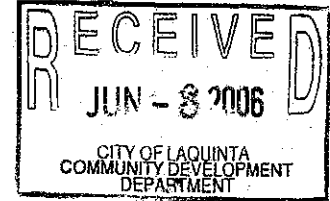


**URBAN  
CROSSROADS**

41 Corporate Park, Suite 300  
Irvine, CA 92606



**Prepared by:**

**John Kain, AICP  
Bill Lawson, AICP  
Ruth Smith, PE  
Tom Huang, EIT  
Christopher Tzeng**

**Prepared for:**

**Mr. Rudy Herrera  
FAMILY DEVELOPMENT  
73081 Fred Waring Drive  
Palm Desert, CA 92260**

**AVENUE 53 DEVELOPMENT  
(TENTATIVE TRACTS 33559 AND 33697)  
TRAFFIC IMPACT ANALYSIS  
COUNTY OF RIVERSIDE, CALIFORNIA**

**July 12, 2005**

**JN:02852-03  
JK:BL:RS:TH:CT:dp**

# TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 INTRODUCTION AND SUMMARY.....	1-1
A. Purpose of Report and Study Objectives	
B. Site Location and Study Area	
C. Project Development Identification	
D. Project Development Description	
1. Project Size and Description	
2. Existing Land Use and Zoning	
3. Proposed Land Use and Zoning	
4. Site Plan	
5. Proposed Project Opening Year	
2.0 AREA CONDITIONS .....	2-1
A. Study Area	
B. Existing Traffic Controls and Intersection Geometrics	
C. Existing Traffic Volumes	
D. Existing Level of Service	
E. General Plan Circulation Element	
F. Transit Service	
3.0 PROJECTED FUTURE TRAFFIC.....	3-1
A. Project Traffic	
1. Ambient Growth Rate	
2. Project Trip Generation	
3. Project Trip Distribution	
4. Modal Split	
5. Project Trip Assignment	
B. Other Future Development Traffic	
1. Method of Projection	
2. Other Approved Projects	
3. Other Development Trip Distribution	
4. Total Future Traffic	
4.0 TRAFFIC ANALYSIS.....	4-1
A. Level of Service for Existing Plus Ambient Plus Project	
B. Level of Service for Existing Plus Ambient Plus Project Plus Cumulative	

5.0 FINDINGS AND CONCLUSIONS .....

- A. Traffic Impacts and Level of Service
- B. Traffic Signal Warrant Analysis
- C. Intersection Spacing
- D. Entry Gate Queuing Analysis
- E. Circulation Recommendations
  - 1. On-Site
  - 2. Off-Site Improvements Recommended Prior to the Issuance of the Initial Certificate of Occupancy for Tentative Tract 33559
  - 3. Off-Site Improvements Recommended Prior to the Issuance of the Initial Certificate of Occupancy for Tentative Tract 33697
- F. Regional Improvement Funding Mechanism

**APPENDICES**

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SCOPING AGREEMENT .....	A
TRAFFIC COUNT WORKSHEETS .....	B
EXISTING CONDITIONS INTERSECTION ANALYSIS .....	C
TRAFFIC SIGNAL WARRANTS .....	D
RIVERSIDE COUNTY'S CUMULATIVE PROJECT LIST .....	E
CUMULATIVE DEVELOPMENT TRIP DISTRIBUTIONS .....	F
EXISTING PLUS AMBIENT PLUS PROJECT INTERSECTION ANALYSIS .....	G
EXISTING PLUS AMBIENT PLUS PROJECT PLUS CUMULATIVE INTERSECTION ANALYSIS .....	H

## LIST OF EXHIBITS

<u>EXHIBIT</u>	<u>PAGE</u>
1-A LOCATION MAP .....	1-2
1-B OVERALL PROJECT SITE PLAN .....	1-6
1-C TR 33559 SITE PLAN .....	1-7
1-D TR 33697 SITE PLAN .....	1-8
2-A EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS .....	2-2
2-B EXISTING AM PEAK HOUR INTERSECTION VOLUMES .....	2-3
2-C EXISTING PM PEAK HOUR INTERSECTION VOLUMES .....	2-4
2-D RIVERSIDE COUNTY GENERAL PLAN CIRCULATION ELEMENT .....	2-11
2-E RIVERSIDE COUNTY GENERAL PLAN ROADWAY CROSS-SECTIONS .....	2-12
2-F CITY OF LA QUINTA GENERAL PLAN CIRCULATION ELEMENT .....	2-13
2-G CITY OF LA QUINTA GENERAL PLAN ROADWAY CROSS-SECTIONS .....	2-14
2-H CITY OF INDIO GENERAL PLAN CIRCULATION ELEMENT .....	2-15
2-I CITY OF INDIO GENERAL PLAN ROADWAY CROSS-SECTIONS .....	2-16
3-A PROJECT TRIP DISTRIBUTION .....	3-5
3-B PROJECT AM PEAK HOUR INTERSECTION VOLUMES .....	3-7
3-C PROJECT PM PEAK HOUR INTERSECTION VOLUMES .....	3-8
3-D CUMULATIVE DEVELOPMENT LOCATION MAP .....	3-10
3-E CUMULATIVE DEVELOPMENT AM PEAK HOUR INTERSECTION VOLUMES .....	3-12
3-F CUMULATIVE DEVELOPMENT PM PEAK HOUR INTERSECTION VOLUMES .....	3-13

3-G	EXISTING PLUS AMBIENT PLUS PROJECT AM PEAK HOUR INTERSECTION VOLUMES .....	3-14
3-H	EXISTING PLUS AMBIENT PLUS PROJECT PM PEAK HOUR INTERSECTION VOLUMES .....	3-15
3-I	EXISTING PLUS AMBIENT PLUS PROJECT PLUS CUMULATIVE AM PEAK HOUR INTERSECTION VOLUMES .....	3-16
3-J	EXISTING PLUS AMBIENT PLUS PROJECT PLUS CUMULATIVE PM PEAK HOUR INTERSECTION VOLUMES .....	3-17
5-A	RECOMMENDED IMPROVEMENTS FOR EXISTING PLUS AMBIENT PLUS PROJECT CONDITIONS.....	5-3
5-B	ON-SITE CIRCULATION RECOMMENDATIONS.....	5-6

## LIST OF TABLES

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<u>TABLE</u>		<u>PAGE</u>
2-1	INTERSECTION ANALYSIS FOR EXISTING CONDITIONS .....	2-9
3-1	TRIP GENERATION RATES .....	3-3
3-2	PROJECT TRIP GENERATION .....	3-4
3-3	OTHER DEVELOPMENT LAND USE AND TRIP GENERATION .....	3-9
4-1	INTERSECTION ANALYSIS FOR EXISTING PLUS AMBIENT PLUS PROJECT CONDITIONS .....	4-2
4-2	INTERSECTION ANALYSIS FOR EXISTING PLUS AMBIENT PLUS PROJECT PLUS CUMULATIVE CONDITIONS .....	4-3
5-1	SUMMARY OF INTERSECTION IMPROVEMENTS .....	5-2

**AVENUE 53 DEVELOPMENT  
(TENTATIVE TRACTS 33559 AND 33697)  
TRAFFIC IMPACT ANALYSIS  
COUNTY OF RIVERSIDE, CALIFORNIA**

**1.0 INTRODUCTION AND SUMMARY**

---

**A. Purpose of Report and Study Objectives**

The purpose of this traffic impact analysis (TIA) is to evaluate the traffic impacts of the proposed Avenue 53 (Tentative Tracts 33559 and 33697) Development. The project site consists of two tracts of approximately 169 single-family residential dwelling units altogether. The project is located south of 53rd Avenue, between Monroe Street and Jackson Street, in the County of Riverside.

Study objectives include (1) documentation of existing traffic conditions in the vicinity of the site; (2) evaluation of Existing plus Ambient Growth plus Project traffic conditions; (3) evaluation of Existing plus Ambient Growth plus Project plus Other Cumulative Development traffic conditions; and (4) determination of on-site and off-site improvements and system management actions needed to achieve County of Riverside level of service requirements.

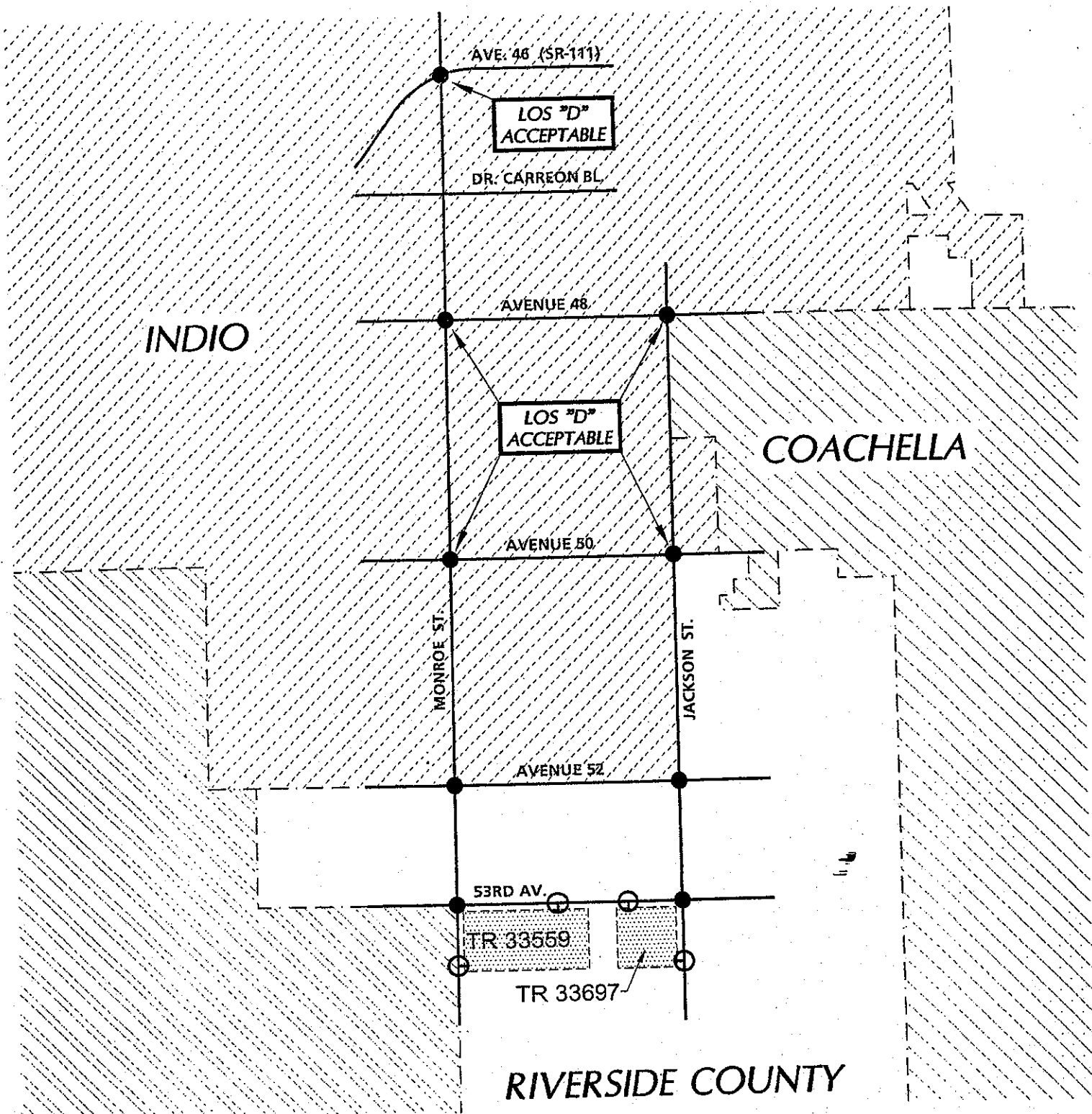
**B. Site Location and Study Area**

The project site is located south of 53rd Avenue, between Monroe Street and Jackson Street, in the County of Riverside. Exhibit 1-A illustrates the site location and the traffic analysis study area.

The County of Riverside requires that the study area shall include any intersection of Collector or higher classification street with another Collector roadway or higher classification street, at which the proposed project will add 50 or more peak hour trips, not exceeding a five-mile radius from the project site. Pursuant to the attached scoping agreement (see Appendix "A") and discussions with County of



EXHIBIT 1-A  
**LOCATION MAP**



**LEGEND:**

- = INTERSECTION ANALYSIS LOCATION
- = FUTURE INTERSECTION ANALYSIS LOCATION
- = CITY / COUNTY BOUNDARY



Riverside, City of Indio and City of La Quinta staff, the study area includes the following intersections:

Monroe Street (NS) at:

- SR-111 (EW)
- Avenue 48 (EW)
- Avenue 50 (EW)
- Avenue 52 (EW)
- 53rd Avenue (EW)
- Project Driveway (EW) – Future Intersection

Westerly Project Driveway (NS) at:

- 53rd Avenue (EW) – Future Intersection

Easterly Project Driveway (NS) at:

- 53rd Avenue (EW) – Future Intersection

Jackson Street (NS) at:

- Avenue 48 (EW)
- Avenue 50 (EW)
- Avenue 52 (EW)
- 53rd Avenue (EW)
- Project Driveway (EW) – Future Intersection

C. Project Development Identification

Riverside County Case Number: Tentative Tract 33559 and Tentative Tract 33697

D. Project Development Description

1. Project Size and Description

This land use plan is subject to refinement and revision, based on planning, engineering, and environmental considerations. For the purposes of this analysis, the following land use assumptions have been evaluated:

- 123 single-family detached dwelling units for Tentative Tract 33559
- 46 single-family detached dwelling units for Tentative Tract 33697

The proposed project is assumed to have a direct full access driveway onto Monroe Street, two direct full access driveways onto 53rd Avenue, as well as a direct full access driveway to Jackson Street.

## 2. Existing Land Use and Zoning

The project site is currently zoned for A-1-20 (Light Agriculture), and adjacent parcels are currently zoned for the following:

- North – A-1-20 (Light Agriculture)
- South – A-1-20 (Light Agriculture)
- East – A-1-20 (Light Agriculture)
- West – A-1-20 (Light Agriculture)

The site is currently vacant and does not generate significant traffic. Adjacent uses include the following:

- North – Vacant
- South – Vacant
- East – Vacant
- West – Vacant

3. Proposed Land Use and Zoning

Proposed Zoning: R-1-8,000 and R-1-12,000

Proposed Land Use: Single-family detached residential

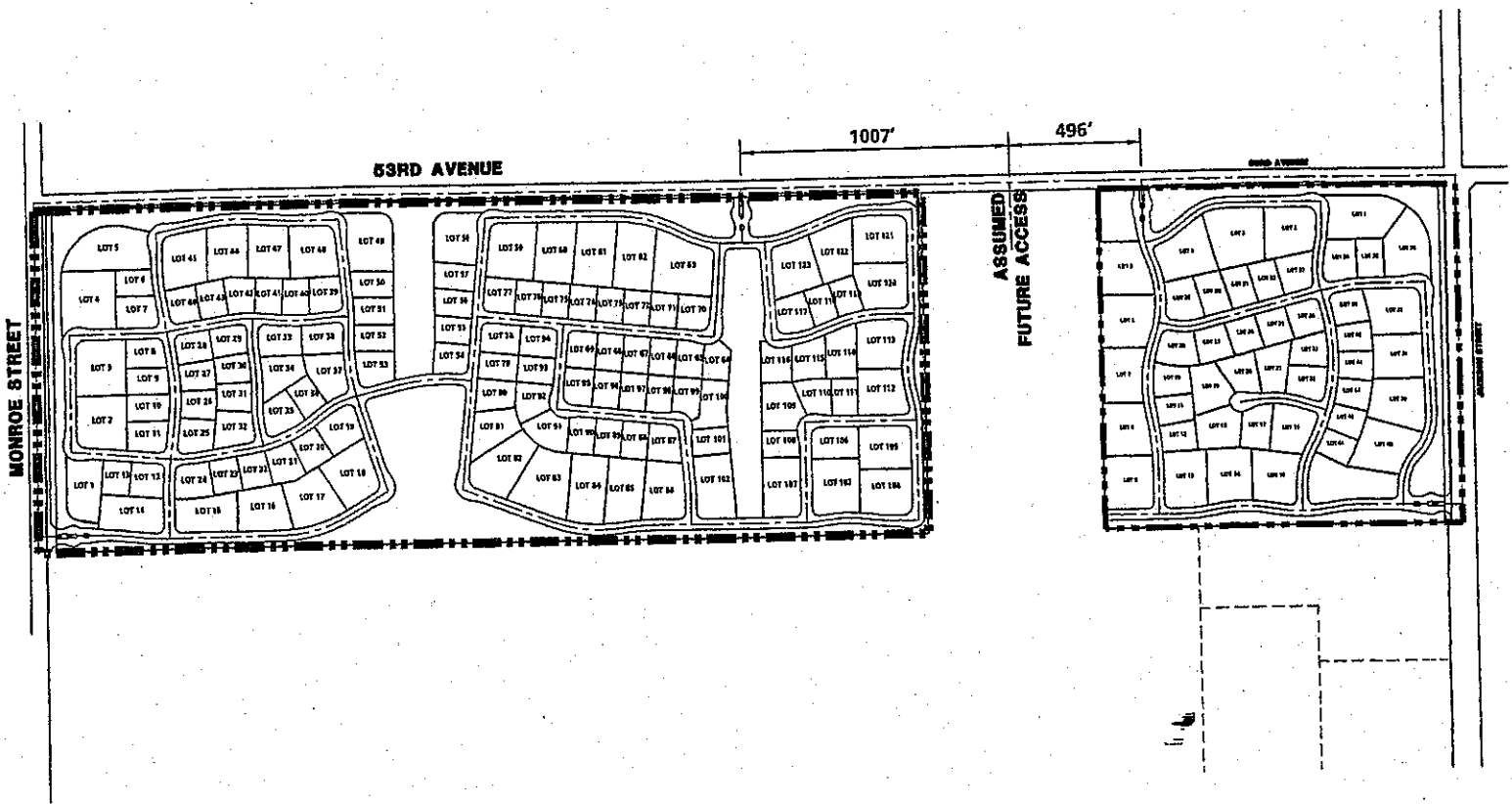
4. Site Plan

Exhibit 1-B illustrates the overall conceptual site plan. Exhibit 1-C illustrates the Tentative Tract 33559 site plan. Exhibit 1-D illustrates the Tentative Tract 33697 site plan. These conceptual site plans are subject to refinement and revision, based on planning, engineering, and environmental considerations.

5. Proposed Project Opening Year

The proposed project is anticipated to be completed in 2007. Future traffic analysis has been based upon two years of background (ambient) growth (2007), at 2% per year, along with traffic generated by other future developments in the surrounding area. The total ambient growth rate is 4% for 2007 since the traffic counts were collected in 2005.

# EXHIBIT 1-B OVERALL PROJECT SITE PLAN



TENTATIVE TRACTS 33559 AND 33697, Riverside County, California - 02852: 02



EXHIBIT 1-C  
**TR 33559 SITE PLAN**

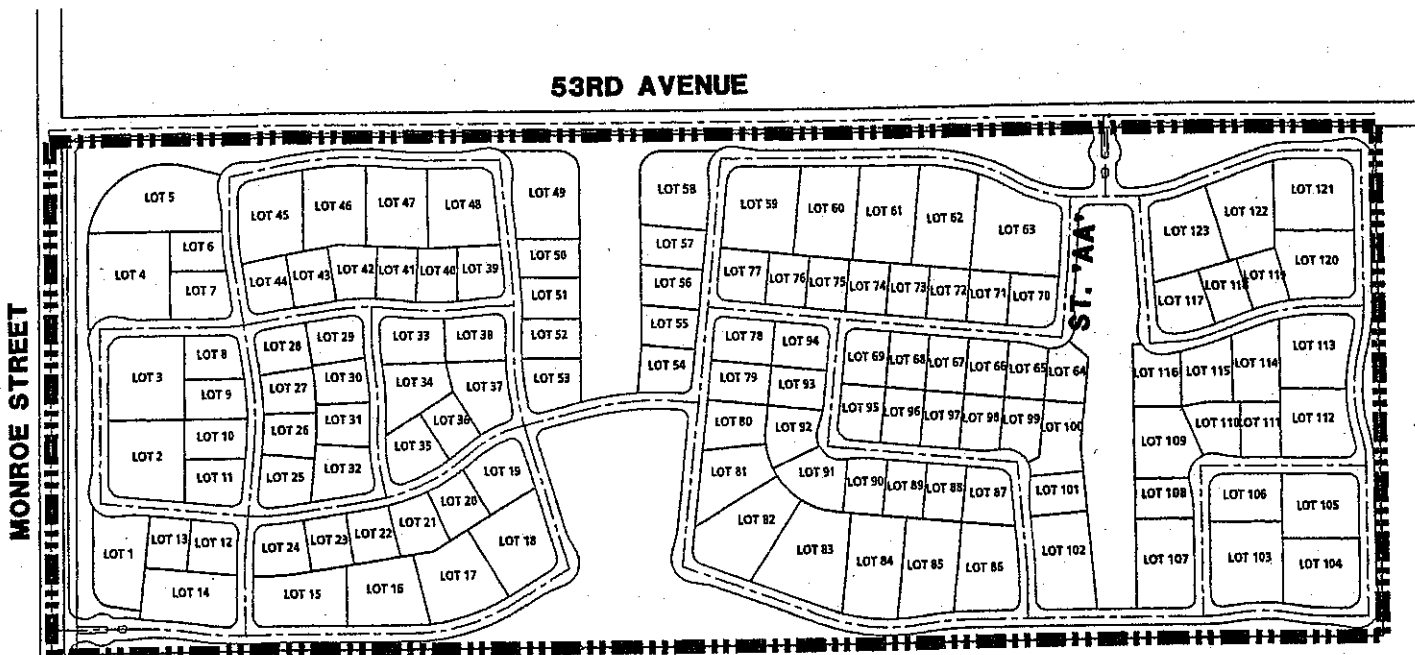
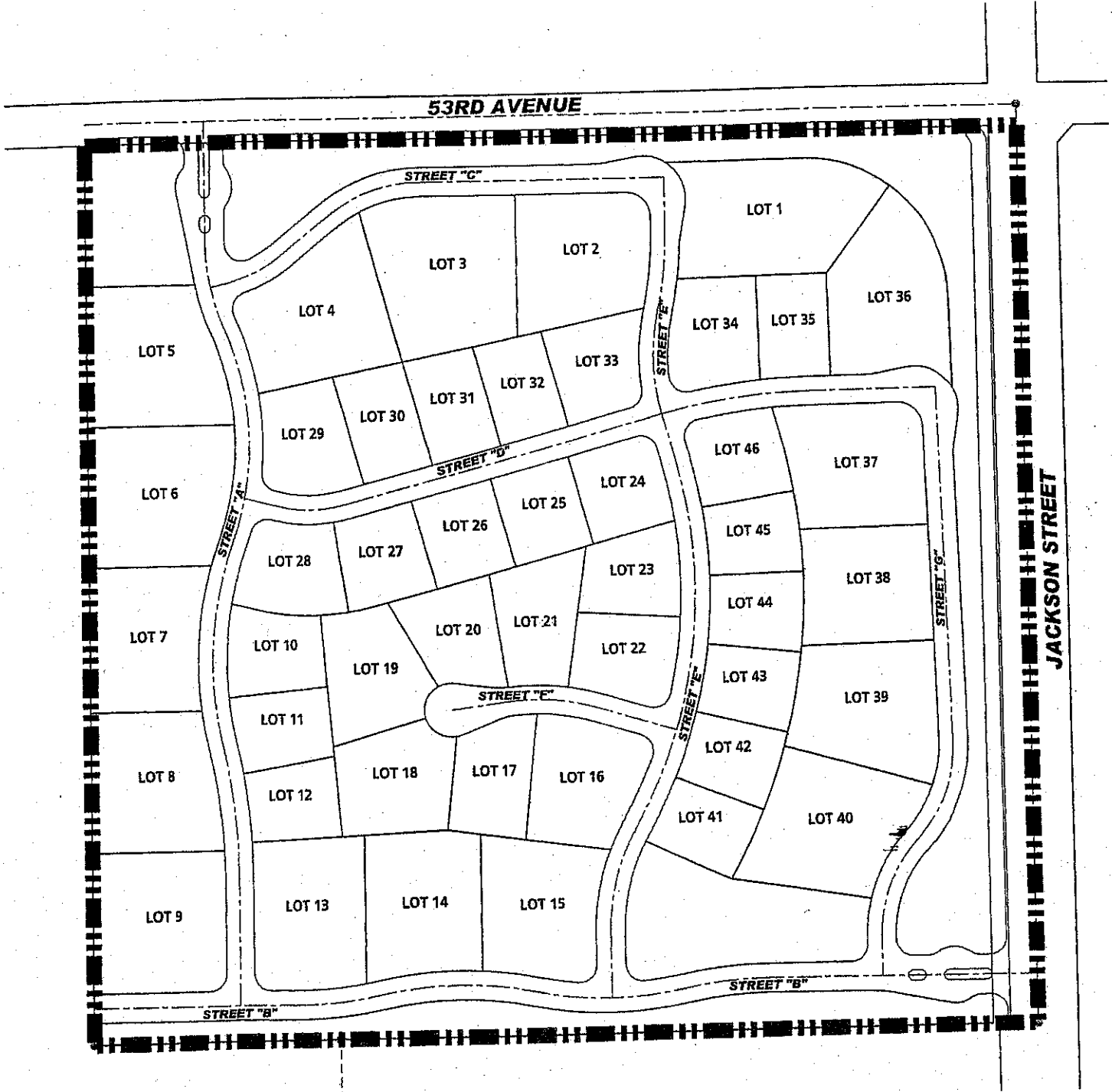


EXHIBIT 1-D  
**TR 33697 SITE PLAN**



## 2.0 AREA CONDITIONS

---

### A. Study Area

The study area includes the following existing intersections:

Monroe Street (NS) at:

- SR-111 (EW)
- Avenue 48 (EW)
- Avenue 50 (EW)
- Avenue 52 (EW)
- 53rd Avenue (EW)

Jackson Street (NS) at:

- Avenue 48 (EW)
- Avenue 50 (EW)
- Avenue 52 (EW)
- 53rd Avenue (EW)

### B. Existing Traffic Controls and Intersection Geometrics

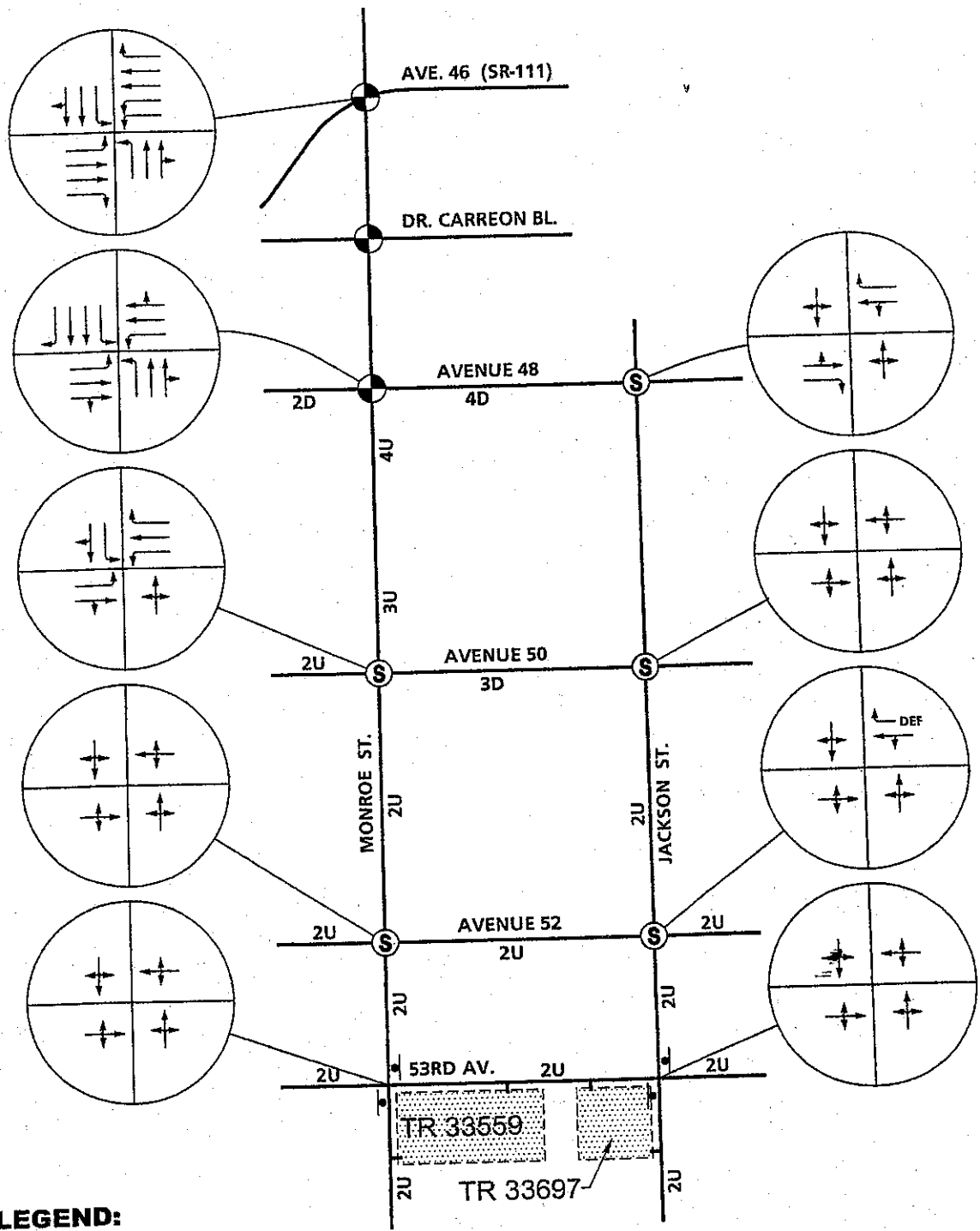
Exhibit 2-A identifies the existing roadway conditions for study area roadways, including the number of traffic lanes for existing roadways and the existing intersection controls.

### C. Existing Traffic Volumes

Existing intersection AM and PM peak hour turning movement volumes are shown on Exhibits 2-B and 2-C, respectively. Traffic count worksheets are included in Appendix "B".



# EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS

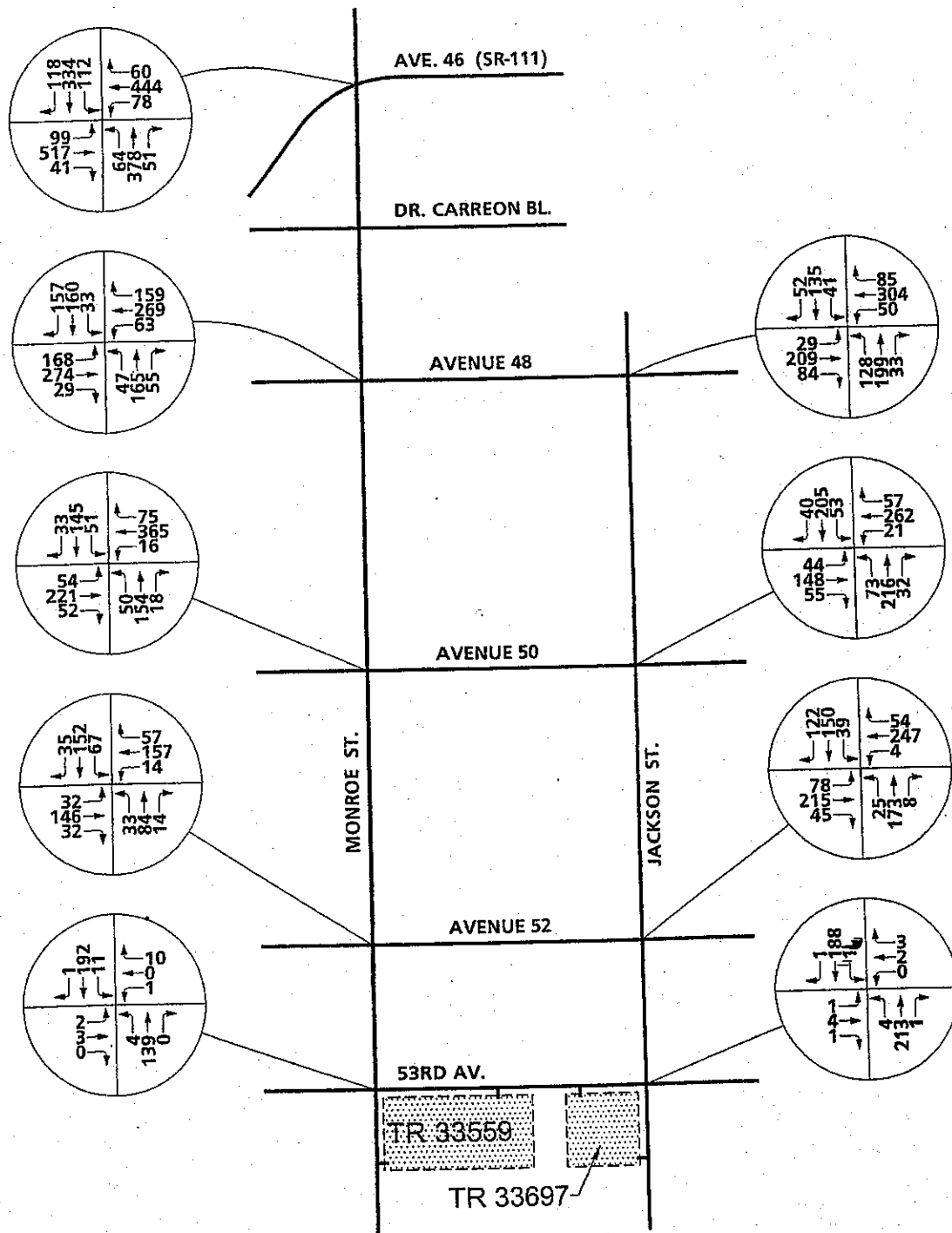


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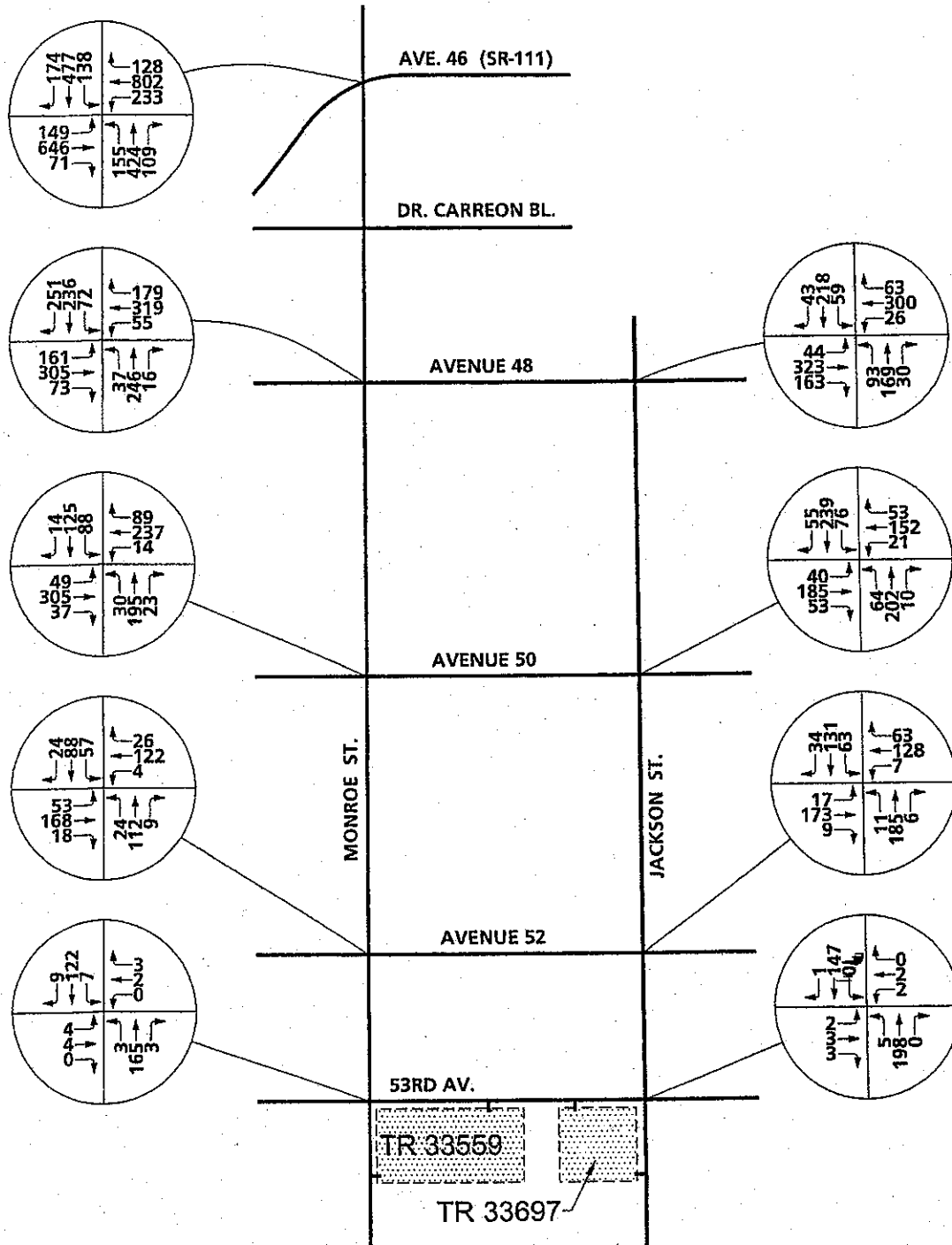
- = TRAFFIC SIGNAL
- = ALL WAY STOP
- = STOP SIGN
- 4 = NUMBER OF LANES
- D = DIVIDED
- U = UNDIVIDED
- = DEFACTO RIGHT TURN LANE



# EXISTING AM PEAK HOUR INTERSECTION VOLUMES



# EXISTING PM PEAK HOUR INTERSECTION VOLUMES



D. Existing Level of Service

The current technical guide to the evaluation of traffic operations is the 2000 Highway Capacity Manual (HCM) (Transportation Research Board Special Report 209). The HCM defines level of service as a qualitative measure which describes operational conditions within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The criteria used to evaluate LOS (Level of Service) conditions vary based on the type of roadway and whether the traffic flow is considered interrupted or uninterrupted.

The definitions of level of service for uninterrupted flow (flow unrestrained by the existence of traffic control devices) are:

- LOS "A" describes completely free-flow conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway and by driver preferences. Maneuverability within the traffic stream is good. Minor disruptions to flow are easily absorbed without a change in travel speed.
- LOS "B" also indicates free flow, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS "A", but drivers have slightly less freedom to maneuver. Minor disruptions are still easily absorbed, although local deterioration in LOS will be more obvious.
- LOS "C": The influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles. Minor disruptions can cause serious local deterioration in service, and queues will form behind any significant traffic disruption.

- LOS "D": The ability to maneuver is severely restricted due to traffic congestion. Travel speed is reduced by the increasing volume. Only minor disruptions can be absorbed without extensive queues forming and the service deteriorating.
- LOS "E" represents operations at or near capacity, an unstable level. Vehicles are operating with the minimum spacing for maintaining uniform flow. Disruptions cannot be dissipated readily, often causing queues to form and service to deteriorate to LOS "F".
- LOS "F" represents forced or breakdown flow. It occurs either when vehicles arrive at a rate greater than the rate at which they are discharged or when the forecast demand exceeds the computed capacity of a planned facility. Although operations at these points – and on sections immediately downstream – appear to be at capacity, queues form behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods of movement followed by stoppages.

For signalized intersections, average total delay per vehicle for the overall intersection is used to determine level of service. Levels of service at the signalized study area intersections have been evaluated using an HCM intersection analysis program.

The study area intersections that are stop sign controlled with stop control on the minor street only have been analyzed using the unsignalized intersection methodology of the HCM. For these intersections, the calculation of level of service is dependent on the occurrence of gaps occurring in the traffic flow of the main street. Using data collected describing the intersection configuration and traffic volumes at the study area locations, the level of service has been calculated. The level of service criteria for this type of intersection analysis is based on average total delay per vehicle for the worst minor street movement(s).

For all way stop (AWS) controlled intersections, the ability of vehicles to enter the intersection is not controlled by the occurrence of gaps in the flow of the main street. The AWS controlled intersections have been evaluated using the HCM methodology for this type of multi-way stop controlled intersection configuration. The level of service criteria for this type of intersection analysis is also based on average total delay per vehicle for the overall intersection.

The levels of service are defined for the various analysis methodologies as follows:

LEVEL OF SERVICE	AVERAGE TOTAL DELAY PER VEHICLE (SECONDS)	
	SIGNALIZED	UNSIGNALIZED
A	0 to 10.00	0 to 10.00
B	10.01 to 20.00	10.01 to 15.00
C	20.01 to 35.00	15.01 to 25.00
D	35.01 to 55.00	25.01 to 35.00
E	55.01 to 80.00	35.01 to 50.00
F	80.01 and up	50.01 and up

The LOS analysis for signalized intersections has been performed using optimized signal timing. This analysis has included an assumed lost time of four seconds per phase in accordance with HCM recommended default values. Initial saturation flow rates of 1,900 vehicles per hour of green (vphg) have been assumed for all capacity analysis. In addition, a peak hour factor and a minimum green time has been applied to the existing counts based on the County's traffic study guidelines. The minimum green times are based on the following formula:

$$[(\text{curb-to-curb width}) / 4] + 5$$

The County has established, as a County-wide target, a Level of Service "C" on all County-maintained roads and conventional State Highways. As an exception,

Level of Service "D" may be allowed in Community Development areas, only at intersections of any combination of Secondary Highways, Major Highways, Arterials, Urban Arterials, Expressways, conventional State Highways, or at freeway ramp intersections. LOS "E" may be allowed in designated community centers to the extent that it would support transit-oriented development and pedestrian communities. The City of Indio has established, as a citywide target, a Level of Service "D" on all city streets. Caltrans also allows a Level of Service "D" on state routes. Based on these policies, Level of Service "D" is acceptable at the following intersections:

Monroe Street (NS) at:

- SR-111 (EW)
- Avenue 48 (EW)
- Avenue 50 (EW)

Jackson Street (NS) at:

- Avenue 48 (EW)
- Avenue 50 (EW)

Existing peak hour traffic operations have been evaluated for study area intersections. The results of this analysis are summarized in Table 2-1, along with the existing intersection geometrics and traffic control devices at each analysis location. Existing intersection levels of service analysis worksheets are included in Appendix "C".

