS) at:											
Irvine Boulevard/Trabuco Road (EW) - #1	Morning	0.807	D	0.810	D	0.003	No				
	Evening	0.720	C	0.727	C	0.007	No				
Peachwood (NS) at:											
Tamarisk (EW) - #2	Morning	9.0	A	9.2	A	0.2	No				
	Evening	8.6	A	8.7	A	0.1	No				
Calle Pradera (EW) - #3	Morning	9.2	A	9.4	A	0.2	No				
	Evening	8.8	A	8.9	A	0.1	No				
Palmwood Drive (EW) - #4	Morning	14.4	B	15.4	C	1.0	No				
	Evening	13.9	B	15.2	C	1.3	No				
Trabuco Road (EW) -#5	Morning	0.466	A	0.480	A	0.014	No				
	Evening	0.395	A	0.426	A	0.031	No				
Lake Forest Drive (NS) at:											
Trabuco Road (EW) -#6	Morning	0.578	A	0.581	A	0.003	No				
	Evening	0.611	B	0.613	B	0.002	No				

[1]The significant traffic impact criteria used by the City of Lake Forest is as follows:

1. Level of Service D (peak hour Intersection Capacity Utilization less than or equal to 0.90) for all intersections except Critical Intersections where Level of Service "E" (peak hour Intersection Utilization calculations less than or equal to 1.00) is acceptable with the requirement that regular monitoring take place.
2. If a project causes an the Intersection Capacity Utilization to become greater than the acceptable Level of Service, mitigation is required to bring the intersection back to an acceptable Level of service or to no-project conditions if the project contribution to the Intersection capacity Utilization is greater than 0.01.

Figure 19
Opening Year (2015) With Project Average Daily Traffic Volumes



Legend

26.5 = Vehicles Per Day (1,000's)

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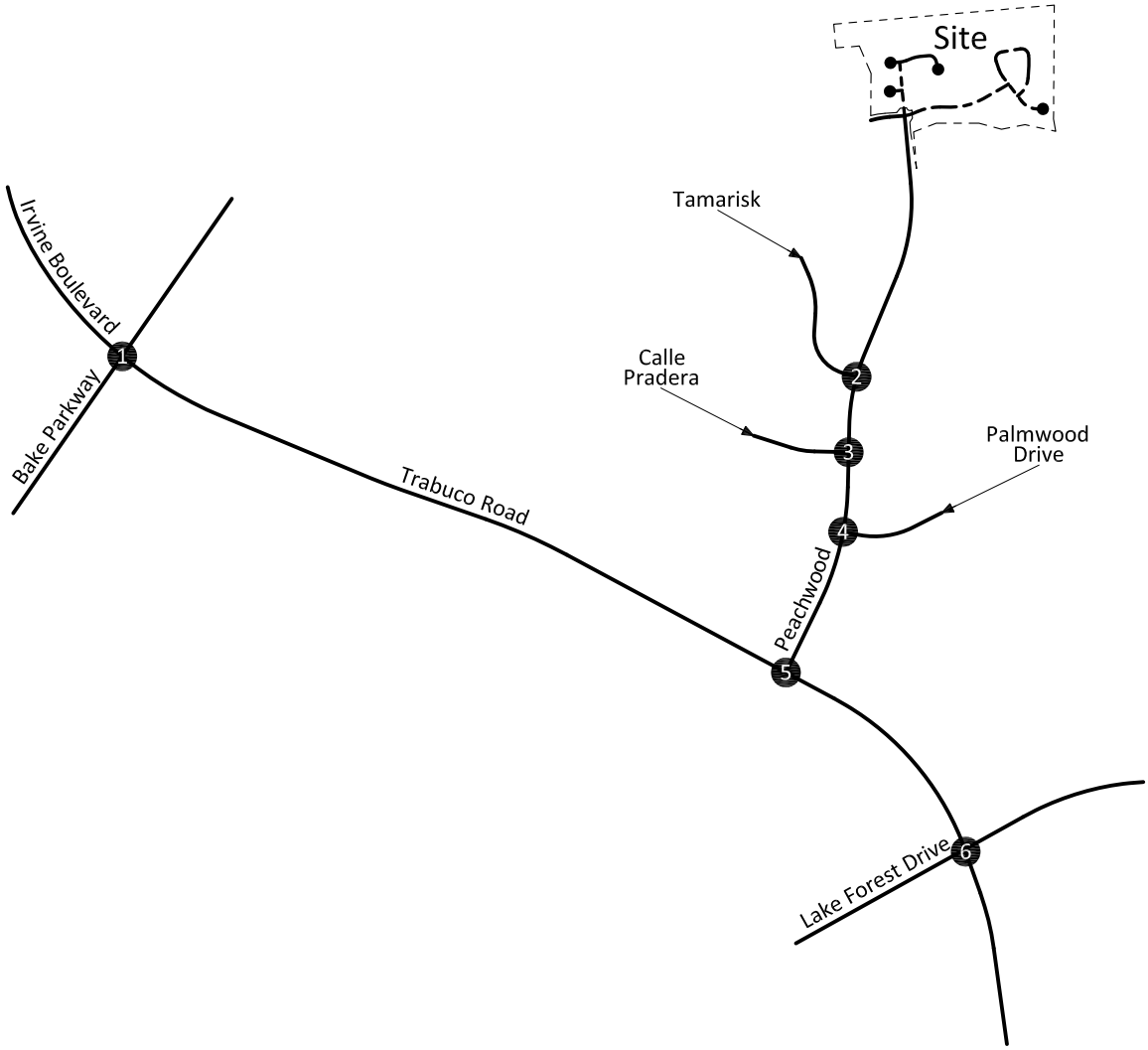
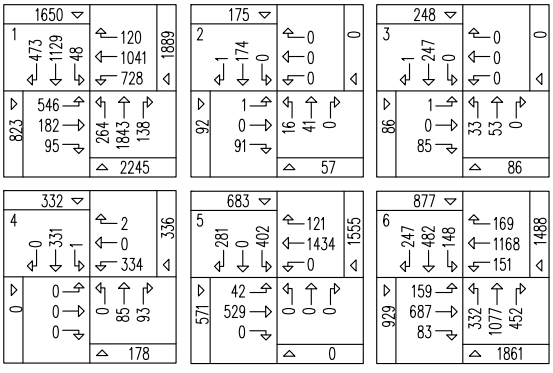
KUNZMAN ASSOCIATES, INC.

OVER 35 YEARS OF EXCELLENT SERVICE

4365/19

Figure 20
Opening Year (2015) With Project
Morning Peak Hour Intersection Turning Movement Volumes





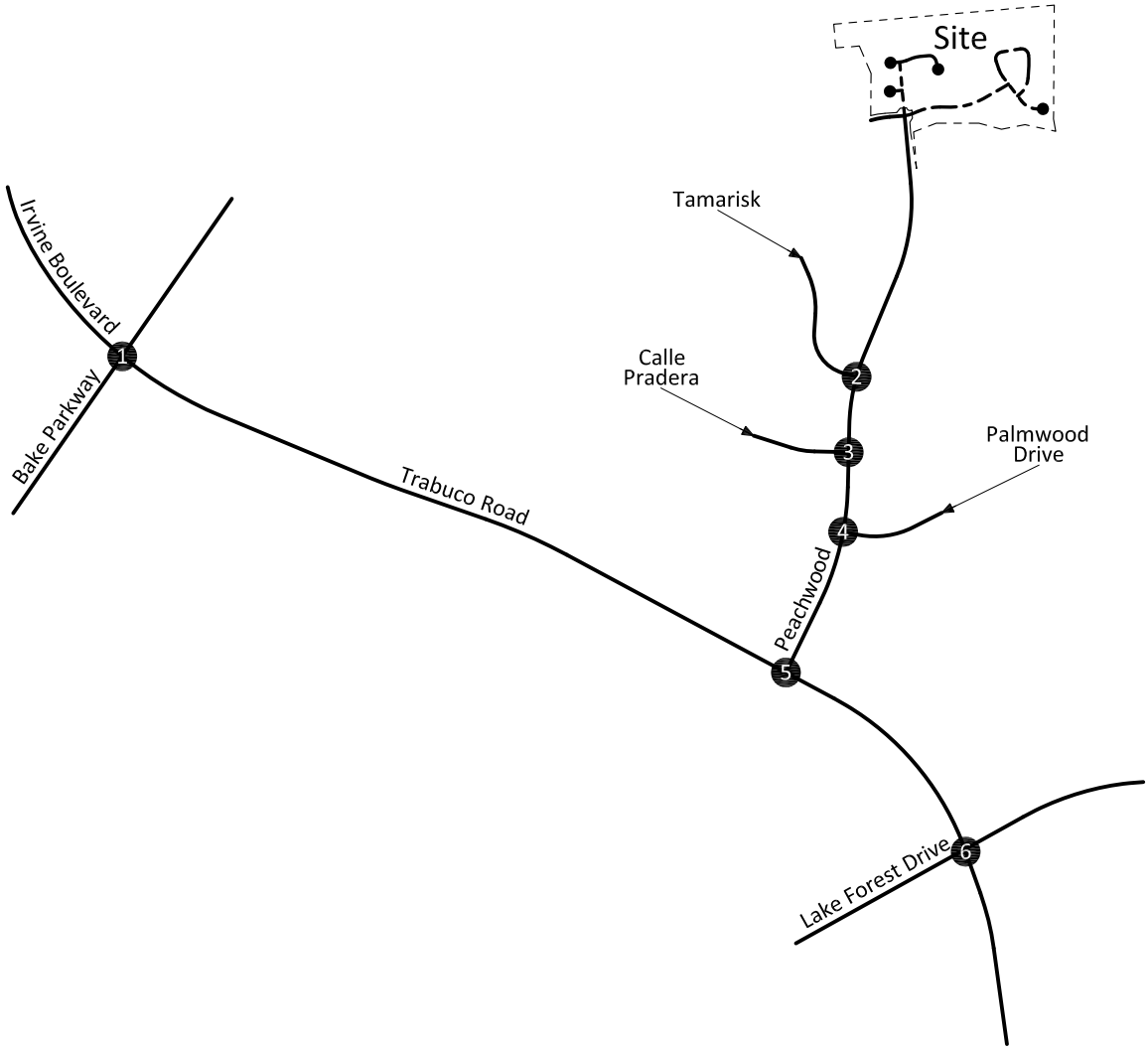
NTS

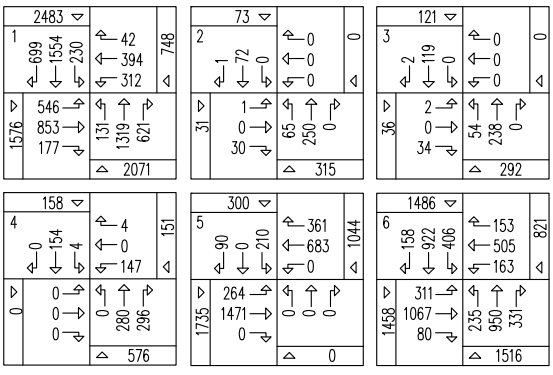
4365/20

KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 35 YEARS OF EXCELLENT SERVICE

Figure 21
Opening Year (2015) With Project
Evening Peak Hour Intersection Turning Movement Volumes





NTS

4365/21

KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 35 YEARS OF EXCELLENT SERVICE

VIII. Recommendations

A. Site Access

The project site will have access to Peachwood and Tamarisk.

B. Roadway Improvements

Site-specific circulation and access recommendations are depicted on Figure 22.

Construct Tamarisk from Peachwood to the west project boundary at its ultimate half-section width including landscaping and parkway improvements in conjunction with development, as necessary.

Construct Peachwood from Tamarisk to the south project boundary at its modified half-section width including landscaping and parkway improvements in conjunction with development, as necessary.

Sufficient on-site parking shall be provided to meet City of Lake Forest parking code requirements.

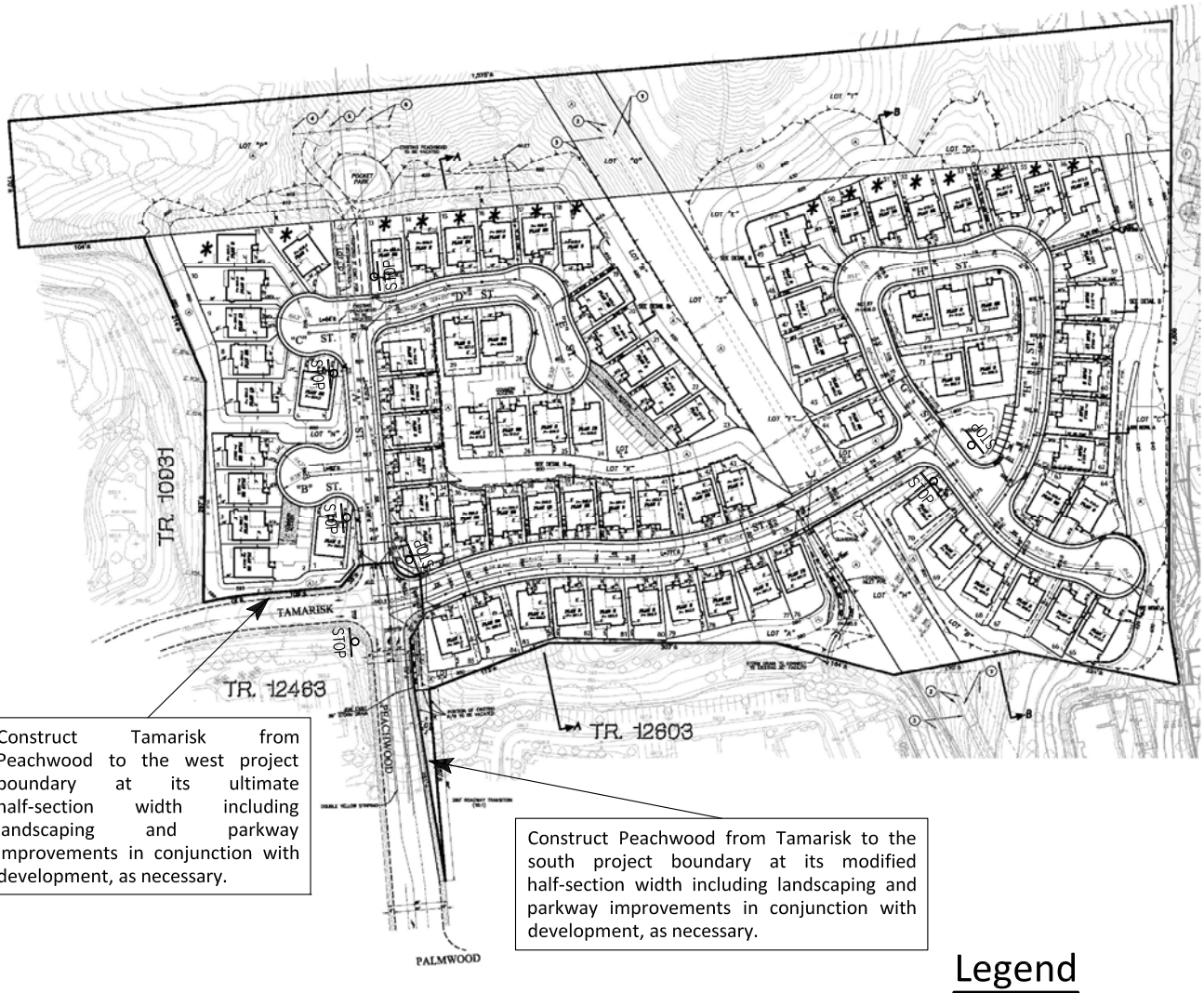
Sight distance at the project access should be reviewed with respect to California Department of Transportation/City of Lake Forest standards in conjunction with the preparation of final grading, landscaping, and street improvement plans.

On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the project.

As is the case for any roadway design, the City of Lake Forest should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

The project is included in the City Lake Forest Transportation Management Program. The project's fair share of mitigation measures in the study area have been calculated by the City of Lake Forest. The project shall contribute $218,000 in Lake Forest Transportation Management Fees as its fair share of the planned improvements totaling $9,881,000.

Figure 22
Circulation Recommendations



Construct Tamarisk from Peachwood to the west project boundary at its ultimate half-section width including landscaping and parkway improvements in conjunction with development, as necessary.

Construct Peachwood from Tamarisk to the south project boundary at its modified half-section width including landscaping and parkway improvements in conjunction with development, as necessary.

Legend

STOP = Stop Sign

Sufficient on-site parking shall be provided to meet City of Lake Forest parking code requirements.

Sight distance at the project access should be reviewed with respect to California Department of Transportation/City of Lake Forest standards in conjunction with the preparation of final grading, landscaping, and street improvement plans.

On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the project.

As is the case for any roadway design, the City of Lake Forest should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

The project is included in the City of Lake Forest Transportation Management Program. The project's fair share of mitigation measures in the study area have been calculated by the City of Lake Forest. The project shall contribute $218,000 in Lake Forest Transportation Management Fees as its fair share of the planned improvements totaling $9,881,000.

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4365/22

KUNZMAN ASSOCIATES, INC.

OVER 35 YEARS OF EXCELLENT SERVICE

Appendices

Appendix A – Glossary of Transportation Terms

Appendix B – Traffic Count Worksheets

Appendix C – Explanation and Calculation of Intersection Capacity Utilization/Delay

APPENDIX A

Glossary of Transportation Terms

GLOSSARY OF TRANSPORTATION TERMS

COMMON ABBREVIATIONS

AC:	Acres
ADT:	Average Daily Traffic
Caltrans:	California Department of Transportation
DU:	Dwelling Unit
ICU:	Intersection Capacity Utilization
LOS:	Level of Service
TSF:	Thousand Square Feet
V/C:	Volume/Capacity
VMT:	Vehicle Miles Traveled

TERMS

AVERAGE DAILY TRAFFIC: The total volume during a year divided by the number of days in a year. Usually only weekdays are included.

