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TRAFFIC IMPACT ANALYSIS

LAKESHORE POINTE

LAKE ELSINORE, CALIFORNIA

Prepared by:

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Denis Bilodeau

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CITY OF LAKE ELSINORE
PLANNING DIVISION

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1.0 INTRODUCTION

Purpose and Study Objectives

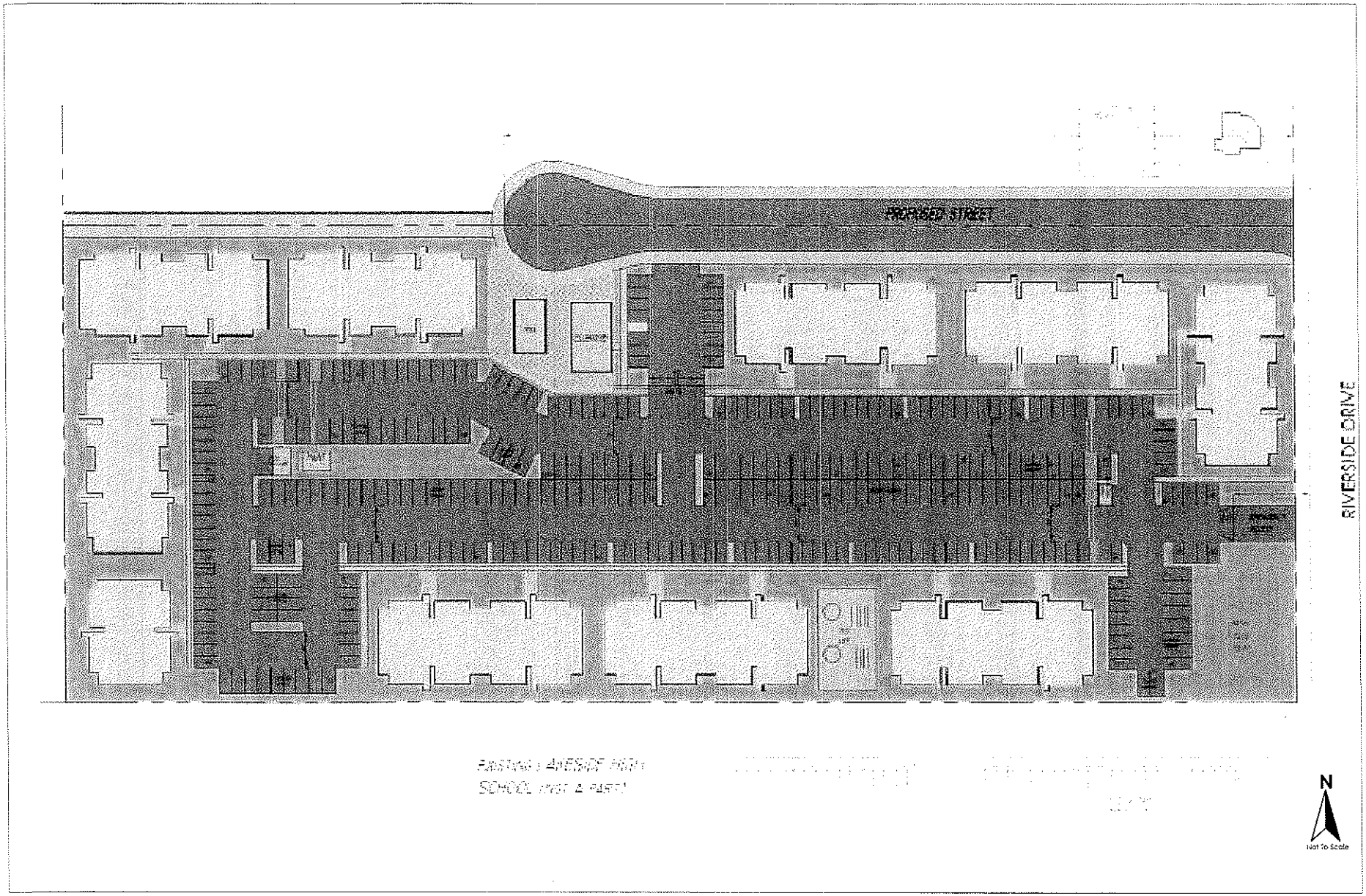
This TIA has been prepared to evaluate and assess the traffic and circulation impacts of the proposed Lakeshore Pointe project (proposed project). The purpose of this report is to provide an analysis of the traffic impacts resulting from the development of 152 apartment dwelling units, and identify potential traffic mitigation measures to maintain an acceptable level of service (LOS).

Site Location

The project site is located just north of Lakeside High School along Riverside Drive (State Route 74) in the City of Lake Elsinore (City). The project site is currently vacant and undeveloped. Adjacent land uses include Lakeside High School to the south, residential and retail uses to the north and west, and recreational (Lake Elsinore Marina) to the east. Access to the project site is provided along Riverside Drive. **Figure 1** illustrates the location of the project site and the surrounding transportation network.

Project Description

The project proposes to construct 152 apartment dwelling units on a 13.21 acre lot. The project site is vacant and undeveloped. The apartment units will range from one to three bedroom units. Access to the project site would be maintained on Riverside Drive with a newly constructed street that would be shared between the proposed project and the existing retail parcel. Approximately 349 parking spaces will be provided on-site. The expected opening year for the project is 2017. **Figure 2** provides a site plan of the proposed project.



Source: Daigle Architecture and Planning, August 2015.

Figure 1
Site Plan

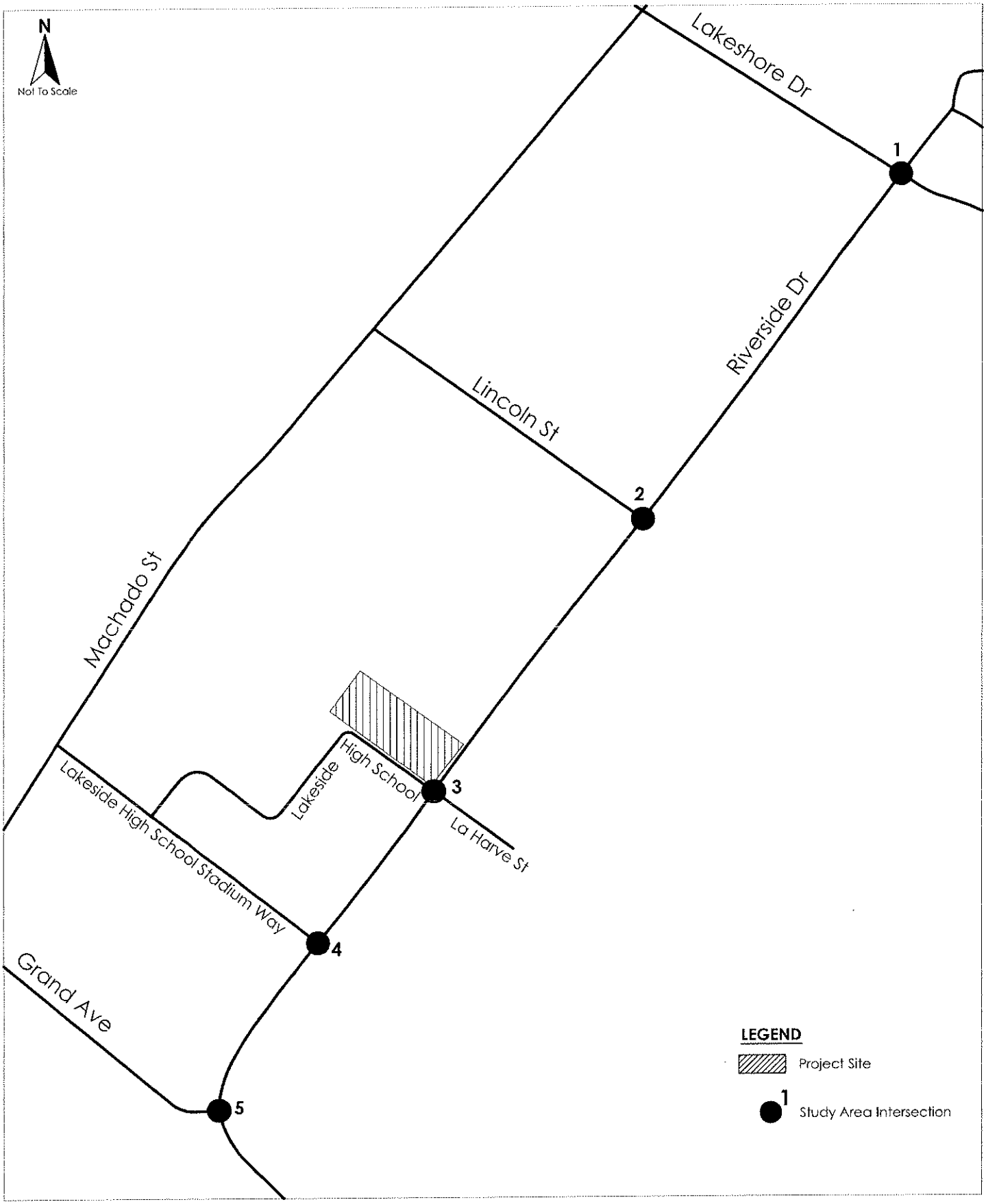


Figure 2
Study Area and Project Location

2.0 AREA CONDITIONS

To determine the scope of work for this traffic impact analysis, Infrastructure Group Inc. consulted with City staff on the study area intersections and roadway segments. A Scoping Agreement was submitted to City staff prior to preparation of the report, and is provided in Appendix A.

Intersection Level of Service Analysis

The study area includes the following intersections:

1. Riverside Drive/Lakeshore Drive
2. Riverside Drive/Lincoln Street
3. Riverside Drive/Lakeside High School - Le Harve Street
4. Riverside Drive/Lakeside High School Stadium Way
5. Riverside Drive/Grand Avenue

Existing Circulation System

Figure 3 provides the locations of the study area intersections, roadway segments, and the existing traffic control devices and intersection geometrics.

Existing roadway segments within the project study area include Riverside Drive and Lakeshore Drive. The following provides a description of the two roadways.

> **Riverside Drive** - Riverside Drive is a north/south, two-lane divided roadway and is classified as an Urban Arterial (120-foot right-of-way) on the City of Lake Elsinore General Plan Circulation Element. The average daily traffic along Riverside Drive ranges from 18,000 to 26,000 vehicles per day.
>
> **Lakeshore Drive** - Lakeshore Drive is an east/west, two-lane undivided to five-lane divided roadway, and is classified as a Secondary (90-foot right-of-way) to an Urban Arterial (120-foot right-of-way) on the City of Lake Elsinore General Plan Circulation Element. The average daily traffic along Lakeshore Drive ranges from 11,000 to 17,000 vehicles per day.

Existing Traffic Volumes

Existing traffic counts were collected in August 2014, September 2014, and February 2015 at various study area intersections and roadway segments. For purposes of this analysis, a two percent growth rate was applied to the existing traffic counts to reflect recent 2015 count data. This approach was verified and approved by City staff. **Figure 4** provides the existing traffic volumes at the study area intersections and roadway segments. Appendix B provides the existing traffic count sheets.

Existing Level of Service

Existing LOS analyses were conducted consistent with the procedures and parameters used for intersection peak hour analysis discussed in the City's Traffic Impact Analysis Guidelines. The assessment of intersection conditions addresses LOS, in terms of vehicle control delay (in seconds per vehicle) for signalized and unsignalized intersections. The level of service grades (LOS A-F), as reported in *Highway Capacity*

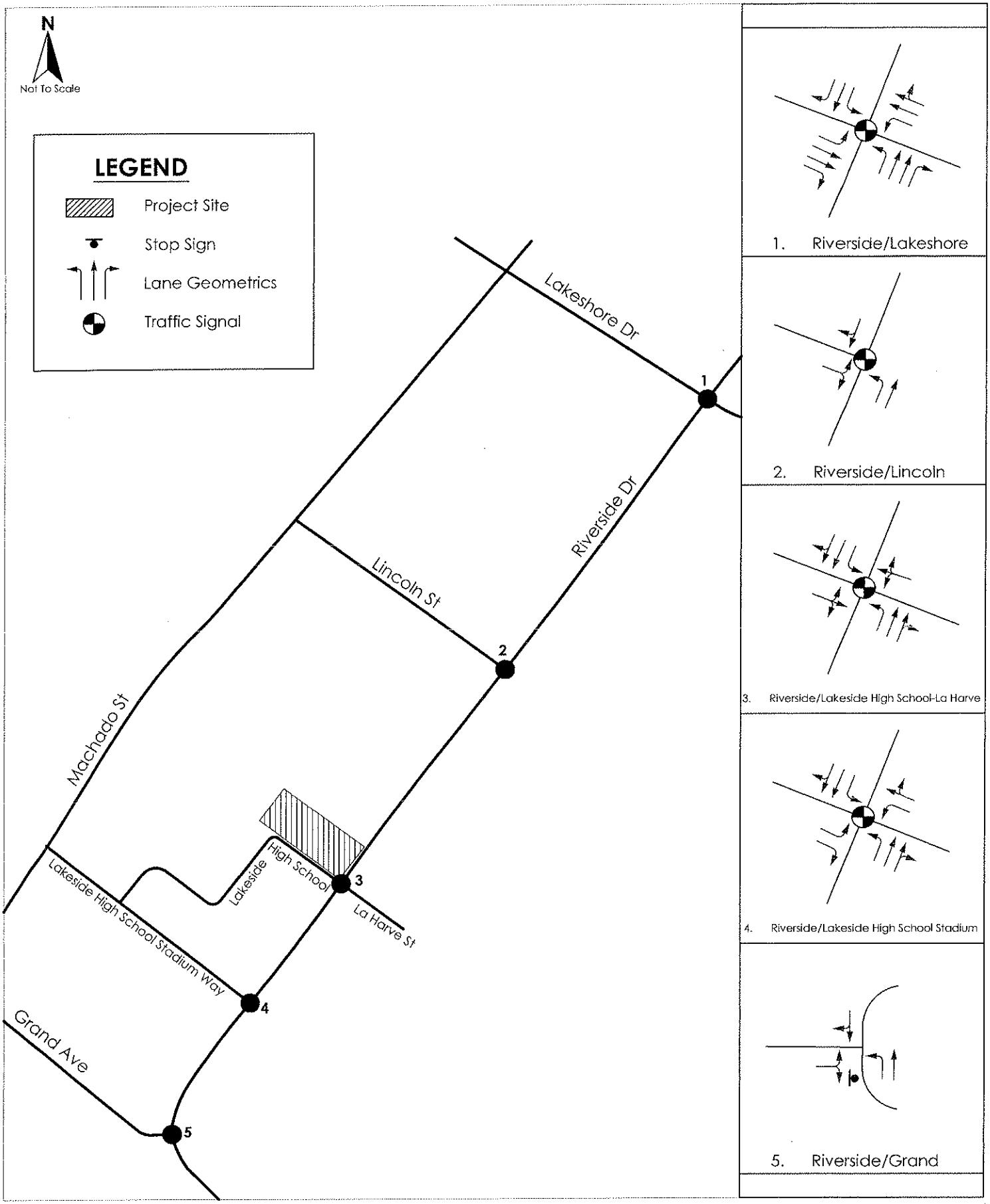


Figure 3
Existing Geometrics and Traffic Controls

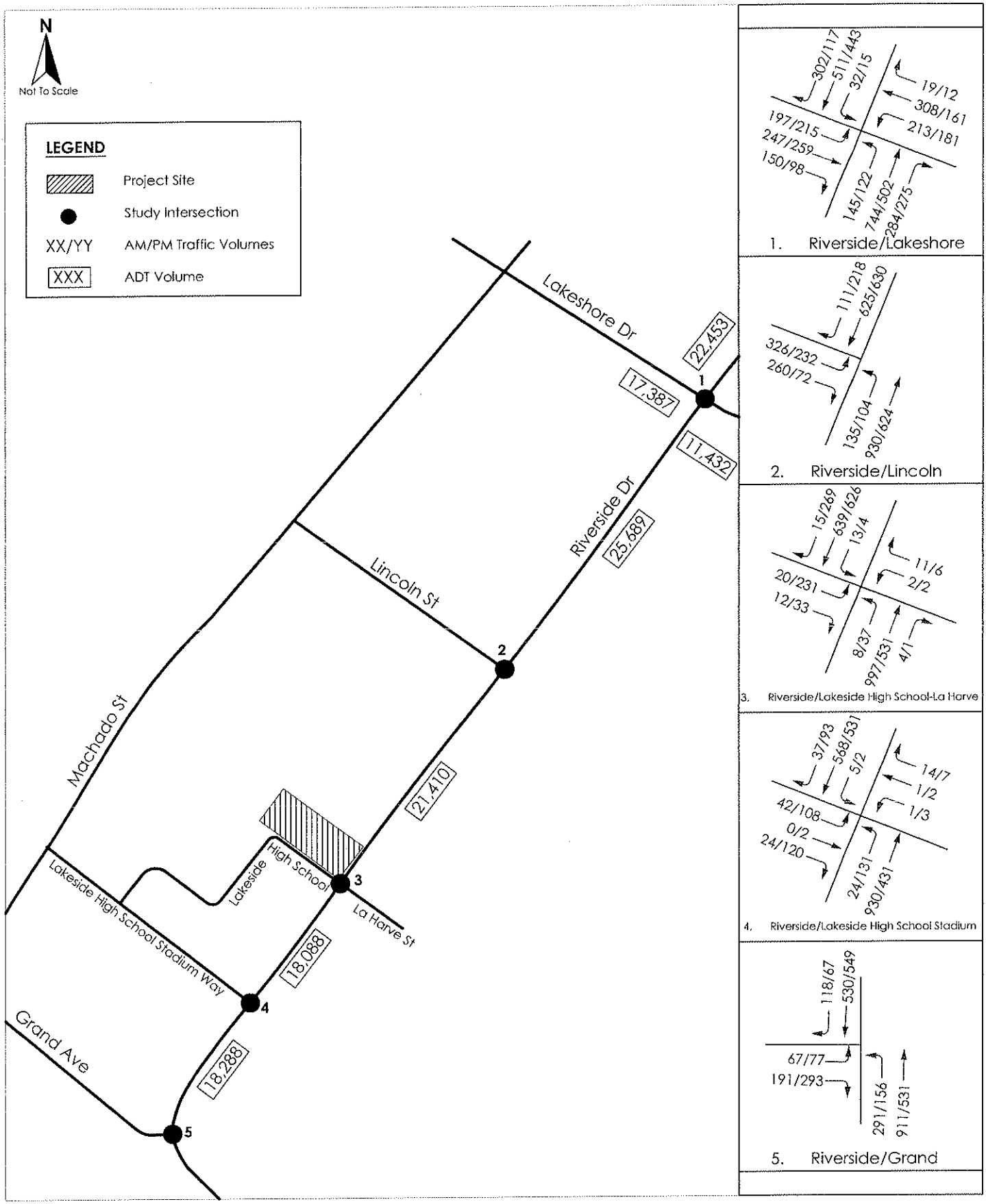


Figure 4
Existing Traffic Volumes

Manual (HCM2000), are dependent on the volume-to-capacity (V/C) ratios and vehicle control delay (in seconds) at the signalized and unsignalized intersection, respectively. Both signalized and unsignalized study area intersections have been analyzed using the HCM2000 method. The Synchro (Version 9) software was used to determine intersection LOS for all study scenarios. Synchro is consistent with the HCM2000 methodologies.

The degree of congestion at an intersection is described by the level of service, which ranges from A to F, with A representing free-flow conditions with little delay and F representing over-saturated traffic flow throughout the peak hour. A complete description of the meaning of level of service can be found in the Highway Research Board Special Report 209, *Highway Capacity Manual* (HCM2000). Brief descriptions of the six levels of service, as abstracted from the HCM, are shown in Tables A and B.

Table A - Level of Service Definitions

Level of Service	Unsignalized Intersection Delay per Vehicle	Signalized Intersection Delay per Vehicle
A	≤ 10	≤ 10
B	> 10 - 15	> 10 - 20
C	> 15 - 25	> 20 - 35
D	> 25 - 35	> 35 - 55
E	> 35 - 50	> 55 - 80
F	> 50	> 80

SOURCE: Highway Capacity Manual, Transportation Research Board, Special Report No. 209, Washington, D.C., 2000.

The City of Lake Elsinore General Plan states that the acceptable peak hour LOS at an intersection is LOS D or better. Any intersections operating at LOS E or F is considered deficient. A significant impact occurs at a study area intersection when the addition of project traffic causes either peak hour LOS to degrade from acceptable LOS (LOS D or better) to LOS E or F, or the peak hour delay increases as follows:

LOS A By 10.0 seconds

LOS B By 10.0 seconds

LOS C By 8.0 seconds

LOS D By 5.0 seconds

LOS E By 2.0 seconds

LOS F By 1.0 seconds

If the proposed project's traffic causes the LOS/delay values to exceed, the impacts are determined to be significant. The project would need to identify feasible improvements that will mitigate the intersection LOS back to acceptable LOS (LOS D or better).

Table B - Level of Service Descriptions

LOS	Description
A	No approach phase is fully utilized by traffic, and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily, and nearly all drivers find freedom of operation.
B	This service level represents stable operation, where an occasional approach phase is fully utilized and a substantial number are nearing full use. Many drivers begin to feel restricted within platoons of vehicles.
C	This level still represents stable operating conditions. Occasionally drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.
D	This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is seldom attained no matter how great the demand.
F	This level describes forced flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially, and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, both speed and volume can drop to zero.

SOURCE: Highway Capacity Manual, Transportation Research Board, Special Report No. 209, Washington, D.C., 2000.

Table C provides the results of the LOS analysis during the AM and PM peak hours. As shown in the table, all study area intersections currently operate at acceptable LOS (LOS D or better) with the exception of Riverside Drive/Lincoln Street (LOS E in the AM peak hour) Riverside Drive/Grand Avenue (LOS F in the AM and PM peak hours). Appendix C provides the LOS calculation worksheets.

Table C - Existing Level of Service Summary

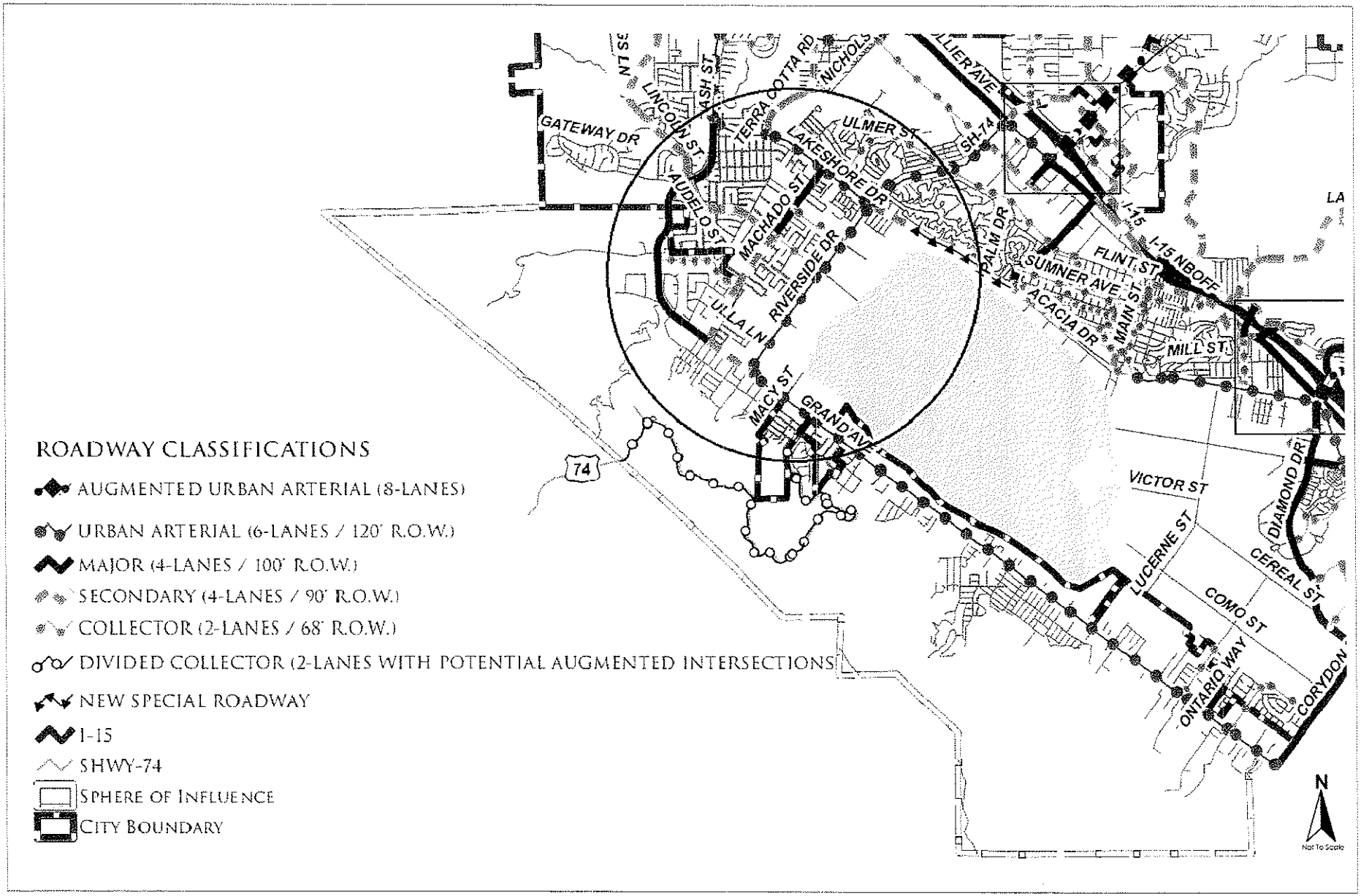
Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
1. Riverside Drive/Lakeshore Drive	Signalized	30.5	C	27.5	C
2. Riverside Drive/Lincoln Street	Signalized	**57.8**	**E**	28.4	C
3. Riverside Drive/Lakeside High School-Le Harve Street	Signalized	6.0	A	14.7	B
4. Riverside Drive/Lakeside High School-Stadium Way	Signalized	7.7	A	15.0	B
5. Riverside Drive/Grand Avenue	Stop Controlled (EB)	**>50.0**	**F**	**>50.0**	**F**

General Plan Circulation Element

Figure 5 illustrates the City's General Plan Circulation Element. Within the vicinity of the proposed project, Riverside Drive, Lincoln Street, and Machado Street are designated on the Circulation Element.

Transit Service

The study area is currently served by the Riverside Transit Agency, Route 8, along Lincoln Street, Machado Street, and Lakeshore Drive.



Source: City of Lake Elsinore

Figure 5
General Plan Circulation Element

3.0 PROJECTED FUTURE TRAFFIC

The project proposes to construct 152 apartment dwelling units just north of Lakeside High School, along Riverside Drive. The project will have access from a newly constructed street that would be shared between the proposed project and the existing retail parcel off of Riverside Drive.

Project Trip Generation

The project trip generation represents the amount of trips entering and exiting the project site during the AM and PM peak hours. Trip generation rates used for the project are taken from the Trip Generation Manual from the Institute of Transportation Engineers (ITE), 9th Edition. **Table C** provides the trip generation for the proposed project. As the table illustrates, the proposed project would generate 1,011 daily trips, 84 AM peak hour trips (24 entering and 60 exiting), and 102 PM peak hour trips (62 entering and 40 exiting). Since the project site is vacant and undeveloped, the proposed project would generate all new traffic to the circulation network.

The trip generation does not take into account the use of public transit by the proposed project. As such, the project trip generation provides a conservative estimate of the trips accessing the project site.

Table D - Project Trip Generation

			AM Peak Hour			PM Peak Hour		
	Units	ADT	In	Out	Total	In	Out	Total
Apartment								
Trip Rate	Per DU	6.65	0.16	0.39	0.55	0.41	0.26	0.67
Trip Generation	***152 Units***	***1,011***	***24***	***60***	***84***	***62***	***40***	***102***

Trip Rates from the Institute of Transportation Engineers, 9th Edition.
DU = Dwelling Unit

Project Trip Distribution and Assignment

Trip distribution is the origin and destination of traffic from the project site. Trip distribution is determined based on the geographic location of the project site, the adjacent land uses in the study area, and the proximity to major arterials and freeways. The trip distribution for the proposed project was based on the existing roadway system, existing traffic patterns, and proximity to local attractions. As such, approximately 60 percent of the project traffic is distributed north on Riverside Drive, and 40 percent is distributed south on Riverside Drive.

The trip distribution was used to assign project trips to the local roadways. The trip assignment is determined by applying the trip distribution percentages to the inbound and outbound trips calculated from the project trip generation. **Figure 6** illustrates the project trip distribution percentages. **Figure 7** illustrates the project trip assignment.