For existing traffic conditions, the following study area intersection is currently operating at an unacceptable level of service during the peak hours, with existing geometry:

Jackson Street (NS) at:

- Avenue 48 (EW)

For existing traffic conditions, traffic signals are currently warranted at the following study area intersections (see Appendix "D"):

TABLE 2-1

INTERSECTION ANALYSIS FOR EXISTING CONDITIONS

INTERSECTION	TRAFFIC CONTROL <sup>3</sup>	INTERSECTION APPROACH LANES <sup>1</sup>												DELAY <sup>2</sup> (SECS.)		LEVEL OF SERVICE	
		NORTH-BOUND			SOUTH-BOUND			EAST-BOUND			WEST-BOUND			AM	PM	AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R				
Monroe St. (NS) at:																	
• Highway 111	TS	1	2	0	1	2	0	1	2	1	2	2	1	28.2	34.3	C	C
• Ave. 48 (EW)	TS	1	2	0	1	2	1	1	2	0	1	2	0	30.0	29.5	C	C
• Ave. 50 (EW)	AWS	0	1	0	1	1	0	1	1	0	1	1	1	21.8	23.9	C	C
• Ave. 52 (EW)	AWS	0	1	0	0	1	0	0	1	0	0	1	0	11.4	10.3	B	B
• 53rd Ave. (EW)	CSS	0	1	0	0	1	0	0	1	0	0	1	0	11.7	11.2	B	B
Jackson St. (NS) at:																	
• Ave. 48 (EW)	AWS	0	1	0	0	1	0	0.5	0.5	1	0.5	0.5	1	-- <sup>4</sup>	29.9	F	D
• Ave. 50 (EW)	AWS	0	1	0	0	1	0	0	1	0	0	1	0	19.6	18.2	C	C
• Ave. 52 (EW)	AWS	0	1	0	0	1	0	0	1	0	0.5	0.5	1	20.5	10.5	C	B
• 53rd Ave. (EW)	CSS	0	1	0	0	1	0	0	1	0	0	1	0	12.1	11.4	B	B

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right

<sup>2</sup> Delay and level of service calculated using the following analysis software: Traffix, Version 7.7 R2 (2003). Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> TS = Traffic Signal  
 CSS = Cross Street Stop  
 AWS = All Way Stop

<sup>4</sup> -- Delay high, intersection unstable. LOS= "F".



Monroe Street (NS) at:

- Avenue 50 (EW)
- Avenue 52 (EW)

Jackson Street (NS) at:

- Avenue 48 (EW)
- Avenue 50 (EW)
- Avenue 52 (EW)

E. General Plan Circulation Element

Exhibit 2-D shows the Riverside County General Plan Circulation Element and Exhibit 2-E illustrates the Riverside County arterial street cross-sections.

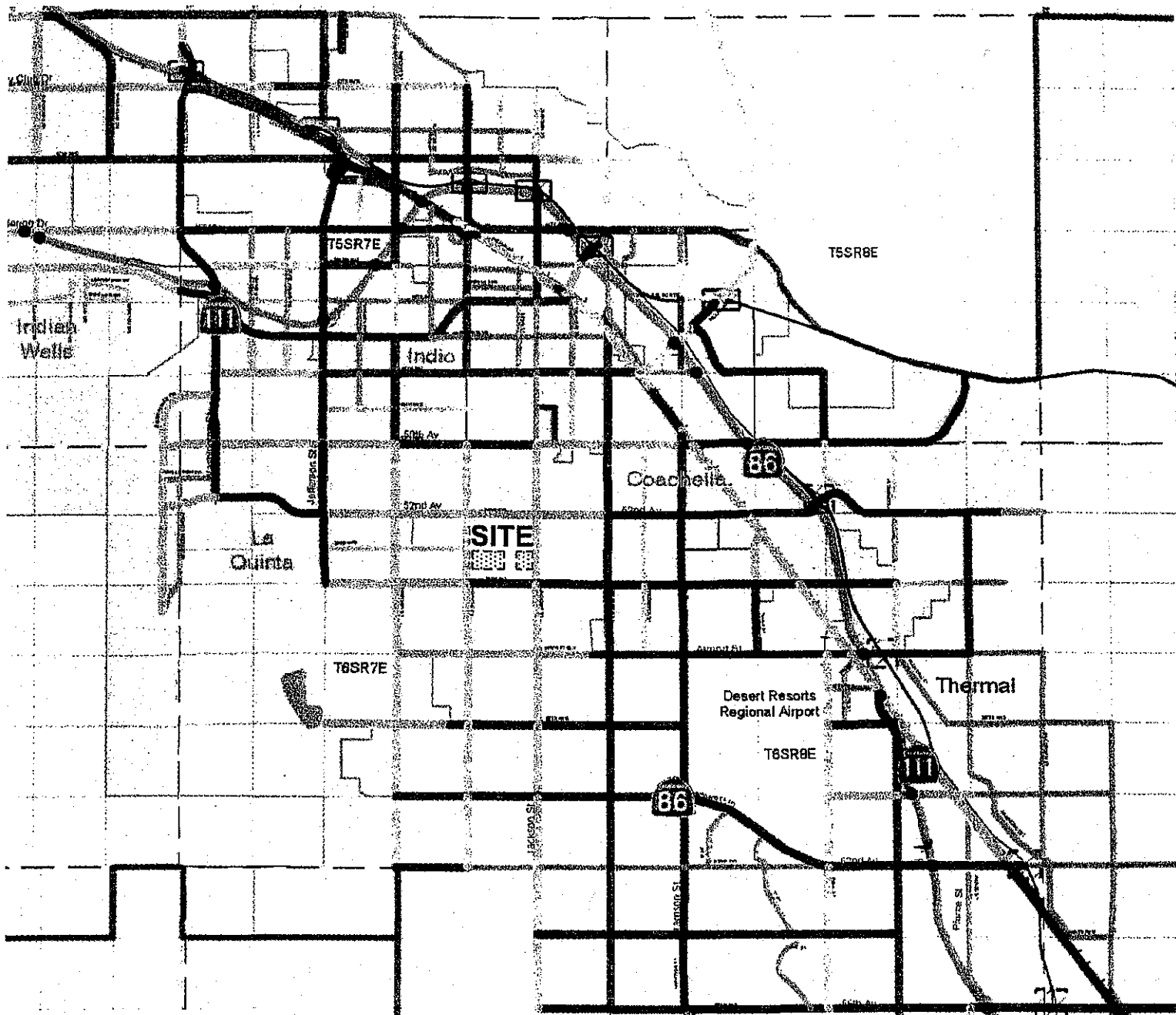
Exhibit 2-F shows the City of La Quinta General Plan Circulation Element and Exhibit 2-G illustrates the City of La Quinta roadway cross-sections.

Exhibit 2-H shows the City of Indio General Plan Circulation Element and Exhibit 2-I illustrates the City of Indio roadway cross-sections.

F. Transit Service

The study area is not currently served by the Riverside Transit Agency (RTA). In the near future, RTA should consider expanding their fixed route bus service to include major roadways adjacent to the project site.

# EXHIBIT 2-D RIVERSIDE COUNTY GENERAL PLAN CIRCULATION ELEMENT



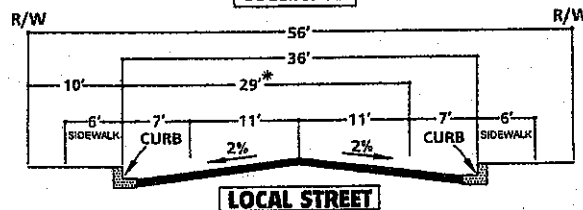
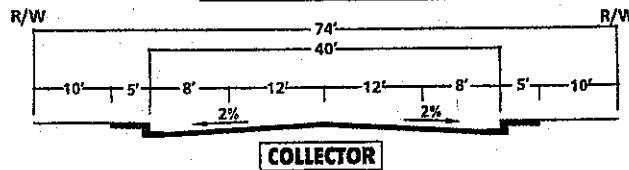
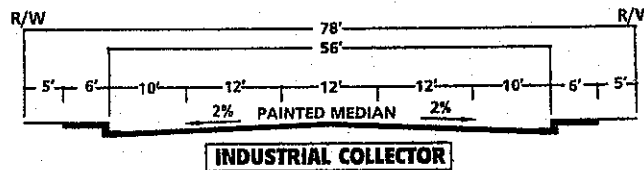
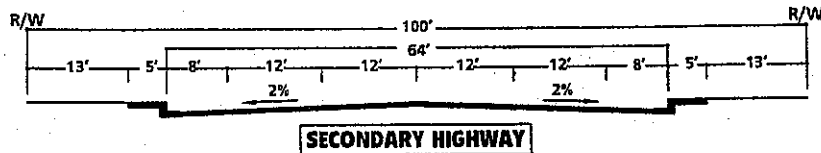
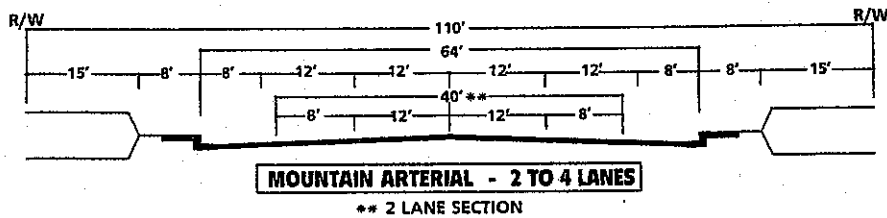
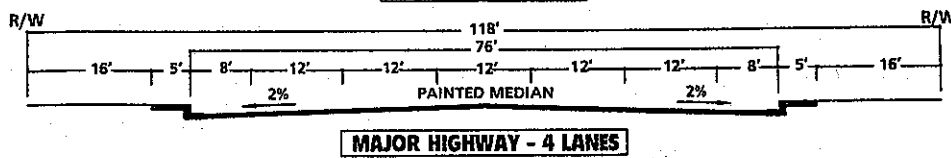
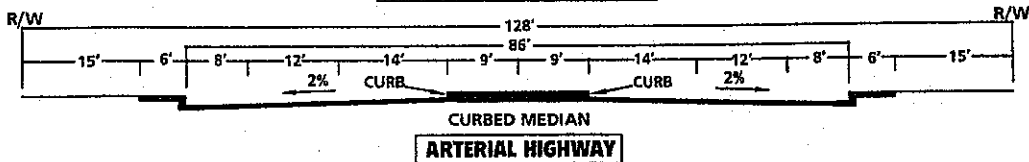
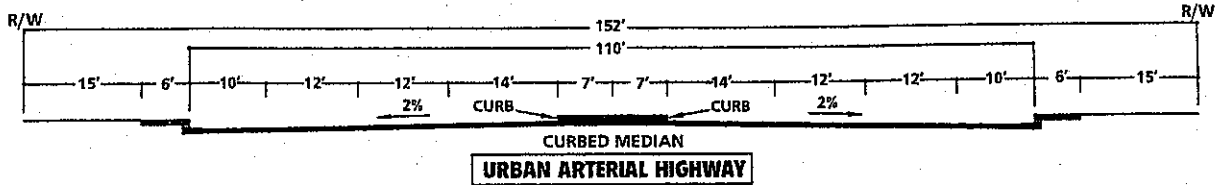
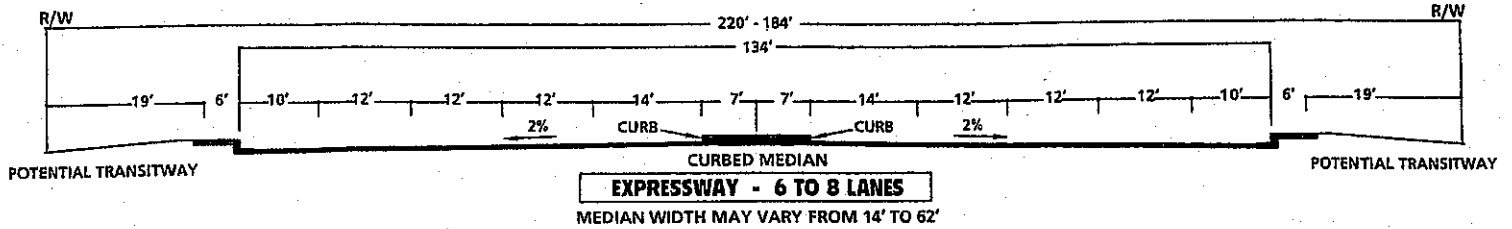
- |                                  |                                   |   |
|----------------------------------|-----------------------------------|---|
| — = EXPRESSWAY (184' ROW)        | ▨ = EXISTING INTERCHANGE          | /// = MORENO VALLEY TO SAN BERNARDINO CORRIDOR ALTERNATIVES |
| — = URBAN ARTERIAL (152' ROW)    | ▧ = PROPOSED INTERCHANGE          | /// = HEMET TO CORONA/LAKE ELSINORE CORRIDOR ALTERNATIVES   |
| — = ARTERIAL (128' ROW)          | ◇ = POSSIBLE CORRIDOR INTERCHANGE | /// = SR-79 RE-ALIGNMENT ALTERNATIVES                       |
| — = MAJOR (118' ROW)             | ◻ = BRIDGE                        | ▭ = AREA PLAN BOUNDARY                                      |
| — = SECONDARY (100' ROW)         | ◼ = WATER                         | ▭ = CITY LIMITS   |
| — = COLLECTOR (74' ROW)          | —+— = RAILROAD                    |   |
| — = MOUNTAIN ARTERIAL (110' ROW) |                                   |   |
| — = FREEWAY                      |                                   |   |

SOURCE: RIVERSIDE COUNTY INTEGRATED PROJECT (RCIP)



EXHIBIT 2-E

# RIVERSIDE COUNTY GENERAL PLAN ROADWAY CROSS-SECTIONS



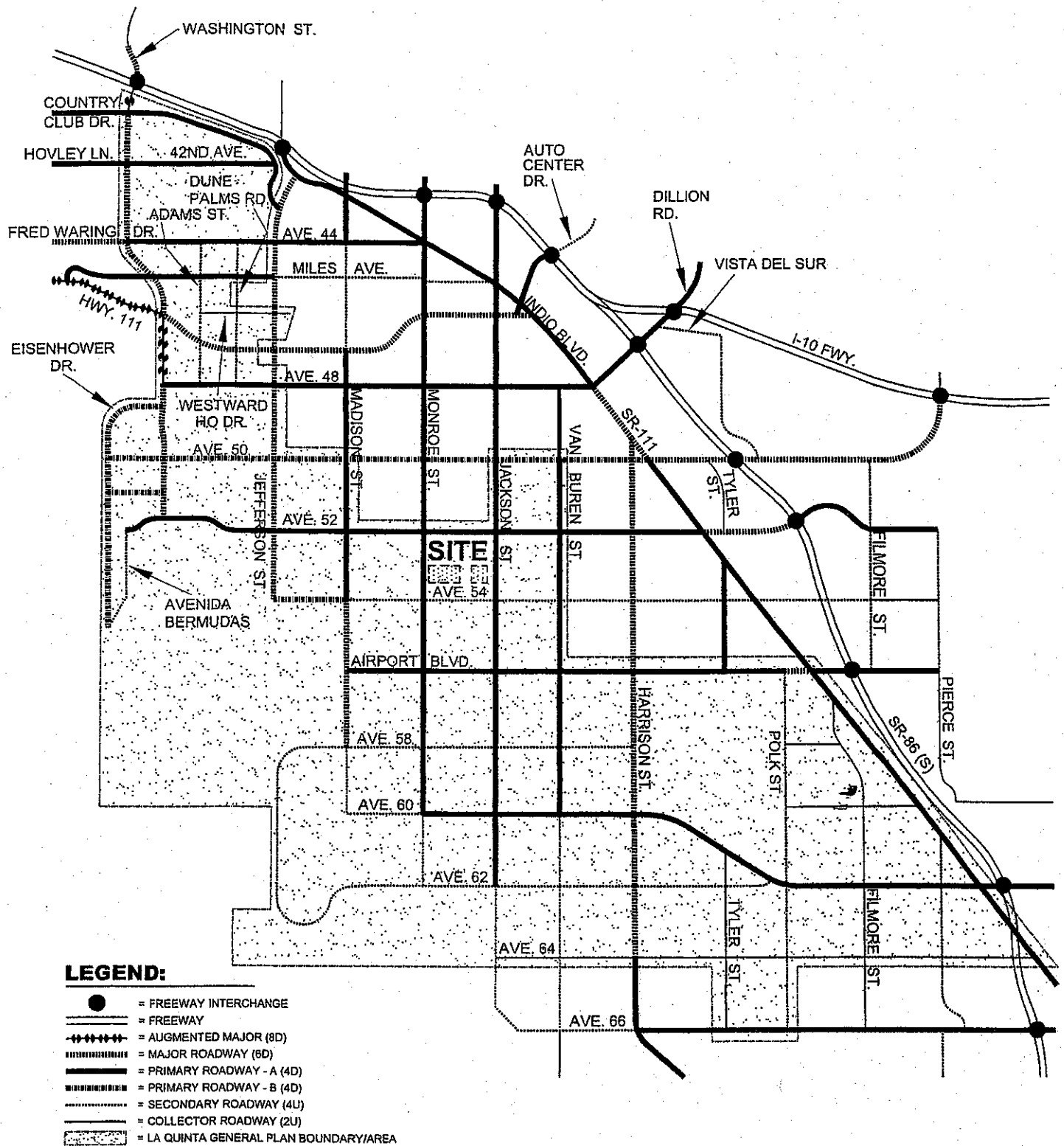
SOURCE: RIVERSIDE COUNTY

PART-WIDTH STREET SECTION FOR ALL LOCAL STREETS - 29' IMPROVEMENTS ON 42' R/W

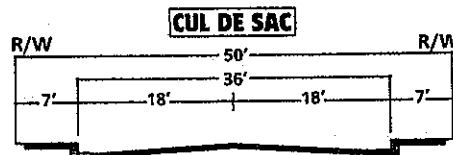
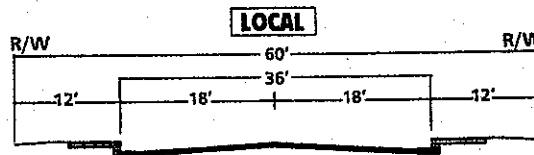
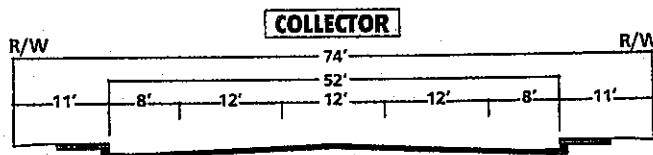
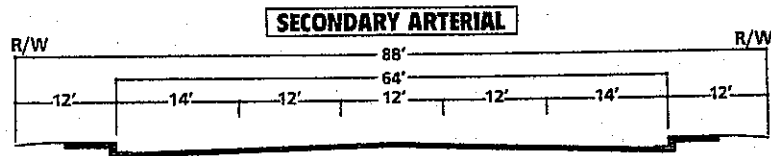
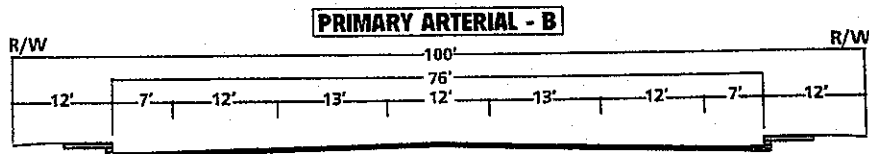
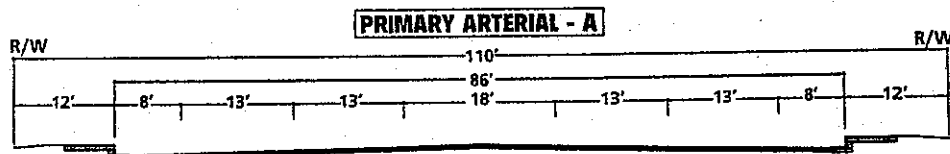
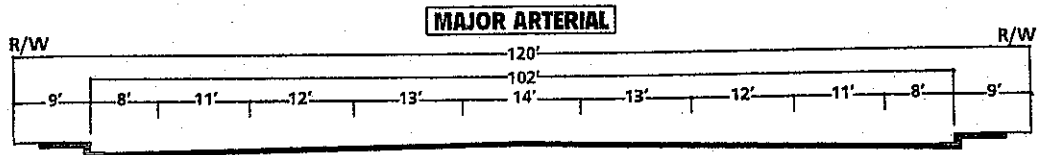
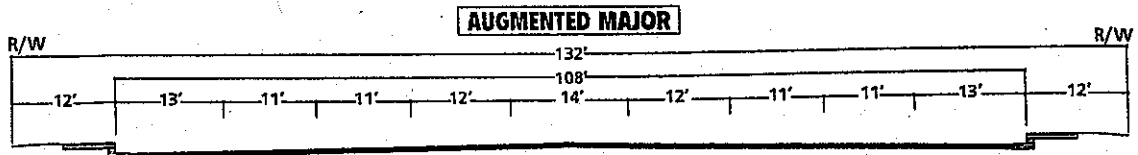
TENTATIVE TRACTS 33559 AND 33697, Riverside County, California - 02852: 10



EXHIBIT 2-F  
**CITY OF LA QUINTA  
 GENERAL PLAN CIRCULATION ELEMENT**



# CITY OF LA QUINTA GENERAL PLAN ROADWAY CROSS-SECTIONS



SOURCE: CITY OF LA QUINTA



# EXHIBIT 2-H CITY OF INDIO GENERAL PLAN CIRCULATION ELEMENT

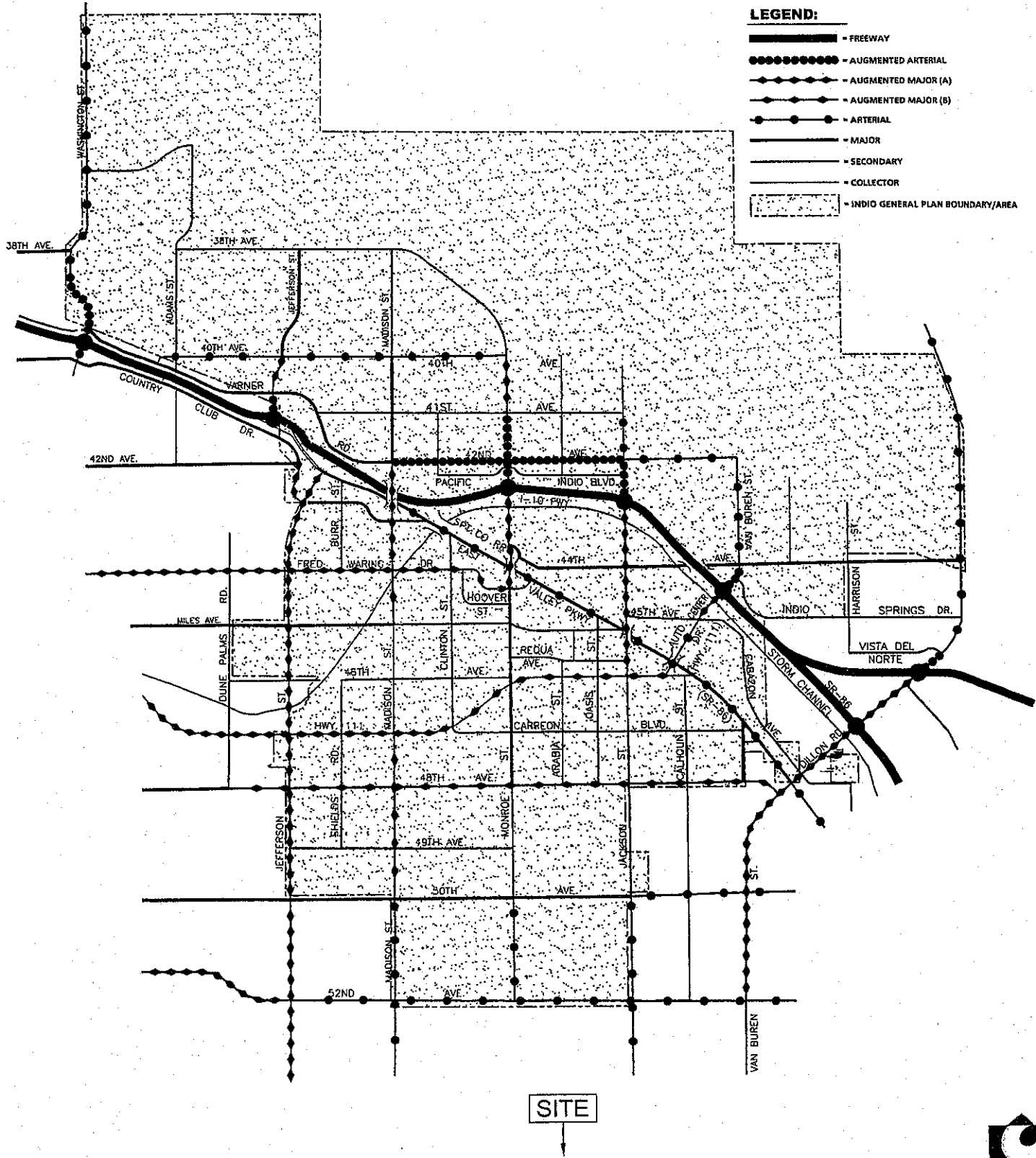
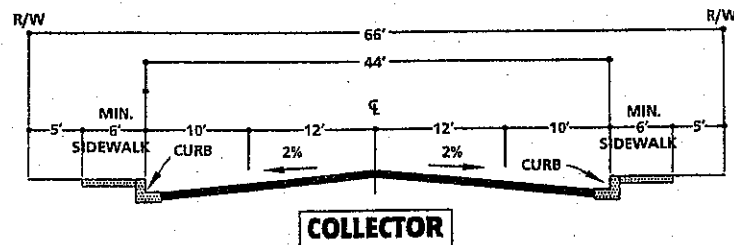
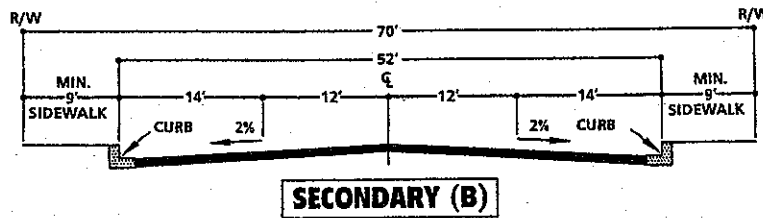
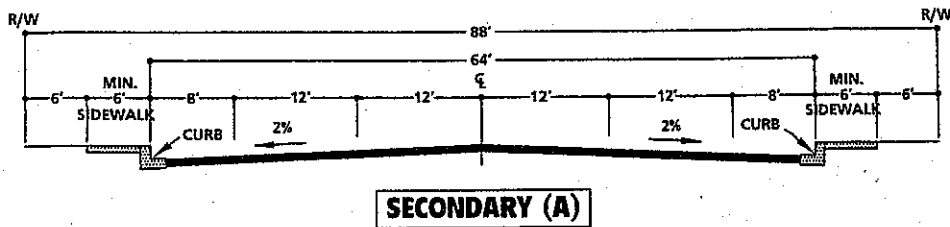
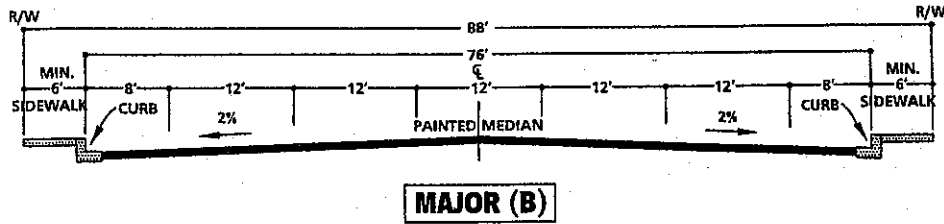
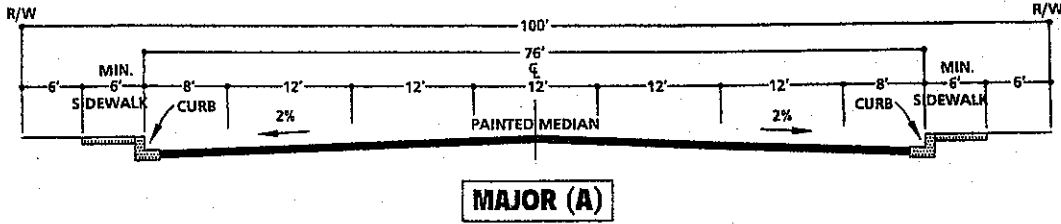


EXHIBIT 2-I

# CITY OF INDIO GENERAL PLAN ROADWAY CROSS-SECTIONS



### 3.0 PROJECTED FUTURE TRAFFIC

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#### A. Project Traffic

##### 1. Ambient Growth Rate

To account for ambient growth on roadways, future traffic volumes have been calculated based on a 2.0 percent annual growth rate of existing traffic volumes for a total of 4% for 2007 conditions.

The ambient growth rate has been approved by the County of Riverside Transportation Department staff.

Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the project and other developments.

The remaining growth is anticipated to be accounted for by development of other future projects in the study area that have been approved and are being processed concurrently.

##### 2. Project Trip Generation

Trip generation represents the amount of traffic which is attracted and produced by a development. The trip generation for the project is based upon the specific land uses which have been planned for this development. For the purposes of this analysis, the following land use assumption has been evaluated:

- 123 single-family detached dwelling units for Tentative Tract 33559
- 46 single-family detached dwelling units for Tentative Tract 33697



Trip generation rates for the proposed development are shown in Table 3-1. The trip generation rates are based upon data collected by the Institute of Transportation Engineers (ITE).

Daily and peak hour trip generation for the proposed project are shown in Table 3-2. The proposed development is projected to generate a net total of approximately 1,617 trip-ends per day with 127 vehicles per hour during the AM peak hour and 171 vehicles per hour during the PM peak hour for the school alternative.

### 3. Project Trip Distribution

Trip distribution represents the directional orientation of traffic to and from the project site. Trip distribution is heavily influenced by the geographical location of the site, the location of employment, commercial and recreational opportunities and the proximity to the regional freeway system.

The directional orientation of traffic was determined by evaluating existing and proposed land uses and highways within the community and existing traffic volumes.

Trip distribution for this study has been based upon near-term and long-term conditions, based upon those highway facilities which are either in place or will be constructed in conjunction with other future developments over the next two years (for near-term analysis scenario).

The proposed project will have a direct full access driveway onto Monroe Street, two direct full access driveways onto 53rd Avenue, as well as a direct full access driveway onto Jackson Street. The trip distribution pattern for the project is graphically depicted on Exhibit 3-A.

TABLE 3-1

TRIP GENERATION RATES<sup>1</sup>

LAND USE	ITE CODE	UNITS <sup>2</sup>	PEAK HOUR						DAILY
			AM			PM			
			IN	OUT	TOTAL	IN	OUT	TOTAL	
Single Family Residential	210	DU	0.19	0.56	0.75	0.64	0.37	1.01	9.57

<sup>1</sup> Source: Institute of Transportation Engineers (ITE), Trip Generation, Seventh Edition, 2003.

<sup>2</sup> DU = Dwelling Units

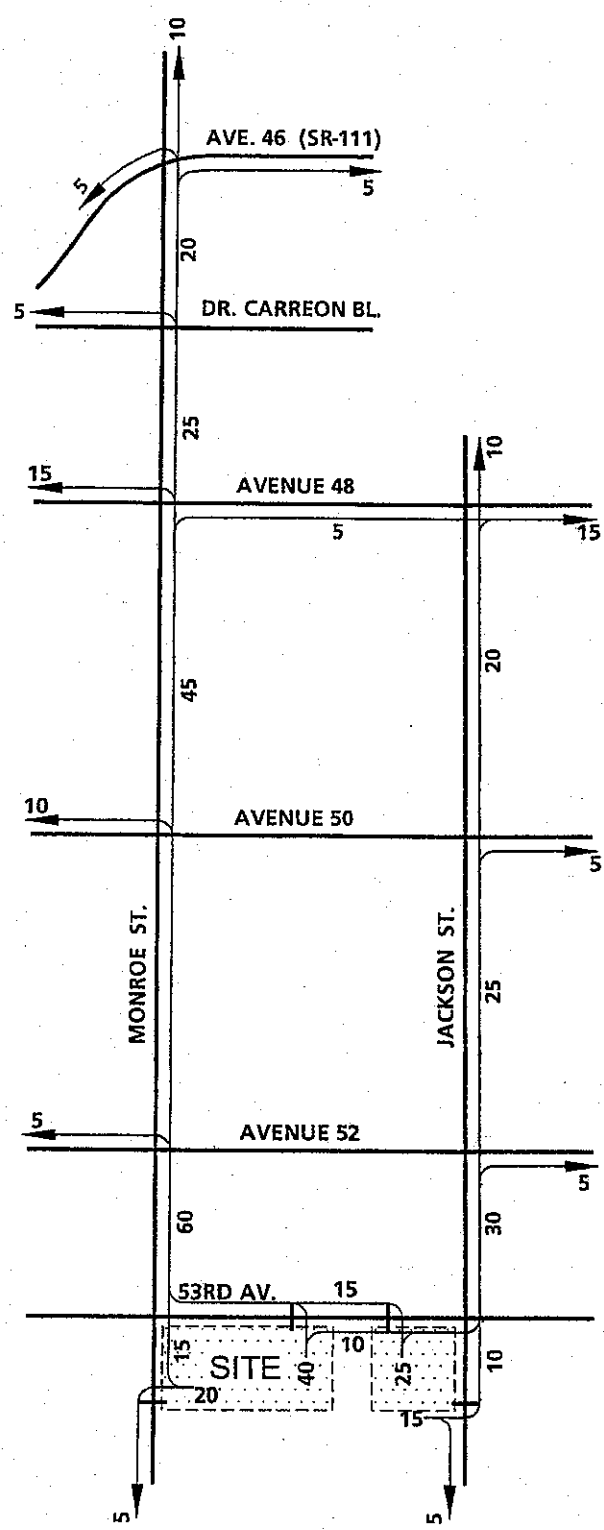
TABLE 3-2

PROJECT TRIP GENERATION

LAND USE	QUANTITY	UNITS <sup>1</sup>	PEAK HOUR						DAILY
			AM			PM			
			IN	OUT	TOTAL	IN	OUT	TOTAL	
Single Family Residential	169	DU	32	95	127	108	63	171	1,617

<sup>1</sup> DU = Dwelling Units

# PROJECT TRIP DISTRIBUTION



**LEGEND:**  
 10 = PERCENT TO/FROM PROJECT



4. Modal Split

The traffic reducing potential of public transit has not been considered in this report. Essentially the traffic projections are "conservative" in that public transit might be able to reduce the traffic volumes.

5. Project Trip Assignment

The assignment of traffic from the site to the adjoining roadway system has been based upon the site's trip generation, trip distribution, proposed arterial highway and local street systems, which would be in place by the time of initial occupancy of the site. Based on the identified project traffic generation and distribution, project AM and PM peak hour intersection traffic volumes are shown on Exhibits 3-B and 3-C, respectively.

B. Other Future Development Traffic

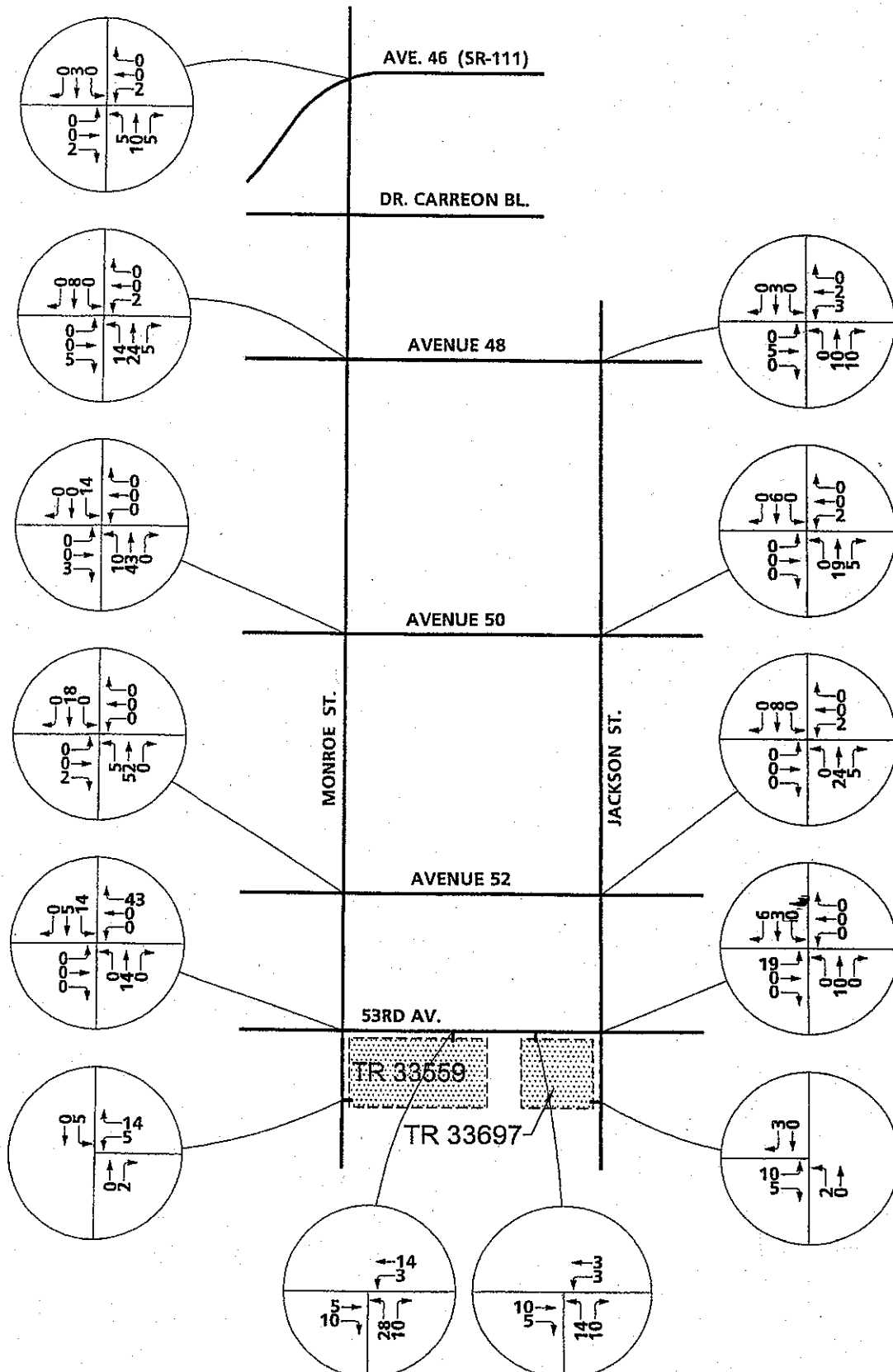
1. Method of Projection

To assess Existing plus Ambient plus Project traffic conditions, project traffic is combined with existing traffic and area-wide growth. The County also requires an additional scenario that includes other future developments which are approved or being processed concurrently in the study area. Developments which are being processed concurrently in the study area have been provided by County staff (see Appendix "E").

2. Other Approved Projects

The cumulative developments are included in addition to the existing land use in the study area. Table 3-3 presents the other development land uses and trip generation. Exhibit 3-D illustrates the locations of these cumulative developments.