BANDWIDTH: The number of seconds of green time available for through traffic in a signal progression.

BOTTLENECK: A constriction along a travelway that limits the amount of traffic that can proceed downstream from its location.

CAPACITY: The maximum number of vehicles that can be reasonably expected to pass over a given section of a lane or a roadway in a given time period.

CHANNELIZATION: The separation or regulation of conflicting traffic movements into definite paths of travel by the use of pavement markings, raised islands, or other suitable means to facilitate the safe and orderly movements of both vehicles and pedestrians.

CLEARANCE INTERVAL: Nearly same as yellow time. If there is an all red interval after the end of a yellow, then that is also added into the clearance interval.

CORDON: An imaginary line around an area across which vehicles, persons, or other items are counted (in and out).

CYCLE LENGTH: The time period in seconds required for one complete signal cycle.

CUL-DE-SAC STREET: A local street open at one end only, and with special provisions for turning around.

DAILY CAPACITY: The daily volume of traffic that will result in a volume during the peak hour equal to the capacity of the roadway.

DELAY: The time consumed while traffic is impeded in its movement by some element over which it has no control, usually expressed in seconds per vehicle.

DEMAND RESPONSIVE SIGNAL: Same as traffic-actuated signal.

DENSITY: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

DETECTOR: A device that responds to a physical stimulus and transmits a resulting impulse to the signal controller.

DESIGN SPEED: A speed selected for purposes of design. Features of a highway, such as curvature, superelevation, and sight distance (upon which the safe operation of vehicles is dependent) are correlated to design speed.

DIRECTIONAL SPLIT: The percent of traffic in the peak direction at any point in time.

DIVERSION: The rerouting of peak hour traffic to avoid congestion.

FORCED FLOW: Opposite of free flow.

FREE FLOW: Volumes are well below capacity. Vehicles can maneuver freely and travel is unimpeded by other traffic.

GAP: Time or distance between successive vehicles in a traffic stream, rear bumper to front bumper.

HEADWAY: Time or distance spacing between successive vehicles in a traffic stream, front bumper to front bumper.

INTERCONNECTED SIGNAL SYSTEM: A number of intersections that are connected to achieve signal progression.

LEVEL OF SERVICE: A qualitative measure of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs.

LOOP DETECTOR: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

MINIMUM ACCEPTABLE GAP: Smallest time headway between successive vehicles in a traffic stream into which another vehicle is willing and able to cross or merge.

MULTI-MODAL: More than one mode; such as automobile, bus transit, rail rapid transit, and bicycle transportation modes.

OFFSET: The time interval in seconds between the beginning of green at one intersection and the beginning of green at an adjacent intersection.

PLATOON: A closely grouped component of traffic that is composed of several vehicles moving, or standing ready to move, with clear spaces ahead and behind.

ORIGIN-DESTINATION SURVEY: A survey to determine the point of origin and the point of destination for a given vehicle trip.

PASSENGER CAR EQUIVALENTS (PCE): One car is one Passenger Car Equivalent. A truck is equal to 2 or 3 Passenger Car Equivalents in that a truck requires longer to start, goes slower, and accelerates slower. Loaded trucks have a higher Passenger Car Equivalent than empty trucks.

PEAK HOUR: The 60 consecutive minutes with the highest number of vehicles.

PRETIMED SIGNAL: A type of traffic signal that directs traffic to stop and go on a predetermined time schedule without regard to traffic conditions. Also, fixed time signal.

PROGRESSION: A term used to describe the progressive movement of traffic through several signalized intersections.

SCREEN-LINE: An imaginary line or physical feature across which all trips are counted, normally to verify the validity of mathematical traffic models.

SIGNAL CYCLE: The time period in seconds required for one complete sequence of signal indications.

SIGNAL PHASE: The part of the signal cycle allocated to one or more traffic movements.

STARTING DELAY: The delay experienced in initiating the movement of queued traffic from a stop to an average running speed through a signalized intersection.

TRAFFIC-ACTUATED SIGNAL: A type of traffic signal that directs traffic to stop and go in accordance with the demands of traffic, as registered by the actuation of detectors.

TRIP: The movement of a person or vehicle from one location (origin) to another (destination). For example, from home to store to home is two trips, not one.

TRIP-END: One end of a trip at either the origin or destination; i.e. each trip has two trip-ends. A trip-end occurs when a person, object, or message is transferred to or from a vehicle.

TRIP GENERATION RATE: The quality of trips produced and/or attracted by a specific land use stated in terms of units such as per dwelling, per acre, and per 1,000 square feet of floor space.

TRUCK: A vehicle having dual tires on one or more axles, or having more than two axles.

UNBALANCED FLOW: Heavier traffic flow in one direction than the other. On a daily basis, most facilities have balanced flow. During the peak hours, flow is seldom balanced in an urban area.

VEHICLE MILES OF TRAVEL: A measure of the amount of usage of a section of highway, obtained by multiplying the average daily traffic by length of facility in miles.

APPENDIX B

Traffic Count Worksheets

Counts Unlimited Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Lake Forest
N/S: Bake Parkway
E/W: Trabuco Road
Weather: Sunny

File Name : LKFBATRAM
Site Code : 00000035
Start Date : 9/15/2011
Page No : 1

Groups Printed- Total Volume

	Bake Parkway Southbound				Trabuco Road Westbound				Bake Parkway Northbound				Trabuco Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	71	21	7	99	1	251	74	326	198	205	23	426	47	330	20	397	1248
07:15 AM	84	40	16	140	8	254	101	363	191	204	26	421	54	394	20	468	1392
07:30 AM	107	65	12	184	10	292	109	411	172	238	22	432	41	424	36	501	1528
07:45 AM	139	26	18	183	8	267	112	387	166	248	30	444	69	478	38	585	1599
Total	401	152	53	606	27	1064	396	1487	727	895	101	1723	211	1626	114	1951	5767
08:00 AM	159	47	37	243	14	274	130	418	170	254	32	456	71	399	19	489	1606
08:15 AM	110	34	23	167	13	232	95	340	179	242	29	450	68	435	37	540	1497
08:30 AM	111	43	20	174	11	263	88	362	146	182	35	363	67	404	29	500	1399
08:45 AM	114	39	25	178	12	205	70	287	158	155	43	356	60	405	24	489	1310
Total	494	163	105	762	50	974	383	1407	653	833	139	1625	266	1643	109	2018	5812
Grand Total	895	315	158	1368	77	2038	779	2894	1380	1728	240	3348	477	3269	223	3969	11579
Apprch %	65.4	23	11.5		2.7	70.4	26.9		41.2	51.6	7.2		12	82.4	5.6		
Total %	7.7	2.7	1.4	11.8	0.7	17.6	6.7	25	11.9	14.9	2.1	28.9	4.1	28.2	1.9	34.3	

	Bake Parkway Southbound				Trabuco Road Westbound				Bake Parkway Northbound				Trabuco Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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 07:30 AM																	
07:30 AM	107	**65**	12	184	10	**292**	109	411	172	238	22	432	41	424	36	501	1528
07:45 AM	139	26	18	183	8	267	112	387	166	248	30	444	69	**478**	**38**	**585**	1599
08:00 AM	**159**	47	**37**	**243**	**14**	274	**130**	**418**	170	**254**	**32**	**456**	**71**	399	19	489	**1606**
08:15 AM	110	34	23	167	13	232	95	340	**179**	242	29	450	68	435	37	540	1497
Total Volume	515	172	90	777	45	1065	446	1556	687	982	113	1782	249	1736	130	2115	6230
% App. Total	66.3	22.1	11.6		2.9	68.4	28.7		38.6	55.1	6.3		11.8	82.1	6.1		
PHF	.810	.662	.608	.799	.804	.912	.858	.931	.959	.967	.883	.977	.877	.908	.855	.904	.970

Counts Unlimited Inc.
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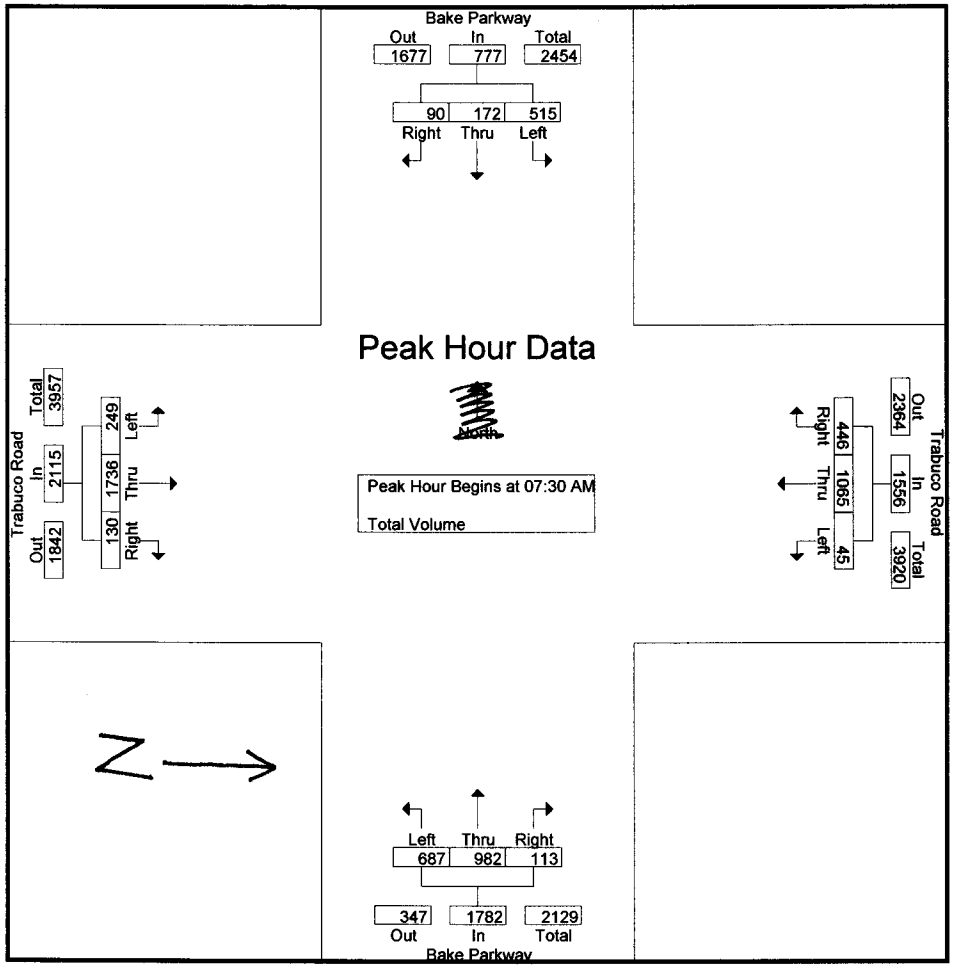
City of Lake Forest
N/S: Bake Parkway
E/W: Trabuco Road
Weather: Sunny

File Name : LKFBATRAM
Site Code : 00000035
Start Date : 9/15/2011
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM				07:15 AM				07:30 AM				07:30 AM			
+0 mins.	107	**65**	12	184	8	254	101	363	172	238	22	432	41	424	36	501
+15 mins.	139	26	18	183	10	**292**	109	411	166	248	30	444	69	**478**	**38**	**585**
+30 mins.	**159**	47	**37**	**243**	8	267	112	387	170	**254**	**32**	**456**	**71**	399	19	489
+45 mins.	110	34	23	167	**14**	274	**130**	**418**	**179**	242	29	450	68	435	37	540
Total Volume	515	172	90	777	40	1087	452	1579	687	982	113	1782	249	1736	130	2115
% App. Total	66.3	22.1	11.6		2.5	68.8	28.6		38.6	55.1	6.3		11.8	82.1	6.1	
PHF	.810	.662	.608	.799	.714	.931	.869	.944	.959	.967	.883	.977	.877	.908	.855	.904

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City of Lake Forest
N/S: Bake Parkway
E/W: Trabuco Road
Weather: Sunny

File Name : LKFBATRPM
Site Code : 00000035
Start Date : 9/15/2011
Page No : 1

Groups Printed- Total Volume

	Bake Parkway Southbound				Trabuco Road Westbound				Bake Parkway Northbound				Trabuco Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	82	138	46	266	33	313	170	516	57	68	18	143	25	261	106	392	1317
04:15 PM	96	124	45	265	41	255	99	395	71	94	9	174	20	228	99	347	1181
04:30 PM	95	137	54	286	37	360	180	577	70	69	9	148	18	291	130	439	1450
04:45 PM	89	141	30	260	48	319	105	472	62	75	27	164	26	258	110	394	1290
Total	362	540	175	1077	159	1247	554	1960	260	306	63	629	89	1038	445	1572	5238
05:00 PM	125	188	67	380	51	420	215	686	52	89	16	157	31	334	159	524	1747
05:15 PM	136	219	42	397	67	400	193	660	89	88	7	184	25	328	146	499	1740
05:30 PM	119	205	30	354	51	369	144	564	80	107	7	194	38	317	156	511	1623
05:45 PM	135	193	28	356	48	277	107	432	73	88	10	171	30	265	125	420	1379
Total	515	805	167	1487	217	1466	659	2342	294	372	40	706	124	1244	586	1954	6489
Grand Total	877	1345	342	2564	376	2713	1213	4302	554	678	103	1335	213	2282	1031	3526	11727
Apprch %	34.2	52.5	13.3		8.7	63.1	28.2		41.5	50.8	7.7		6	64.7	29.2		
Total %	7.5	11.5	2.9	21.9	3.2	23.1	10.3	36.7	4.7	5.8	0.9	11.4	1.8	19.5	8.8	30.1	

	Bake Parkway Southbound				Trabuco Road Westbound				Bake Parkway Northbound				Trabuco Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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 05:00 PM																	
05:00 PM	125	188	**67**	380	51	**420**	**215**	**686**	52	89	**16**	157	31	**334**	**159**	**524**	**1747**
05:15 PM	**136**	**219**	42	**397**	**67**	400	193	660	**89**	88	7	184	25	328	146	499	1740
05:30 PM	119	205	30	354	51	369	144	564	80	**107**	7	**194**	**38**	317	156	511	1623
05:45 PM	135	193	28	356	48	277	107	432	73	88	10	171	30	265	125	420	1379
Total Volume	515	805	167	1487	217	1466	659	2342	294	372	40	706	124	1244	586	1954	6489
% App. Total	34.6	54.1	11.2		9.3	62.6	28.1		41.6	52.7	5.7		6.3	63.7	30		
PHF	.947	.919	.623	.936	.810	.873	.766	.853	.826	.869	.625	.910	.816	.931	.921	.932	.929

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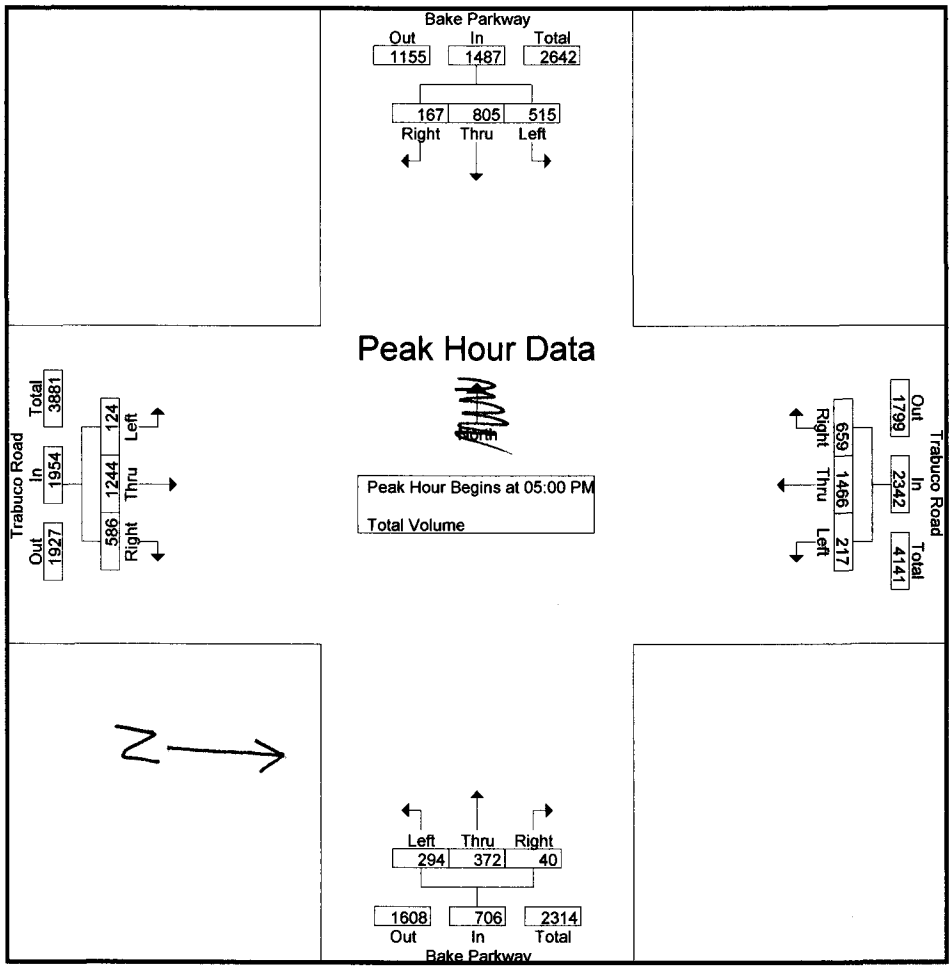
File Name : LKFBATRPM
Site Code : 00000035
Start Date : 9/15/2011
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				05:00 PM				05:00 PM			
+0 mins.	125	188	**67**	380	37	360	180	577	52	89	**16**	157	31	**334**	**159**	**524**
+15 mins.	**136**	**219**	42	**397**	48	319	105	472	**89**	88	7	184	25	328	146	499
+30 mins.	119	205	30	354	51	**420**	**215**	**686**	80	**107**	7	**194**	**38**	317	156	511
+45 mins.	135	193	28	356	**67**	400	193	660	73	88	10	171	30	265	125	420
Total Volume	515	805	167	1487	203	1499	693	2395	294	372	40	706	124	1244	586	1954
% App. Total	34.6	54.1	11.2		8.5	62.6	28.9		41.6	52.7	5.7		6.3	63.7	30	
PHF	.947	.919	.623	.936	.757	.892	.806	.873	.826	.869	.625	.910	.816	.931	.921	.932

KUNZMAN ASSOCIATES, INC. TRAFFIC COUNT

North/South Street: Peachwood
East/West Street: Tamarisk
Counter: Kunzman Assoicates, Inc.
Date: 09/13/11

Morning Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
Time	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM	2	1	0	0	25	0	0	0	15	0	0	0
7:15 AM	2	4	0	0	21	0	0	0	21	0	0	0
7:30 AM	3	10	0	0	38	0	0	0	23	0	0	0
7:45 AM	3	6	0	0	31	0	0	0	29	0	0	0
8:00 AM	7	4	0	0	29	0	1	0	13	0	0	0
8:15 AM	3	6	0	0	15	0	0	0	19	0	0	0
8:30 AM	1	3	0	0	13	0	0	0	11	0	0	0
8:45 AM	5	5	0	0	9	0	0	0	5	0	0	0
Total	26	39	0	0	181	0	1	0	136	0	0	0

Peak Hour Volumes	15	24	0	0	119	0	1	0	86	0	0	0
Peak Hour Factor	0.750			0.783			0.750			0.000		

Evening Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
Time	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
4:00 PM	9	13	0	0	5	0	0	0	5	0	0	0
4:15 PM	11	17	0	0	17	0	0	0	9	0	0	0
4:30 PM	15	25	0	0	10	0	0	0	8	0	0	0
4:45 PM	14	18	0	0	8	1	0	0	9	0	0	0
5:00 PM	7	25	0	0	14	1	1	0	6	0	0	0
5:15 PM	21	17	0	0	9	0	0	0	5	0	0	0
5:30 PM	21	21	0	0	10	0	0	0	9	0	0	0
5:45 PM	12	122	0	0	6	0	0	0	8	0	0	0
Total	110	258	0	0	79	2	1	0	59	0	0	0

Peak Hour Volumes	61	185	0	0	39	1	1	0	28	0	0	0
Peak Hour Factor	0.459			0.667			0.806			0.000		

KUNZMAN ASSOCIATES, INC. TRAFFIC COUNT

North/South Street: Peachwood

East/West Street: Calle Pradera

Counter: Kunzman Assoicates, Inc.