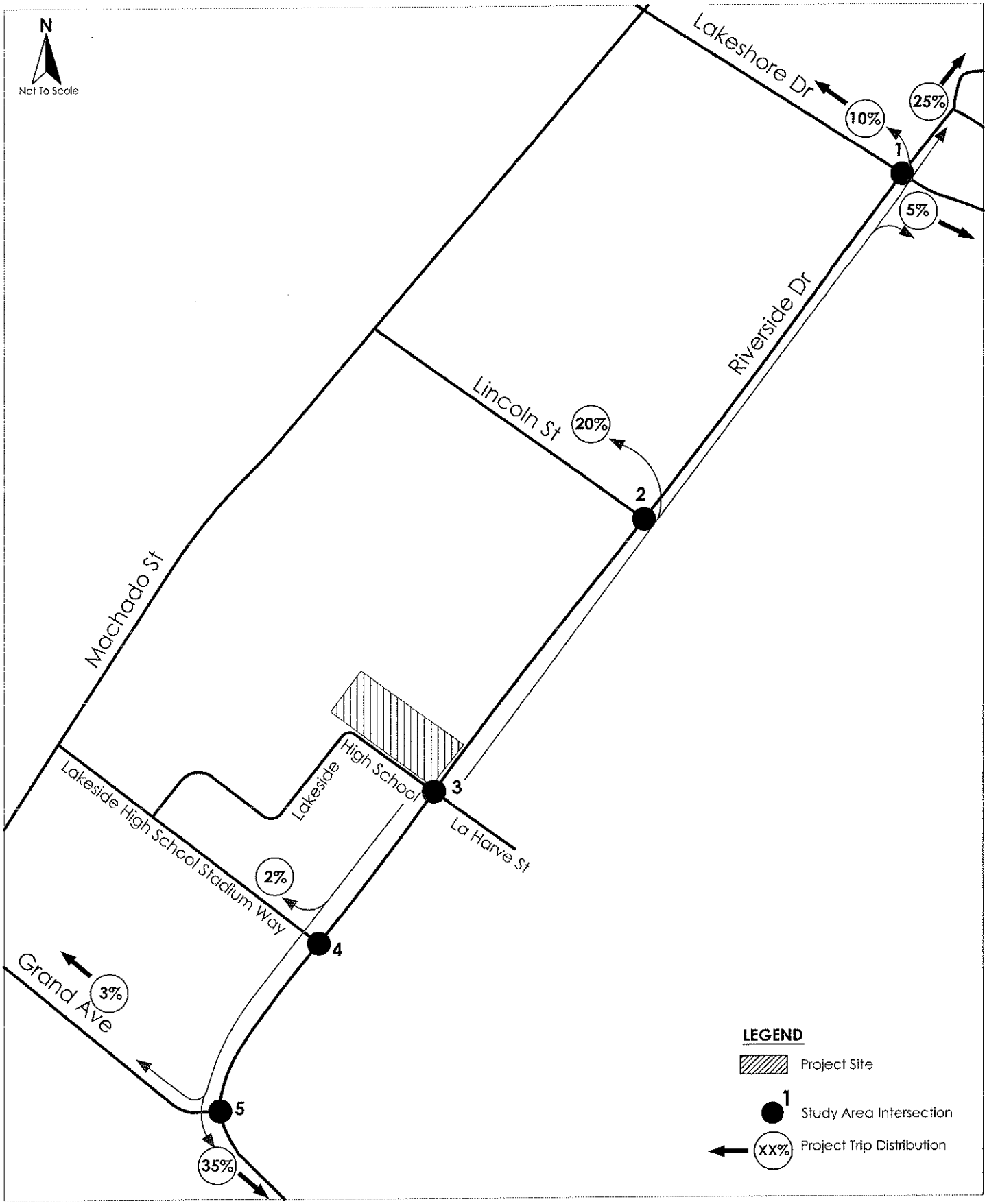


Figure 6
Project Trip Distribution

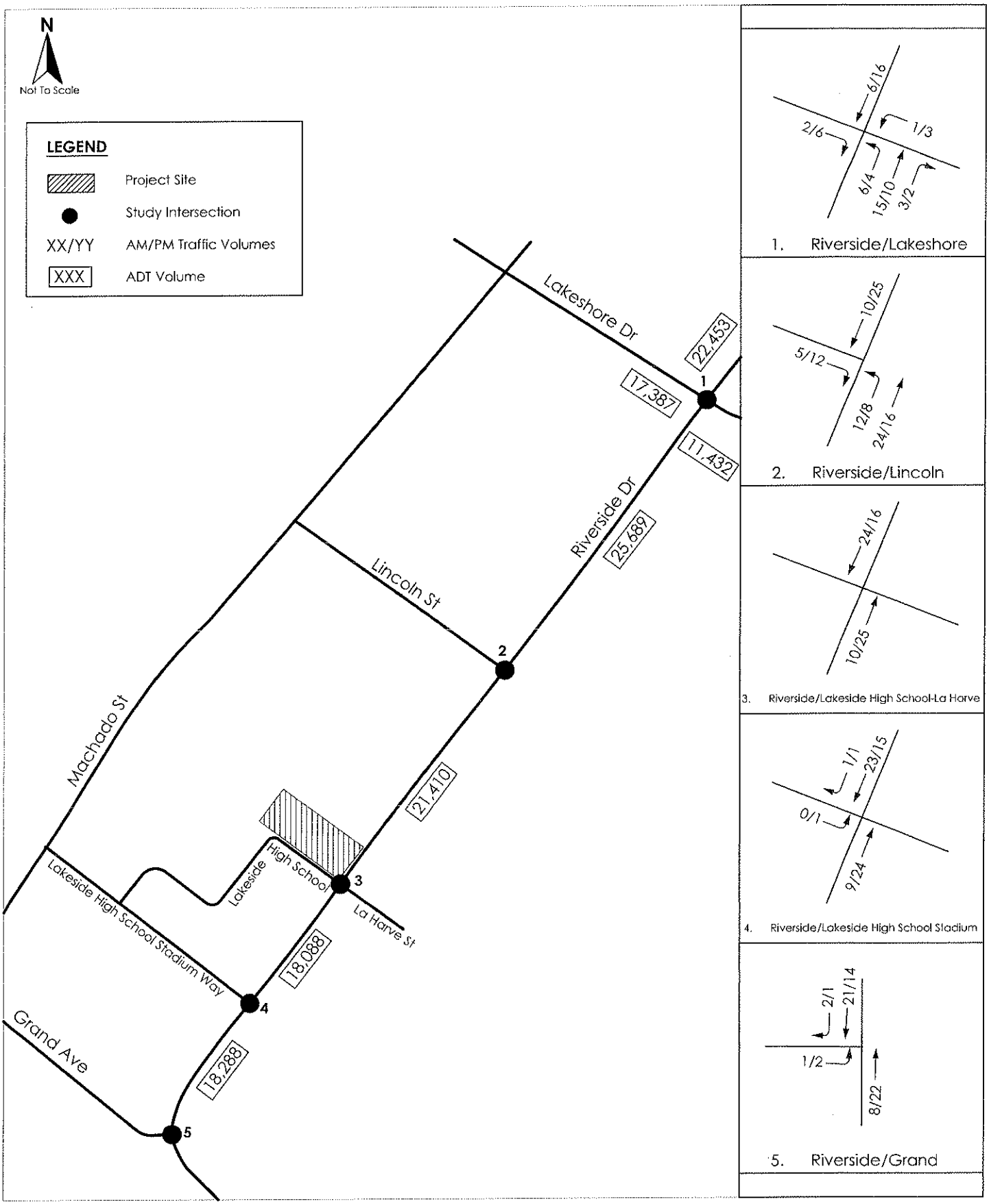


Figure 7
Project Trip Assignment

4.0 CUMULATIVE TRAFFIC

A cumulative traffic scenario was developed in order to evaluate future traffic conditions in the study area. Traffic from approved and proposed projects within the study area were added to existing traffic volumes, with an ambient growth, to derive cumulative traffic conditions. The opening year for this analysis is 2017.

Ambient Growth Rate

To account for growth in traffic on the local roadways, a two percent (2%) per year growth rate was applied to the existing traffic volumes. For this analysis, the existing traffic volumes were adjusted four percent (4%) to account for the ambient growth in the study area.

Trip Distribution and Assignment

City staff provided a list of approved/pending projects near the project site that would contribute to the traffic conditions in the area. Three projects were identified and considered "cumulative" project in the study area: 1) Circle K Service Station; 2) The Village at Lakeshore; and 3) Wakerider. **Figure 8** provides the locations of the cumulative projects.

Cumulative Project Trip Generation

Project trips were generated for each of the cumulative projects using the ITE Trip Generation Manual, 9th Edition. **Table E** provides the cumulative project trip generation estimates.

Cumulative Project Trip Distribution and Assignment

Trip distribution and assignment was determined for the cumulative projects consistent with the approach for the proposed project. **Figure 9** provides the cumulative project trip distribution and ADT for each cumulative project. **Figure 10** provides the total cumulative project trip assignment.

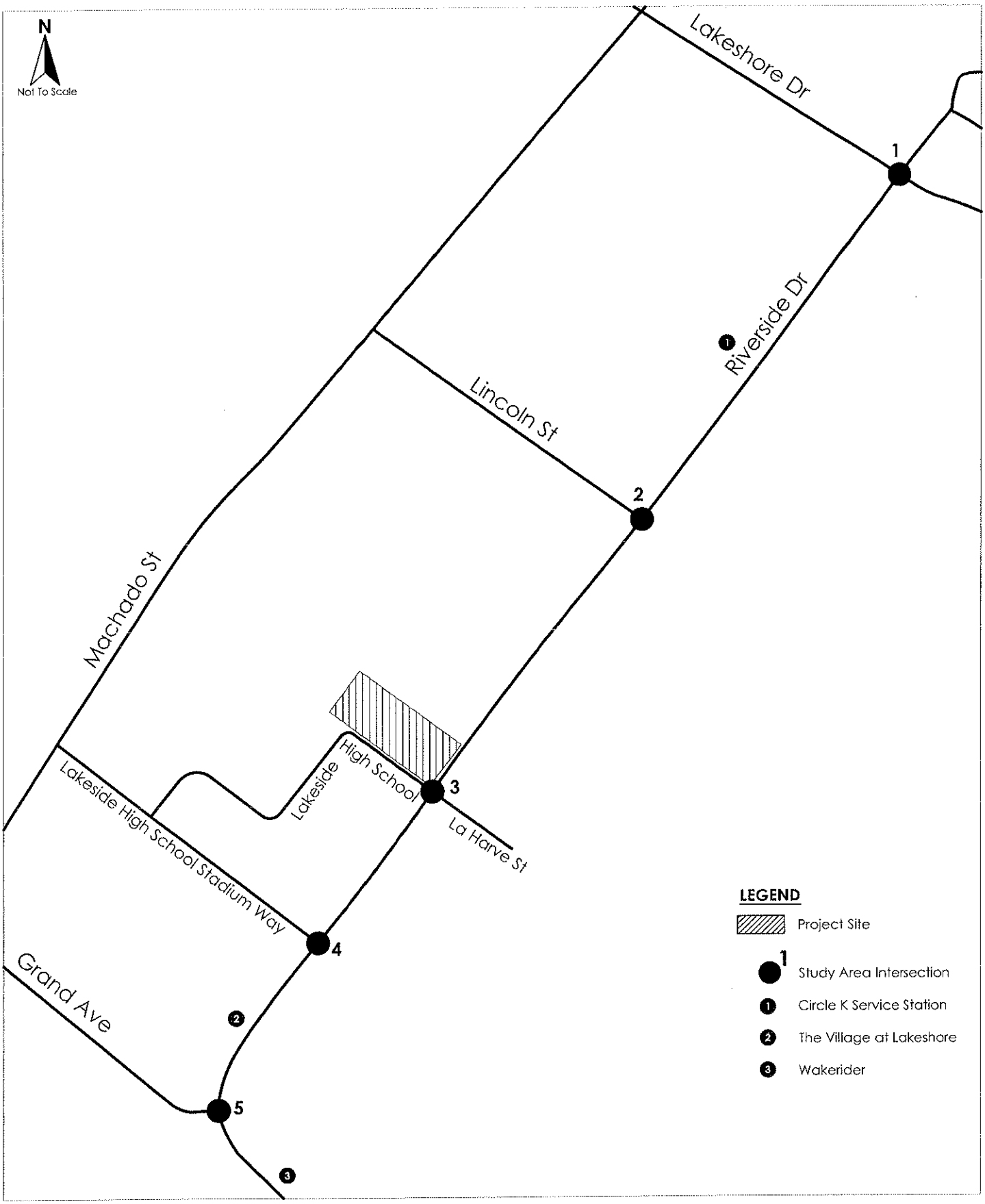


Figure 8
Cumulative Project Locations

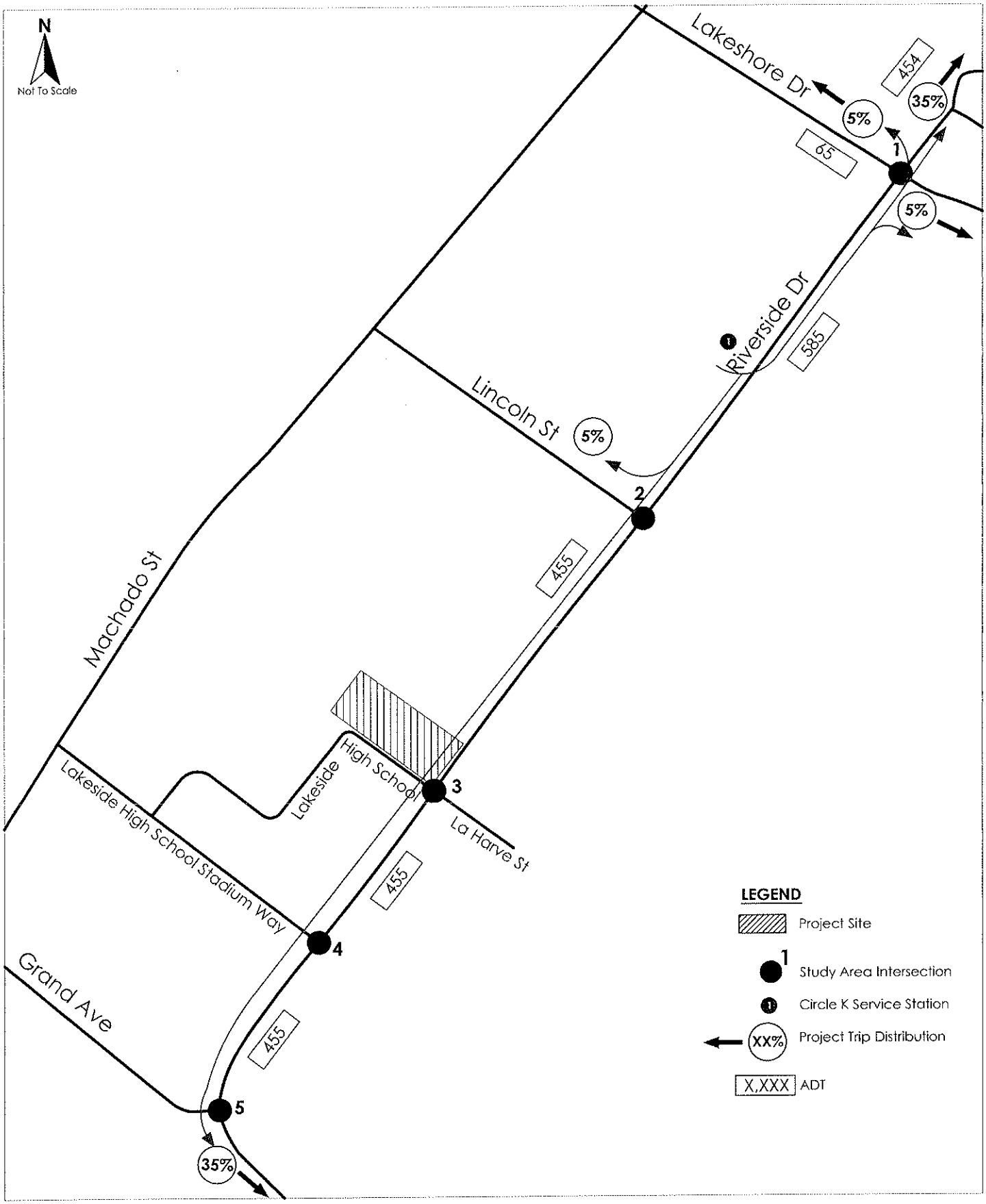


Figure 9A
Circle K Trip Distribution and ADT

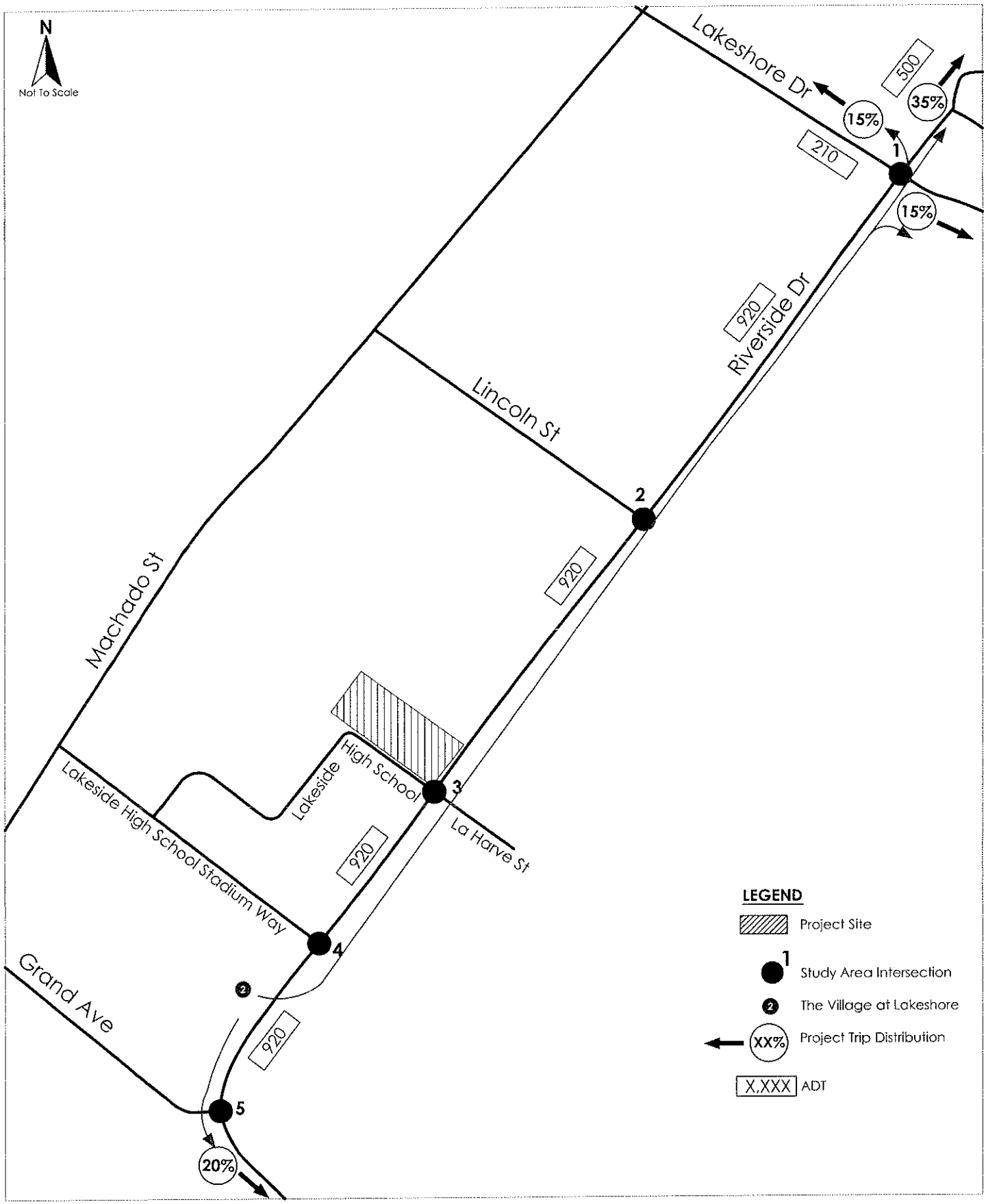


Figure 9B
The Village at Lakeshore Trip Distribution and ADT

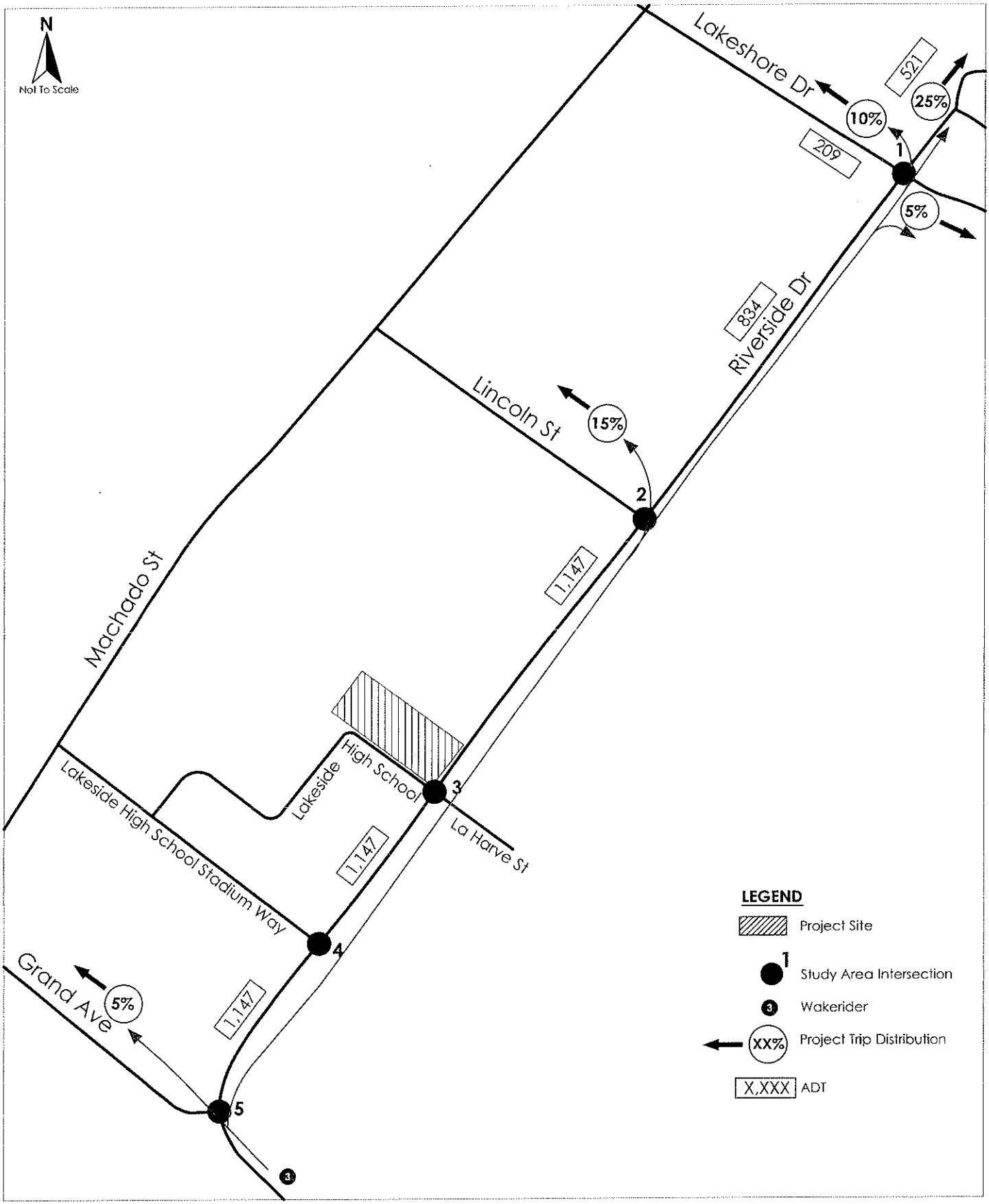


Figure 9C
Wakerider Trip Distribution and ADT

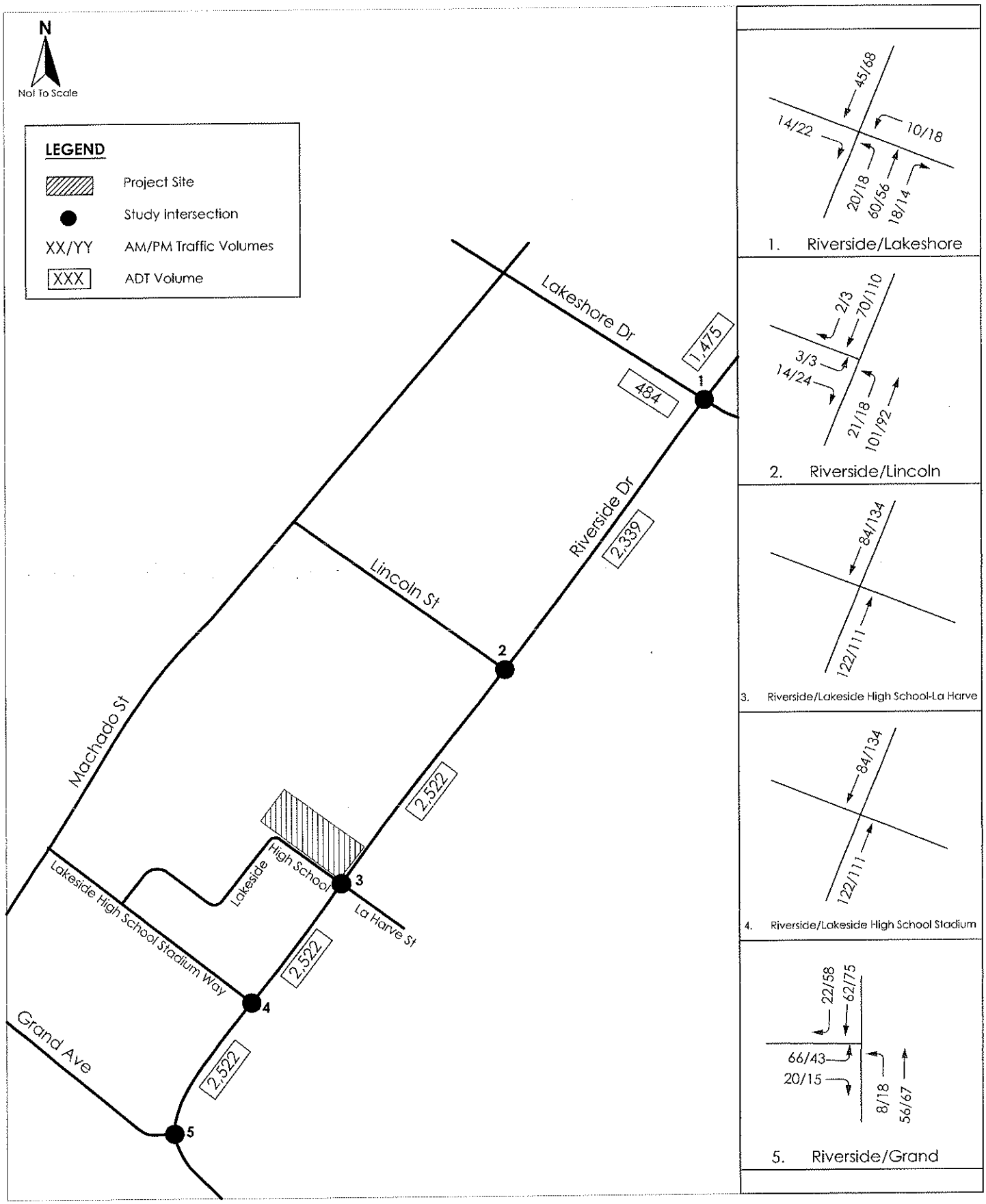


Figure 10
Cumulative Projects Trip Assignment

5.0 TRAFFIC ANALYSIS

Traffic impact analyses were conducted at the study area intersections for the Existing plus Project, Opening Year (Year 2017) plus Project, and Cumulative plus Project conditions. Intersection LOS was calculated using the HCM Methodology for signalized and unsignalized intersections. Appendix C provides the LOS calculation worksheets.

Existing plus Project Traffic Conditions

Traffic generated by the proposed project was added to the existing traffic volumes (with two growth factor) to determine the Existing plus Project condition. **Figure 11** illustrates the Existing plus Project traffic volumes and daily traffic on roadway segments.

Existing plus Project Level of Service

Table F provides the results of the Existing plus Project LOS analysis during the AM and PM peak hours. As shown in the table, all study area intersections currently operate at acceptable LOS (LOS D or better) with the exception of Riverside Drive/Lincoln Street (LOS E in the AM peak hour) Riverside Drive/Grand Avenue (LOS F in the AM and PM peak hours).

Table F - Existing plus Project Level of Service Summary

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
1. Riverside Drive/Lakeshore Drive	Signalized	30.8	C	28.5	C
2. Riverside Drive/Lincoln Street	Signalized	**64.8**	E	30.5	C
3. Riverside Drive/Lakeside High School-Le Harve Street	Signalized	6.0	A	14.7	B
4. Riverside Drive/Lakeside High School-Stadium Way	Signalized	7.8	A	14.9	B
5. Riverside Drive/Grand Avenue	Stop Controlled (EB)	**>50.0**	F	**>50.0**	F

Existing with Ambient Growth Rate (Opening Year 2017) plus Project Traffic Conditions

Traffic generated by the proposed project was added to the existing traffic volumes plus a six (6) percent growth factor to determine the Opening Year plus Project condition. **Figure 12** illustrates the Opening Year plus Project traffic volumes and daily traffic on roadway segments.