# PROJECT AM PEAK HOUR INTERSECTION VOLUMES



# PROJECT PM PEAK HOUR INTERSECTION VOLUMES

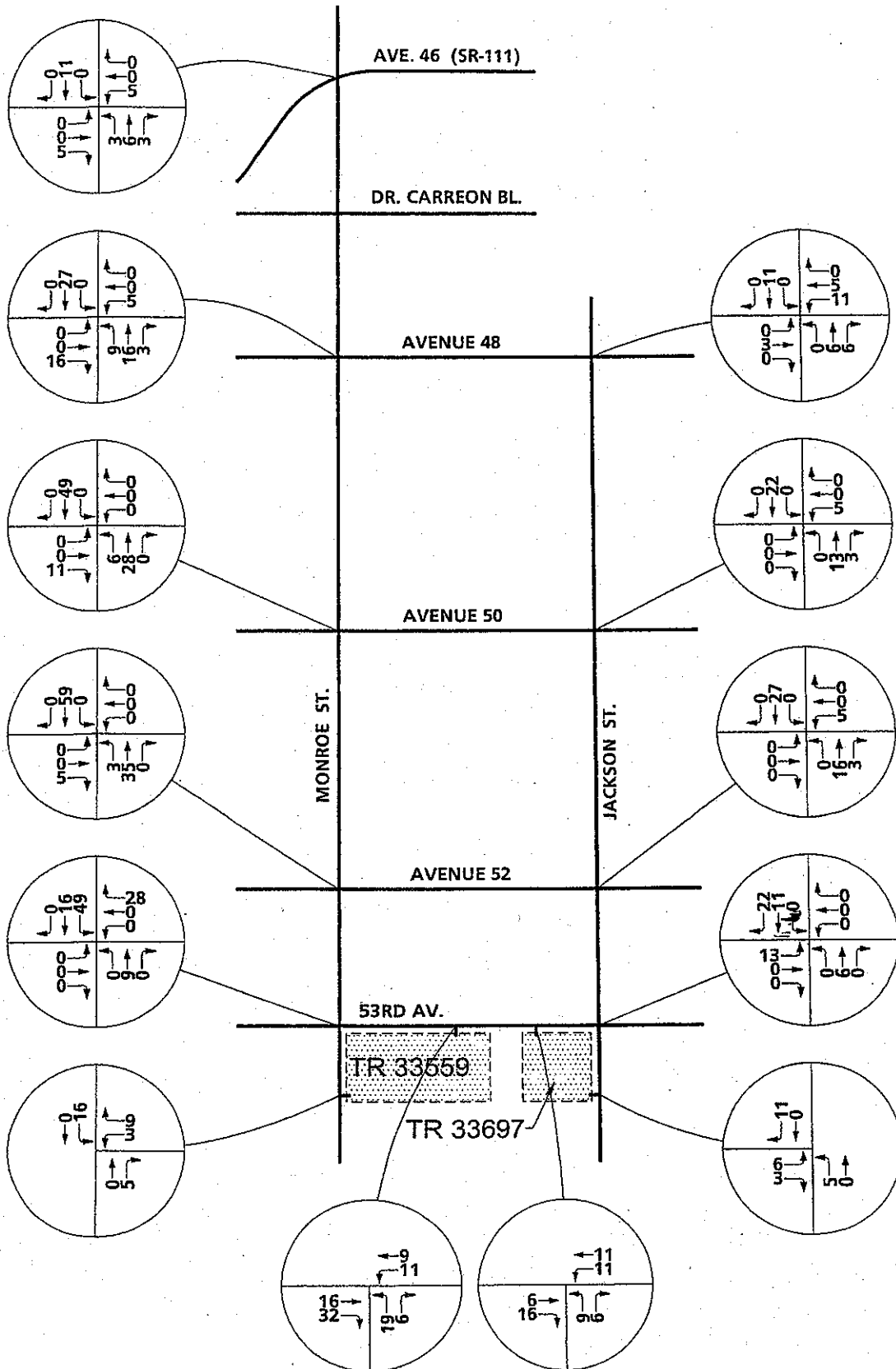


TABLE 3-3

OTHER DEVELOPMENT LAND USE AND TRIP GENERATION

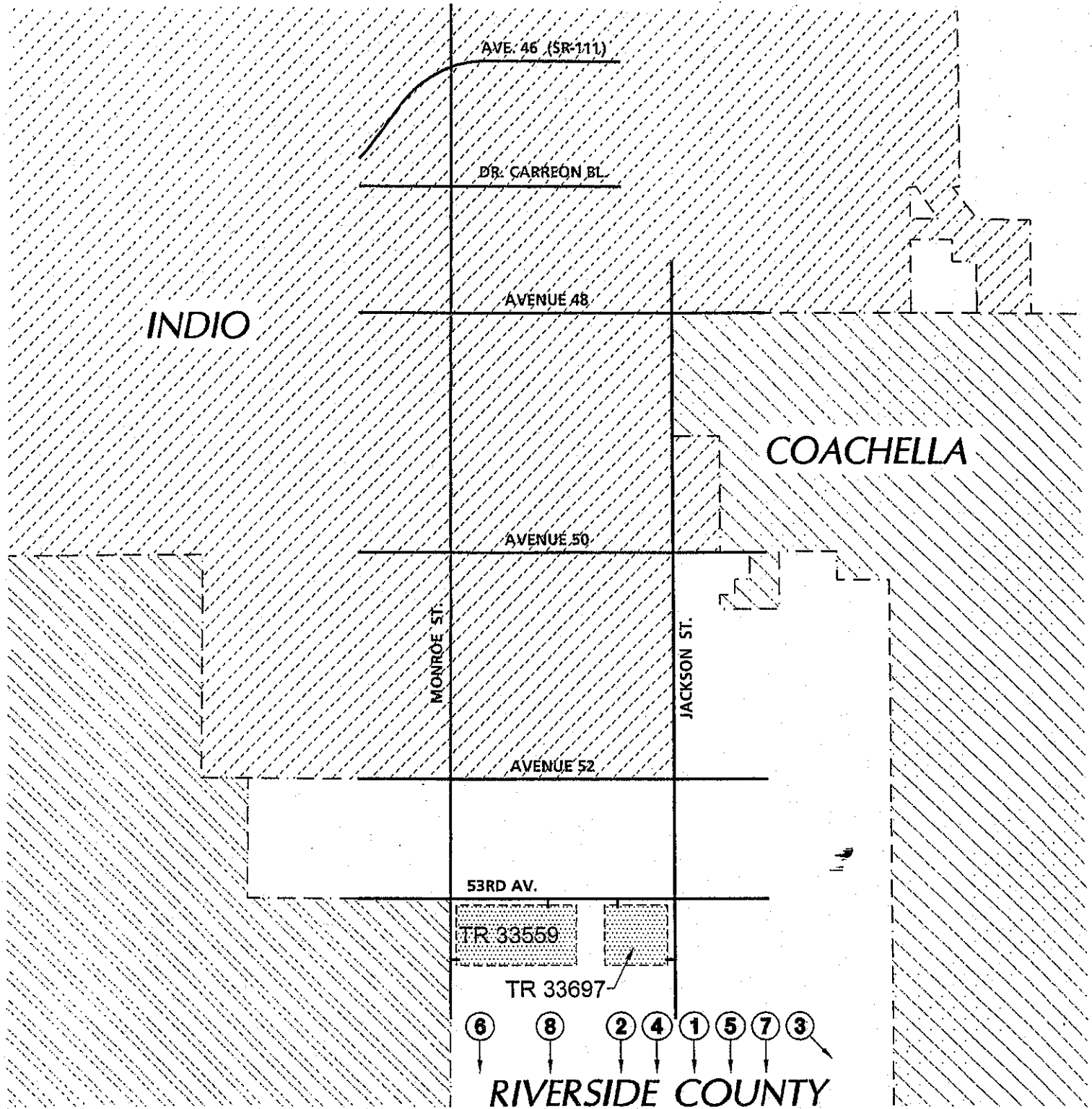
PROJECT				PEAK HOUR				DAILY
				AM		PM		
NAME	LAND USE <sup>1</sup>	QUANTITY	UNITS <sup>2</sup>	IN	OUT	IN	OUT	
TR 31278	SFDR	64	DU	12	36	41	24	612
TR 32861	SFDR	203	DU	39	114	130	75	1,943
TR 33045	SFDR	97	DU	18	54	62	36	928
TR 28185	SFDR	37	DU	7	21	24	14	354
TR 29423	SFDR	22	DU	4	12	14	8	211
TR 30399	SFDR	77	DU	15	43	49	28	737
TR 31279	SFDR	60	DU	11	34	38	22	574
TR 33558	SFDR	230	DU	44	129	147	85	2,201
TOTAL				150	443	505	292	7,560

<sup>1</sup> SFDR = Single-Family Detached Residential

<sup>2</sup> DU = Dwelling Units



# CUMULATIVE DEVELOPMENT LOCATION MAP

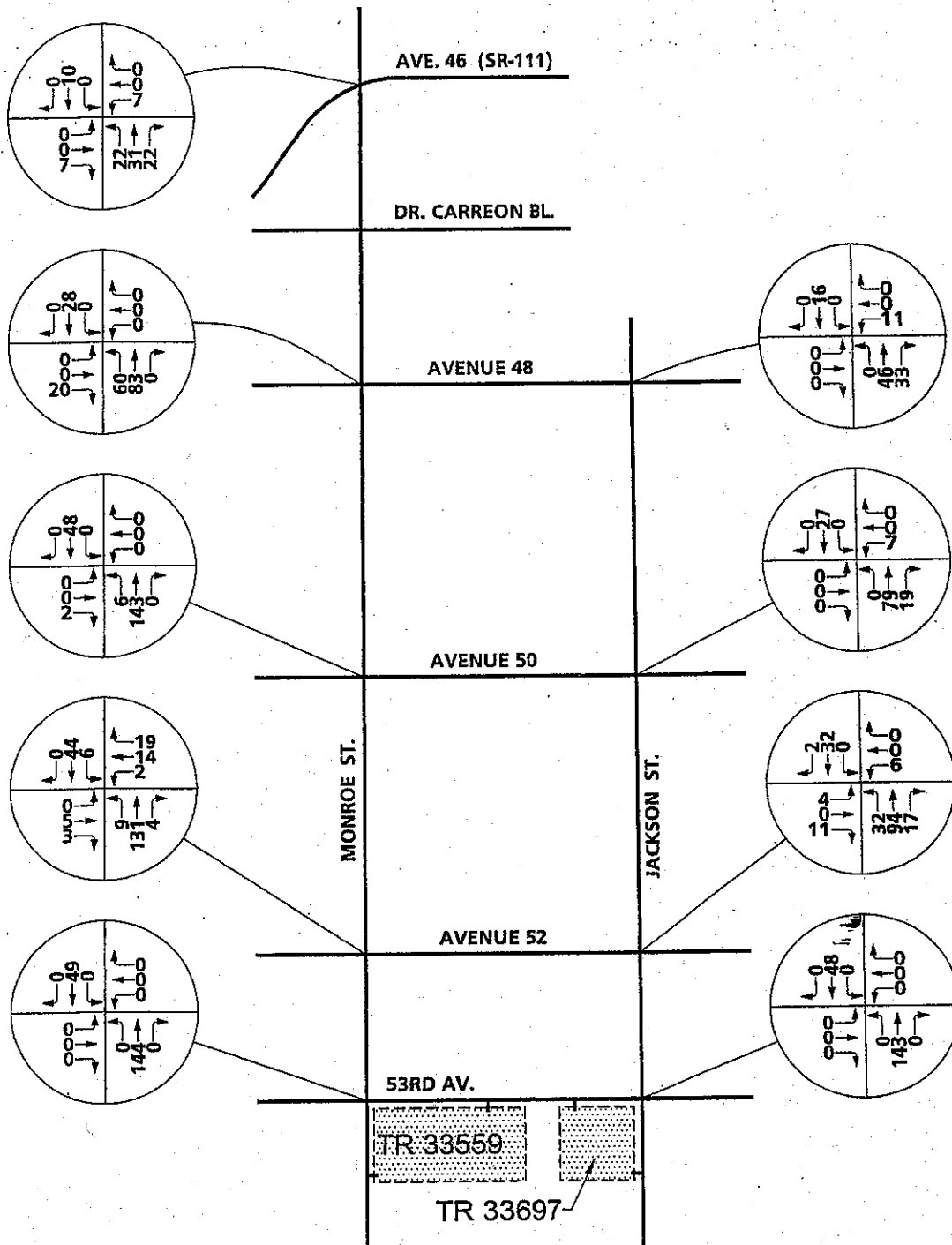


**LEGEND:**

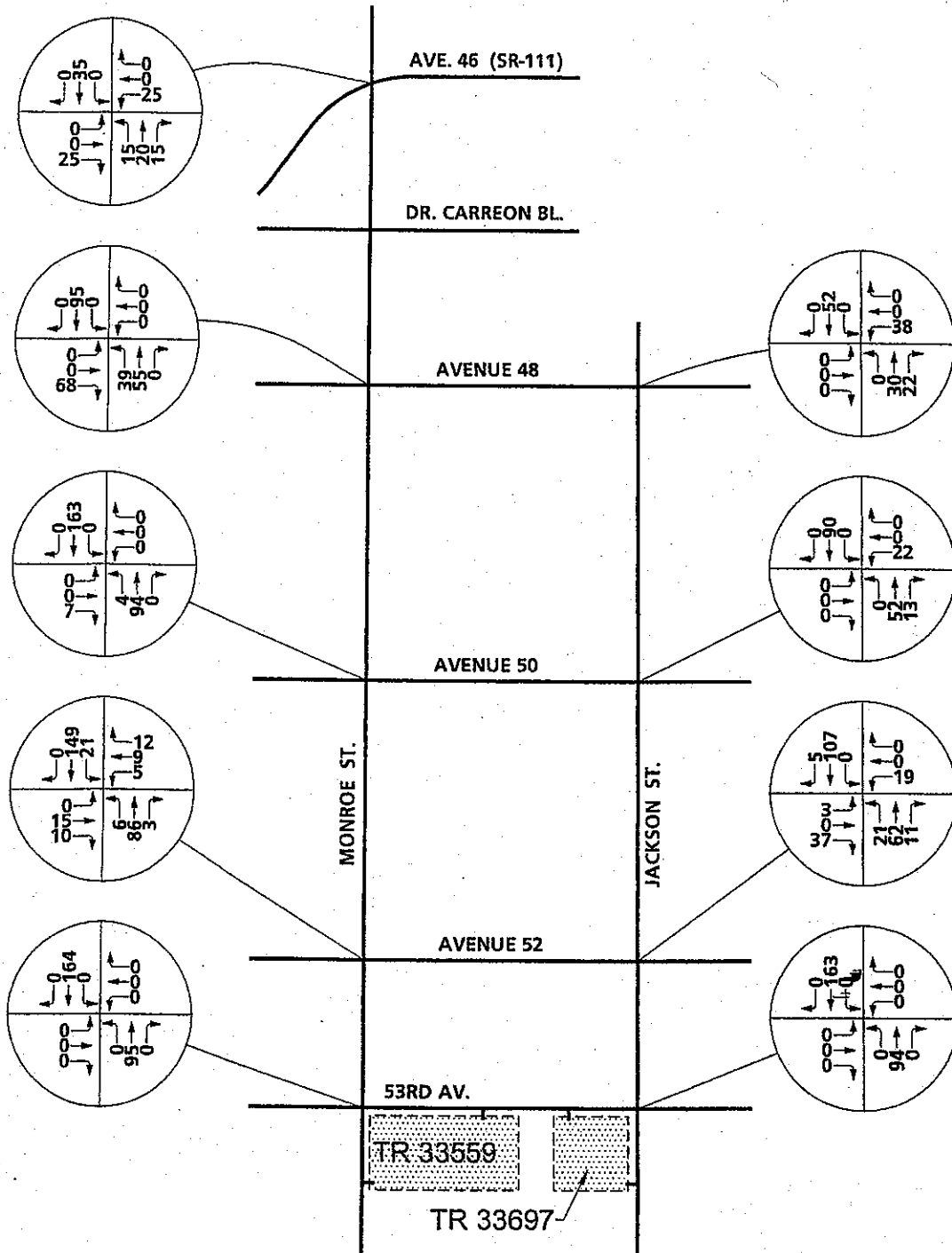
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- ② = TR 32861    ⑤ = TR 29423    ⑧ = TR 33558
- ③ = TR 33045    ⑥ = TR 30399



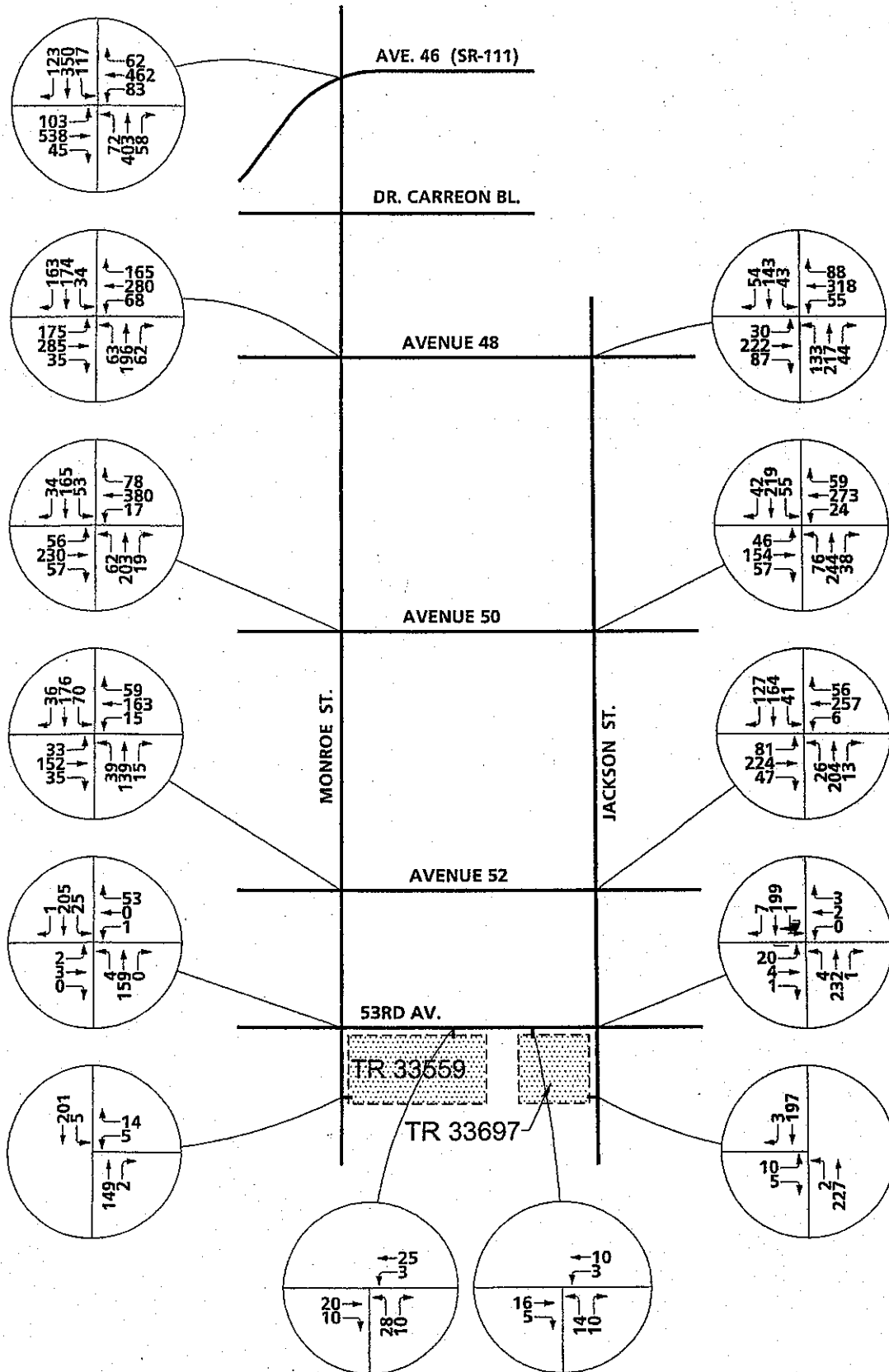
# CUMULATIVE DEVELOPMENT AM PEAK HOUR INTERSECTION VOLUMES



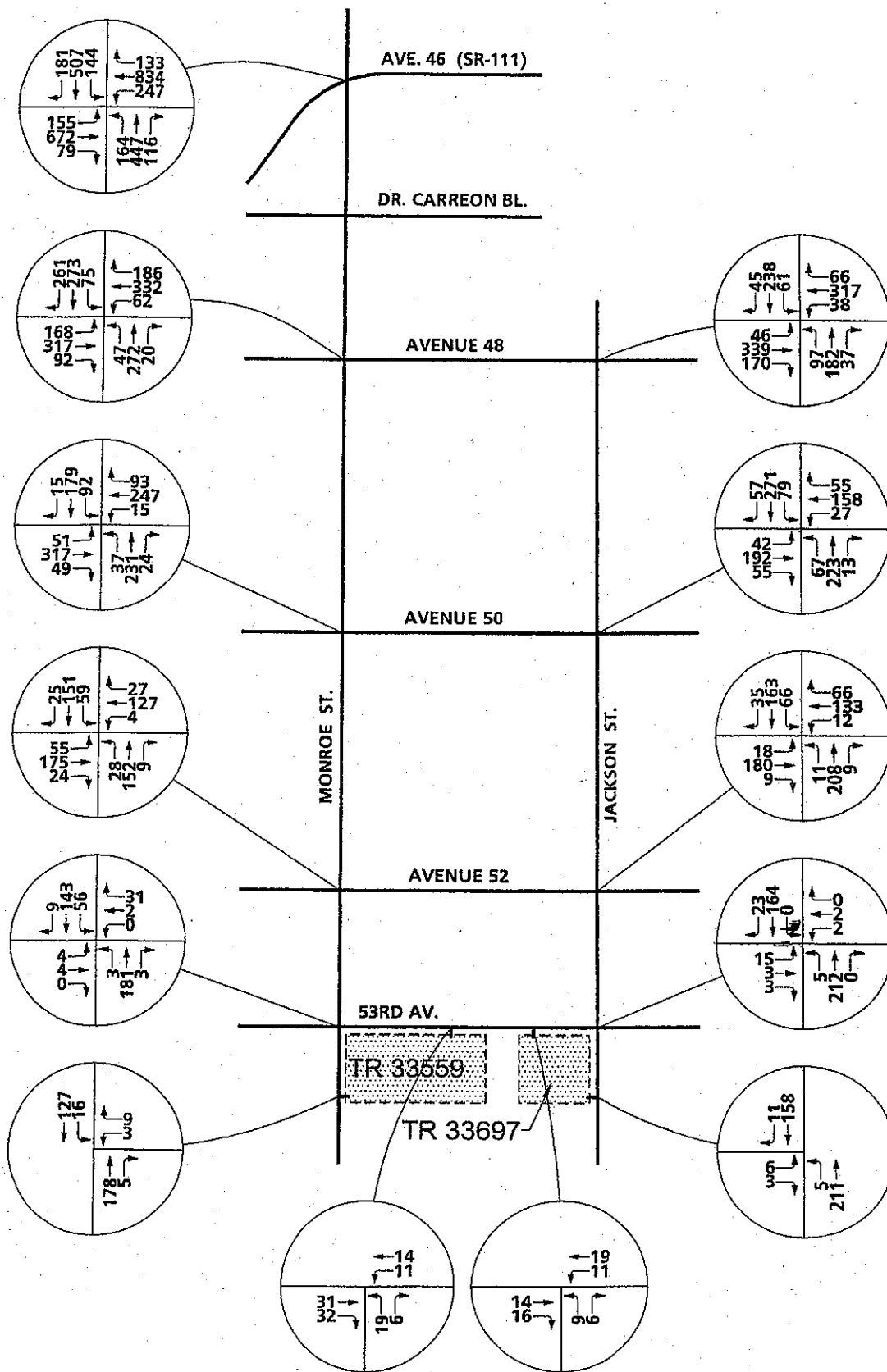
# CUMULATIVE DEVELOPMENT PM PEAK HOUR INTERSECTION VOLUMES



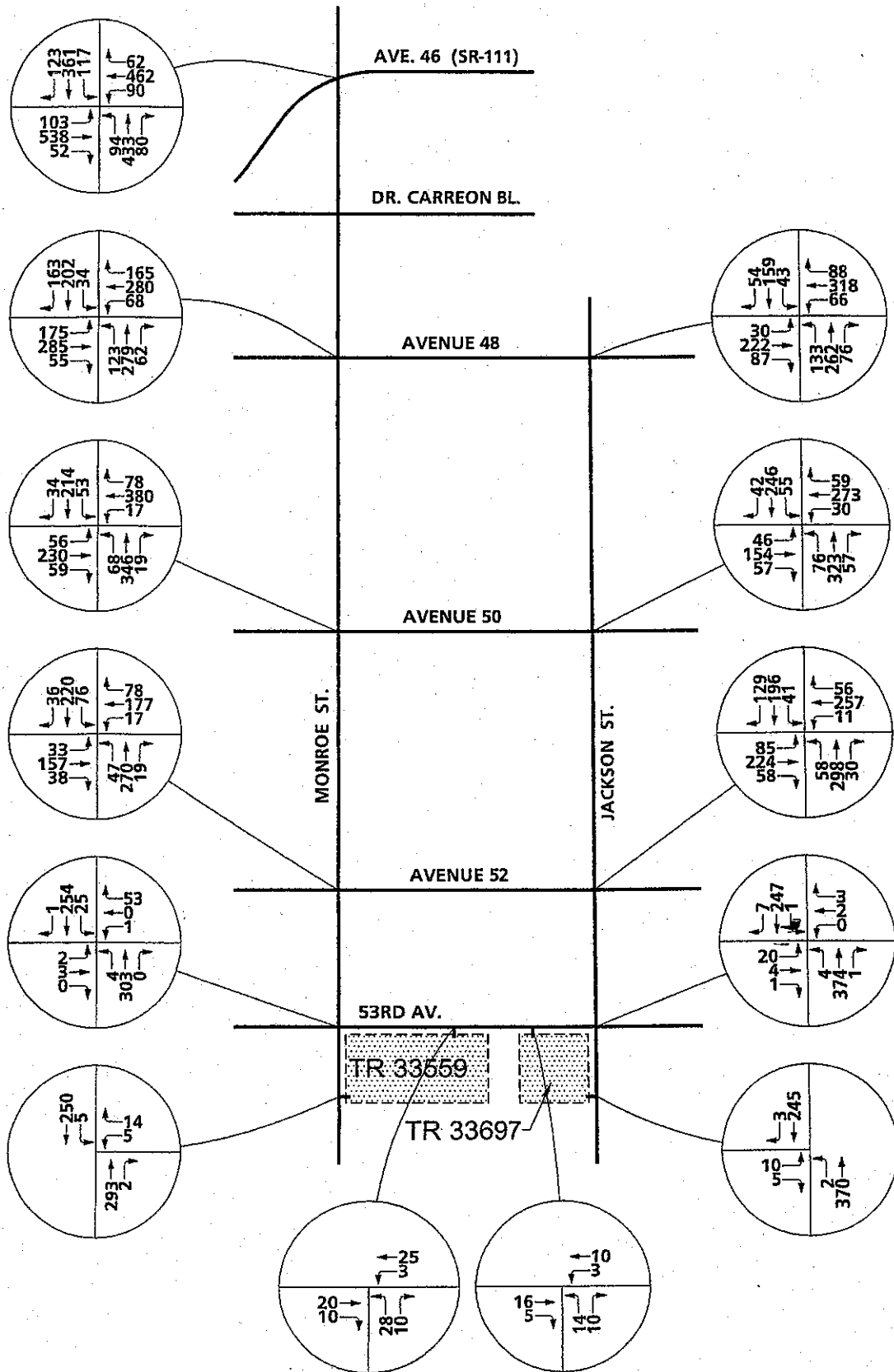
# EXISTING PLUS AMBIENT PLUS PROJECT AM PEAK HOUR INTERSECTION VOLUMES



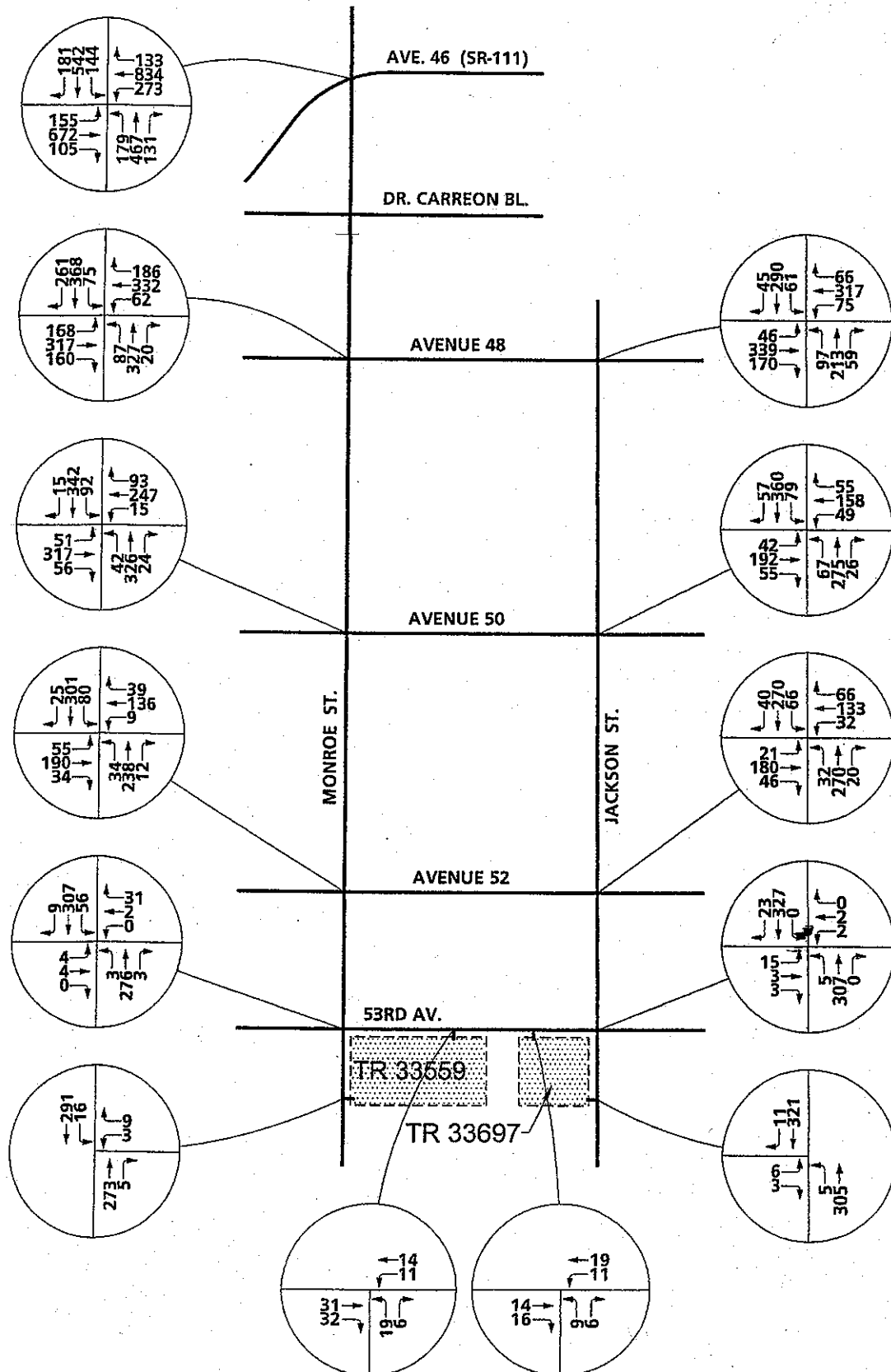
# EXISTING PLUS AMBIENT PLUS PROJECT PM PEAK HOUR INTERSECTION VOLUMES



# EXISTING PLUS AMBIENT PLUS PROJECT PLUS CUMULATIVE DEVELOPMENT AM PEAK HOUR INTERSECTION VOLUMES



# EXISTING PLUS AMBIENT PLUS PROJECT PLUS CUMULATIVE DEVELOPMENT PM PEAK HOUR INTERSECTION VOLUMES



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## 4.0 TRAFFIC ANALYSIS

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### A. Level of Service for Existing Plus Ambient Plus Project

Existing plus Ambient plus Project intersection levels of service are shown in Table 4-1. Table 4-1 shows HCM calculations based on the geometrics at the study area intersections, without and with improvements. For the intersections that do not currently exist, assumptions have been made regarding the intersection geometrics that would be constructed or needed.

For Existing plus Ambient plus Project traffic conditions, the following study area intersections are projected to operate at unacceptable levels of service during the peak hours, with existing geometry:

Monroe Street (NS) at:

- Avenue 50 (EW)

Jackson Street (NS) at:

- Avenue 48 (EW)

For Existing plus Ambient plus Project traffic conditions, the study area intersections are projected to operate at acceptable levels of service during the peak hours, with the installation of traffic signals and recommended turn lane improvements. Existing plus Ambient plus Project HCM calculation worksheets are provided in Appendix "G".

### B. Level of Service for Existing Plus Ambient Plus Project Plus Cumulative

Existing plus Ambient plus Project plus Cumulative intersection levels of service are shown in Table 4-2. Table 4-2 shows HCM calculations based on the geometrics at the study area intersections, without and with improvements.

TABLE 4-1

INTERSECTION ANALYSIS FOR EXISTING + AMBIENT + PROJECT CONDITIONS

INTERSECTION	TRAFFIC CONTROL <sup>3</sup>	INTERSECTION APPROACH LANES <sup>1</sup>												DELAY <sup>2</sup> (SECS.)		LEVEL OF SERVICE	
		NORTH-BOUND			SOUTH-BOUND			EAST-BOUND			WEST-BOUND			AM	PM	AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R				
Monroe St. (NS) at:																	
• SR-111 (EW)	TS	1	2	0	1	2	0	1	2	1	2	2	1	28.5	35.9	C	D
• Avenue 48 (EW)	TS	1	2	0	1	2	1	1	2	0	1	2	0	30.5	29.9	C	C
• Avenue 50 (EW)																	
- Without Improvements	AWS	0	1	0	1	1	0	1	1	0	1	1	1	29.8	37.5	D	E
- With Improvements	<u>TS</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>1</u>	18.9	19.5	B	B
• Avenue 52 (EW)																	
- Without Improvements	AWS	0	1	0	0	1	0	0	1	0	0	1	0	12.8	11.7	B	B
- With Improvements	<u>TS</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	11.0	10.8	B	B
• 53rd Ave. (EW)	CSS	0	1	0	0	1	0	0	1	0	0	1	0	12.7	13.2	B	B
• Project Driveway (EW)																	
- With Improvements	<u>CSS</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>	10.8	10.7	B	B
Westerly Project Dwy. (NS) at:																	
• 53rd Ave. (EW)																	
- With Improvements	<u>CSS</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	8.9	9.0	A	A
Easterly Project Dwy. (NS) at:																	
• 53rd Ave. (EW)																	
- With Improvements	<u>CSS</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	8.7	8.9	A	A
Jackson St. (NS) at:																	
• Avenue 48 (EW)																	
- Without Improvements	AWS	0	1	0	0	1	0	0.5	0.5	1	0.5	0.5	1	-- <sup>4</sup>	43.8	F	E
- With Improvements	<u>TS</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	24.3	26.6	C	C
• Avenue 50 (EW)																	
- Without Improvements	AWS	0	1	0	0	1	0	0	1	0	0	1	0	25.0	23.5	D	C
- With Improvements	<u>TS</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	11.7	11.2	B	B
• Avenue 52 (EW)																	
- Without Improvements	AWS	0	1	0	0	1	0	0	1	0	0.5	0.5	1	26.6	11.3	D	B
- With Improvements	<u>TS</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	11.8	10.9	B	B
• 53rd Ave. (EW)	CSS	0	1	0	0	1	0	0	1	0	0	1	0	13.3	11.9	B	B
• Project Dwy. (EW)																	
- With Improvements	<u>CSS</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	11.4	11.0	B	B

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; 1 = Current Phase Improvement

<sup>2</sup> Delay and level of service calculated using the following analysis software: Traffix, Version 7.7 R2 (2003). Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> TS = Traffic Signal  
 CSS = Cross Street Stop  
 AWS = All Way Stop

<sup>4</sup> -- Delay high, intersection unstable. LOS= "F".

TABLE 4-2

INTERSECTION ANALYSIS FOR EXISTING + AMBIENT + PROJECT + CUMULATIVE CONDITIONS

INTERSECTION	TRAFFIC CONTROL <sup>3</sup>	INTERSECTION APPROACH LANES <sup>1</sup>												DELAY <sup>2</sup> (SECS.)		LEVEL OF SERVICE	
		NORTH-BOUND			SOUTH-BOUND			EAST-BOUND			WEST-BOUND			AM	PM	AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R				
Monroe St. (NS) at:																	
• SR-111 (EW)	TS	1	2	0	1	2	0	1	2	1	2	2	1	28.7	37.1	C	D
• Avenue 48 (EW)	TS	1	2	0	1	2	1	1	2	0	1	2	0	31.8	30.1	C	C
• Avenue 50 (EW)																	
- Without Improvements	AWS	0	1	0	1	1	0	1	1	0	1	1	1	-- <sup>4</sup>	-- <sup>4</sup>	F	F
- With Improvements	TS	1	1	0	1	1	0	1	1	0	1	1	1	20.3	21.8	C	C
• Avenue 52 (EW)																	
- Without Improvements	AWS	0	1	0	0	1	0	0	1	0	0	1	0	19.8	21.8	C	C
- With Improvements	TS	1	1	0	1	1	0	1	1	0	1	1	0	11.4	11.0	B	B
• 53rd Ave. (EW)	CSS	0	1	0	0	1	0	0	1	0	0	1	0	15.5	17.6	C	C
• Project Driveway (EW)																	
- With Improvements	CSS	0	1	0	1	1	0	0	0	0	1	0	1	12.6	13.2	B	B
Westerly Project Dwy. (NS) at:																	
• 53rd Ave. (EW)																	
- With Improvements	CSS	1	0	1	0	0	0	0	1	0	1	1	0	8.9	9.0	A	A
Easterly Project Dwy. (NS) at:																	
• 53rd Ave. (EW)																	
- With Improvements	CSS	1	0	1	0	0	0	0	1	0	1	1	0	8.7	8.9	A	A
Jackson St. (NS) at:																	
• Avenue 48 (EW)																	
- Without Improvements	AWS	0	1	0	0	1	0	0.5	0.5	1	0.5	0.5	1	--	--	F	F
- With Improvements	TS	1	1	0	1	1	0	1	1	0	1	1	0	23.8	23.5	C	C
• Avenue 50 (EW)																	
- Without Improvements	AWS	0	1	0	0	1	0	0	1	0	0	1	0	--	--	F	F
- With Improvements	TS	1	1	0	1	1	0	1	1	0	1	1	0	11.8	11.3	B	B
• Avenue 52 (EW)																	
- Without Improvements	AWS	0	1	0	0	1	0	0	1	0	0.5	0.5	1	--	16.2	F	C
- With Improvements	TS	1	1	0	1	1	0	1	1	0	1	1	0	12.2	11.0	B	B
• 53rd Ave. (EW)	CSS	0	1	0	0	1	0	0	1	0	0	1	0	16.9	15.2	C	C
• Project Dwy. (EW)																	
- With Improvements	CSS	1	1	0	0	1	0	1	0	1	0	0	0	13.5	13.7	B	B

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; 1 = Previous Phase Improvement; 1 = Current Phase Improvement

<sup>2</sup> Delay and level of service calculated using the following analysis software: Traffix, Version 7.7 R2 (2003). Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> TS = Traffic Signal  
 CSS = Cross Street Stop  
 AWS = All Way Stop

<sup>4</sup> -- Delay high, Intersection unstable. LOS= "F".

For Existing plus Ambient plus Project plus Cumulative traffic conditions, the following study area intersections are projected to operate at unacceptable levels of service during the peak hours, with existing geometry:

Monroe Street (NS) at:

- Avenue 50 (EW)

Jackson Street (NS) at:

- Avenue 48 (EW)
- Avenue 50 (EW)
- Avenue 52 (EW)

For Existing plus Ambient plus Project plus Cumulative traffic conditions, the study area intersections are projected to operate at acceptable levels of service during the peak hours, with installation of traffic signals and recommended turn lane improvements. Existing plus Ambient plus Project plus Cumulative HCM calculation worksheets are provided in Appendix "H."

## 5.0 FINDINGS AND CONCLUSIONS

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### A. Traffic Impacts and Level of Service

For Existing plus Ambient plus Project (E+A+P) traffic conditions, the study area intersections are projected to operate at acceptable levels of service during the peak hours with the roadway and traffic signal improvements listed previously in Table 4-1. Table 5-1 and Exhibit 5-A summarize the recommended improvements for E+A+P conditions in addition to the existing intersection geometrics shown on Exhibit 2-A.

For Existing plus Ambient plus Project plus Cumulative (E+A+P+C) traffic conditions, the study area intersections are projected to operate at acceptable levels of service during the peak hours with the roadway and traffic signal improvements previously listed in Table 4-2 and illustrated on Exhibit 5-A. These are the same improvements recommended for E+A+P conditions.

### B. Traffic Signal Warrant Analysis

For existing traffic conditions, traffic signals are projected to be warranted at the following study area intersections (see Appendix "D"):

Monroe Street (NS) at:

- Avenue 50 (EW)
- Avenue 52 (EW)

Jackson Street (NS) at:

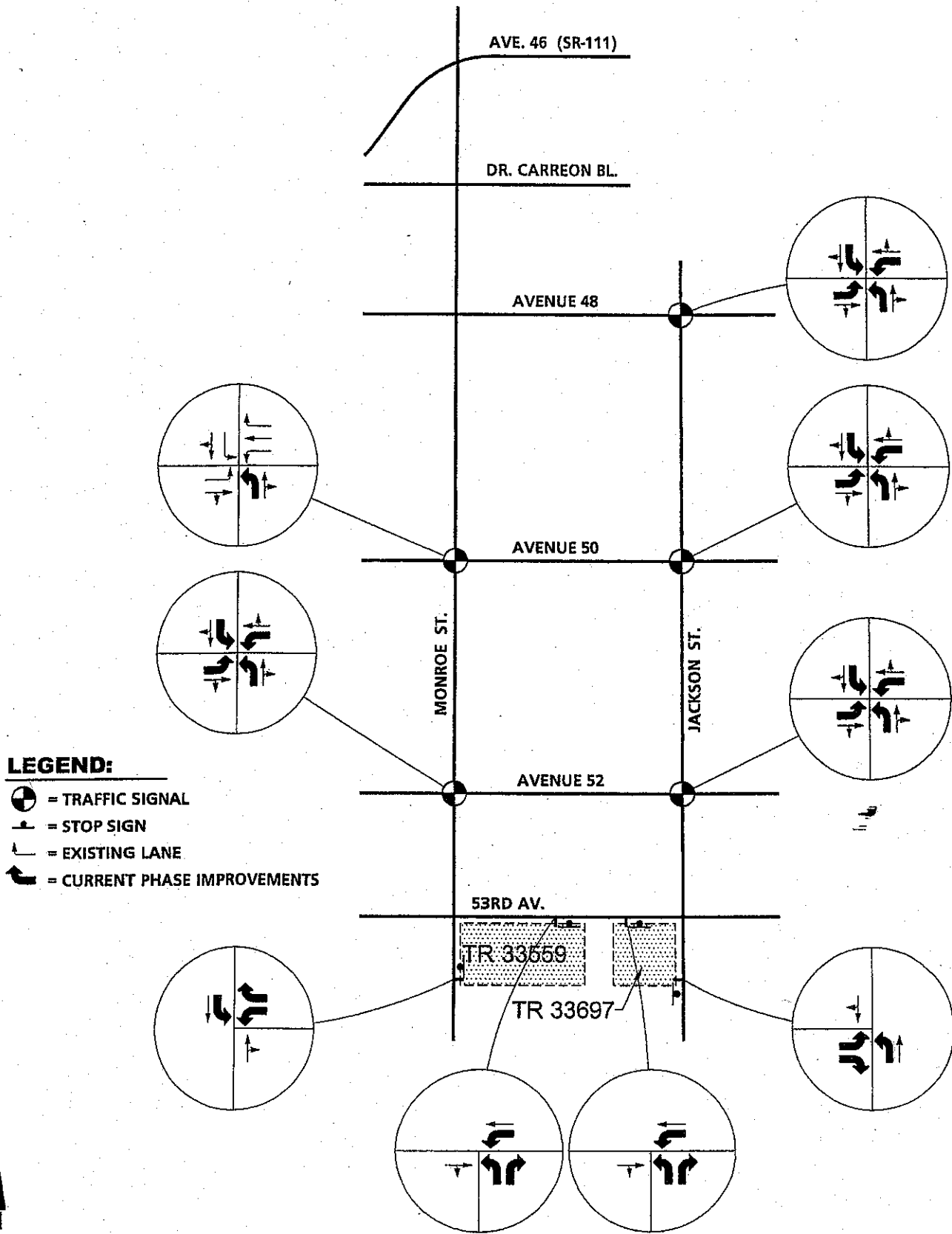
- Avenue 48 (EW)
- Avenue 50 (EW)
- Avenue 52 (EW)

TABLE 5-1

SUMMARY OF INTERSECTION IMPROVEMENTS

INTERSECTION	EXISTING CONDITIONS	EXISTING PLUS AMBIENT PLUS PROJECT CONDITION IMPROVEMENTS	EXISTING PLUS AMBIENT PLUS PROJECT PLUS CUMULATIVE CONDITION IMPROVEMENTS
<b>Monroe Street (NS) at:</b> • Avenue 50 (EW)	• Traffic Signal	• Same • Construct a NB left turn lane	• Same • Same
• Avenue 52 (EW)	• Traffic Signal	• Same • Construct a NB left turn lane • Construct a SB left turn lane • Construct an EB left turn lane • Construct a WB left turn lane	• Same • Same • Same • Same
• Project Driveway (EW)		• Construct a SB left turn lane • Construct a WB left turn lane • Construct a WB right turn lane	• Same • Same • Same
<b>Westerly Project Driveway (NS) at:</b> • 53rd Avenue (EW)		• Construct a NB left turn lane • Construct a NB right turn lane • Construct a WB left turn lane	• Same • Same • Same
<b>Easterly Project Driveway (NS) at:</b> • 53rd Avenue (EW)		• Construct a NB left turn lane • Construct a NB right turn lane • Construct a WB left turn lane	• Same • Same • Same
<b>Jackson Street (NS) at:</b> • Avenue 48 (EW)	• Traffic Signal	• Same • Construct a NB left turn lane • Construct a SB left turn lane • Construct an EB left turn lane • Construct a WB left turn lane	• Same • Same • Same • Same • Same
• Avenue 50 (EW)	• Traffic Signal	• Same • Construct a NB left turn lane • Construct a SB left turn lane • Construct an EB left turn lane • Construct a WB left turn lane	• Same • Same • Same • Same
• Avenue 52 (EW)	• Traffic Signal	• Same • Construct a NB left turn lane • Construct a SB left turn lane • Construct an EB left turn lane • Construct a WB left turn lane	• Same • Same • Same • Same
• Project Driveway (EW)		• Construct a NB left turn lane • Construct an EB left turn lane • Construct an EB right turn lane	• Same • Same • Same

# RECOMMENDED IMPROVEMENTS FOR EXISTING PLUS AMBIENT PLUS PROJECT CONDITIONS



C. Intersection Spacing

Based on a review of the site plan, it appears that the project access points on 53rd Avenue conform to the minimum County spacing requirements. 53rd Avenue is classified as a Local Street, which requires a minimum 200 feet between intersections. Intersection spacing on 53rd Avenue was also reviewed with respect to future access to the undeveloped parcel between the two project tracts. Exhibit 1-B illustrates that the approximate intersection spacing on 53rd Avenue would meet the County's minimum spacing of 200 feet.