Date: 09/15/11

Morning Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
Time	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM	2	5	0	0	35	1	0	0	13	0	0	0
7:15 AM	7	9	0	0	44	0	0	0	9	0	0	0
7:30 AM	9	6	0	0	66	1	0	0	25	0	0	0
7:45 AM	5	11	0	0	39	0	1	0	27	0	0	0
8:00 AM	10	9	0	0	39	0	0	0	19	0	0	0
8:15 AM	6	10	0	0	31	0	0	0	21	0	0	0
8:30 AM	4	14	0	0	20	0	0	0	12	0	0	0
8:45 AM	3	4	0	0	24	0	0	0	11	0	0	0
Total	46	68	0	0	298	2	1	0	137	0	0	0

Peak Hour Volumes	31	35	0	0	188	1	1	0	80	0	0	0
Peak Hour Factor	0.868			0.705			0.723			0.000		

Evening Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
Time	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
4:00 PM	16	22	0	0	13	1	2	0	11	0	0	0
4:15 PM	9	24	0	0	8	0	1	0	3	0	0	0
4:30 PM	12	30	0	0	23	1	0	0	11	0	0	0
4:45 PM	9	36	0	0	20	0	1	0	8	0	0	0
5:00 PM	11	36	0	0	21	1	1	0	4	0	0	0
5:15 PM	18	52	0	0	19	1	0	0	8	0	0	0
5:30 PM	13	50	0	0	23	0	0	0	12	0	0	0
5:45 PM	14	21	0	0	25	0	0	0	4	0	0	0
Total	102	271	0	0	152	4	5	0	61	0	0	0

Peak Hour Volumes	51	174	0	0	83	2	2	0	32	0	0	0
Peak Hour Factor	0.804			0.924			0.708			0.000		

KUNZMAN ASSOCIATES, INC. TRAFFIC COUNT

North/South Street: Peachwood
East/West Street: Palmwood Drive
Counter: Kunzman Assoicates, Inc.
Date: 09/14/11

Morning Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
Time	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM	0	8	10	0	53	0	0	0	0	52	0	1
7:15 AM	0	14	14	0	58	0	0	0	0	70	0	1
7:30 AM	0	16	23	0	88	0	0	0	0	91	0	1
7:45 AM	0	14	17	0	65	0	0	0	0	91	0	0
8:00 AM	0	19	26	0	58	0	0	0	0	67	0	1
8:15 AM	0	16	22	0	56	0	0	0	0	66	0	0
8:30 AM	0	20	14	1	38	0	0	0	0	47	0	0
8:45 AM	0	12	25	1	38	0	0	0	0	53	0	0
Total	0	119	151	2	454	0	0	0	0	537	0	4

Peak Hour Volumes	0	65	88	0	267	0	0	0	0	315	0	2
Peak Hour Factor		0.850			0.759			0.000			0.861	

Evening Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
Time	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
4:00 PM	0	35	46	2	18	0	0	0	0	28	0	0
4:15 PM	0	29	54	1	14	0	0	0	0	21	0	1
4:30 PM	0	43	37	0	31	0	0	0	0	25	0	0
4:45 PM	0	47	65	2	25	0	0	0	0	42	0	1
5:00 PM	0	43	62	1	20	0	0	0	0	37	0	1
5:15 PM	0	64	87	1	28	0	0	0	0	45	0	2
5:30 PM	0	51	61	1	29	0	0	0	0	28	0	0
5:45 PM	0	55	69	1	39	0	0	0	0	29	0	1
Total	0	367	481	9	204	0	0	0	0	255	0	6

Peak Hour Volumes	0	213	279	4	116	0	0	0	0	139	0	4
Peak Hour Factor		0.815			0.750			0.000			0.761	

KUNZMAN ASSOCIATES, INC. TRAFFIC COUNT

North/South Street: Peachwood
East/West Street: Trabuco Road
Counter: Kunzman Assoicates, Inc.
Date: 09/14/11

Morning Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
Time	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM	0	0	0	48	0	68	4	54	0	0	240	20
7:15 AM	0	0	0	65	0	73	8	84	0	0	313	22
7:30 AM	0	0	0	113	0	69	12	168	0	0	319	21
7:45 AM	0	0	0	93	0	58	6	108	0	0	334	16
8:00 AM	0	0	0	76	0	62	5	102	0	0	367	38
8:15 AM	0	0	0	73	0	55	10	121	0	0	333	31
8:30 AM	0	0	0	44	0	55	10	95	0	0	310	36
8:45 AM	0	0	0	56	0	42	11	82	0	0	206	22
Total	0	0	0	568	0	482	66	814	0	0	2,422	206

Peak Hour Volumes	0	0	0	355	0	244	33	499	0	0	1353	106
Peak Hour Factor	0.000			0.823			0.739			0.901		

Evening Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
Time	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
4:00 PM	0	0	0	39	0	16	38	252	0	0	140	63
4:15 PM	0	0	0	25	0	13	24	208	0	0	123	60
4:30 PM	0	0	0	45	0	17	43	285	0	0	148	61
4:45 PM	0	0	0	53	0	22	53	280	0	0	166	63
5:00 PM	0	0	0	38	0	14	43	308	0	0	164	67
5:15 PM	0	0	0	46	0	18	55	346	0	0	156	76
5:30 PM	0	0	0	40	0	19	59	401	0	0	187	98
5:45 PM	0	0	0	58	0	21	69	333	0	0	137	71
Total	0	0	0	344	0	140	384	2,413	0	0	1,221	559

Peak Hour Volumes	0	0	0	182	0	72	226	1388	0	0	644	312
Peak Hour Factor	0.000			0.804			0.877			0.839		

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City of Lake Forest
N/S: Lake Forest Drive
E/W: Trabuco Road
Weather: Sunny

File Name : LKFLFTRAM
Site Code : 00000063
Start Date : 9/15/2011
Page No : 1

Groups Printed- Total Volume

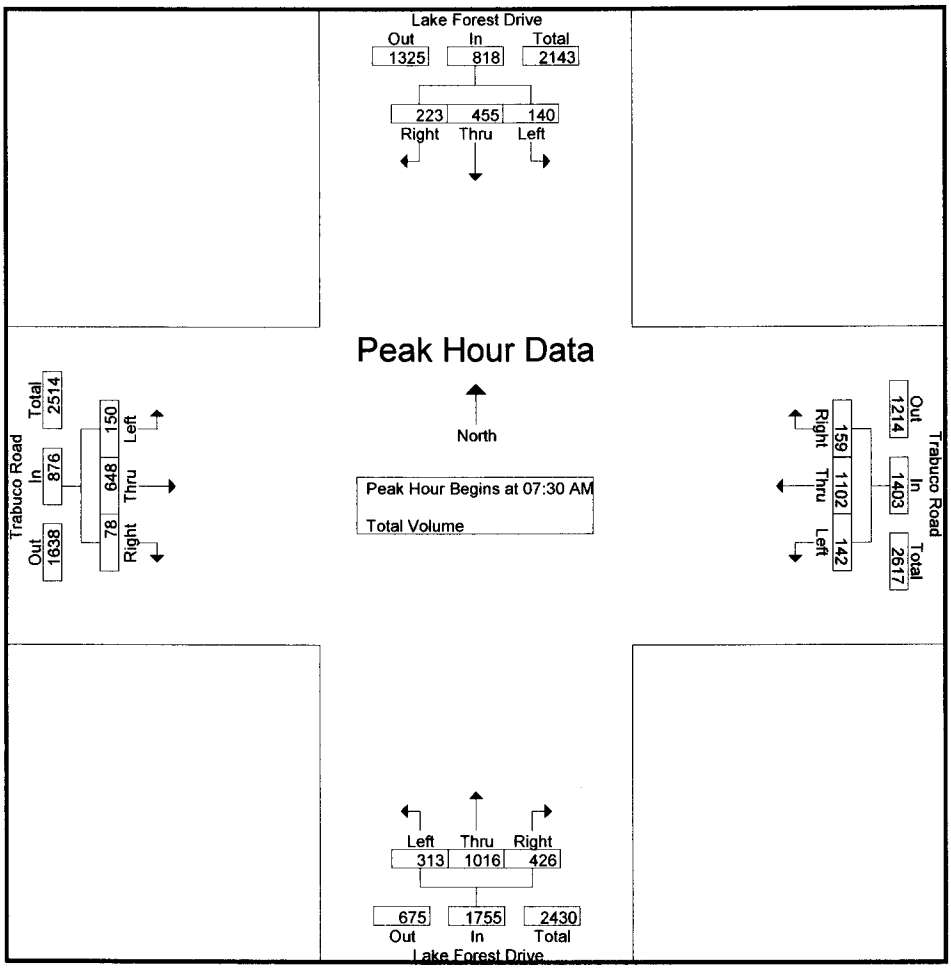
	Lake Forest Drive Southbound				Trabuco Road Westbound				Lake Forest Drive Northbound				Trabuco Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	15	50	31	96	33	235	38	306	60	171	70	301	18	91	16	125	828
07:15 AM	23	79	36	138	45	249	50	344	74	233	58	365	23	96	14	133	980
07:30 AM	30	168	51	249	38	286	53	377	71	241	80	392	25	105	17	147	1165
07:45 AM	43	132	61	236	46	307	41	394	104	266	147	517	32	224	17	273	1420
Total	111	429	179	719	162	1077	182	1421	309	911	355	1575	98	516	64	678	4393
08:00 AM	41	70	47	158	32	277	28	337	61	269	105	435	48	203	24	275	1205
08:15 AM	26	85	64	175	26	232	37	295	77	240	94	411	45	116	20	181	1062
08:30 AM	35	57	38	130	52	203	32	287	50	207	76	333	36	130	17	183	933
08:45 AM	33	72	42	147	36	172	28	236	45	153	68	266	28	118	14	160	809
Total	135	284	191	610	146	884	125	1155	233	869	343	1445	157	567	75	799	4009
Grand Total	246	713	370	1329	308	1961	307	2576	542	1780	698	3020	255	1083	139	1477	8402
Apprch %	18.5	53.6	27.8		12	76.1	11.9		17.9	58.9	23.1		17.3	73.3	9.4		
Total %	2.9	8.5	4.4	15.8	3.7	23.3	3.7	30.7	6.5	21.2	8.3	35.9	3	12.9	1.7	17.6	

	Lake Forest Drive Southbound				Trabuco Road Westbound				Lake Forest Drive Northbound				Trabuco Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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 07:30 AM																	
07:30 AM	30	**168**	51	**249**	38	286	**53**	377	71	241	80	392	25	105	17	147	1165
07:45 AM	**43**	132	61	236	**46**	**307**	41	**394**	**104**	266	**147**	**517**	32	**224**	17	273	**1420**
08:00 AM	41	70	47	158	32	277	28	337	61	**269**	105	435	**48**	203	**24**	**275**	1205
08:15 AM	26	85	**64**	175	26	232	37	295	77	240	94	411	45	116	20	181	1062
Total Volume	140	455	223	818	142	1102	159	1403	313	1016	426	1755	150	648	78	876	4852
% App. Total	17.1	55.6	27.3		10.1	78.5	11.3		17.8	57.9	24.3		17.1	74	8.9		
PHF	.814	.677	.871	.821	.772	.897	.750	.890	.752	.944	.724	.849	.781	.723	.813	.796	.854

Counts Unlimited Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Lake Forest
N/S: Lake Forest Drive
E/W: Trabuco Road
Weather: Sunny

File Name : LKFLFTRAM
Site Code : 00000063
Start Date : 9/15/2011
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM				07:15 AM				07:30 AM				07:45 AM			
+0 mins.	30	**168**	51	**249**	45	249	50	344	71	241	80	392	32	**224**	17	273
+15 mins.	**43**	132	61	236	38	286	**53**	377	**104**	266	**147**	**517**	**48**	203	**24**	**275**
+30 mins.	41	70	47	158	**46**	**307**	41	**394**	61	**269**	105	435	45	116	20	181
+45 mins.	26	85	**64**	175	32	277	28	337	77	240	94	411	36	130	17	183
Total Volume	140	455	223	818	161	1119	172	1452	313	1016	426	1755	161	673	78	912
% App. Total	17.1	55.6	27.3		11.1	77.1	11.8		17.8	57.9	24.3		17.7	73.8	8.6	
PHF	.814	.677	.871	.821	.875	.911	.811	.921	.752	.944	.724	.849	.839	.751	.813	.829

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Start Date : 9/15/2011
Page No : 1

Groups Printed- Total Volume

	Lake Forest Drive Southbound				Trabuco Road Westbound				Lake Forest Drive Northbound				Trabuco Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	76	178	36	290	27	117	47	191	40	197	73	310	44	206	19	269	1060
04:15 PM	51	143	38	232	40	134	19	193	53	155	66	274	67	191	3	261	960
04:30 PM	81	171	26	278	37	121	34	192	43	160	81	284	55	207	10	272	1026
04:45 PM	94	197	38	329	44	101	45	190	61	221	85	367	78	217	16	311	1197
Total	302	689	138	1129	148	473	145	766	197	733	305	1235	244	821	48	1113	4243
05:00 PM	92	267	43	402	39	134	36	209	47	200	75	322	58	265	22	345	1278
05:15 PM	109	242	34	385	43	127	21	191	66	259	85	410	73	259	23	355	1341
05:30 PM	88	164	34	286	28	114	42	184	48	216	67	331	84	266	14	364	1165
05:45 PM	81	185	32	298	26	125	36	187	45	195	68	308	71	235	14	320	1113
Total	370	858	143	1371	136	500	135	771	206	870	295	1371	286	1025	73	1384	4897
Grand Total	672	1547	281	2500	284	973	280	1537	403	1603	600	2606	530	1846	121	2497	9140
Apprch %	26.9	61.9	11.2		18.5	63.3	18.2		15.5	61.5	23		21.2	73.9	4.8		
Total %	7.4	16.9	3.1	27.4	3.1	10.6	3.1	16.8	4.4	17.5	6.6	28.5	5.8	20.2	1.3	27.3	

	Lake Forest Drive Southbound				Trabuco Road Westbound				Lake Forest Drive Northbound				Trabuco Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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 04:45 PM																	
04:45 PM	94	197	38	329	**44**	101	**45**	190	61	221	**85**	367	78	217	16	311	1197
05:00 PM	92	**267**	**43**	**402**	39	**134**	36	**209**	47	200	75	322	58	265	22	345	1278
05:15 PM	**109**	242	34	385	43	127	21	191	**66**	**259**	85	**410**	73	259	**23**	355	**1341**
05:30 PM	88	164	34	286	28	114	42	184	48	216	67	331	**84**	**266**	14	**364**	1165
Total Volume	383	870	149	1402	154	476	144	774	222	896	312	1430	293	1007	75	1375	4981
% App. Total	27.3	62.1	10.6		19.9	61.5	18.6		15.5	62.7	21.8		21.3	73.2	5.5		
PHF	.878	.815	.866	.872	.875	.888	.800	.926	.841	.865	.918	.872	.872	.946	.815	.944	.929