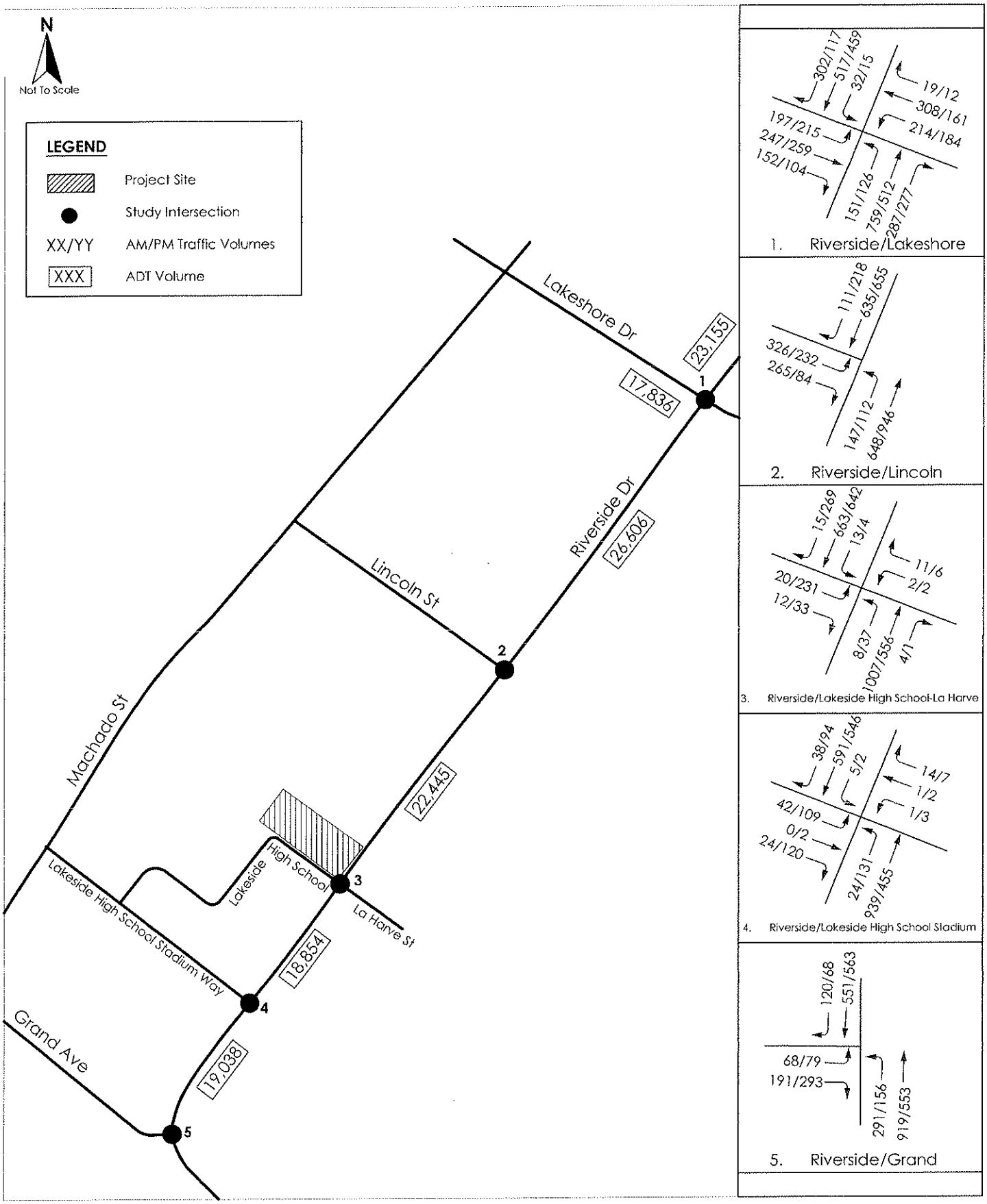


Figure 11
Existing plus Project Traffic Volumes

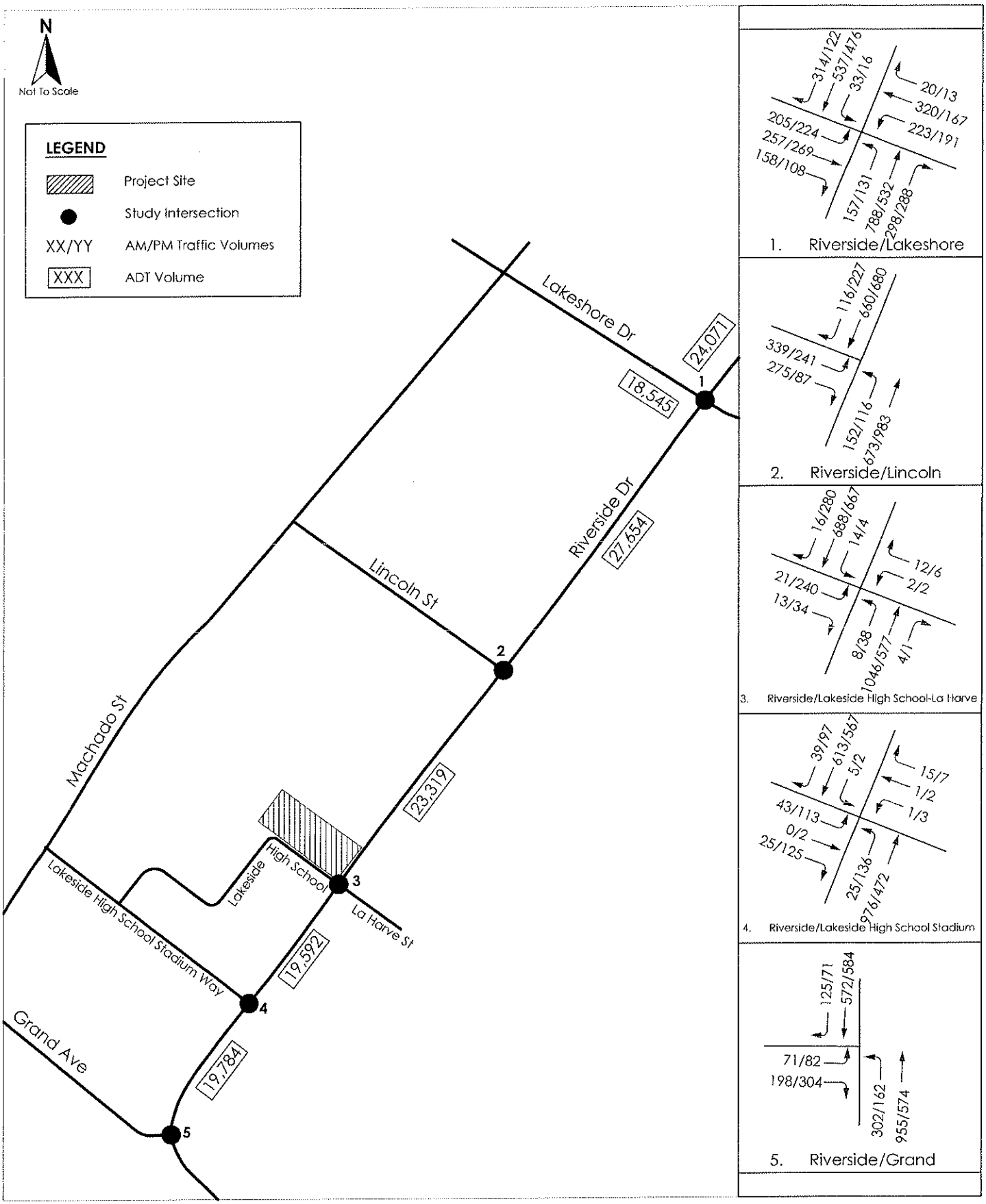


Figure 12
Opening Year (2017) plus Project Traffic Volumes

Opening Year 2017 plus Project Level of Service

Table G provides the results of the Existing plus Project LOS analysis during the AM and PM peak hours. As shown in the table, all study area intersections currently operate at acceptable LOS (LOS D or better) with the exception of Riverside Drive/Lincoln Street (LOS E in the AM peak hour) Riverside Drive/Grand Avenue (LOS F in the AM and PM peak hours).

Table G - Opening Year plus Project Level of Service Summary

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
1. Riverside Drive/Lakeshore Drive	Signalized	27.0	C	28.9	C
2. Riverside Drive/Lincoln Street	Signalized	**74.8**	**E**	34.9	C
3. Riverside Drive/Lakeside High School-Le Harve Street	Signalized	6.3	A	14.6	B
4. Riverside Drive/Lakeside High School-Stadium Way	Signalized	7.9	A	15.2	B
5. Riverside Drive/Grand Avenue	Stop Controlled (EB)	**>50.0**	**F**	**>50.0**	**F**

Cumulative Traffic Conditions

Project trips from the three cumulative projects were added to the existing traffic volumes, along with a four percent growth rate, to determine the cumulative traffic volumes. **Figure 13** illustrates the cumulative AM and PM peak hour volumes at the study area intersections, and the cumulative daily traffic on roadway segments.

Cumulative Level of Service

Table H provides the results of the Existing plus Project LOS analysis during the AM and PM peak hours. As shown in the table, all study area intersections currently operate at acceptable LOS (LOS D or better) with the exception of Riverside Drive/Lincoln Street (LOS F in the AM peak hour) Riverside Drive/Grand Avenue (LOS F in the AM and PM peak hours).

Table H - Cumulative Level of Service Summary

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
1. Riverside Drive/Lakeshore Drive	Signalized	35.7	D	31.5	C
2. Riverside Drive/Lincoln Street	Signalized	**95.0**	**F**	44.7	D
3. Riverside Drive/Lakeside High School-Le Harve Street	Signalized	6.5	A	15.0	B
4. Riverside Drive/Lakeside High School-Stadium Way	Signalized	8.0	A	15.1	B
5. Riverside Drive/Grand Avenue	Stop Controlled (EB)	**>50.0**	**F**	**>50.0**	**F**

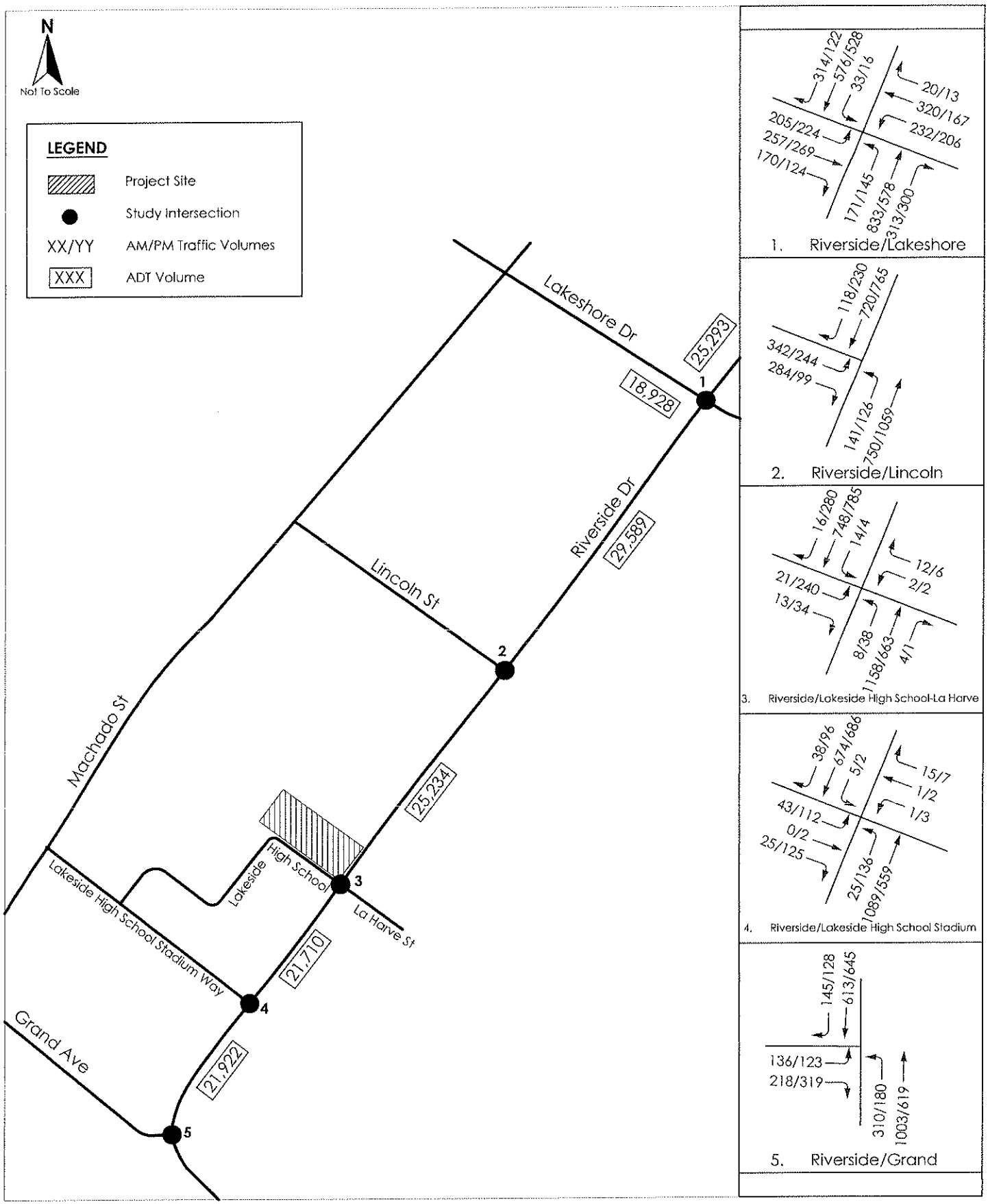


Figure 13
Cumulative Traffic Volumes

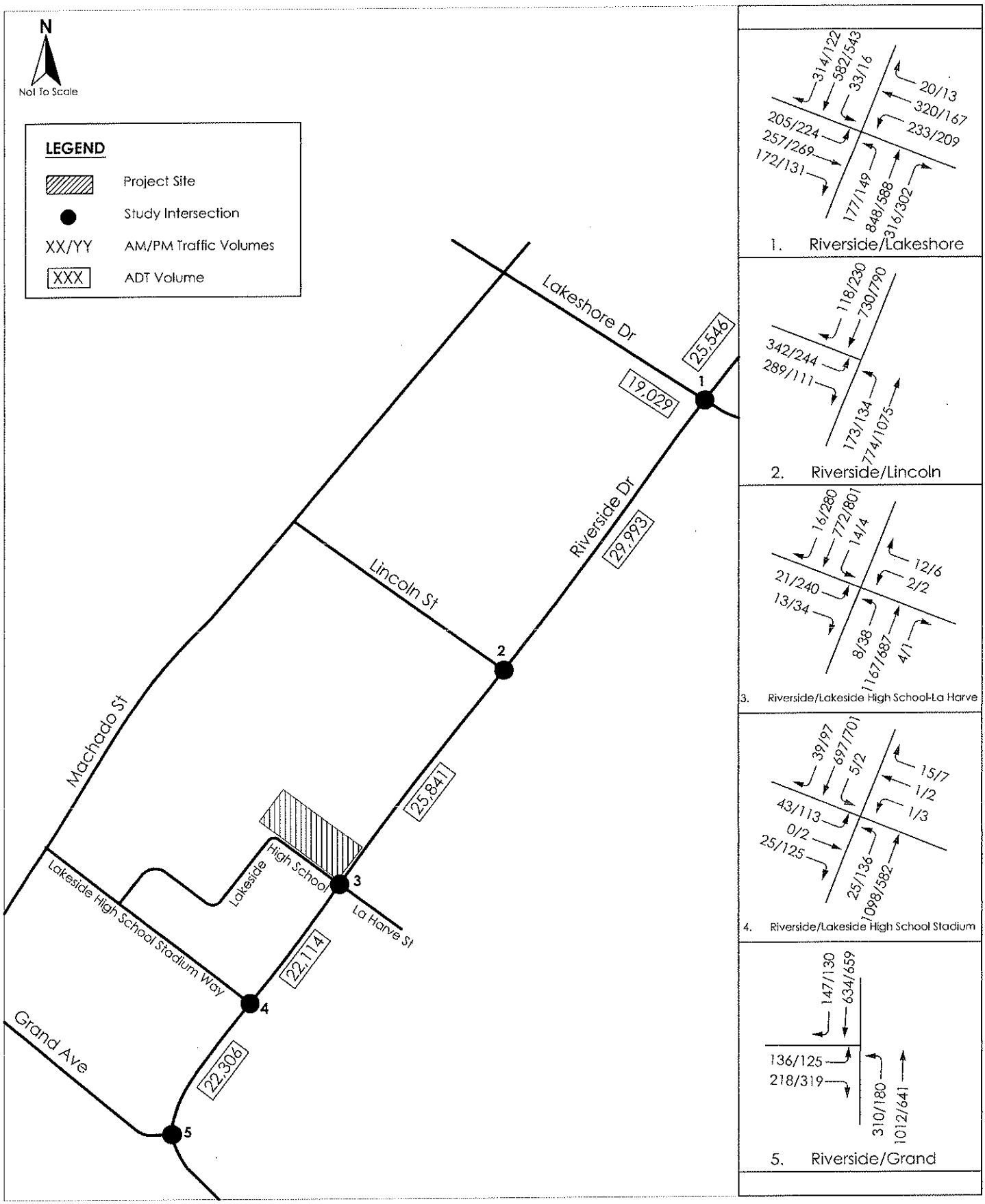


Figure 14
Cumulative plus Project Traffic Volumes

A traffic signal warrant analysis was conducted at the intersection of Riverside Drive/Grand Avenue for the Cumulative condition. The Caltrans Warrant 3 (Peak Hour) Analysis shows that the minor street approach (Grand Avenue) meets and exceeds the volume required to warrant a traffic signal (354 AM peak hour vehicles and 442 PM peak hour vehicles), regardless of the through traffic on Riverside Drive.

Fair Share Contribution

It is recommended that the proposed project contribute towards the fair-share costs for these offsite improvements. The fair share contributions should be collected and used to construct the offsite improvements to maintain the acceptable LOS.

The project's fair share contribution is calculated by the following formula:

Project Only Trips / (Cumulative Traffic - Existing Traffic) x 100%

The following provides the calculation of the project's fair share contribution towards the recommended improvements.

<u>Riverside Drive/Lincoln Street</u>
AM peak hour traffic (Project Only) - 51 trips
Cumulative AM peak hour traffic - 2,355 trips
Existing AM peak hour traffic - 2,082 trips

51 trips / (2,355 trips - 2,082 trips) x 100% = 18.68%

Estimated Cost for Restripe Eastbound Approach with Signal Modification = $50,000
Estimated Fair Share Contribution = $50,000 x 18.68% = **$9,340**

<u>Riverside Drive/Grand Avenue</u>
AM peak hour traffic (Project Only) - 32 trips
Cumulative AM peak hour traffic - 2,425 trips
Existing AM peak hour traffic - 2,108 trips

32 trips / (2,425 trips - 2,108 trips) x 100% = 10.09%

PM peak hour traffic (Project Only) - 39 trips
Cumulative PM peak hour traffic - 2,014 trips
Existing PM peak hour traffic - 1,673 trips

39 trips / (2,014 trips - 1,673 trips) x 100% = 11.44%

Estimated Cost for New Signal (Design/Permit/Construction) = $250,000
Estimated Fair Share Contribution (Based on PM Peak) = $50,000 x 11.44% = **$28,600**

Total Fair Share Contribution (Restripe and New Signal) = **$37,940**

APPENDIX A

SCOPING AGREEMENT

Exhibit B

SCOPING AGREEMENT FOR TRAFFIC IMPACT STUDY

This letter acknowledges the City of Lake Elsinore requirements for traffic impact analysis of the following project. The analysis must follow the City of Lake Elsinore Traffic Study Guidelines dated February 2005.

Case No. (i.e. TR, PM, CUP, PP)
Related Cases -
SP No. *Provide SP No. and list of other approved or active projects within the SP.*
EIR No.
GPA No.
CZ No.
Project Name: Lakeshore Pointe
Project Address: Northwest corner of Lakeside High School and Riverside Drive (SR-74)
Project Description: 152 Apartments

	Consultant	Developer
Name:	Infrastructure Group , Inc	Southern California Investors
Address:	2672 N. Vista Crest Road	43414 Business Park Drive
	Orange, CA 92867	Temecula, CA 92590
Telephone:	714-749-6386	951-252-9000
Fax:	714-974-3616	951-252-9001

A. Trip Generation Source: ITE 9th Edition

Current GP Land Use *Provide General Plan Land Use Designation (e.g.: MDR, CR, etc)* Proposed Land Use **Residential**

Current Zoning R-3 Proposed Zoning R-3

Current Trip Generation	In	Out	Total	Proposed Trip Generation In	Out	Total
AM Trips	-	-	-	24	60	84
PM Trips	-	-	-	62	40	102

Internal Trip Allowance ☐ Yes ☒ No (% Trip Discount)
Pass-By Trip Allowance ☐ Yes ☒ No (% Trip Discount)

A passby trip discount of 25% is allowed for appropriate land uses. The passby trips at adjacent study area intersections and project driveways shall be indicated on a report figure.

B. Trip Geographic Distribution: N 60 % S 40% E 0% W 0%
(attach exhibit for detailed assignment)

C. Background Traffic

Project Build-out Year: 2017 Annual Ambient Growth Rate: 2.0%
Phase Year(s)
Other area projects to be analyzed: The Village at Lakeshore, Circle K Service, and Wakerider

Model/Forecast methodology

D. Study Intersections: *(NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)*

1. Riverside Dr. at Lakeshore Dr.
2. Riverside Dr. at Lincoln St.
3. Riverside Dr. at Lakeside High School
4. Riverside Dr. at Lakeside HS Stadium Way
5. Riverside Dr. @ Grand Ave
6. _____
7. _____
8. _____
9. _____
10. _____

E. Study Roadway Segments: *(NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)*

1. Riverside Dr. (Lakeview Ave. to Lakeshore Dr.)
2. Riverside Dr. (Lakeshore Dr. to Lincoln St.)
3. Riverside Dr. (Lincoln St. to Lakeside High School)
4. Riverside Dr (Lakeside to HS Stadium Way)
5. Riverside Dr. (Lakeside HS Stadium Way to Grand Ave.)
6. Lakeshore Dr. (Riverside Dr. to Iowa St.)
7. Lakeshore Dr. (Riverside Dr. to Viscaya St.)
8. _____
9. _____
10. _____

E. Other Jurisdictional Impacts

Is this project within one-mile radius of another jurisdiction or a State Highway? ☐ Yes ☒ No

If so, name of City Jurisdiction: _____

F. Site Plan (please attach reduced copy) (Please see attachment.)

G. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (To be filled out by City)
(NOTE: If the traffic study states that "a traffic signal is warranted" (or "a traffic signal appears to be warranted," or similar statement) at an existing unsignalized intersection under existing conditions, 8-hour approach traffic volume information must be submitted in addition to the peak hourly turning movement counts for that intersection.)

_____

H. Existing Conditions

Traffic count data must be new or recent. Provide traffic count dates if using other than new counts.
Date of counts: Use August 27, 2014 counts with 2.0% Growth Rate

***NOTE* Traffic Study Submittal Form and appropriate fee must be submitted with, or prior to submittal of this form. City staff will not process the Scoping Agreement prior to receipt of the fee.**

Recommended by: _____ 9/29/15
Consultant's Representative — Date

Approved Scoping Agreement:

_____ _____
City of Lake Elsinore Engineering Department — Date

Scoping Agreement Submitted on _____

Revised on _____

TABLE A

Lakeshore Pointe Project Trip Generation

Use	Units	Trip Rate*	ADT	AM Peak Hour					PM Peak Hour				
				Rate	#	In/Out	In	Out	Rate	#	In/Out	In	Out
Apartment	152 Units	6.65/DU	1,011	0.055	84	29/71	24	60	0.67	102	61/39	61	40

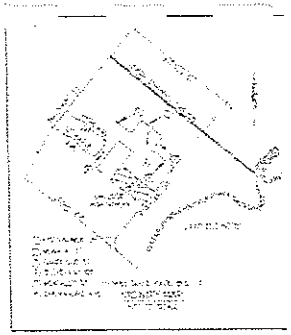
*Institute of Transportatin Engineers Trip Generation Manual, 9th Edition

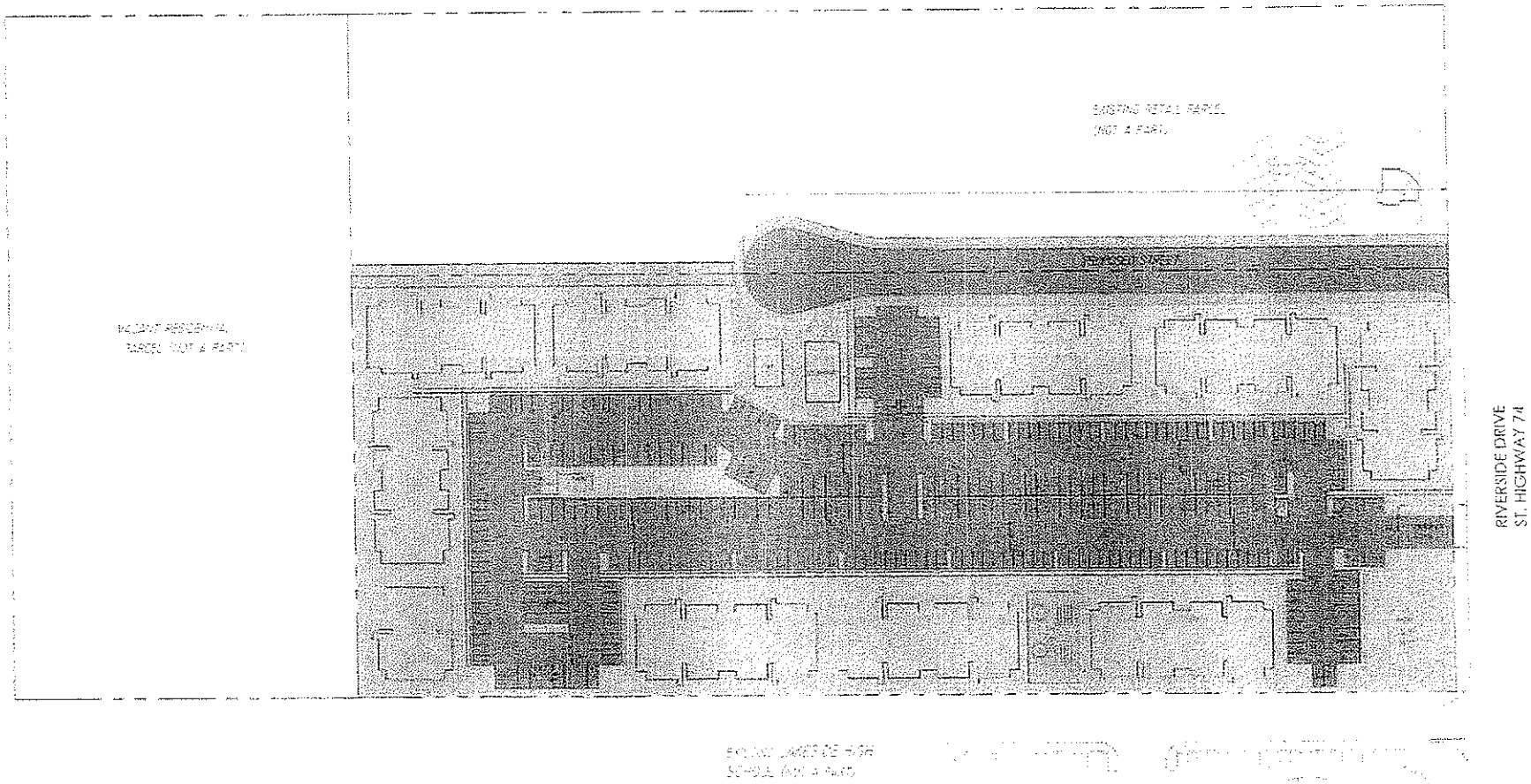
DU= Dwelling Unit

PRELIMINARY SITE PLAN
LAKEPOINTE APARTMENTS

PROJECT DATA	
1 BEDROOM APARTMENTS	32
2 BEDROOM APARTMENTS	104
3 BEDROOM APARTMENTS	16
TOTAL APARTMENTS:	152

PARKING	
COVERED PARKING SPACES	152
UNCOVERED SPACES	197
TOTAL SPACES	349





SITE PLAN

NORTH

DAIGLE
ARCHITECTURE & PLANNING INC

PRELIMINARY SITE PLAN
LAKEPOINTE APARTMENTS

LAKE ELSINORE, CA 92530

INTEGRIS
DEVELOPMENT

9/28/2015

APPENDIX B

EXISTING TRAFFIC COUNTS

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: LAKE ELSINORE
N-S- Direction: RIVERSIDE DRIVE
E-W Direction: LAKESHORE DRIVE

