FINAL

HIGHWAY 12 MAJOR INVESTMENT STUDY

Submitted to

Solano Transportation Authority

Submitted by

Korve Engineering

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Approved by the STA Board on October 10, 2001.

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EXECUTIVE SUMMARY

This Major Investment Study (MIS) for State Route 12 (SR 12) has been prepared to identify the physical improvements and management practices necessary to appropriately serve future travel demand in the study corridor. The study corridor includes the potion of SR 12 between Interstate 80 and the Rio Vista Bridge. State Route 12 is an important east-west route connecting Sonoma, Napa, Solano, Sacramento, San Joaquin and Calaveras Counties. A two to four-lane roadway in the study area, SR 12 contains a mixture of freeway, two-lane highway, expressway and arterial sections. The facility serves many different users, including:

- Regional through trips and goods movement;
- Intercity travel;
- Commute traffic;
- Agricultural truck trips; and
- Recreational traffic, both local and regional in nature.

The MIS has not only been prepared to identify the type and size of roadway facility necessary to serve traffic levels forecast for the corridor as a whole. The study also developed a phased implementation plan of near-term physical improvements and management practices to serve near term traffic levels. While the corridor does not currently experience regular periods of congestion and delay, except for the portion through downtown Rio Vista, travel demand forecasts predict that traffic will more than double in the next twenty years. If improvements are not made in the corridor, poor service levels and "stop-and-go" conditions are predicted for SR 12, particularly on the portion east of SR 113. The goals established at the beginning of the study were to:

- Improve the transportation network and goods movement;
- Effectively serve all facility users;
- Preserve and protect the environment; and
- Preserve travel safety.

Traffic operations throughout the study corridor were evaluated through the calculation of Levels of Service (LOS) at eight intersections and eight highway segments. Future traffic levels in the study corridor were evaluated using the Solano Transportation Authority's (STA) Travel Demand Model. This model has developed future traffic volume forecasts throughout Solano County based on the latest projections from the Association of Bay Area Governments (ABAG). The model forecasts traffic conditions in the evening peak hour of travel in the year 2025. Using this information, future traffic conditions on study facilities were evaluated for the following four scenarios:

1. Year 2010 Base Case;
2. Year 2010 High Rio Vista Bridge Alternative;
3. Year 2025 Base Case; and
4. Year 2025 High Rio Vista Bridge Alternative.

Future conditions are evaluated both with and without capacity enhancements across the Sacramento River at the Rio Vista Bridge. Model projections indicate that this link will operate at capacity in the year 2025 and future capacity enhancements may be necessary. Near term traffic projections for the year 2010 have been calculated assuming a linear growth in traffic from existing levels to levels projected to occur in the year 2025 by the STA model.

Alternative Packages

To serve future traffic levels and protect travel safety, six alternative packages were developed. These are briefly summarized below:

Package 1. No Build

Package 2. Transportation Demand Management

2a. Carpooling Program with Park and Ride Construction
2b. Local Shuttle Program
2c. Transit Service

Package 3. Safety Improvements

3a. Advance Overhead Flashers at Beck/Pennsylvania
3b. Left Turn Lanes & Accel/Decel Lanes at Lambie/Shiloh with Realignment
3c. Traffic Signal at SR 113/SR 12
3d. Left Turn Lanes & Accel/Decel Lanes at Church Road with Realignment
3e. Advance Flashers at Summerset Road
3f. Acceleration and Deceleration Lanes at Railroad Museum
3g. Acceleration/Deceleration Lanes at Beck Avenue

Package 4. Near-Term Traffic Improvements

4a. Geometric Improvements at Pennsylvania Avenue
4b. Traffic Signal and Improvements at Lambie/Shiloh
4c. Traffic signal at SR 113/SR 12

Package 5. Passing Lane Installation

5a. New Passing Lanes – Postmiles 11.0 to 20.0
5b. New Passing Lanes – Postmiles 20.8 to 21.8