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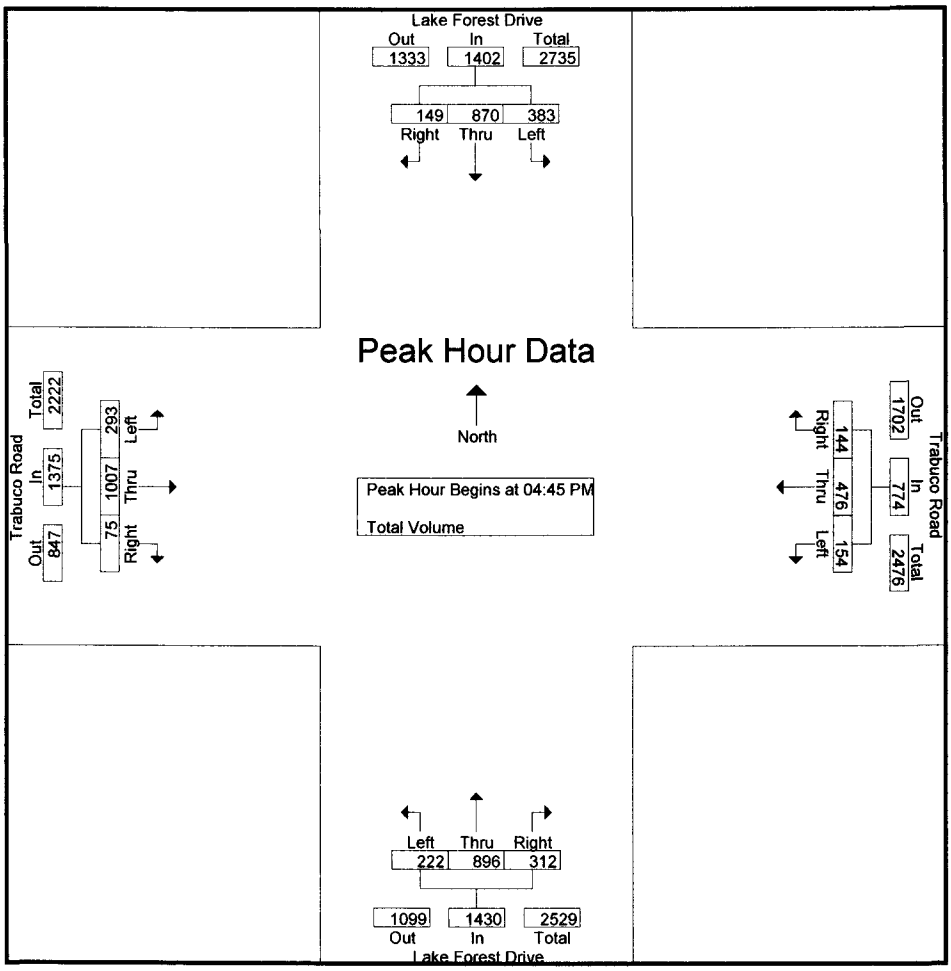

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:45 PM				04:15 PM				04:45 PM				05:00 PM			
+0 mins.	94	197	38	329	40	**134**	19	193	61	221	**85**	367	58	265	22	345
+15 mins.	92	**267**	**43**	**402**	37	121	34	192	47	200	75	322	73	259	**23**	355
+30 mins.	**109**	242	34	385	**44**	101	**45**	190	**66**	**259**	85	**410**	**84**	**266**	14	**364**
+45 mins.	88	164	34	286	39	134	36	**209**	48	216	67	331	71	235	14	320
Total Volume	383	870	149	1402	160	490	134	784	222	896	312	1430	286	1025	73	1384
% App. Total	27.3	62.1	10.6		20.4	62.5	17.1		15.5	62.7	21.8		20.7	74.1	5.3	
PHF	.878	.815	.866	.872	.909	.914	.744	.938	.841	.865	.918	.872	.851	.963	.793	.951

APPENDIX C

Explanation and Calculation of
Intersection Capacity Utilization/Delay

EXPLANATION AND CALCULATION OF
INTERSECTION CAPACITY UTILIZATION

Overview

The ability of a roadway to carry traffic is referred to as capacity. The capacity is usually greater between intersections and less at intersections because traffic flows continuously between them and only during the green phase at them. Capacity at intersections is best defined in terms of vehicles per lane per hour of green. If capacity is 1,600 vehicles per lane per hour of green, and if the green phase is 50 percent of the cycle and there are three lanes, then the capacity is 1,600 times 50 percent times 3 lanes, or 2,400 vehicles per hour for that approach.

The technique used to compare the volume and capacity at a signalized intersection is known as Intersection Capacity Utilization. Intersection Capacity Utilization, usually expressed as a percent, is the proportion of an hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity. If an intersection is operating at 80 percent of capacity (i.e., an Intersection Capacity Utilization of 80 percent), then 20 percent of the signal cycle is not used. The signal could show red on all indications 20 percent of the time and the signal would just accommodate approaching traffic.

Intersection Capacity Utilization analysis consists of (a) determining the proportion of signal time needed to serve each conflicting movement of traffic, (b) summing the times for the movements, and (c) comparing the total time required to the total time available. For example, if for north-south traffic the northbound traffic is 1,600 vehicles per hour, the southbound traffic is 1,200 vehicles per hour, and the capacity of either direction is 3,200 vehicles per hour, then the northbound traffic is critical and requires 1,600/3,200 or 50 percent of the signal time. If for east-west traffic, 30 percent of the signal time is required, then it can be seen that the Intersection Capacity Utilization is 50 plus 30, or 80 percent. When left turn arrows (left turn phasing) exist, they are incorporated into the analysis. The critical movements are usually the heavy left turn movements and the opposing through movements.

The Intersection Capacity Utilization technique is an ideal tool to quantify existing as well as future intersection operation. The impact of adding a lane can be quickly determined by examining the effect the lane has on the Intersection Capacity Utilization.

Intersection Capacity Utilization Worksheets That Follow This Discussion

The Intersection Capacity Utilization worksheet table contains the following information:

1. Peak hour turning movement volumes.
2. Number of lanes that serve each movement.
3. For right turn lanes, whether the lane is a free right turn lane, whether it has a right turn arrow, and the percent of right turns on red that are assumed.
4. Capacity assumed per lane.
5. Capacity available to serve each movement (number of lanes times capacity per lane).
6. Volume to capacity ratio for each movement.
7. Whether the movement's volume to capacity ratio is critical and adds to the Intersection Capacity Utilization value.
8. The yellow time or clearance interval assumed.
9. Adjustments for right turn movements.
10. The Intersection Capacity Utilization and Level of Service.

The Intersection Capacity Utilization Worksheet also has two graphics on the same page. These two graphics show the following:

1. Peak hour turning movement volumes.
2. Number of lanes that serve each movement.
3. The approach and exit leg volumes.
4. The two-way leg volumes.
5. An estimate of daily traffic volumes that is fairly close to actual counts and is based strictly on the peak hour leg volumes multiplied by a factor.

6. Percent of daily traffic in peak hours.

7. Percent of peak hour leg volume that is inbound versus outbound.

A more detailed discussion of Intersection Capacity Utilization and Level of Service follows.

Level of Service

Level of Service is used to describe the quality of traffic flow. Levels of Service A to C operate quite well. Level of Service C is typically the standard to which rural roadways are designed.

Level of Service D is characterized by fairly restricted traffic flow. Level of Service D is the standard to which urban roadways are typically designed. Level of Service E is the maximum volume a facility can accommodate and will result in possible stoppages of momentary duration. Level of Service F occurs when a facility is overloaded and is characterized by stop-and-go traffic with stoppages of long duration.

A description of the various Levels of Service appears at the end of the Intersection Capacity Utilization description, along with the relationship between Intersection Capacity Utilization and Level of Service.

Signalized Intersections

Although calculating an Intersection Capacity Utilization value for an unsignalized intersection is invalid, the presumption is that a signal can be installed and the calculation shows whether the geometrics are capable of accommodating the expected volumes with a signal. A traffic signal becomes warranted before Level of Service D is reached for a signalized intersection.

Signal Timing

The Intersection Capacity Utilization calculation assumes that a signal is properly timed. It is possible to have an Intersection Capacity Utilization well below 100 percent, yet have severe traffic congestion. This would occur if one or more movements is not getting sufficient green time to satisfy its demand, and excess green time exists on other movements. This is an operational problem that should be remedied.

Lane Capacity

Capacity is often defined in terms of roadway width; however, standard lanes have approximately the same capacity whether they are 11 or 14 feet wide. Our data indicates a typical lane, whether a through lane or a left turn lane, has a capacity of approximately 1,750 vehicles per hour of green time, with nearly all locations showing a capacity greater than 1,600 vehicles per hour of green per lane. Right turn lanes have a slightly lower capacity; however 1,600 vehicles per hour is a valid capacity assumption for right turn lanes.

This finding is published in the August 1978 issue of Institute of Transportation Engineers Journal in the article entitled, "Another Look at Signalized Intersection Capacity" by William Kunzman. A capacity of 1,600 vehicles per hour per lane with no yellow time penalty, or 1,700 vehicles per hour with a 3 or 5 percent yellow time penalty is reasonable.

Yellow Time

The yellow time can either be assumed to be completely used and no penalty applied, or it can be assumed to be only partially usable. Total yellow time accounts for approximately 10 percent of a signal cycle, and a penalty of 3 to 5 percent is reasonable.

During peak hour traffic operation the yellow times are nearly completely used. If there is no left turn phasing, the left turn vehicles completely use the yellow time. Even if there is left turn phasing, the through traffic continues to enter the intersection on the yellow until just a split second before the red.

Shared Lanes

Shared lanes occur in many locations. A shared lane is often found at the end of an off ramp where the ramp forms an intersection with the cross street. Often at a diamond interchange off ramp, there are three lanes. In the case of a diamond interchange, the middle lane is sometimes shared, and the driver can turn left, go through, or turn right from that lane.

If one assumes a three lane off ramp as described above, and if one assumes that each lane has 1,600 capacity, and if one assumes that there are 1,000 left turns per hour, 500 right turns per hour, and 100 through vehicles per hour, then how should one assume that the three lanes operate. There are three ways that it is done.

One way is to just assume that all 1,600 vehicles (1,000 plus 500 plus 100) are served simultaneously by three lanes. When this is done, the capacity is 3 times 1,600 or 4,800, and the amount of green time needed to serve the ramp is 1,600 vehicles divided by 4,800 capacity or 33.3 percent. This assumption effectively assumes perfect lane distribution between the three lanes that is not realistic. It also means a left turn can be made from the right lane.

Another way is to equally split the capacity of a shared lane and in this case to assume there are 1.33 left turn lanes, 1.33 right turn lanes, and 0.33 through lanes. With this assumption, the critical movement is the left turns and the 1,000 left turns are served by a capacity of 1.33 times 1,600, or 2,133. The volume to capacity ratio of the critical move is 1,000 divided by 2,133 or 46.9 percent.

The first method results in a critical move of 33.3 percent and the second method results in a critical move of 46.9 percent. Neither is very accurate, and the difference in the calculated Level of Service will be approximately 1.5 Levels of Service (one Level of Service is 10 percent).

The way Kunzman Associates, Inc. does it is to assign fractional lanes in a reasonable way. In this example, it would be assumed that there is 1.1 right turn lanes, 0.2 through lanes, and 1.7 left turn lanes. The volume to capacity ratios for each movement would be 31.3 percent for the through traffic, 28.4 percent for the right turn movement, and 36.8 percent for the left turn movement. The critical movement would be the 36.8 percent for the left turns.

Right Turn on Red

Kunzman Associates, Inc.'s software treats right turn lanes in one of five different ways. Each right turn lane is classified into one of five cases. The five cases are (1) free right turn lane, (2) right turn lane with separate right turn arrow, (3) standard right turn lane with no right turns on red allowed, (4) standard right turn lane with a certain percentage of right turns on red allowed, and (5) separate right turn arrow and a certain percentage of right turns on red allowed.

Free Right Turn Lane

If it is a free right turn lane, then it is given a capacity of one full lane with continuous or 100 percent green time. A Free right turn lane occurs when there is a separate approach lane for right turning vehicles, there is a separate departure lane for the right turning vehicles after they turn and are exiting the intersection, and the through cross street traffic does not interfere with the vehicles after they turn right.

Separate Right Turn Arrow

If there is a separate right turn arrow, then it is assumed that vehicles are given a green indication and can proceed on what is known as the left turn overlap.

The left turn overlap for a northbound right turn is the westbound left turn. When the left turn overlap has a green indication, the right turn lane is also given a green arrow indication. Thus, if there is a northbound right turn arrow, then it can be turned green for the period of time that the westbound left turns are proceeding.

If there are more right turns than can be accommodated during the northbound through green and the time that the northbound right turn arrow is on, then an adjustment is made to the Intersection Capacity Utilization to account for the green time that needs to be added to the northbound through green to accommodate the northbound right turns.

Standard Right Turn Lane, No Right Turns on Red

A standard right turn lane, with no right turn on red assumed, proceeds only when there is a green indication displayed for the adjacent through movement. If additional green time is needed above that amount of time, then in the Intersection Capacity Utilization calculation a right turn adjustment green time is added above the green time that is needed to serve the adjacent through movement.

Standard Right Turn Lane, With Right Turns on Red

A standard right turn lane with say 20 percent of the right turns allowed to turn right on a red indication is calculated the same as the standard right turn case where there is no right turn on red allowed, except that the right turn adjustment is reduced to account for the 20 percent of the right turning vehicles that can logically turn right on a red light. The right turns on red are never allowed to exceed the time the overlap left turns take plus the unused part of the green cycle that the cross street traffic moving from left to right has.

As an example of how 20 percent of the cars are allowed to turn right on a red indication, assume that the northbound right turn volume needs 40 percent of the signal cycle to be satisfied. To allow 20 percent of the northbound right turns to turn right on red, then during 8 percent of the signal cycle (40 percent of signal cycle times 20 percent that can turn right on red) right turns on red will be allowed if it is feasible.

For this example, assume that 15 percent of the signal cycle is green for the northbound through traffic, and that means that 15 percent of the signal cycle is

available to satisfy northbound right turns. After the northbound through traffic has received its green, 25 percent of the signal cycle is still needed to satisfy the northbound right turns (40 percent of the signal cycle minus the 15 percent of the signal cycle that the northbound through used).

Assume that the westbound left turns require a green time of 6 percent of the signal cycle. This 6 percent of the signal cycle is used by northbound right turns on red. After accounting for the northbound right turns that occur on the westbound overlap left turn, 19 percent of the signal cycle is still needed for the northbound right turns (25 percent of the cycle was needed after the northbound through green time was accounted for [see above paragraph], and 6 percent was served during the westbound left turn overlap). Also, at this point 6 percent of the signal cycle has been used for northbound right turns on red, and still 2 percent more of the right turns will be allowed to occur on the red if there is unused eastbound through green time.

For purpose of this example, assume that the westbound through green is critical, and that 15 percent of the signal cycle is unused by eastbound through traffic. Thus, 2 percent more of the signal cycle can be used by the northbound right turns on red since there is 15 seconds of unused green time being given to the eastbound through traffic.

At this point, 8 percent of the signal cycle was available to serve northbound right turning vehicles on red, and 15 percent of the signal cycle was available to serve right turning vehicles on the northbound through green. So 23 percent of the signal cycle has been available for northbound right turns.

Because 40 percent of the signal cycle is needed to serve northbound right turns, there is still a need for 17 percent more of the signal cycle to be available for northbound right turns. What this means is the northbound through traffic green time is increased by 17 percent of the cycle length to serve the unserved right turn volume, and a 17 percent adjustment is added to the Intersection Capacity Utilization to account for the northbound right turns that were not served on the northbound through green time or when right turns on red were assumed.

Separate Right Turn Arrow, With Right Turns on Red

A right turn lane with a separate right turn arrow, plus a certain percentage of right turns allowed on red is calculated the same way as a standard right turn lane with a certain percentage of right turns allowed on red, except the turns which occur on the right turn arrow are not counted as part of the percentage of right turns that occur on red.

Critical Lane Method

Intersection Capacity Utilization parallels another calculation procedure known as the Critical Lane Method with one exception. Critical Lane Method dimensions capacity in terms of standardized vehicles per hour per lane. A Critical Lane Method result of 800 vehicles per hour means that the intersection operates as though 800 vehicles were using a single lane continuously. If one assumes a lane capacity of 1,600 vehicles per hour, then a Critical Lane Method calculation resulting in 800 vehicles per hour is the same as an Intersection Capacity Utilization calculation of 50 percent since 800/1,600 is 50 percent. It is our opinion that the Critical Lane Method is inferior to the Intersection Capacity Utilization method simply because a statement such as "The Critical Lane Method value is 800 vehicles per hour" means little to most persons, whereas a statement such as "The Intersection Capacity Utilization is 50 percent" communicates clearly. Critical Lane Method results directly correspond to Intersection Capacity Utilization results. The correspondence is as follows, assuming a lane capacity of 1,600 vehicles per hour and no clearance interval.

Critical Lane Method Result	Intersection Capacity Utilization Result
800 vehicles per hour	50 percent
960 vehicles per hour	60 percent
1,120 vehicles per hour	70 percent
1,280 vehicles per hour	80 percent
1,440 vehicles per hour	90 percent
1,600 vehicles per hour	100 percent
1,760 vehicles per hour	110 percent

INTERSECTION CAPACITY UTILIZATION
LEVEL OF SERVICE DESCRIPTION[1]

Level of Service	Description	Volume to Capacity Ratio
A	Level of Service A occurs when progression is extremely favorable and vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	0.600 and below
B	Level of Service B generally occurs with good progression and/or short cycle lengths. More vehicles stop than for Level of Service A, causing higher levels of average delay.	0.601 to 0.700
C	Level of Service C generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.	0.701 to 0.800
D	Level of Service D generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	0.801 to 0.900
E	Level of Service E is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume to capacity ratios. Individual cycle failures are frequent.	0.901 to 1.000
F	Level of Service F is considered to be unacceptable to most drivers. This condition often occurs when oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume to capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.	1.001 and up

[1]Source: Highway Capacity Manual Special Report 209, Transportation Research Board, National Research Council Washington D.C., 2000.