File Name : H1409006
Site Code : 00000000
Start Date : 8/26/2014
Page No : 1

Groups Printed- Turning Movements

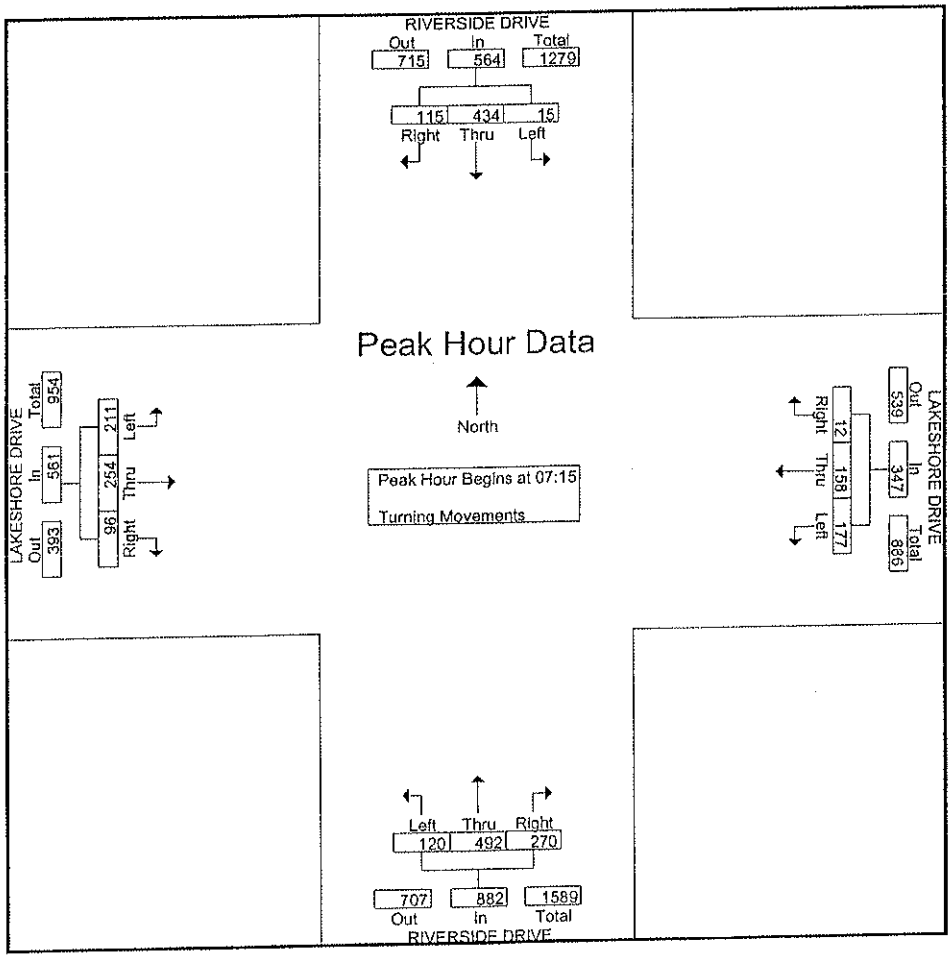
	RIVERSIDE DRIVE Southbound			LAKESHORE DRIVE Westbound			RIVERSIDE DRIVE Northbound			LAKESHORE DRIVE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	14	105	8	3	37	38	67	101	14	17	74	48	526
07:15	36	106	6	1	62	46	74	133	26	19	73	47	629
07:30	19	102	2	3	29	42	68	122	15	25	83	67	577
07:45	37	108	5	2	28	42	68	118	33	24	52	49	566
Total	106	421	21	9	156	168	277	474	88	85	282	211	2298
08:00	23	118	2	6	39	47	60	119	46	28	46	48	582
08:15	28	122	2	1	30	41	59	127	49	22	31	47	559
08:30	37	91	4	3	31	28	66	129	34	16	49	39	527
08:45	36	94	8	6	30	27	51	101	28	23	51	30	485
Total	124	425	16	16	130	143	236	476	157	89	177	164	2153
*** BREAK ***													
16:00	51	110	5	4	56	48	47	140	27	30	25	40	583
16:15	62	123	10	4	66	49	57	174	38	34	54	40	711
16:30	71	132	8	2	63	59	61	185	40	38	67	57	783
16:45	53	118	7	8	105	45	77	182	20	35	64	52	766
Total	237	483	30	18	290	201	242	681	125	137	210	189	2843
17:00	66	125	8	3	69	57	59	178	40	36	53	44	738
17:15	79	126	8	6	65	48	81	184	42	38	58	40	775
17:30	68	124	11	12	47	50	69	146	26	27	50	43	673
17:45	47	109	10	6	69	45	51	172	33	37	44	54	677
Total	260	484	37	27	250	200	260	680	141	138	205	181	2863
Grand Total	727	1813	104	70	826	712	1015	2311	511	449	874	745	10157
Apprch %	27.5	68.6	3.9	4.4	51.4	44.3	26.5	60.2	13.3	21.7	42.3	36	
Total %	7.2	17.8	1	0.7	8.1	7	10	22.8	5	4.4	8.6	7.3	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: LAKE ELSINORE
N-S- Direction: RIVERSIDE DRIVE
E-W Direction: LAKESHORE DRIVE

File Name : H1409006
Site Code : 00000000
Start Date : 8/26/2014
Page No : 2

	RIVERSIDE DRIVE Southbound				LAKESHORE DRIVE Westbound				RIVERSIDE DRIVE Northbound				LAKESHORE DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	36	106	6	148	1	62	46	109	74	133	26	233	19	73	47	139	629
07:30	19	102	2	123	3	29	42	74	68	122	15	205	25	83	67	175	577
07:45	37	108	5	150	2	28	42	72	68	118	33	219	24	52	49	125	566
08:00	23	118	2	143	6	39	47	92	60	119	46	225	28	46	48	122	582
Total Volume	115	434	15	564	12	158	177	347	270	492	120	882	96	254	211	561	2354
% App. Total	20.4	77	2.7		3.5	45.5	51		30.6	55.8	13.6		17.1	45.3	37.6		
PHF	.777	.919	.625	.940	.500	.637	.941	.796	.912	.925	.652	.946	.857	.765	.787	.801	.936

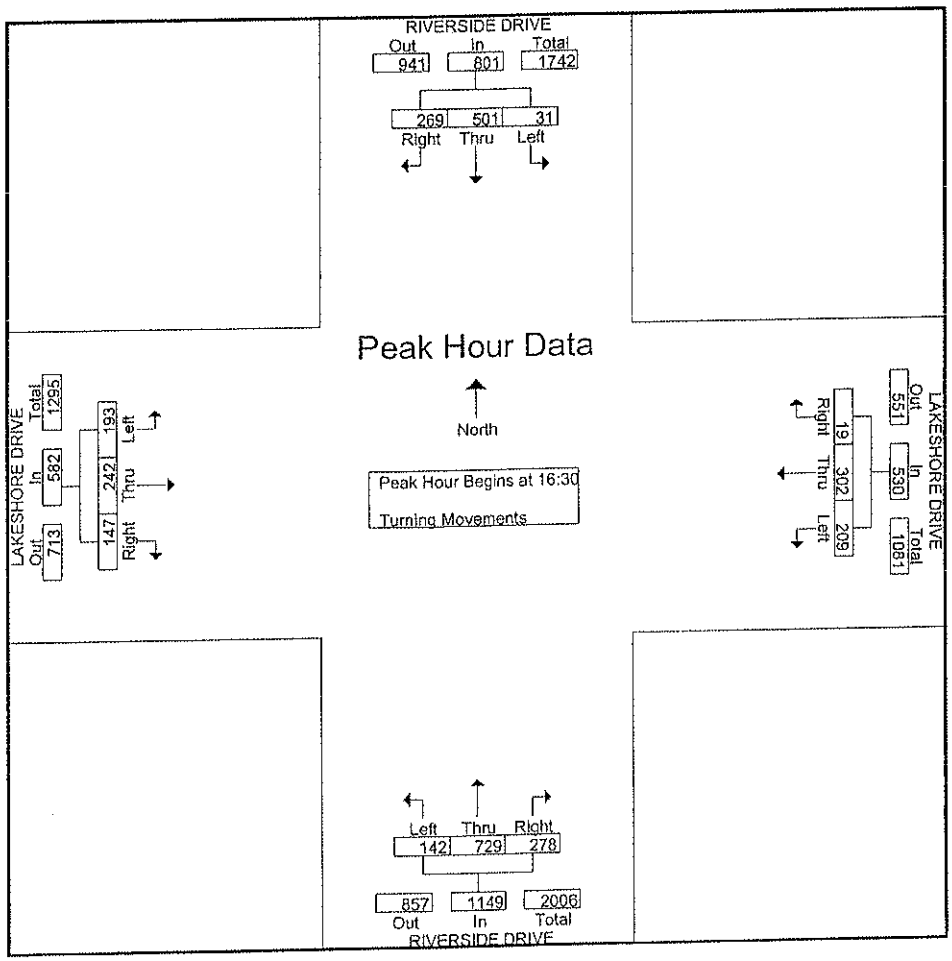


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: LAKE ELSINORE
N-S- Direction: RIVERSIDE DRIVE
E-W Direction: LAKESHORE DRIVE

File Name : H1409006
Site Code : 00000000
Start Date : 8/26/2014
Page No : 3

	RIVERSIDE DRIVE Southbound				LAKESHORE DRIVE Westbound				RIVERSIDE DRIVE Northbound				LAKESHORE DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	71	132	8	211	2	63	59	124	61	185	40	286	38	67	57	162	783
16:45	53	118	7	178	8	105	45	158	77	182	20	279	35	64	52	151	766
17:00	66	125	8	199	3	69	57	129	59	178	40	277	36	53	44	133	738
17:15	79	126	8	213	6	65	48	119	81	184	42	307	38	58	40	136	775
Total Volume	269	501	31	801	19	302	209	530	278	729	142	1149	147	242	193	582	3062
% App. Total	33.6	62.5	3.9		3.6	57	39.4		24.2	63.4	12.4		25.3	41.6	33.2		
PHF	.851	.949	.969	.940	.594	.719	.886	.839	.858	.985	.845	.936	.967	.903	.846	.898	.978



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: LAKE ELSINORE
N-S- Direction: RIVERSIDE DRIVE
E-W Direction: LINCOLN STREET

File Name : H1409007
Site Code : 00000000
Start Date : 8/26/2014
Page No : 1

Groups Printed- Turning Movements

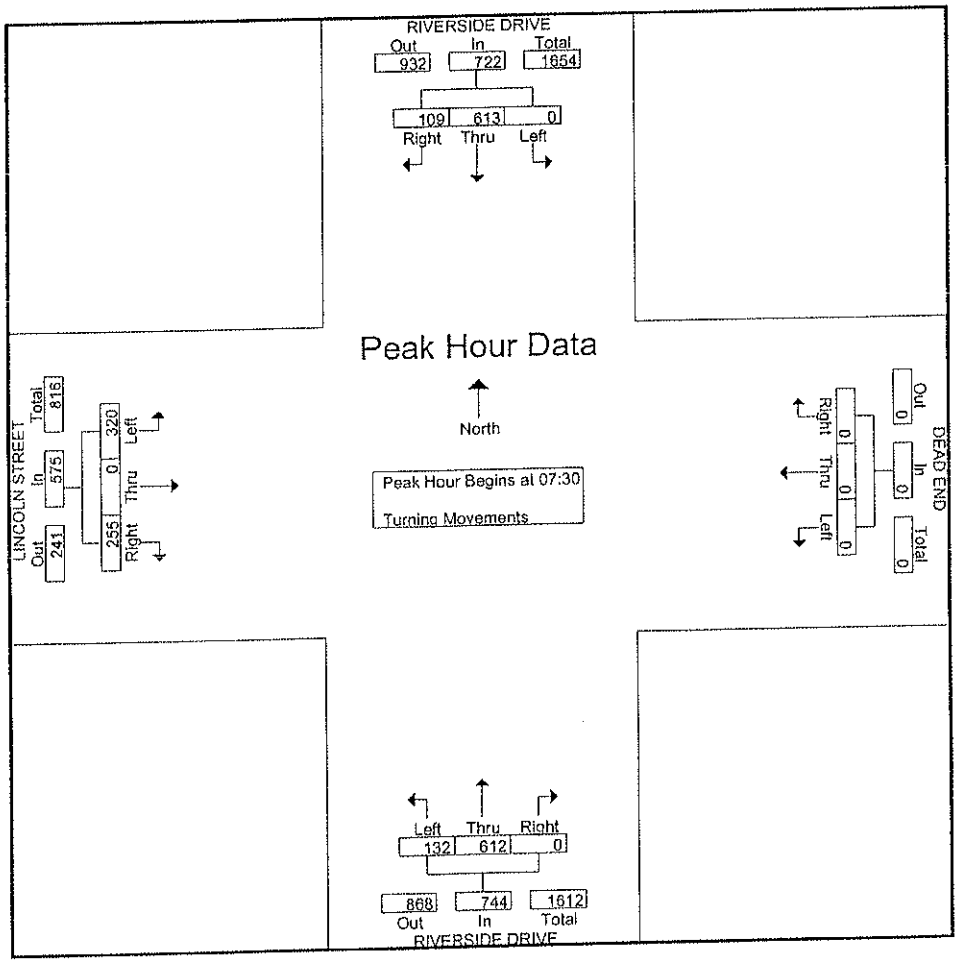
	RIVERSIDE DRIVE Southbound			DEAD END Westbound			RIVERSIDE DRIVE Northbound			LINCOLN STREET Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	17	136	0	0	0	0	0	138	16	26	0	81	414
07:15	19	152	0	0	0	0	0	119	20	31	0	107	448
07:30	22	117	0	0	0	0	0	114	10	43	0	107	413
07:45	37	142	0	0	0	0	0	140	22	43	0	84	468
Total	95	547	0	0	0	0	0	511	68	143	0	379	1743
08:00	19	179	0	0	0	0	0	165	44	98	0	63	568
08:15	31	175	0	0	0	0	0	193	56	71	0	66	592
08:30	27	102	0	0	0	0	0	160	19	21	0	73	402
08:45	25	108	0	0	0	0	0	118	8	13	0	45	317
Total	102	564	0	0	0	0	0	636	127	203	0	247	1879
*** BREAK ***													
16:00	36	138	0	0	0	0	0	187	21	20	0	30	432
16:15	50	157	0	0	0	0	0	238	18	16	0	49	528
16:30	38	168	0	0	0	0	0	236	30	23	0	54	549
16:45	71	144	0	0	0	0	0	234	19	20	0	58	546
Total	195	607	0	0	0	0	0	895	88	79	0	191	2055
17:00	55	149	0	0	0	0	0	204	35	12	0	66	521
17:15	49	149	0	0	0	0	0	231	25	16	0	53	523
17:30	39	139	0	0	0	0	0	202	27	18	0	60	485
17:45	45	135	0	0	0	0	0	213	27	17	0	57	494
Total	188	572	0	0	0	0	0	850	114	63	0	236	2023
Grand Total	580	2290	0	0	0	0	0	2892	397	488	0	1053	7700
Apprch %	20.2	79.8	0	0	0	0	0	87.9	12.1	31.7	0	68.3	
Total %	7.5	29.7	0	0	0	0	0	37.6	5.2	6.3	0	13.7	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: LAKE ELSINORE
N-S- Direction: RIVERSIDE DRIVE
E-W Direction: LINCOLN STREET

File Name : H1409007
Site Code : 00000000
Start Date : 8/26/2014
Page No : 2

	RIVERSIDE DRIVE Southbound				DEAD END Westbound				RIVERSIDE DRIVE Northbound				LINCOLN STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	22	117	0	139	0	0	0	0	0	114	10	124	43	0	107	150	413
07:45	37	142	0	179	0	0	0	0	0	140	22	162	43	0	84	127	468
08:00	19	179	0	198	0	0	0	0	0	165	44	209	98	0	63	161	568
08:15	31	175	0	206	0	0	0	0	0	193	56	249	71	0	66	137	592
Total Volume	109	613	0	722	0	0	0	0	0	612	132	744	255	0	320	575	2041
% App. Total	15.1	84.9	0		0	0	0		0	82.3	17.7		44.3	0	55.7		
PHF	.736	.856	.000	.876	.000	.000	.000	.000	.000	.793	.589	.747	.651	.000	.748	.893	.862



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: LAKE ELSINORE
N-S- Direction: RIVERSIDE DRIVE
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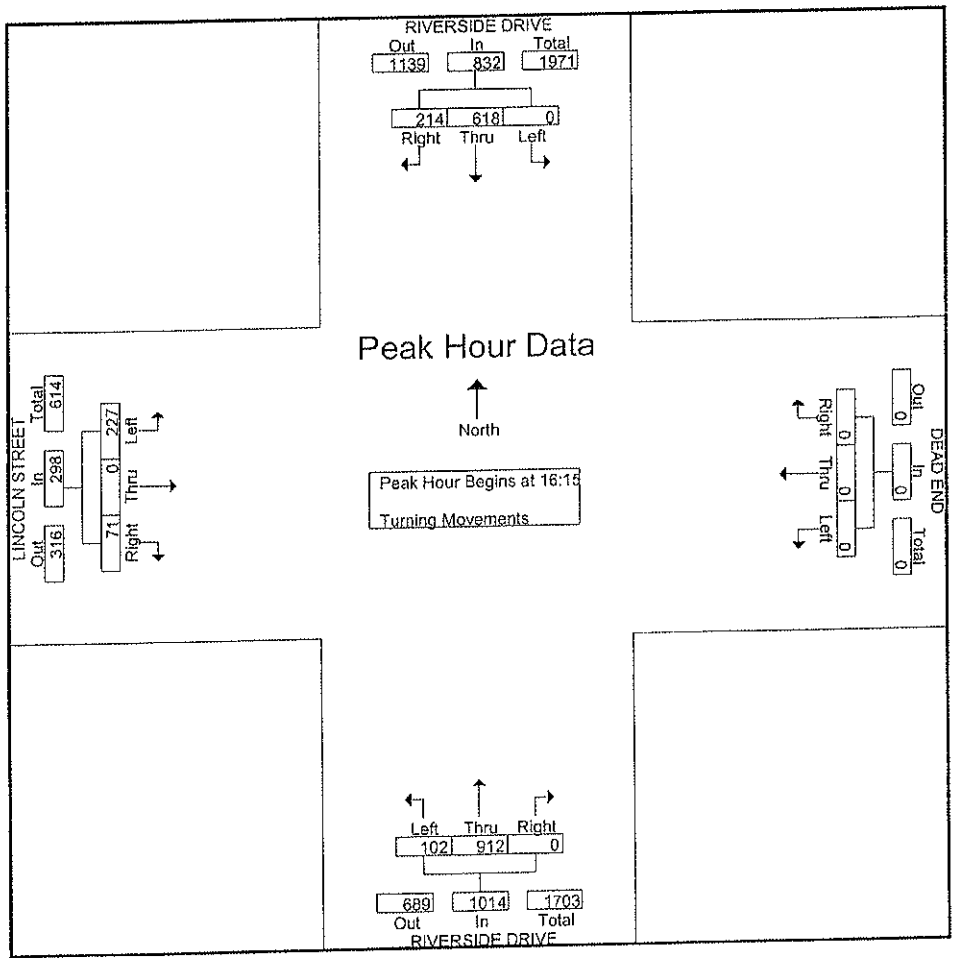
File Name : H1409007
Site Code : 00000000
Start Date : 8/26/2014
Page No : 3

	RIVERSIDE DRIVE Southbound				DEAD END Westbound				RIVERSIDE DRIVE Northbound				LINCOLN STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:15																	
16:15	50	157	0	207	0	0	0	0	0	238	18	256	16	0	49	65	528
16:30	38	168	0	206	0	0	0	0	0	236	30	266	23	0	54	77	549
16:45	71	144	0	215	0	0	0	0	0	234	19	253	20	0	58	78	546
17:00	55	149	0	204	0	0	0	0	0	204	35	239	12	0	66	78	521
Total Volume	214	618	0	832	0	0	0	0	0	912	102	1014	71	0	227	298	2144
% App. Total	25.7	74.3	0		0	0	0		0	89.9	10.1		23.8	0	76.2		
PHF	.754	.920	.000	.967	.000	.000	.000	.000	.000	.958	.729	.953	.772	.000	.860	.955	.976



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: LAKE ELSINORE
N-S- Direction: RIVERSIDE DRIVE
E-W Direction: HIGH SCHOOL - LE HARVE ST

File Name : H1409008
Site Code : 00000000
Start Date : 8/26/2014
Page No : 1

Groups Printed- Turning Movements

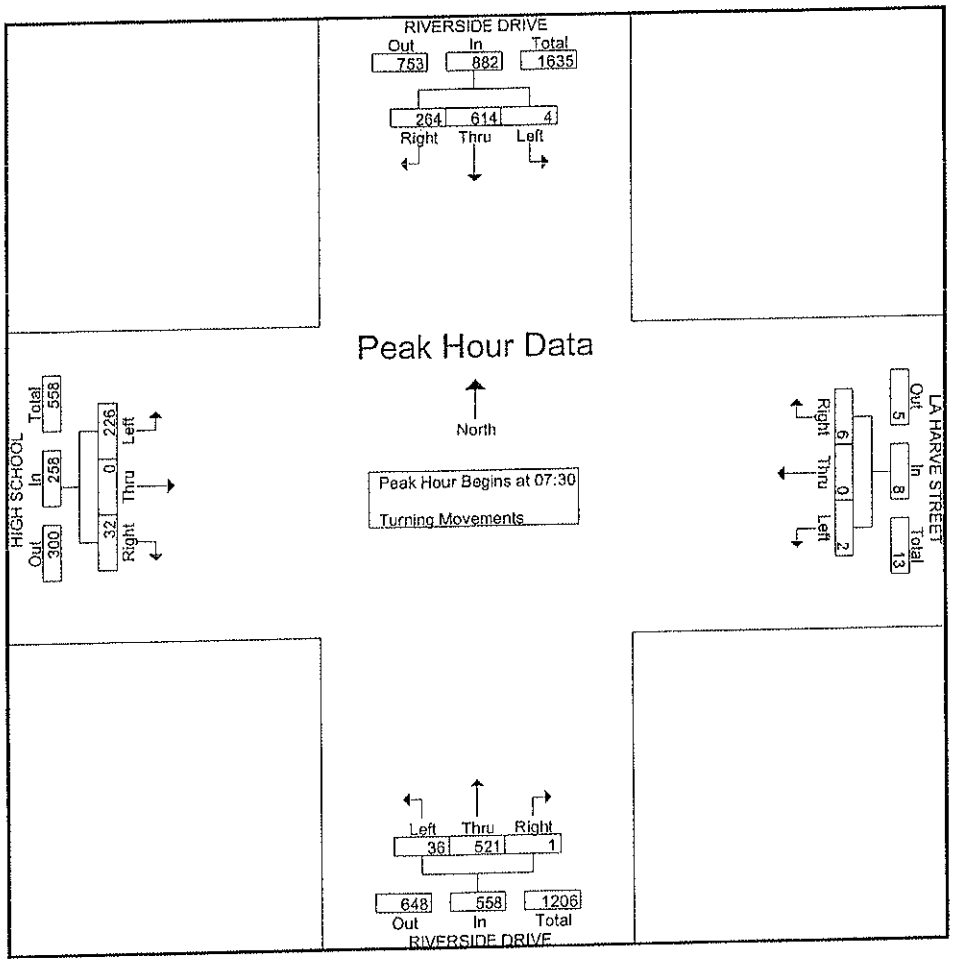
	RIVERSIDE DRIVE Southbound			LA HARVE STREET Westbound			RIVERSIDE DRIVE Northbound			HIGH SCHOOL Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	29	129	2	4	0	0	0	148	5	5	0	7	329
07:15	31	140	1	2	0	1	1	104	3	2	0	14	299
07:30	27	132	1	3	0	1	0	98	8	1	0	21	292
07:45	40	140	0	2	0	1	0	128	7	2	0	34	354
Total	127	541	4	11	0	3	1	478	23	10	0	76	1274
08:00	91	172	1	0	0	0	0	129	11	6	0	73	483
08:15	106	170	2	1	0	0	1	166	10	23	0	98	577
08:30	18	94	2	1	0	3	0	121	5	13	0	28	285
08:45	5	112	2	5	0	0	0	101	3	5	0	7	240
Total	220	548	7	7	0	3	1	517	29	47	0	206	1585
*** BREAK ***													
16:00	4	136	5	1	0	0	1	195	3	1	0	4	350
16:15	3	152	2	2	0	0	2	267	1	5	0	2	436
16:30	3	190	3	3	0	1	1	242	3	4	0	8	458
16:45	4	150	2	3	0	0	0	233	2	2	0	6	402
Total	14	628	12	9	0	1	4	937	9	12	0	20	1646
17:00	5	134	6	3	0	1	1	235	2	1	0	4	392
17:15	3	157	3	1	0	0	0	244	0	2	0	6	416
17:30	8	143	3	2	0	0	3	215	3	3	0	8	388
17:45	5	125	4	1	0	0	2	232	3	3	0	2	377
Total	21	559	16	7	0	1	6	926	8	9	0	20	1573
Grand Total	382	2276	39	34	0	8	12	2858	69	78	0	322	6078
Apprch %	14.2	84.4	1.4	81	0	19	0.4	97.2	2.3	19.5	0	80.5	
Total %	6.3	37.4	0.6	0.6	0	0.1	0.2	47	1.1	1.3	0	5.3	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: LAKE ELSINORE
N-S- Direction: RIVERSIDE DRIVE
E-W Direction: HIGH SCHOOL - LE HARVE ST

File Name : H1409008
Site Code : 00000000
Start Date : 8/26/2014
Page No : 2

	RIVERSIDE DRIVE Southbound				LA HARVE STREET Westbound				RIVERSIDE DRIVE Northbound				HIGH SCHOOL Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	27	132	1	160	3	0	1	4	0	98	8	106	1	0	21	22	292
07:45	40	140	0	180	2	0	1	3	0	128	7	135	2	0	34	36	354
08:00	91	172	1	264	0	0	0	0	0	129	11	140	6	0	73	79	483
08:15	106	170	2	278	1	0	0	1	1	166	10	177	23	0	98	121	577
Total Volume	264	614	4	882	6	0	2	8	1	521	36	558	32	0	226	258	1706
% App. Total	29.9	69.6	0.5		75	0	25		0.2	93.4	6.5		12.4	0	87.6		
PHF	.623	.892	.500	.793	.500	.000	.500	.500	.250	.785	.818	.788	.348	.000	.577	.533	.739



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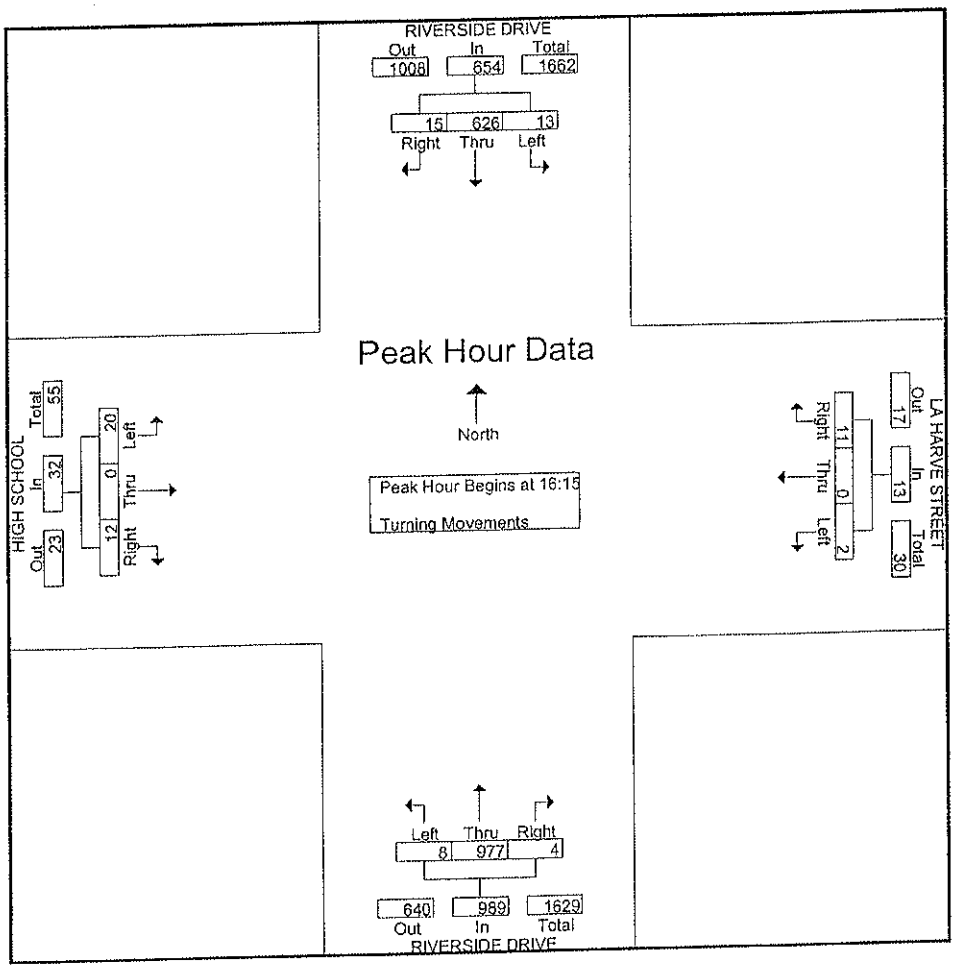
	RIVERSIDE DRIVE Southbound				LA HARVE STREET Westbound				RIVERSIDE DRIVE Northbound				HIGH SCHOOL Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:15																	
16:15	3	152	2	157	2	0	0	2	2	267	1	270	5	0	2	7	436
16:30	3	190	3	196	3	0	1	4	1	242	3	246	4	0	8	12	458
16:45	4	150	2	156	3	0	0	3	0	233	2	235	2	0	6	8	402
17:00	5	134	6	145	3	0	1	4	1	235	2	238	1	0	4	5	392
Total Volume	15	626	13	654	11	0	2	13	4	977	8	989	12	0	20	32	1688
% App. Total	2.3	95.7	2		84.6	0	15.4		0.4	98.8	0.8		37.5	0	62.5		
PHF	.750	.824	.542	.834	.917	.000	.500	.813	.500	.915	.667	.916	.600	.000	.625	.667	.921