Package 6. Long-Term Traffic Improvements

6a. Widen to Four-Lanes Rio Vista City Limit to River Road
6b. Widen to Six-Lanes from Interstate 80 to Webster/Jackson
6c. Install Median Barrier and Shoulders from Walters Road to Rio Vista City Limit
6d. Grade Separation at Pennsylvania Avenue
6e. Left Turn Lanes at Lambie/Shiloh
6f. Traffic Signal at Church Road
6g. Rio Vista Bridge

Median Barrier

Median barriers on SR 12 are proposed under improvement alternatives 6c and 6a. Prior to the installation of median barriers on Highway 12, Caltrans will likely require the installation and testing of intermediate measures to improve safety and reduce head-on accidents. These intermediate measures will include items such as the installation of median and shoulder rumble strips and/or the installation of a median separation. The testing of intermediate measures is necessary because median barriers have several disadvantages, such as: emergency vehicles cannot turn around except at barrier breaks, exposed barrier ends create accidents, accidents created by vehicles striking barrier and aesthetic degradation, among others.

Alternatives Evaluation

Each of the six alternatives packages were reviewed in detail. This analysis included both near and long-term traffic operations analyses with and without each improvement alternative, as well as the preparation of planning level cost estimates. For each alternative an environmental screening analysis was also conducted in order to identify potential environmental issues and fatal flaws (if any). Finally, each alternative was quantitatively and qualitatively evaluated using the following criteria:

- Daily Vehicle/Person Trips Carried;
- Auto Travel Time Savings;
- Goods Movement Potential;
- Capital Cost;
- Operating Cost;
- Reduction in Automobile Vehicle Hours of Travel;

- Environmental Impacts;
- Ease of Implementation;
- Safety Enhancement; and
- Economic/Development Growth Potential.

The Alternatives Evaluation identified that Alternative Package 1, the No-Build Alternative, would not adequately serve near or long-term traffic levels in the study corridor, nor would the package remedy the existing identified accident problems. Alternative Package 2, the Transportation Demand Management Alternative, was also not found to adequately serve near or long-term traffic levels forecast to prevail on SR 12 from I-80 to the Sacramento River. While Alternative Package 3, Safety Improvements, would not provide the necessary additional capacity in the study corridor, it would eliminate the existing accident problems identified by the study.

The implementation of Alternative Package 4, Near-Term Traffic Improvements, would result in adequate operating conditions in the study corridor to the year 2010; however, post-2010, additional capacity enhancements are expected to be required. Alternative Package 5, Passing Lane Installation, was not found to adequately serve near or long term traffic conditions in the study corridor. Finally, only Alternative Package 6, Long-Term Traffic Improvements would result in adequate operating conditions under year 2025 traffic volumes.

Public Outreach

Two public meetings were held during the course of the study. The MIS and its draft recommendations were presented to the public during evening meetings on March 28 and April 25, 2001 in Rio Vista and Suisun City, respectively. Some of the common, reoccurring themes that were commented on in both meetings included the following:

- SR 12 is a dangerous roadway for many different reasons including:
  - High speeds;
  - Lack of shoulders;
  - Heavy truck traffic; and
  - Poor roadway condition.
- A median barrier is needed on SR 12;
- In general, the study corridor is in poor condition and Caltrans does not adequately maintain the roadway; and
- Heavy truck traffic in the corridor causes roadway damage and safety problems.

Alternative Package Recommendations

Based on the Alternatives Evaluation, the following phased improvements are recommended to be carried forward by STA.

Near-Term Recommendations

To serve near-term traffic levels projected to occur in the year 2010, the following Alternative Packages are recommended:

- Alternative Package 2 (TDM);
- Alternative Package 3 (Safety Improvements); and
- Alternative Package 4 (Traffic Operations).

The combination of these three Alternative Packages will appropriately serve near-term traffic projections and resolve the identified safety issues in the study corridor.

Long-Term Recommendations

To serve long-term traffic levels projected to occur in the year 2025, the following Alternative Packages are recommended:

- Alternative Package 2 (TDM);
- Alternative Package 3 (Safety Improvements);
- Alternative Package 4 (Traffic Operations); and
- Alternative Package 6 (Main-Line Widening).