The project access points along Monroe Street and Jackson Street do not, however, conform to the minimum County spacing guidelines. The distance between 53rd Avenue and the project access point on Monroe Street appears to be 1,253 feet. The distance between 53rd Avenue and the project access point on Jackson Street appears to be 1,237 feet. Both Monroe Street and Jackson Street are classified as Arterial Highways, which require 1,320 feet between intersections. However, it is our understanding that the County of Riverside and the developer have been in talks to resolve this issue and that the County will accept the proposed project driveway locations. Therefore, we have analyzed all the project access points as full access.

D. Entry Gate Queuing Analysis

The gated entries for the proposed project have been reviewed for adequate stacking distance. The project's gate-controlled entryways have been designed with 100-foot setbacks and meet the County's minimum requirement. Based on the queuing analysis, the entries should have adequate storage capacity.



E. Circulation Recommendations

1. On-Site

The recommended on-site circulation improvements are described below and noted on Exhibit 5-B:

Tentative Tract 33559

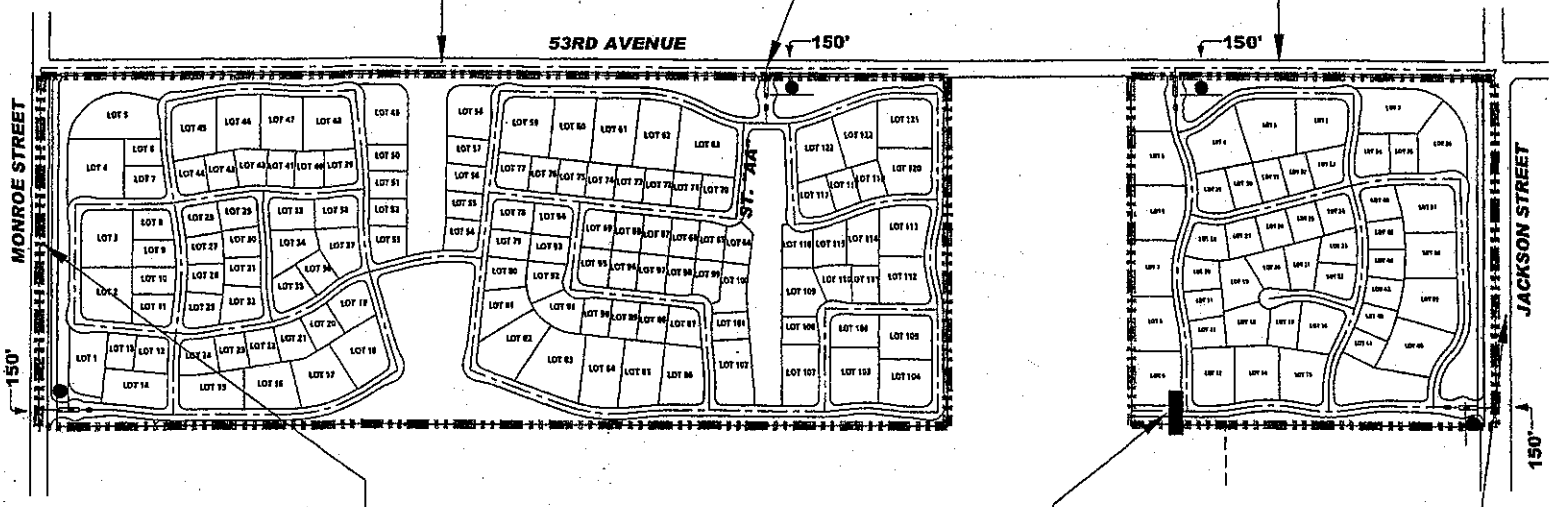
- Construct Monroe Street from 53rd Avenue to the southerly project boundary at its ultimate half-section width as an Arterial (128 foot right-of-way) in conjunction with development of Tentative Tract 33559.
- Construct 53rd Avenue from Monroe Street to the easterly project boundary of Tentative Tract 33559 at its ultimate half-section width as a Local (60 foot right-of-way) in conjunction with development of Tentative Tract 33559.
- Provide a 150-foot southbound left turn pocket on Monroe Street at the intersection of the Project Driveway.
- Provide a 150-foot westbound left turn pocket on 53rd Avenue at the intersection of the Westerly Project Driveway.
- Install a westbound stop sign on the Project Driveway at Monroe Street.
- Relocate the westerly project driveway to the west to directly align with Street "AA".
- Install a northbound stop sign on the Westerly Project driveway at 53rd Avenue.

# ON-SITE CIRCULATION RECOMMENDATIONS

CONSTRUCT 53RD AVENUE FROM MONROE STREET TO THE EASTERLY PROJECT BOUNDARY OF TENTATIVE TRACT 33559 AT ITS ULTIMATE HALF-SECTION WIDTH AS A LOCAL (60 FOOT RIGHT-OF-WAY) IN CONJUNCTION WITH DEVELOPMENT OF TENTATIVE TRACT 33559.

RELOCATE THE WESTERLY PROJECT DRIVEWAY TO THE WEST TO DIRECTLY ALIGN WITH STREET "AA".

CONSTRUCT 53RD AVENUE FROM THE WESTERLY PROJECT BOUNDARY OF TENTATIVE TRACT 33697 TO JACKSON STREET AT ITS ULTIMATE HALF-SECTION WIDTH AS A LOCAL (60 FOOT RIGHT-OF-WAY) IN CONJUNCTION WITH DEVELOPMENT OF TENTATIVE TRACT 33697.



CONSTRUCT MONROE STREET FROM 53RD AVENUE TO THE SOUTHERLY PROJECT BOUNDARY AT ITS ULTIMATE HALF-SECTION WIDTH AS AN ARTERIAL (128 FOOT RIGHT-OF-WAY) IN CONJUNCTION WITH DEVELOPMENT OF TENTATIVE TRACT 33559.

INSTALL AN INTERIM EMERGENCY ACCESS GATE ON THE WEST LEG OF STREET "A" AT STREET "B" IN TENTATIVE TRACT 33697 IN CONJUNCTION WITH DEVELOPMENT OF TENTATIVE TRACT 33697, WHICH MAY BE REMOVED WHEN STREET "B" IS EXTENDED WEST AS PART OF THE DEVELOPMENT OF THE ADJACENT PROPERTY TO THE WEST.

SIGHT DISTANCE AT EACH PROJECT ACCESS ROADWAY SHOULD BE REVIEWED WITH RESPECT TO STANDARD CALTRANS AND COUNTY OF RIVERSIDE SIGHT DISTANCE STANDARDS AT THE TIME OF PREPARATION OF FINAL GRADING, LANDSCAPE AND STREET IMPROVEMENT PLANS.

CONSTRUCT JACKSON STREET FROM 53RD AVENUE TO THE SOUTHERLY PROJECT BOUNDARY AT ITS ULTIMATE HALF-SECTION WIDTH AS AN ARTERIAL (128 FOOT RIGHT-OF-WAY) IN CONJUNCTION WITH DEVELOPMENT OF TENTATIVE TRACT 33697.

ON-SITE TRAFFIC SIGNING AND STRIPING SHOULD BE IMPLEMENTED IN CONJUNCTION WITH DETAILED CONSTRUCTION PLANS FOR THE PROJECT SITE.

**LEGEND:**

- = STOP SIGN
- ┌─150' = 150-FOOT LEFT TURN POCKET
- = EMERGENCY ACCESS GATE



### Tentative Tract 33697

- Construct Jackson Street from 53rd Avenue to the southerly project boundary at its ultimate half-section width as an Arterial (128 foot right-of-way) in conjunction with development of Tentative Tract 33697.
- Construct 53rd Avenue from the westerly project boundary of Tentative Tract 33697 to Jackson Street at its ultimate half-section width as a Local (60 foot right-of-way) in conjunction with development of Tentative Tract 33697.
- Install an interim emergency access gate on the west leg of Street "A" at Street "B" in Tentative Tract 33697 in conjunction with development of Tentative Tract 33697, which may be removed when Street "B" is extended west as part of the development of the adjacent property to the west.
- Provide a 150-foot westbound left turn pocket on 53<sup>rd</sup> Avenue at the intersection of the Easterly Project Driveway.
- Provide a 150-foot northbound left turn pocket on Jackson Street at the intersection of the Project Driveway.
- Install a northbound stop sign on the Easterly Project Driveway at 53rd Avenue.

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

Sight distance at each project access roadway should be reviewed with respect to standard Caltrans and County of Riverside sight distance standards at the time of preparation of final grading, landscape and street improvement plans.

2. Off-Site Improvements Recommended Prior to the Issuance of the Initial Certificate of Occupancy for Tentative Tract 33559

The following off-site improvements are recommended prior to the issuance of the initial certificate of occupancy for Tentative Tract 33559:

- At the intersection of Monroe Street and Avenue 50:
  - Install a traffic signal
  - Construct a northbound left turn lane
  
- At the intersection of Monroe Street and Avenue 52:
  - Install a traffic signal
  - Construct a northbound left turn lane
  - Construct a southbound left turn lane
  - Construct an eastbound left turn lane
  - Construct a westbound left turn lane
  
- At the intersection of Jackson Street and Avenue 48:
  - Install a traffic signal
  - Construct a northbound left turn lane
  - Construct a southbound left turn lane
  - Construct an eastbound left turn lane
  - Construct a westbound left turn lane

3. Off-Site Improvements Recommended Prior to the Issuance of the Initial Certificate of Occupancy for Tentative Tract 33697

The following off-site improvements are recommended prior to the issuance of the initial certificate of occupancy for Tentative Tract 33697:

- At the intersection of Jackson Street and Avenue 48:
  - Install a traffic signal
  - Construct a northbound left turn lane
  - Construct a southbound left turn lane
  - Construct an eastbound left turn lane
  - Construct a westbound left turn lane
  
- At the intersection of Jackson Street and Avenue 50:
  - Install a traffic signal
  - Construct a northbound left turn lane
  - Construct a southbound left turn lane
  - Construct an eastbound left turn lane
  - Construct a westbound left turn lane
  
- At the intersection of Jackson Street and Avenue 52:
  - Install a traffic signal
  - Construct a northbound left turn lane
  - Construct a southbound left turn lane
  - Construct an eastbound left turn lane
  - Construct a westbound left turn lane

F. Regional Improvement Funding Mechanism

The project should participate in funding or construction of off-site improvements that are needed to serve Existing plus Ambient plus Project plus Cumulative conditions through the payment of Riverside County Transportation Uniform Mitigation Fees (TUMF) and Development Impact Fees (DIF).

**APPENDIX A**

**SCOPING AGREEMENT**

**SCOPING AGREEMENT FOR TRAFFIC IMPACT STUDY**

This letter acknowledges the Riverside County Transportation Department requirements for traffic impact analysis of the following project. The analysis must follow the Riverside County Transportation Department Traffic Study Guidelines dated July 2004.

Case No. TR 33559 and TR 33697  
 Project Name: Tentative Tracts 33559 and 33697  
 Project Address: South of Avenue 53, between Monroe Street and Jackson Street  
 Project Description: 169 Single-Family Detached Residential Dwelling Units on two sites; One site along Monroe Street (TR 33559) consists of 123 SFDR and one site along Jackson Street (TR 33697) consists of 46 SFDR

	<u>Consultant</u>	<u>Developer</u>
Name:	<u>URBAN CROSSROADS, INC. - Ruth Smith</u>	<u>FAMILY DEVELOPMENT - Rudy Herrera</u>
Address:	<u>41 Corporate Park, Suite 300 Irvine, CA 92608</u>	<u>73081 Frad Waring Drive Palm Desert, CA 92280</u>
Telephone:	<u>(949) 660-1994 ext. 206</u>	<u>(760) 900-8989</u>

A. Trip Generation Source: ITE 7th Edition (See Table 1)

Previous Land Use: Agriculture Proposed Land Use: Single Family Residential  
 Existing Zoning: A-1-20 Proposed Zoning: R-1-8,000 and R-1-12,000

Current Trip Generation			Proposed Trip Generation (See Table 2)			
	In	Out	Total	In	Out	Total
AM Trips				32	85	127
PM Trips				108	83	171
Internal Trip Allowance	Yes	<input checked="" type="checkbox"/> No	( _____ % Trip Discount)			
Pass-By Trip Allowance	Yes	<input checked="" type="checkbox"/> No	( _____ % Trip Discount)			

B. Trip Geographic Distribution: (See Exhibits E for detailed assignment)  
 N 38% S 10% E 25% W 20%

C. Background Traffic  
 Project Build-out Year 2008 Annual Ambient Growth Rate: 2.00 %

Other area projects to be analyzed: To be provided by the County of Riverside  
 Model/Forecast methodology: Not Applicable

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

- |   |   |
|---|---|
| 1 <u>Monroe St. (NS) / Ave. 48 (EW)</u>           | 6 <u>Easterly Project Dwy. (NS) / 53rd Ave. (EW) fut.</u> |
| 2 <u>Monroe St. (NS) / Ave. 50 (EW)</u>           | 7 <u>Westerly Project Dwy. (NS) / 53rd Ave. (EW) fut.</u> |
| 3 <u>Monroe St. (NS) / Ave. 52 (EW)</u>           | 8 <u>Jackson St. (NS) / 52 Ave. (EW)</u>                  |
| 4 <u>Monroe St. (NS) / 53rd Ave. (EW)</u>         | 9 <u>Jackson St. (NS) / 53rd Ave. (EW)</u>                |
| 5 <u>Monroe St. (NS) / Project Dwy. (EW) fut.</u> | 10 <u>Jackson St. (NS) / Project Dwy. (EW) fut.</u>       |

E. Other Jurisdictional Impacts  
 Is this project within a City's Sphere of Influence or one mile radius of City boundaries?  Yes  No  
 If so, name of City Jurisdiction: City of La Quinta and City of Indio

F. Site Plan (See Exhibit 2-A through 2-C)

G. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (To be filled out by Transportation Department)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

H. Existing conditions  
Traffic count data must be new or recent. Provide traffic count dates if using other than new counts.  
Date of counts \_\_\_\_\_

Recommended by:

*Keith M. Smith*  
Consultant's Representative

5/16/05  
Date

Scoping Agreement Submitted on \_\_\_\_\_

Revised on \_\_\_\_\_

Approved By:

*[Signature]*  
Riverside County Transportation  
Department - Traffic Staff

6/6/05  
Date

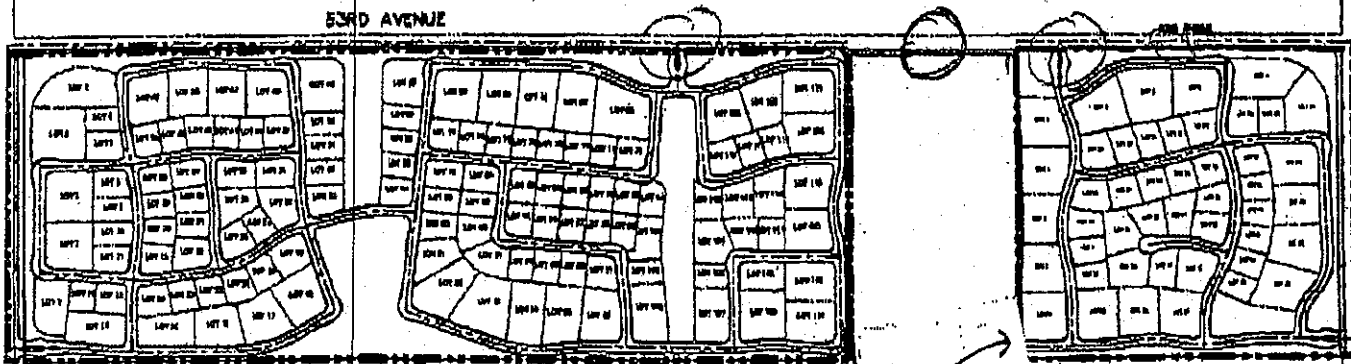
*If please see comments on location map and site plans.*



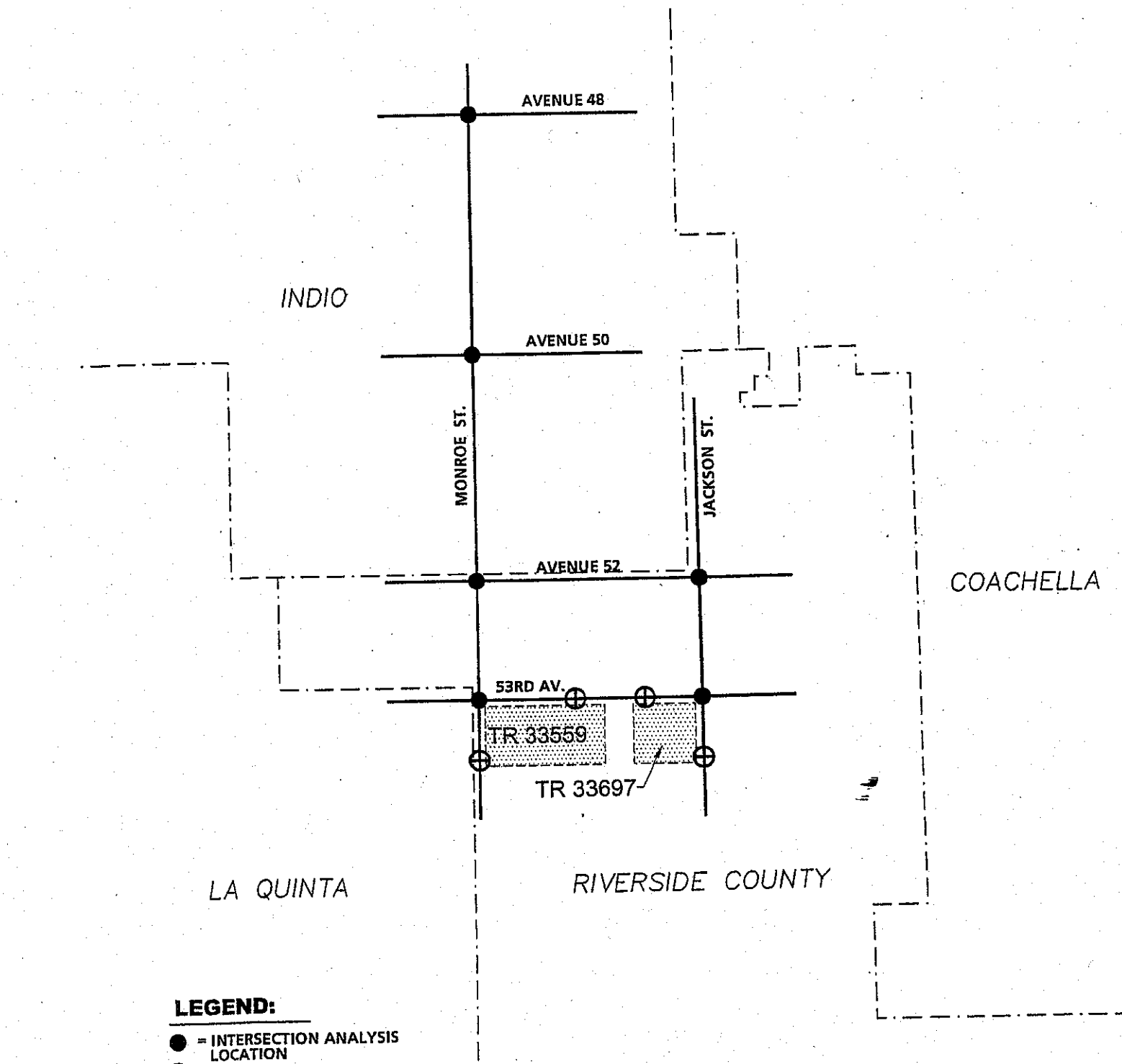
# EXHIBIT B OVERALL PROJECT SITE PLAN

\* Please provide DISTANCES  
between INTERSECTIONS.

200' MIN. DISTANCE BETWEEN  
INTERSECTIONS.



# EXHIBIT A LOCATION MAP



**LEGEND:**

- = INTERSECTION ANALYSIS LOCATION
- ⊕ = FUTURE INTERSECTION ANALYSIS LOCATION
- - - = CITY / COUNTY BOUNDARY



# EXHIBIT B OVERALL PROJECT SITE PLAN

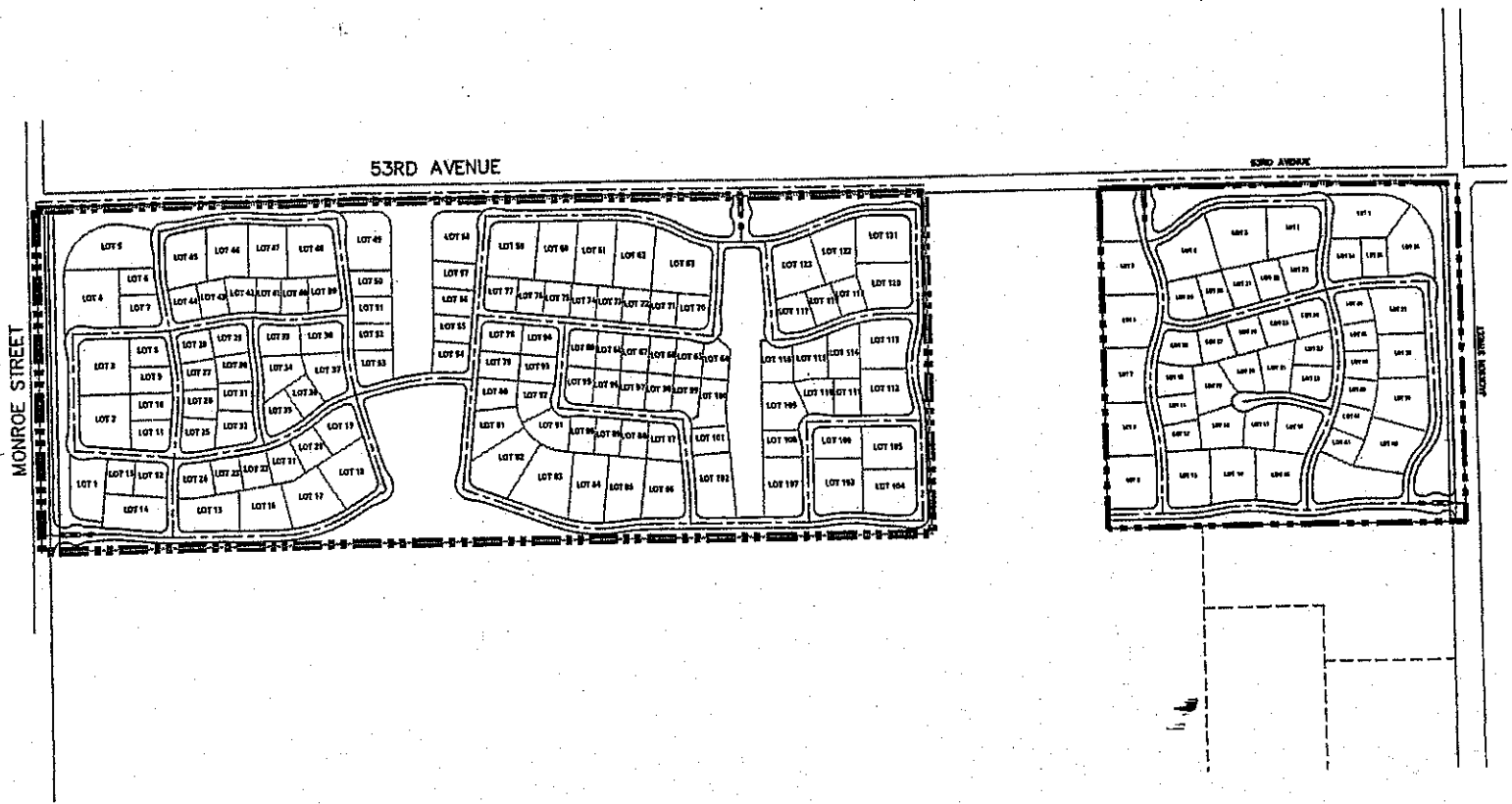


EXHIBIT C  
**TR 33559 SITE PLAN**

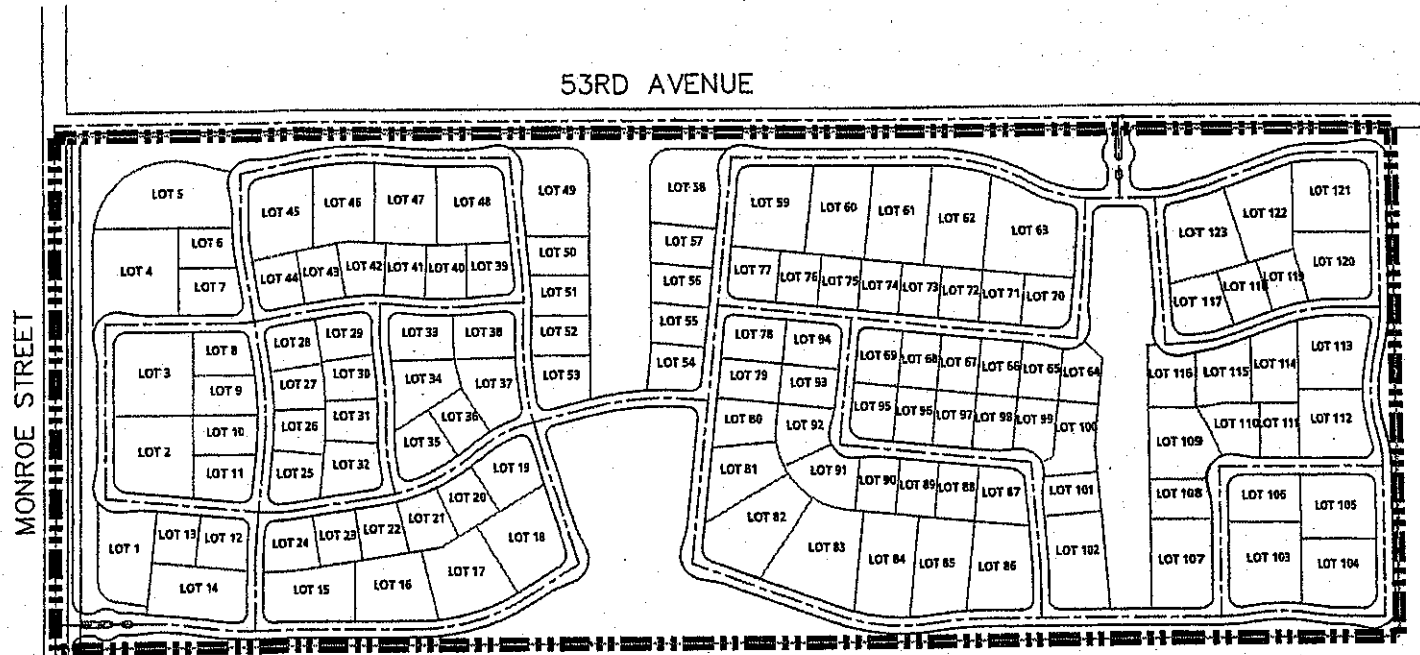


EXHIBIT D  
TR 33697 SITE PLAN

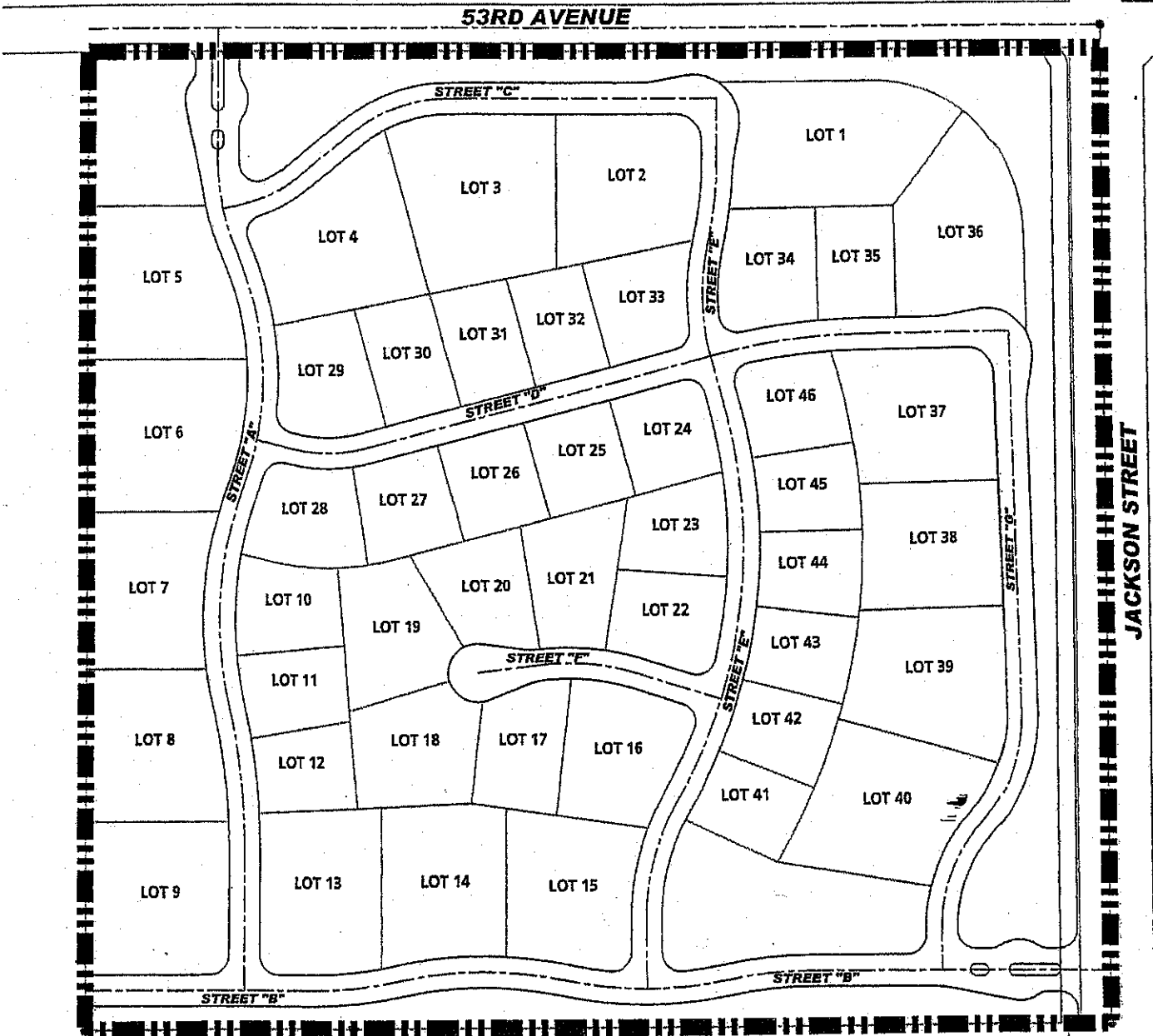


TABLE 2

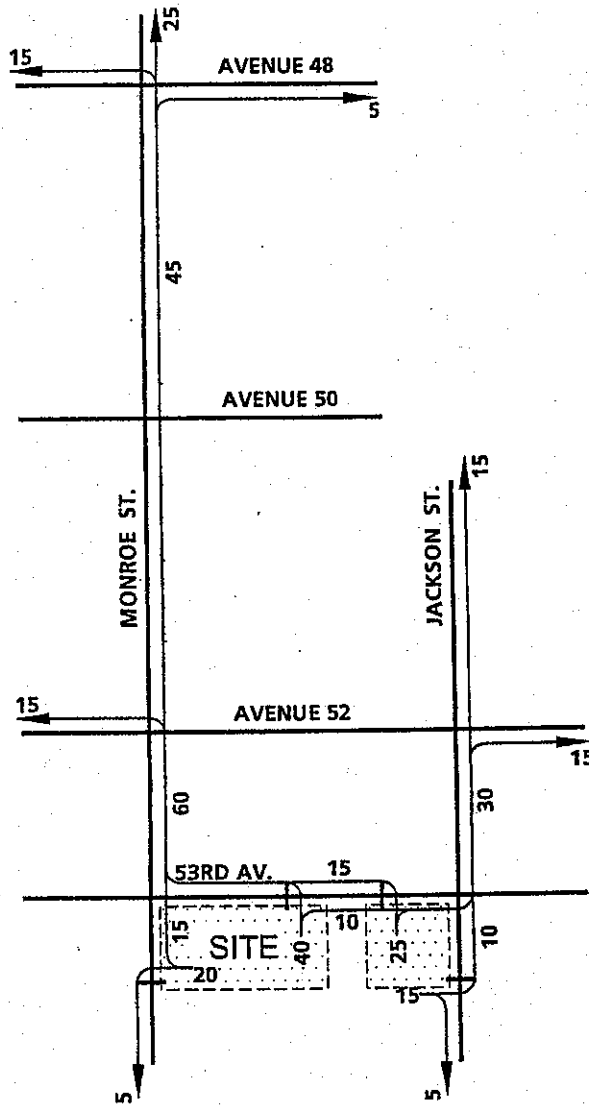
PROJECT TRIP GENERATION

LAND USE	QUANTITY	UNITS <sup>1</sup>	PEAK HOUR						DAILY
			AM			PM			
			IN	OUT	TOTAL	IN	OUT	TOTAL	
Single Family Residential	169	DU	32	95	127	108	63	171	1,617

<sup>1</sup> DU = Dwelling Units

All

EXHIBIT E  
**PROJECT TRIP DISTRIBUTION**



**LEGEND:**

10 = PERCENT TO/FROM PROJECT



**APPENDIX B**

**TRAFFIC COUNT WORKSHEETS**



INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: MONROE  
 EAST-WEST STREET: SR 111  
 JURISDICTION: INDIO

DATE: 06-22-05

PEAK HOUR: 07:30AM

NORTH LEG

TOTAL: 564

118	334	112
25	66	22
30	113	33
36	78	29
27	77	28

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 582

Rt	13	11	19	17	60
Thru	129	103	103	109	444
Lt	19	14	18	27	78

1st 2nd 3rd 4th Total

Total 1st 2nd 3rd 4th

99	27	31	15	26
517	150	123	132	112
41	19	3	3	16

Lt

Thru

Rt

WEST LEG TOTAL: 657

PEAK HOUR FACTORS

NORTH LEG = 0.80  
 SOUTH LEG = 0.79  
 EAST LEG = 0.90  
 WEST LEG = 0.84

ALL LEGS = 0.93

Lt Thru Rt

1st	15	105	9
2nd	23	116	18
3rd	12	75	11
4th	14	82	13
Total	64	378	51

TOTAL: 493

SOUTH LEG

HOURLY TOTAL: 2,296

Prepared by NEWPORT TRAFFIC STUDIES

B3

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: MONROE  
 EAST-WEST STREET: SR 111  
 JURISDICTION: INDIO

DATE: 06-22-05

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 789

174	477	138
41	97	36
42	124	28
43	118	42
48	138	32

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 1,163

Rt	33	29	32	34	128
Thru	181	202	219	200	802
Lt	42	62	65	64	233

1st 2nd 3rd 4th Total

Total 1st 2nd 3rd 4th

149	28	48	36	37	Lt
646	162	155	164	165	Thru
71	19	15	17	20	Rt

WEST LEG TOTAL: 866

PEAK HOUR FACTORS

NORTH LEG = 0.90

SOUTH LEG = 0.95

EAST LEG = 0.92

WEST LEG = 0.98

ALL LEGS = 0.95

Lt Thru Rt

1st	53	92	29
2nd	30	116	29
3rd	42	114	26
4th	30	102	25
Total	155	424	109

TOTAL: 688

SOUTH LEG

HOUR TOTAL: 3,506

Prepared by NEWPORT TRAFFIC STUDIES

B4

### INTERSECTION TURN COUNT

#### PEAK HOUR

NORTH-SOUTH STREET: MONROE  
EAST-WEST STREET: 48TH  
JURISDICTION: LA QUINTA

DATE: 06-07-05

PEAK HOUR: 07:30AM

#### NORTH LEG

TOTAL: 350

157	160	33
28	35	7
54	60	6
29	29	9
46	36	11

Total  
1st  
2nd  
3rd  
4th

Rt Thru Lt

EAST LEG TOTAL: 491

Rt	41	45	37	36	159
Thru	63	69	48	89	269
Lt	17	18	18	10	63

1st 2nd 3rd 4th Total

Total 1st 2nd 3rd 4th

168	49	51	38	30
274	67	78	67	62
29	6	6	9	8

Lt  
Thru  
Rt

WEST LEG TOTAL: 471

#### PEAK HOUR FACTORS

NORTH LEG = 0.73  
SOUTH LEG = 0.88  
EAST LEG = 0.91  
WEST LEG = 0.87  
  
ALL LEGS = 0.86

Lt Thru Rt

1st	15	36	14
2nd	14	39	17
3rd	9	36	11
4th	9	54	13
Total	47	165	55

TOTAL: 267

#### SOUTH LEG

HOURLY TOTAL: 1,579

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: MONROE  
 EAST-WEST STREET: 48TH  
 JURISDICTION: LA QUINTA

DATE: 06-07-05

PEAK HOUR: 04:45PM

NORTH LEG

TOTAL: 559

251	236	72
73	52	17
53	53	22
59	67	17
66	64	16

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 553

Rt	51	43	45	40	179
Thru	75	72	87	85	319
Lt	11	12	18	14	55

1st 2nd 3rd 4th Total

Total 1st 2nd 3rd 4th

161	28	49	38	46
305	74	78	82	71
73	19	18	15	21

Lt

Thru

Rt

WEST LEG TOTAL: 539

PEAK HOUR FACTORS

NORTH LEG = 0.96

SOUTH LEG = 0.89

EAST LEG = 0.92

WEST LEG = 0.93

ALL LEGS = 0.97

Lt Thru Rt

1st	8	59	7
2nd	11	69	4
3rd	9	49	3
4th	9	69	2
Total	37	246	16

TOTAL: 299

SOUTH LEG

HOUR TOTAL: 1,950

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: MONROE  
 EAST-WEST STREET: 50TH  
 JURISDICTION: LA QUINTA

DATE: 06-07-05

PEAK HOUR: 07:30AM

NORTH LEG

TOTAL: 229

33	145	51
15	30	23
4	33	12
8	43	7
6	39	9

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 456

Rt	18	19	18	20	75
Thru	97	79	84	105	365
Lt	5	4	3	4	16

Total 1st 2nd 3rd 4th

54	15	16	10	13
221	54	50	40	77
52	17	12	11	12

Lt

Thru

Rt

1st 2nd 3rd 4th Total

WEST LEG TOTAL: 327

PEAK HOUR FACTORS

NORTH LEG = 0.84  
 SOUTH LEG = 0.88  
 EAST LEG = 0.88  
 WEST LEG = 0.80

ALL LEGS = 0.92

Lt Thru Rt

1st	19	40	4
2nd	11	33	3
3rd	13	40	8
4th	7	41	3
Total	50	154	18

TOTAL: 222

SOUTH LEG

HOUR TOTAL: 1,234

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: MONROE  
 EAST-WEST STREET: 50TH  
 JURISDICTION: LA QUINTA

DATE: 06-07-05

PEAK HOUR: 04:45PM

NORTH LEG

TOTAL: 227

14	125	88
1	30	23
3	28	14
6	35	18
4	32	33

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 340

Rt	25	21	21	22	89
Thru	59	44	73	61	237
Lt	1	7	5	1	14

1st 2nd 3rd 4th Total

Total 1st 2nd 3rd 4th

49	12	8	16	13
305	69	62	73	101
37	10	9	6	12

Lt

Thru

Rt

WEST LEG TOTAL: 391

PEAK HOUR FACTORS

NORTH LEG = 0.82

SOUTH LEG = 0.77

EAST LEG = 0.86

WEST LEG = 0.78

ALL LEGS = 0.84

Lt Thru Rt

1st	8	28	8
2nd	6	51	2
3rd	5	54	5
4th	11	62	8
Total	30	195	23

TOTAL: 248

SOUTH LEG

HOUR TOTAL: 1,206

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: MONROE

EAST-WEST STREET: 52ND

JURISDICTION: LA QUINTA

DATE: 06-07-05

PEAK HOUR: 07:00AM

NORTH LEG

TOTAL: 254

35	152	67
12	51	26
10	36	25
9	32	13
4	33	3

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 228

Rt	11	19	15	12	57
Thru	39	36	45	37	157
Lt	4	5	3	2	14

Total 1st 2nd 3rd 4th

32	7	8	6	11
146	32	32	33	49
32	5	7	13	7

Lt

Thru

Rt

1st 2nd 3rd 4th Total

WEST LEG TOTAL: 210

PEAK HOUR FACTORS

NORTH LEG = 0.71

SOUTH LEG = 0.78

EAST LEG = 0.90

WEST LEG = 0.78

ALL LEGS = 0.90

Lt Thru Rt

1st	10	23	9
2nd	3	17	1
3rd	12	24	2
4th	8	20	2
Total	33	84	14

TOTAL: 131

SOUTH LEG

HOURLY TOTAL: 823

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: MONROE

EAST-WEST STREET: 52ND

JURISDICTION: LA QUINTA

DATE: 06-07-05

PEAK HOUR: 04:00PM

NORTH LEG

TOTAL: 169

24	88	57
10	23	15
7	24	19
4	19	13
3	22	10

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 152

Rt	8	6	7	5	26
Thru	32	32	24	34	122
Lt	1	2	1	0	4

1st 2nd 3rd 4th Total

Total 1st 2nd 3rd 4th

53	10	21	16	6
168	48	37	42	41
18	6	7	3	2

Lt

Thru

Rt

WEST LEG TOTAL: 239

PEAK HOUR FACTORS

NORTH LEG = 0.85

SOUTH LEG = 0.82

EAST LEG = 0.93

WEST LEG = 0.92

ALL LEGS = 0.89

Lt Thru Rt

1st	2	33	2
2nd	8	30	6
3rd	8	23	1
4th	6	26	0
Total	24	112	9

TOTAL: 145

SOUTH LEG

HOURLY TOTAL: 705

Prepared by NEWPORT TRAFFIC STUDIES



INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: MONROE  
 EAST-WEST STREET: 53rd  
 JURISDICTION: LA QUINTA

DATE: 06-14-05

PEAK HOUR: 07:15AM

NORTH LEG

TOTAL: 204

1	192	11
0	51	4
0	52	3
0	50	3
1	39	1

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 11

Rt	4	2	3	1	10
Thru	0	0	0	0	
Lt	0	0	0	1	1

Total 1st 2nd 3rd 4th

2	0	1	0	1
3	1	1	1	0
	0	0	0	0

Lt

Thru

Rt

1st 2nd 3rd 4th Total

WEST LEG TOTAL: 5

PEAK HOUR FACTORS

NORTH LEG = 0.93

SOUTH LEG = 0.87

EAST LEG = 0.69

WEST LEG = 0.63

ALL LEGS = 0.92

Lt Thru Rt

1st	1	25	0
2nd	1	39	0
3rd	0	41	0
4th	2	34	0
Total	4	139	

TOTAL: 143

SOUTH LEG

HOUR TOTAL: 363

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: MONROE  
EAST-WEST STREET: 53rd  
JURISDICTION: LA QUINTA