EXPLANATION AND CALCULATION OF INTERSECTION LEVEL OF SERVICE USING DELAY METHODOLOGY

The levels of service at the unsignalized intersections are calculated using the delay methodology in the 2000 Highway Capacity Manual. This methodology views an intersection as consisting of several lane groups. A lane group is a set of lanes serving a movement. If there are two northbound left turn lanes, then the lane group serving the northbound left turn movement has two lanes. Similarly, there may be three lanes in the lane group serving the northbound through movement, one lane in the lane group serving the northbound right turn movement, and so forth. It is also possible for one lane to serve two lane groups. A shared lane might result in there being 1.5 lanes in the northbound left turn lane group and 2.5 lanes in the northbound through lane group.

For each lane group, there is a capacity. That capacity is calculated by multiplying the number of lanes in the lane group times a theoretical maximum lane capacity per lane times 12 adjustment factors.

Each of the 12 adjustment factors has a value of approximately 1.00. A value less than 1.00 is generally assigned when a less than desirable condition occurs.

The 12 adjustment factors are as follows:

1. Peak hour factor (to account for peaking within the peak hour)
2. Lane utilization factor (to account for not all lanes loading equally)
3. Lane width
4. Percent of heavy trucks
5. Approach grade
6. Parking
7. Bus stops at intersections
8. Area type (CBD or other)
9. Right turns
10. Left turns

11. Pedestrian activity

12. Signal progression

The maximum theoretical lane capacity and the 12 adjustment factors for it are all unknowns for which approximate estimates have been recommended in the 2000 Highway Capacity Manual. For the most part, the recommended values are not based on statistical analysis but rather on educated estimates. However, it is possible to use the delay method and get reasonable results as will be discussed below.

Once the lane group volume is known and the lane group capacity is known, a volume to capacity ratio can be calculated for the lane group.

With a volume to capacity ratio calculated, average delay per vehicle in a lane group can be estimated. The average delay per vehicle in a lane group is calculated using a complex formula provided by the 2000 Highway Capacity Manual, which can be simplified and described as follows:

Delay per vehicle in a lane group is a function of the following:

1. Cycle length

2. Amount of red time faced by a lane group

3. Amount of yellow time for that lane group

4. The volume to capacity ratio of the lane group

The average delay per vehicle for each lane group is calculated, and eventually an overall average delay for all vehicles entering the intersection is calculated. This average delay per vehicle is then used to judge Level of Service. The Level of Services are defined in the table that follows this discussion.

Experience has shown that when a maximum lane capacity of 1,900 vehicles per hour is used (as recommended in the 2000 Highway Capacity Manual), little or no yellow time penalty is used, and none of the 12 penalty factors are applied, calculated delay is realistic. The delay calculation for instance assumes that yellow time is totally unused. Yet experience shows that most of the yellow time is used.

An idiosyncrasy of the delay methodology is that it is possible to add traffic to an intersection and reduce the average total delay per vehicle. If the average total delay is 30 seconds per vehicle for all vehicles traveling through an intersection, and traffic is

added to a movement that has an average total delay of 15 seconds per vehicle, then the overall average total delay is reduced.

The delay calculation for a lane group is based on a concept that the delay is a function of the amount of unused capacity available. As the volume approaches capacity and there is no more unused capacity available, then the delay rapidly increases. Delay is not proportional to volume, but rather increases rapidly as the unused capacity approaches zero.

Because delay is not linearly related to volumes, the delay does not reflect how close an intersection is to overloading. If an intersection is operating at Level of Service C and has an average total delay of 18 seconds per vehicle, you know very little as to what percent the traffic can increase before Level of Service E is reached.

DELAY LEVEL OF SERVICE DESCRIPTION[1]

Level of Service	Description	Average Total Delay Per Vehicle (Seconds)	
		Signalized	Unsignalized
A	Level of Service A occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	0 to 10.00	0 to 10.00
B	Level of Service B generally occurs with good progression and/or short cycle lengths. More vehicles stop than for Level of Service A, causing higher levels of average total delay.	10.01 to 20.00	10.01 to 15.00
C	Level of Service C generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.	20.01 to 35.00	15.01 to 25.00
D	Level of Service D generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	35.01 to 55.00	25.01 to 35.00
E	Level of Service E is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume to capacity ratios. Individual cycle failures are frequent occurrences.	55.01 to 80.00	35.01 to 50.00
F	Level of Service F is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume to capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.	80.01 and up	50.01 and up

[1] Source: Highway Capacity Manual Special Report 209, Transportation Research Board, National Research Council, Washington, D.C., 2000.

Existing

TTM 15594
Morning Peak Hour
Existing

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

Intersection #1 Bake Parkway (NS) at Irvine Boulevard/Trabuco Road (EW) - #1

Cycle (sec):	100	Critical Vol./Cap.(X):	0.767
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	C

Street Name:	Bake Parkway						Irvine Boulevard/Trabuco Road					
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
Lanes:	2 0 2	1	0	2 0 3	0	1	2 0 3	0	1	2 0 3	0	1
Volume Module:												
Base Vol:	249 1736		130	45 1065		446	515	172	90	687	982	113
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:	249 1736		130	45 1065		446	515	172	90	687	982	113
User Adj:	1.00 1.00		0.75	1.00 1.00		0.75	1.00	1.00	0.75	1.00	1.00	0.75
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:	249 1736		98	45 1065		335	515	172	68	687	982	85
Reduct Vol:	0 0		0	0 0		0	0	0	0	0	0	0
Reduced Vol:	249 1736		98	45 1065		335	515	172	68	687	982	85
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:	249 1736		98	45 1065		335	515	172	68	687	982	85
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 2.84		0.16	2.00 3.00		1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3400 4829		271	3400 5100		1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.07 0.36		0.36	0.01 0.21		0.20	0.15	0.03	0.04	0.20	0.19	0.05
Crit Moves:	****			****			****				****	

TTM 15594
Evening Peak Hour
Existing

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

Intersection #1 Bake Parkway (NS) at Irvine Boulevard/Trabuco Road (EW) - #1

Cycle (sec):	100	Critical Vol./Cap.(X):	0.688
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	B

Street Name:	Bake Parkway						Irvine Boulevard/Trabuco Road					
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
Lanes:	2 0 2	1	0	2 0 3	0	1	2 0 3	0	1	2 0 3	0	1
Volume Module:												
Base Vol:	124 1244		586	217 1466		659	515	805	167	294	372	40
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:	124 1244		586	217 1466		659	515	805	167	294	372	40
User Adj:	1.00 1.00		0.75	1.00 1.00		0.75	1.00	1.00	0.75	1.00	1.00	0.75
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:	124 1244		440	217 1466		494	515	805	125	294	372	30
Reduct Vol:	0 0		0	0 0		0	0	0	0	0	0	0
Reduced Vol:	124 1244		440	217 1466		494	515	805	125	294	372	30
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:	124 1244		440	217 1466		494	515	805	125	294	372	30
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 2.22		0.78	2.00 3.00		1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3400 3769		1331	3400 5100		1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.04 0.33		0.33	0.06 0.29		0.29	0.15	0.16	0.07	0.09	0.07	0.02
Crit Moves:	****			****				****		****		

TTM 15594
Morning Peak Hour
Existing

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

Intersection #2 Peachwood (NS) at Tamarisk (EW) - #2

Average Delay (sec/veh): 3.6 Worst Case Level Of Service: A[8.9]

Street Name:	Peachwood						Tamarisk					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2 0 0			0 0 1 1 0			1 0 0 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	15	24	0	0	119	1	1	0	86	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:	15	24	0	0	119	1	1	0	86	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:	15	24	0	0	119	1	1	0	86	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	15	24	0	0	119	1	1	0	86	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	120	xxxx	xxxxx	xxxx	xxxx	xxxxx	162	xxxx	60	xxxx	xxxx	xxxxx
Potent Cap.:	1480	xxxx	xxxxx	xxxx	xxxx	xxxxx	819	xxxx	999	xxxx	xxxx	xxxxx
Move Cap.:	1480	xxxx	xxxxx	xxxx	xxxx	xxxxx	813	xxxx	999	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	0.09	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	0.3	xxxx	xxxx	xxxxx
Control Del:	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.4	xxxx	8.9	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	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			xxxxxx			8.9			xxxxxx		
ApproachLOS:	*			*			A			*		

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

TTM 15594
Evening Peak Hour
Existing

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

Intersection #2 Peachwood (NS) at Tamarisk (EW) - #2

Average Delay (sec/veh): 2.2 Worst Case Level Of Service: A[8.5]

Street Name:	Peachwood								Tamarisk							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	1	0	2	0	0	0	0	1	1	0	1	0	0	0	1	0	0	0	0	0
Volume Module:																				
Base Vol:	61	185		0		0	39		1		1		0		28	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:	61	185		0		0	39		1		1		0		28	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:	61	185		0		0	39		1		1		0		28	0		0		0
Reduct Vol:	0	0		0		0	0		0		0		0		0	0		0		0
FinalVolume:	61	185		0		0	39		1		1		0		28	0		0		0
Critical Gap Module:																				
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx								
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx								
Capacity Module:																				
Cnflict Vol:	40	xxxx	xxxxx	xxxx	xxxx	xxxxx	254	xxxx	20	xxxx	xxxx	xxxxx								
Potent Cap.:	1583	xxxx	xxxxx	xxxx	xxxx	xxxxx	718	xxxx	1060	xxxx	xxxx	xxxxx								
Move Cap.:	1583	xxxx	xxxxx	xxxx	xxxx	xxxxx	697	xxxx	1060	xxxx	xxxx	xxxxx								
Volume/Cap:	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	0.03	xxxx	xxxx	xxxx								
Level Of Service Module:																				
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	0.1	xxxx	xxxx	xxxxx								
Control Del:	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.2	xxxx	8.5	xxxxx	xxxx	xxxxx								
LOS by Move:	A	*	*	*	*	*	B	*	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			xxxxxx			8.5			xxxxxx										
ApproachLOS:	*			*			A			*										

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

TTM 15594
Morning Peak Hour
Existing

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

Intersection #3 Peachwood (NS) at Calle Pradera (EW) - #3

Average Delay (sec/veh): 2.9 Worst Case Level Of Service: A[9.2]

Street Name:	Peachwood								Calle Pradera							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	1	0	2	0	0	0	0	1	1	0	1	0	0	0	1	0	0	0	0	0
Volume Module:																				
Base Vol:	31	35	0			0	188	1			1	0	80			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:	31	35	0			0	188	1			1	0	80			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:	31	35	0			0	188	1			1	0	80			0	0	0		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
FinalVolume:	31	35	0			0	188	1			1	0	80			0	0	0		
Critical Gap Module:																				
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx					6.8	xxxx		6.9	xxxxx	xxxx	xxxxx			
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx					3.5	xxxx		3.3	xxxxx	xxxx	xxxxx			
Capacity Module:																				
Cnflict Vol:	189	xxxx	xxxxx	xxxx	xxxx	xxxxx					268	xxxx		95	xxxx	xxxx	xxxxx			
Potent Cap.:	1397	xxxx	xxxxx	xxxx	xxxx	xxxxx					704	xxxx		950	xxxx	xxxx	xxxxx			
Move Cap.:	1397	xxxx	xxxxx	xxxx	xxxx	xxxxx					692	xxxx		950	xxxx	xxxx	xxxxx			
Volume/Cap:	0.02	xxxx	xxxx	xxxx	xxxx	xxxx					0.00	xxxx		0.08	xxxx	xxxx	xxxx			
Level Of Service Module:																				
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx					0.0	xxxx		0.3	xxxx	xxxx	xxxxx			
Control Del:	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx					10.2	xxxx		9.1	xxxxx	xxxx	xxxxx			
LOS by Move:	A	*		*	*	*					B	*		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					xxxxxx					9.2					xxxxxx				
ApproachLOS:	*					*					A					*				

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

TTM 15594
Evening Peak Hour
Existing

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

Intersection #3 Peachwood (NS) at Calle Pradera (EW) - #3

Average Delay (sec/veh): 2.0 Worst Case Level Of Service: A[8.7]

Street Name:	Peachwood						Calle Pradera					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2	0	0	0 0 1	1	0	1 0 0	0	1	0 0 0	0	0
Volume Module:												
Base Vol:	51 174	0		0 83	2		2	0	32	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:	51 174	0		0 83	2		2	0	32	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:	51 174	0		0 83	2		2	0	32	0	0	0
Reduct Vol:	0 0	0		0 0	0		0	0	0	0	0	0
FinalVolume:	51 174	0		0 83	2		2	0	32	0	0	0
Critical Gap Module:												
Critical Gp:	4.1 xxxx xxxxx	xxxxx		xxxx xxxxx	xxxxx		6.8 xxxx	xxxx	6.9	xxxxx xxxx	xxxxx	
FollowUpTim:	2.2 xxxx xxxxx	xxxxx		xxxx xxxxx	xxxxx		3.5 xxxx	xxxx	3.3	xxxxx xxxx	xxxxx	
Capacity Module:												
Cnflict Vol:	85 xxxx xxxxx	xxxx		xxxx xxxxx	xxxx		273 xxxx	xxxx	43	xxxx xxxx	xxxxx	
Potent Cap.:	1524 xxxx xxxxx	xxxx		xxxx xxxxx	xxxx		699 xxxx	xxxx	1025	xxxx xxxx	xxxxx	
Move Cap.:	1524 xxxx xxxxx	xxxx		xxxx xxxxx	xxxx		681 xxxx	xxxx	1025	xxxx xxxx	xxxxx	
Volume/Cap:	0.03 xxxx xxxx	xxxx		xxxx xxxx	xxxx		0.00 xxxx	xxxx	0.03	xxxx xxxx	xxxx	
Level Of Service Module:												
2Way95thQ:	0.1 xxxx xxxxx	xxxx		xxxx xxxxx	xxxx		0.0 xxxx	xxxx	0.1	xxxx xxxx	xxxxx	
Control Del:	7.4 xxxx xxxxx	xxxxx		xxxx xxxxx	xxxx		10.3 xxxx	xxxx	8.6	xxxxx xxxx	xxxxx	
LOS by Move:	A *	*		* *	*		B *	*	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			xxxxxx			8.7			xxxxxx		
ApproachLOS:	*			*			A			*		

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

TTM 15594
Morning Peak Hour
Existing

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

Intersection #4 Peachwood (NS) at Palmwood Drive (EW) - #4

Average Delay (sec/veh): 5.9 Worst Case Level Of Service: B[13.6]

Street Name:	Peachwood						Palmwood Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	1	0	1 0 2	0	0	0 0 0	0	0	1 0 0	0	1
Volume Module:												
Base Vol:	0	65	88	1	267	0	0	0	0	315	0	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:	0	65	88	1	267	0	0	0	0	315	0	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:	0	65	88	1	267	0	0	0	0	315	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	65	88	1	267	0	0	0	0	315	0	2
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	153	xxxx	xxxxx	xxxx	xxxx	xxxxx	245	xxxx	77
Potent Cap.:	xxxx	xxxx	xxxxx	1440	xxxx	xxxxx	xxxx	xxxx	xxxxx	728	xxxx	976
Move Cap.:	xxxx	xxxx	xxxxx	1440	xxxx	xxxxx	xxxx	xxxx	xxxxx	728	xxxx	976
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.43	xxxx	0.00
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	2.2	xxxx	0.0
Control Del:	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	13.7	xxxx	8.7
LOS by Move:	*	*	*	A	*	*	*	*	*	B	*	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			xxxxxx			xxxxxx			13.6		
ApproachLOS:	*			*			*			B		

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

TTM 15594
Evening Peak Hour
Existing

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

****

Intersection #4 Peachwood (NS) at Palmwood Drive (EW) - #4

****

Average Delay (sec/veh): 2.6 Worst Case Level Of Service: B[13.3]

****

Street Name:	Peachwood						Palmwood Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	1 0	0	1 0	2 0	0	0 0	0 0	0	1 0	0 0	1
Volume Module:												
Base Vol:	0 213	279		4 116		0	0 0		0	139	0	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:	0 213	279		4 116		0	0 0		0	139	0	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:	0 213	279		4 116		0	0 0		0	139	0	4
Reduct Vol:	0 0	0		0 0		0	0 0		0	0	0	0
FinalVolume:	0 213	279		4 116		0	0 0		0	139	0	4
Critical Gap Module:												
Critical Gp:	xxxxx xxxx xxxxx			4.1 xxxx xxxxx			xxxxx xxxx xxxxx			6.8 xxxx		6.9
FollowUpTim:	xxxxx xxxx xxxxx			2.2 xxxx xxxxx			xxxxx xxxx xxxxx			3.5 xxxx		3.3
Capacity Module:												
Cnflict Vol:	xxxx xxxx xxxxx			492 xxxx xxxxx			xxxx xxxx xxxxx			419 xxxx		246
Potent Cap.:	xxxx xxxx xxxxx			1082 xxxx xxxxx			xxxx xxxx xxxxx			568 xxxx		760
Move Cap.:	xxxx xxxx xxxxx			1082 xxxx xxxxx			xxxx xxxx xxxxx			566 xxxx		760
Volume/Cap:	xxxx xxxx xxxx			0.00 xxxx xxxx			xxxx xxxx xxxx			0.25 xxxx		0.01
Level Of Service Module:												
2Way95thQ:	xxxx xxxx xxxxx			0.0 xxxx xxxxx			xxxx xxxx xxxxx			1.0 xxxx		0.0
Control Del:	xxxxx xxxx xxxxx			8.3 xxxx xxxxx			xxxxx xxxx xxxxx			13.4 xxxx		9.8
LOS by Move:	* * *			A *		*	* *		*	B *		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			xxxxxx			xxxxxx			13.3		
ApproachLOS:	*			*			*			B		

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

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TTM 15594
Morning Peak Hour
Existing