The combination of these four Alternative Packages will appropriately serve long-term traffic projections and resolve the identified safety issues in the study corridor.

Implementation and Next Steps

Short and long range planning for a corridor such as Highway 12 between Interstate 80 and the Sacramento River is an ongoing process that should be continuously monitored. This MIS is a snapshot in time, providing current recommendations to improve existing traffic conditions in the corridor as well as those improvements necessary to serve traffic forecasts for the corridor. However, land-use policies change frequently and periodically, traffic conditions in the study corridor must be revisited and recommendations revised, if necessary.

To ensure that the recommendations of this MIS are carried forward and that traffic conditions in the corridor are revisited periodically, the following monitoring program is proposed.

1. STA will monitor Caltrans' SHOPP program to ensure that the safety recommendations identified in the MIS (Alternative Package 3) are implemented by Caltrans.
2. STA will include the short and long-term recommendations (Alternative Packages 4 and 6) of this MIS into the Solano Comprehensive Transportation Plan.
3. STA will pursue a planning grant for a feasibility study to evaluate a potential long range capacity enhancement across the Sacramento River in Rio Vista.
4. STA will work to identify future funding sources to implement the short and long term recommendations (Alternative Packages 4 and 6) of the MIS.
5. Every 3-5 years, STA will comprehensively monitor existing and future traffic conditions through the study corridor to revisit the recommendations of this study.
6. Project Study Reports (PSR) for each of the individual recommended improvements should be pursued as soon as feasible.

INTRODUCTION

State Route 12 (SR 12) is an important east-west route connecting Sonoma, Napa, Solano, Sacramento, San Joaquin and Calaveras Counties. This Major Investment Study (MIS) has been prepared to identify potential existing and future transportation deficiencies and develop appropriate phased remedies in the study corridor. The portion of SR 12 under evaluation in this Major Investment Study extends from Interstate 80 to the Sacramento River. A two to four-lane roadway in the study area, SR 12 contains a mixture of freeway, two-lane highway, expressway and arterial sections. The facility serves a multitude of different users, including:

- Regional through trips and goods movement;
- Intercity travel;
- Commute traffic;
- Agricultural truck trips; and
- Recreational traffic, both local and regional in nature.

Purpose and Need

The purpose of the State Route (SR) 12 Major Investment Study is to identify the physical improvements and management practices necessary to appropriately serve future travel demand on SR 12 between Interstate 80 and the Rio Vista Bridge. The identified improvements and travel demand forecasts will be consistent with those developed by the 1997 MIS prepared for the section of SR 12 from the Rio Vista Bridge to SR 99.

While the corridor does not currently experience regular periods of congestion and delay, except for the portion through downtown Rio Vista, travel demand forecasts predict that traffic will more than double in the next twenty years. If improvements are not made in the corridor, poor service levels and "stop-and-go" conditions are predicted for SR 12, particularly on the portion east of SR 113.

This study will identify existing and future travel levels, including traffic generated by regional through trips, goods movement, intercity travel, commute traffic, agricultural truck trips and recreational travel. The type and size of roadway facility necessary to serve traffic levels forecast for the corridor as a whole should be identified and a plan for the phased implementation of near-term physical improvements and management practices will be developed. In addition to the use of corridor capacity and travel demand as decision factors, the study will also be conscious of the existing visual character and urban design features of the existing corridor and work to preserve these features.

Identified improvements will also be focused on travel safety problems that currently exist in the corridor, and work to eliminate any safety hazards. The study will also identify the environmental constraints that exist in the corridor. Project partners will be identified and engaged so that funding sources for the identified improvements may be developed. Finally, the MIS process will work to proactively involve all interested parties and their input in a meaningful fashion.

The goals established for the MIS at the beginning of the project were to:

- Improve the transportation network and goods movement;
- Effectively serve all facility users;
- Preserve and protect the environment; and
- Preserve travel safety.