DATE: 06-14-05

PEAK HOUR: 04:00PM

NORTH LEG

TOTAL: 138

9	122	7
2	30	3
1	31	1
3	31	1
3	30	2

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 5

Rt	0	3	0	0	3
Thru	2	0	0	0	2
Lt	0	0	0	0	

1st 2nd 3rd 4th Total

Total 1st 2nd 3rd 4th

4	2	1	1	0
4	0	3	1	0
	0	0	0	0

Lt

Thru

Rt

WEST LEG TOTAL: 8

PEAK HOUR FACTORS

NORTH LEG = 0.99

SOUTH LEG = 0.87

EAST LEG = 0.42

WEST LEG = 0.50

ALL LEGS = 0.91

Lt Thru Rt

1st	3	44	2
2nd	0	48	0
3rd	0	43	0
4th	0	30	1
Total	3	165	3

TOTAL: 171

SOUTH LEG

HOUR TOTAL: 322

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: JACKSON  
 EAST-WEST STREET: 48th  
 JURISDICTION: LA QUINTA

DATE: 06-21-05

PEAK HOUR: 04:45PM

NORTH LEG

TOTAL: 320

43	218	59
9	49	11
7	57	16
13	55	15
14	57	17

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 389

Rt	15	22	12	14	63
Thru	77	62	80	81	300
Lt	7	10	6	3	26

Total 1st 2nd 3rd 4th

44	11	9	10	14
323	81	71	81	90
163	35	37	36	55

Lt

Thru

Rt

1st 2nd 3rd 4th Total

WEST LEG TOTAL: 530

PEAK HOUR FACTORS

NORTH LEG = 0.91

SOUTH LEG = 0.91

EAST LEG = 0.98

WEST LEG = 0.83

ALL LEGS = 0.95

Lt Thru Rt

1st	29	41	9
2nd	24	42	9
3rd	22	51	7
4th	18	35	5
Total	93	169	30

TOTAL: 292

SOUTH LEG

HOUR TOTAL: 1,531

Prepared by NEWPORT TRAFFIC STUDIES

B14

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: JACKSON  
 EAST-WEST STREET: 50th  
 JURISDICTION: LA QUINTA

DATE: 06-21-05

PEAK HOUR: 07:00AM

NORTH LEG

TOTAL: 298

40	205	53
10	55	14
7	56	13
14	46	10
9	48	16

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 340

Rt	12	12	14	19	57
Thru	63	67	64	68	262
Lt	6	3	3	9	21

Total 1st 2nd 3rd 4th

44	10	15	9	10
148	31	43	36	38
55	12	19	16	8

Lt

Thru

Rt

1st 2nd 3rd 4th Total

WEST LEG TOTAL: 247

PEAK HOUR FACTORS

NORTH LEG = 0.94  
 SOUTH LEG = 0.80  
 EAST LEG = 0.89  
 WEST LEG = 0.80

ALL LEGS = 0.93

Lt Thru Rt

1st	18	23	11
2nd	18	59	5
3rd	20	60	7
4th	17	74	9
Total	73	216	32

TOTAL: 321

SOUTH LEG

HOURLY TOTAL: 1,206

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: JACKSON  
 EAST-WEST STREET: 50th  
 JURISDICTION: LA QUINTA

DATE: 06-21-05

PEAK HOUR: 04:45PM

NORTH LEG

TOTAL: 370

55	239	76
10	47	13
18	62	19
16	56	15
11	74	29

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 226

Rt	11	12	19	11	53
Thru	30	46	37	39	152
Lt	10	6	3	2	21

Total 1st 2nd 3rd 4th

40	8	7	10	15
185	35	38	52	60
53	8	16	13	16

Lt

Thru

Rt

1st 2nd 3rd 4th Total

WEST LEG TOTAL: 278

PEAK HOUR FACTORS

NORTH LEG = 0.81  
 SOUTH LEG = 0.85  
 EAST LEG = 0.88  
 WEST LEG = 0.76

ALL LEGS = 0.92

Lt Thru Rt

1st	12	56	4
2nd	17	62	2
3rd	20	46	1
4th	15	38	3
Total	64	202	10

TOTAL: 276

SOUTH LEG

HOURLY TOTAL: 1,150

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: JACKSON  
 EAST-WEST STREET: 52nd  
 JURISDICTION: LA QUINTA

DATE: 06-14-05

PEAK HOUR: 07:00AM

NORTH LEG

TOTAL: 311

122	150	39
68	47	5
38	34	4
13	36	15
3	33	15

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 305

Rt	8	14	20	12	54
Thru	86	64	62	35	247
Lt	0	3	0	1	4

Total 1st 2nd 3rd 4th

78	15	30	28	5
215	63	53	51	48
45	12	20	10	3

Lt

Thru

Rt

1st 2nd 3rd 4th Total

WEST LEG TOTAL: 338

PEAK HOUR FACTORS

NORTH LEG = 0.65

SOUTH LEG = 0.82

EAST LEG = 0.81

WEST LEG = 0.82

ALL LEGS = 0.87

Lt Thru Rt

1st	6	22	1
2nd	15	45	3
3rd	3	52	3
4th	1	54	1
Total	25	173	8

TOTAL: 206

SOUTH LEG

HOOR TOTAL: 1,160

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: JACKSON  
 EAST-WEST STREET: 52nd  
 JURISDICTION: LA QUINTA

DATE: 06-14-05

PEAK HOUR: 04:00PM

NORTH LEG

TOTAL: 228

34	131	63
6	33	16
9	35	16
9	31	16
10	32	15

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 198

Rt	17	19	13	14	63
Thru	36	31	31	30	128
Lt	2	3	2	0	7

Total 1st 2nd 3rd 4th

17	3	4	6	4
173	44	43	39	47
9	3	2	2	2

Lt

Thru

Rt

1st 2nd 3rd 4th Total

WEST LEG TOTAL: 199

PEAK HOUR FACTORS

NORTH LEG = 0.95  
 SOUTH LEG = 0.90  
 EAST LEG = 0.90  
 WEST LEG = 0.94

ALL LEGS = 0.98

Lt Thru Rt

1st	2	47	0
2nd	3	45	1
3rd	3	50	3
4th	3	43	2
Total	11	185	6

TOTAL: 202

SOUTH LEG

HOUR TOTAL: 827

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: JACKSON  
 EAST-WEST STREET: 53rd  
 JURISDICTION: LA QUINTA

DATE: 06-14-05

PEAK HOUR: 07:15AM

NORTH LEG

TOTAL: 190

1	188	1
0	59	0
0	45	0
0	35	0
1	49	1

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 5

Rt	2	0	0	1	3
Thru	1	0	0	1	2
Lt	0	0	0	0	

Total 1st 2nd 3rd 4th

1	1	0	0	0
4	0	0	3	1
1	1	0	0	0

Lt

Thru

Rt

1st 2nd 3rd 4th Total

WEST LEG TOTAL: 6

PEAK HOUR FACTORS

NORTH LEG = 0.81

SOUTH LEG = 0.91

EAST LEG = 0.42

WEST LEG = 0.50

ALL LEGS = 0.84

Lt Thru Rt

1st	2	58	0
2nd	2	57	0
3rd	0	52	0
4th	0	46	1
Total	4	213	1

TOTAL: 218

SOUTH LEG

HOURLY TOTAL: 419

Prepared by NEWPORT TRAFFIC STUDIES



INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: JACKSON

EAST-WEST STREET: 53rd

JURISDICTION: LA QUINTA

DATE: 06-14-05

PEAK HOUR: 04:00PM

NORTH LEG

TOTAL: 148

1	147	
0	37	0
0	40	0
1	33	0
0	37	0

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 4

Rt	0	0	0	0	
Thru	0	0	2	0	2
Lt	0	1	0	1	2

Total 1st 2nd 3rd 4th

2	1	1	0	0
3	0	1	1	1
3	1	0	2	0

Lt

Thru

Rt

1st 2nd 3rd 4th Total

WEST LEG TOTAL: 8

PEAK HOUR FACTORS

NORTH LEG = 0.93

SOUTH LEG = 0.96

EAST LEG = 0.50

WEST LEG = 0.67

ALL LEGS = 0.95

Lt Thru Rt

1st	2	47	0
2nd	3	50	0
3rd	0	52	0
4th	0	49	0
Total	5	198	

TOTAL: 203

SOUTH LEG

HOOR TOTAL: 363

Prepared by NEWPORT TRAFFIC STUDIES

TR 33559 and 33697  
Existing Conditions  
Peak Hour

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

\*\*\*\*\*  
Intersection #32 Monroe St. (NS) / Hwy. 111 (EW)  
\*\*\*\*\*

Cycle (sec): 90 Critical Vol./Cap. (X): 0.741  
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 34.3  
Optimal Cycle: 90 Level Of Service: C  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	29	29	10	29	29	10	25	25	10	25	25
Lanes:	1	0	1	1	0	1	1	0	2	0	2	0

Volume Module:

Base Vol:	155	424	109	138	477	174	149	646	71	233	802	128
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	155	424	109	138	477	174	149	646	71	233	802	128
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	163	446	115	145	502	183	157	680	75	245	844	135
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	163	446	115	145	502	183	157	680	75	245	844	135
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	163	446	115	145	502	183	157	680	75	245	844	135

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.92	0.92	0.95	0.91	0.91	0.95	0.95	0.85	0.92	0.95	0.85
Lanes:	1.00	1.59	0.41	1.00	1.47	0.53	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1805	2783	715	1805	2539	926	1805	3610	1615	3502	3610	1615

Capacity Analysis Module:

Vol/Sat:	0.09	0.16	0.16	0.08	0.20	0.20	0.09	0.19	0.05	0.07	0.23	0.08
Crit Moves:	****				****		****				****	
Green/Cycle:	0.11	0.32	0.32	0.11	0.32	0.32	0.11	0.28	0.28	0.11	0.28	0.28
Volume/Cap:	0.81	0.50	0.50	0.72	0.61	0.61	0.78	0.68	0.17	0.63	0.84	0.30
Delay/Veh:	60.9	25.0	25.0	51.0	26.8	26.8	56.8	30.8	24.8	41.5	37.2	26.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.9	25.0	25.0	51.0	26.8	26.8	56.8	30.8	24.8	41.5	37.2	26.0
HCM2kAvg:	7	7	7	6	9	9	7	9	2	5	14	3

TR 33559 and 33697  
Existing Conditions  
Peak Hour

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

\*\*\*\*\*  
Intersection #1 Monroe St. (NS) / Ave. 48 (EW)  
\*\*\*\*\*

Cycle (sec): 95 Critical Vol./Cap. (X): 0.478  
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 30.0  
Optimal Cycle: 95 Level Of Service: C  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	26	26	10	26	26	10	29	29	10	29	29
Lanes:	1	0	1	1	0	1	1	0	1	1	0	1

Volume Module:

Base Vol:	47	165	55	33	160	157	168	274	29	63	269	159
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	47	165	55	33	160	157	168	274	29	63	269	159
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	55	192	64	38	186	183	195	319	34	73	313	185
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	55	192	64	38	186	183	195	319	34	73	313	185
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	55	192	64	38	186	183	195	319	34	73	313	185

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	0.95	0.95	0.85	0.95	0.94	0.94	0.95	0.90	0.90
Lanes:	1.00	1.50	0.50	1.00	2.00	1.00	1.00	1.81	0.19	1.00	1.26	0.74
Final Sat.:	1805	2607	869	1805	3610	1615	1805	3219	341	1805	2142	1266

Capacity Analysis Module:

Vol/Sat:	0.03	0.07	0.07	0.02	0.05	0.11	0.11	0.10	0.10	0.04	0.15	0.15
Crit Moves:	****			****			****			****		
Green/Cycle:	0.11	0.27	0.27	0.11	0.27	0.27	0.15	0.34	0.34	0.12	0.31	0.31
Volume/Cap:	0.29	0.27	0.27	0.20	0.19	0.41	0.73	0.29	0.29	0.35	0.48	0.48
Delay/Veh:	40.1	27.2	27.2	39.4	26.5	28.9	48.9	23.3	23.3	39.7	27.2	27.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.1	27.2	27.2	39.4	26.5	28.9	48.9	23.3	23.3	39.7	27.2	27.2
HCM2kAvg:	2	3	3	1	2	5	7	4	4	2	6	6

\*\*\*\*\*

C5

TR 33559 and 33697  
Existing Conditions  
Peak Hour

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

\*\*\*\*\*  
Intersection #1 Monroe St. (NS) / Ave. 48 (EW)  
\*\*\*\*\*

Cycle (sec): 95 Critical Vol./Cap. (X): 0.509  
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 29.5  
Optimal Cycle: 95 Level Of Service: C  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	26	26	10	26	26	10	29	29	10	29	29
Lanes:	1	0	1	1	0	1	1	0	1	1	0	1

Volume Module:

Base Vol:	37	246	16	72	236	251	161	305	73	55	319	179
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	37	246	16	72	236	251	161	305	73	55	319	179
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	38	254	16	74	243	259	166	314	75	57	329	185
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	254	16	74	243	259	166	314	75	57	329	185
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	38	254	16	74	243	259	166	314	75	57	329	185

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	0.92	0.92	0.95	0.90	0.90
Lanes:	1.00	1.88	0.12	1.00	2.00	1.00	1.00	1.61	0.39	1.00	1.28	0.72
Final Sat.:	1805	3359	218	1805	3610	1615	1805	2828	677	1805	2188	1228

Capacity Analysis Module:

Vol/Sat:	0.02	0.08	0.08	0.04	0.07	0.16	0.09	0.11	0.11	0.03	0.15	0.15
Crit Moves:	****					****	****				****	
Green/Cycle:	0.11	0.27	0.27	0.11	0.27	0.27	0.15	0.34	0.34	0.12	0.31	0.31
Volume/Cap:	0.20	0.28	0.28	0.39	0.25	0.59	0.62	0.33	0.33	0.27	0.49	0.49
Delay/Veh:	39.4	27.3	27.3	41.0	27.0	31.9	42.6	23.7	23.7	39.0	27.4	27.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.4	27.3	27.3	41.0	27.0	31.9	42.6	23.7	23.7	39.0	27.4	27.4
HCM2kAvg:	1	3	3	3	3	7	6	4	4	2	6	6

\*\*\*\*\*

CG

TR 33559 and 33697  
Existing Conditions  
Peak Hour

Level of Service Computation Report  
2000 HCM 4-Way Stop Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #2 Monroe St. (NS) / Ave. 50 (EW)  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.825  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 21.8  
Optimal Cycle: 0 Level Of Service: C  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	0	1	0	1	0

Volume Module:

Base Vol:	50	154	18	51	145	33	54	221	52	16	365	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	50	154	18	51	145	33	54	221	52	16	365	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	54	167	20	55	158	36	59	240	57	17	397	82
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	167	20	55	158	36	59	240	57	17	397	82
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	54	167	20	55	158	36	59	240	57	17	397	82

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.23	0.69	0.08	1.00	0.81	0.19	1.00	0.81	0.19	1.00	1.00	1.00
Final Sat.:	100	308	36	414	366	83	448	398	94	445	481	524

Capacity Analysis Module:

Vol/Sat:	0.54	0.54	0.54	0.13	0.43	0.43	0.13	0.60	0.60	0.04	0.82	0.16
Crit Moves:	****			****			****			****		
Delay/Veh:	18.4	18.4	18.4	12.0	15.1	15.1	11.5	19.0	19.0	10.9	34.8	10.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.4	18.4	18.4	12.0	15.1	15.1	11.5	19.0	19.0	10.9	34.8	10.6
LOS by Move:	C	C	C	B	C	C	B	C	C	B	D	B
ApproachDel:	18.4			14.4			17.7			30.0		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	18.4			14.4			17.7			30.0		
LOS by Appr:	C			B			C			D		

\*\*\*\*\*

CT

TR 33559 and 33697  
Existing Conditions  
Peak Hour

Level Of Service Computation Report  
2000 HCM 4-Way Stop Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #2 Monroe St. (NS) / Ave. 50 (EW)  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.838  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 23.9  
Optimal Cycle: 0 Level Of Service: C  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	0	1	0	1	0

Volume Module:

Base Vol:	30	195	23	88	125	14	49	305	37	14	237	89
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	30	195	23	88	125	14	49	305	37	14	237	89
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	36	232	27	105	149	17	58	363	44	17	282	106
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	232	27	105	149	17	58	363	44	17	282	106
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	36	232	27	105	149	17	58	363	44	17	282	106

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.12	0.79	0.09	1.00	0.90	0.10	1.00	0.89	0.11	1.00	1.00	1.00
Final Sat.:	53	346	41	399	384	43	445	433	53	404	433	470

Capacity Analysis Module:

Vol/Sat:	0.67	0.67	0.67	0.26	0.39	0.39	0.13	0.84	0.84	0.04	0.65	0.23
Crit Moves:	****			****			****			****		
Delay/Veh:	23.9	23.9	23.9	13.9	15.0	15.0	11.7	35.7	35.7	11.6	23.6	12.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.9	23.9	23.9	13.9	15.0	15.0	11.7	35.7	35.7	11.6	23.6	12.1
LOS by Move:	C	C	C	B	B	B	B	E	E	B	C	B
ApproachDel:	23.9			14.6			32.7			20.1		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	23.9			14.6			32.7			20.1		
LOS by Appr:	C			B			D			C		

\*\*\*\*\*

TR 33559 and 33697  
Existing Conditions  
Peak Hour

Level Of Service Computation Report  
2000 HCM 4-Way Stop Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #3 Monroe St. (NS) / Ave. 52 (EW)  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.446  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 11.4  
Optimal Cycle: 0 Level Of Service: B  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	0	1	0	0	1

Volume Module:

Base Vol:	33	84	14	67	152	35	32	146	32	14	157	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	33	84	14	67	152	35	32	146	32	14	157	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	37	93	16	74	169	39	36	162	36	16	174	63
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	93	16	74	169	39	36	162	36	16	174	63
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	37	93	16	74	169	39	36	162	36	16	174	63

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.25	0.64	0.11	0.26	0.60	0.14	0.15	0.70	0.15	0.06	0.69	0.25
Final Sat.:	147	375	63	167	379	87	96	436	96	39	441	160

Capacity Analysis Module:

Vol/Sat:	0.25	0.25	0.25	0.45	0.45	0.45	0.37	0.37	0.37	0.40	0.40	0.40
Crit Moves:	****			****			****			****		
Delay/Veh:	10.2	10.2	10.2	12.2	12.2	12.2	11.2	11.2	11.2	11.3	11.3	11.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.2	10.2	10.2	12.2	12.2	12.2	11.2	11.2	11.2	11.3	11.3	11.3
LOS by Move:	B	B	B	B	B	B	B	B	B	B	B	B
ApproachDel:	10.2			12.2			11.2			11.3		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	10.2			12.2			11.2			11.3		
LOS by Appr:	B			B			B			B		

TR 33559 and 33697  
Existing Conditions  
Peak Hour

Level Of Service Computation Report  
2000 HCM 4-Way Stop Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #3 Monroe St. (NS) / Ave. 52 (EW)  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.396  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 10.3  
Optimal Cycle: 0 Level Of Service: B  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	0	1	0	0	1

Volume Module:

Base Vol:	24	112	9	57	88	24	53	168	18	4	122	26
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	24	112	9	57	88	24	53	168	18	4	122	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	27	126	10	64	99	27	60	189	20	4	137	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	126	10	64	99	27	60	189	20	4	137	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	27	126	10	64	99	27	60	189	20	4	137	29

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.17	0.77	0.06	0.34	0.52	0.14	0.22	0.70	0.08	0.03	0.80	0.17
Final Sat.:	105	489	39	217	335	91	150	476	51	17	530	113

Capacity Analysis Module:

Vol/Sat:	0.26	0.26	0.26	0.30	0.30	0.30	0.40	0.40	0.40	0.26	0.26	0.26
Crit Moves:	****			****			****			****		
Delay/Veh:	9.9	9.9	9.9	10.2	10.2	10.2	11.0	11.0	11.0	9.7	9.7	9.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.9	9.9	9.9	10.2	10.2	10.2	11.0	11.0	11.0	9.7	9.7	9.7
LOS by Move:	A	A	A	B	B	B	B	B	B	A	A	A
ApproachDel:	9.9			10.2			11.0			9.7		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	9.9			10.2			11.0			9.7		
LOS by Appr:	A			B			B			A		



TR 33559 and 33697  
Existing Conditions  
Peak Hour

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

\*\*\*\*\*  
Intersection #4 Monroe St. (NS) / Ave. 53 (EW)  
\*\*\*\*\*

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: B[ 11.7]  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	1	0	0	0	1	0	1	0	0	0	1

Volume Module:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	4	139	0	11	192	1	2	3	0	1	0	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	139	0	11	192	1	2	3	0	1	0	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	4	151	0	12	209	1	2	3	0	1	0	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	4	151	0	12	209	1	2	3	0	1	0	11

Critical Gap Module:	North Bound			South Bound			East Bound			West Bound		
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	xxxxxx	7.1	xxxx	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	xxxxxx	3.5	xxxx	3.3

Capacity Module:	North Bound			South Bound			East Bound			West Bound		
Cnflct Vol.:	210	xxxx	xxxxx	151	xxxx	xxxxx	398	393	xxxxxx	395	xxxx	151
Potent Cap.:	1373	xxxx	xxxxx	1442	xxxx	xxxxx	565	546	xxxxxx	569	xxxx	901
Move Cap.:	1373	xxxx	xxxxx	1442	xxxx	xxxxx	554	540	xxxxxx	561	xxxx	901
Volume/Cap:	0.00	xxxx	xxxx	0.01	xxxx	xxxx	0.00	0.01	xxxx	0.00	xxxx	0.01

Level of Service Module:	North Bound			South Bound			East Bound			West Bound		
Queue:	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.6	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	545	xxxx	xxxxx	xxxx	854	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	0.0	xxxxx
Shrd StpDel:	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.7	xxxx	xxxxx	xxxxx	9.3	xxxxx
Shared LOS:	A	*	*	*	*	*	B	*	*	*	A	*
ApproachDel:	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	11.7	xxxxxx	xxxxxx	9.3	xxxxxx	
ApproachLOS:	*	*	*	*	*	*	B	*	*	A	*	

TR 33559 and 33697  
Existing Conditions  
Peak Hour

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

\*\*\*\*\*  
Intersection #4 Monroe St. (NS) / Ave. 53 (EW)  
\*\*\*\*\*

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: B[ 11.2]  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	T	R	L	T	R	L	T	R	L	T	R						
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign								
Rights:	Include			Include			Include			Include								
Lanes:	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0

Volume Module:

Base Vol:	3	165	3	7	122	9	4	4	0	0	2	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	165	3	7	122	9	4	4	0	0	2	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	3	181	3	8	134	10	4	4	0	0	2	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	181	3	8	134	10	4	4	0	0	2	3

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	xxxxx	xxxxx	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	xxxxx	xxxxx	4.0	3.3

Capacity Module:

Cnflct Vol:	144	xxxx	xxxxx	185	xxxx	xxxxx	347	346	xxxxx	xxxx	349	183
Potent Cap.:	1451	xxxx	xxxxx	1402	xxxx	xxxxx	612	581	xxxxx	xxxx	578	865
Move Cap.:	1451	xxxx	xxxxx	1402	xxxx	xxxxx	604	576	xxxxx	xxxx	574	865
Volume/Cap:	0.00	xxxx	xxxx	0.01	xxxx	xxxx	0.01	0.01	xxxx	xxxx	0.00	0.00

Level of Service Module:

Queue:	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.5	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	590	xxxx	xxxxx	xxxx	xxxx	719
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	0.0
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.2	xxxx	xxxxx	xxxxx	xxxx	10.0
Shared LOS:	*	*	*	*	*	*	B	*	*	*	*	B
ApproachDel:	xxxxxxx			xxxxxxx			11.2			10.0		
ApproachLOS:	*			*			B			B		

TR 33559 and 33697  
Existing Conditions  
Peak Hour

Level of Service Computation Report  
2000 HCM 4-Way Stop Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #31 Jackson St. (NS) / Ave. 48 (EW)  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 1.014  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 49.0  
Optimal Cycle: 0 Level Of Service: E  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound					
	L	T	R	L	T	R	L	T	R	L	T	R			
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign					
Rights:	Include			Include			Include			Include					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0			
Lanes:	0	0	1	0	0	0	0	1	0	0	0	1	0	0	1

Volume Module:

Base Vol:	128	199	33	41	135	52	29	209	84	50	304	85
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	128	199	33	41	135	52	29	209	84	50	304	85
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
PHF Volume:	158	246	41	51	167	64	36	258	104	62	375	105
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	158	246	41	51	167	64	36	258	104	62	375	105
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	158	246	41	51	167	64	36	258	104	62	375	105

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.36	0.55	0.09	0.18	0.59	0.23	0.12	0.88	1.00	0.14	0.86	1.00
Final Sat.:	161	250	41	75	248	95	50	359	447	61	370	474

Capacity Analysis Module:

Vol/Sat:	0.98	0.98	0.98	0.67	0.67	0.67	0.72	0.72	0.23	1.01	1.01	0.22
Crit Moves:	****			****			****			****		
Delay/Veh:	66.2	66.2	66.2	26.6	26.6	26.6	30.0	30.0	13.0	76.0	76.0	12.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	66.2	66.2	66.2	26.6	26.6	26.6	30.0	30.0	13.0	76.0	76.0	12.4
LOS by Move:	F	F	F	D	D	D	D	D	B	F	F	B
ApproachDel:	66.2			26.6			25.6			63.7		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	66.2			26.6			25.6			63.7		
LOS by Appr:	F			D			D			F		

\*\*\*\*\*

C13

TR 33559 and 33697  
Existing Conditions  
Peak Hour

Level Of Service Computation Report  
2000 HCM 4-Way Stop Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #31 Jackson St. (NS) / Ave. 48 (EW)  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.864  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 29.9  
Optimal Cycle: 0 Level Of Service: D  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	1	0	0	1	0

Volume Module:

Base Vol:	93	169	30	59	218	43	44	323	163	26	300	63
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	93	169	30	59	218	43	44	323	163	26	300	63
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	98	178	32	62	229	45	46	340	172	27	316	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	178	32	62	229	45	46	340	172	27	316	66
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	98	178	32	62	229	45	46	340	172	27	316	66

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.32	0.58	0.10	0.18	0.69	0.13	0.12	0.88	1.00	0.08	0.92	1.00
Final Sat.:	137	249	44	82	302	59	54	394	492	34	398	474

Capacity Analysis Module:

Vol/Sat:	0.71	0.71	0.71	0.76	0.76	0.76	0.86	0.86	0.35	0.79	0.79	0.14
Crit Moves:	****			****			****			****		
Delay/Veh:	25.9	25.9	25.9	28.9	28.9	28.9	41.6	41.6	13.5	33.1	33.1	11.2
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.9	25.9	25.9	28.9	28.9	28.9	41.6	41.6	13.5	33.1	33.1	11.2
LOS by Move:	D	D	D	D	D	D	E	E	B	D	D	B
ApproachDel:	25.9			28.9			33.0			29.6		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	25.9			28.9			33.0			29.6		
LOS by Appr:	D			D			D			D		

TR 33559 and 33697  
Existing Conditions  
Peak Hour

Level of Service Computation Report  
2000 HCM 4-Way Stop Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #30 Jackson St. (NS) / Ave. 50 (EW)  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.707  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 19.6  
Optimal Cycle: 0 Level of Service: C  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	0	1	0	0	1

Volume Module:

Base Vol:	73	216	32	53	205	40	44	148	55	21	262	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	216	32	53	205	40	44	148	55	21	262	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	78	232	34	57	220	43	47	159	59	23	282	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	78	232	34	57	220	43	47	159	59	23	282	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	78	232	34	57	220	43	47	159	59	23	282	61

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.23	0.67	0.10	0.18	0.69	0.13	0.18	0.60	0.22	0.06	0.77	0.17
Final Sat.:	115	341	51	89	343	67	85	286	106	32	398	87

Capacity Analysis Module:

Vol/Sat:	0.68	0.68	0.68	0.64	0.64	0.64	0.56	0.56	0.56	0.71	0.71	0.71
Crit Moves:	****			****			****			****		
Delay/Veh:	20.6	20.6	20.6	19.0	19.0	19.0	16.4	16.4	16.4	21.6	21.6	21.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.6	20.6	20.6	19.0	19.0	19.0	16.4	16.4	16.4	21.6	21.6	21.6
LOS by Move:	C	C	C	C	C	C	C	C	C	C	C	C
ApproachDel:	20.6			19.0			16.4			21.6		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	20.6			19.0			16.4			21.6		
LOS by Appr:	C			C			C			C		

TR 33559 and 33697  
Existing Conditions  
Peak Hour

Level Of Service Computation Report  
2000 HCM 4-Way Stop Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #30 Jackson St. (NS) / Ave. 50 (EW)  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.726  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 18.2  
Optimal Cycle: 0 Level Of Service: C  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	0	1	0	0	1

Volume Module:

Base Vol:	64	202	10	76	239	55	40	185	53	21	152	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	64	202	10	76	239	55	40	185	53	21	152	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	70	220	11	83	260	60	43	201	58	23	165	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	70	220	11	83	260	60	43	201	58	23	165	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	70	220	11	83	260	60	43	201	58	23	165	58

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.23	0.73	0.04	0.20	0.65	0.15	0.14	0.67	0.19	0.09	0.68	0.23
Final Sat.:	119	376	19	114	358	82	73	340	97	45	329	115

Capacity Analysis Module:

Vol/Sat:	0.58	0.58	0.58	0.73	0.73	0.73	0.59	0.59	0.59	0.50	0.50	0.50
Crit Moves:	****			****			****			****		
Delay/Veh:	16.9	16.9	16.9	22.1	22.1	22.1	17.0	17.0	17.0	14.9	14.9	14.9
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.9	16.9	16.9	22.1	22.1	22.1	17.0	17.0	17.0	14.9	14.9	14.9
LOS by Move:	C	C	C	C	C	C	C	C	C	B	B	B
ApproachDel:	16.9			22.1			17.0			14.9		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	16.9			22.1			17.0			14.9		
LOS by Appr:	C			C			C			B		

C16

TR 33559 and 33697  
Existing Conditions  
Peak Hour

Level Of Service Computation Report  
2000 HCM 4-Way Stop Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #13 Jackson St. (NS) / Ave. 52 (EW)  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.752  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 20.5  
Optimal Cycle: 0 Level Of Service: C  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1 0	0	0	1 0	0	0	1 0	0	1	0 0

Volume Module:

Base Vol:	25	173	8	39	150	122	78	215	45	4	247	54
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	173	8	39	150	122	78	215	45	4	247	54
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	29	199	9	45	172	140	90	247	52	5	284	62
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	199	9	45	172	140	90	247	52	5	284	62
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	29	199	9	45	172	140	90	247	52	5	284	62

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.12	0.84	0.04	0.13	0.48	0.39	0.23	0.64	0.13	0.02	0.98	1.00
Final Sat.:	55	383	18	65	248	202	119	328	69	7	463	518

Capacity Analysis Module:

Vol/Sat:	0.52	0.52	0.52	0.69	0.69	0.69	0.75	0.75	0.75	0.61	0.61	0.12
Crit Moves:	****			****			****			****		
Delay/Veh:	16.1	16.1	16.1	21.2	21.2	21.2	25.1	25.1	25.1	19.3	19.3	10.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.1	16.1	16.1	21.2	21.2	21.2	25.1	25.1	25.1	19.3	19.3	10.0
LOS by Move:	C	C	C	C	C	C	D	D	D	C	C	B
ApproachDel:	16.1			21.2			25.1			17.7		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	16.1			21.2			25.1			17.7		
LOS by Appr:	C			C			D			C		

TR 33559 and 33697  
Existing Conditions  
Peak Hour

Level Of Service Computation Report  
2000 HCM 4-Way Stop Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #13 Jackson St. (NS) / Ave. 52 (EW)  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.359  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 10.5  
Optimal Cycle: 0 Level Of Service: B  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	0	1	0	1	0

Volume Module:

Base Vol:	11	185	6	63	131	34	17	173	9	7	128	63
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	185	6	63	131	34	17	173	9	7	128	63
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	11	189	6	64	134	35	17	177	9	7	131	64
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	189	6	64	134	35	17	177	9	7	131	64
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	11	189	6	64	134	35	17	177	9	7	131	64

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.05	0.92	0.03	0.28	0.57	0.15	0.09	0.87	0.04	0.05	0.95	1.00
Final Sat.:	35	584	19	179	372	97	53	541	28	30	542	646

Capacity Analysis Module:

Vol/Sat:	0.32	0.32	0.32	0.36	0.36	0.36	0.33	0.33	0.33	0.24	0.24	0.10
Crit Moves:	****			****			****			****		
Delay/Veh:	10.6	10.6	10.6	10.9	10.9	10.9	10.8	10.8	10.8	10.3	10.3	8.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.6	10.6	10.6	10.9	10.9	10.9	10.8	10.8	10.8	10.3	10.3	8.4
LOS by Move:	B	B	B	B	B	B	B	B	B	B	B	A
ApproachDel:	10.6			10.9			10.8			9.7		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	10.6			10.9			10.8			9.7		
LOS by Appr:	B			B			B			A		

\*\*\*\*\*



TR 33559 and 33697  
Existing Conditions  
Peak Hour

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

\*\*\*\*\*  
Intersection #14 Jackson St. (NS) / Ave. 53 (EW)  
\*\*\*\*\*

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: B[ 12.1]  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1	0	0	1	0	0	1	0	0	1

Volume Module:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	4	213	1	1	188	1	1	4	1	0	2	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	213	1	1	188	1	1	4	1	0	2	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	5	254	1	1	224	1	1	5	1	0	2	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	5	254	1	1	224	1	1	5	1	0	2	4

Critical Gap Module:	North Bound			South Bound			East Bound			West Bound		
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	xxxxx	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	4.0	3.3

Capacity Module:	North Bound			South Bound			East Bound			West Bound		
Cnflct Vol:	225	xxxx	xxxxx	255	xxxx	xxxxx	493	491	224	xxxx	491	254
Potent Cap.:	1356	xxxx	xxxxx	1322	xxxx	xxxxx	489	481	820	xxxx	481	789
Move Cap.:	1356	xxxx	xxxxx	1322	xxxx	xxxxx	484	479	820	xxxx	479	789
Volume/Cap:	0.00	xxxx	xxxx	0.00	xxxx	xxxx	0.00	0.01	0.00	xxxx	0.00	0.00

Level Of Service Module:	North Bound			South Bound			East Bound			West Bound		
Queue:	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.7	xxxx	xxxxx	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	516	xxxxx	xxxx	xxxx	627
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxx	0.0
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	12.1	xxxxx	xxxxx	xxxx	10.8
Shared LOS:	*	*	*	*	*	*	*	B	*	*	*	B
ApproachDel:	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	12.1			10.8		
ApproachLOS:	*	*	*	*	*	*	B			B		

TR 33559 and 33697  
Existing Conditions  
Peak Hour

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

\*\*\*\*\*  
Intersection #14 Jackson St. (NS) / Ave. 53 (EW)  
\*\*\*\*\*

Average Delay (sec/veh): 0.5 Worst Case Level Of Service: B[ 11.4]  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	1	0	0	0	0	1	0	0	0	1	0

Volume Module:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	5	198	0	0	147	1	2	3	3	2	2	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	198	0	0	147	1	2	3	3	2	2	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	5	208	0	0	155	1	2	3	3	2	2	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	5	208	0	0	155	1	2	3	3	2	2	0

Critical Gap Module:	North Bound			South Bound			East Bound			West Bound		
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	xxxxx

Capacity Module:	North Bound			South Bound			East Bound			West Bound		
Cnflict Vol:	156	xxxx	xxxxx	xxxxx	xxxx	xxxxx	375	374	155	377	375	xxxxx
Potent Cap.:	1437	xxxx	xxxxx	xxxxx	xxxx	xxxxx	586	560	896	584	559	xxxxx
Move Cap.:	1437	xxxx	xxxxx	xxxxx	xxxx	xxxxx	582	558	896	578	557	xxxxx
Volume/Cap:	0.00	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.00	0.01	0.00	0.00	0.00	xxxxx

Level Of Service Module:	North Bound			South Bound			East Bound			West Bound		
Queue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxx	658	xxxxx	567	xxxx	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	0.0	xxxx	xxxxx
Shrd StpDel:	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.5	xxxxx	11.4	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	B	*	B	*	*
ApproachDel:	xxxxxx			xxxxxx				10.5			11.4	
ApproachLOS:	*			*				B			B	

C20

**APPENDIX D**

**TRAFFIC SIGNAL WARRANTS**

# PEAK HOUR VOLUME WARRANT (RURAL AREA)



Traffic Conditions = Existing Condition (AM Peak)

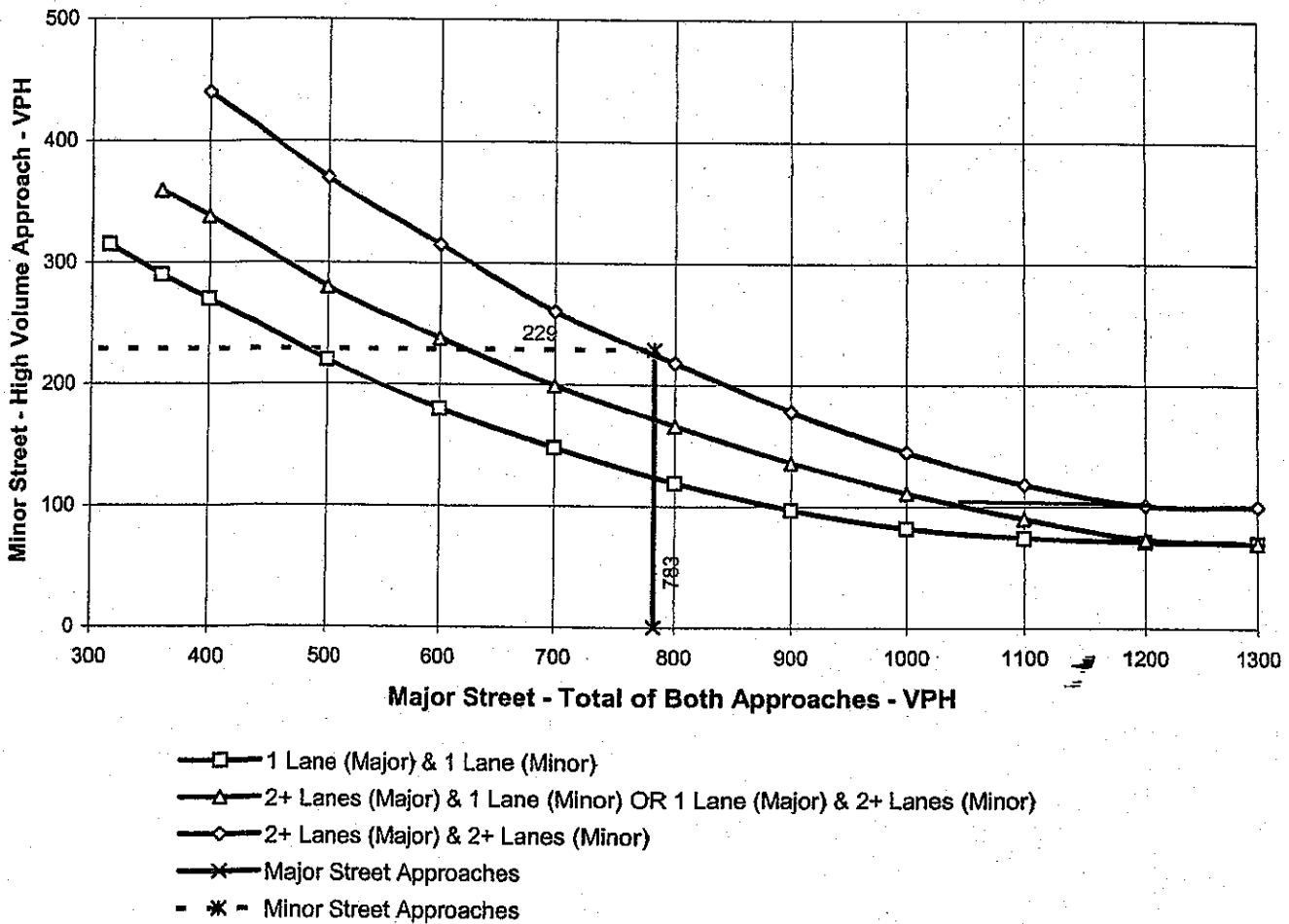
Major Street Name = Avenue 50

Total of Both Approaches (VPH) = 783  
Number of Approach Lanes Major Street = 1

Minor Street Name = Monroe

High Volume Approach (VPH) = 229  
Number of Approach Lanes Minor Street = 1

**WARRANTED FOR A SIGNAL**



**\*\* NOTE:**

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

# PEAK HOUR VOLUME WARRANT (RURAL AREA)



Traffic Conditions = Existing Condition (AM Peak)

Major Street Name = Avenue 52

Total of Both Approaches (VPH) = 438

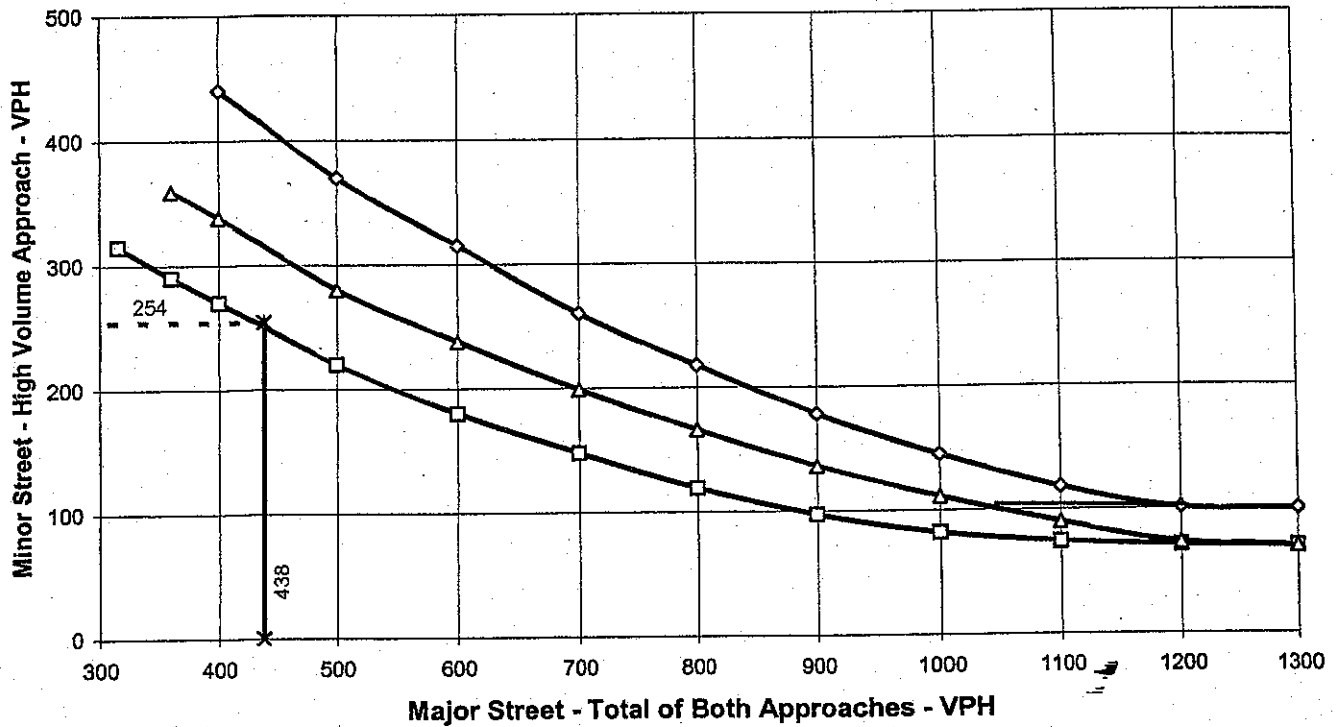
Number of Approach Lanes Major Street = 1