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

Intersection #5 Peachwood (NS) at Trabuco Road (EW) - #5

Cycle (sec):	100	Critical Vol./Cap.(X):	0.442
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Street Name:	Peachwood						Trabucl Road					
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			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2 0	0	0 1	1 0	3	0 0	0 0	3	0 1
Volume Module:												
Base Vol:	0	0	0	355	0	244	33	499	0	0	1353	106
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	355	0	244	33	499	0	0	1353	106
User Adj:	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75
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	355	0	183	33	499	0	0	1353	80
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	355	0	183	33	499	0	0	1353	80
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	0	0	355	0	183	33	499	0	0	1353	80
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	0.00	0.00	2.00	0.00	1.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	0	3400	0	1700	1700	5100	0	0	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.10	0.00	0.11	0.02	0.10	0.00	0.00	0.27	0.05
Crit Moves:						****	****				****	

TTM 15594
Evening Peak Hour
Existing

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

Intersection #5 Peachwood (NS) at Trabuco Road (EW) - #5

Cycle (sec):	100	Critical Vol./Cap.(X):	0.376
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Street Name:	Peachwood						Trabucl Road					
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			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2 0	0	0 1	1 0	3	0 0	0 0	3	0 1
Volume Module:												
Base Vol:	0	0	0	182	0	72	226	1388	0	0	644	312
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	182	0	72	226	1388	0	0	644	312
User Adj:	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75
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	182	0	54	226	1388	0	0	644	234
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	182	0	54	226	1388	0	0	644	234
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	0	0	182	0	54	226	1388	0	0	644	234
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	0.00	0.00	2.00	0.00	1.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	0	3400	0	1700	1700	5100	0	0	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.03	0.13	0.27	0.00	0.00	0.13	0.14
Crit Moves:				****				****				

TTM 15594
Morning Peak Hour
Existing

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

Intersection #6 Lake Forest Drive (NS) at Trabuco Road (EW) - #6

Cycle (sec):	100	Critical Vol./Cap.(X):	0.551
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Street Name:	Lake Forest Drive						Trabucl Road					
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
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	313	1016	426	140	455	233	150	648	78	142	1102	159
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:	313	1016	426	140	455	233	150	648	78	142	1102	159
User Adj:	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75
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:	313	1016	320	140	455	175	150	648	59	142	1102	119
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	313	1016	320	140	455	175	150	648	59	142	1102	119
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:	313	1016	320	140	455	175	150	648	59	142	1102	119
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	3.00	1.00	2.00	2.17	0.83	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	3685	1415	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.09	0.20	0.19	0.04	0.12	0.12	0.04	0.13	0.03	0.04	0.22	0.07
Crit Moves:		****		****			****				****	

TTM 15594
Evening Peak Hour
Existing

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

Intersection #6 Lake Forest Drive (NS) at Trabuco Road (EW) - #6

Cycle (sec):	100	Critical Vol./Cap.(X):	0.581
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Street Name:	Lake Forest Drive						Trabucl Road					
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
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	222	896	312	383	870	149	293	1007	75	154	476	144
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:	222	896	312	383	870	149	293	1007	75	154	476	144
User Adj:	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75
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:	222	896	234	383	870	112	293	1007	56	154	476	108
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	222	896	234	383	870	112	293	1007	56	154	476	108
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:	222	896	234	383	870	112	293	1007	56	154	476	108
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	3.00	1.00	2.00	2.66	0.34	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	4519	581	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.18	0.14	0.11	0.19	0.19	0.09	0.20	0.03	0.05	0.09	0.06
Crit Moves:		****		****				****		****		

Existing Plus Project

TTM 15594
Morning Peak Hour
Existing Plus Project

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

Intersection #1 Bake Parkway (NS) at Irvine Boulevard/Trabuco Road (EW) - #1

Cycle (sec):	100	Critical Vol./Cap.(X):	0.769
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	C

Street Name:	Bake Parkway						Irvine Boulevard/Trabuco Road					
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
Lanes:	2 0 2	1	0	2 0 3	0	1	2 0 3	0	1	2 0 3	0	1
Volume Module:												
Base Vol:	249 1736		130	45 1065		446	515	172	90	687	982	113
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:	249 1736		130	45 1065		446	515	172	90	687	982	113
Added Vol:	0 0		3	2 0		0	0	2	0	10	7	5
PasserByVol:	0 0		0	0 0		0	0	0	0	0	0	0
Initial Fut:	249 1736		133	47 1065		446	515	174	90	697	989	118
User Adj:	1.00 1.00		0.75	1.00 1.00		0.75	1.00	1.00	0.75	1.00	1.00	0.75
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:	249 1736		100	47 1065		335	515	174	68	697	989	89
Reduct Vol:	0 0		0	0 0		0	0	0	0	0	0	0
Reduced Vol:	249 1736		100	47 1065		335	515	174	68	697	989	89
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:	249 1736		100	47 1065		335	515	174	68	697	989	89
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 2.84		0.16	2.00 3.00		1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3400 4823		277	3400 5100		1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.07 0.36		0.36	0.01 0.21		0.20	0.15	0.03	0.04	0.21	0.19	0.05
Crit Moves:		****			****			****			****	

TTM 15594
Evening Peak Hour
Existing Plus Project

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

Intersection #1 Bake Parkway (NS) at Irvine Boulevard/Trabuco Road (EW) - #1

Cycle (sec):	100	Critical Vol./Cap.(X):	0.695
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	B

Street Name:	Bake Parkway						Irvine Boulevard/Trabuco Road					
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
Lanes:	2 0 2	1	0	2 0 3	0	1	2 0 3	0	1	2 0 3	0	1
Volume Module:												
Base Vol:	124 1244	586		217 1466	659		515 805	167		294 372	40	
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:	124 1244	586		217 1466	659		515 805	167		294 372	40	
Added Vol:	0 0	11		5 0	0		0 8	0		6 5	3	
PasserByVol:	0 0	0		0 0	0		0 0	0		0 0	0	
Initial Fut:	124 1244	597		222 1466	659		515 813	167		300 377	43	
User Adj:	1.00 1.00	0.75		1.00 1.00	0.75		1.00 1.00	0.75		1.00 1.00	0.75	
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:	124 1244	448		222 1466	494		515 813	125		300 377	32	
Reduct Vol:	0 0	0		0 0	0		0 0	0		0 0	0	
Reduced Vol:	124 1244	448		222 1466	494		515 813	125		300 377	32	
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:	124 1244	448		222 1466	494		515 813	125		300 377	32	
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 2.21	0.79		2.00 3.00	1.00		2.00 3.00	1.00		2.00 3.00	1.00	
Final Sat.:	3400 3750	1350		3400 5100	1700		3400 5100	1700		3400 5100	1700	
Capacity Analysis Module:												
Vol/Sat:	0.04 0.33	0.33		0.07 0.29	0.29		0.15 0.16	0.07		0.09 0.07	0.02	
Crit Moves:	****			****			****			****		

TTM 15594
Morning Peak Hour
Existing Plus Project

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

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Intersection #2 Peachwood (NS) at Tamarisk (EW) - #2

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Average Delay (sec/veh): 2.9 Worst Case Level Of Service: A[9.1]

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Street Name:	Peachwood						Tamarisk					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2 0 0			0 0 1 1 0			1 0 0 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	15	24	0	0	119	1	1	0	86	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:	15	24	0	0	119	1	1	0	86	0	0	0
Added Vol:	0	16	0	0	48	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	40	0	0	167	1	1	0	86	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:	15	40	0	0	167	1	1	0	86	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	15	40	0	0	167	1	1	0	86	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	168	xxxx	xxxxx	xxxx	xxxx	xxxxx	218	xxxx	84	xxxx	xxxx	xxxxx
Potent Cap.:	1422	xxxx	xxxxx	xxxx	xxxx	xxxxx	757	xxxx	965	xxxx	xxxx	xxxxx
Move Cap.:	1422	xxxx	xxxxx	xxxx	xxxx	xxxxx	751	xxxx	965	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	0.09	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	0.3	xxxx	xxxx	xxxxx
Control Del:	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.8	xxxx	9.1	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	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			xxxxxx			9.1			xxxxxx		
ApproachLOS:	*			*			A			*		

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

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TTM 15594
Evening Peak Hour
Existing Plus Project

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

****

Intersection #2 Peachwood (NS) at Tamarisk (EW) - #2

****

Average Delay (sec/veh): 1.8 Worst Case Level Of Service: A[8.6]

****

Street Name:	Peachwood						Tamarisk					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2	0 0		0 0 1	1 0		1 0 0	0 1		0 0 0	0 0	
Volume Module:												
Base Vol:	61	185	0	0	39	1	1	0	28	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:	61	185	0	0	39	1	1	0	28	0	0	0
Added Vol:	0	54	0	0	31	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	239	0	0	70	1	1	0	28	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:	61	239	0	0	70	1	1	0	28	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	61	239	0	0	70	1	1	0	28	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	71	xxxx	xxxxx	xxxx	xxxx	xxxxx	312	xxxx	36	xxxx	xxxx	xxxxx
Potent Cap.:	1542	xxxx	xxxxx	xxxx	xxxx	xxxxx	661	xxxx	1036	xxxx	xxxx	xxxxx
Move Cap.:	1542	xxxx	xxxxx	xxxx	xxxx	xxxxx	641	xxxx	1036	xxxx	xxxx	xxxxx
Volume/Cap:	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	0.03	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	0.1	xxxx	xxxx	xxxxx
Control Del:	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.6	xxxx	8.6	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	B	*	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			xxxxxx			8.6			xxxxxx		
ApproachLOS:	*			*			A			*		

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

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TTM 15594
Morning Peak Hour
Existing Plus Project

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

Intersection #3 Peachwood (NS) at Calle Pradera (EW) - #3

Average Delay (sec/veh): 2.5 Worst Case Level Of Service: A[9.3]

Street Name:	Peachwood						Calle Pradera					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2	0	0	0 0 1	1	0	1 0 0	0	1	0 0 0	0	0
Volume Module:												
Base Vol:	31	35	0	0	188	1	1	0	80	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:	31	35	0	0	188	1	1	0	80	0	0	0
Added Vol:	0	16	0	0	48	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	31	51	0	0	236	1	1	0	80	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:	31	51	0	0	236	1	1	0	80	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	31	51	0	0	236	1	1	0	80	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	237	xxxx	xxxxx	xxxx	xxxx	xxxxx	324	xxxx	119	xxxx	xxxx	xxxxx
Potent Cap.:	1342	xxxx	xxxxx	xxxx	xxxx	xxxxx	650	xxxx	917	xxxx	xxxx	xxxxx
Move Cap.:	1342	xxxx	xxxxx	xxxx	xxxx	xxxxx	639	xxxx	917	xxxx	xxxx	xxxxx
Volume/Cap:	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	0.09	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	0.3	xxxx	xxxx	xxxxx
Control Del:	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.6	xxxx	9.3	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	B	*	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			xxxxxx			9.3			xxxxxx		
ApproachLOS:	*			*			A			*		

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

TTM 15594
Evening Peak Hour
Existing Plus Project

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

****

Intersection #3 Peachwood (NS) at Calle Pradera (EW) - #3

****

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: A[8.8]

****

Street Name:	Peachwood						Calle Pradera					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2 0 0			0 0 1 1 0			1 0 0 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	51	174	0	0	83	2	2	0	32	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:	51	174	0	0	83	2	2	0	32	0	0	0
Added Vol:	0	54	0	0	31	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	51	228	0	0	114	2	2	0	32	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:	51	228	0	0	114	2	2	0	32	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	51	228	0	0	114	2	2	0	32	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	116	xxxx	xxxxx	xxxx	xxxx	xxxxx	331	xxxx	58	xxxx	xxxx	xxxxx
Potent Cap.:	1485	xxxx	xxxxx	xxxx	xxxx	xxxxx	644	xxxx	1002	xxxx	xxxx	xxxxx
Move Cap.:	1485	xxxx	xxxxx	xxxx	xxxx	xxxxx	627	xxxx	1002	xxxx	xxxx	xxxxx
Volume/Cap:	0.03	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	0.03	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	0.1	xxxx	xxxx	xxxxx
Control Del:	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.8	xxxx	8.7	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	B	*	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			xxxxxx			8.8			xxxxxx		
ApproachLOS:	*			*			A			*		

****

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

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TTM 15594
Morning Peak Hour
Existing Plus Project

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

****

Intersection #4 Peachwood (NS) at Palmwood Drive (EW) - #4

****

Average Delay (sec/veh): 5.8 Worst Case Level Of Service: B[14.5]

****

Street Name:	Peachwood						Palmwood Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	1 0		2 0 0			0 0 0	0 0		1 0 0	0 1	
Volume Module:												
Base Vol:	0	65	88	1	267	0	0	0	0	315	0	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:	0	65	88	1	267	0	0	0	0	315	0	2
Added Vol:	0	16	0	0	48	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	81	88	1	315	0	0	0	0	315	0	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:	0	81	88	1	315	0	0	0	0	315	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	81	88	1	315	0	0	0	0	315	0	2
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	169	xxxx	xxxxx	xxxx	xxxx	xxxxx	285	xxxx	85
Potent Cap.:	xxxx	xxxx	xxxxx	1421	xxxx	xxxxx	xxxx	xxxx	xxxxx	688	xxxx	964
Move Cap.:	xxxx	xxxx	xxxxx	1421	xxxx	xxxxx	xxxx	xxxx	xxxxx	688	xxxx	964
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.46	xxxx	0.00
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	2.4	xxxx	0.0
Control Del:	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	14.6	xxxx	8.7
LOS by Move:	*	*	*	A	*	*	*	*	*	B	*	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			xxxxxx			xxxxxx			14.5		
ApproachLOS:	*			*			*			B		

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

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TTM 15594
Evening Peak Hour
Existing Plus Project

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

****

Intersection #4 Peachwood (NS) at Palmwood Drive (EW) - #4

****

Average Delay (sec/veh): 2.5 Worst Case Level Of Service: B[14.5]

****

Street Name:	Peachwood						Palmwood Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	1	0	1 0	2	0 0	0 0	0	0 0	1 0	0	1
Volume Module:												
Base Vol:	0 213	279		4 116		0	0 0		0	139 0		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:	0 213	279		4 116		0	0 0		0	139 0		4
Added Vol:	0 54	0		0 31		0	0 0		0	0 0		0
PasserByVol:	0 0	0		0 0		0	0 0		0	0 0		0
Initial Fut:	0 267	279		4 147		0	0 0		0	139 0		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:	0 267	279		4 147		0	0 0		0	139 0		4
Reduct Vol:	0 0	0		0 0		0	0 0		0	0 0		0
FinalVolume:	0 267	279		4 147		0	0 0		0	139 0		4
Critical Gap Module:												
Critical Gp:	xxxxx xxxx xxxxx			4.1 xxxx xxxxx			xxxxx xxxx xxxxx			6.8 xxxx		6.9
FollowUpTim:	xxxxx xxxx xxxxx			2.2 xxxx xxxxx			xxxxx xxxx xxxxx			3.5 xxxx		3.3
Capacity Module:												
Cnflict Vol:	xxxx xxxx xxxxx			546 xxxx xxxxx			xxxx xxxx xxxxx			488 xxxx		273
Potent Cap.:	xxxx xxxx xxxxx			1033 xxxx xxxxx			xxxx xxxx xxxxx			514 xxxx		731
Move Cap.:	xxxx xxxx xxxxx			1033 xxxx xxxxx			xxxx xxxx xxxxx			512 xxxx		731
Volume/Cap:	xxxx xxxx xxxx			0.00 xxxx xxxx			xxxx xxxx xxxx			0.27 xxxx		0.01
Level Of Service Module:												
2Way95thQ:	xxxx xxxx xxxxx			0.0 xxxx xxxxx			xxxx xxxx xxxxx			1.1 xxxx		0.0
Control Del:	xxxxx xxxx xxxxx			8.5 xxxx xxxxx			xxxxx xxxx xxxxx			14.6 xxxx		10.0
LOS by Move:	* *	*		A *		*	* *		*	B *		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			xxxxxx			xxxxxx			14.5		
ApproachLOS:	*			*			*			B		

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

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TTM 15594
Morning Peak Hour
Existing Plus Project

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

Intersection #5 Peachwood (NS) at Trabuco Road (EW) - #5

Cycle (sec):	100	Critical Vol./Cap.(X):	0.456
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Street Name:	Peachwood						Trabucl Road					
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			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2 0	0	0 1	1 0	3	0 0	0 0	3	0 1
Volume Module:												
Base Vol:	0	0	0	355	0	244	33	499	0	0	1353	106
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	355	0	244	33	499	0	0	1353	106
Added Vol:	0	0	0	26	0	22	7	0	0	0	0	9
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	381	0	266	40	499	0	0	1353	115
User Adj:	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75
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	381	0	200	40	499	0	0	1353	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	381	0	200	40	499	0	0	1353	86
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	0	0	381	0	200	40	499	0	0	1353	86
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	0.00	0.00	2.00	0.00	1.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	0	3400	0	1700	1700	5100	0	0	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.11	0.00	0.12	0.02	0.10	0.00	0.00	0.27	0.05
Crit Moves:						****	****				****	

TTM 15594
Evening Peak Hour
Existing Plus Project

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

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Intersection #5 Peachwood (NS) at Trabuco Road (EW) - #5

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.406
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

****

Street Name:	Peachwood						Trabucl Road					
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			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2 0	0	0 1	1 0	3	0 0	0 0	3	0 1
Volume Module:												
Base Vol:	0	0	0	182	0	72	226	1388	0	0	644	312
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	182	0	72	226	1388	0	0	644	312
Added Vol:	0	0	0	17	0	14	24	0	0	0	0	30
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	199	0	86	250	1388	0	0	644	342
User Adj:	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75
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	199	0	65	250	1388	0	0	644	257
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	199	0	65	250	1388	0	0	644	257
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	0	0	199	0	65	250	1388	0	0	644	257
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	0.00	0.00	2.00	0.00	1.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	0	3400	0	1700	1700	5100	0	0	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.06	0.00	0.04	0.15	0.27	0.00	0.00	0.13	0.15
Crit Moves:				****			****					****