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: LAKE ELSINORE
N-S- Direction: RIVERSIDE DRIVE
E-W Direction: HIGH SCHOOL STADIUM WAY

File Name : H1409009
Site Code : 00000000
Start Date : 8/26/2014
Page No : 1

Groups Printed- Turning Movements

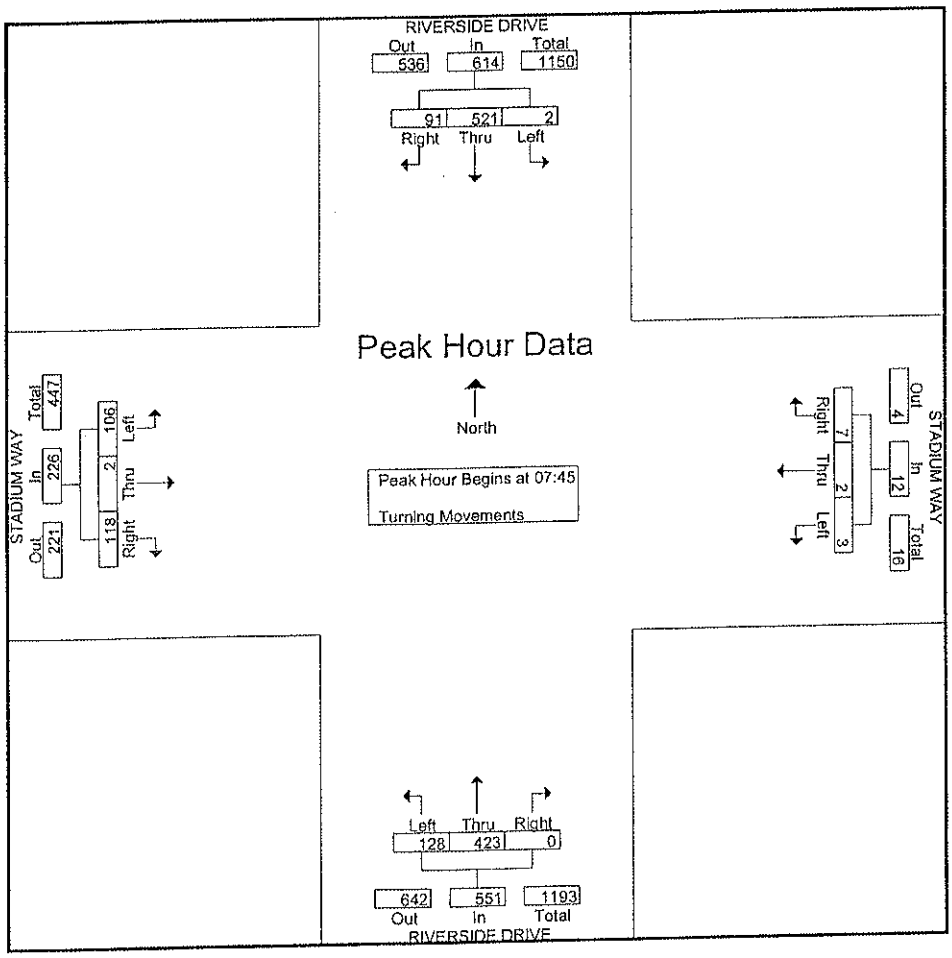
	RIVERSIDE DRIVE Southbound			STADIUM WAY Westbound			RIVERSIDE DRIVE Northbound			STADIUM WAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	7	123	1	2	0	1	0	130	7	2	0	7	280
07:15	2	124	0	4	0	3	1	97	11	10	0	8	260
07:30	3	131	2	2	0	3	1	97	12	3	0	10	264
07:45	16	124	0	0	0	0	0	112	11	12	0	13	288
Total	28	502	3	8	0	7	2	436	41	27	0	38	1092
08:00	33	129	0	3	1	1	0	101	40	35	1	32	376
08:15	40	139	0	2	1	1	0	94	71	62	1	52	463
08:30	2	129	2	2	0	1	0	116	6	9	0	9	276
08:45	0	115	0	0	0	1	0	98	0	0	0	0	214
Total	75	512	2	7	2	4	0	409	117	106	2	93	1329
*** BREAK ***													
16:00	2	135	3	3	0	0	0	189	4	0	0	3	339
16:15	6	138	2	2	0	0	0	250	10	5	0	6	419
16:30	15	158	1	2	0	0	0	231	5	10	0	17	439
16:45	9	127	0	4	0	1	0	212	6	5	0	11	375
Total	32	558	6	11	0	1	0	882	25	20	0	37	1572
17:00	6	134	2	6	1	0	0	219	3	4	0	7	382
17:15	12	129	4	1	0	0	0	230	6	7	0	14	403
17:30	9	132	3	4	0	0	0	203	5	6	0	19	381
17:45	7	124	2	2	0	0	0	214	3	3	0	7	362
Total	34	519	11	13	1	0	0	866	17	20	0	47	1528
Grand Total	169	2091	22	39	3	12	2	2593	200	173	2	215	5521
Apprch %	7.4	91.6	1	72.2	5.6	22.2	0.1	92.8	7.2	44.4	0.5	55.1	
Total %	3.1	37.9	0.4	0.7	0.1	0.2	0	47	3.6	3.1	0	3.9	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: LAKE ELSINORE
N-S- Direction: RIVERSIDE DRIVE
E-W Direction: HIGH SCHOOL STADIUM WAY

File Name : H1409009
Site Code : 00000000
Start Date : 8/26/2014
Page No : 2

	RIVERSIDE DRIVE Southbound				STADIUM WAY Westbound				RIVERSIDE DRIVE Northbound				STADIUM WAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45																	
07:45	16	124	0	140	0	0	0	0	0	112	11	123	12	0	13	25	288
08:00	33	129	0	162	3	1	1	5	0	101	40	141	35	1	32	68	376
08:15	40	139	0	179	2	1	1	4	0	94	71	165	62	1	52	115	463
08:30	2	129	2	133	2	0	1	3	0	116	6	122	9	0	9	18	276
Total Volume	91	521	2	614	7	2	3	12	0	423	128	551	118	2	106	226	1403
% App. Total	14.8	84.9	0.3		58.3	16.7	25		0	76.8	23.2		52.2	0.9	46.9		
PHF	.569	.937	.250	.858	.583	.500	.750	.600	.000	.912	.451	.835	.476	.500	.510	.491	.758

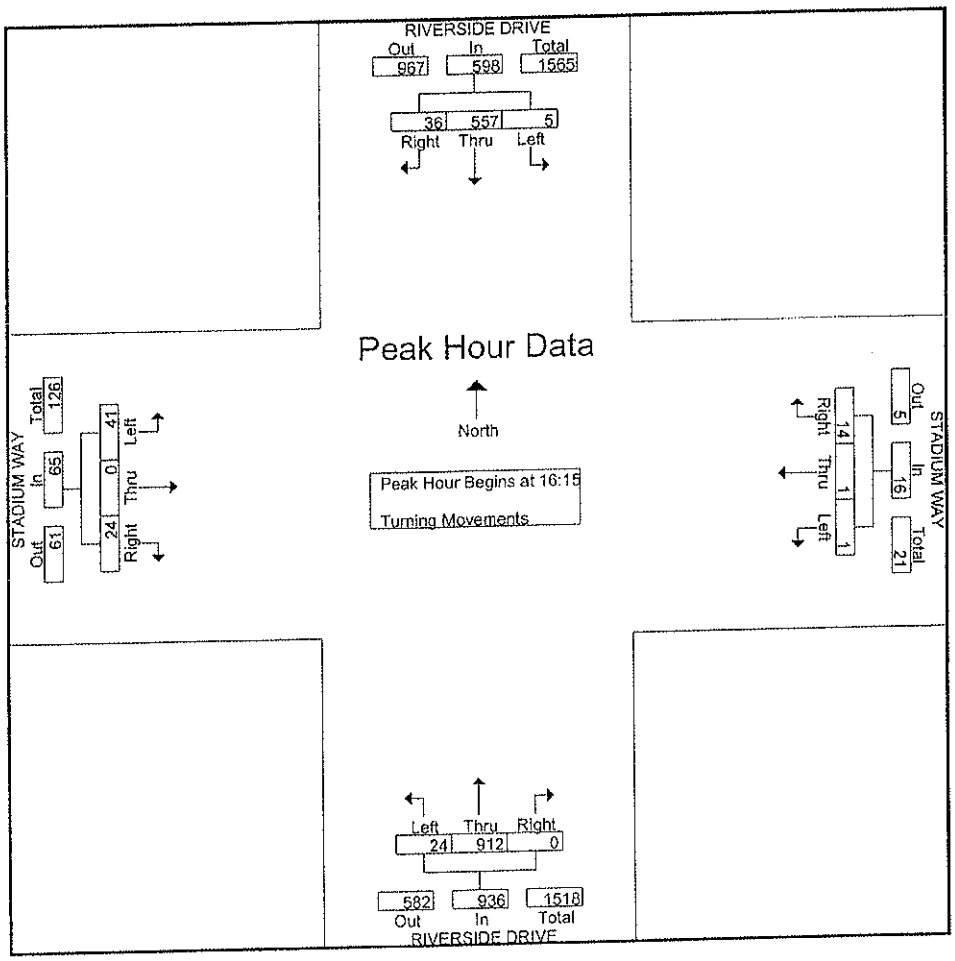


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: LAKE ELSINORE
N-S- Direction: RIVERSIDE DRIVE
E-W Direction: HIGH SCHOOL STADIUM WAY

File Name : H1409009
Site Code : 00000000
Start Date : 8/26/2014
Page No : 3

	RIVERSIDE DRIVE Southbound				STADIUM WAY Westbound				RIVERSIDE DRIVE Northbound				STADIUM WAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:15																	
16:15	6	138	2	146	2	0	0	2	0	250	10	260	5	0	6	11	419
16:30	15	158	1	174	2	0	0	2	0	231	5	236	10	0	17	27	439
16:45	9	127	0	136	4	0	1	5	0	212	6	218	5	0	11	16	375
17:00	6	134	2	142	6	1	0	7	0	219	3	222	4	0	7	11	382
Total Volume	36	557	5	598	14	1	1	16	0	912	24	936	24	0	41	65	1615
% App. Total	6	93.1	0.8		87.5	6.2	6.2		0	97.4	2.6		36.9	0	63.1		
PHF	.600	.881	.625	.859	.583	.250	.250	.571	.000	.912	.600	.900	.600	.000	.603	.602	.920



Transportation Studies, Inc.

2640 Walnut Aveenue, Suite H

Tustin, CA. 92780

Site: LAKE ELSINOR

Date: 08/27/14

Location : RIVERSIDE DRIVE

Segment : LE HARVE TO LAKESIDE STADIUM

Client : URABN SYSTEMS

Day: Wednesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	27	59	120	456	16	61	122	504	43	120	242	960
12:15	10		127		20		142		30		269	
12:30	14		108		10		118		24		226	
12:45	8		101		15		122		23		223	
01:00	4	37	105	483	13	41	134	505	17	78	239	988
01:15	13		116		10		128		23		244	
01:30	14		116		6		116		20		232	
01:45	6		146		12		127		18		273	
02:00	9	27	150	673	8	31	128	724	17	58	278	1.397
02:15	7		133		6		176		13		309	
02:30	3		222		8		236		11		458	
02:45	8		168		9		184		17		352	
03:00	10	52	148	587	6	56	155	546	16	108	303	1.133
03:15	10		155		12		126		22		281	
03:30	12		187		18		136		30		323	
03:45	20		97		20		129		40		226	
04:00	18	96	122	685	28	204	144	598	46	300	266	1.283
04:15	23		160		36		149		59		309	
04:30	16		210		58		175		74		385	
04:45	39		193		82		130		121		323	
05:00	61	229	208	848	126	682	146	578	187	911	354	1.426
05:15	53		214		150		144		203		358	
05:30	54		209		173		152		227		361	
05:45	61		217		233		136		294		353	
06:00	60	312	198	702	144	547	129	531	204	859	327	1.233
06:15	89		162		160		148		249		310	
06:30	89		186		128		124		217		310	
06:45	74		156		115		130		189		286	
07:00	124	452	130	473	128	518	134	476	252	970	264	949
07:15	103		113		122		129		225		242	
07:30	104		114		132		99		236		213	
07:45	121		116		136		114		257		230	
08:00	137	524	100	313	162	594	104	429	299	1.118	204	742
08:15	152		79		198		118		350		197	
08:30	135		70		118		101		253		171	
08:45	100		64		116		106		216		170	
09:00	96	377	54	202	106	446	98	320	202	823	152	522
09:15	89		60		130		90		219		150	
09:30	96		52		98		78		194		130	
09:45	96		36		112		54		208		90	
10:00	97	395	33	114	89	365	44	178	186	760	77	292
10:15	112		26		106		48		218		74	
10:30	94		36		95		42		189		78	
10:45	92		19		75		44		167		63	
11:00	118	441	16	56	108	463	24	98	226	904	40	154
11:15	112		10		122		32		234		42	
11:30	95		18		134		20		229		38	
11:45	116		12		99		22		215		34	
Totals	3,001		5,592		4,008		5,487		7,009		11,079	
Split%	42.8		50.5		57.2		49.5					
Day Totals		8,593				9,495				18,088		
Day Splits		47.5				52.5						
Peak Hour	07:45		05:00		05:30		02:15		07:45		05:00	
Volume	545		848		710		751		1,159		1,426	
Factor	0.90		0.98		0.76		0.80		0.83		0.99	

* Data File : D1409182

Printed : 9/3/2014

Transportation Studies, Inc.

2640 Walnut Aveenue, Suite H
Tustin, CA. 92780

City: : RIVERSIDE DRIVE
Location: : LAKESHORE DR TO LINCOLN ST
Segment: : URBAN SYSTEMS

Site: LAKE ELSINOR
Date: 09/04/14

Day: Thursday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	18	58	182	755	26	101	154	646	44	159	336	1,401
12:15	16		168		29		160		45		328	
12:30	15		197		18		154		33		351	
12:45	9		208		28		178		37		386	
01:00	7	33	187	777	19	53	172	658	26	86	359	1,435
01:15	9		189		12		166		21		355	
01:30	8		203		10		168		18		371	
01:45	9		198		12		152		21		350	
02:00	14	40	233	1,005	6	43	175	759	20	83	408	1,764
02:15	9		222		14		194		23		416	
02:30	9		262		10		206		19		468	
02:45	8		288		13		184		21		472	
03:00	9	69	240	939	12	60	169	701	21	129	409	1,640
03:15	17		229		18		165		35		394	
03:30	25		232		12		190		37		422	
03:45	18		238		18		177		36		415	
04:00	31	231	240	1,151	24	209	196	719	55	440	436	1,870
04:15	52		310		40		158		92		468	
04:30	56		279		57		181		113		460	
04:45	92		322		88		184		180		506	
05:00	97	379	296	1,179	133	619	183	719	230	998	479	1,898
05:15	85		307		136		179		221		486	
05:30	95		296		174		175		269		471	
05:45	102		280		176		182		278		462	
06:00	134	645	265	1,003	193	605	202	750	327	1,250	467	1,753
06:15	183		268		132		186		315		454	
06:30	152		213		140		184		292		397	
06:45	176		257		140		178		316		435	
07:00	201	973	220	788	191	629	190	714	392	1,602	410	1,502
07:15	262		184		111		188		373		372	
07:30	282		236		164		156		446		392	
07:45	228		148		163		180		391		328	
08:00	205	771	140	464	162	568	156	620	367	1,339	296	1,084
08:15	169		128		134		160		303		288	
08:30	185		90		148		158		333		248	
08:45	212		106		124		146		336		252	
09:00	164	680	116	354	130	491	125	477	294	1,171	241	831
09:15	180		92		112		124		292		216	
09:30	172		92		123		120		295		212	
09:45	164		54		126		108		290		162	
10:00	166	660	56	192	118	500	74	257	284	1,160	130	449
10:15	160		59		136		85		296		144	
10:30	162		41		118		44		280		85	
10:45	172		36		128		54		300		90	
11:00	170	737	34	110	150	618	64	180	320	1,355	98	290
11:15	183		30		154		46		337		76	
11:30	180		23		158		36		338		59	
11:45	204		23		156		34		360		57	
Totals	5,276		8,717		4,496		7,200		9,772		15,917	
Split%	54.0		54.8		46.0		45.2					
Day Totals		13,993				11,696				25,689		
Day Splits		54.5				45.5						
Peak Hour	07:15		04:45		05:15		02:00		07:00		04:45	
Volume	977		1,221		679		759		1,602		1,942	
Factor	0.87		0.95		0.88		0.92		0.90		0.96	

Data File : D1409180

Printed : 9/6/2014

Transportation Studies, Inc.

2640 Walnut Aveenue, Suite H
Tustin, CA. 92780

City: : RIVERSIDE DRIVE
Location: : LINCOLN ST TO LA HARVE ST
Segment: : URBAN SYSTEMS

Site: LAKE ELSINOR
Date: 08/27/14
Day: Wednesday

Interval	SB				NB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	17	75	136	557	25	62	138	525	42	137	274	1,082
12:15	26		158		13		142		39		300	
12:30	13		127		12		134		25		261	
12:45	19		136		12		111		31		247	
01:00	14	49	158	594	8	43	123	545	22	92	281	1,139
01:15	15		140		10		136		25		276	
01:30	7		154		17		125		24		279	
01:45	13		142		8		161		21		303	
02:00	12	41	166	814	10	31	163	762	22	72	329	1,576
02:15	8		210		9		125		17		335	
02:30	10		230		5		232		15		462	
02:45	11		208		7		242		18		450	
03:00	7	54	180	599	12	54	188	761	19	108	368	1,360
03:15	15		128		10		151		25		279	
03:30	14		147		15		204		29		351	
03:45	18		144		17		218		35		362	
04:00	30	206	162	671	21	113	212	956	51	319	374	1,627
04:15	38		163		28		240		66		403	
04:30	54		196		22		256		76		452	
04:45	84		150		42		248		126		398	
05:00	132	705	167	660	66	247	232	953	198	952	399	1,613
05:15	156		170		62		254		218		424	
05:30	187		159		55		250		242		409	
05:45	230		164		64		217		294		381	
06:00	174	698	144	602	67	412	223	831	241	1,110	367	1,433
06:15	232		165		130		200		362		365	
06:30	156		144		125		210		281		354	
06:45	136		149		90		198		226		347	
07:00	165	696	156	523	132	548	158	594	297	1,244	314	1,117
07:15	187		135		136		150		323		285	
07:30	168		110		126		130		294		240	
07:45	176		122		154		156		330		278	
08:00	261	815	114	498	189	751	118	383	450	1,566	232	881
08:15	278		150		240		94		518		244	
08:30	159		118		200		89		359		207	
08:45	117		116		122		82		239		198	
09:00	116	501	115	384	102	432	89	260	218	933	204	644
09:15	148		105		106		65		254		170	
09:30	113		93		112		60		225		153	
09:45	124		71		112		46		236		117	
10:00	106	417	44	193	109	450	42	146	215	867	86	339
10:15	112		50		136		36		248		86	
10:30	108		45		98		42		206		87	
10:45	91		54		107		26		198		80	
11:00	109	521	26	111	132	482	29	85	241	1,003	55	196
11:15	144		38		122		17		266		55	
11:30	144		27		102		20		246		47	
11:45	124		20		126		19		250		39	
Totals	4,778		6,206		3,625		6,801		8,403		13,007	
Split%	56.9		47.7		43.1		52.3					
Day Totals		10,984				10,426				21,410		
Day Splits		51.3				48.7						
Peak Hour	07:30		02:15		07:45		04:30		07:45		04:30	
Volume	883		828		783		990		1,657		1,673	
Factor	0.79		0.90		0.82		0.97		0.80		0.93	

Data File : D1409181

Printed : 9/4/2014

Transportation Studies, Inc.

2640 Walnut Aveenue, Suite H
Tustin, CA. 92780

Site: LAKE ELSINOR
Date: 08/27/14

City: : RIVERSIDE DRIVE
Location: : LAKEVIEW AVENUE TO LAKESHORE
Segment: : URBAN SYSTEMS

Day: Wednesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	19	51	177	595	32	93	161	623	51	144	338	1,218
12:15	13		137		27		156		40		293	
12:30	10		149		20		150		30		299	
12:45	9		132		14		156		23		288	
01:00	7	34	156	657	13	47	148	610	20	81	304	1,267
01:15	7		194		12		162		19		356	
01:30	11		153		10		156		21		309	
01:45	9		154		12		144		21		298	
02:00	18	47	192	741	9	44	167	716	27	91	359	1,457
02:15	7		172		9		170		16		342	
02:30	12		192		10		204		22		396	
02:45	10		185		16		175		26		360	
03:00	12	84	195	793	10	58	159	652	22	142	354	1,445
03:15	18		188		18		166		36		354	
03:30	22		206		12		168		34		374	
03:45	32		204		18		159		50		363	
04:00	39	200	198	906	22	194	162	707	61	394	360	1,613
04:15	29		218		38		178		67		396	
04:30	54		236		52		203		106		439	
04:45	78		254		82		164		160		418	
05:00	91	386	226	890	104	534	181	713	195	920	407	1,603
05:15	88		226		122		190		210		416	
05:30	105		213		150		182		255		395	
05:45	102		225		158		160		260		385	
06:00	91	593	230	794	132	518	196	715	223	1,111	426	1,509
06:15	154		204		127		172		281		376	
06:30	180		192		106		177		286		369	
06:45	168		168		153		170		321		338	
07:00	159	738	169	617	134	539	176	573	293	1,277	345	1,190
07:15	196		168		135		134		331		302	
07:30	203		136		132		131		335		267	
07:45	180		144		138		132		318		276	
08:00	174	687	138	404	142	588	159	600	316	1,275	297	1,004
08:15	180		92		141		164		321		256	
08:30	193		100		146		143		339		243	
08:45	140		74		159		134		299		208	
09:00	140	579	80	267	135	505	108	399	275	1,084	188	666
09:15	151		71		140		108		291		179	
09:30	156		73		112		99		268		172	
09:45	132		43		118		84		250		127	
10:00	142	584	42	142	133	547	78	241	275	1,131	120	383
10:15	161		36		128		56		289		92	
10:30	132		32		160		49		292		81	
10:45	149		32		126		58		275		90	
11:00	154	641	26	82	146	584	45	141	300	1,225	71	223
11:15	163		23		142		41		305		64	
11:30	158		15		152		26		310		41	
11:45	166		18		144		29		310		47	
Totals	4,624		6,888		4,251		6,690		8,875		13,578	
Split%	52.1		50.7		47.9		49.3					
Day Totals		11,512				10,941				22,453		
Day Splits		51.3				48.7						
Peak Hour	07:15		04:30		08:00		04:30		07:15		04:30	
Volume	753		942		588		738		1,300		1,680	
Factor	0.93		0.93		0.92		0.91		0.97		0.96	

Data File : D1409179

Printed : 9/3/2014

Transportation Studies, Inc.

2640 Walnut Aveenue, Suite H

Tustin, CA. 92780

City: : RIVERSIDE DRIVE

Location: : LAKESIDE HIGH STADIUM TO GRAND

Segment: : URBAN SYSTEMS

Site: LAKE ELSINOR

Date: 08/27/14

Day: Wednesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	26	60	124	449	18	63	99	430	44	123	223	879
12:15	14		119		16		120		30		239	
12:30	10		109		14		112		24		221	
12:45	10		97		15		99		25		196	
01:00	6	35	98	462	15	44	135	466	21	79	233	928
01:15	8		116		12		120		20		236	
01:30	14		116		6		104		20		220	
01:45	7		132		11		107		18		239	
02:00	10	27	156	652	4	35	118	641	14	62	274	1.293
02:15	6		154		13		108		19		262	
02:30	4		188		8		203		12		391	
02:45	7		154		10		212		17		366	
03:00	11	50	152	702	8	53	146	515	19	103	298	1.217
03:15	8		146		11		126		19		272	
03:30	13		198		17		125		30		323	
03:45	18		206		17		118		35		324	
04:00	18	94	202	908	30	193	118	530	48	287	320	1.438
04:15	24		240		36		129		60		369	
04:30	14		238		51		163		65		401	
04:45	38		228		76		120		114		348	
05:00	64	230	226	900	130	692	124	492	194	922	350	1.392
05:15	52		235		146		120		198		355	
05:30	50		229		184		129		234		358	
05:45	64		210		232		119		296		329	
06:00	65	339	220	804	158	585	118	477	223	924	338	1.281
06:15	104		199		177		128		281		327	
06:30	88		198		136		104		224		302	
06:45	82		187		114		127		196		314	
07:00	114	477	157	555	140	532	123	438	254	1.009	280	993
07:15	128		132		130		118		258		250	
07:30	107		123		148		91		255		214	
07:45	128		143		114		106		242		249	
08:00	138	541	122	360	154	596	92	414	292	1.137	214	774
08:15	173		81		189		118		362		199	
08:30	130		84		154		94		284		178	
08:45	100		73		99		110		199		183	
09:00	95	380	81	243	118	433	98	319	213	813	179	562
09:15	86		59		110		82		196		141	
09:30	99		54		103		79		202		133	
09:45	100		49		102		60		202		109	
10:00	96	390	39	134	90	354	42	180	186	744	81	314
10:15	120		32		94		52		214		84	
10:30	84		42		92		34		176		76	
10:45	90		21		78		52		168		73	
11:00	117	416	28	75	82	424	26	99	199	840	54	174
11:15	98		13		120		34		218		47	
11:30	82		20		116		18		198		38	
11:45	119		14		106		21		225		35	
Totals	3.039		6.244		4.004		5.001		7.043		11.245	
Split%	43.1		55.5		56.9		44.5					
Day Totals		9.283				9.005				18.288		
Day Splits		50.8				49.2						
Peak Hour	07:45		04:15		05:30		02:30		07:45		04:15	
Volume	569		932		751		687		1.180		1.468	
Factor	0.82		0.97		0.81		0.81		0.81		0.92	

Data File : D1409183

Printed : 9/3/2014

Transportation Studies, Inc.

2640 Walnut Aveenue, Suite H
Tustin, CA. 92780

Site: LAKE ELSINOR
Date: 08/27/14

Location : LAKESHORE DRIVE
Segment : RIVERSIDE DR TO IOWA ST
Client : URBAN SYSTEMS

Day: Wednesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	3	18	72	379	4	26	96	401	7	44	168	780
12:15	4		92		13		92		17		184	
12:30	4		119		5		93		9		212	
12:45	7		96		4		120		11		216	
01:00	3	8	105	371	7	20	130	385	10	28	235	756
01:15	4		96		3		78		7		174	
01:30	0		94		5		91		5		185	
01:45	1		76		5		86		6		162	
02:00	1	14	106	423	3	12	87	352	4	26	193	775
02:15	4		115		2		94		6		209	
02:30	3		86		2		88		5		174	
02:45	6		116		5		83		11		199	
03:00	1	12	97	369	1	12	108	408	2	24	205	777
03:15	4		92		2		104		6		196	
03:30	2		80		4		104		6		184	
03:45	5		100		5		92		10		192	
04:00	4	43	74	431	9	41	106	438	13	84	180	869
04:15	9		107		6		104		15		211	
04:30	14		116		12		108		26		224	
04:45	16		134		14		120		30		254	
05:00	15	91	126	496	13	90	122	432	28	181	248	928
05:15	18		144		19		98		37		242	
05:30	22		118		32		106		54		224	
05:45	36		108		26		106		62		214	
06:00	31	192	123	435	25	138	109	374	56	330	232	809
06:15	36		113		45		100		81		213	
06:30	48		95		28		84		76		179	
06:45	77		104		40		81		117		185	
07:00	116	520	86	282	74	301	94	350	190	821	180	632
07:15	144		62		100		77		244		139	
07:30	140		72		69		92		209		164	
07:45	120		62		58		87		178		149	
08:00	98	396	62	195	82	246	74	318	180	642	136	513
08:15	86		48		62		98		148		146	
08:30	104		44		46		80		150		124	
08:45	108		41		56		66		164		107	
09:00	74	303	41	147	67	245	42	162	141	548	83	309
09:15	69		48		64		60		133		108	
09:30	82		28		64		34		146		62	
09:45	78		30		50		26		128		56	
10:00	86	323	25	63	72	274	30	95	158	597	55	158
10:15	88		12		66		29		154		41	
10:30	76		16		60		18		136		34	
10:45	73		10		76		18		149		28	
11:00	84	329	13	41	83	379	16	52	167	708	29	93
11:15	76		12		100		13		176		25	
11:30	74		10		86		12		160		22	
11:45	95		6		110		11		205		17	
Totals	2.249		3.632		1.784		3.767		4.033		7.399	
Split%	55.8		49.1		44.2		50.9					
Day Totals		5.881				5.551				11.432		
Day Splits		51.4				48.6						
Peak Hour	07:00		04:45		11:00		04:15		07:00		04:30	
Volume	520		522		379		454		821		968	
Factor	0.90		0.91		0.86		0.93		0.84		0.95	

Data File : D1409184

Printed : 9/3/2014

Transportation Studies, Inc.