Minor Street Name = Monroe

High Volume Approach (VPH) = 254

Number of Approach Lanes Minor Street = 1

## WARRANTED FOR A SIGNAL



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- ×— Major Street Approaches
- \* - Minor Street Approaches

**\*\* NOTE:**

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

# PEAK HOUR VOLUME WARRANT (RURAL AREA)



Traffic Conditions = Existing Condition (AM Peak)

Major Street Name = Avenue 48

Total of Both Approaches (VPH) = 761

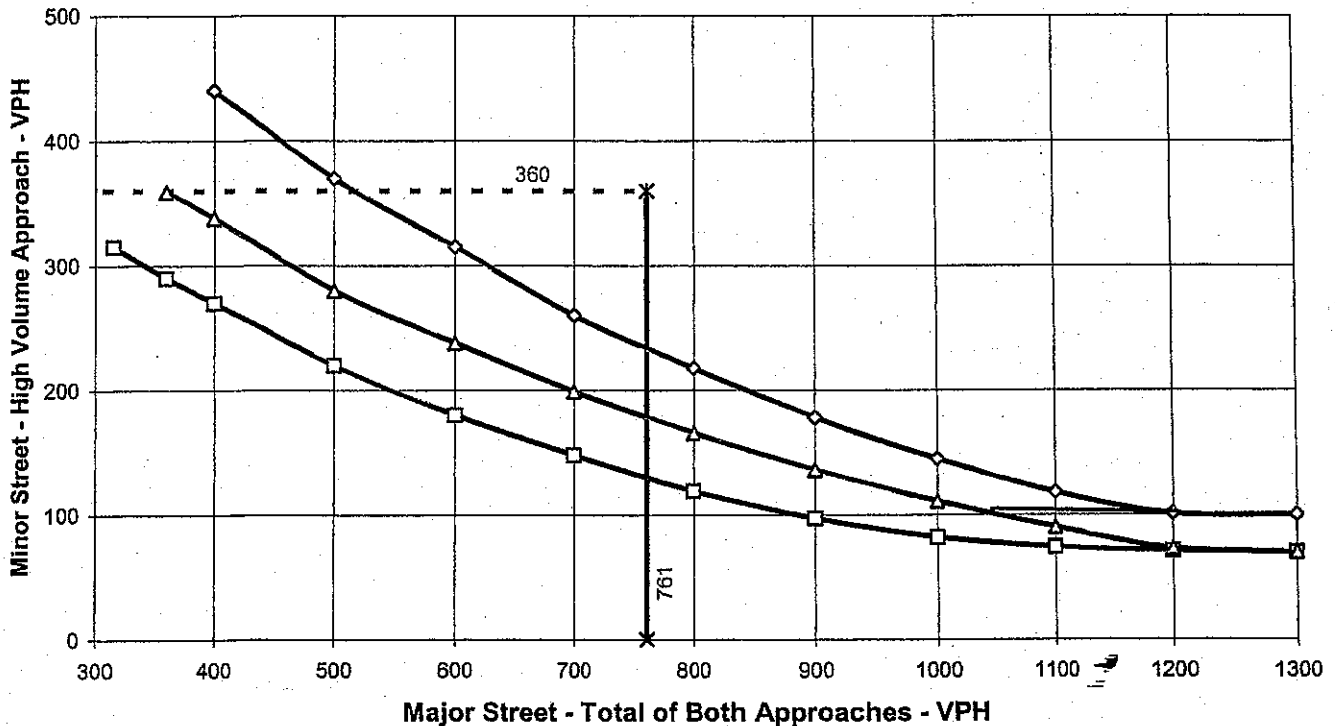
Number of Approach Lanes Major Street = 1

Minor Street Name = Jackson

High Volume Approach (VPH) = 360

Number of Approach Lanes Minor Street = 1

## WARRANTED FOR A SIGNAL



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- ×— Major Street Approaches
- \* - Minor Street Approaches

**\*\* NOTE:**

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

# PEAK HOUR VOLUME WARRANT (RURAL AREA)



Traffic Conditions = Existing Condition (AM Peak)

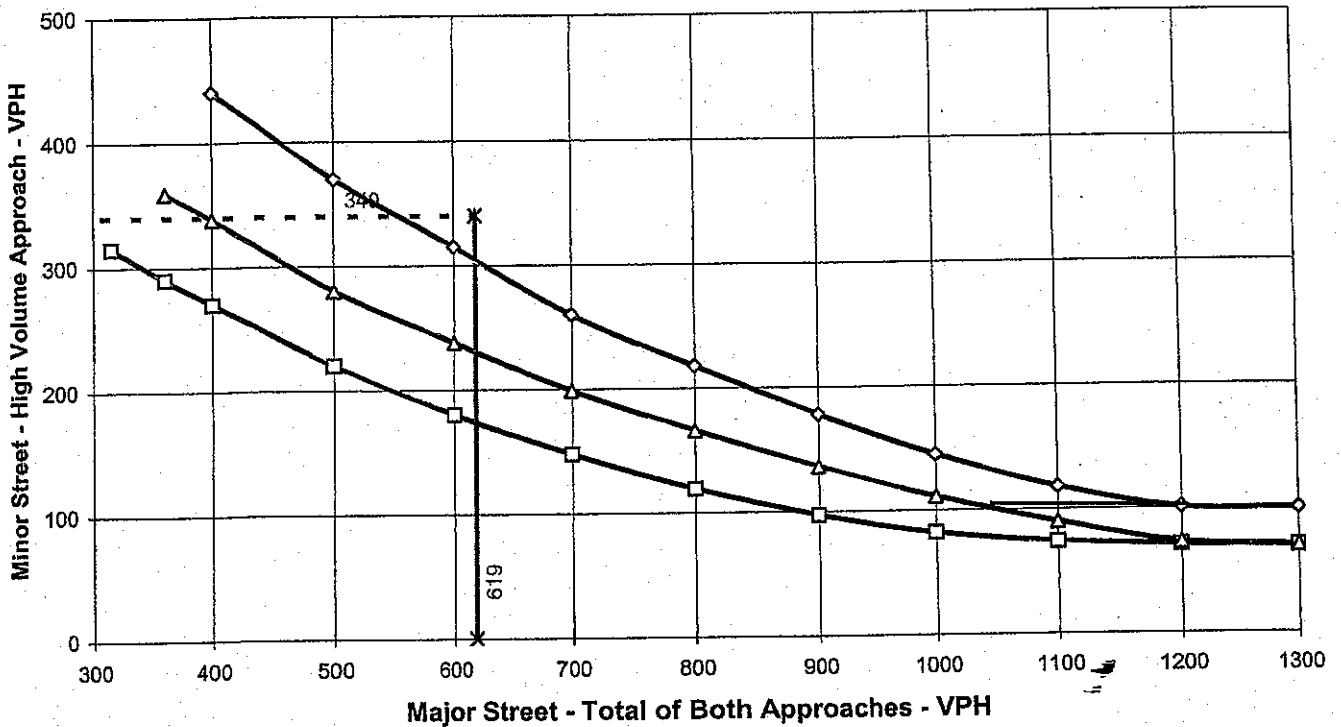
Major Street Name = Jackson

Total of Both Approaches (VPH) = 619  
Number of Approach Lanes Major Street = 1

Minor Street Name = Ave. 50

High Volume Approach (VPH) = 340  
Number of Approach Lanes Minor Street = 1

## WARRANTED FOR A SIGNAL



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- ×— Major Street Approaches
- \* - Minor Street Approaches

**\*\* NOTE:**

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

# PEAK HOUR VOLUME WARRANT (RURAL AREA)



Traffic Conditions = Existing Condition (AM Peak)

Major Street Name = Avenue 52

Total of Both Approaches (VPH) = 643

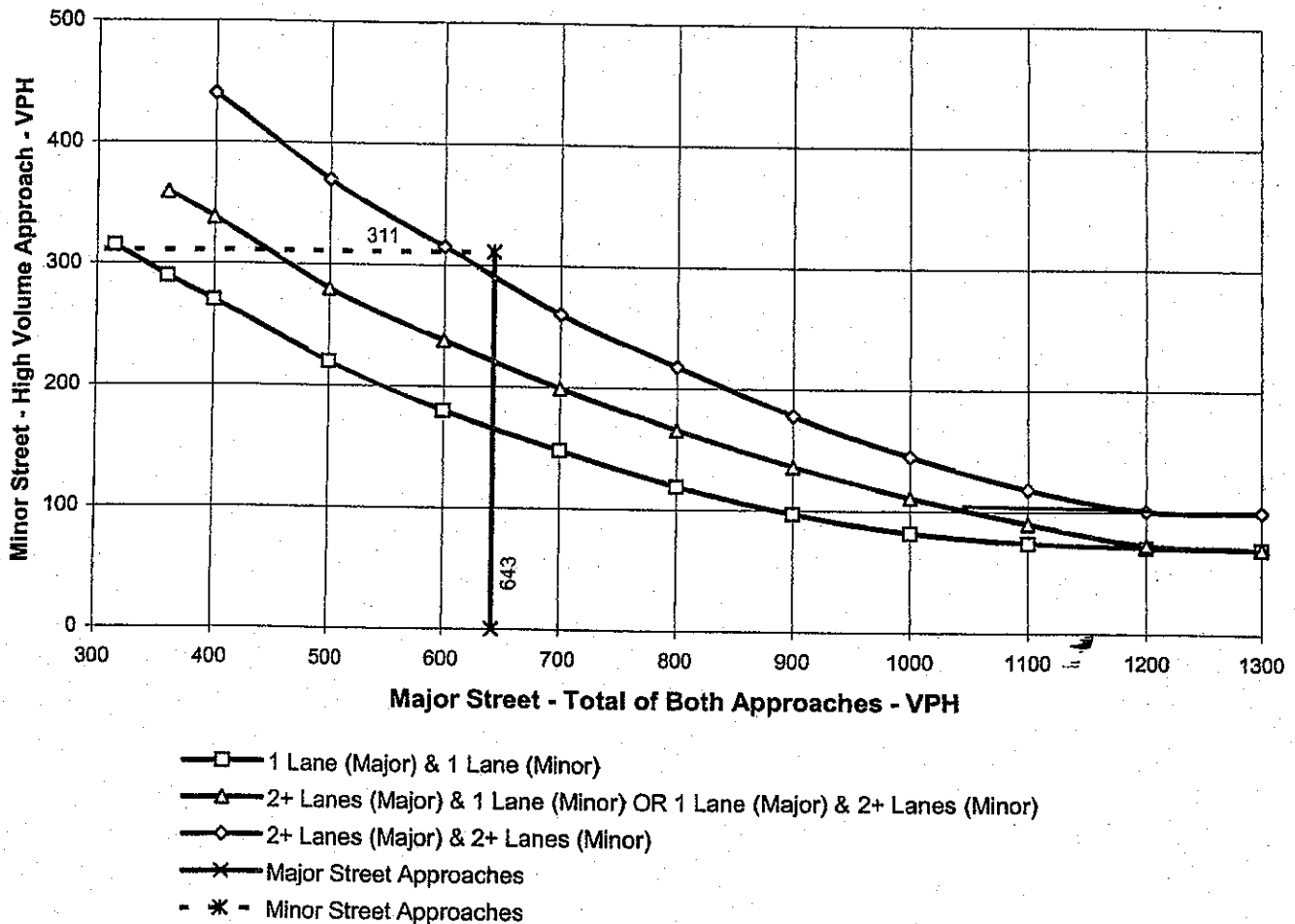
Number of Approach Lanes Major Street = 1

Minor Street Name = Jackson

High Volume Approach (VPH) = 311

Number of Approach Lanes Minor Street = 1

**WARRANTED FOR A SIGNAL**



**\*\* NOTE:**

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



1  
CASENAME =TR31278  
STATUS =ACTIVE  
CASETYPE =MAJ TR03 SFR NOT R2/R4/R6 SEWERED  
DESCR =DIVIDE 19 ACRES INTO 64 RESIDENTIAL LOTS  
APPLDATE =03/10/2003  
APPRDATE = / 0/  
EXPRDATE = / 0/

2  
CASENAME =TR32861  
STATUS =ACTIVE  
CASETYPE =MAJ TR03 SFR NOT R2/R4/R6 SEWERED  
DESCR =DIVIDE 77.60 AC INTO 203 RES LOTS- SCHEDULE "A"  
APPLDATE =08/09/2004  
APPRDATE = / 0/  
EXPRDATE = / 0/

3  
CASENAME =TR33045  
STATUS =ACTIVE  
CASETYPE =MAJ TR03 SFR NOT R2/R4/R6 SEWERED  
DESCR =DIVIDE 65 ACRES INTO 97 RESIDENTIAL LOTS  
APPLDATE =12/30/2004  
APPRDATE = / 0/  
EXPRDATE = / 0/

4  
CASENAME =TR23732  
STATUS =APPROVED  
CASETYPE =MAJ  
DESCR =DIVIDE 19.4 ACRES INTO 60 LOTS  
APPLDATE =06/06/1988  
APPRDATE =11/01/1988  
EXPRDATE =11/01/1995

5  
CASENAME =TR25145  
STATUS =APPROVED  
CASETYPE =MAJ  
DESCR =DIVIDE 20 ACRES INTO 71 LOTS  
APPLDATE =09/11/1989  
APPRDATE =04/03/1990  
EXPRDATE =04/03/2000

6  
CASENAME =TR25145M2  
STATUS =APPROVED  
CASETYPE =MAJ TR15 MINOR CHANGE  
DESCR =TRACT MAP MINOR CHANGE TO ADD RETENTION BASINS  
APPLDATE =02/11/1999  
APPRDATE =07/06/1999  
EXPRDATE =04/03/2000

7  
CASENAME =TR28185  
STATUS =APPROVED  
CASETYPE =MAJ TR03 SFR NOT R2/R4/R6 SEWERED  
DESCR =SUBDIVIDE 19.84 ACRES INTO 37 LOTS  
APPLDATE =09/13/1995  
APPRDATE =04/23/1996  
EXPRDATE =04/23/2004

8  
CASENAME =TR29423  
STATUS =APPROVED  
CASETYPE =MAJ TR04 SFR NOT R2/R4/R6 UNSEWERED

DESCR =DIVIDE 45 AC INTO 22 LOTS OF ABOUT 2 AC SIZE EA.  
APPLDATE =03/14/2000  
APPRDATE =01/09/2001  
EXPRDATE =01/09/2005

9

CASENAME =TR30399  
STATUS =APPROVED  
CASETYPE =MAJ TR03 SFR NOT R2/R4/R6 SEWERED  
DESCR =40 AC/77 LOTS, 1 WELL LOT, 1 RETENTION LOT SCH "A"  
APPLDATE =03/11/2002  
APPRDATE =04/15/2003  
EXPRDATE =04/15/2006

10

CASENAME =TR31279  
STATUS =APPROVED  
CASETYPE =MAJ TR03 SFR NOT R2/R4/R6 SEWERED  
DESCR =DIVIDE 19 ACRES INTO 60 RESIDENTIAL LOTS  
APPLDATE =03/10/2003  
APPRDATE =09/28/2004  
EXPRDATE =09/28/2007

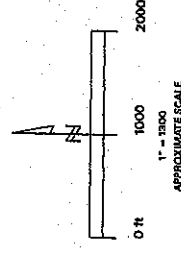
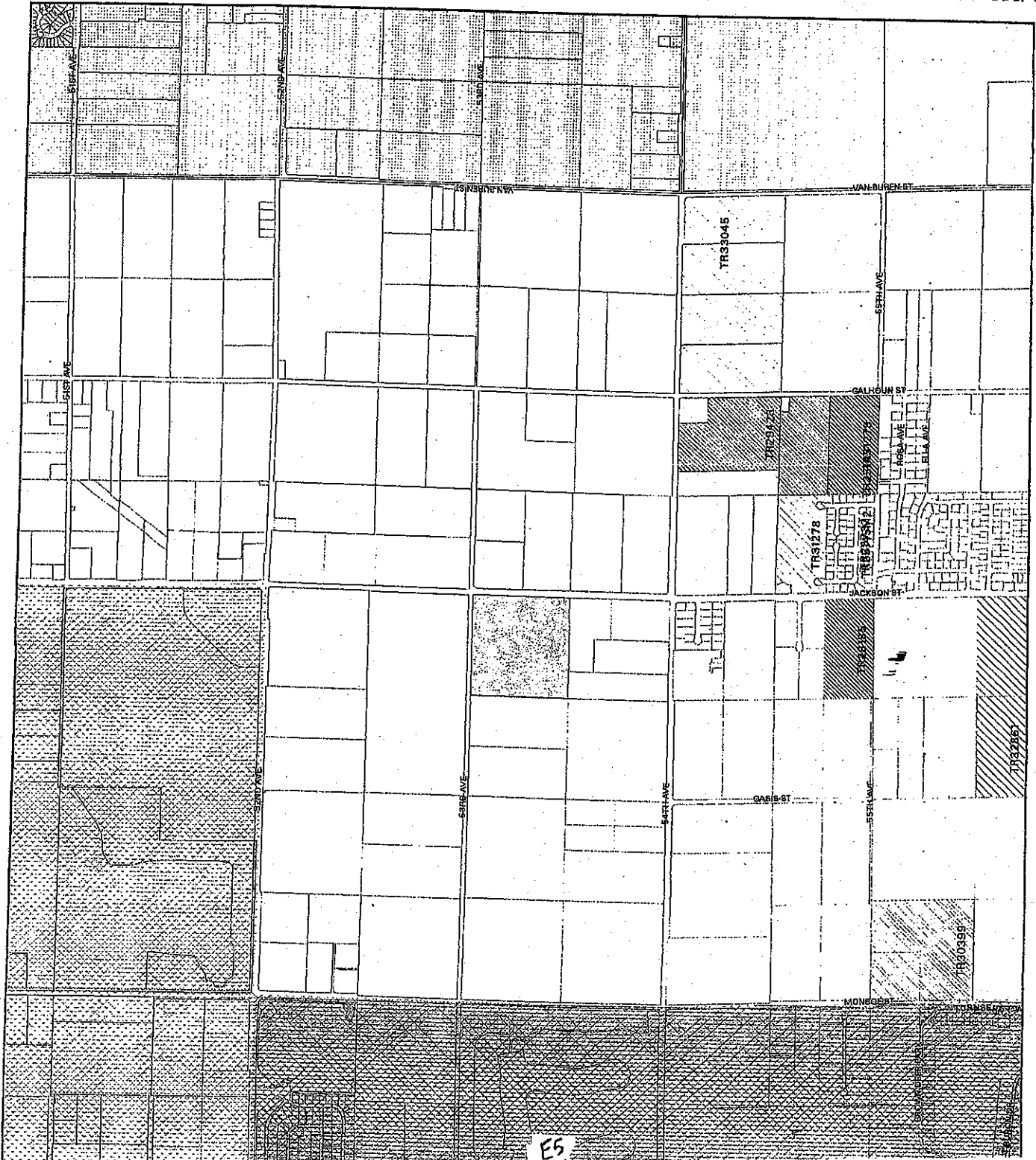
767230005 WITH A 1 MILE BUFFER

June 08, 2005

- COACHELLA
- INDIO
- LA QUINTA
- 767230005

- ACTIVE
- TR31278
- TR32861
- TR33045

- APPROVED
- TR23732
- TR25145
- TR25145M2
- TR28185
- TR29423
- TR30399
- TR31279



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E5

1








CASENAME =CUP03290  
STATUS =APPROVED  
CASETYPE =MAJ CUP1 GENERAL CONDITIONAL USE PERMIT  
DESCR =CONDITIONAL USE PERMIT FOR THE CONSTRUCTION OF A  
APPLDATE =05/03/1999  
APPRDATE =10/26/1999  
EXPRDATE = / 0/

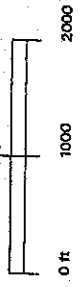
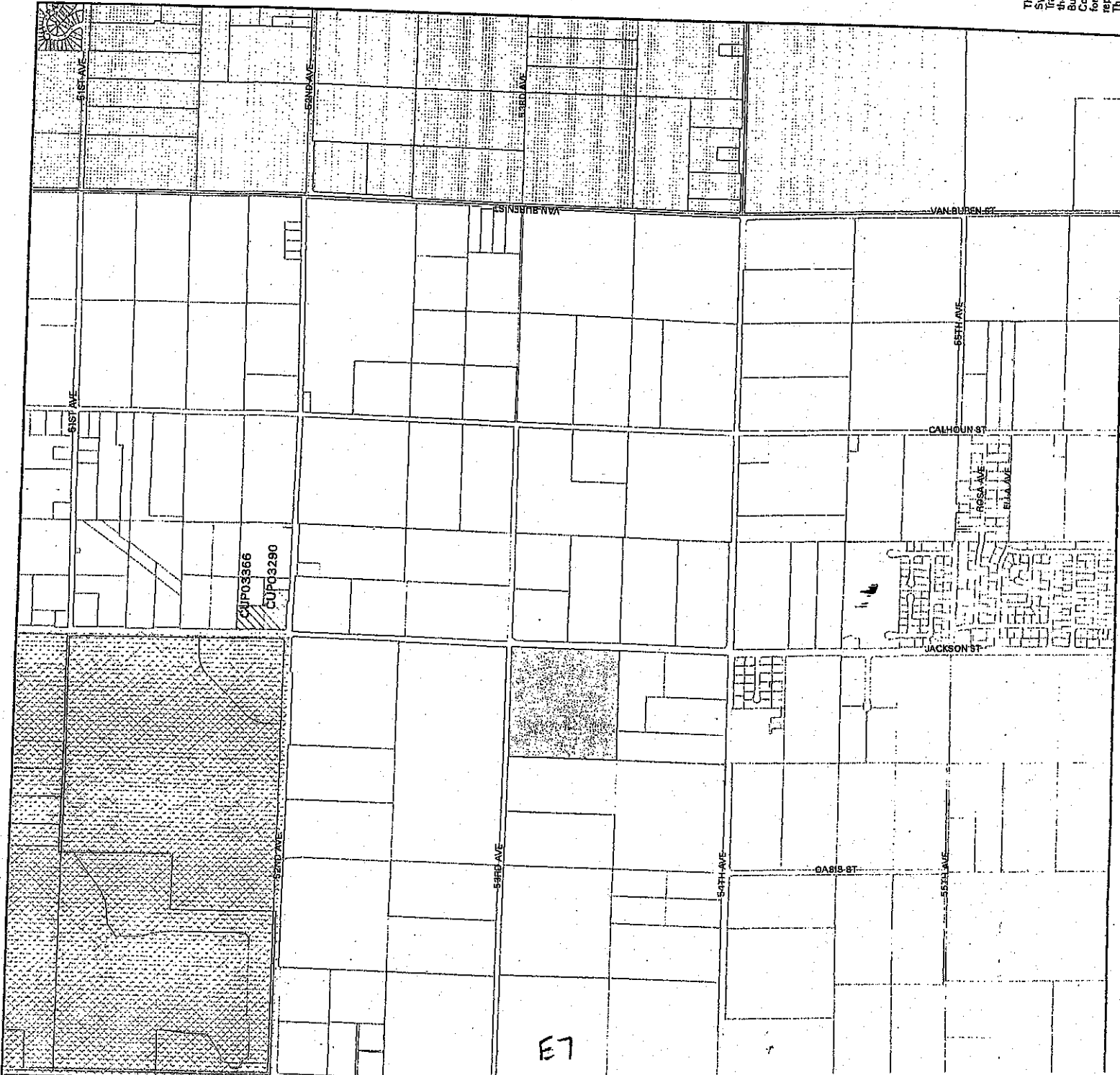
2

CASENAME =CUP03366  
STATUS =APPROVED  
CASETYPE =MAJ CUP1 GENERAL CONDITIONAL USE PERMIT  
DESCR =KENNEL LICENSE/ SHORT TERM ANIMAL CARE FACILITY  
APPLDATE =03/12/2002  
APPRDATE =10/08/2002  
EXPRDATE =10/08/2004

# 767230005 WITH A 1 MILE BUFFER

June 08, 2005

-  COACHELLA
-  INDIO
-  LA QUINTA
-  767230005
-  APPROVED
-  CUP03290
-  CUP03366



1" = 1200'  
APPROXIMATE SCALE

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1  
CASENAME =PP18586  
STATUS =ACTIVE  
CASETYPE =MAJ  
DESCR =414 SQ FOOT COOKING SCHOOL "POLO FARM GOURMET"  
APPLDATE =04/22/2003  
APPRDATE = / 0/  
EXPRDATE = / 0/

2  
CASENAME =PP20019  
STATUS =ACTIVE  
CASETYPE =MAJ PP03 NOT EXEMPT FROM CEQA  
DESCR =PP FOR DISGUISED WIRELESS FAC. ON 17.75 AC IN A-1  
APPLDATE =11/30/2004  
APPRDATE = / 0/  
EXPRDATE = / 0/

3  
CASENAME =PP17651  
STATUS =APPROVED  
CASETYPE =MAJ PP03 NOT EXEMPT FROM CEQA  
DESCR =59' MONOPALM W/EQUIP ENC & FENCE - VERIZON  
APPLDATE =01/31/2002  
APPRDATE =08/05/2002  
EXPRDATE =08/05/2004

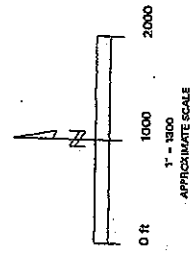
4  
CASENAME =PP17669  
STATUS =APPROVED  
CASETYPE =MAJ PP03 NOT EXEMPT FROM CEQA  
DESCR ="CHILDREN" CHURCH W/ACCESSORY CLASSRM & GYM BULDS.  
APPLDATE =02/11/2002  
APPRDATE =06/10/2002  
EXPRDATE =06/10/2004

767230005 WITH A 1 MILE BUFFER

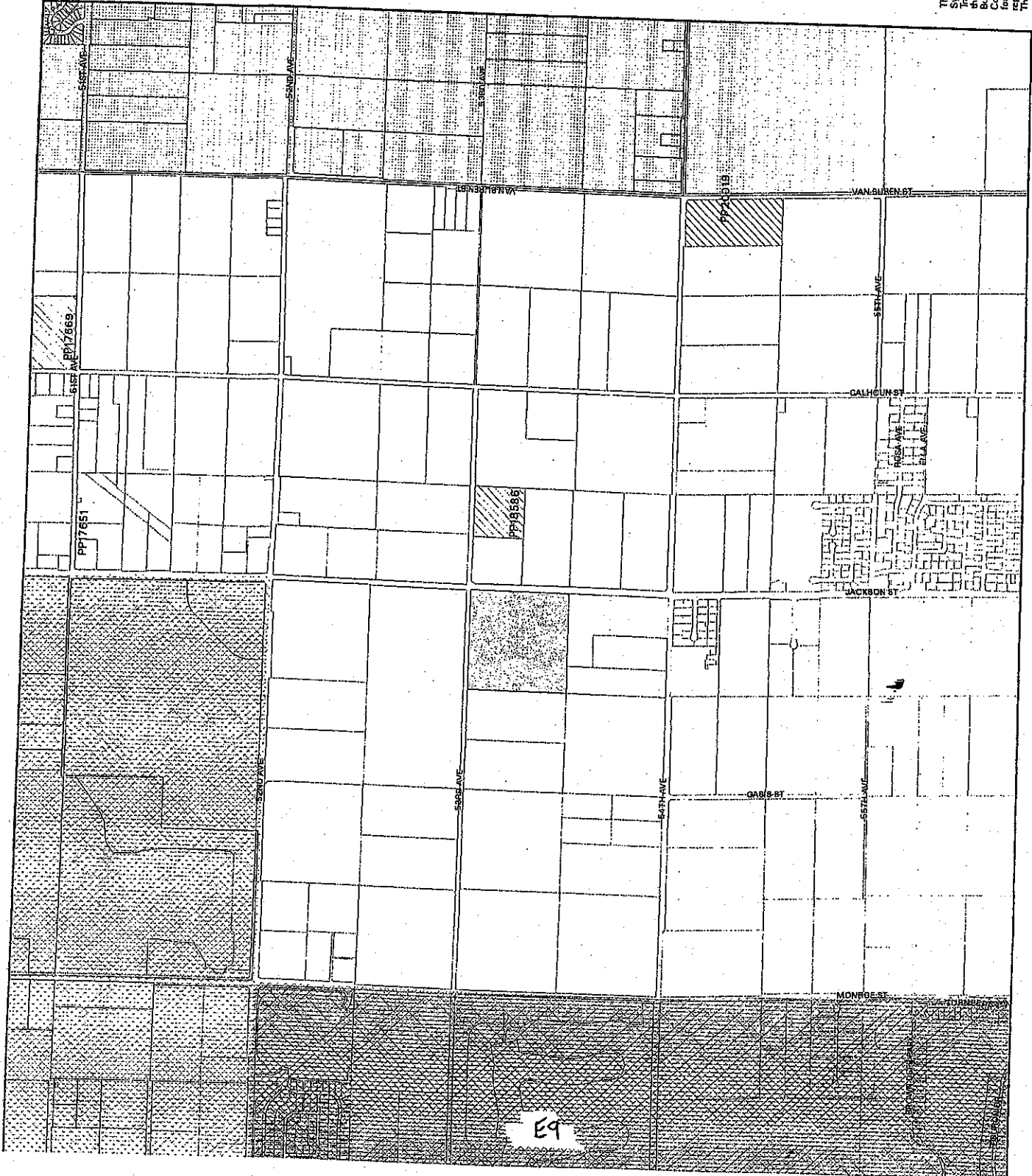
June 08, 2005

- COACHELLA
- INDIO
- LA QUINTA
- 767230005

- ACTIVE
- PP18586
- PP20019
- APPROVED
- PP17651
- PP17669



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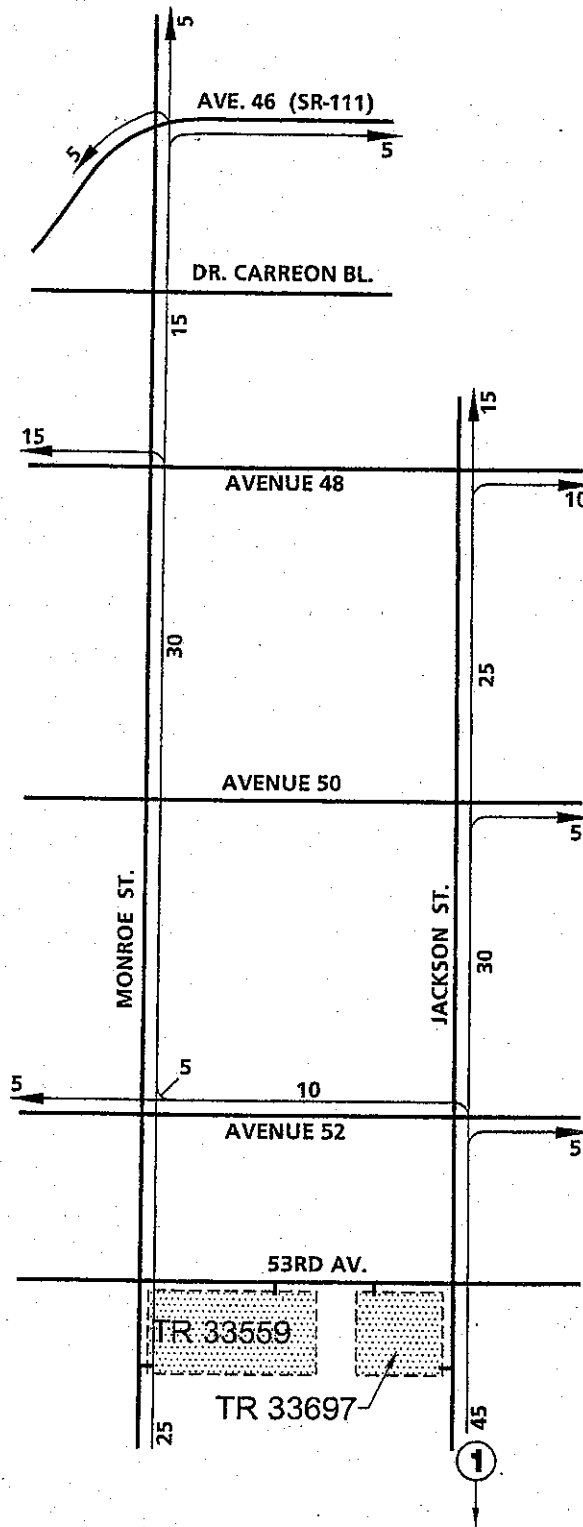
E9

**APPENDIX F**

**CUMULATIVE DEVELOPMENT TRIP DISTRIBUTIONS**



# TR 31278 TRIP DISTRIBUTION



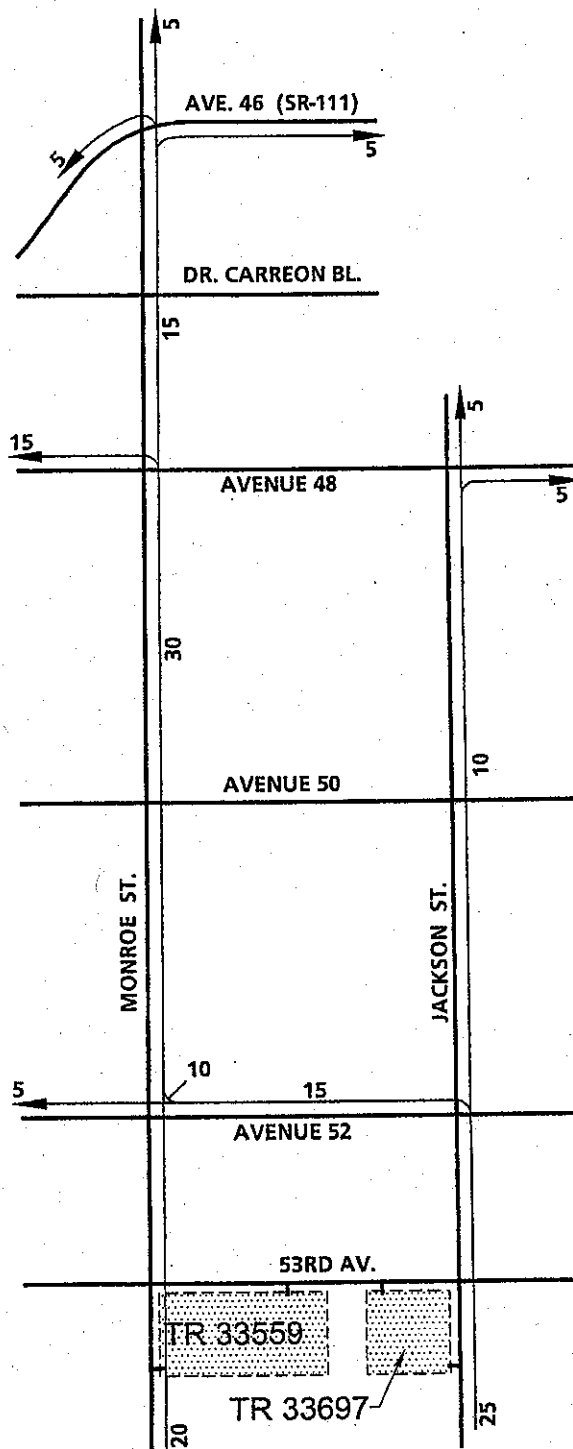
**LEGEND:**

10 = PERCENT TO/FROM PROJECT

① = TR 31278



# TR 33045 TRIP DISTRIBUTION



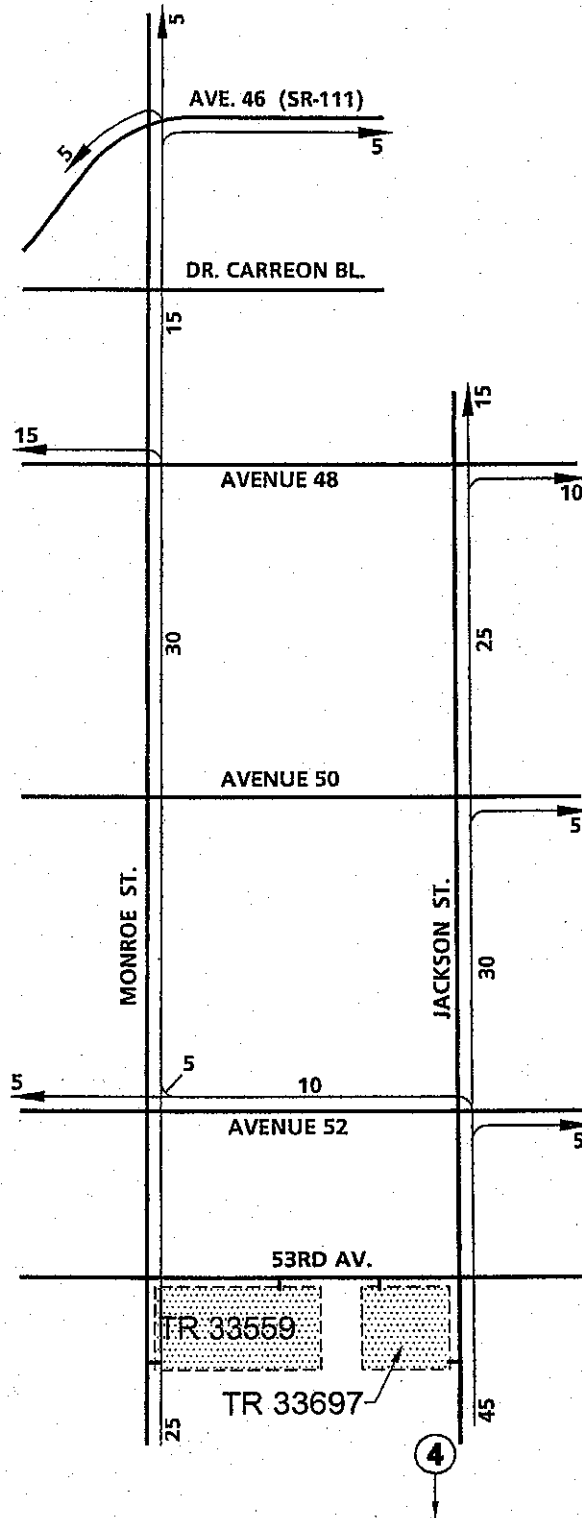
**LEGEND:**

10 = PERCENT TO/FROM PROJECT

③ = TR 33045



# TR 28185 TRIP DISTRIBUTION



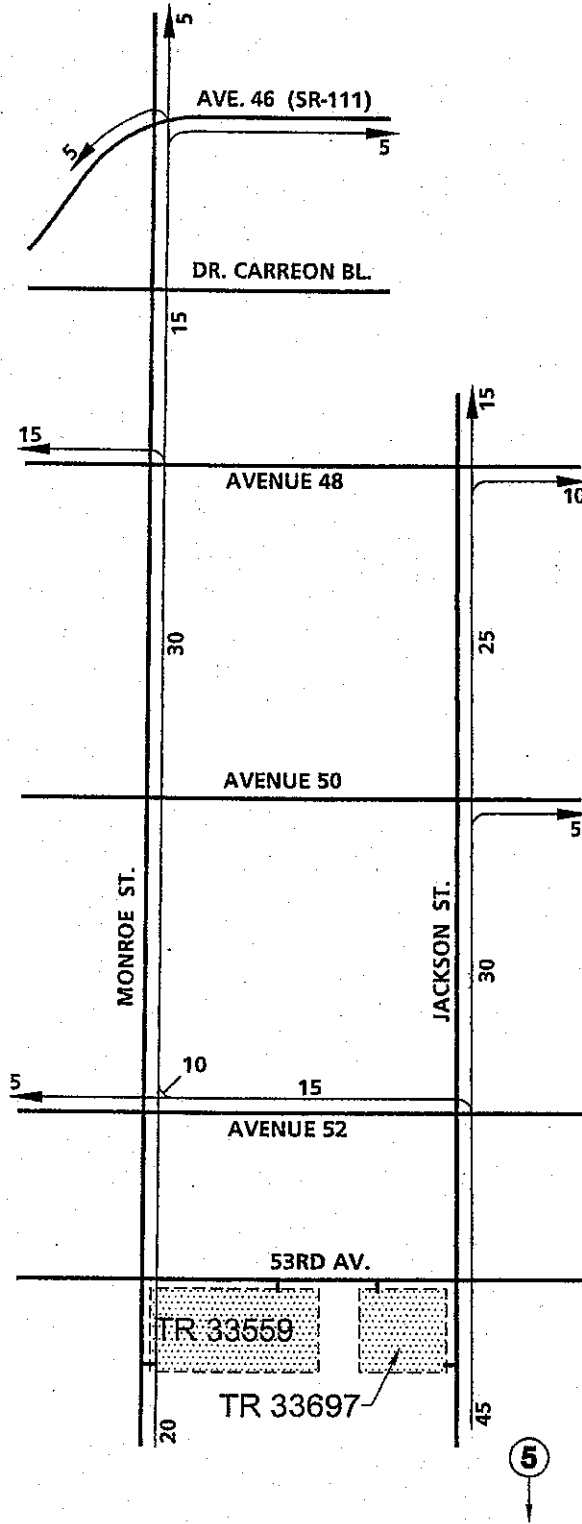
**LEGEND:**

10 = PERCENT TO/FROM PROJECT

④ = TR 28185



# TR 29423 TRIP DISTRIBUTION



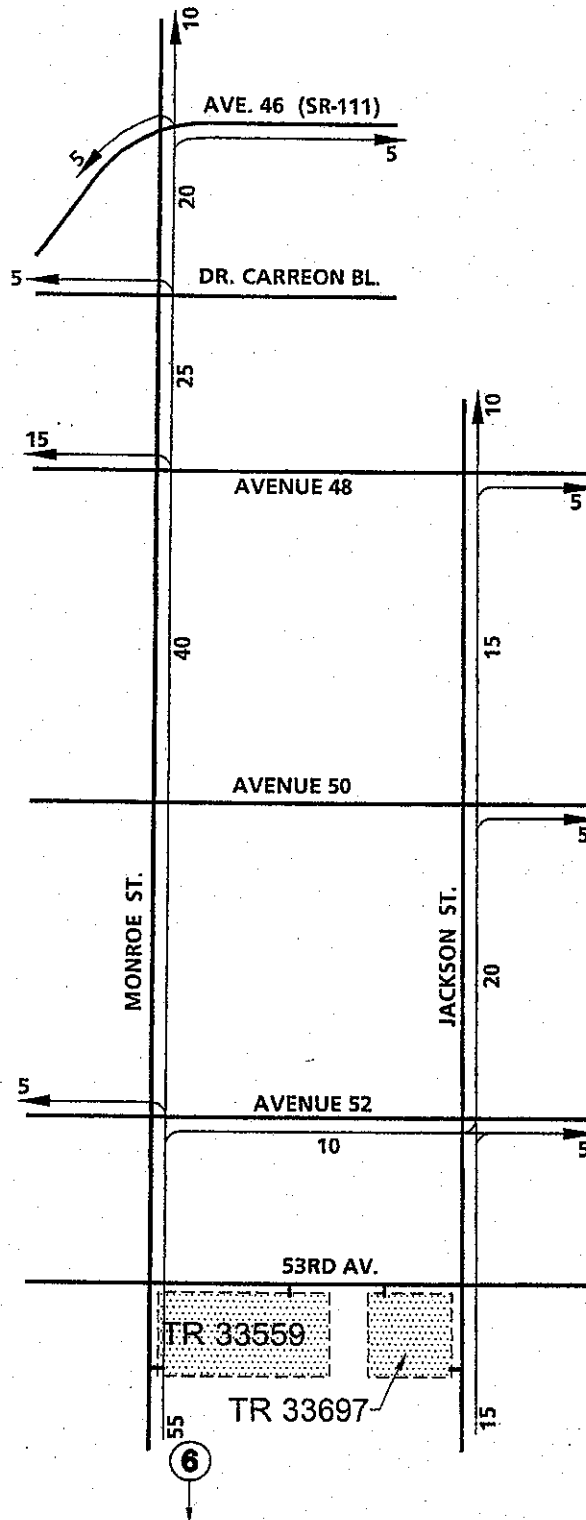
**LEGEND:**

10 = PERCENT TO/FROM PROJECT

⑤ = TR 29423



# TR 30399 TRIP DISTRIBUTION



**LEGEND:**

10 = PERCENT TO/FROM PROJECT

⑥ = TR 30399



**APPENDIX G**

**EXISTING PLUS AMBIENT PLUS PROJECT INTERSECTION ANALYSIS**

TR 33558
Existing + Ambient + Project Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #32 Monroe St. (NS) / Hwy. 111 (EW)
\*\*\*\*\*

Cycle (sec): 90 Critical Vol./Cap. (X): 0.497
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 28.5
Optimal Cycle: 90 Level Of Service: C

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 12 columns representing different volume metrics and 12 rows of data.