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TTM 15594
Morning Peak Hour
Existing Plus Project

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

Intersection #6 Lake Forest Drive (NS) at Trabuco Road (EW) - #6

Cycle (sec):	100	Critical Vol./Cap.(X):	0.553
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Street Name:	Lake Forest Drive						Trabucl Road					
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
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	313	1016	426	140	455	233	150	648	78	142	1102	159
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:	313	1016	426	140	455	233	150	648	78	142	1102	159
Added Vol:	3	0	0	0	0	2	5	12	10	0	4	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	316	1016	426	140	455	235	155	660	88	142	1106	159
User Adj:	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75
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:	316	1016	320	140	455	176	155	660	66	142	1106	119
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	316	1016	320	140	455	176	155	660	66	142	1106	119
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:	316	1016	320	140	455	176	155	660	66	142	1106	119
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	3.00	1.00	2.00	2.16	0.84	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	3676	1424	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.09	0.20	0.19	0.04	0.12	0.12	0.05	0.13	0.04	0.04	0.22	0.07
Crit Moves:		****			****			****			****	

TTM 15594
Evening Peak Hour
Existing Plus Project

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

Intersection #6 Lake Forest Drive (NS) at Trabuco Road (EW) - #6

Cycle (sec):	100	Critical Vol./Cap.(X):	0.583
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Street Name:	Lake Forest Drive						Trabucl Road					
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
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	222	896	312	383	870	149	293	1007	75	154	476	144
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:	222	896	312	383	870	149	293	1007	75	154	476	144
Added Vol:	11	0	0	0	0	5	3	8	6	0	14	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	233	896	312	383	870	154	296	1015	81	154	490	144
User Adj:	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75
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:	233	896	234	383	870	116	296	1015	61	154	490	108
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	233	896	234	383	870	116	296	1015	61	154	490	108
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:	233	896	234	383	870	116	296	1015	61	154	490	108
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	3.00	1.00	2.00	2.65	0.35	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	4502	598	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.18	0.14	0.11	0.19	0.19	0.09	0.20	0.04	0.05	0.10	0.06
Crit Moves:		****		****				****		****		

Opening Year (2015) Without Project

TTM 15594
Morning Peak Hour
Opening Year (2015) Without Project

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

Intersection #1 Bake Parkway (NS) at Irvine Boulevard/Trabuco Road (EW) - #1

Cycle (sec):	100	Critical Vol./Cap.(X):	0.807
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	D

Street Name:	Bake Parkway						Irvine Boulevard/Trabuco Road					
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
Lanes:	2 0 2	1	0	2 0 3	0	1	2 0 3	0	1	2 0 3	0	1
Volume Module:												
Base Vol:	249 1736		130	45 1065		446	515	172	90	687	982	113
Growth Adj:	1.06 1.06		1.06	1.06 1.06		1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	264 1840		138	48 1129		473	546	182	95	728	1041	120
Added Vol:	0 0		-3	-2 0		0	0	-2	0	-10	-7	-5
PasserByVol:	0 0		0	0 0		0	0	0	0	0	0	0
Initial Fut:	264 1840		135	46 1129		473	546	180	95	718	1034	115
User Adj:	1.00 1.00		0.75	1.00 1.00		0.75	1.00	1.00	0.75	1.00	1.00	0.75
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:	264 1840		101	46 1129		355	546	180	72	718	1034	86
Reduct Vol:	0 0		0	0 0		0	0	0	0	0	0	0
Reduced Vol:	264 1840		101	46 1129		355	546	180	72	718	1034	86
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:	264 1840		101	46 1129		355	546	180	72	718	1034	86
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 2.84		0.16	2.00 3.00		1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3400 4834		266	3400 5100		1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.08 0.38		0.38	0.01 0.22		0.21	0.16	0.04	0.04	0.21	0.20	0.05
Crit Moves:	****			****			****				****	

TTM 15594
Evening Peak Hour
Opening Year (2015) Without Project

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

Intersection #1 Bake Parkway (NS) at Irvine Boulevard/Trabuco Road (EW) - #1

Cycle (sec):	100	Critical Vol./Cap.(X):	0.720
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	C

Street Name:	Bake Parkway						Irvine Boulevard/Trabuco Road					
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
Lanes:	2 0	2 1	0	2 0	3 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	124	1244	586	217	1466	659	515	805	167	294	372	40
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	131	1319	621	230	1554	699	546	853	177	312	394	42
Added Vol:	0	0	-11	-5	0	0	0	-8	0	-6	-5	-3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	131	1319	610	225	1554	699	546	845	177	306	389	39
User Adj:	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75
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:	131	1319	458	225	1554	524	546	845	133	306	389	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	131	1319	458	225	1554	524	546	845	133	306	389	30
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:	131	1319	458	225	1554	524	546	845	133	306	389	30
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	2.23	0.77	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3400	3786	1314	3400	5100	1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.04	0.35	0.35	0.07	0.30	0.31	0.16	0.17	0.08	0.09	0.08	0.02
Crit Moves:		****		****				****		****		

TTM 15594
Morning Peak Hour
Opening Year (2015) Without Project

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

Intersection #2 Peachwood (NS) at Tamarisk (EW) - #2

Average Delay (sec/veh): 3.6 Worst Case Level Of Service: A[9.0]

Street Name:	Peachwood						Tamarisk					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2 0 0			0 0 1 1 0			1 0 0 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	15	24	0	0	119	1	1	0	86	0	0	0
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	16	25	0	0	126	1	1	0	91	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:	16	25	0	0	126	1	1	0	91	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:	16	25	0	0	126	1	1	0	91	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	16	25	0	0	126	1	1	0	91	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	127	xxxx	xxxxx	xxxx	xxxx	xxxxx	171	xxxx	64	xxxx	xxxx	xxxxx
Potent Cap.:	1471	xxxx	xxxxx	xxxx	xxxx	xxxxx	808	xxxx	994	xxxx	xxxx	xxxxx
Move Cap.:	1471	xxxx	xxxxx	xxxx	xxxx	xxxxx	801	xxxx	994	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	0.09	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	0.3	xxxx	xxxx	xxxxx
Control Del:	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.5	xxxx	9.0	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	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			xxxxxx			9.0			xxxxxx		
ApproachLOS:	*			*			A			*		

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

TTM 15594
Evening Peak Hour
Opening Year (2015) Without Project

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

Intersection #2 Peachwood (NS) at Tamarisk (EW) - #2

Average Delay (sec/veh): 2.2 Worst Case Level Of Service: A[8.6]

Street Name:	Peachwood						Tamarisk					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2	0 0		0 0 1	1 0		1 0 0	0 1		0 0 0	0 0	
Volume Module:												
Base Vol:	61	185	0	0	39	1	1	0	28	0	0	0
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	65	196	0	0	41	1	1	0	30	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:	65	196	0	0	41	1	1	0	30	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:	65	196	0	0	41	1	1	0	30	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	65	196	0	0	41	1	1	0	30	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	42	xxxx	xxxxx	xxxx	xxxx	xxxxx	269	xxxx	21	xxxx	xxxx	xxxxx
Potent Cap.:	1580	xxxx	xxxxx	xxxx	xxxx	xxxxx	703	xxxx	1058	xxxx	xxxx	xxxxx
Move Cap.:	1580	xxxx	xxxxx	xxxx	xxxx	xxxxx	681	xxxx	1058	xxxx	xxxx	xxxxx
Volume/Cap:	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	0.03	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	0.1	xxxx	xxxx	xxxxx
Control Del:	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.3	xxxx	8.5	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	B	*	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			xxxxxx			8.6			xxxxxx		
ApproachLOS:	*			*			A			*		

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

TTM 15594
Morning Peak Hour
Opening Year (2015) Without Project

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

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Intersection #3 Peachwood (NS) at Calle Pradera (EW) - #3

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Average Delay (sec/veh): 2.9 Worst Case Level Of Service: A[9.2]

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Street Name:	Peachwood						Calle Pradera					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2	0 0		0 0 1	1 0		1 0 0	0 1		0 0 0	0 0	
Volume Module:												
Base Vol:	31	35	0	0	188	1	1	0	80	0	0	0
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	33	37	0	0	199	1	1	0	85	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:	33	37	0	0	199	1	1	0	85	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:	33	37	0	0	199	1	1	0	85	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	33	37	0	0	199	1	1	0	85	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	200	xxxx	xxxxx	xxxx	xxxx	xxxxx	284	xxxx	100	xxxx	xxxx	xxxxx
Potent Cap.:	1384	xxxx	xxxxx	xxxx	xxxx	xxxxx	688	xxxx	942	xxxx	xxxx	xxxxx
Move Cap.:	1384	xxxx	xxxxx	xxxx	xxxx	xxxxx	676	xxxx	942	xxxx	xxxx	xxxxx
Volume/Cap:	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	0.09	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	0.3	xxxx	xxxx	xxxxx
Control Del:	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.3	xxxx	9.2	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	B	*	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			xxxxxx			9.2			xxxxxx		
ApproachLOS:	*			*			A			*		

****

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

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TTM 15594
Evening Peak Hour
Opening Year (2015) Without Project

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

****

Intersection #3 Peachwood (NS) at Calle Pradera (EW) - #3

****

Average Delay (sec/veh): 2.0 Worst Case Level Of Service: A[8.8]

****

Street Name:	Peachwood						Calle Pradera					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2	0	0	0 0 1	1	0	1 0 0	0	1	0 0 0	0	0
Volume Module:												
Base Vol:	51	174	0	0	83	2	2	0	32	0	0	0
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	54	184	0	0	88	2	2	0	34	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:	54	184	0	0	88	2	2	0	34	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:	54	184	0	0	88	2	2	0	34	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	54	184	0	0	88	2	2	0	34	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	90	xxxx	xxxxx	xxxx	xxxx	xxxxx	289	xxxx	45	xxxx	xxxx	xxxxx
Potent Cap.:	1518	xxxx	xxxxx	xxxx	xxxx	xxxxx	683	xxxx	1021	xxxx	xxxx	xxxxx
Move Cap.:	1518	xxxx	xxxxx	xxxx	xxxx	xxxxx	665	xxxx	1021	xxxx	xxxx	xxxxx
Volume/Cap:	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	0.03	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	0.1	xxxx	xxxx	xxxxx
Control Del:	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.4	xxxx	8.6	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	B	*	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			xxxxxx			8.8			xxxxxx		
ApproachLOS:	*			*			A			*		

****

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

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TTM 15594
Morning Peak Hour
Opening Year (2015) Without Project

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

****

Intersection #4 Peachwood (NS) at Palmwood Drive (EW) - #4

****

Average Delay (sec/veh): 6.2 Worst Case Level Of Service: B[14.4]

****

Street Name:	Peachwood									Palmwood Drive					
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign					
Rights:	Include			Include			Include			Include					
Lanes:	0	0	1	1	0	1	0	2	0	0	0	0	0	0	0	1	0	0	0	1
Volume Module:																				
Base Vol:	0	65	88	1	267	0	0	0	0		315	0	2							
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06		1.06	1.06	1.06							
Initial Bse:	0	69	93	1	283	0	0	0	0		334	0	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:	0	69	93	1	283	0	0	0	0		334	0	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:	0	69	93	1	283	0	0	0	0		334	0	2							
Reduct Vol:	0	0	0	0	0	0	0	0	0		0	0	0							
FinalVolume:	0	69	93	1	283	0	0	0	0		334	0	2							
Critical Gap Module:																				
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx		6.8	xxxx	6.9							
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx		3.5	xxxx	3.3							
Capacity Module:																				
Cnflict Vol:	xxxx	xxxx	xxxxx	162	xxxx	xxxxx	xxxx	xxxx	xxxxx		259	xxxx	81							
Potent Cap.:	xxxx	xxxx	xxxxx	1429	xxxx	xxxxx	xxxx	xxxx	xxxxx		713	xxxx	969							
Move Cap.:	xxxx	xxxx	xxxxx	1429	xxxx	xxxxx	xxxx	xxxx	xxxxx		713	xxxx	969							
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx		0.47	xxxx	0.00							
Level Of Service Module:																				
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx		2.5	xxxx	0.0							
Control Del:	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx		14.4	xxxx	8.7							
LOS by Move:	*	*	*	A	*	*	*	*	*		B	*	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			xxxxxx			xxxxxx				14.4									
ApproachLOS:	*			*			*				B									

****

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

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TTM 15594
Evening Peak Hour
Opening Year (2015) Without Project

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

****

Intersection #4 Peachwood (NS) at Palmwood Drive (EW) - #4

****

Average Delay (sec/veh): 2.7 Worst Case Level Of Service: B[13.9]

****

Street Name:	Peachwood						Palmwood Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	1 0	0	1 0	2 0	0	0 0	0 0	0	1 0	0 0	1
Volume Module:												
Base Vol:	0	213	279	4	116	0	0	0	0	139	0	4
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	0	226	296	4	123	0	0	0	0	147	0	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	226	296	4	123	0	0	0	0	147	0	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	226	296	4	123	0	0	0	0	147	0	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	226	296	4	123	0	0	0	0	147	0	4
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	522	xxxx	xxxxx	xxxx	xxxx	xxxxx	444	xxxx	261
Potent Cap.:	xxxx	xxxx	xxxxx	1055	xxxx	xxxxx	xxxx	xxxx	xxxxx	548	xxxx	744
Move Cap.:	xxxx	xxxx	xxxxx	1055	xxxx	xxxxx	xxxx	xxxx	xxxxx	546	xxxx	744
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.27	xxxx	0.01
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	1.1	xxxx	0.0
Control Del:	xxxxx	xxxx	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	14.0	xxxx	9.9
LOS by Move:	*	*	*	A	*	*	*	*	*	B	*	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			xxxxxx			xxxxxx			13.9		
ApproachLOS:	*			*			*			B		

****

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

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TTM 15594
Morning Peak Hour
Opening Year (2015) Without Project

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

Intersection #5 Peachwood (NS) at Trabuco Road (EW) - #5

Cycle (sec):	100	Critical Vol./Cap.(X):	0.466
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Street Name:	Peachwood						Trabucl Road					
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			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2 0	0	0 1	1 0	3	0 0	0 0	3	0 1
Volume Module:												
Base Vol:	0	0	0	355	0	244	33	499	0	0	1353	106
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	0	0	0	376	0	259	35	529	0	0	1434	112
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	376	0	259	35	529	0	0	1434	112
User Adj:	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75
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	376	0	194	35	529	0	0	1434	84
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	376	0	194	35	529	0	0	1434	84
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	0	0	376	0	194	35	529	0	0	1434	84
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	0.00	0.00	2.00	0.00	1.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	0	3400	0	1700	1700	5100	0	0	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.11	0.00	0.11	0.02	0.10	0.00	0.00	0.28	0.05
Crit Moves:						****	****				****	

TTM 15594
Evening Peak Hour
Opening Year (2015) Without Project

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

Intersection #5 Peachwood (NS) at Trabuco Road (EW) - #5

Cycle (sec):	100	Critical Vol./Cap.(X):	0.395
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Street Name:	Peachwood						Trabucl Road					
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			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2 0	0	0 1	1 0	3	0 0	0 0	3	0 1
Volume Module:												
Base Vol:	0	0	0	182	0	72	226	1388	0	0	644	312
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	0	0	0	193	0	76	240	1471	0	0	683	331
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	193	0	76	240	1471	0	0	683	331
User Adj:	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75
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	193	0	57	240	1471	0	0	683	248
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	193	0	57	240	1471	0	0	683	248
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	0	0	193	0	57	240	1471	0	0	683	248
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	0.00	0.00	2.00	0.00	1.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	0	3400	0	1700	1700	5100	0	0	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.06	0.00	0.03	0.14	0.29	0.00	0.00	0.13	0.15
Crit Moves:				****				****				

TTM 15594
Morning Peak Hour
Opening Year (2015) Without Project

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

Intersection #6 Lake Forest Drive (NS) at Trabuco Road (EW) - #6

Cycle (sec):	100	Critical Vol./Cap.(X):	0.578
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Street Name:	Lake Forest Drive						Trabucl Road					
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
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	313	1016	426	140	455	233	150	648	78	142	1102	159
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	332	1077	452	148	482	247	159	687	83	151	1168	169
Added Vol:	-3	0	0	0	0	-2	-5	-12	-10	0	-4	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	329	1077	452	148	482	245	154	675	73	151	1164	169
User Adj:	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75
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:	329	1077	339	148	482	184	154	675	55	151	1164	126
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	329	1077	339	148	482	184	154	675	55	151	1164	126
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:	329	1077	339	148	482	184	154	675	55	151	1164	126
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	3.00	1.00	2.00	2.17	0.83	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	3693	1407	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.21	0.20	0.04	0.13	0.13	0.05	0.13	0.03	0.04	0.23	0.07
Crit Moves:		****		****			****				****	

TTM 15594
Evening Peak Hour
Opening Year (2015) Without Project

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

Intersection #6 Lake Forest Drive (NS) at Trabuco Road (EW) - #6

Cycle (sec):	100	Critical Vol./Cap.(X):	0.611
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	B

Street Name:	Lake Forest Drive						Trabucl Road					
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
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	222	896	312	383	870	149	293	1007	75	154	476	144
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	235	950	331	406	922	158	311	1067	80	163	505	153
Added Vol:	-11	0	0	0	0	-5	-3	-8	-6	0	-14	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	224	950	331	406	922	153	308	1059	74	163	491	153
User Adj:	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75
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:	224	950	248	406	922	115	308	1059	55	163	491	114
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	224	950	248	406	922	115	308	1059	55	163	491	114
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:	224	950	248	406	922	115	308	1059	55	163	491	114
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	3.00	1.00	2.00	2.67	0.33	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	4536	564	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.19	0.15	0.12	0.20	0.20	0.09	0.21	0.03	0.05	0.10	0.07
Crit Moves:		****		****				****		****		