EXISTING CONDITIONS

Daily Traffic Counts

To assess existing traffic levels in the study corridor, weeklong, twenty-four hour hose counts were conducted at a number of locations. During the week of September 1 through September 7, 2000,

hose counts were performed on SR 12 just west of the Walters Road intersection and just east of the Church Road intersection. This week included the Labor Day weekend (Friday September 1 through Sunday September 3). To reaffirm these results, additional hose counts were performed during the week of November 8 through November 14 on SR 12 just east of Sunset Avenue. Figures 1, 2 and 3 and Table 1 present summaries of these three hose counts. The raw count data, broken out into fifteen-minute intervals, by direction is attached in Appendix A.

Daily traffic volumes in the study corridor range from 30,000 and higher around Sunset Avenue and to the west, to approximately 14,000 in and around Rio Vista. The weekday evening peak hour is approximately 15 percent higher than the morning peak hour.

Table 1: Daily Traffic Count Summary

Section	Weekday		Saturday	
	Daily	Peak Hour	Daily	Peak Hour
SR 12 West of Walters Rd	20,300	1,600	18,000	1,500
SR 12 East of Church Rd	14,000	1,200	13,000	1,100
SR 12 East of Sunset Ave	28,200	2,300	25,000	1,900

As illustrated in Figure 3, weekday traffic peaks in the morning period from 7 to 9 AM and in the evening between 5 and 7 PM.

Intersection Levels of Service

In addition to the week-long hose counts, manual peak hour turning movement counts were conducted at the following eight critical intersections in the study corridor:

- SR 12/Pennsylvania Avenue;
- SR 12/Sunset Avenue;
- SR 12/Walters Road;
- SR 12/Lambie Road/Shiloh Road;
- SR 12/SR 113;
- SR 12/Summerset Road;
- SR 12/Church Road; and
- SR 12/Hillside Terrace.

The intersection counts were performed during the morning and evening peak hours of travel on Wednesday, October 11, 2000. Operating conditions at each of the eight study intersections have been calculated using the methodology of the Transportation Research Board's *1994 Highway Capacity Manual*. With this methodology, an intersection Level of Service (LOS) letter grade is assigned to describe operating conditions. The LOS concept qualitatively characterizes traffic conditions associated with varying levels of traffic. A LOS determination is a measure of congestion, which is the principal measure of roadway service. Table 2 presents level of service definitions for signalized and unsignalized intersections. These range from LOS A, which indicates free flow conditions to LOS F, which indicates a jammed condition. LOS A, B and C are generally considered to be satisfactory service levels, while LOS D is marginally acceptable, LOS E is undesirable and LOS F conditions are unacceptable.