2640 Walnut Aveenue, Suite H
Tustin, CA. 92780

Site: LAKE ELSINOR
Date: 08/27/14

Location : LAKESHORE DRIVE
Segment : RIVERSIDE TO VISCAYA STREET
Client : URBAN SYSTEMS

Day: Wednesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	6	31	130	485	12	45	126	590	18	76	256	1,075
12:15	12		116		18		156		30		272	
12:30	7		131		9		154		16		285	
12:45	6		108		6		154		12		262	
01:00	4	17	154	550	6	36	159	578	10	53	313	1,128
01:15	7		146		12		144		19		290	
01:30	3		132		14		139		17		271	
01:45	3		118		4		136		7		254	
02:00	8	22	147	567	2	15	154	617	10	37	301	1,184
02:15	3		162		3		149		6		311	
02:30	7		120		3		166		10		286	
02:45	4		138		7		148		11		286	
03:00	4	31	152	520	5	32	165	638	9	63	317	1,158
03:15	11		146		7		156		18		302	
03:30	7		110		5		155		12		265	
03:45	9		112		15		162		24		274	
04:00	16	114	125	592	6	61	138	672	22	175	263	1,264
04:15	17		147		17		177		34		324	
04:30	35		154		24		188		59		342	
04:45	46		166		14		169		60		335	
05:00	50	202	144	590	26	107	202	719	76	309	346	1,309
05:15	40		142		21		181		61		323	
05:30	61		142		32		174		93		316	
05:45	51		162		28		162		79		324	
06:00	61	336	146	576	34	190	180	694	95	526	326	1,270
06:15	84		164		56		184		140		348	
06:30	86		118		48		177		134		295	
06:45	105		148		52		153		157		301	
07:00	127	601	130	479	74	367	168	609	201	968	298	1,088
07:15	148		136		120		154		268		290	
07:30	168		113		77		145		245		258	
07:45	158		100		96		142		254		242	
08:00	146	473	110	415	91	414	162	596	237	887	272	1,011
08:15	104		106		109		144		213		250	
08:30	107		107		100		147		207		254	
08:45	116		92		114		143		230		235	
09:00	104	423	85	259	94	388	93	329	198	811	178	588
09:15	106		70		120		92		226		162	
09:30	110		63		86		84		196		147	
09:45	103		41		88		60		191		101	
10:00	104	454	40	136	104	447	71	199	208	901	111	335
10:15	130		31		111		34		241		65	
10:30	109		38		116		40		225		78	
10:45	111		27		116		54		227		81	
11:00	122	510	20	57	118	513	34	91	240	1,023	54	148
11:15	134		15		125		19		259		34	
11:30	126		12		140		16		266		28	
11:45	128		10		130		22		258		32	
Totals	3,214		5,226		2,615		6,332		5,829		11,558	
Split%	55.1		45.2		44.9		54.8					
Day Totals		8,440				8,947				17,387		
Day Splits		48.5				51.5						
Peak Hour	07:15		05:30		11:00		04:30		11:00		04:15	
Volume	620		614		513		740		1,023		1,347	
Factor	0.92		0.94		0.92		0.92		0.96		0.97	

Printed : 9/3/2014

* Data File : DT409185

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE: 2/4/15 WEDNESDAY	LOCATION:	LAKE ELSINORE	PROJECT #:	PTD15-0206-01
	NORTH & SOUTH:	GRAND (SR-74)	LOCATION #:	1
	EAST & WEST:	RIVERSIDE	CONTROL:	1 WAY STOP EB

NOTES:

N ▲ W ◄ E ► S ▼

		NORTHBOUND GRAND (SR-74)			SOUTHBOUND GRAND (SR-74)			EASTBOUND RIVERSIDE			WESTBOUND RIVERSIDE			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 0.5	ET X	ER 0.5	WL X	WT X	WR X	TOTAL
AM	7:00 AM	43	91			122	7	23		39				325
	7:15 AM	41	91			133	13	23		89				390
	7:30 AM	40	115			136	9	28		97				425
	7:45 AM	47	116			119	12	14		82				390
	8:00 AM	43	130			126	22	18		64				403
	8:15 AM	23	160			157	23	15		44				422
	8:30 AM	26	102			185	21	24		42				400
	8:45 AM	25	99			102	21	20		31				298
	VOLUMES	288	904	0	0	1,080	128	165	0	488	0	0	0	3,053
	APPROACH %	24%	76%	0%	0%	89%	11%	25%	0%	75%	0%	0%	0%	
	APP/DEPART	1,192	/	1,069	1,208	/	1,568	653	/	0	0	/	416	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	153	521	0	0	538	66	75	0	287	0	0	0	1,640
	APPROACH %	23%	77%	0%	0%	89%	11%	21%	0%	79%	0%	0%	0%	
	PEAK HR FACTOR		0.921			0.839			0.724			0.000		0.965
	APP/DEPART	674	/	596	604	/	825	362	/	0	0	/	219	0
PM	4:00 PM	86	217			114	32	16		37				502
	4:15 PM	69	195			126	33	14		51				488
	4:30 PM	80	226			120	29	17		37				509
	4:45 PM	68	210			140	27	15		44				504
	5:00 PM	66	228			133	34	24		44				529
	5:15 PM	71	229			127	26	10		62				525
	5:30 PM	53	177			123	37	21		51				462
	5:45 PM	73	222			116	32	27		41				511
	VOLUMES	566	1,704	0	0	999	250	144	0	367	0	0	0	4,030
	APPROACH %	25%	75%	0%	0%	80%	20%	28%	0%	72%	0%	0%	0%	
	APP/DEPART	2,270	/	1,848	1,249	/	1,366	511	/	0	0	/	816	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	285	893	0	0	520	116	66	0	187	0	0	0	2,067
	APPROACH %	24%	76%	0%	0%	82%	18%	26%	0%	74%	0%	0%	0%	
	PEAK HR FACTOR		0.962			0.952			0.878			0.000		0.977
	APP/DEPART	1,178	/	959	636	/	707	253	/	0	0	/	401	0

U-TURNS

NB	SB	EB	WB	TTL
X	X	X	X	
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
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				0
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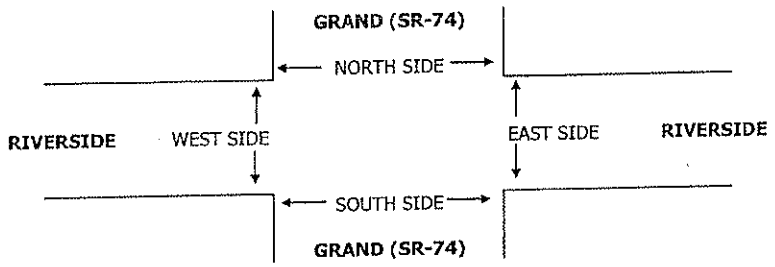
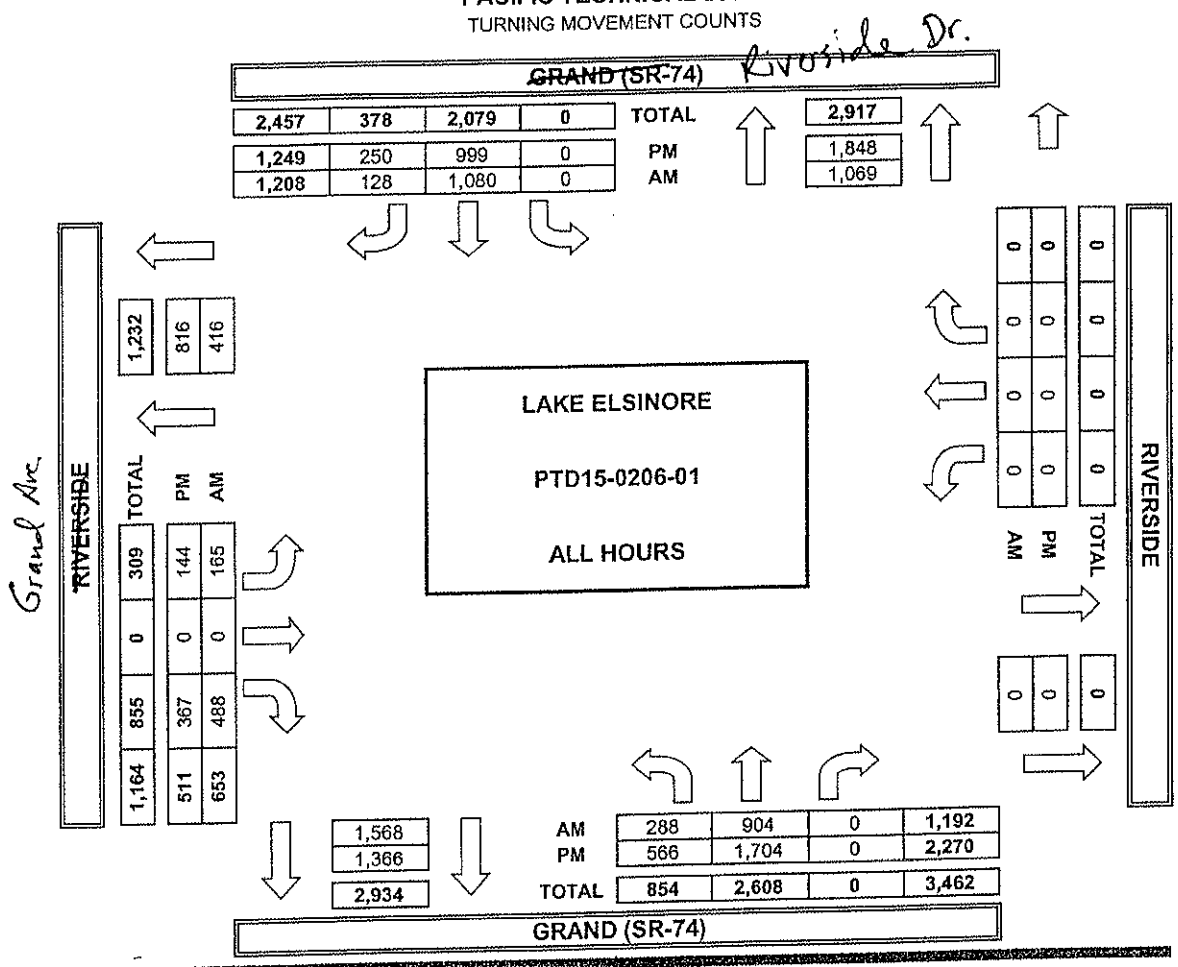
				0
				0
				0
				0
0	0	0	0	0

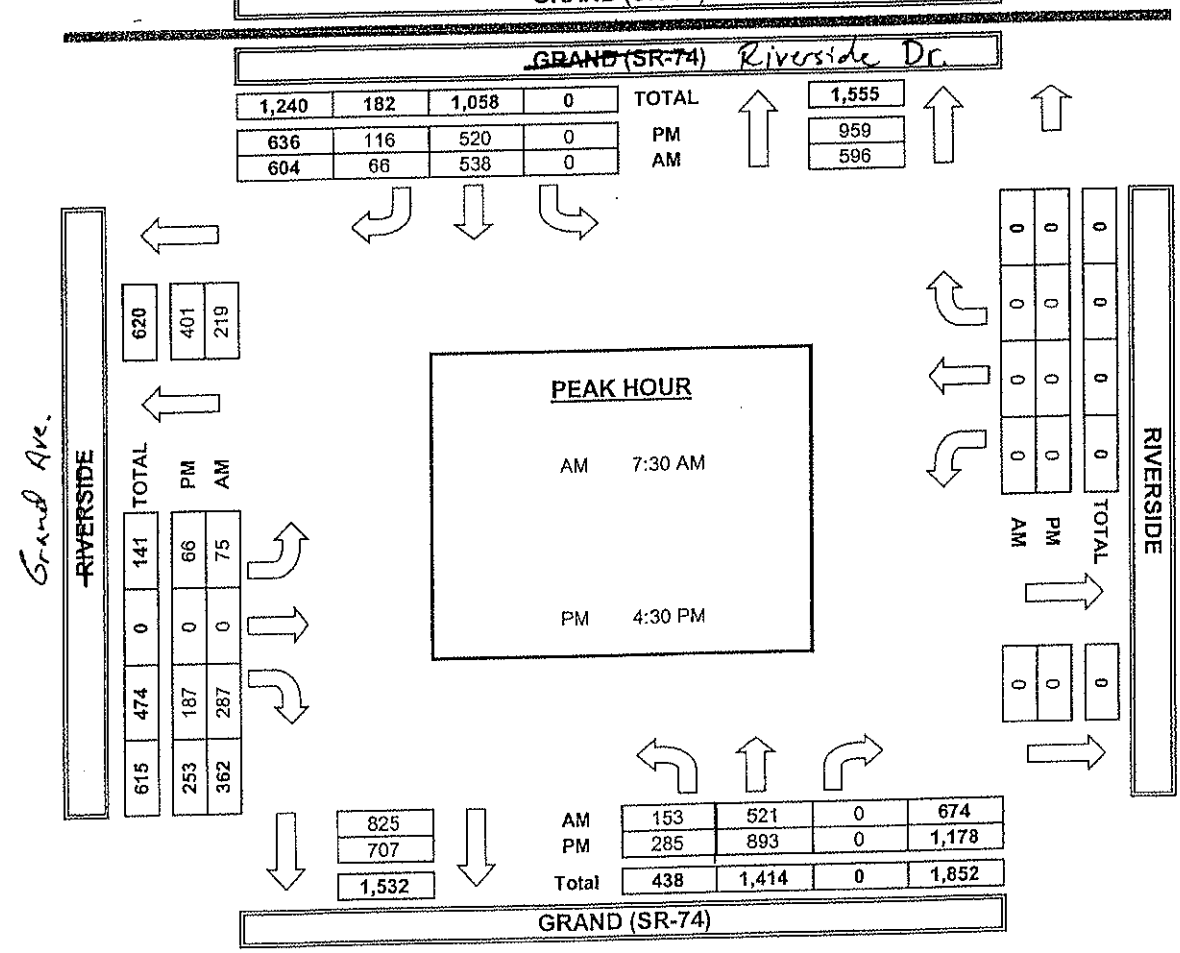


		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM					0					0					0
	7:15 AM					0					0					0
	7:30 AM					0					0					0
	7:45 AM					0					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM					0					0					0
	4:15 PM					0					0					0
	4:30 PM					0					0					0
	4:45 PM					0					0					0
	5:00 PM					0					0					0
	5:15 PM					0					0					0
	5:30 PM					0					0					0
	5:45 PM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PACIFIC TECHNICAL DATA

TURNING MOVEMENT COUNTS





CAM	LOCATION
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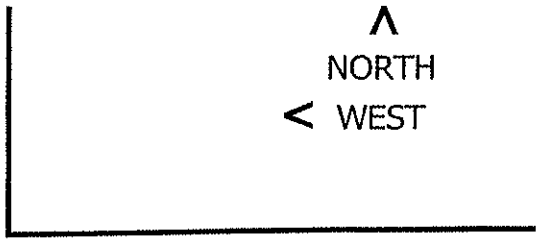

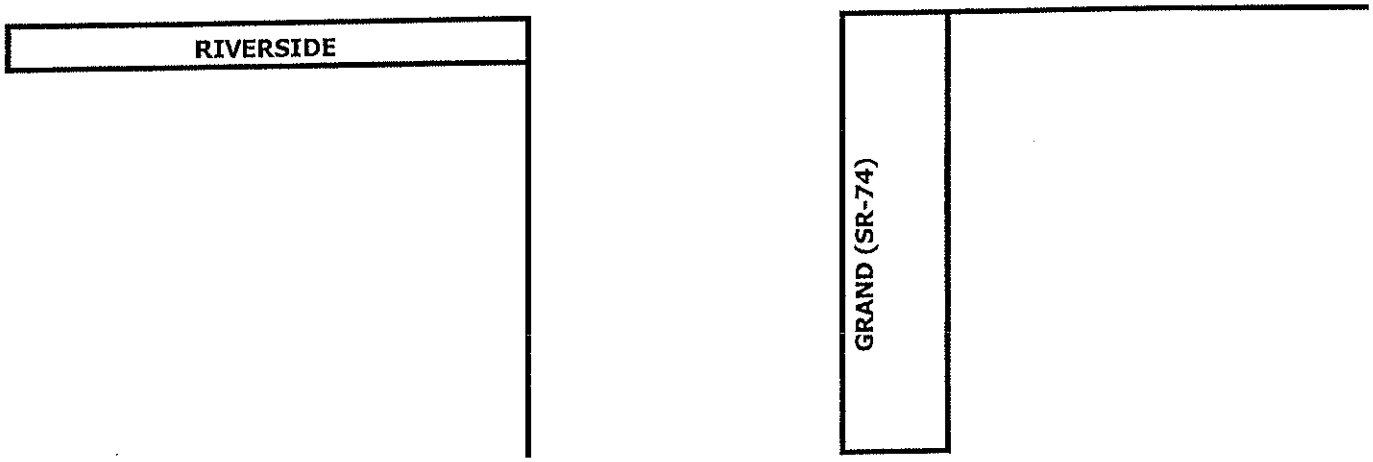

NORTH/SOUTH STREET	GRAND (SR-74)
EAST/WEST STREET	RIVERSIDE

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
0700												
1600												

APPENDIX C

LEVEL OF SERVICE CALCULATION WORKSHEETS

EXISTING CONDITIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	197	247	150	213	308	19	145	744	284	32	511	302
Future Volume (vph)	197	247	150	213	308	19	145	744	284	32	511	302
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3509		1770	3539	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3509		1770	3539	1583	1770	1863	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	219	274	167	237	342	21	161	827	316	36	568	336
RTOR Reduction (vph)	0	0	142	0	5	0	0	0	170	0	0	156
Lane Group Flow (vph)	219	274	25	237	358	0	161	827	146	36	568	180
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	12.7	13.0	13.0	13.6	13.9		9.8	39.5	39.5	3.6	33.3	33.3
Effective Green, g (s)	12.7	13.0	13.0	13.6	13.9		9.8	39.5	39.5	3.6	33.3	33.3
Actuated g/C Ratio	0.15	0.15	0.15	0.16	0.16		0.11	0.46	0.46	0.04	0.39	0.39
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	262	536	240	280	569		202	1631	729	74	723	615
v/s Ratio Prot	0.12	0.08		c0.13	c0.10		c0.09	0.23		0.02	c0.30	
v/s Ratio Perm			0.02						0.09			0.11
v/c Ratio	0.84	0.51	0.11	0.85	0.63		0.80	0.51	0.20	0.49	0.79	0.29
Uniform Delay, d1	35.5	33.4	31.3	35.0	33.5		37.0	16.3	13.7	40.1	23.1	18.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	20.0	0.8	0.2	20.4	2.2		19.2	1.1	0.6	5.0	8.4	1.2
Delay (s)	55.5	34.3	31.5	55.4	35.7		56.2	17.4	14.3	45.1	31.5	19.3
Level of Service	E	C	C	E	D		E	B	B	D	C	B
Approach Delay (s)		40.6			43.5			21.4			27.6	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	85.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	326	260	135	624	625	111
Future Volume (vph)	326	260	135	624	625	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.94		1.00	1.00	0.98	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	1704		1770	1863	1825	
Flt Permitted	0.97		0.95	1.00	1.00	
Satd. Flow (perm)	1704		1770	1863	1825	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	362	289	150	693	694	123
RTOR Reduction (vph)	32	0	0	0	7	0
Lane Group Flow (vph)	619	0	150	693	810	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	30.2		8.4	51.8	39.4	
Effective Green, g (s)	30.2		8.4	51.8	39.4	
Actuated g/C Ratio	0.34		0.09	0.58	0.44	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	571		165	1072	798	
v/s Ratio Prot	c0.36		c0.08	0.37	c0.44	
v/s Ratio Perm						
v/c Ratio	1.08		0.91	0.65	1.01	
Uniform Delay, d1	29.9		40.4	12.9	25.3	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	62.5		44.1	3.0	35.6	
Delay (s)	92.4		84.5	15.9	60.9	
Level of Service	F		F	B	E	
Approach Delay (s)	92.4			28.1	60.9	
Approach LOS	F			C	E	

Intersection Summary			
HCM 2000 Control Delay	57.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	0	12	2	0	11	8	997	4	13	639	15
Future Volume (vph)	20	0	12	2	0	11	8	997	4	13	639	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.95			0.88		1.00	1.00		1.00	1.00	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1715			1636		1770	3537		1770	3527	
Flt Permitted		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1715			1636		1770	3537		1770	3527	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	22	0	13	2	0	12	9	1108	4	14	710	17
RTOR Reduction (vph)	0	34	0	0	14	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	1	0	0	0	0	9	1112	0	14	726	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		2.0			0.9		0.9	43.2		0.9	43.2	
Effective Green, g (s)		2.0			0.9		0.9	43.2		0.9	43.2	
Actuated g/C Ratio		0.03			0.01		0.01	0.69		0.01	0.69	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		54			23		25	2425		25	2418	
v/s Ratio Prot		c0.00			c0.00		0.01	c0.31		c0.01	0.21	
v/s Ratio Perm												
v/c Ratio		0.02			0.01		0.36	0.46		0.56	0.30	
Uniform Delay, d1		29.6			30.6		30.8	4.5		30.9	3.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2			0.2		8.7	0.6		25.6	0.3	
Delay (s)		29.7			30.8		39.4	5.2		56.5	4.2	
Level of Service		C			C		D	A		E	A	
Approach Delay (s)		29.7			30.8			5.4			5.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	63.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	39.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	0	24	1	1	14	24	930	0	5	568	37
Future Volume (vph)	42	0	24	1	1	14	24	930	0	5	568	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.86		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1583		1770	1600		1770	3539		1770	3507	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1583		1770	1600		1770	3539		1770	3507	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	47	0	27	1	1	16	27	1033	0	6	631	41
RTOR Reduction (vph)	0	25	0	0	16	0	0	0	0	0	3	0
Lane Group Flow (vph)	47	2	0	1	1	0	27	1033	0	6	669	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.5	4.5		1.1	1.1		2.0	42.4		0.9	41.3	
Effective Green, g (s)	4.5	4.5		1.1	1.1		2.0	42.4		0.9	41.3	
Actuated g/C Ratio	0.07	0.07		0.02	0.02		0.03	0.65		0.01	0.64	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	122	109		30	27		54	2312		24	2231	
v/s Ratio Prot	c0.03	0.00		0.00	c0.00		c0.02	c0.29		0.00	0.19	
v/s Ratio Perm												
v/c Ratio	0.39	0.02		0.03	0.05		0.50	0.45		0.25	0.30	
Uniform Delay, d1	28.9	28.1		31.4	31.4		31.0	5.5		31.7	5.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	0.1		0.5	0.7		7.1	0.6		5.4	0.3	
Delay (s)	30.9	28.2		31.8	32.1		38.1	6.1		37.1	5.6	
Level of Service	C	C		C	C		D	A		D	A	
Approach Delay (s)		29.9			32.1			6.9			5.9	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	64.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	41.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	67	191	291	911	530	118
Future Volume (Veh/h)	67	191	291	911	530	118
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	73	208	316	990	576	128
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2262	640	704			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2262	640	704			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	56	65			
cM capacity (veh/h)	29	475	894			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	281	316	990	704
Volume Left	73	316	0	0
Volume Right	208	0	0	128
cSH	95	894	1700	1700
Volume to Capacity	2.95	0.35	0.58	0.41
Queue Length 95th (ft)	677	40	0	0
Control Delay (s)	973.3	11.2	0.0	0.0
Lane LOS	F	B		
Approach Delay (s)	973.3	2.7		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	120.9		
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	215	259	98	181	161	12	122	502	275	15	443	117
Future Volume (vph)	215	259	98	181	161	12	122	502	275	15	443	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3503		1770	3539	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3503		1770	3539	1583	1770	1863	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	239	288	109	201	179	13	136	558	306	17	492	130
RTOR Reduction (vph)	0	0	93	0	6	0	0	0	154	0	0	79
Lane Group Flow (vph)	239	288	16	201	186	0	136	558	152	17	492	51
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	14.5	12.1	12.1	12.7	10.3		9.5	41.3	41.3	1.0	32.8	32.8
Effective Green, g (s)	14.5	12.1	12.1	12.7	10.3		9.5	41.3	41.3	1.0	32.8	32.8
Actuated g/C Ratio	0.17	0.15	0.15	0.15	0.12		0.11	0.50	0.50	0.01	0.39	0.39
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	308	515	230	270	434		202	1758	786	21	735	624
v/s Ratio Prot	c0.14	c0.08		0.11	0.05		c0.08	0.16		0.01	c0.26	
v/s Ratio Perm			0.01						0.10			0.03
v/c Ratio	0.78	0.56	0.07	0.74	0.43		0.67	0.32	0.19	0.81	0.67	0.08
Uniform Delay, d1	32.7	33.0	30.6	33.6	33.7		35.3	12.5	11.6	41.0	20.7	15.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.6	1.3	0.1	10.6	0.7		8.5	0.5	0.5	109.0	4.8	0.3
Delay (s)	44.3	34.3	30.8	44.2	34.4		43.8	13.0	12.2	150.0	25.5	16.0
Level of Service	D	C	C	D	C		D	B	B	F	C	B
Approach Delay (s)		37.5			39.4			16.9			26.9	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	83.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	232	72	104	930	630	218
Future Volume (vph)	232	72	104	930	630	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	0.97	
Flt Protected	0.96		0.95	1.00	1.00	
Satd. Flow (prot)	1737		1770	1863	1798	
Flt Permitted	0.96		0.95	1.00	1.00	
Satd. Flow (perm)	1737		1770	1863	1798	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	258	80	116	1033	700	242
RTOR Reduction (vph)	13	0	0	0	14	0
Lane Group Flow (vph)	325	0	116	1033	928	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	18.4		7.4	63.0	51.6	
Effective Green, g (s)	18.4		7.4	63.0	51.6	
Actuated g/C Ratio	0.21		0.08	0.70	0.58	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	357		146	1312	1037	
v/s Ratio Prot	c0.19		0.07	c0.55	c0.52	
v/s Ratio Perm						
v/c Ratio	0.91		0.79	0.79	0.90	
Uniform Delay, d1	34.7		40.3	8.8	16.5	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	26.6		25.0	4.8	11.9	
Delay (s)	61.3		65.2	13.6	28.4	
Level of Service	E		E	B	C	
Approach Delay (s)	61.3			18.8	28.4	
Approach LOS	E			B	C	

Intersection Summary			
HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	89.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	231	0	33	2	0	6	37	531	1	4	626	269
Future Volume (vph)	231	0	33	2	0	6	37	531	1	4	626	269
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.98			0.90		1.00	1.00		1.00	0.95	
Flt Protected		0.96			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1754			1649		1770	3538		1770	3380	
Flt Permitted		0.96			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1754			1649		1770	3538		1770	3380	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	257	0	37	2	0	7	41	590	1	4	696	299
RTOR Reduction (vph)	0	89	0	0	9	0	0	0	0	0	39	0
Lane Group Flow (vph)	0	205	0	0	0	0	41	591	0	4	956	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		11.8			0.8		1.9	34.4		0.8	33.3	
Effective Green, g (s)		11.8			0.8		1.9	34.4		0.8	33.3	
Actuated g/C Ratio		0.18			0.01		0.03	0.54		0.01	0.52	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		324			20		52	1907		22	1764	
v/s Ratio Prot		c0.12			c0.00		c0.02	0.17		0.00	c0.28	
v/s Ratio Perm												
v/c Ratio		0.63			0.01		0.79	0.31		0.18	0.54	
Uniform Delay, d1		24.0			31.1		30.8	8.1		31.2	10.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		4.0			0.1		53.8	0.4		4.0	1.2	
Delay (s)		28.0			31.2		84.5	8.6		35.1	11.4	
Level of Service		C			C		F	A		D	B	
Approach Delay (s)		28.0			31.2			13.5			11.5	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	63.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	0	120	3	2	7	131	431	0	2	531	93
Future Volume (vph)	108	0	120	3	2	7	131	431	0	2	531	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.88		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1583		1770	1639		1770	3539		1770	3460	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1583		1770	1639		1770	3539		1770	3460	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	120	0	133	3	2	8	146	479	0	2	590	103
RTOR Reduction (vph)	0	114	0	0	8	0	0	0	0	0	11	0
Lane Group Flow (vph)	120	19	0	3	2	0	146	479	0	2	682	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	9.4	9.4		1.1	1.1		8.5	38.2		0.9	30.6	
Effective Green, g (s)	9.4	9.4		1.1	1.1		8.5	38.2		0.9	30.6	
Actuated g/C Ratio	0.14	0.14		0.02	0.02		0.13	0.58		0.01	0.47	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	253	226		29	27		229	2060		24	1613	
v/s Ratio Prot	c0.07	0.01		c0.00	0.00		c0.08	0.14		0.00	c0.20	
v/s Ratio Perm												
v/c Ratio	0.47	0.08		0.10	0.08		0.64	0.23		0.08	0.42	
Uniform Delay, d1	25.8	24.4		31.8	31.8		27.1	6.6		31.9	11.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	0.2		1.6	1.3		5.7	0.3		1.5	0.8	
Delay (s)	27.2	24.5		33.3	33.0		32.8	6.9		33.4	12.4	
Level of Service	C	C		C	C		C	A		C	B	
Approach Delay (s)		25.8			33.1			12.9			12.5	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	65.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	77	293	156	531	549	67
Future Volume (Veh/h)	77	293	156	531	549	67
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	84	318	170	577	597	73
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1550	634	670			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1550	634	670			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	18	34	82			
cM capacity (veh/h)	102	479	920			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	402	170	577	670
Volume Left	84	170	0	0
Volume Right	318	0	0	73
cSH	270	920	1700	1700
Volume to Capacity	1.49	0.18	0.34	0.39
Queue Length 95th (ft)	575	17	0	0
Control Delay (s)	272.4	9.8	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	272.4	2.2		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	61.1		
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		