Opening Year (2015) With Project

TTM 15594
Morning Peak Hour
Opening Year (2015) With Project

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

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Intersection #1 Bake Parkway (NS) at Irvine Boulevard/Trabuco Road (EW) - #1

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.810
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	D

****

Street Name:	Bake Parkway						Irvine Boulevard/Trabuco Road					
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
Lanes:	2 0 2	1	0	2 0 3	0	1	2 0 3	0	1	2 0 3	0	1
Volume Module:												
Base Vol:	249 1739		130	45 1065		446	515	172	90	687	982	113
Growth Adj:	1.06 1.06		1.06	1.06 1.06		1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	264 1843		138	48 1129		473	546	182	95	728	1041	120
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:	264 1843		138	48 1129		473	546	182	95	728	1041	120
User Adj:	1.00 1.00		0.75	1.00 1.00		0.75	1.00	1.00	0.75	1.00	1.00	0.75
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:	264 1843		103	48 1129		355	546	182	72	728	1041	90
Reduct Vol:	0 0		0	0 0		0	0	0	0	0	0	0
Reduced Vol:	264 1843		103	48 1129		355	546	182	72	728	1041	90
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:	264 1843		103	48 1129		355	546	182	72	728	1041	90
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 2.84		0.16	2.00 3.00		1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3400 4829		271	3400 5100		1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.08 0.38		0.38	0.01 0.22		0.21	0.16	0.04	0.04	0.21	0.20	0.05
Crit Moves:		****			****			****			****	

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TTM 15594
Evening Peak Hour
Opening Year (2015) With Project

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

Intersection #1 Bake Parkway (NS) at Irvine Boulevard/Trabuco Road (EW) - #1

Cycle (sec):	100	Critical Vol./Cap.(X):	0.727
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	C

Street Name:	Bake Parkway						Irvine Boulevard/Trabuco Road					
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
Lanes:	2 0 2	1	0	2 0 3	0	1	2 0 3	0	1	2 0 3	0	1
Volume Module:												
Base Vol:	124 1244		586	217 1466		659	515	805	167	294	372	40
Growth Adj:	1.06 1.06		1.06	1.06 1.06		1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	131 1319		621	230 1554		699	546	853	177	312	394	42
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:	131 1319		621	230 1554		699	546	853	177	312	394	42
User Adj:	1.00 1.00		0.75	1.00 1.00		0.75	1.00	1.00	0.75	1.00	1.00	0.75
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:	131 1319		466	230 1554		524	546	853	133	312	394	32
Reduct Vol:	0 0		0	0 0		0	0	0	0	0	0	0
Reduced Vol:	131 1319		466	230 1554		524	546	853	133	312	394	32
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:	131 1319		466	230 1554		524	546	853	133	312	394	32
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 2.22		0.78	2.00 3.00		1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3400 3769		1331	3400 5100		1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.04 0.35		0.35	0.07 0.30		0.31	0.16	0.17	0.08	0.09	0.08	0.02
Crit Moves:	****			****				****		****		

TTM 15594
Morning Peak Hour
Opening Year (2015) With Project

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

****

Intersection #2 Peachwood (NS) at Tamarisk (EW) - #2

****

Average Delay (sec/veh): 3.0 Worst Case Level Of Service: A[9.2]

****

Street Name:	Peachwood						Tamarisk					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2 0 0			0 0 1 1 0			1 0 0 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	15	24	0	0	119	1	1	0	86	0	0	0
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	16	25	0	0	126	1	1	0	91	0	0	0
Added Vol:	0	16	0	0	48	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	16	41	0	0	174	1	1	0	91	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:	16	41	0	0	174	1	1	0	91	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	16	41	0	0	174	1	1	0	91	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	175	xxxx	xxxxx	xxxx	xxxx	xxxxx	227	xxxx	88	xxxx	xxxx	xxxxx
Potent Cap.:	1413	xxxx	xxxxx	xxxx	xxxx	xxxxx	746	xxxx	960	xxxx	xxxx	xxxxx
Move Cap.:	1413	xxxx	xxxxx	xxxx	xxxx	xxxxx	740	xxxx	960	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	0.09	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	0.3	xxxx	xxxx	xxxxx
Control Del:	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.9	xxxx	9.1	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	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			xxxxxx			9.2			xxxxxx		
ApproachLOS:	*			*			A			*		

****

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

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TTM 15594
Evening Peak Hour
Opening Year (2015) With Project

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

****

Intersection #2 Peachwood (NS) at Tamarisk (EW) - #2

****

Average Delay (sec/veh): 1.8 Worst Case Level Of Service: A[8.7]

****

Street Name:	Peachwood						Tamarisk					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2	0 0		0 0 1	1 0		1 0 0	0 1		0 0 0	0 0	
Volume Module:												
Base Vol:	61	185	0	0	39	1	1	0	28	0	0	0
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	65	196	0	0	41	1	1	0	30	0	0	0
Added Vol:	0	54	0	0	31	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	65	250	0	0	72	1	1	0	30	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:	65	250	0	0	72	1	1	0	30	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	65	250	0	0	72	1	1	0	30	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	73	xxxx	xxxxx	xxxx	xxxx	xxxxx	327	xxxx	37	xxxx	xxxx	xxxxx
Potent Cap.:	1539	xxxx	xxxxx	xxxx	xxxx	xxxxx	647	xxxx	1034	xxxx	xxxx	xxxxx
Move Cap.:	1539	xxxx	xxxxx	xxxx	xxxx	xxxxx	626	xxxx	1034	xxxx	xxxx	xxxxx
Volume/Cap:	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	0.03	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	0.1	xxxx	xxxx	xxxxx
Control Del:	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.8	xxxx	8.6	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	B	*	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			xxxxxx			8.7			xxxxxx		
ApproachLOS:	*			*			A			*		

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

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TTM 15594
Morning Peak Hour
Opening Year (2015) With Project

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

Intersection #3 Peachwood (NS) at Calle Pradera (EW) - #3

Average Delay (sec/veh): 2.5 Worst Case Level Of Service: A[9.4]

Street Name:	Peachwood						Calle Pradera					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2	0	0	0 0 1	1	0	1 0 0	0	1	0 0 0	0	0
Volume Module:												
Base Vol:	31	35	0	0	188	1	1	0	80	0	0	0
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	33	37	0	0	199	1	1	0	85	0	0	0
Added Vol:	0	16	0	0	48	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	33	53	0	0	247	1	1	0	85	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:	33	53	0	0	247	1	1	0	85	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	33	53	0	0	247	1	1	0	85	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	248	xxxx	xxxxx	xxxx	xxxx	xxxxx	340	xxxx	124	xxxx	xxxx	xxxxx
Potent Cap.:	1329	xxxx	xxxxx	xxxx	xxxx	xxxxx	635	xxxx	910	xxxx	xxxx	xxxxx
Move Cap.:	1329	xxxx	xxxxx	xxxx	xxxx	xxxxx	623	xxxx	910	xxxx	xxxx	xxxxx
Volume/Cap:	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	0.09	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	0.3	xxxx	xxxx	xxxxx
Control Del:	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.8	xxxx	9.4	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	B	*	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			xxxxxx			9.4			xxxxxx		
ApproachLOS:	*			*			A			*		

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

TTM 15594
Evening Peak Hour
Opening Year (2015) With Project

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

Intersection #3 Peachwood (NS) at Calle Pradera (EW) - #3

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: A[8.9]

Street Name:	Peachwood						Calle Pradera					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2	0	0	0 0 1	1	0	1 0 0	0	1	0 0 0	0	0
Volume Module:												
Base Vol:	51 174	0		0 83	2		2	0	32	0	0	0
Growth Adj:	1.06 1.06	1.06		1.06 1.06	1.06		1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	54 184	0		0 88	2		2	0	34	0	0	0
Added Vol:	0 54	0		0 31	0		0	0	0	0	0	0
PasserByVol:	0 0	0		0 0	0		0	0	0	0	0	0
Initial Fut:	54 238	0		0 119	2		2	0	34	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:	54 238	0		0 119	2		2	0	34	0	0	0
Reduct Vol:	0 0	0		0 0	0		0	0	0	0	0	0
FinalVolume:	54 238	0		0 119	2		2	0	34	0	0	0
Critical Gap Module:												
Critical Gp:	4.1 xxxx	xxxxx		xxxxx xxxx	xxxxx		6.8	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2 xxxx	xxxxx		xxxxx xxxx	xxxxx		3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	121 xxxx	xxxxx		xxxx xxxx	xxxxx		347	xxxx	61	xxxx	xxxx	xxxxx
Potent Cap.:	1479 xxxx	xxxxx		xxxx xxxx	xxxxx		629	xxxx	999	xxxx	xxxx	xxxxx
Move Cap.:	1479 xxxx	xxxxx		xxxx xxxx	xxxxx		611	xxxx	999	xxxx	xxxx	xxxxx
Volume/Cap:	0.04 xxxx	xxxx		xxxx xxxx	xxxx		0.00	xxxx	0.03	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.1 xxxx	xxxxx		xxxx xxxx	xxxxx		0.0	xxxx	0.1	xxxx	xxxx	xxxxx
Control Del:	7.5 xxxx	xxxxx		xxxxx xxxx	xxxxx		10.9	xxxx	8.7	xxxxx	xxxx	xxxxx
LOS by Move:	A	*		* *	*		B	*	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			xxxxxx			8.9			xxxxxx		
ApproachLOS:	*			*			A			*		

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

TTM 15594
Morning Peak Hour
Opening Year (2015) With Project

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

****

Intersection #4 Peachwood (NS) at Palmwood Drive (EW) - #4

****

Average Delay (sec/veh): 6.1 Worst Case Level Of Service: C[15.4]

****

Street Name:	Peachwood						Palmwood Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1 1 0			1 0 2 0 0			0 0 0 0 0			1 0 0 0 1		
Volume Module:												
Base Vol:	0	65	88	1	267	0	0	0	0	315	0	2
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	0	69	93	1	283	0	0	0	0	334	0	2
Added Vol:	0	16	0	0	48	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	85	93	1	331	0	0	0	0	334	0	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:	0	85	93	1	331	0	0	0	0	334	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	85	93	1	331	0	0	0	0	334	0	2
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	178	xxxx	xxxxx	xxxx	xxxx	xxxxx	299	xxxx	89
Potent Cap.:	xxxx	xxxx	xxxxx	1410	xxxx	xxxxx	xxxx	xxxx	xxxxx	674	xxxx	958
Move Cap.:	xxxx	xxxx	xxxxx	1410	xxxx	xxxxx	xxxx	xxxx	xxxxx	673	xxxx	958
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.50	xxxx	0.00
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	2.8	xxxx	0.0
Control Del:	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	15.5	xxxx	8.8
LOS by Move:	*	*	*	A	*	*	*	*	*	C	*	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			xxxxxx			xxxxxx			15.4		
ApproachLOS:	*			*			*			C		

****

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

****

TTM 15594
Evening Peak Hour
Opening Year (2015) With Project

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

****

Intersection #4 Peachwood (NS) at Palmwood Drive (EW) - #4

****

Average Delay (sec/veh): 2.6 Worst Case Level Of Service: C[15.2]

****

Street Name:	Peachwood						Palmwood Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	1 0	0	1 0	2 0	0	0 0	0 0	0	1 0	0 0	1
Volume Module:												
Base Vol:	0 213	279		4 116		0	0 0		0	139	0	4
Growth Adj:	1.06 1.06	1.06		1.06 1.06		1.06	1.06 1.06		1.06	1.06 1.06		1.06
Initial Bse:	0 226	296		4 123		0	0 0		0	147	0	4
Added Vol:	0 54	0		0 31		0	0 0		0	0	0	0
PasserByVol:	0 0	0		0 0		0	0 0		0	0	0	0
Initial Fut:	0 280	296		4 154		0	0 0		0	147	0	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:	0 280	296		4 154		0	0 0		0	147	0	4
Reduct Vol:	0 0	0		0 0		0	0 0		0	0	0	0
FinalVolume:	0 280	296		4 154		0	0 0		0	147	0	4
Critical Gap Module:												
Critical Gp:	xxxxx xxxx	xxxxx		4.1 xxxx	xxxxx		xxxxx xxxx	xxxxx		6.8 xxxx		6.9
FollowUpTim:	xxxxx xxxx	xxxxx		2.2 xxxx	xxxxx		xxxxx xxxx	xxxxx		3.5 xxxx		3.3
Capacity Module:												
Cnflict Vol:	xxxx xxxx	xxxxx		576 xxxx	xxxxx		xxxx xxxx	xxxxx		513 xxxx		288
Potent Cap.:	xxxx xxxx	xxxxx		1008 xxxx	xxxxx		xxxx xxxx	xxxxx		496 xxxx		715
Move Cap.:	xxxx xxxx	xxxxx		1008 xxxx	xxxxx		xxxx xxxx	xxxxx		494 xxxx		715
Volume/Cap:	xxxx xxxx	xxxx		0.00 xxxx	xxxx		xxxx xxxx	xxxx		0.30 xxxx		0.01
Level Of Service Module:												
2Way95thQ:	xxxx xxxx	xxxxx		0.0 xxxx	xxxxx		xxxx xxxx	xxxxx		1.2 xxxx		0.0
Control Del:	xxxxx xxxx	xxxxx		8.6 xxxx	xxxxx		xxxxx xxxx	xxxxx		15.4 xxxx		10.1
LOS by Move:	* *	*		A *	*		* *	*		C *		B
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			xxxxxx			xxxxxx			15.2		
ApproachLOS:	*			*			*			C		

****

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

****

TTM 15594
Morning Peak Hour
Opening Year (2015) With Project

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

Intersection #5 Peachwood (NS) at Trabuco Road (EW) - #5

Cycle (sec):	100	Critical Vol./Cap.(X):	0.480
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Street Name:	Peachwood						Trabucl Road					
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			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2 0	0	0 1	1 0	3	0 0	0 0	3	0 1
Volume Module:												
Base Vol:	0	0	0	355	0	244	33	499	0	0	1353	106
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	0	0	0	376	0	259	35	529	0	0	1434	112
Added Vol:	0	0	0	26	0	22	7	0	0	0	0	9
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	402	0	281	42	529	0	0	1434	121
User Adj:	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75
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	402	0	210	42	529	0	0	1434	91
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	402	0	210	42	529	0	0	1434	91
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	0	0	402	0	210	42	529	0	0	1434	91
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	0.00	0.00	2.00	0.00	1.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	0	3400	0	1700	1700	5100	0	0	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.12	0.00	0.12	0.02	0.10	0.00	0.00	0.28	0.05
Crit Moves:						****	****				****	

TTM 15594
Evening Peak Hour
Opening Year (2015) With Project

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

Intersection #5 Peachwood (NS) at Trabuco Road (EW) - #5

Cycle (sec):	100	Critical Vol./Cap.(X):	0.426
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Street Name:	Peachwood						Trabucl Road					
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			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2 0	0	0 1	1 0	3	0 0	0 0	3	0 1
Volume Module:												
Base Vol:	0	0	0	182	0	72	226	1388	0	0	644	312
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	0	0	0	193	0	76	240	1471	0	0	683	331
Added Vol:	0	0	0	17	0	14	24	0	0	0	0	30
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	210	0	90	264	1471	0	0	683	361
User Adj:	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75
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	210	0	68	264	1471	0	0	683	271
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	210	0	68	264	1471	0	0	683	271
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	0	0	210	0	68	264	1471	0	0	683	271
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	0.00	0.00	2.00	0.00	1.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	0	3400	0	1700	1700	5100	0	0	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.06	0.00	0.04	0.16	0.29	0.00	0.00	0.13	0.16
Crit Moves:				****			****					****

TTM 15594
Morning Peak Hour
Opening Year (2015) With Project

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

Intersection #6 Lake Forest Drive (NS) at Trabuco Road (EW) - #6

Cycle (sec):	100	Critical Vol./Cap.(X):	0.581
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Street Name:	Lake Forest Drive						Trabucl Road					
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
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	313	1016	426	140	455	233	150	648	78	142	1102	159
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	332	1077	452	148	482	247	159	687	83	151	1168	169
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:	332	1077	452	148	482	247	159	687	83	151	1168	169
User Adj:	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75
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:	332	1077	339	148	482	185	159	687	62	151	1168	126
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	332	1077	339	148	482	185	159	687	62	151	1168	126
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:	332	1077	339	148	482	185	159	687	62	151	1168	126
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	3.00	1.00	2.00	2.17	0.83	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	3685	1415	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.21	0.20	0.04	0.13	0.13	0.05	0.13	0.04	0.04	0.23	0.07
Crit Moves:		****		****			****				****	

TTM 15594
Evening Peak Hour
Opening Year (2015) With Project

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

Intersection #6 Lake Forest Drive (NS) at Trabuco Road (EW) - #6

Cycle (sec):	100	Critical Vol./Cap.(X):	0.613
Loss Time (sec):	5 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	B

Street Name:	Lake Forest Drive						Trabucl Road					
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
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	222	896	312	383	870	149	293	1007	75	154	476	144
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	235	950	331	406	922	158	311	1067	80	163	505	153
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:	235	950	331	406	922	158	311	1067	80	163	505	153
User Adj:	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00	0.75
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:	235	950	248	406	922	118	311	1067	60	163	505	114
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	235	950	248	406	922	118	311	1067	60	163	505	114
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:	235	950	248	406	922	118	311	1067	60	163	505	114
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	3.00	1.00	2.00	2.66	0.34	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	4519	581	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.19	0.15	0.12	0.20	0.20	0.09	0.21	0.04	0.05	0.10	0.07
Crit Moves:		****		****				****		****		

Kunzman Associates, Inc.

OVER 35 YEARS OF EXCELLENT SERVICE

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