Figure 1
State Route 12 West of Walters Road

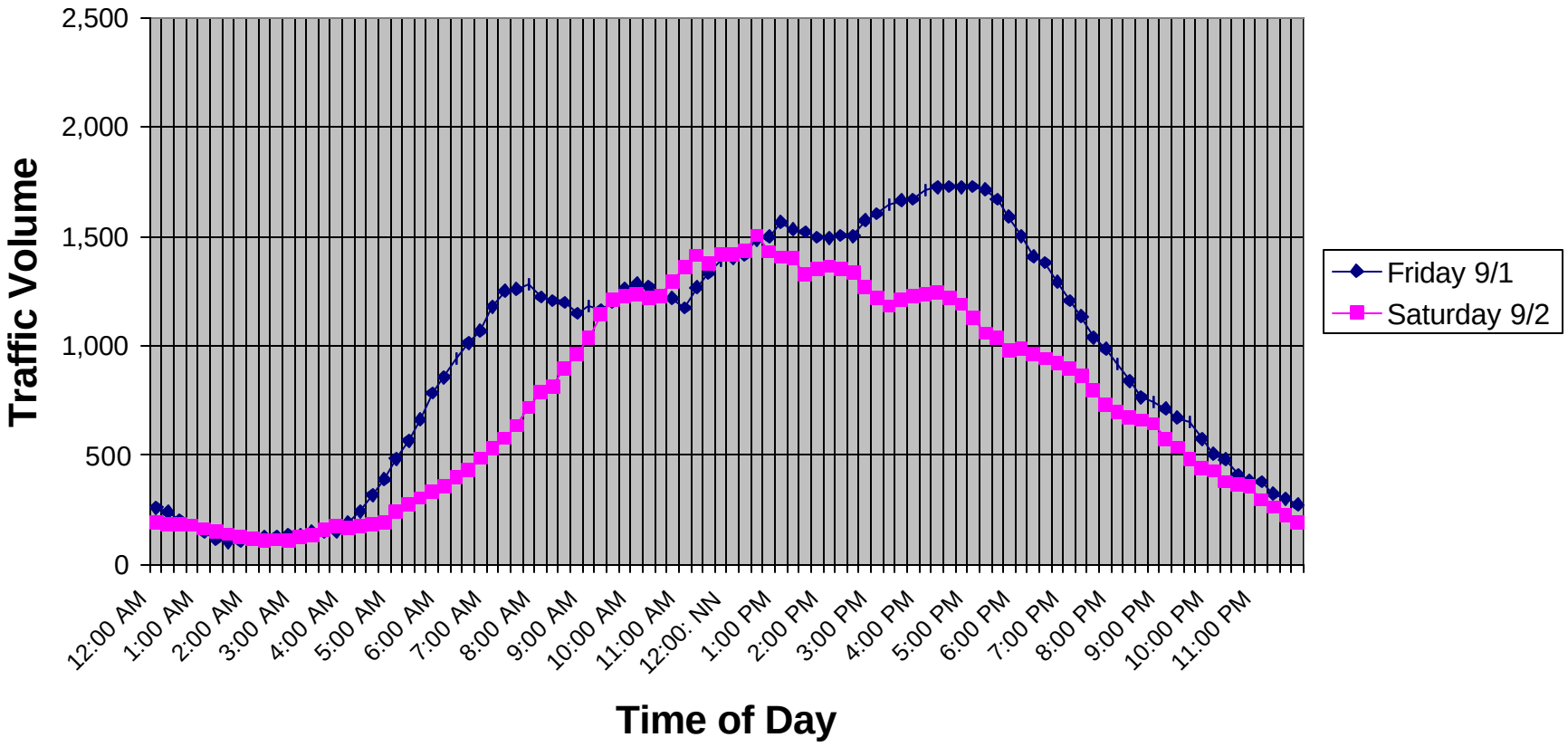


Figure 2
State Route 12 East of Church

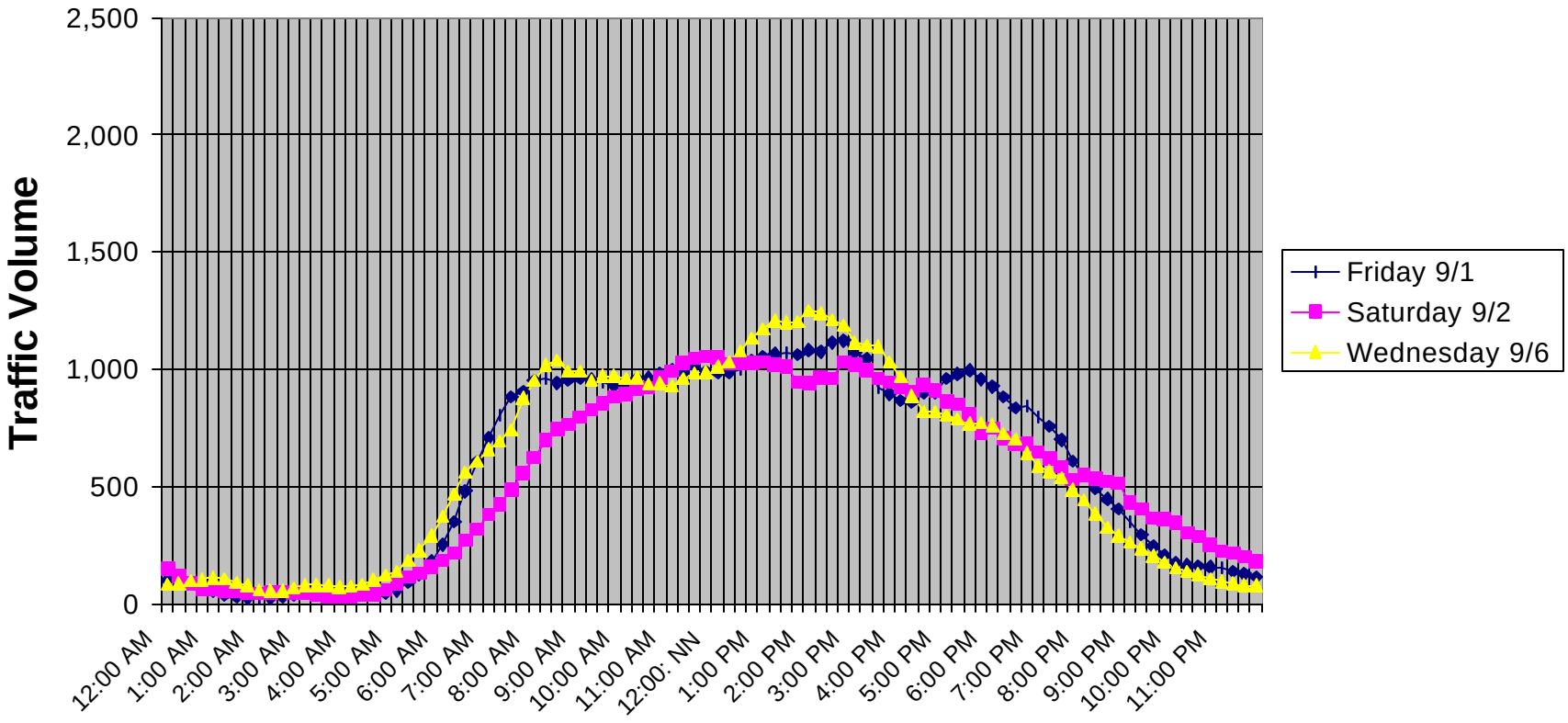


Figure 3
State Route 12 East of Sunset Avenue

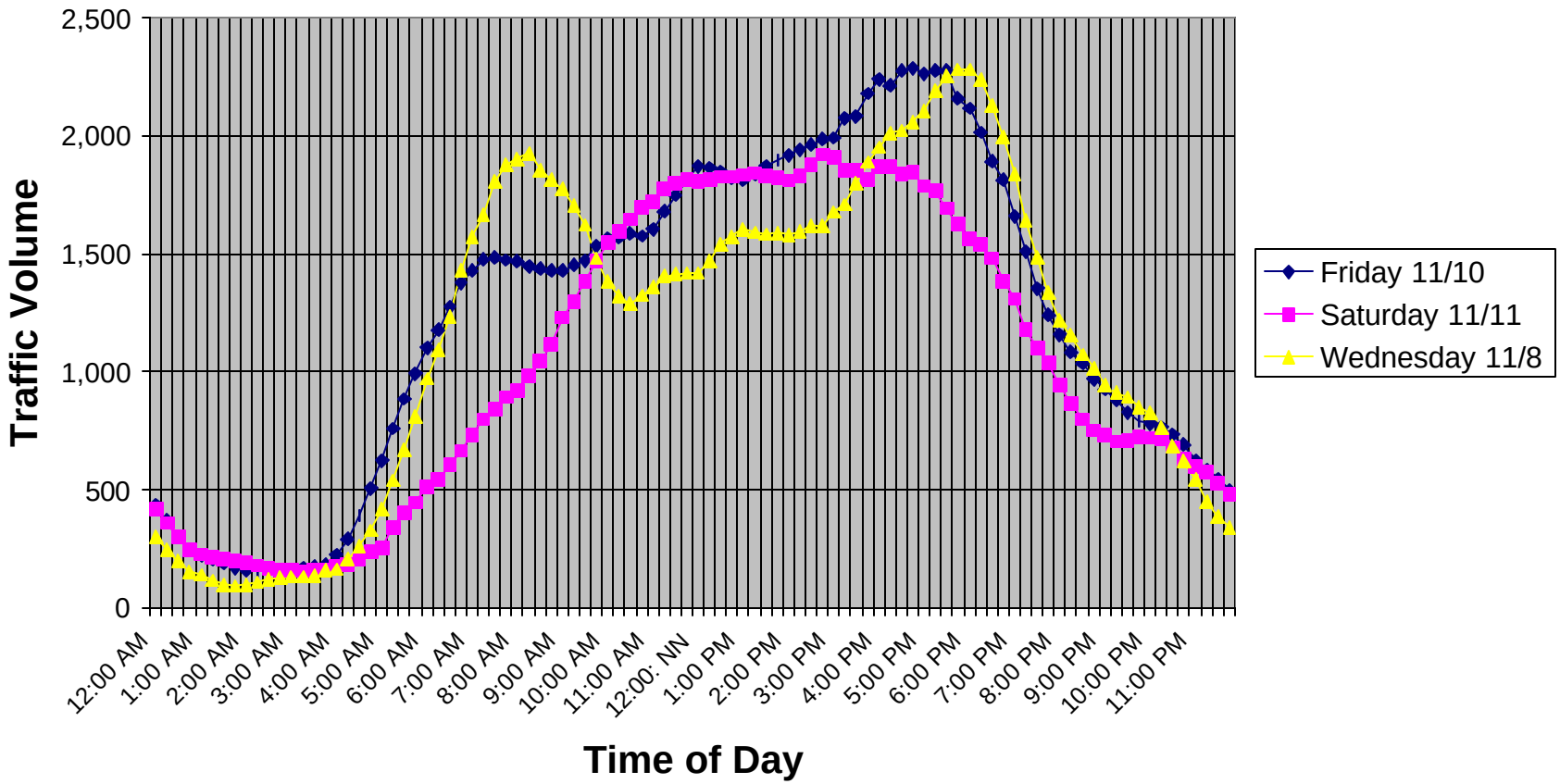


Table 2: Intersection LOS Definitions

LOS	Signalized Intersections Stopped Delay (seconds/vehicle)	Unsignalized Intersections Average Total Delay (seconds/vehicle)
A	≤ 5.0	≤ 5.0
B	5.1 – 15.0	5.1 - 10.0
C	15.1 – 25.0	10.1 – 20.0
D	25.1 – 40.0	20.1 – 30.0
E	40.1 – 60.0	30.1 – 45.0
F	≥ 60.1	≥45.1

Source: Transportation Research Board, *Highway Capacity Manual*, 1994

The results of the intersection LOS analysis are presented in Table 3. Detailed LOS calculation worksheets are attached