EXISTING PLUS PROJECT CONDITIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	197	247	152	214	308	19	151	759	287	32	517	302
Future Volume (vph)	197	247	152	214	308	19	151	759	287	32	517	302
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3509		1770	3539	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3509		1770	3539	1583	1770	1863	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	219	274	169	238	342	21	168	843	319	36	574	336
RTOR Reduction (vph)	0	0	143	0	5	0	0	0	172	0	0	154
Lane Group Flow (vph)	219	274	26	238	358	0	168	843	147	36	574	182
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	12.7	13.0	13.0	13.6	13.9		10.0	39.6	39.6	3.6	33.2	33.2
Effective Green, g (s)	12.7	13.0	13.0	13.6	13.9		10.0	39.6	39.6	3.6	33.2	33.2
Actuated g/C Ratio	0.15	0.15	0.15	0.16	0.16		0.12	0.46	0.46	0.04	0.39	0.39
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	261	536	239	280	568		206	1633	730	74	720	612
v/s Ratio Prot	0.12	0.08		c0.13	c0.10		c0.09	0.24		0.02	c0.31	
v/s Ratio Perm			0.02						0.09			0.11
v/c Ratio	0.84	0.51	0.11	0.85	0.63		0.82	0.52	0.20	0.49	0.80	0.30
Uniform Delay, d1	35.6	33.5	31.4	35.1	33.6		37.0	16.3	13.7	40.2	23.3	18.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	20.4	0.8	0.2	20.7	2.3		21.4	1.2	0.6	5.0	9.0	1.2
Delay (s)	56.0	34.3	31.6	55.8	35.8		58.4	17.5	14.3	45.2	32.3	19.4
Level of Service	E	C	C	E	D		E	B	B	D	C	B
Approach Delay (s)		40.8			43.8			21.9			28.2	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	85.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	326	272	143	640	650	111
Future Volume (vph)	326	272	143	640	650	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.94		1.00	1.00	0.98	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	1702		1770	1863	1826	
Flt Permitted	0.97		0.95	1.00	1.00	
Satd. Flow (perm)	1702		1770	1863	1826	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	362	302	159	711	722	123
RTOR Reduction (vph)	34	0	0	0	7	0
Lane Group Flow (vph)	630	0	159	711	838	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	30.6		8.8	51.4	38.6	
Effective Green, g (s)	30.6		8.8	51.4	38.6	
Actuated g/C Ratio	0.34		0.10	0.57	0.43	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	578		173	1063	783	
v/s Ratio Prot	c0.37		c0.09	0.38	c0.46	
v/s Ratio Perm						
v/c Ratio	1.09		0.92	0.67	1.07	
Uniform Delay, d1	29.7		40.2	13.4	25.7	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	64.5		45.2	3.3	52.7	
Delay (s)	94.2		85.4	16.7	78.4	
Level of Service	F		F	B	E	
Approach Delay (s)	94.2			29.3	78.4	
Approach LOS	F			C	E	

Intersection Summary			
HCM 2000 Control Delay	64.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	93.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	0	12	2	0	11	8	1007	4	13	663	15
Future Volume (vph)	20	0	12	2	0	11	8	1007	4	13	663	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.95			0.88		1.00	1.00		1.00	1.00	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1715			1636		1770	3537		1770	3527	
Flt Permitted		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1715			1636		1770	3537		1770	3527	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	22	0	13	2	0	12	9	1119	4	14	737	17
RTOR Reduction (vph)	0	34	0	0	14	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	1	0	0	0	0	9	1123	0	14	753	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		2.0			0.9		0.9	43.2		0.9	43.2	
Effective Green, g (s)		2.0			0.9		0.9	43.2		0.9	43.2	
Actuated g/C Ratio		0.03			0.01		0.01	0.69		0.01	0.69	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		54			23		25	2425		25	2418	
v/s Ratio Prot		c0.00			c0.00		0.01	c0.32		c0.01	0.21	
v/s Ratio Perm												
v/c Ratio		0.02			0.01		0.36	0.46		0.56	0.31	
Uniform Delay, d1		29.6			30.6		30.8	4.6		30.9	4.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2			0.2		8.7	0.6		25.6	0.3	
Delay (s)		29.7			30.8		39.4	5.2		56.5	4.3	
Level of Service		C			C		D	A		E	A	
Approach Delay (s)		29.7			30.8			5.5			5.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	63.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	40.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	0	24	1	1	14	24	939	0	5	591	38
Future Volume (vph)	42	0	24	1	1	14	24	939	0	5	591	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.86		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1583		1770	1600		1770	3539		1770	3507	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1583		1770	1600		1770	3539		1770	3507	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	47	0	27	1	1	16	27	1043	0	6	657	42
RTOR Reduction (vph)	0	25	0	0	16	0	0	0	0	0	3	0
Lane Group Flow (vph)	47	2	0	1	1	0	27	1043	0	6	696	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.5	4.5		1.1	1.1		2.0	42.4		0.9	41.3	
Effective Green, g (s)	4.5	4.5		1.1	1.1		2.0	42.4		0.9	41.3	
Actuated g/C Ratio	0.07	0.07		0.02	0.02		0.03	0.65		0.01	0.64	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	122	109		30	27		54	2312		24	2231	
v/s Ratio Prot	c0.03	0.00		0.00	c0.00		c0.02	c0.29		0.00	0.20	
v/s Ratio Perm												
v/c Ratio	0.39	0.02		0.03	0.05		0.50	0.45		0.25	0.31	
Uniform Delay, d1	28.9	28.1		31.4	31.4		31.0	5.5		31.7	5.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	0.1		0.5	0.7		7.1	0.6		5.4	0.4	
Delay (s)	30.9	28.2		31.8	32.1		38.1	6.2		37.1	5.7	
Level of Service	C	C		C	C		D	A		D	A	
Approach Delay (s)		29.9			32.1			7.0			6.0	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	64.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	68	191	291	919	551	120
Future Volume (Veh/h)	68	191	291	919	551	120
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	74	208	316	999	599	130
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2295	664	729			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2295	664	729			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	55	64			
cM capacity (veh/h)	27	461	875			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	282	316	999	729
Volume Left	74	316	0	0
Volume Right	208	0	0	130
cSH	89	875	1700	1700
Volume to Capacity	3.15	0.36	0.59	0.43
Queue Length 95th (ft)	Err	41	0	0
Control Delay (s)	Err	11.4	0.0	0.0
Lane LOS	F	B		
Approach Delay (s)	Err	2.7		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	1213.8		
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	68	191	291	919	551	120
Future Volume (Veh/h)	68	191	291	919	551	120
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	74	208	316	999	599	130
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2295	664	729			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2295	664	729			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	55	64			
cM capacity (veh/h)	27	461	875			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	282	316	999	729
Volume Left	74	316	0	0
Volume Right	208	0	0	130
cSH	89	875	1700	1700
Volume to Capacity	3.15	0.36	0.59	0.43
Queue Length 95th (ft)	Err	41	0	0
Control Delay (s)	Err	11.4	0.0	0.0
Lane LOS	F	B		
Approach Delay (s)	Err	2.7		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	1213.8		
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	215	259	104	184	161	12	126	512	277	15	459	117
Future Volume (vph)	215	259	104	184	161	12	126	512	277	15	459	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3503		1770	3539	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3503		1770	3539	1583	1770	1863	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	239	288	116	204	179	13	140	569	308	17	510	130
RTOR Reduction (vph)	0	0	99	0	6	0	0	0	153	0	0	78
Lane Group Flow (vph)	239	288	17	204	186	0	140	569	155	17	510	52
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	14.1	12.2	12.2	12.9	11.0		9.5	42.4	42.4	1.0	33.9	33.9
Effective Green, g (s)	14.1	12.2	12.2	12.9	11.0		9.5	42.4	42.4	1.0	33.9	33.9
Actuated g/C Ratio	0.17	0.14	0.14	0.15	0.13		0.11	0.50	0.50	0.01	0.40	0.40
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	295	510	228	270	456		198	1775	794	20	747	635
v/s Ratio Prot	c0.14	c0.08		0.12	0.05		c0.08	0.16		0.01	c0.27	
v/s Ratio Perm			0.01						0.10			0.03
v/c Ratio	0.81	0.56	0.07	0.76	0.41		0.71	0.32	0.19	0.85	0.68	0.08
Uniform Delay, d1	33.9	33.7	31.3	34.3	33.8		36.2	12.5	11.6	41.7	20.9	15.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.4	1.4	0.1	11.4	0.6		10.9	0.5	0.5	129.8	5.0	0.3
Delay (s)	49.3	35.1	31.4	45.7	34.4		47.1	13.0	12.2	171.5	25.9	15.9
Level of Service	D	D	C	D	C		D	B	B	F	C	B
Approach Delay (s)		39.7			40.2			17.4			27.7	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	84.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	232	77	116	954	640	218
Future Volume (vph)	232	77	116	954	640	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	0.97	
Flt Protected	0.96		0.95	1.00	1.00	
Satd. Flow (prot)	1735		1770	1863	1799	
Flt Permitted	0.96		0.95	1.00	1.00	
Satd. Flow (perm)	1735		1770	1863	1799	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	258	86	129	1060	711	242
RTOR Reduction (vph)	13	0	0	0	13	0
Lane Group Flow (vph)	331	0	129	1060	940	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	18.6		8.0	63.0	51.0	
Effective Green, g (s)	18.6		8.0	63.0	51.0	
Actuated g/C Ratio	0.21		0.09	0.70	0.57	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	360		158	1309	1023	
v/s Ratio Prot	c0.19		0.07	c0.57	c0.52	
v/s Ratio Perm						
v/c Ratio	0.92		0.82	0.81	0.92	
Uniform Delay, d1	34.8		40.1	9.2	17.4	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	27.5		26.7	5.5	14.3	
Delay (s)	62.2		66.7	14.7	31.7	
Level of Service	E		E	B	C	
Approach Delay (s)	62.2			20.3	31.7	
Approach LOS	E			C	C	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	89.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	231	0	33	2	0	6	37	556	1	4	642	269
Future Volume (vph)	231	0	33	2	0	6	37	556	1	4	642	269
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.98			0.90		1.00	1.00		1.00	0.96	
Flt Protected		0.96			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1754			1649		1770	3538		1770	3382	
Flt Permitted		0.96			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1754			1649		1770	3538		1770	3382	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	257	0	37	2	0	7	41	618	1	4	713	299
RTOR Reduction (vph)	0	89	0	0	9	0	0	0	0	0	37	0
Lane Group Flow (vph)	0	205	0	0	0	0	41	619	0	4	975	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		11.8			0.8		1.9	34.5		0.8	33.4	
Effective Green, g (s)		11.8			0.8		1.9	34.5		0.8	33.4	
Actuated g/C Ratio		0.18			0.01		0.03	0.54		0.01	0.52	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		323			20		52	1910		22	1767	
v/s Ratio Prot		c0.12			c0.00		c0.02	0.17		0.00	c0.29	
v/s Ratio Perm												
v/c Ratio		0.64			0.01		0.79	0.32		0.18	0.55	
Uniform Delay, d1		24.1			31.2		30.8	8.2		31.2	10.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		4.1			0.1		53.8	0.5		4.0	1.2	
Delay (s)		28.1			31.3		84.6	8.6		35.2	11.5	
Level of Service		C			C		F	A		D	B	
Approach Delay (s)		28.1			31.3			13.4			11.6	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	63.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	0	120	3	2	7	131	455	0	2	546	94
Future Volume (vph)	109	0	120	3	2	7	131	455	0	2	546	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.88		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1583		1770	1639		1770	3539		1770	3462	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1583		1770	1639		1770	3539		1770	3462	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	121	0	133	3	2	8	146	506	0	2	607	104
RTOR Reduction (vph)	0	114	0	0	8	0	0	0	0	0	11	0
Lane Group Flow (vph)	121	19	0	3	2	0	146	506	0	2	700	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	9.4	9.4		1.1	1.1		8.5	38.1		0.9	30.5	
Effective Green, g (s)	9.4	9.4		1.1	1.1		8.5	38.1		0.9	30.5	
Actuated g/C Ratio	0.14	0.14		0.02	0.02		0.13	0.58		0.01	0.47	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	254	227		29	27		229	2058		24	1612	
v/s Ratio Prot	c0.07	0.01		c0.00	0.00		c0.08	0.14		0.00	c0.20	
v/s Ratio Perm												
v/c Ratio	0.48	0.08		0.10	0.08		0.64	0.25		0.08	0.43	
Uniform Delay, d1	25.8	24.3		31.7	31.7		27.0	6.7		31.9	11.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	0.2		1.6	1.3		5.7	0.3		1.5	0.9	
Delay (s)	27.2	24.5		33.3	33.0		32.8	7.0		33.4	12.6	
Level of Service	C	C		C	C		C	A		C	B	
Approach Delay (s)		25.8			33.0			12.7			12.6	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	65.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	79	293	156	553	563	68
Future Volume (Veh/h)	79	293	156	553	563	68
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	86	318	170	601	612	74
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1590	649	686			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1590	649	686			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	11	32	81			
cM capacity (veh/h)	96	470	908			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	404	170	601	686
Volume Left	86	170	0	0
Volume Right	318	0	0	74
cSH	257	908	1700	1700
Volume to Capacity	1.57	0.19	0.35	0.40
Queue Length 95th (ft)	613	17	0	0
Control Delay (s)	310.0	9.9	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	310.0	2.2		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	68.2		
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

OPENING YEAR (2017) PLUS PROJECT CONDITIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	257	158	223	320	20	157	788	298	33	205	257
Future Volume (vph)	205	257	158	223	320	20	157	788	298	33	205	257
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3508		1770	3539	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3508		1770	3539	1583	1770	1863	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	228	286	176	248	356	22	174	876	331	37	228	286
RTOR Reduction (vph)	0	0	148	0	5	0	0	0	180	0	0	203
Lane Group Flow (vph)	228	286	28	248	373	0	174	876	151	37	228	83
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	14.4	12.7	12.7	15.5	13.8		12.1	32.2	32.2	3.0	23.1	23.1
Effective Green, g (s)	14.4	12.7	12.7	15.5	13.8		12.1	32.2	32.2	3.0	23.1	23.1
Actuated g/C Ratio	0.18	0.16	0.16	0.20	0.17		0.15	0.41	0.41	0.04	0.29	0.29
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	321	566	253	345	609		269	1435	641	66	542	460
v/s Ratio Prot	0.13	0.08		c0.14	c0.11		c0.10	c0.25		0.02	0.12	
v/s Ratio Perm			0.02						0.10			0.05
v/c Ratio	0.71	0.51	0.11	0.72	0.61		0.65	0.61	0.24	0.56	0.42	0.18
Uniform Delay, d1	30.5	30.5	28.5	29.9	30.3		31.6	18.6	15.5	37.6	22.7	21.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.2	0.7	0.2	7.0	1.8		5.3	1.9	0.9	10.4	2.4	0.9
Delay (s)	37.8	31.2	28.7	36.9	32.2		36.9	20.6	16.4	48.0	25.1	21.9
Level of Service	D	C	C	D	C		D	C	B	D	C	C
Approach Delay (s)		32.7			34.0			21.6			25.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	79.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	339	282	148	665	675	116
Future Volume (vph)	339	282	148	665	675	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.94		1.00	1.00	0.98	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	1702		1770	1863	1826	
Flt Permitted	0.97		0.95	1.00	1.00	
Satd. Flow (perm)	1702		1770	1863	1826	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	377	313	164	739	750	129
RTOR Reduction (vph)	33	0	0	0	7	0
Lane Group Flow (vph)	657	0	164	739	872	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	30.0		8.0	52.0	40.0	
Effective Green, g (s)	30.0		8.0	52.0	40.0	
Actuated g/C Ratio	0.33		0.09	0.58	0.44	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	567		157	1076	811	
v/s Ratio Prot	c0.39		c0.09	0.40	c0.48	
v/s Ratio Perm						
v/c Ratio	1.16		1.04	0.69	1.08	
Uniform Delay, d1	30.0		41.0	13.3	25.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	89.6		84.1	3.6	53.9	
Delay (s)	119.6		125.1	16.9	78.9	
Level of Service	F		F	B	E	
Approach Delay (s)	119.6			36.5	78.9	
Approach LOS	F			D	E	

Intersection Summary			
HCM 2000 Control Delay	74.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	0	13	2	0	12	8	1046	4	14	688	16
Future Volume (vph)	21	0	13	2	0	12	8	1046	4	14	688	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.95			0.88		1.00	1.00		1.00	1.00	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1714			1634		1770	3537		1770	3527	
Flt Permitted		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1714			1634		1770	3537		1770	3527	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	23	0	14	2	0	13	9	1162	4	16	764	18
RTOR Reduction (vph)	0	36	0	0	15	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	1	0	0	0	0	9	1166	0	16	781	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		2.0			0.9		0.9	43.0		0.9	43.0	
Effective Green, g (s)		2.0			0.9		0.9	43.0		0.9	43.0	
Actuated g/C Ratio		0.03			0.01		0.01	0.68		0.01	0.68	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		54			23		25	2421		25	2414	
v/s Ratio Prot		c0.00			c0.00		0.01	c0.33		c0.01	0.22	
v/s Ratio Perm												
v/c Ratio		0.02			0.01		0.36	0.48		0.64	0.32	
Uniform Delay, d1		29.5			30.5		30.7	4.7		30.8	4.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2			0.2		8.7	0.7		44.6	0.4	
Delay (s)		29.6			30.7		39.3	5.3		75.4	4.4	
Level of Service		C			C		D	A		E	A	
Approach Delay (s)		29.6			30.7			5.6			5.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	62.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	0	25	1	1	15	25	976	0	5	613	39
Future Volume (vph)	43	0	25	1	1	15	25	976	0	5	613	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.86		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1583		1770	1599		1770	3539		1770	3508	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1583		1770	1599		1770	3539		1770	3508	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	48	0	28	1	1	17	28	1084	0	6	681	43
RTOR Reduction (vph)	0	26	0	0	17	0	0	0	0	0	3	0
Lane Group Flow (vph)	48	2	0	1	1	0	28	1084	0	6	721	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.5	4.5		1.1	1.1		2.1	42.3		0.9	41.1	
Effective Green, g (s)	4.5	4.5		1.1	1.1		2.1	42.3		0.9	41.1	
Actuated g/C Ratio	0.07	0.07		0.02	0.02		0.03	0.65		0.01	0.63	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	122	109		30	27		57	2310		24	2224	
v/s Ratio Prot	c0.03	0.00		0.00	c0.00		c0.02	c0.31		0.00	0.21	
v/s Ratio Perm												
v/c Ratio	0.39	0.02		0.03	0.05		0.49	0.47		0.25	0.32	
Uniform Delay, d1	28.8	28.1		31.3	31.3		30.8	5.6		31.6	5.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	0.1		0.5	0.7		6.5	0.7		5.4	0.4	
Delay (s)	30.9	28.2		31.8	32.1		37.3	6.3		37.0	5.8	
Level of Service	C	C		C	C		D	A		D	A	
Approach Delay (s)		29.9			32.1			7.1			6.1	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	64.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	71	198	302	955	572	125
Future Volume (Veh/h)	71	198	302	955	572	125
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	77	215	328	1038	622	136
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2384	690	758			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2384	690	758			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	52	62			
cM capacity (veh/h)	23	445	853			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	292	328	1038	758
Volume Left	77	328	0	0
Volume Right	215	0	0	136
cSH	77	853	1700	1700
Volume to Capacity	3.81	0.38	0.61	0.45
Queue Length 95th (ft)	Err	46	0	0
Control Delay (s)	Err	11.8	0.0	0.0
Lane LOS	F	B		
Approach Delay (s)	Err	2.8		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	1210.1		
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	224	269	108	191	167	13	131	532	288	16	476	122
Future Volume (vph)	224	269	108	191	167	13	131	532	288	16	476	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3502		1770	3539	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3502		1770	3539	1583	1770	1863	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	249	299	120	212	186	14	146	591	320	18	529	136
RTOR Reduction (vph)	0	0	102	0	7	0	0	0	166	0	0	83
Lane Group Flow (vph)	249	299	18	212	193	0	146	591	154	18	529	53
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	14.3	12.8	12.8	13.2	11.7		9.6	40.7	40.7	2.1	33.2	33.2
Effective Green, g (s)	14.3	12.8	12.8	13.2	11.7		9.6	40.7	40.7	2.1	33.2	33.2
Actuated g/C Ratio	0.17	0.15	0.15	0.16	0.14		0.11	0.48	0.48	0.02	0.39	0.39
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	298	534	238	275	483		200	1698	759	43	729	619
v/s Ratio Prot	c0.14	c0.08		0.12	0.06		c0.08	0.17		0.01	c0.28	
v/s Ratio Perm			0.01						0.10			0.03
v/c Ratio	0.84	0.56	0.08	0.77	0.40		0.73	0.35	0.20	0.42	0.73	0.09
Uniform Delay, d1	34.1	33.4	30.9	34.3	33.3		36.3	13.8	12.7	40.7	21.9	16.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	18.0	1.3	0.1	12.5	0.5		12.5	0.6	0.6	6.5	6.2	0.3
Delay (s)	52.1	34.7	31.1	46.9	33.9		48.9	14.3	13.3	47.2	28.1	16.5
Level of Service	D	C	C	D	C		D	B	B	D	C	B
Approach Delay (s)		40.5			40.6			18.8			26.3	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	84.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	241	80	120	991	665	227
Future Volume (vph)	241	80	120	991	665	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	0.97	
Flt Protected	0.96		0.95	1.00	1.00	
Satd. Flow (prot)	1735		1770	1863	1799	
Flt Permitted	0.96		0.95	1.00	1.00	
Satd. Flow (perm)	1735		1770	1863	1799	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	268	89	133	1101	739	252
RTOR Reduction (vph)	13	0	0	0	14	0
Lane Group Flow (vph)	344	0	133	1101	977	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	19.0		8.2	63.0	50.8	
Effective Green, g (s)	19.0		8.2	63.0	50.8	
Actuated g/C Ratio	0.21		0.09	0.70	0.56	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	366		161	1304	1015	
v/s Ratio Prot	c0.20		0.08	c0.59	c0.54	
v/s Ratio Perm						
v/c Ratio	0.94		0.83	0.84	0.96	
Uniform Delay, d1	34.9		40.2	9.9	18.7	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	31.3		27.9	6.8	20.6	
Delay (s)	66.3		68.1	16.7	39.3	
Level of Service	E		E	B	D	
Approach Delay (s)	66.3			22.3	39.3	
Approach LOS	E			C	D	

Intersection Summary			
HCM 2000 Control Delay	34.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	0	34	2	0	6	38	577	1	4	667	280
Future Volume (vph)	240	0	34	2	0	6	38	577	1	4	667	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.98			0.90		1.00	1.00		1.00	0.96	
Flt Protected		0.96			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1755			1649		1770	3538		1770	3382	
Flt Permitted		0.96			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1755			1649		1770	3538		1770	3382	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	267	0	38	2	0	7	42	641	1	4	741	311
RTOR Reduction (vph)	0	89	0	0	9	0	0	0	0	0	38	0
Lane Group Flow (vph)	0	216	0	0	0	0	42	642	0	4	1014	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		12.1			0.9		3.0	36.4		0.9	34.3	
Effective Green, g (s)		12.1			0.9		3.0	36.4		0.9	34.3	
Actuated g/C Ratio		0.18			0.01		0.05	0.55		0.01	0.52	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		320			22		80	1942		24	1749	
v/s Ratio Prot		c0.12			c0.00		c0.02	0.18		0.00	c0.30	
v/s Ratio Perm												
v/c Ratio		0.67			0.01		0.53	0.33		0.17	0.58	
Uniform Delay, d1		25.3			32.3		31.0	8.2		32.3	11.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		5.5			0.1		6.1	0.5		3.3	1.4	
Delay (s)		30.8			32.4		37.0	8.7		35.6	12.4	
Level of Service		C			C		D	A		D	B	
Approach Delay (s)		30.8			32.4			10.4			12.5	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	66.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	0	125	3	2	7	136	472	0	2	567	97
Future Volume (vph)	113	0	125	3	2	7	136	472	0	2	567	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.88		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1583		1770	1639		1770	3539		1770	3462	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1583		1770	1639		1770	3539		1770	3462	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	126	0	139	3	2	8	151	524	0	2	630	108
RTOR Reduction (vph)	0	119	0	0	8	0	0	0	0	0	12	0
Lane Group Flow (vph)	126	20	0	3	2	0	151	524	0	2	726	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	9.6	9.6		1.1	1.1		10.0	38.0		0.9	28.9	
Effective Green, g (s)	9.6	9.6		1.1	1.1		10.0	38.0		0.9	28.9	
Actuated g/C Ratio	0.15	0.15		0.02	0.02		0.15	0.58		0.01	0.44	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	259	231		29	27		269	2050		24	1525	
v/s Ratio Prot	c0.07	0.01		c0.00	0.00		c0.09	0.15		0.00	c0.21	
v/s Ratio Perm												
v/c Ratio	0.49	0.09		0.10	0.08		0.56	0.26		0.08	0.48	
Uniform Delay, d1	25.7	24.2		31.8	31.8		25.8	6.8		31.9	13.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	0.2		1.6	1.3		2.7	0.3		1.5	1.1	
Delay (s)	27.2	24.4		33.3	33.0		28.4	7.1		33.4	14.1	
Level of Service	C	C		C	C		C	A		C	B	
Approach Delay (s)		25.7			33.1			11.9			14.1	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	65.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	82	304	162	574	584	71
Future Volume (Veh/h)	82	304	162	574	584	71
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	89	330	176	624	635	77
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1650	674	712			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1650	674	712			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	27	80			
cM capacity (veh/h)	87	455	888			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	419	176	624	712
Volume Left	89	176	0	0
Volume Right	330	0	0	77
cSH	240	888	1700	1700
Volume to Capacity	1.75	0.20	0.37	0.42
Queue Length 95th (ft)	700	18	0	0
Control Delay (s)	387.8	10.1	0.0	0.0
Lane LOS	F	B		
Approach Delay (s)	387.8	2.2		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	85.1		
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		

CUMULATIVE CONDITIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	257	170	232	320	20	171	833	313	33	576	314
Future Volume (vph)	205	257	170	232	320	20	171	833	313	33	576	314
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3508		1770	3539	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3508		1770	3539	1583	1770	1863	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	228	286	189	258	356	22	190	926	348	37	640	349
RTOR Reduction (vph)	0	0	160	0	5	0	0	0	179	0	0	145
Lane Group Flow (vph)	228	286	29	258	373	0	190	926	169	37	640	204
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	12.6	13.4	13.4	13.5	14.3		10.2	40.1	40.1	3.6	33.5	33.5
Effective Green, g (s)	12.6	13.4	13.4	13.5	14.3		10.2	40.1	40.1	3.6	33.5	33.5
Actuated g/C Ratio	0.15	0.15	0.15	0.16	0.17		0.12	0.46	0.46	0.04	0.39	0.39
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	257	547	244	275	579		208	1638	733	73	720	612
v/s Ratio Prot	0.13	0.08		c0.15	c0.11		c0.11	0.26		0.02	c0.34	
v/s Ratio Perm			0.02						0.11			0.13
v/c Ratio	0.89	0.52	0.12	0.94	0.64		0.91	0.57	0.23	0.51	0.89	0.33
Uniform Delay, d1	36.3	33.7	31.5	36.1	33.8		37.8	16.9	14.0	40.6	24.8	18.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	28.5	0.9	0.2	37.5	2.5		39.0	1.4	0.7	5.4	15.3	1.5
Delay (s)	64.8	34.6	31.7	73.7	36.2		76.8	18.3	14.7	46.1	40.1	20.2
Level of Service	E	C	C	E	D		E	B	B	D	D	C
Approach Delay (s)		43.6			51.4			25.1			33.5	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	35.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	86.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	342	294	158	741	760	119
Future Volume (vph)	342	294	158	741	760	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.94		1.00	1.00	0.98	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	1701		1770	1863	1829	
Flt Permitted	0.97		0.95	1.00	1.00	
Satd. Flow (perm)	1701		1770	1863	1829	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	380	327	176	823	844	132
RTOR Reduction (vph)	35	0	0	0	6	0
Lane Group Flow (vph)	672	0	176	823	970	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	29.0		8.0	53.0	41.0	
Effective Green, g (s)	29.0		8.0	53.0	41.0	
Actuated g/C Ratio	0.32		0.09	0.59	0.46	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	548		157	1097	833	
v/s Ratio Prot	c0.40		c0.10	0.44	c0.53	
v/s Ratio Perm						
v/c Ratio	1.23		1.12	0.75	1.16	
Uniform Delay, d1	30.5		41.0	13.6	24.5	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	117.6		108.0	4.7	87.0	
Delay (s)	148.1		149.0	18.4	111.5	
Level of Service	F		F	B	F	
Approach Delay (s)	148.1			41.4	111.5	
Approach LOS	F			D	F	