Saturation Flow Module: Table with 12 columns representing saturation flow metrics and 4 rows of data.

Capacity Analysis Module: Table with 12 columns representing capacity analysis metrics and 10 rows of data.

-----  
 TR 33558  
 Existing + Ambient + Project Conditions  
 Peak Hour  
 -----

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

\*\*\*\*\*  
 Intersection #32 Monroe St. (NS) / Hwy. 111 (EW)  
 \*\*\*\*\*

Cycle (sec): 90 Critical Vol./Cap. (X): 0.776  
 Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 35.9  
 Optimal Cycle: 90 Level Of Service: D  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	29	29	10	29	29	10	25	25	10	25	25
Lanes:	1	0	1	1	0	1	1	0	2	2	0	2

Volume Module:

Base Vol:	155	424	109	138	477	174	149	646	71	233	802	128
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	161	441	113	144	496	181	155	672	74	242	834	133
Added Vol:	3	6	3	0	11	0	0	0	5	5	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	164	447	116	144	507	181	155	672	79	247	834	133
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	173	471	123	151	534	191	163	707	83	260	878	140
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	173	471	123	151	534	191	163	707	83	260	878	140
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	173	471	123	151	534	191	163	707	83	260	878	140

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.92	0.92	0.95	0.91	0.91	0.95	0.95	0.85	0.92	0.95	0.85
Lanes:	1.00	1.59	0.41	1.00	1.47	0.53	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1805	2776	723	1805	2557	912	1805	3610	1615	3502	3610	1615

Capacity Analysis Module:

Vol/Sat:	0.10	0.17	0.17	0.08	0.21	0.21	0.09	0.20	0.05	0.07	0.24	0.09
Crit Moves:	****			****			****			****		
Green/Cycle:	0.11	0.32	0.32	0.11	0.32	0.32	0.11	0.28	0.28	0.11	0.28	0.28
Volume/Cap:	0.86	0.53	0.53	0.75	0.65	0.65	0.81	0.71	0.19	0.67	0.88	0.31
Delay/Veh:	68.9	25.4	25.4	53.7	27.5	27.5	60.9	31.5	24.9	42.9	39.8	26.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	68.9	25.4	25.4	53.7	27.5	27.5	60.9	31.5	24.9	42.9	39.8	26.1
HCM2kAvg:	8	7	7	6	9	9	7	10	2	5	15	3

64



TR 33558
Existing + Ambient + Project Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #1 Monroe St. (NS) / Ave. 48 (EW)
\*\*\*\*\*

Cycle (sec): 95 Critical Vol./Cap. (X): 0.508
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 30.5
Optimal Cycle: 95 Level Of Service: C
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 12 columns representing different traffic movements and 11 rows of volume-related metrics like Base Vol, Growth Adj, etc.

Saturation Flow Module: Table with 12 columns and 4 rows showing saturation flow rates and adjustments.

Capacity Analysis Module: Table with 12 columns and 8 rows showing capacity analysis metrics like Vol/Sat, Crit Moves, Green/Cycle, etc.

\*\*\*\*\*

65

TR 33558  
 Existing + Ambient + Project Conditions  
 Peak Hour

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

\*\*\*\*\*  
 Intersection #1 Monroe St. (NS) / Ave. 48 (EW)  
 \*\*\*\*\*

Cycle (sec): 95 Critical Vol./Cap. (X): 0.536  
 Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 29.9  
 Optimal Cycle: 95 Level Of Service: C  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	26	26	10	26	26	10	29	29	10	29	29
Lanes:	1	0	1	1	0	1	1	0	1	1	0	1

Volume Module:

Base Vol:	37	246	16	72	236	251	161	305	73	55	319	179
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	38	256	17	75	246	261	168	317	76	57	332	186
Added Vol:	9	16	3	0	27	0	0	0	16	5	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	272	20	75	273	261	168	317	92	62	332	186
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	49	280	20	77	281	269	173	327	95	64	342	192
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	280	20	77	281	269	173	327	95	64	342	192
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	49	280	20	77	281	269	173	327	95	64	342	192

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	0.92	0.92	0.95	0.90	0.90
Lanes:	1.00	1.87	0.13	1.00	2.00	1.00	1.00	1.55	0.45	1.00	1.28	0.72
Final Sat.:	1805	3333	241	1805	3610	1615	1805	2704	783	1805	2188	1228

Capacity Analysis Module:

Vol/Sat:	0.03	0.08	0.08	0.04	0.08	0.17	0.10	0.12	0.12	0.04	0.16	0.16
Crit Moves:	****					****	****			****		
Green/Cycle:	0.11	0.27	0.27	0.11	0.27	0.27	0.15	0.34	0.34	0.12	0.31	0.31
Volume/Cap:	0.26	0.31	0.31	0.41	0.28	0.61	0.65	0.36	0.36	0.31	0.51	0.51
Delay/Veh:	39.8	27.5	27.5	41.1	27.3	32.5	43.7	24.0	24.0	39.3	27.6	27.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.8	27.5	27.5	41.1	27.3	32.5	43.7	24.0	24.0	39.3	27.6	27.6
HCM2kAvg:	2	4	4	3	3	8	6	5	5	2	7	7

TR 33558  
 Existing + Ambient + Project Conditions  
 Peak Hour

Level Of Service Computation Report  
 2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*

Intersection #2 Monroe St. (NS) / Ave. 50 (EW)

\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.921  
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 29.8  
 Optimal Cycle: 0 Level Of Service: D

\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound			
Movement:	L	T	R	L	T	R	L	T	R	L	T	R	
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign			
Rights:	Include			Include			Include			Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	
Lanes:	0	0	1	0	0	1	0	0	1	0	1	0	1

Volume Module:

Base Vol:	50	154	18	51	145	33	54	221	52	16	365	75
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	52	160	19	53	151	34	56	230	54	17	380	78
Added Vol:	10	43	0	0	14	0	0	0	3	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	62	203	19	53	165	34	56	230	57	17	380	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	67	221	20	58	179	37	61	250	62	18	413	85
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	67	221	20	58	179	37	61	250	62	18	413	85
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	67	221	20	58	179	37	61	250	62	18	413	85

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.22	0.71	0.07	1.00	0.83	0.17	1.00	0.80	0.20	1.00	1.00	1.00
Final Sat.:	94	307	28	396	351	73	419	364	90	417	448	486

Capacity Analysis Module:

Vol/Sat:	0.72	0.72	0.72	0.15	0.51	0.51	0.15	0.69	0.69	0.04	0.92	0.17
Crit Moves:	****			****			****			****		
Delay/Veh:	27.4	27.4	27.4	12.7	18.0	18.0	12.3	24.1	24.1	11.5	51.8	11.5
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.4	27.4	27.4	12.7	18.0	18.0	12.3	24.1	24.1	11.5	51.8	11.5
LOS by Move:	D	D	D	B	C	C	B	C	C	B	F	B
ApproachDel:	27.4			16.9			22.2			43.7		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	27.4			16.9			22.2			43.7		
LOS by Appr:	D			C			C			E		

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TR 33558
Existing + Ambient + Project Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #2 Monroe St. (NS) / Ave. 50 (EW)
\*\*\*\*\*

Cycle (sec): 70 Critical Vol./Cap. (X): 0.448
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 18.9
Optimal Cycle: 70 Level Of Service: B
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 12 columns representing different traffic movements and 13 rows of volume-related metrics like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module: Table with 12 columns and 4 rows showing Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 12 columns and 8 rows showing Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, and HCM2kAvg.

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68

TR 33558
Existing + Ambient + Project Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #2 Monroe St. (NS) / Ave. 50 (EW)
\*\*\*\*\*

Cycle (sec): 70 Critical Vol./Cap. (X): 0.551
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 19.5
Optimal Cycle: 70 Level Of Service: B
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 12 columns representing different traffic movements and 11 rows of volume-related metrics like Base Vol, Growth Adj, etc.

Saturation Flow Module: Table with 12 columns and 4 rows showing saturation flow rates and adjustment factors.

Capacity Analysis Module: Table with 12 columns and 9 rows showing capacity analysis metrics like Vol/Sat, Crit Moves, Green/Cycle, etc.

TR 33558  
 Existing + Ambient + Project Conditions  
 Peak Hour

Level Of Service Computation Report  
 2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #3 Monroe St. (NS) / Ave. 52 (EW)  
 \*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.523  
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 12.8  
 Optimal Cycle: 0 Level Of Service: B  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	0	1	0	0	1

Volume Module:

Base Vol:	33	84	14	67	152	35	32	146	32	14	157	57
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	34	87	15	70	158	36	33	152	33	15	163	59
Added Vol:	5	52	0	0	18	0	0	0	2	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	39	139	15	70	176	36	33	152	35	15	163	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	44	155	16	77	196	40	37	169	39	16	181	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	155	16	77	196	40	37	169	39	16	181	66
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	44	155	16	77	196	40	37	169	39	16	181	66

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.20	0.72	0.08	0.25	0.62	0.13	0.15	0.69	0.16	0.06	0.69	0.25
Final Sat.:	115	406	42	148	374	77	87	397	92	36	406	147

Capacity Analysis Module:

Vol/Sat:	0.38	0.38	0.38	0.52	0.52	0.52	0.42	0.42	0.42	0.45	0.45	0.45
Crit Moves:	****			****			****			****		
Delay/Veh:	11.9	11.9	11.9	14.0	14.0	14.0	12.4	12.4	12.4	12.6	12.6	12.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.9	11.9	11.9	14.0	14.0	14.0	12.4	12.4	12.4	12.6	12.6	12.6
LOS by Move:	B	B	B	B	B	B	B	B	B	B	B	B
ApproachDel:	11.9			14.0			12.4			12.6		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	11.9			14.0			12.4			12.6		
LOS by Appr:	B			B			B			B		

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611

TR 33558  
 Existing + Ambient + Project Conditions  
 Peak Hour

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

\*\*\*\*\*  
 Intersection #3 Monroe St. (NS) / Ave. 52 (EW)  
 \*\*\*\*\*

Cycle (sec): 60 Critical Vol./Cap. (X): 0.304  
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 11.0  
 Optimal Cycle: 60 Level Of Service: B  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	18	18	18	18	18	18	19	19	19	19	19	19
Lanes:	1	0	0	1	0	0	1	0	0	1	0	0

Volume Module:

Base Vol:	33	84	14	67	152	35	32	146	32	14	157	57
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	34	87	15	70	158	36	33	152	33	15	163	59
Added Vol:	5	52	0	0	18	0	0	0	2	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	39	139	15	70	176	36	33	152	35	15	163	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	44	155	16	77	196	40	37	169	39	16	181	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	155	16	77	196	40	37	169	39	16	181	66
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	44	155	16	77	196	40	37	169	39	16	181	66

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.58	0.99	0.99	0.64	0.97	0.97	0.57	0.97	0.97	0.61	0.96	0.96
Lanes:	1.00	0.91	0.09	1.00	0.83	0.17	1.00	0.81	0.19	1.00	0.73	0.27
Final Sat.:	1093	1696	177	1220	1534	317	1083	1499	348	1163	1338	486

Capacity Analysis Module:

Vol/Sat:	0.04	0.09	0.09	0.06	0.13	0.13	0.03	0.11	0.11	0.01	0.14	0.14
Crit Moves:	****						****					
Green/Cycle:	0.42	0.42	0.42	0.42	0.42	0.42	0.45	0.45	0.45	0.45	0.45	0.45
Volume/Cap:	0.10	0.22	0.22	0.15	0.30	0.30	0.08	0.25	0.25	0.03	0.30	0.30
Delay/Veh:	10.6	11.2	11.2	10.9	11.8	11.8	9.6	10.5	10.5	9.3	10.8	10.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.6	11.2	11.2	10.9	11.8	11.8	9.6	10.5	10.5	9.3	10.8	10.8
HCM2kAvg:	1	2	2	1	3	3	1	2	2	0	3	3

TR 33558  
 Existing + Ambient + Project Conditions  
 Peak Hour

Level Of Service Computation Report  
 2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #3 Monroe St. (NS) / Ave. 52 (EW)  
 \*\*\*\*\*  
 Cycle (sec): 100 Critical Vol./Cap. (X): 0.458  
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 11.7  
 Optimal Cycle: 0 Level Of Service: B  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	0	1	0	0	1

Volume Module:

Base Vol:	24	112	9	57	88	24	53	168	18	4	122	26
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	25	117	9	59	92	25	55	175	19	4	127	27
Added Vol:	3	35	0	0	59	0	0	0	5	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28	152	9	59	151	25	55	175	24	4	127	27
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	31	170	11	67	169	28	62	196	27	5	143	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	170	11	67	169	28	62	196	27	5	143	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	31	170	11	67	169	28	62	196	27	5	143	30

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.15	0.80	0.05	0.25	0.64	0.11	0.22	0.69	0.09	0.03	0.80	0.17
Final Sat.:	89	481	30	156	396	66	135	428	58	16	477	102

Capacity Analysis Module:

Vol/Sat:	0.35	0.35	0.35	0.43	0.43	0.43	0.46	0.46	0.46	0.30	0.30	0.30
Crit Moves:	****			****			****			****		
Delay/Veh:	11.2	11.2	11.2	12.1	12.1	12.1	12.5	12.5	12.5	10.6	10.6	10.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.2	11.2	11.2	12.1	12.1	12.1	12.5	12.5	12.5	10.6	10.6	10.6
LOS by Move:	B	B	B	B	B	B	B	B	B	B	B	B
ApproachDel:	11.2			12.1			12.5			10.6		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	11.2			12.1			12.5			10.6		
LOS by Appr:	B			B			B			B		



TR 33558  
 Existing + Ambient + Project Conditions  
 Peak Hour

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

\*\*\*\*\*  
 Intersection #3 Monroe St. (NS) / Ave. 52 (EW)  
 \*\*\*\*\*

Cycle (sec): 60 Critical Vol./Cap. (X): 0.260  
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 10.8  
 Optimal Cycle: 60 Level Of Service: B  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	18	18	18	18	18	18	19	19	19	19	19	19
Lanes:	1	0	0	1	0	0	1	0	0	1	0	0

Volume Module:

Base Vol:	24	112	9	57	88	24	53	168	18	4	122	26
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	25	117	9	59	92	25	55	175	19	4	127	27
Added Vol:	3	35	0	0	59	0	0	0	5	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28	152	9	59	151	25	55	175	24	4	127	27
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	31	170	11	67	169	28	62	196	27	5	143	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	170	11	67	169	28	62	196	27	5	143	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	31	170	11	67	169	28	62	196	27	5	143	30

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.62	0.99	0.99	0.64	0.98	0.98	0.64	0.98	0.98	0.60	0.97	0.97
Lanes:	1.00	0.94	0.06	1.00	0.86	0.14	1.00	0.88	0.12	1.00	0.82	0.18
Final Sat.:	1172	1773	110	1208	1595	265	1218	1643	223	1138	1525	325

Capacity Analysis Module:

Vol/Sat:	0.03	0.10	0.10	0.06	0.11	0.11	0.05	0.12	0.12	0.00	0.09	0.09
Crit Moves:				****			****					
Green/Cycle:	0.41	0.41	0.41	0.41	0.41	0.41	0.46	0.46	0.46	0.46	0.46	0.46
Volume/Cap:	0.07	0.24	0.24	0.14	0.26	0.26	0.11	0.26	0.26	0.01	0.20	0.20
Delay/Veh:	10.9	11.8	11.8	11.3	12.0	12.0	9.3	10.1	10.1	8.8	9.8	9.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.9	11.8	11.8	11.3	12.0	12.0	9.3	10.1	10.1	8.8	9.8	9.8
HCM2kAvg:	1	2	2	1	3	3	1	3	3	0	2	2

\*\*\*\*\*

614

TR 33558
Existing + Ambient + Project Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #4 Monroe St. (NS) / Ave. 53 (EW)
\*\*\*\*\*

Average Delay (sec/veh): 2.0 Worst Case Level Of Service: B[ 13.2]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for volume metrics. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Vol.

Critical Gap Module: Table with 13 columns for gap metrics. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 13 columns for capacity metrics. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module: Table with 13 columns for LOS metrics. Rows include Queue, Stopped Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd StpDel, Shared LOS, ApproachDel, and ApproachLOS.

616

TR 33558
Existing + Ambient + Project Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #5 Monroe (NS) / Project Drwy (EW)
\*\*\*\*\*
Average Delay (sec/veh): 0.6 Worst Case Level Of Service: A[ 9.5]
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module:
Base Vol: 0 143 0 0 193 0 0 0 0 0 0 0 0
Growth Adj: 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04
Initial Bse: 0 149 0 0 201 0 0 0 0 0 0 0 0
Added Vol: 0 0 2 5 0 0 0 0 0 5 0 14
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 149 2 5 201 0 0 0 0 5 0 14
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 0 157 2 5 211 0 0 0 0 5 0 15
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 0 157 2 5 211 0 0 0 0 5 0 15

Critical Gap Module:
Critical Gp: xxxxx xxxxx xxxxx 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx 6.4 xxxxx 6.2
FollowUpTim: xxxxx xxxxx xxxxx 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx 3.5 xxxxx 3.3

Capacity Module:
Cnflct Vol: xxxxx xxxxx xxxxx 159 xxxxx xxxxx xxxxx xxxxx xxxxx 380 xxxxx 158
Potent Cap.: xxxxx xxxxx xxxxx 1433 xxxxx xxxxx xxxxx xxxxx xxxxx 626 xxxxx 893
Move Cap.: xxxxx xxxxx xxxxx 1433 xxxxx xxxxx xxxxx xxxxx xxxxx 625 xxxxx 893
Volume/Cap: xxxxx xxxxx xxxxx 0.00 xxxxx xxxxx xxxxx xxxxx xxxxx 0.01 xxxxx 0.02

Level Of Service Module:
Queue: xxxxx xxxxx xxxxx 0.0 xxxxx xxxxx xxxxx xxxxx xxxxx 0.0 xxxxx 0.1
Stopped Del: xxxxx xxxxx xxxxx 7.5 xxxxx xxxxx xxxxx xxxxx xxxxx 10.8 xxxxx 9.1
LOS by Move: \* \* \* A \* \* \* \* \* B \* A
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
SharedQueue: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd StpDel: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: \* \* \* \* \* \* \* \* \* \* \* \* \*
ApproachDel: xxxxxxx xxxxxxx xxxxxxx 9.5
ApproachLOS: \* \* \* A

617

TR 33558  
 Existing + Ambient + Project Conditions  
 Peak Hour

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

\*\*\*\*\*  
 Intersection #5 Monroe (NS) / Project Drwy (EW)  
 \*\*\*\*\*

Average Delay (sec/veh): 0.7 Worst Case Level of Service: A[ 9.6]  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	0	1	0	1	0	0	0	1	0	0

Volume Module:

Base Vol:	0	171	0	0	122	0	0	0	0	0	0	0
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	0	178	0	0	127	0	0	0	0	0	0	0
Added Vol:	0	0	5	16	0	0	0	0	0	3	0	9
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	178	5	16	127	0	0	0	0	3	0	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	187	5	17	134	0	0	0	0	3	0	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	187	5	17	134	0	0	0	0	3	0	9

Critical Gap Module:

Critical Gap:	xxxxx	xxxxx	xxxxx	4.1	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	6.4	xxxxx	6.2
FollowUpTim:	xxxxx	xxxxx	xxxxx	2.2	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	3.5	xxxxx	3.3

Capacity Module:

Cnflct Vol:	xxxxx	xxxxx	xxxxx	193	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	357	xxxxx	190
Potent Cap.:	xxxxx	xxxxx	xxxxx	1393	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	645	xxxxx	857
Move Cap.:	xxxxx	xxxxx	xxxxx	1393	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	639	xxxxx	857
Volume/Cap:	xxxxx	xxxxx	xxxxx	0.01	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	0.00	xxxxx	0.01

Level Of Service Module:

Queue:	xxxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	0.0	xxxxx	0.0
Stopped Del:	xxxxx	xxxxx	xxxxx	7.6	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	10.7	xxxxx	9.2
LOS by Move:	*	*	*	A	*	*	*	*	*	B	*	A
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
SharedQueue:	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
Shrd StpDel:	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.6		
ApproachLOS:	*			*			*			A		

618

TR 33558
Existing + Ambient + Project Conditions
Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #9 Westerly Drwy (NS) / 53rd Ave. (EW)
\*\*\*\*\*

Average Delay (sec/veh): 3.7 Worst Case Level Of Service: A[ 8.8]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns for volume metrics across four approaches.

Critical Gap Module: Table with 12 columns for gap metrics across four approaches.

Capacity Module: Table with 12 columns for capacity metrics across four approaches.

Level of Service Module: Table with 12 columns for LOS metrics across four approaches.

G19

TR 33558  
 Existing + Ambient + Project Conditions  
 Peak Hour

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

\*\*\*\*\*  
 Intersection #9 Westerly Drwy (NS) / 53rd Ave. (EW)  
 \*\*\*\*\*

Average Delay (sec/veh): 2.7 Worst Case Level Of Service: A[ 8.9]  
 \*\*\*\*\*

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	T	R		L	T	R		L	T	R		L	T	R					
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled							
Rights:	Include				Include				Include				Include							
Lanes:	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0

Volume Module:

Base Vol:	0	0	0	0	0	0	0	0	14	0	0	5	0
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	0	0	0	0	0	0	0	0	15	0	0	5	0
Added Vol:	19	0	6	0	0	0	0	0	16	32	11	9	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	19	0	6	0	0	0	0	0	31	32	11	14	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	20	0	6	0	0	0	0	0	32	34	12	15	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	20	0	6	0	0	0	0	0	32	34	12	15	0

Critical Gap Module:

Critical Gp:	6.4	xxxx	6.2	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	4.1	xxxx	xxxx
FollowUpTim:	3.5	xxxx	3.3	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	2.2	xxxx	xxxx

Capacity Module:

Cnflct Vol:	87	xxxx	49	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	66	xxxx	xxxx
Potent Cap.:	919	xxxx	1025	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	1549	xxxx	xxxx
Move Cap.:	914	xxxx	1025	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	1549	xxxx	xxxx
Volume/Cap:	0.02	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	xxxx

Level Of Service Module:

Queue:	0.1	xxxx	0.0	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.0	xxxx	xxxx
Stopped Del:	9.0	xxxx	8.5	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	7.3	xxxx	xxxx
LOS by Move:	A	*	A	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	
Shared Cap.:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
SharedQueue:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Shrd StpDel:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	8.9			xxxxxx				xxxxxx			xxxxxx		
ApproachLOS:	A			*				*			*		

620

TR 33558
Existing + Ambient + Project Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #10 Easterly Drwy (NS) / 53rd Ave. (EW)
\*\*\*\*\*

Average Delay (sec/veh): 3.9 Worst Case Level Of Service: A [ 8.6 ]
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Vol.

Critical Gap Module: Critical Gp, FollowUpTim

Capacity Module: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module: Queue, Stopped Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd StpDel, Shared LOS, ApproachDel, ApproachLOS.

TR 33558
Existing + Ambient + Project Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #10 Easterly Drwy (NS) / 53rd Ave. (EW)
\*\*\*\*\*

Average Delay (sec/veh): 2.8 Worst Case Level Of Service: A[ 8.7]
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for volume components (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Vol).

Critical Gap Module: Table with 13 columns for critical gap and follow-up time components.

Capacity Module: Table with 13 columns for capacity components (Conflict Vol, Potent Cap., Move Cap., Volume/Cap.).

Level Of Service Module: Table with 13 columns for level of service components (Queue, Stopped Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd StpDel, Shared LOS, ApproachDel, ApproachLOS).



TR 33558  
 Existing + Ambient + Project Conditions  
 Peak Hour

Level Of Service Computation Report  
 2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #31 Jackson St. (NS) / Ave. 48 (EW)  
 \*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 1.098  
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 66.4  
 Optimal Cycle: 0 Level Of Service: F  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	1	0	0	1	0

Volume Module:

Base Vol:	128	199	33	41	135	52	29	209	84	50	304	85
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	133	207	34	43	140	54	30	217	87	52	316	88
Added Vol:	0	10	10	0	3	0	0	5	0	3	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	133	217	44	43	143	54	30	222	87	55	318	88
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
PHF Volume:	164	268	55	53	177	67	37	275	108	68	393	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	164	268	55	53	177	67	37	275	108	68	393	109
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	164	268	55	53	177	67	37	275	108	68	393	109

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.34	0.55	0.11	0.18	0.60	0.22	0.12	0.88	1.00	0.15	0.85	1.00
Final Sat.:	150	244	50	74	247	93	48	357	443	62	359	464

Capacity Analysis Module:

Vol/Sat:	1.10	1.10	1.10	0.72	0.72	0.72	0.77	0.77	0.24	1.09	1.09	0.24
Crit Moves:	****			****			****			****		
Delay/Veh:	100.3	100	100.3	30.1	30.1	30.1	34.9	34.9	13.3	100.4	100	12.8
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	100.3	100	100.3	30.1	30.1	30.1	34.9	34.9	13.3	100.4	100	12.8
LOS by Move:	F	F	F	D	D	D	D	D	B	F	F	B
ApproachDel:	100.3			30.1			29.4			83.6		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	100.3			30.1			29.4			83.6		
LOS by Appr:	F			D			D			F		

TR 33558
Existing + Ambient + Project Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #31 Jackson St. (NS) / Ave. 48 (EW)
\*\*\*\*\*

Cycle (sec): 70 Critical Vol./Cap. (X): 0.601
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 24.3
Optimal Cycle: 70 Level Of Service: C
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 12 columns representing different volume and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module: Table with 12 columns representing saturation flow factors like Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module: Table with 12 columns representing capacity analysis factors like Vol/Sat, Crit Moves, Green/Cycle, etc.

TR 33558
Existing + Ambient + Project Conditions
Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #31 Jackson St. (NS) / Ave. 48 (EW)
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.962
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 43.8
Optimal Cycle: 0 Level Of Service: E
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 12 columns for volume metrics (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Vol).

Saturation Flow Module: Table with 12 columns for saturation flow metrics (Adjustment, Lanes, Final Sat).

Capacity Analysis Module: Table with 12 columns for capacity analysis metrics (Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr).

\*\*\*\*\*

625

TR 33558
Existing + Ambient + Project Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #31 Jackson St. (NS) / Ave. 48 (EW)
\*\*\*\*\*

Cycle (sec): 70 Critical Vol./Cap. (X): 0.620
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 26.6
Optimal Cycle: 70 Level Of Service: C
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 12 columns for volume metrics. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Vol.

Saturation Flow Module: Table with 12 columns for saturation flow metrics. Rows include Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 12 columns for capacity analysis metrics. Rows include Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, and HCM2kAvg.

626

TR 33558
Existing + Ambient + Project Conditions
Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #30 Jackson St. (NS) / Ave. 50 (EW)
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.789
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 25.0
Optimal Cycle: 0 Level Of Service: D
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L, T, R), Control (Stop Sign), Rights (Include), Min. Green, and Lanes.

Volume Module: Table with 12 columns representing different traffic movements. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Vol.

Saturation Flow Module: Table with 12 columns. Rows include Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 12 columns. Rows include Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, and LOS by Appr.

627

TR 33558
Existing + Ambient + Project Conditions
Peak Hour

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

Intersection #30 Jackson St. (NS) / Ave. 50 (EW)

Cycle (sec): 60 Critical Vol./Cap. (X): 0.411
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 11.7
Optimal Cycle: 60 Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module table with 12 columns representing different traffic movements and 12 rows of volume-related metrics like Base Vol, Growth Adj, etc.

Saturation Flow Module table with 12 columns and 4 rows of saturation flow metrics.

Capacity Analysis Module table with 12 columns and 10 rows of capacity and delay metrics.

G28

TR 33558  
Existing + Ambient + Project Conditions  
Peak Hour

Level Of Service Computation Report  
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #30 Jackson St. (NS) / Ave. 50 (EW)  
\*\*\*\*\*

Cycle (sec): 100  
Loss Time (sec): 0 (Y+R = 4 sec)  
Optimal Cycle: 0  
Critical Vol./Cap. (X): 0.834  
Average Delay (sec/veh): 23.5  
Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement:												
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	0	1	0	0	1

Volume Module:												
Base Vol:	64	202	10	76	239	55	40	185	53	21	152	53
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	67	210	10	79	249	57	42	192	55	22	158	55
Added Vol:	0	13	3	0	22	0	0	0	0	5	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	67	223	13	79	271	57	42	192	55	27	158	55
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	72	243	15	86	294	62	45	209	60	29	172	60
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	243	15	86	294	62	45	209	60	29	172	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	72	243	15	86	294	62	45	209	60	29	172	60

Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.22	0.74	0.04	0.19	0.67	0.14	0.14	0.67	0.19	0.11	0.66	0.23
Final Sat.:	107	358	22	103	353	75	68	317	91	51	298	104

Capacity Analysis Module:												
Vol/Sat:	0.68	0.68	0.68	0.83	0.83	0.83	0.66	0.66	0.66	0.58	0.58	0.58
Crit Moves:	****			****			****			****		
Delay/Veh:	20.9	20.9	20.9	31.6	31.6	31.6	20.1	20.1	20.1	17.3	17.3	17.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.9	20.9	20.9	31.6	31.6	31.6	20.1	20.1	20.1	17.3	17.3	17.3
LOS by Move:	C	C	C	D	D	D	C	C	C	C	C	C
ApproachDel:	20.9			31.6			20.1			17.3		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	20.9			31.6			20.1			17.3		
LOS by Appr:	C			D			C			C		

TR 33558
Existing + Ambient + Project Conditions
Peak Hour

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

Intersection #30 Jackson St. (NS) / Ave. 50 (EW)

Cycle (sec): 60 Critical Vol./Cap. (X): 0.391
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 11.2
Optimal Cycle: 60 Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Permitted), Rights (Include), Min. Green, and Lanes.

Volume Module table with 12 columns representing different traffic movements and 12 rows of volume-related metrics such as Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module table with 12 columns and 4 rows showing Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module table with 12 columns and 8 rows showing Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, and HCM2kAvg.

G30



TR 33558  
 Existing + Ambient + Project Conditions  
 Peak Hour

Level of Service Computation Report  
 2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #13 Jackson St. (NS) / Ave. 52 (EW)  
 \*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.836  
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 26.6  
 Optimal Cycle: 0 Level of Service: D  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	0	1	0	1	0

Volume Module:

Base Vol:	25	173	8	39	150	122	78	215	45	4	247	54
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	26	180	8	41	156	127	81	224	47	4	257	56
Added Vol:	0	24	5	0	8	0	0	0	0	2	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	204	13	41	164	127	81	224	47	6	257	56
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	30	234	15	47	189	146	93	257	54	7	295	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	234	15	47	189	146	93	257	54	7	295	65
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	30	234	15	47	189	146	93	257	54	7	295	65

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.11	0.84	0.05	0.12	0.50	0.38	0.23	0.64	0.13	0.02	0.98	1.00
Final Sat.:	46	364	24	59	240	185	112	308	64	10	428	480

Capacity Analysis Module:

Vol/Sat:	0.64	0.64	0.64	0.79	0.79	0.79	0.84	0.84	0.84	0.69	0.69	0.13
Crit Moves:	****			****			****			****		
Delay/Veh:	20.7	20.7	20.7	28.2	28.2	28.2	34.0	34.0	34.0	23.7	23.7	10.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.7	20.7	20.7	28.2	28.2	28.2	34.0	34.0	34.0	23.7	23.7	10.7
LOS by Move:	C	C	C	D	D	D	D	D	D	C	C	B
ApproachDel:	20.7			28.2			34.0			21.4		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	20.7			28.2			34.0			21.4		
LOS by Appr:	C			D			D			C		

\*\*\*\*\*

TR 33558
Existing + Ambient + Project Conditions
Peak Hour

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

Intersection #13 Jackson St. (NS) / Ave. 52 (EW)

Cycle (sec): 60 Critical Vol./Cap. (X): 0.442
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 11.8
Optimal Cycle: 60 Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module table with 12 columns representing different traffic movements and 13 rows of volume-related metrics.

Saturation Flow Module table with 12 columns and 5 rows of saturation flow data.

Capacity Analysis Module table with 12 columns and 10 rows of capacity analysis metrics.

632

TR 33558
Existing + Ambient + Project Conditions
Peak Hour

Level of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #13 Jackson St. (NS) / Ave. 52 (EW)
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.428
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 11.3
Optimal Cycle: 0 Level Of Service: B
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign), Rights (Include), Min. Green (0 0 0), and Lanes (0 0 1 0 0).

Volume Module: Table with 12 columns for traffic volumes and 12 rows for various adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module: Table with 12 columns for saturation flow values and 3 rows for Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 12 columns for capacity analysis metrics and 12 rows for Vol/Sat, Crit Moves, Delay/Veh, etc.

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 TR 33558  
 Existing + Ambient + Project Conditions  
 Peak Hour  
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Level Of Service Computation Report  
 2000 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #13 Jackson St. (NS) / Ave. 52 (EW)  
 \*\*\*\*\*

Cycle (sec): 60 Critical Vol./Cap. (X): 0.265  
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 10.9  
 Optimal Cycle: 60 Level Of Service: B  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	25	25	25	25	25	25	20	20	20	20	20	20
Lanes:	1	0	0	1	0	0	1	0	0	1	0	0

Volume Module:

Base Vol:	11	185	6	63	131	34	17	173	9	7	128	63
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	11	192	6	66	136	35	18	180	9	7	133	66
Added Vol:	0	16	3	0	27	0	0	0	0	5	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	208	9	66	163	35	18	180	9	12	133	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	12	213	9	67	167	36	18	184	10	13	136	67
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	213	9	67	167	36	18	184	10	13	136	67
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	12	213	9	67	167	36	18	184	10	13	136	67

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.62	0.99	0.99	0.60	0.97	0.97	0.61	0.99	0.99	0.63	0.95	0.95
Lanes:	1.00	0.96	0.04	1.00	0.82	0.18	1.00	0.95	0.05	1.00	0.67	0.33
Final Sat.:	1174	1808	80	1132	1520	329	1165	1793	93	1188	1211	596

Capacity Analysis Module:

Vol/Sat:	0.01	0.12	0.12	0.06	0.11	0.11	0.02	0.10	0.10	0.01	0.11	0.11
Crit Moves:	****									****		
Green/Cycle:	0.44	0.44	0.44	0.44	0.44	0.44	0.42	0.42	0.42	0.42	0.42	0.42
Volume/Cap:	0.02	0.27	0.27	0.13	0.25	0.25	0.04	0.24	0.24	0.02	0.27	0.27
Delay/Veh:	9.4	10.7	10.7	10.0	10.6	10.6	10.2	11.3	11.3	10.1	11.4	11.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.4	10.7	10.7	10.0	10.6	10.6	10.2	11.3	11.3	10.1	11.4	11.4
HCM2kAvg:	0	3	3	1	2	2	0	2	2	0	3	3

\*\*\*\*\*

634

TR 33558
Existing + Ambient + Project Conditions
Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #14 Jackson St. (NS) / Ave. 53 (EW)
\*\*\*\*\*

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: B[ 13.3]
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns representing different traffic movements and 10 rows of volume data including Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module: Table with 12 columns and 3 rows showing critical gap and follow-up times.

Capacity Module: Table with 12 columns and 4 rows showing capacity-related metrics like Cnflct Vol, Potent Cap., etc.

Level Of Service Module: Table with 12 columns and 10 rows showing queue, stopped delay, LOS, and shared queue data.

635

TR 33558
Existing + Ambient + Project Conditions
Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)
Intersection #14 Jackson St. (NS) / Ave. 53 (EW)
Average Delay (sec/veh): 0.8 Worst Case Level Of Service: B[ 11.9]
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 0 1 0 0 0 0 0 0 1 0 0 0 1 0 0 0 0 1 0 0 0
Volume Module:
Base Vol: 5 198 0 0 147 1 2 3 3 2 2 0
Growth Adj: 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04
Initial Bse: 5 206 0 0 153 1 2 3 3 2 2 0
Added Vol: 0 6 0 0 11 22 13 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 5 212 0 0 164 23 15 3 3 2 2 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 5 223 0 0 173 24 16 3 3 2 2 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 5 223 0 0 173 24 16 3 3 2 2 0
Critical Gap Module:
Critical Gp: 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx 7.1 6.5 6.2 7.1 6.5 xxxxx
FollowUpTim: 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx 3.5 4.0 3.3 3.5 4.0 xxxxx
Capacity Module:
Cnflct Vol: 197 xxxxx xxxxx xxxxx xxxxx xxxxx 420 419 185 422 431 xxxxx
Potent Cap.: 1388 xxxxx xxxxx xxxxx xxxxx xxxxx 547 528 863 545 520 xxxxx
Move Cap.: 1388 xxxxx xxxxx xxxxx xxxxx xxxxx 544 526 863 539 518 xxxxx
Volume/Cap: 0.00 xxxxx xxxxx xxxxx xxxxx xxxxx 0.03 0.01 0.00 0.00 0.00 xxxxx
Level Of Service Module:
Queue: 0.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Stopped Del: 7.6 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
LOS by Move: A \* \* \* \* \* \* \* \* \* \* \*
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 572 xxxxx 528 xxxxx xxxxx
SharedQueue: 0.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 0.1 xxxxx 0.0 xxxxx xxxxx
Shrd StpDel: 7.6 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 11.6 xxxxx 11.9 xxxxx xxxxx
Shared LOS: A \* \* \* \* \* \* B \* B \*
ApproachDel: xxxxxx xxxxxx 11.6 11.9
ApproachLOS: \* \* B B

636

TR 33558
Existing + Ambient + Project Conditions
Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #15 Jackson St. (NS) / Project Drwy. (EW)

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: B [ 10.7]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module table with 12 columns and 12 rows including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Vol.

Critical Gap Module table with 12 columns and 2 rows including Critical Gp and FollowUpTim.

Capacity Module table with 12 columns and 4 rows including Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module table with 12 columns and 10 rows including Queue, Stopped Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd StpDel, Shared LOS, ApproachDel, and ApproachLOS.

637

TR 33558
Existing + Ambient + Project Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #15 Jackson St. (NS) / Project Drwy. (EW)
\*\*\*\*\*

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: B [ 10.4 ]
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns representing different volume categories and 13 rows of data.

Critical Gap Module: Table with 13 columns and 2 rows of data.

Capacity Module: Table with 13 columns and 4 rows of data.

Level Of Service Module: Table with 13 columns and 10 rows of data.

638



**APPENDIX H**

**EXISTING PLUS AMBIENT PLUS PROJECT PLUS CUMULATIVE  
INTERSECTION ANALYSIS**

TR 33558
Existing + Ambient + Project + Cumulative Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #32 Monroe St. (NS) / Hwy. 111 (EW)
\*\*\*\*\*

Cycle (sec): 90 Critical Vol./Cap. (X): 0.517
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 28.7
Optimal Cycle: 90 Level Of Service: C
\*\*\*\*\*

Table with columns for Approach (North, South, East, West Bound) and Movement (L, T, R). Rows include Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 12 columns and 15 rows of traffic volume and adjustment factors.

Saturation Flow Module: Table with 12 columns and 4 rows of saturation flow and adjustment factors.

Capacity Analysis Module: Table with 12 columns and 10 rows of capacity analysis metrics.

H3

TR 33558
Existing + Ambient + Project + Cumulative Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #32 Monroe St. (NS) / Hwy. 111 (EW)
\*\*\*\*\*
Cycle (sec): 90 Critical Vol./Cap. (X): 0.799
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 37.1
Optimal Cycle: 90 Level Of Service: D
\*\*\*\*\*

Table with 4 main columns: North Bound, South Bound, East Bound, West Bound. Sub-columns: L, T, R. Rows: Approach, Movement, Control, Rights, Min. Green, Lanes.