in Appendix B. With the exception of the Hillside Terrace/Main Street/SR 12 intersection, each of the study locations currently functions at LOS D or better. Under existing traffic volumes, a signal is warranted at the Hillside Terrace intersection and the installation of a traffic signal at this location is currently programmed. With the installation of a traffic signal, this intersection would function at LOS B with low levels of vehicle delay. While through traffic on SR 12 passes through this intersection unimpeded, traffic on the minor street approaches can find it difficult to cross SR 12 or enter mainstream traffic at this location (it is this movement that functions at LOS E). This condition exists throughout the developed section of SR 12 in Rio Vista. During peak periods, crossing or entering SR 12 can be difficult for vehicles and pedestrians because of the magnitude of prevailing traffic flows on SR 12.

The intersection of Pennsylvania Avenue and SR 12 was identified as operating at LOS D with approximately 40 seconds of average vehicle delay per vehicle in the evening peak hour.

Table 3: Intersection Level of Service Summary

Intersection	AM Peak Hour		PM Peak Hour	
	Delay[1]	LOS	Delay[1]	LOS
Pennsylvania Avenue	12.8	B	39.2	D
Sunset Avenue	11.3	B	14.4	B
Walters Road	12.3	B	10.0	B
Shiloh Road/Lambie Road	0.4	B	0.5	B
SR 113	2.1	C	2.5	C
Summerset Road	3.4	A	3.5	A
Church Road	0.4	B	0.5	B
Main Street/Hillside Terrace	2.6	C	1.3	C

[1] Seconds per vehicle.