Intersection Summary			
HCM 2000 Control Delay	95.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	102.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	0	13	2	0	12	8	1158	4	14	748	15
Future Volume (vph)	21	0	13	2	0	12	8	1158	4	14	748	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.95			0.88		1.00	1.00		1.00	1.00	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1714			1634		1770	3538		1770	3529	
Flt Permitted		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1714			1634		1770	3538		1770	3529	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	23	0	14	2	0	13	9	1287	4	16	831	17
RTOR Reduction (vph)	0	36	0	0	15	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	1	0	0	0	0	9	1291	0	16	847	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		2.0			0.9		0.9	43.0		0.9	43.0	
Effective Green, g (s)		2.0			0.9		0.9	43.0		0.9	43.0	
Actuated g/C Ratio		0.03			0.01		0.01	0.68		0.01	0.68	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		54			23		25	2422		25	2416	
v/s Ratio Prot		c0.00			c0.00		0.01	c0.36		c0.01	0.24	
v/s Ratio Perm												
v/c Ratio		0.02			0.01		0.36	0.53		0.64	0.35	
Uniform Delay, d1		29.5			30.5		30.7	4.9		30.8	4.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2			0.2		8.7	0.8		44.6	0.4	
Delay (s)		29.6			30.7		39.3	5.8		75.4	4.5	
Level of Service		C			C		D	A		E	A	
Approach Delay (s)		29.6			30.7			6.0			5.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	62.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	0	25	1	1	15	25	1089	0	5	674	37
Future Volume (vph)	43	0	25	1	1	15	25	1089	0	5	674	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.86		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1583		1770	1599		1770	3539		1770	3512	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1583		1770	1599		1770	3539		1770	3512	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	48	0	28	1	1	17	28	1210	0	6	749	41
RTOR Reduction (vph)	0	26	0	0	17	0	0	0	0	0	3	0
Lane Group Flow (vph)	48	2	0	1	1	0	28	1210	0	6	787	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.5	4.5		1.1	1.1		2.1	42.3		0.9	41.1	
Effective Green, g (s)	4.5	4.5		1.1	1.1		2.1	42.3		0.9	41.1	
Actuated g/C Ratio	0.07	0.07		0.02	0.02		0.03	0.65		0.01	0.63	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	122	109		30	27		57	2310		24	2227	
v/s Ratio Prot	c0.03	0.00		0.00	c0.00		c0.02	c0.34		0.00	0.22	
v/s Ratio Perm												
v/c Ratio	0.39	0.02		0.03	0.05		0.49	0.52		0.25	0.35	
Uniform Delay, d1	28.8	28.1		31.3	31.3		30.8	5.9		31.6	5.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	0.1		0.5	0.7		6.5	0.9		5.4	0.4	
Delay (s)	30.9	28.2		31.8	32.1		37.3	6.8		37.0	6.0	
Level of Service	C	C		C	C		D	A		D	A	
Approach Delay (s)		29.9			32.1			7.5			6.3	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	64.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	136	218	310	1003	613	145
Future Volume (Veh/h)	136	218	310	1003	613	145
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	148	237	337	1090	666	158
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2509	745	824			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2509	745	824			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	43	58			
cM capacity (veh/h)	18	414	806			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	385	337	1090	824
Volume Left	148	337	0	0
Volume Right	237	0	0	158
cSH	44	806	1700	1700
Volume to Capacity	8.70	0.42	0.64	0.48
Queue Length 95th (ft)	Err	52	0	0
Control Delay (s)	Err	12.6	0.0	0.0
Lane LOS	F	B		
Approach Delay (s)	Err	3.0		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	1462.0		
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	224	269	124	206	167	13	145	578	300	16	528	122
Future Volume (vph)	224	269	124	206	167	13	145	578	300	16	528	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3502		1770	3539	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3502		1770	3539	1583	1770	1863	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	249	299	138	229	186	14	161	642	333	18	587	136
RTOR Reduction (vph)	0	0	117	0	7	0	0	0	170	0	0	65
Lane Group Flow (vph)	249	299	21	229	193	0	161	642	163	18	587	71
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	13.9	12.8	12.8	12.9	11.8		9.2	41.9	41.9	2.1	34.8	34.8
Effective Green, g (s)	13.9	12.8	12.8	12.9	11.8		9.2	41.9	41.9	2.1	34.8	34.8
Actuated g/C Ratio	0.16	0.15	0.15	0.15	0.14		0.11	0.49	0.49	0.02	0.41	0.41
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	287	528	236	266	482		190	1730	773	43	756	642
v/s Ratio Prot	c0.14	c0.08		0.13	0.06		c0.09	0.18		0.01	c0.32	
v/s Ratio Perm			0.01						0.10			0.05
v/c Ratio	0.87	0.57	0.09	0.86	0.40		0.85	0.37	0.21	0.42	0.78	0.11
Uniform Delay, d1	35.0	33.9	31.4	35.5	33.7		37.6	13.7	12.5	41.2	22.1	15.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	23.0	1.4	0.2	23.6	0.5		27.8	0.6	0.6	6.5	7.7	0.3
Delay (s)	58.0	35.3	31.6	59.1	34.3		65.4	14.3	13.1	47.7	29.8	16.2
Level of Service	E	D	C	E	C		E	B	B	D	C	B
Approach Delay (s)		42.8			47.5			21.2			27.7	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	85.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	244	89	129	1068	725	229
Future Volume (vph)	244	89	129	1068	725	229
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.96		1.00	1.00	0.97	
Flt Protected	0.96		0.95	1.00	1.00	
Satd. Flow (prot)	1732		1770	1863	1802	
Flt Permitted	0.96		0.95	1.00	1.00	
Satd. Flow (perm)	1732		1770	1863	1802	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	271	99	143	1187	806	254
RTOR Reduction (vph)	14	0	0	0	13	0
Lane Group Flow (vph)	356	0	143	1187	1047	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	18.5		8.4	63.5	51.1	
Effective Green, g (s)	18.5		8.4	63.5	51.1	
Actuated g/C Ratio	0.21		0.09	0.71	0.57	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	356		165	1314	1023	
v/s Ratio Prot	c0.21		0.08	c0.64	c0.58	
v/s Ratio Perm						
v/c Ratio	1.00		0.87	0.90	1.02	
Uniform Delay, d1	35.7		40.2	10.8	19.4	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	47.1		34.8	10.3	34.4	
Delay (s)	82.8		75.1	21.1	53.8	
Level of Service	F		E	C	D	
Approach Delay (s)	82.8			26.9	53.8	
Approach LOS	F			C	D	

Intersection Summary			
HCM 2000 Control Delay	44.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	0	34	2	0	6	38	663	1	4	785	280
Future Volume (vph)	240	0	34	2	0	6	38	663	1	4	785	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.98			0.90		1.00	1.00		1.00	0.96	
Flt Protected		0.96			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1755			1649		1770	3538		1770	3400	
Flt Permitted		0.96			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1755			1649		1770	3538		1770	3400	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	267	0	38	2	0	7	42	737	1	4	872	311
RTOR Reduction (vph)	0	89	0	0	9	0	0	0	0	0	29	0
Lane Group Flow (vph)	0	216	0	0	0	0	42	738	0	4	1154	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		12.1			0.9		3.0	36.4		0.9	34.3	
Effective Green, g (s)		12.1			0.9		3.0	36.4		0.9	34.3	
Actuated g/C Ratio		0.18			0.01		0.05	0.55		0.01	0.52	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		320			22		80	1942		24	1758	
v/s Ratio Prot		c0.12			c0.00		c0.02	0.21		0.00	c0.34	
v/s Ratio Perm												
v/c Ratio		0.67			0.01		0.53	0.38		0.17	0.66	
Uniform Delay, d1		25.3			32.3		31.0	8.5		32.3	11.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		5.5			0.1		6.1	0.6		3.3	1.9	
Delay (s)		30.8			32.4		37.0	9.1		35.6	13.6	
Level of Service		C			C		D	A		D	B	
Approach Delay (s)		30.8			32.4			10.6			13.7	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	66.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	0	125	3	2	7	136	559	0	2	686	96
Future Volume (vph)	112	0	125	3	2	7	136	559	0	2	686	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.88		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1583		1770	1639		1770	3539		1770	3474	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1583		1770	1639		1770	3539		1770	3474	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	124	0	139	3	2	8	151	621	0	2	762	107
RTOR Reduction (vph)	0	119	0	0	8	0	0	0	0	0	9	0
Lane Group Flow (vph)	124	20	0	3	2	0	151	621	0	2	860	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	9.5	9.5		1.1	1.1		9.6	39.3		0.9	30.6	
Effective Green, g (s)	9.5	9.5		1.1	1.1		9.6	39.3		0.9	30.6	
Actuated g/C Ratio	0.14	0.14		0.02	0.02		0.14	0.59		0.01	0.46	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	251	225		29	26		254	2082		23	1591	
v/s Ratio Prot	c0.07	0.01		c0.00	0.00		c0.09	0.18		0.00	c0.25	
v/s Ratio Perm												
v/c Ratio	0.49	0.09		0.10	0.08		0.59	0.30		0.09	0.54	
Uniform Delay, d1	26.4	24.9		32.4	32.4		26.8	6.9		32.5	13.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.5	0.2		1.6	1.4		3.7	0.4		1.6	1.3	
Delay (s)	28.0	25.1		33.9	33.7		30.5	7.2		34.2	14.4	
Level of Service	C	C		C	C		C	A		C	B	
Approach Delay (s)		26.4			33.8			11.8			14.4	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	66.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	123	319	180	619	645	128
Future Volume (Veh/h)	123	319	180	619	645	128
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	134	347	196	673	701	139
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1836	770	840			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1836	770	840			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	13	75			
cM capacity (veh/h)	63	400	795			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	481	196	673	840
Volume Left	134	196	0	0
Volume Right	347	0	0	139
cSH	160	795	1700	1700
Volume to Capacity	3.00	0.25	0.40	0.49
Queue Length 95th (ft)	1104	24	0	0
Control Delay (s)	959.6	11.0	0.0	0.0
Lane LOS	F	B		
Approach Delay (s)	959.6	2.5		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	211.7		
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		

CUMULATIVE PLUS PROJECT CONDITIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	257	172	233	320	20	177	848	316	33	582	314
Future Volume (vph)	205	257	172	233	320	20	177	848	316	33	582	314
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3508		1770	3539	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3508		1770	3539	1583	1770	1863	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	228	286	191	259	356	22	197	942	351	37	647	349
RTOR Reduction (vph)	0	0	161	0	5	0	0	0	177	0	0	143
Lane Group Flow (vph)	228	286	30	259	373	0	197	942	174	37	647	206
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	12.6	13.4	13.4	13.5	14.3		10.5	40.1	40.1	3.6	33.2	33.2
Effective Green, g (s)	12.6	13.4	13.4	13.5	14.3		10.5	40.1	40.1	3.6	33.2	33.2
Actuated g/C Ratio	0.15	0.15	0.15	0.16	0.17		0.12	0.46	0.46	0.04	0.38	0.38
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	257	547	244	275	579		214	1638	733	73	714	606
v/s Ratio Prot	0.13	0.08		c0.15	c0.11		c0.11	0.27		0.02	c0.35	
v/s Ratio Perm			0.02						0.11			0.13
v/c Ratio	0.89	0.52	0.12	0.94	0.64		0.92	0.58	0.24	0.51	0.91	0.34
Uniform Delay, d1	36.3	33.7	31.5	36.2	33.8		37.6	17.0	14.0	40.6	25.2	18.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	28.5	0.9	0.2	38.7	2.5		40.1	1.5	0.8	5.4	17.3	1.5
Delay (s)	64.8	34.6	31.8	74.8	36.2		77.7	18.5	14.8	46.1	42.5	20.5
Level of Service	E	C	C	E	D		E	B	B	D	D	C
Approach Delay (s)		43.6			51.9			25.4			35.2	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	35.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	86.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	342	306	166	757	785	119
Future Volume (vph)	342	306	166	757	785	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.94		1.00	1.00	0.98	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	1699		1770	1863	1830	
Flt Permitted	0.97		0.95	1.00	1.00	
Satd. Flow (perm)	1699		1770	1863	1830	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	380	340	184	841	872	132
RTOR Reduction (vph)	36	0	0	0	6	0
Lane Group Flow (vph)	684	0	184	841	998	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	29.0		8.0	53.0	41.0	
Effective Green, g (s)	29.0		8.0	53.0	41.0	
Actuated g/C Ratio	0.32		0.09	0.59	0.46	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	547		157	1097	833	
v/s Ratio Prot	c0.40		c0.10	0.45	c0.55	
v/s Ratio Perm						
v/c Ratio	1.25		1.17	0.77	1.20	
Uniform Delay, d1	30.5		41.0	13.9	24.5	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	127.3		125.5	5.1	100.7	
Delay (s)	157.8		166.5	19.0	125.2	
Level of Service	F		F	B	F	
Approach Delay (s)	157.8			45.5	125.2	
Approach LOS	F			D	F	

Intersection Summary			
HCM 2000 Control Delay	104.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	105.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	0	13	2	0	12	8	1167	4	14	772	16
Future Volume (vph)	21	0	13	2	0	12	8	1167	4	14	772	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.95			0.88		1.00	1.00		1.00	1.00	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1714			1634		1770	3538		1770	3528	
Flt Permitted		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1714			1634		1770	3538		1770	3528	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	23	0	14	2	0	13	9	1297	4	16	858	18
RTOR Reduction (vph)	0	36	0	0	15	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	1	0	0	0	0	9	1301	0	16	875	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		2.0			0.9		0.9	43.0		0.9	43.0	
Effective Green, g (s)		2.0			0.9		0.9	43.0		0.9	43.0	
Actuated g/C Ratio		0.03			0.01		0.01	0.68		0.01	0.68	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		54			23		25	2422		25	2415	
v/s Ratio Prot		c0.00			c0.00		0.01	c0.37		c0.01	0.25	
v/s Ratio Perm												
v/c Ratio		0.02			0.01		0.36	0.54		0.64	0.36	
Uniform Delay, d1		29.5			30.5		30.7	4.9		30.8	4.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2			0.2		8.7	0.9		44.6	0.4	
Delay (s)		29.6			30.7		39.3	5.8		75.4	4.6	
Level of Service		C			C		D	A		E	A	
Approach Delay (s)		29.6			30.7			6.0			5.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	62.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	0	25	1	1	15	25	1098	0	5	697	39
Future Volume (vph)	43	0	25	1	1	15	25	1098	0	5	697	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.86		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1583		1770	1599		1770	3539		1770	3511	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1583		1770	1599		1770	3539		1770	3511	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	48	0	28	1	1	17	28	1220	0	6	774	43
RTOR Reduction (vph)	0	26	0	0	17	0	0	0	0	0	3	0
Lane Group Flow (vph)	48	2	0	1	1	0	28	1220	0	6	814	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.5	4.5		1.1	1.1		2.1	42.3		0.9	41.1	
Effective Green, g (s)	4.5	4.5		1.1	1.1		2.1	42.3		0.9	41.1	
Actuated g/C Ratio	0.07	0.07		0.02	0.02		0.03	0.65		0.01	0.63	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	122	109		30	27		57	2310		24	2226	
v/s Ratio Prot	c0.03	0.00		0.00	c0.00		c0.02	c0.34		0.00	0.23	
v/s Ratio Perm												
v/c Ratio	0.39	0.02		0.03	0.05		0.49	0.53		0.25	0.37	
Uniform Delay, d1	28.8	28.1		31.3	31.3		30.8	6.0		31.6	5.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	0.1		0.5	0.7		6.5	0.9		5.4	0.5	
Delay (s)	30.9	28.2		31.8	32.1		37.3	6.8		37.0	6.1	
Level of Service	C	C		C	C		D	A		D	A	
Approach Delay (s)		29.9			32.1			7.5			6.3	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	64.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	136	218	310	1012	634	147
Future Volume (Veh/h)	136	218	310	1012	634	147
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	148	237	337	1100	689	160
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2543	769	849			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2543	769	849			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	41	57			
cM capacity (veh/h)	17	401	789			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	385	337	1100	849
Volume Left	148	337	0	0
Volume Right	237	0	0	160
cSH	42	789	1700	1700
Volume to Capacity	9.27	0.43	0.65	0.50
Queue Length 95th (ft)	Err	54	0	0
Control Delay (s)	Err	12.9	0.0	0.0
Lane LOS	F	B		
Approach Delay (s)	Err	3.0		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	1442.9		
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	224	269	131	209	167	13	149	588	302	16	543	122
Future Volume (vph)	224	269	131	209	167	13	149	588	302	16	543	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3502		1770	3539	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3502		1770	3539	1583	1770	1863	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	249	299	146	232	186	14	166	653	336	18	603	136
RTOR Reduction (vph)	0	0	124	0	7	0	0	0	172	0	0	65
Lane Group Flow (vph)	249	299	22	232	193	0	166	653	164	18	603	71
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	13.9	12.8	12.8	13.0	11.9		9.4	41.9	41.9	2.1	34.6	34.6
Effective Green, g (s)	13.9	12.8	12.8	13.0	11.9		9.4	41.9	41.9	2.1	34.6	34.6
Actuated g/C Ratio	0.16	0.15	0.15	0.15	0.14		0.11	0.49	0.49	0.02	0.40	0.40
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	286	527	236	268	485		193	1728	773	43	751	638
v/s Ratio Prot	c0.14	c0.08		0.13	0.06		c0.09	0.18		0.01	c0.32	
v/s Ratio Perm			0.01						0.10			0.04
v/c Ratio	0.87	0.57	0.09	0.87	0.40		0.86	0.38	0.21	0.42	0.80	0.11
Uniform Delay, d1	35.1	33.9	31.5	35.5	33.7		37.6	13.8	12.5	41.2	22.6	16.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	23.8	1.4	0.2	24.0	0.5		30.1	0.6	0.6	6.5	8.9	0.4
Delay (s)	58.9	35.3	31.7	59.6	34.2		67.7	14.4	13.2	47.7	31.5	16.3
Level of Service	E	D	C	E	C		E	B	B	D	C	B
Approach Delay (s)		43.0			47.8			21.7			29.1	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	85.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	249	94	141	1092	735	229
Future Volume (vph)	249	94	141	1092	735	229
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.96		1.00	1.00	0.97	
Flt Protected	0.96		0.95	1.00	1.00	
Satd. Flow (prot)	1731		1770	1863	1803	
Flt Permitted	0.96		0.95	1.00	1.00	
Satd. Flow (perm)	1731		1770	1863	1803	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	277	104	157	1213	817	254
RTOR Reduction (vph)	15	0	0	0	13	0
Lane Group Flow (vph)	366	0	157	1213	1058	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	18.5		8.6	63.5	50.9	
Effective Green, g (s)	18.5		8.6	63.5	50.9	
Actuated g/C Ratio	0.21		0.10	0.71	0.57	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	355		169	1314	1019	
v/s Ratio Prot	c0.21		0.09	c0.65	c0.59	
v/s Ratio Perm						
v/c Ratio	1.03		0.93	0.92	1.04	
Uniform Delay, d1	35.8		40.4	11.2	19.6	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	55.9		48.4	12.2	38.7	
Delay (s)	91.6		88.7	23.4	58.3	
Level of Service	F		F	C	E	
Approach Delay (s)	91.6			30.9	58.3	
Approach LOS	F			C	E	

Intersection Summary			
HCM 2000 Control Delay	49.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	0	34	2	0	6	38	687	1	4	801	280
Future Volume (vph)	240	0	34	2	0	6	38	687	1	4	801	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.98			0.90		1.00	1.00		1.00	0.96	
Flt Protected		0.96			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1755			1649		1770	3539		1770	3402	
Flt Permitted		0.96			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1755			1649		1770	3539		1770	3402	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	267	0	38	2	0	7	42	763	1	4	890	311
RTOR Reduction (vph)	0	89	0	0	9	0	0	0	0	0	28	0
Lane Group Flow (vph)	0	216	0	0	0	0	42	764	0	4	1173	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		12.1			0.9		3.0	36.5		0.9	34.4	
Effective Green, g (s)		12.1			0.9		3.0	36.5		0.9	34.4	
Actuated g/C Ratio		0.18			0.01		0.05	0.55		0.01	0.52	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		319			22		79	1945		23	1762	
v/s Ratio Prot		c0.12			c0.00		c0.02	0.22		0.00	c0.34	
v/s Ratio Perm												
v/c Ratio		0.68			0.01		0.53	0.39		0.17	0.67	
Uniform Delay, d1		25.3			32.3		31.0	8.6		32.4	11.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		5.6			0.1		6.7	0.6		3.6	2.0	
Delay (s)		30.9			32.4		37.7	9.2		36.0	13.8	
Level of Service		C			C		D	A		D	B	
Approach Delay (s)		30.9			32.4			10.7			13.8	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	66.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	0	125	3	2	7	136	582	0	2	701	97
Future Volume (vph)	113	0	125	3	2	7	136	582	0	2	701	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.88		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1583		1770	1639		1770	3539		1770	3475	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1583		1770	1639		1770	3539		1770	3475	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	126	0	139	3	2	8	151	647	0	2	779	108
RTOR Reduction (vph)	0	119	0	0	8	0	0	0	0	0	9	0
Lane Group Flow (vph)	126	20	0	3	2	0	151	647	0	2	878	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	9.6	9.6		1.1	1.1		9.6	39.3		0.9	30.6	
Effective Green, g (s)	9.6	9.6		1.1	1.1		9.6	39.3		0.9	30.6	
Actuated g/C Ratio	0.14	0.14		0.02	0.02		0.14	0.59		0.01	0.46	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	253	227		29	26		253	2078		23	1589	
v/s Ratio Prot	c0.07	0.01		c0.00	0.00		c0.09	0.18		0.00	c0.25	
v/s Ratio Perm												
v/c Ratio	0.50	0.09		0.10	0.08		0.60	0.31		0.09	0.55	
Uniform Delay, d1	26.4	24.9		32.4	32.4		26.8	7.0		32.6	13.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.5	0.2		1.6	1.4		3.8	0.4		1.6	1.4	
Delay (s)	28.0	25.0		34.0	33.8		30.6	7.4		34.2	14.6	
Level of Service	C	C		C	C		C	A		C	B	
Approach Delay (s)		26.4			33.8			11.8			14.6	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	66.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	125	319	180	641	659	130
Future Volume (Veh/h)	125	319	180	641	659	130
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	136	347	196	697	716	141
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1876	786	857			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1876	786	857			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	11	75			
cM capacity (veh/h)	59	392	783			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	483	196	697	857
Volume Left	136	196	0	0
Volume Right	347	0	0	141
cSH	151	783	1700	1700
Volume to Capacity	3.19	0.25	0.41	0.50
Queue Length 95th (ft)	Err	25	0	0
Control Delay (s)	Err	11.1	0.0	0.0
Lane LOS	F	B		
Approach Delay (s)	Err	2.4		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	2163.8		
Intersection Capacity Utilization	89.1%	ICU Level of Service	E
Analysis Period (min)	15		

MITIGATED CONDITIONS

WITH RESTRIPE AND SIGNAL MODIFICATION

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	342	306	166	757	785	119
Future Volume (vph)	342	306	166	757	785	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.98	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1830	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	1863	1830	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	380	340	184	841	872	132
RTOR Reduction (vph)	0	229	0	0	6	0
Lane Group Flow (vph)	380	111	184	841	998	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	20.0	20.0	10.2	62.0	47.8	
Effective Green, g (s)	20.0	20.0	10.2	62.0	47.8	
Actuated g/C Ratio	0.22	0.22	0.11	0.69	0.53	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	393	351	200	1283	971	
v/s Ratio Prot	c0.21		c0.10	0.45	c0.55	
v/s Ratio Perm		0.07				
v/c Ratio	0.97	0.31	0.92	0.66	1.03	
Uniform Delay, d1	34.7	29.3	39.5	7.9	21.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	36.4	0.5	41.8	2.6	36.2	
Delay (s)	71.1	29.8	81.3	10.6	57.3	
Level of Service	E	C	F	B	E	
Approach Delay (s)	51.6			23.3	57.3	
Approach LOS	D			C	E	

Intersection Summary			
HCM 2000 Control Delay	43.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

WITH SIGNAL CONSTRUCTION

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	136	218	310	1012	634	147
Future Volume (vph)	136	218	310	1012	634	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.92		1.00	1.00	0.97	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1676		1770	1863	1815	
Flt Permitted	0.98		0.95	1.00	1.00	
Satd. Flow (perm)	1676		1770	1863	1815	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	151	242	344	1124	704	163
RTOR Reduction (vph)	64	0	0	0	9	0
Lane Group Flow (vph)	329	0	344	1124	858	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	18.0		18.0	64.0	42.0	
Effective Green, g (s)	18.0		18.0	64.0	42.0	
Actuated g/C Ratio	0.20		0.20	0.71	0.47	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	335		354	1324	847	
v/s Ratio Prot	c0.20		c0.19	0.60	c0.47	
v/s Ratio Perm						
v/c Ratio	0.98		0.97	0.85	1.01	
Uniform Delay, d1	35.8		35.7	9.5	24.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	44.1		40.1	5.3	34.2	
Delay (s)	79.9		75.8	14.8	58.2	
Level of Service	E		E	B	E	
Approach Delay (s)	79.9			29.1	58.2	
Approach LOS	E			C	E	

Intersection Summary			
HCM 2000 Control Delay	45.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

WITH RESTRIPE AND SIGNAL MODIFICATION

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	249	94	141	1092	735	229
Future Volume (vph)	249	94	141	1092	735	229
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.97	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1803	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	1863	1803	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	277	104	157	1213	817	254
RTOR Reduction (vph)	0	84	0	0	12	0
Lane Group Flow (vph)	277	20	157	1213	1059	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	16.9	16.9	8.6	63.5	50.9	
Effective Green, g (s)	16.9	16.9	8.6	63.5	50.9	
Actuated g/C Ratio	0.19	0.19	0.10	0.72	0.58	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	338	302	172	1338	1038	
v/s Ratio Prot	c0.16		0.09	c0.65	c0.59	
v/s Ratio Perm		0.01				
v/c Ratio	0.82	0.07	0.91	0.91	1.02	
Uniform Delay, d1	34.3	29.3	39.5	10.1	18.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	14.3	0.1	44.1	10.5	33.1	
Delay (s)	48.6	29.4	83.7	20.5	51.8	
Level of Service	D	C	F	C	D	
Approach Delay (s)	43.4			27.7	51.8	
Approach LOS	D			C	D	

Intersection Summary			
HCM 2000 Control Delay	39.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	88.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

WITH SIGNAL CONSTRUCTION

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	125	319	180	641	659	130
Future Volume (vph)	125	319	180	641	659	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.90		1.00	1.00	0.98	
Flt Protected	0.99		0.95	1.00	1.00	
Satd. Flow (prot)	1659		1770	1863	1821	
Flt Permitted	0.99		0.95	1.00	1.00	
Satd. Flow (perm)	1659		1770	1863	1821	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	347	196	697	716	141
RTOR Reduction (vph)	93	0	0	0	7	0
Lane Group Flow (vph)	390	0	196	697	850	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	24.1		12.1	63.2	47.1	
Effective Green, g (s)	24.1		12.1	63.2	47.1	
Actuated g/C Ratio	0.25		0.13	0.66	0.49	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	419		224	1235	899	
v/s Ratio Prot	c0.24		c0.11	0.37	c0.47	
v/s Ratio Perm						
v/c Ratio	0.93		0.88	0.56	0.95	
Uniform Delay, d1	34.8		40.9	8.6	22.9	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	27.5		29.3	0.6	18.1	
Delay (s)	62.3		70.2	9.2	40.9	
Level of Service	E		E	A	D	
Approach Delay (s)	62.3			22.6	40.9	
Approach LOS	E			C	D	

Intersection Summary			
HCM 2000 Control Delay	38.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	95.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

ACCESS ANALYSIS

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	36	24	10	1190	1077	14
Future Volume (Veh/h)	36	24	10	1190	1077	14
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	38	25	11	1253	1134	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)				670		
pX, platoon unblocked	0.32					
vC, conflicting volume	2416	1142	1149			
vC1, stage 1 conf vol	1142					
vC2, stage 2 conf vol	1275					
vCu, unblocked vol	4322	1142	1149			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	68	90	98			
cM capacity (veh/h)	119	244	608			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	63	11	1253	1149
Volume Left	38	11	0	0
Volume Right	25	0	0	15
cSH	150	608	1700	1700
Volume to Capacity	0.42	0.02	0.74	0.68
Queue Length 95th (ft)	46	1	0	0
Control Delay (s)	45.4	11.0	0.0	0.0
Lane LOS	E	B		
Approach Delay (s)	45.4	0.1		0.0
Approach LOS	E			

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	24	16	25	908	792	37
Future Volume (Veh/h)	24	16	25	908	792	37
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	27	18	28	1009	880	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)				900		
pX, platoon unblocked	0.75					
vC, conflicting volume	1966	900	921			
vC1, stage 1 conf vol	900					
vC2, stage 2 conf vol	1065					
vCu, unblocked vol	2122	900	921			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	88	95	96			
cM capacity (veh/h)	223	337	741			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	45	28	1009	921
Volume Left	27	28	0	0
Volume Right	18	0	0	41
cSH	258	741	1700	1700
Volume to Capacity	0.17	0.04	0.59	0.54
Queue Length 95th (ft)	15	3	0	0
Control Delay (s)	21.9	10.0	0.0	0.0
Lane LOS	C	B		
Approach Delay (s)	21.9	0.3		0.0
Approach LOS	C			

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		