Volume Module:
Base Vol: 155 424 109 138 477 174 149 646 71 233 802 128
Growth Adj: 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04
Initial Bse: 161 441 113 144 496 181 155 672 74 242 834 133
Added Vol: 18 26 18 0 46 0 0 0 31 31 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 179 467 131 144 542 181 155 672 105 273 834 133
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 189 492 138 151 571 191 163 707 110 288 878 140
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 189 492 138 151 571 191 163 707 110 288 878 140
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 189 492 138 151 571 191 163 707 110 288 878 140

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.95 0.92 0.92 0.95 0.91 0.91 0.95 0.95 0.85 0.92 0.95 0.85
Lanes: 1.00 1.56 0.44 1.00 1.50 0.50 1.00 2.00 1.00 2.00 2.00 1.00
Final Sat.: 1805 2724 766 1805 2606 870 1805 3610 1615 3502 3610 1615

Capacity Analysis Module:
Vol/Sat: 0.10 0.18 0.18 0.08 0.22 0.22 0.09 0.20 0.07 0.08 0.24 0.09
Crit Moves: \*\*\*\* \*\*\*\* \*\*\*\* \*\*\*\*
Green/Cycle: 0.11 0.32 0.32 0.11 0.32 0.32 0.11 0.28 0.28 0.11 0.28 0.28
Volume/Cap: 0.94 0.56 0.56 0.75 0.68 0.68 0.81 0.71 0.25 0.74 0.88 0.31
Delay/Veh: 86.5 25.9 25.9 53.7 28.2 28.2 60.9 31.5 25.5 46.1 39.8 26.1
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 86.5 25.9 25.9 53.7 28.2 28.2 60.9 31.5 25.5 46.1 39.8 26.1
HCM2kAvg: 9 8 8 6 10 10 7 10 2 6 15 3

44

TR 33558  
 Existing + Ambient + Project + Cumulative Conditions  
 Peak Hour

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

\*\*\*\*\*  
 Intersection #1 Monroe St. (NS) / Ave. 48 (EW)  
 \*\*\*\*\*

Cycle (sec): 95 Critical Vol./Cap. (X): 0.555  
 Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 31.8  
 Optimal Cycle: 95 Level Of Service: C  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	26	26	10	26	26	10	29	29	10	29	29
Lanes:	1	0	1	1	0	1	1	0	1	1	0	1

Volume Module:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	47	165	55	33	160	157	168	274	29	63	269	159
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	49	172	57	34	166	163	175	285	30	66	280	165
Added Vol:	74	107	5	0	36	0	0	0	25	2	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	123	279	62	34	202	163	175	285	55	68	280	165
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	143	324	72	40	235	190	203	331	64	79	325	192
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	143	324	72	40	235	190	203	331	64	79	325	192
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	143	324	72	40	235	190	203	331	64	79	325	192

Saturation Flow Module:	North Bound			South Bound			East Bound			West Bound		
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.92	0.92	0.95	0.95	0.85	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	1.00	1.63	0.37	1.00	2.00	1.00	1.00	1.68	0.32	1.00	1.26	0.74
Final Sat.:	1805	2871	641	1805	3610	1615	1805	2952	571	1805	2142	1266

Capacity Analysis Module:	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	0.08	0.11	0.11	0.02	0.07	0.12	0.11	0.11	0.11	0.04	0.15	0.15
Crit Moves:	****			****			****			****		
Green/Cycle:	0.11	0.27	0.27	0.11	0.27	0.27	0.15	0.34	0.34	0.12	0.31	0.31
Volume/Cap:	0.75	0.41	0.41	0.21	0.24	0.43	0.76	0.33	0.33	0.37	0.50	0.50
Delay/Veh:	56.8	28.5	28.5	39.4	26.9	29.1	51.3	23.7	23.7	39.9	27.4	27.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	56.8	28.5	28.5	39.4	26.9	29.1	51.3	23.7	23.7	39.9	27.4	27.4
HCM2kAvg:	6	5	5	1	3	5	8	4	4	3	7	7

H5

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 TR 33558  
 Existing + Ambient + Project + Cumulative Conditions  
 Peak Hour  
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Level Of Service Computation Report  
 2000 HCM Operations Method (Future Volume Alternative)

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Intersection #1 Monroe St. (NS) / Ave. 48 (EW)

\*\*\*\*\*

Cycle (sec): 95 Critical Vol./Cap. (X): 0.564  
 Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 30.1  
 Optimal Cycle: 95 Level Of Service: C

\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	26	26	10	26	26	10	29	29	10	29	29
Lanes:	1	0	1	1	0	1	1	0	1	1	0	1

Volume Module:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	37	246	16	72	236	251	161	305	73	55	319	179
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	38	256	17	75	246	261	168	317	76	57	332	186
Added Vol:	49	71	3	0	122	0	0	0	84	5	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	87	327	20	75	368	261	168	317	160	62	332	186
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	90	337	20	77	379	269	173	327	165	64	342	192
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	90	337	20	77	379	269	173	327	165	64	342	192
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	90	337	20	77	379	269	173	327	165	64	342	192

Saturation Flow Module:	North Bound			South Bound			East Bound			West Bound		
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.95	0.85	0.95	0.90	0.90	0.95	0.90	0.90
Lanes:	1.00	1.89	0.11	1.00	2.00	1.00	1.00	1.33	0.67	1.00	1.28	0.72
Final Sat.:	1805	3375	203	1805	3610	1615	1805	2280	1149	1805	2188	1228

Capacity Analysis Module:	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	0.05	0.10	0.10	0.04	0.10	0.17	0.10	0.14	0.14	0.04	0.16	0.16
Crit Moves:	****			****			****			****		
Green/Cycle:	0.11	0.27	0.27	0.11	0.27	0.27	0.15	0.34	0.34	0.12	0.31	0.31
Volume/Cap:	0.47	0.36	0.36	0.41	0.38	0.61	0.65	0.43	0.43	0.31	0.51	0.51
Delay/Veh:	41.9	28.1	28.1	41.1	28.2	32.5	43.7	24.7	24.7	39.3	27.6	27.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.9	28.1	28.1	41.1	28.2	32.5	43.7	24.7	24.7	39.3	27.6	27.6
HCM2kAvg:	3	4	4	3	5	8	6	6	6	2	7	7

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H6

TR 33558  
 Existing + Ambient + Project + Cumulative Conditions  
 Peak Hour

Level Of Service Computation Report  
 2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #2 Monroe St. (NS) / Ave. 50 (EW)  
 \*\*\*\*\*  
 Cycle (sec): 100 Critical Vol./Cap. (X): 1.133  
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 64.2  
 Optimal Cycle: 0 Level Of Service: F  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	0	1	0	1	0

Volume Module:

Base Vol:	50	154	18	51	145	33	54	221	52	16	365	75
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	52	160	19	53	151	34	56	230	54	17	380	78
Added Vol:	16	186	0	0	63	0	0	0	5	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	68	346	19	53	214	34	56	230	59	17	380	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	74	376	20	58	232	37	61	250	64	18	413	85
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	376	20	58	232	37	61	250	64	18	413	85
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	74	376	20	58	232	37	61	250	64	18	413	85

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.16	0.80	0.04	1.00	0.86	0.14	1.00	0.80	0.20	1.00	1.00	1.00
Final Sat.:	65	332	18	380	350	56	386	330	85	379	403	435

Capacity Analysis Module:

Vol/Sat:	1.13	1.13	1.13	0.15	0.67	0.67	0.16	0.76	0.76	0.05	1.03	0.19
Crit Moves:	****			****			****			****		
Delay/Veh:	114.6	115	114.6	13.8	27.0	27.0	13.7	33.3	33.3	12.6	81.9	12.9
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	114.6	115	114.6	13.8	27.0	27.0	13.7	33.3	33.3	12.6	81.9	12.9
LOS by Move:	F	F	F	B	D	D	B	D	D	B	F	B
ApproachDel:	114.6			24.7			30.1			68.1		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	114.6			24.7			30.1			68.1		
LOS by Appr:	F			C			D			F		

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H7

TR 33558
Existing + Ambient + Project + Cumulative Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #2 Monroe St. (NS) / Ave. 50 (EW)
\*\*\*\*\*

Cycle (sec): 70 Critical Vol./Cap. (X): 0.555
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 20.3
Optimal Cycle: 70 Level Of Service: C
\*\*\*\*\*

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound) and 3 rows: Movement (L, T, R), Control (Protected, Permitted), Rights (Include). Includes Min. Green and Lanes values.

Volume Module: Table with 12 columns for volume components (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Vol) and 4 rows of data.

Saturation Flow Module: Table with 12 columns for saturation flow components (Sat/Lane, Adjustment, Lanes, Final Sat) and 3 rows of data.

Capacity Analysis Module: Table with 12 columns for capacity analysis components (Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, HCM2kAvg) and 8 rows of data.

HS

TR 33558
Existing + Ambient + Project + Cumulative Conditions
Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #2 Monroe St. (NS) / Ave. 50 (EW)
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 1.221
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 90.8
Optimal Cycle: 0 Level Of Service: F
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 13 columns and 14 rows showing traffic volume metrics like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module: Table with 13 columns and 3 rows showing adjustment factors and final saturation values.

Capacity Analysis Module: Table with 13 columns and 10 rows showing delay, LOS, and approach delay metrics.

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H9



TR 33558
Existing + Ambient + Project + Cumulative Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #2 Monroe St. (NS) / Ave. 50 (EW)
\*\*\*\*\*

Cycle (sec): 70 Critical Vol./Cap. (X): 0.629
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 21.8
Optimal Cycle: 70 Level Of Service: C
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 12 columns representing different volume and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module: Table with 12 columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 12 columns for Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, and HCM2kAvg.

H10

TR 33558  
 Existing + Ambient + Project + Cumulative Conditions  
 Peak Hour

Level Of Service Computation Report  
 2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #3 Monroe St. (NS) / Ave. 52 (EW)  
 \*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.715  
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 19.8  
 Optimal Cycle: 0 Level Of Service: C  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	0	1	0	0	1

Volume Module:

Base Vol:	33	84	14	67	152	35	32	146	32	14	157	57
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	34	87	15	70	158	36	33	152	33	15	163	59
Added Vol:	13	183	4	6	62	0	0	5	5	2	14	19
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	270	19	76	220	36	33	157	38	17	177	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	53	300	21	84	245	40	37	174	43	18	197	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	300	21	84	245	40	37	174	43	18	197	87
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	53	300	21	84	245	40	37	174	43	18	197	87

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.14	0.80	0.06	0.23	0.66	0.11	0.14	0.69	0.17	0.06	0.65	0.29
Final Sat.:	74	420	29	119	346	57	68	321	78	30	322	142

Capacity Analysis Module:

Vol/Sat:	0.71	0.71	0.71	0.71	0.71	0.71	0.54	0.54	0.54	0.61	0.61	0.61
Crit Moves:	****			****			****			****		
Delay/Veh:	22.1	22.1	22.1	21.6	21.6	21.6	16.1	16.1	16.1	17.8	17.8	17.8
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.1	22.1	22.1	21.6	21.6	21.6	16.1	16.1	16.1	17.8	17.8	17.8
LOS by Move:	C	C	C	C	C	C	C	C	C	C	C	C
ApproachDel:	22.1			21.6			16.1			17.8		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	22.1			21.6			16.1			17.8		
LOS by Appr:	C			C			C			C		

H11

TR 33558

Existing + Ambient + Project + Cumulative Conditions  
Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #3 Monroe St. (NS) / Ave. 52 (EW)  
\*\*\*\*\*

Cycle (sec): 60 Critical Vol./Cap. (X): 0.378  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 11.4  
Optimal Cycle: 60 Level Of Service: B  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement:												
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	18	18	18	18	18	18	19	19	19	19	19	19
Lanes:	1	0	0	1	0	0	1	0	0	1	0	0

Volume Module:												
Base Vol:	33	84	14	67	152	35	32	146	32	14	157	57
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	34	87	15	70	158	36	33	152	33	15	163	59
Added Vol:	13	183	4	6	62	0	0	5	5	2	14	19
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	270	19	76	220	36	33	157	38	17	177	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	53	300	21	84	245	40	37	174	43	18	197	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	300	21	84	245	40	37	174	43	18	197	87
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	53	300	21	84	245	40	37	174	43	18	197	87

Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.53	0.99	0.99	0.50	0.98	0.98	0.52	0.97	0.97	0.60	0.95	0.95
Lanes:	1.00	0.94	0.06	1.00	0.86	0.14	1.00	0.80	0.20	1.00	0.69	0.31
Final Sat.:	1011	1760	121	942	1596	264	986	1483	362	1131	1257	555

Capacity Analysis Module:												
Vol/Sat:	0.05	0.17	0.17	0.09	0.15	0.15	0.04	0.12	0.12	0.02	0.16	0.16
Crit Moves:	****									****		
Green/Cycle:	0.45	0.45	0.45	0.45	0.45	0.45	0.41	0.41	0.41	0.41	0.41	0.41
Volume/Cap:	0.12	0.38	0.38	0.20	0.34	0.34	0.09	0.28	0.28	0.04	0.38	0.38
Delay/Veh:	9.6	11.2	11.2	10.1	10.9	10.9	10.8	11.8	11.8	10.5	12.5	12.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.6	11.2	11.2	10.1	10.9	10.9	10.8	11.8	11.8	10.5	12.5	12.5
HCM2kAvg:	1	4	4	2	4	4	1	3	3	0	4	4

H12

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 TR 33558  
 Existing + Ambient + Project + Cumulative Conditions  
 Peak Hour  
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Level Of Service Computation Report  
 2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #3 Monroe St. (NS) / Ave. 52 (EW)  
 \*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.821  
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 21.8  
 Optimal Cycle: 0 Level Of Service: C  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	11	0	0	11	0	0	11	0	0	11

Volume Module:

Base Vol:	24	112	9	57	88	24	53	168	18	4	122	26
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	25	117	9	59	92	25	55	175	19	4	127	27
Added Vol:	9	121	3	21	209	0	0	15	15	5	9	12
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	34	238	12	80	301	25	55	190	34	9	136	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	38	267	14	90	338	28	62	213	38	10	153	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	267	14	90	338	28	62	213	38	10	153	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	38	267	14	90	338	28	62	213	38	10	153	44

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.12	0.84	0.04	0.20	0.74	0.06	0.20	0.68	0.12	0.05	0.74	0.21
Final Sat.:	61	428	22	110	411	34	98	337	60	23	335	96

Capacity Analysis Module:

Vol/Sat:	0.62	0.62	0.62	0.82	0.82	0.82	0.63	0.63	0.63	0.46	0.46	0.46
Crit Moves:	****			****			****			****		
Delay/Veh:	18.3	18.3	18.3	29.6	29.6	29.6	18.7	18.7	18.7	14.4	14.4	14.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.3	18.3	18.3	29.6	29.6	29.6	18.7	18.7	18.7	14.4	14.4	14.4
LOS by Move:	C	C	C	D	D	D	C	C	C	B	B	B
ApproachDel:	18.3			29.6			18.7			14.4		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	18.3			29.6			18.7			14.4		
LOS by Appr:	C			D			C			B		

\*\*\*\*\*

H13

TR 33558
Existing + Ambient + Project + Cumulative Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #3 Monroe St. (NS) / Ave. 52 (EW)
\*\*\*\*\*

Cycle (sec): 60 Critical Vol./Cap. (X): 0.381
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 11.0
Optimal Cycle: 60 Level Of Service: B
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 12 columns and 14 rows including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Vol.

Saturation Flow Module: Table with 12 columns and 4 rows including Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module: Table with 12 columns and 9 rows including Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, HCM2kAvg.

\*\*\*\*\*

114

TR 33558  
Existing + Ambient + Project + Cumulative Conditions  
Peak Hour

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

\*\*\*\*\*  
Intersection #4 Monroe St. (NS) / Ave. 53 (EW)  
\*\*\*\*\*

Average Delay (sec/veh): 1.4 Worst Case Level Of Service: C [ 15.5]  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound				
	L	T	R	L	T	R	L	T	R	L	T	R		
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign				
Rights:	Include			Include			Include			Include				
Lanes:	0	1	0	0	0	1	0	0	0	0	0	1	0	0

Volume Module:

Base Vol:	4	139	0	11	192	1	2	3	0	1	0	10
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	4	145	0	11	200	1	2	3	0	1	0	10
Added Vol:	0	158	0	14	54	0	0	0	0	0	0	43
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	303	0	25	254	1	2	3	0	1	0	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	5	329	0	28	276	1	2	3	0	1	0	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	5	329	0	28	276	1	2	3	0	1	0	58

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	xxxxx	7.1	xxxx	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	xxxxx	3.5	xxxx	3.3

Capacity Module:

Cnflct Vol:	277	xxxx	xxxxx	329	xxxx	xxxxx	699	670	xxxxx	671	xxxx	329
Potent Cap.:	1298	xxxx	xxxxx	1242	xxxx	xxxxx	357	381	xxxxx	373	xxxx	717
Move Cap.:	1298	xxxx	xxxxx	1242	xxxx	xxxxx	322	371	xxxxx	363	xxxx	717
Volume/Cap:	0.00	xxxx	xxxx	0.02	xxxx	xxxx	0.01	0.01	xxxx	0.00	xxxx	0.08

Level Of Service Module:

Queue:	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.8	xxxx	xxxxx	8.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	350	xxxx	xxxxx	xxxx	704	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	0.3	xxxxx
Shrd StpDel:	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	15.5	xxxx	xxxxx	xxxxx	10.6	xxxxx
Shared LOS:	A	*	*	*	*	*	C	*	*	*	B	*
ApproachDel:	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	15.5	xxxxxx	xxxxxx	10.6	xxxxxx	
ApproachLOS:	*	*	*	*	*	*	C	*	*	B	*	

H15

TR 33558

Existing + Ambient + Project + Cumulative Conditions  
Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #4 Monroe St. (NS) / Ave. 53 (EW)  
\*\*\*\*\*

Average Delay (sec/veh): 1.4 Worst Case Level Of Service: C [ 17.6 ]  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1	0	0	1	0	1	0	0	0	1

Volume Module:

Base Vol:	3	165	3	7	122	9	4	4	0	0	2	3
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	3	172	3	7	127	9	4	4	0	0	2	3
Added Vol:	0	104	0	49	180	0	0	0	0	0	0	28
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	276	3	56	307	9	4	4	0	0	2	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	3	303	3	62	337	10	5	5	0	0	2	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	303	3	62	337	10	5	5	0	0	2	34

Critical Gap Module:

Critical Gap:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	xxxxx	xxxxx	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	xxxxx	xxxxx	4.0	3.3

Capacity Module:

Cnflct Vol:	348	xxxx	xxxxx	306	xxxx	xxxxx	796	779	xxxxx	xxxxx	783	305
Potent Cap.:	1223	xxxx	xxxxx	1266	xxxx	xxxxx	307	329	xxxxx	xxxxx	328	740
Move Cap.:	1223	xxxx	xxxxx	1266	xxxx	xxxxx	280	312	xxxxx	xxxxx	310	740
Volume/Cap:	0.00	xxxx	xxxxx	0.05	xxxx	xxxxx	0.02	0.01	xxxxx	xxxxx	0.01	0.05

Level of Service Module:

Queue:	0.0	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxxx	xxxxx
Stopped Del:	8.0	xxxx	xxxxx	8.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	295	xxxx	xxxxx	xxxx	xxxx	681
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	0.2
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	17.6	xxxx	xxxxx	xxxxx	xxxx	10.6
Shared LOS:	*	*	*	*	*	*	C	*	*	*	*	B
ApproachDel:	xxxxxx			xxxxxx			17.6			10.6		
ApproachLOS:	*			*			C			B		

H16

TR 33558

Existing + Ambient + Project + Cumulative Conditions  
Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #5 Monroe (NS) / Project Drwy (EW)  
\*\*\*\*\*

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: B[ 10.7]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1	0	1	0	0	0	0	1	0	0

Volume Module:

Base Vol:	0	143	0	0	193	0	0	0	0	0	0
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	0	149	0	0	201	0	0	0	0	0	0
Added Vol:	0	144	2	5	49	0	0	0	0	5	14
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	293	2	5	250	0	0	0	0	5	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	308	2	5	263	0	0	0	0	5	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	308	2	5	263	0	0	0	0	5	15

Critical Gap Module:

Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3

Capacity Module:

Cnflict Vol:	xxxx	xxxx	xxxxx	310	xxxx	xxxxx	xxxx	xxxx	xxxxx	583	xxxx	309
Potent Cap.:	xxxx	xxxx	xxxxx	1262	xxxx	xxxxx	xxxx	xxxx	xxxxx	478	xxxx	736
Move Cap.:	xxxx	xxxx	xxxxx	1262	xxxx	xxxxx	xxxx	xxxx	xxxxx	477	xxxx	736
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	0.02

Level Of Service Module:

Queue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	0.1
Stopped Del:	xxxxx	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	12.6	xxxx	10.0
LOS by Move:	*	*	*	A	*	*	*	*	*	B	*	A
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			10.7		
ApproachLOS:	*			*			*			B		

H17



TR 33558
Existing + Ambient + Project + Cumulative Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #5 Monroe (NS) / Project Drwy (EW)
\*\*\*\*\*

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: B[ 10.7]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns for volume components like Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module: Table with 3 columns for Critical Gp, FollowUpTim, and other metrics.

Capacity Module: Table with 3 columns for Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module: Table with 3 columns for Queue, Stopped Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd StpDel, Shared LOS, ApproachDel, ApproachLOS.

H18

TR 33558  
 Existing + Ambient + Project + Cumulative Conditions  
 Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #9 Westerly Drwy (NS) / 53rd Ave. (EW)  
 \*\*\*\*\*

Average Delay (sec/veh): 3.7 Worst Case Level Of Service: A[ 8.8]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	0	0	0	0	0	0	0	1	0	0

Volume Module:

Base Vol:	0	0	0	0	0	0	0	14	0	0	11	0
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	0	0	0	0	0	0	0	15	0	0	11	0
Added Vol:	28	0	10	0	0	0	0	5	10	3	14	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28	0	10	0	0	0	0	20	10	3	25	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	29	0	11	0	0	0	0	21	11	3	27	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	29	0	11	0	0	0	0	21	11	3	27	0

Critical Gap Module:

Critical Gp:	6.4	XXXX	6.2	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	4.1	XXXX	XXXX
FollowUpTim:	3.5	XXXX	3.3	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	2.2	XXXX	XXXX

Capacity Module:

Cnflct Vol:	59	XXXX	26	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	31	XXXX	XXXX
Potent Cap.:	953	XXXX	1056	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	1594	XXXX	XXXX
Move Cap.:	952	XXXX	1056	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	1594	XXXX	XXXX
Volume/Cap:	0.03	XXXX	0.01	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	0.00	XXXX	XXXX

Level Of Service Module:

Queue:	0.1	XXXX	0.0	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	0.0	XXXX	XXXX
Stopped Del:	8.9	XXXX	8.4	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	7.3	XXXX	XXXX
LOS by Move:	A	*	A	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
SharedQueue:	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
Shrd StpDel:	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	8.8			XXXXXX			XXXXXX			XXXXXX		
ApproachLOS:	A			*			*			*		

H19

TR 33558
Existing + Ambient + Project + Cumulative Conditions
Peak Hour

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

Intersection #9 Westerly Drwy (NS) / 53rd Ave. (EW)

Average Delay (sec/veh): 2.7 Worst Case Level Of Service: A[ 8.9]

Table with columns: Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign, Uncontrolled), Rights (Include), Lanes (1, 0, 0, 0, 1, etc.)

Volume Module: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Vol.

Critical Gap Module: Critical Gp, FollowUpTim

Capacity Module: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module: Queue, Stopped Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd StpDel, Shared LOS, ApproachDel, ApproachLOS

H20

TR 33558
Existing + Ambient + Project + Cumulative Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #10 Easterly Drwy (NS) / 53rd Ave. (EW)
\*\*\*\*\*

Average Delay (sec/veh): 3.9 Worst Case Level Of Service: A[ 8.6]
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for traffic movements. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Vol.

Critical Gap Module: Table with 13 columns for traffic movements. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 13 columns for traffic movements. Rows include Cnflct Vol, Potent Cap, Move Cap, and Volume/Cap.

Level Of Service Module: Table with 13 columns for traffic movements. Rows include Queue, Stopped Del, LOS by Move, Movement, Shared Cap, SharedQueue, Shrd StpDel, Shared LOS, ApproachDel, and ApproachLOS.

H21

TR 33558
Existing + Ambient + Project + Cumulative Conditions
Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #10 Easterly Drwy (NS) / 53rd Ave. (EW)
\*\*\*\*\*

Average Delay (sec/veh): 2.8 Worst Case Level Of Service: A[ 8.7]
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for volume metrics (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Vol) and 4 columns for North, South, East, West bounds.

Critical Gap Module: Table with 13 columns for gap metrics (Critical Gp, FollowUpTim) and 4 columns for North, South, East, West bounds.

Capacity Module: Table with 13 columns for capacity metrics (Cnflct Vol, Potent Cap., Move Cap., Volume/Cap) and 4 columns for North, South, East, West bounds.

Level of Service Module: Table with 13 columns for LOS metrics (Queue, Stopped Del, LOS by Move, Shared Cap., Shared Queue, Shrd StpDel, Shared LOS, ApproachDel, ApproachLOS) and 4 columns for North, South, East, West bounds.

H22

TR 33558  
Existing + Ambient + Project + Cumulative Conditions  
Peak Hour

Level Of Service Computation Report  
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #31 Jackson St. (NS) / Ave. 48 (EW)  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 1.324  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 98.8  
Optimal Cycle: 0 Level Of Service: F  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	1	0	0	1	0

Volume Module:

Base Vol:	128	199	33	41	135	52	29	209	84	50	304	85
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	133	207	34	43	140	54	30	217	87	52	316	88
Added Vol:	0	55	42	0	19	0	0	5	0	14	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	133	262	76	43	159	54	30	222	87	66	318	88
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
PHF Volume:	164	324	94	53	197	67	37	275	108	82	393	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	164	324	94	53	197	67	37	275	108	82	393	109
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	164	324	94	53	197	67	37	275	108	82	393	109

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.28	0.56	0.16	0.17	0.62	0.21	0.12	0.88	1.00	0.17	0.83	1.00
Final Sat.:	124	244	71	69	257	87	48	353	439	71	345	458

Capacity Analysis Module:

Vol/Sat:	1.32	1.32	1.32	0.76	0.76	0.76	0.78	0.78	0.25	1.14	1.14	0.24
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Delay/Veh:	185.2	185	185.2	34.1	34.1	34.1	35.9	35.9	13.5	116.2	116	13.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	185.2	185	185.2	34.1	34.1	34.1	35.9	35.9	13.5	116.2	116	13.0
LOS by Move:	F	F	F	D	D	D	E	E	B	F	F	B
ApproachDel:	185.2			34.1			30.2			96.9		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	185.2			34.1			30.2			96.9		
LOS by Appr:	F			D			D			F		

TR 33558
Existing + Ambient + Project + Cumulative Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #31 Jackson St. (NS) / Ave. 48 (EW)
\*\*\*\*\*

Cycle (sec): 75 Critical Vol./Cap. (X): 0.631
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 23.8
Optimal Cycle: 75 Level Of Service: C
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 13 columns representing different volume components and 13 rows of data.

Saturation Flow Module: Table with 13 columns representing saturation flow factors and 4 rows of data.

Capacity Analysis Module: Table with 13 columns representing capacity analysis metrics and 10 rows of data.

H24

TR 33558  
 Existing + Ambient + Project + Cumulative Conditions  
 Peak Hour

Level Of Service Computation Report  
 2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #31 Jackson St. (NS) / Ave. 48 (EW)  
 \*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 1.071  
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 77.3  
 Optimal Cycle: 0 Level Of Service: F  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	1	0	0	1	0

Volume Module:

Base Vol:..	93	169	30	59	218	43	44	323	163	26	300	63
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	97	176	31	61	227	45	46	336	170	27	312	66
Added Vol:	0	37	28	0	63	0	0	3	0	48	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	97	213	59	61	290	45	46	339	170	75	317	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	102	224	62	65	305	47	48	357	179	79	334	69
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	102	224	62	65	305	47	48	357	179	79	334	69
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	102	224	62	65	305	47	48	357	179	79	334	69

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.26	0.58	0.16	0.16	0.73	0.11	0.12	0.88	1.00	0.19	0.81	1.00
Final Sat.:	104	229	64	62	292	45	46	341	422	74	312	422

Capacity Analysis Module:

Vol/Sat:	0.98	0.98	0.98	1.05	1.05	1.05	1.05	1.05	0.42	1.07	1.07	0.16
Crit Moves:	****			****			****			****		
Delay/Veh:	70.8	70.8	70.8	88.5	88.5	88.5	89.4	89.4	17.4	96.8	96.8	12.9
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	70.8	70.8	70.8	88.5	88.5	88.5	89.4	89.4	17.4	96.8	96.8	12.9
LOS by Move:	F	F	F	F	F	F	F	F	C	F	F	B
ApproachDel:	70.8			88.5			67.4			84.8		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	70.8			88.5			67.4			84.8		
LOS by Appr:	F			F			F			F		

H25



TR 33558  
 Existing + Ambient + Project + Cumulative Conditions  
 Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #31 Jackson St. (NS) / Ave. 48 (EW)  
 \*\*\*\*\*

Cycle (sec): 75 Critical Vol./Cap. (X): 0.645  
 Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 23.5  
 Optimal Cycle: 75 Level Of Service: C  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	10	25	25	10	25	25	23	23	23	23	23	23
Lanes:	1	0	0	1	0	0	1	0	0	1	0	0

Volume Module:

Base Vol:	93	169	30	59	218	43	44	323	163	26	300	63
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	97	176	31	61	227	45	46	336	170	27	312	66
Added Vol:	0	37	28	0	63	0	0	3	0	48	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	97	213	59	61	290	45	46	339	170	75	317	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	102	224	62	65	305	47	48	357	179	79	334	69
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	102	224	62	65	305	47	48	357	179	79	334	69
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	102	224	62	65	305	47	48	357	179	79	334	69

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.98	0.98	0.35	0.95	0.95	0.20	0.97	0.97
Lanes:	1.00	0.78	0.22	1.00	0.87	0.13	1.00	0.67	0.33	1.00	0.83	0.17
Final Sat.:	1805	1437	400	1805	1613	249	657	1203	602	378	1534	317

Capacity Analysis Module:

Vol/Sat:	0.06	0.16	0.16	0.04	0.19	0.19	0.07	0.30	0.30	0.21	0.22	0.22
Crit Moves:	****			****			****					
Green/Cycle:	0.13	0.33	0.33	0.13	0.33	0.33	0.37	0.37	0.37	0.37	0.37	0.37
Volume/Cap:	0.42	0.47	0.47	0.27	0.57	0.57	0.20	0.79	0.79	0.56	0.58	0.58
Delay/Veh:	31.1	20.3	20.3	29.8	21.8	21.8	16.3	27.4	27.4	23.6	20.1	20.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.1	20.3	20.3	29.8	21.8	21.8	16.3	27.4	27.4	23.6	20.1	20.1
HCM2kAvg:	3	6	6	2	7	7	2	13	13	8	8	8

\*\*\*\*\*

H26

TR 33558
Existing + Ambient + Project + Cumulative Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #30 Jackson St. (NS) / Ave. 50 (EW)
\*\*\*\*\*

Cycle (sec): 60 Critical Vol./Cap. (X): 0.477
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 11.8
Optimal Cycle: 60 Level Of Service: B
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 12 columns representing different traffic volumes and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module: Table with 12 columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 12 columns for Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, and HCM2kAvg.

\*\*\*\*\*

H28

TR 33558
Existing + Ambient + Project + Cumulative Conditions
Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #30 Jackson St. (NS) / Ave. 50 (EW)
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 1.097
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 53.9
Optimal Cycle: 0 Level Of Service: F
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 12 columns for different traffic movements. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Vol.

Saturation Flow Module: Table with 12 columns for different traffic movements. Rows include Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 12 columns for different traffic movements. Rows include Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, and LOS by Appr.

H29

TR 33558  
 Existing + Ambient + Project + Cumulative Conditions  
 Peak Hour

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

\*\*\*\*\*  
 Intersection #30 Jackson St. (NS) / Ave. 50 (EW)  
 \*\*\*\*\*

Cycle (sec): 60 Critical Vol./Cap. (X): 0.450  
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 11.3  
 Optimal Cycle: 60 Level Of Service: B  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	20	20	20	20	20	20	21	21	21	21	21	21
Lanes:	1	0	0	1	0	0	1	0	0	1	0	0

Volume Module:

Base Vol:	64	202	10	76	239	55	40	185	53	21	152	53
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	67	210	10	79	249	57	42	192	55	22	158	55
Added Vol:	0	65	16	0	111	0	0	0	0	27	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	67	275	26	79	360	57	42	192	55	49	158	55
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	72	299	29	86	391	62	45	209	60	53	172	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	299	29	86	391	62	45	209	60	53	172	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	72	299	29	86	391	62	45	209	60	53	172	60

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.41	0.99	0.99	0.51	0.98	0.98	0.56	0.97	0.97	0.51	0.96	0.96
Lanes:	1.00	0.91	0.09	1.00	0.86	0.14	1.00	0.78	0.22	1.00	0.74	0.26
Final Sat.:	771	1711	164	977	1605	255	1056	1428	409	963	1354	472

Capacity Analysis Module:

Vol/Sat:	0.09	0.17	0.17	0.09	0.24	0.24	0.04	0.15	0.15	0.06	0.13	0.13
Crit Moves:				****			****					
Green/Cycle:	0.52	0.52	0.52	0.52	0.52	0.52	0.35	0.35	0.35	0.35	0.35	0.35
Volume/Cap:	0.18	0.34	0.34	0.17	0.47	0.47	0.12	0.42	0.42	0.16	0.36	0.36
Delay/Veh:	8.0	8.7	8.7	7.8	9.6	9.6	13.4	15.3	15.3	13.6	14.9	14.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.0	8.7	8.7	7.8	9.6	9.6	13.4	15.3	15.3	13.6	14.9	14.9
HCM2kAvg:	2	4	4	2	6	6	1	4	4	1	3	3

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 TR 33558  
 Existing + Ambient + Project + Cumulative Conditions  
 Peak Hour  
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Level Of Service Computation Report  
 2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #13 Jackson St. (NS) / Ave. 52 (EW)  
 \*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 1.073  
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 72.5  
 Optimal Cycle: 0 Level Of Service: F  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	0	1	0	1	0

Volume Module:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	25	173	8	39	150	122	78	215	45	4	247	54
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	26	180	8	41	156	127	81	224	47	4	257	56
Added Vol:	32	118	22	0	40	2	4	0	11	7	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	58	298	30	41	196	129	85	224	58	11	257	56
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	67	343	35	47	225	148	98	257	66	13	295	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	67	343	35	47	225	148	98	257	66	13	295	65
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	67	343	35	47	225	148	98	257	66	13	295	65

Saturation Flow Module:	North Bound			South Bound			East Bound			West Bound		
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.15	0.77	0.08	0.11	0.54	0.35	0.23	0.61	0.16	0.04	0.96	1.00
Final Sat.:	62	319	32	47	226	149	95	250	65	16	372	421

Capacity Analysis Module:	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	1.07	1.07	1.07	1.00	1.00	1.00	1.03	1.03	1.03	0.79	0.79	0.15
Crit Moves:	****			****			****			****		
Delay/Veh:	95.1	95.1	95.1	72.6	72.6	72.6	81.8	81.8	81.8	39.6	39.6	12.8
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	95.1	95.1	95.1	72.6	72.6	72.6	81.8	81.8	81.8	39.6	39.6	12.8
LOS by Move:	F	F	F	F	F	F	F	F	F	E	E	B
ApproachDel:	95.1			72.6			81.8			34.9		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	95.1			72.6			81.8			34.9		
LOS by Appr:	F			F			F			D		

\*\*\*\*\*

TR 33558
Existing + Ambient + Project + Cumulative Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #13 Jackson St. (NS) / Ave. 52 (EW)
\*\*\*\*\*

Cycle (sec): 60 Critical Vol./Cap. (X): 0.466
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 12.2
Optimal Cycle: 60 Level Of Service: B
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 12 columns for different traffic movements. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Vol.

Saturation Flow Module: Table with 12 columns for different traffic movements. Rows include Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 12 columns for different traffic movements. Rows include Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, and HCM2kAvg.

H32

TR 33558
Existing + Ambient + Project + Cumulative Conditions
Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #13 Jackson St. (NS) / Ave. 52 (EW)
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.669
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 16.2
Optimal Cycle: 0 Level Of Service: C
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign), Rights (Include), Min. Green (0), and Lanes (0 0 1 0 0).

Volume Module: Table with 12 columns representing traffic volumes and 12 rows for various metrics like Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Vol.

Saturation Flow Module: Table with 12 columns and 3 rows for Adjustment (1.00), Lanes (0.10), and Final Sat. (56).

Capacity Analysis Module: Table with 12 columns and 10 rows for Vol/Sat (0.59), Crit Moves (\*\*\*\*), Delay/Veh (16.6), Delay Adj (1.00), AdjDel/Veh (16.6), LOS by Move (C), ApproachDel (16.6), Delay Adj (1.00), and ApprAdjDel (16.6).

H33

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 TR 33558  
 Existing + Ambient + Project + Cumulative Conditions  
 Peak Hour  
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Level Of Service Computation Report  
 2000 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #13 Jackson St. (NS) / Ave. 52 (EW)  
 \*\*\*\*\*

Cycle (sec): 60 Critical Vol./Cap. (X): 0.341  
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 11.0  
 Optimal Cycle: 60 Level Of Service: B  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	25	25	25	25	25	25	20	20	20	20	20	20
Lanes:	1	0	0	1	0	0	1	0	0	1	0	0

Volume Module:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	11	185	6	63	131	34	17	173	9	7	128	63
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	11	192	6	66	136	35	18	180	9	7	133	66
Added Vol:	21	78	14	0	134	5	3	0	37	25	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	32	270	20	66	270	40	21	180	46	32	133	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	33	276	21	67	276	41	21	184	47	33	136	67
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	33	276	21	67	276	41	21	184	47	33	136	67
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	33	276	21	67	276	41	21	184	47	33	136	67

Saturation Flow Module:	North Bound			South Bound			East Bound			West Bound		
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.52	0.99	0.99	0.54	0.98	0.98	0.60	0.97	0.97	0.56	0.95	0.95
Lanes:	1.00	0.93	0.07	1.00	0.87	0.13	1.00	0.80	0.20	1.00	0.67	0.33
Final Sat.:	982	1750	131	1018	1622	242	1140	1464	377	1072	1211	596

Capacity Analysis Module:	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	0.03	0.16	0.16	0.07	0.17	0.17	0.02	0.13	0.13	0.03	0.11	0.11
Crit Moves:				****				****				
Green/Cycle:	0.50	0.50	0.50	0.50	0.50	0.50	0.37	0.37	0.37	0.37	0.37	0.37
Volume/Cap:	0.07	0.32	0.32	0.13	0.34	0.34	0.05	0.34	0.34	0.08	0.31	0.31
Delay/Veh:	7.9	9.1	9.1	8.2	9.3	9.3	12.3	14.0	14.0	12.5	13.8	13.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.9	9.1	9.1	8.2	9.3	9.3	12.3	14.0	14.0	12.5	13.8	13.8
HCM2kAvg:	1	3	3	1	4	4	0	3	3	1	3	3

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434



TR 33558  
Existing + Ambient + Project + Cumulative Conditions  
Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #14 Jackson St. (NS) / Ave. 53 (EW)  
\*\*\*\*\*

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: C [ 16.9 ]  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1	0	0	1	0	0	1	0	0	1

Volume Module:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	4	213	1	1	188	1	1	4	1	0	2	3
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	4	222	1	1	196	1	1	4	1	0	2	3
Added Vol:	0	152	0	0	51	6	19	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	374	1	1	247	7	20	4	1	0	2	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	5	445	1	1	294	8	24	5	1	0	2	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	5	445	1	1	294	8	24	5	1	0	2	4

Critical Gap Module:	North Bound			South Bound			East Bound			West Bound		
Critical Gp:	4.1	XXXX	XXXXX	4.1	XXXX	XXXXX	7.1	6.5	6.2	XXXXX	6.5	6.2
FollowUpTim:	2.2	XXXX	XXXXX	2.2	XXXX	XXXXX	3.5	4.0	3.3	XXXXX	4.0	3.3

Capacity Module:	North Bound			South Bound			East Bound			West Bound		
Cnflct Vol:	302	XXXX	XXXXX	446	XXXX	XXXXX	759	756	298	XXXX	760	445
Potent Cap.:	1271	XXXX	XXXXX	1125	XXXX	XXXXX	326	340	746	XXXX	338	617
Move Cap.:	1271	XXXX	XXXXX	1125	XXXX	XXXXX	321	338	746	XXXX	336	617
Volume/Cap:	0.00	XXXX	XXXXX	0.00	XXXX	XXXXX	0.07	0.01	0.00	XXXX	0.01	0.01

Level Of Service Module:	North Bound			South Bound			East Bound			West Bound		
Queue:	0.0	XXXX	XXXXX	0.0	XXXX	XXXXX	XXXXX	XXXX	XXXXX	XXXXX	XXXX	XXXXX
Stopped Del:	7.8	XXXX	XXXXX	8.2	XXXX	XXXXX	XXXXX	XXXX	XXXXX	XXXXX	XXXX	XXXXX
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	XXXX	XXXX	XXXXX	XXXX	XXXX	XXXXX	XXXX	331	XXXXX	XXXX	XXXX	463
SharedQueue:	XXXXX	XXXX	XXXXX	XXXXX	XXXX	XXXXX	XXXXX	0.3	XXXXX	XXXXX	XXXX	0.0
Shrd StpDel:	XXXXX	XXXX	XXXXX	XXXXX	XXXX	XXXXX	XXXXX	16.9	XXXXX	XXXXX	XXXX	12.9
Shared LOS:	*	*	*	*	*	*	*	C	*	*	*	B
ApproachDel:	XXXXXX			XXXXXX				16.9			12.9	
ApproachLOS:	*			*				C			B	

H35

TR 33558
Existing + Ambient + Project + Cumulative Conditions
Peak Hour

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

\*\*\*\*\*
Intersection #14 Jackson St. (NS) / Ave. 53 (EW)
\*\*\*\*\*

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: C[ 15.2]

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound) and 3 sub-columns (L, T, R) for Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns for traffic volume metrics (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Vol) and 12 rows for different approaches.

Critical Gap Module: Table with 12 columns for gap metrics (Critical Gp, FollowUpTim) and 12 rows for different approaches.

Capacity Module: Table with 12 columns for capacity metrics (Cnflct Vol, Potent Cap., Move Cap., Volume/Cap) and 12 rows for different approaches.

Level Of Service Module: Table with 12 columns for LOS metrics (Queue, Stopped Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd StpDel, Shared LOS, ApproachDel, ApproachLOS) and 12 rows for different approaches.

H36

TR 33558  
Existing + Ambient + Project + Cumulative Conditions  
Peak Hour

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

\*\*\*\*\*  
Intersection #15 Jackson St. (NS) / Project Drwy. (EW)  
\*\*\*\*\*

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: B[ 12.2]  
\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	0	0	0	0	1	0	0	0	0	0

Volume Module:												
Base Vol:	0	218	0	0	189	0	0	0	0	0	0	0
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	0	227	0	0	197	0	0	0	0	0	0	0
Added Vol:	2	143	0	0	48	3	10	0	5	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	370	0	0	245	3	10	0	5	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	2	389	0	0	258	3	11	0	5	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	2	389	0	0	258	3	11	0	5	0	0	0

Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx

Capacity Module:												
Cnflct Vol:	261	xxxx	xxxxx	xxxxx	xxxx	xxxxx	653	xxxx	259	xxxxx	xxxx	xxxxx
Potent Cap.:	1315	xxxx	xxxxx	xxxxx	xxxx	xxxxx	435	xxxx	784	xxxxx	xxxx	xxxxx
Move Cap.:	1315	xxxx	xxxxx	xxxxx	xxxx	xxxxx	435	xxxx	784	xxxxx	xxxx	xxxxx
Volume/Cap:	0.00	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.02	xxxx	0.01	xxxxx	xxxx	xxxxx

Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.1	xxxx	0.0	xxxxx	xxxx	xxxxx
Stopped Del:	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	13.5	xxxx	9.6	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	B	*	A	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			12.2			xxxxxx		
ApproachLOS:	*			*			B			*		

H37

TR 33558
Existing + Ambient + Project + Cumulative Conditions
Peak Hour

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

\*\*\*\*\*

Intersection #15 Jackson St. (NS) / Project Drwy. (EW)

\*\*\*\*\*

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: B[ 12.5]

\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module:

Table with 13 columns representing different traffic components and 13 rows for various volume metrics like Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module:

Table with 13 columns for critical gap and follow-up time metrics.

Capacity Module:

Table with 13 columns for capacity-related metrics like Conflict Vol, Potent Cap, Move Cap, etc.

Level Of Service Module:

Table with 13 columns for level of service metrics like Queue, Stopped Del, LOS by Move, etc.

H38