Link/Segment Levels of Service

In addition to the intersection LOS calculations, peak hour service levels have been calculated on the following eight links/segments in the corridor:

- SR 12 West of Pennsylvania Avenue;
- SR 12 West of Sunset Avenue;
- SR 12 West of Walters Road;
- SR 12 West of Shiloh Road/Lambie Road;
- SR 12 West of SR 113;
- SR 12 West of Summerset Road;
- SR 12 West of Church Road; and
- SR 12 Through Rio Vista.

Link levels of service have been calculated using directional volume to capacity ratios. Based on the Transportation Research Board's *1994 Highway Capacity Manual*, the following capacities have been

assumed for the different segments in the study corridor:

- 4-Lane Freeway/Expressway – Suisun/Fairfield = 1,800 vehicles per hour per lane;
- 2-Lane Highway – Walters Road to Rio Vista = 1,400 vehicles per hour per lane; and
- Arterial – Through Rio Vista and Bridge = 900 vehicles per hour per lane.

Based on these capacities and existing traffic volumes, levels of service have been assigned based on the calculated volume to capacity ratios and the LOS definitions illustrated in Table 4.

Table 4: Link Level of Service Definitions

Level of Service	Volume to Capacity Ratio
A	< 0.60
B	0.60 to 0.70
C	0.70 to 0.80
D	0.80 to 0.90
E	0.90 to 1.0
F	>1.0

Table 5 presents the results of the link level of service analysis for the existing condition. Each study link was found to function at LOS A with the exception of the segment through Rio Vista. As would be expected, currently the existing signalized intersections function as the bottlenecks in the study corridor, rather than the links between intersections.

Table 5: Link Level of Service Summary

Intersection	Existing	
	AM	PM
SR 12 West of Pennsylvania	A	A
SR 12 West of Sunset	A	A
SR 12 West of Walters	A	A
SR 12 West of Shiloh/Lambie	A	A
SR 12 West of SR 113	A	A
SR 12 West of Summerset	A	A
SR 12 West of Church	A	A
SR 12 Through Rio Vista	B	C

Truck Traffic

Based on the most recent data available from Caltrans, truck traffic in the study corridor ranges from six percent on the western portion to fourteen percent through the middle of the corridor (around SR 113) and in Rio Vista. Truck traffic does not decrease in the western portion of the corridor; it simply comprises a lesser percent of total traffic because of the disproportionate increase in vehicular traffic.

Accident Data

Accident data for the five-year period between January 1, 1995 and December 31, 1999 was collected from the Traffic Accident Surveillance and Analysis System (TASAS) maintained by Caltrans. For the purposes of the accident analysis the study corridor was divided into the following three sections:

- **Section 1**: Section 1 is 6.353 miles long from Fairfield, East Junction Route 80 to Walters Road (post mile 1.80 to 7.159);
- **Section 2**: Section 2 is 18.427 miles long from Walters Road to Rio Vista, Drouin Drive (post mile 7.16 to 25.579); and
- **Section 3**: Section 3 is 0.701 miles long from Rio Vista, Drouin Drive to Rio Vista, Junction Route 84 North (post mile 25.58 to 26.28).

The study corridor was divided into these three sections because of the distinct geometric characteristics that each possess. Section 1 is a mixture of divided freeway and arterial sections, while Section 2 is a rural two-lane highway segment and Section 3 is an arterial section through Rio Vista.

Table 6 presents a summary of the accident analysis for each of the three study sections. Presented in the table are the actual observed accident rates and the statewide average rates for similar facilities statewide.

Table 6: Study Corridor Accident Summary

Section	Actual Rate		Statewide Average Rate	
	Fatality + Injury	Total	Fatality + Injury	Total
1. I-80 to Walters Road	0.84	1.62	0.64	1.45
2. Walters Rd to Drouin Dr	0.30	0.69	0.44	0.88
3. Drouin Dr to Sacramento Rvr	1.32	3.12	1.12	2.87

Note: Reported accident rates are "accidents per million vehicle miles".

As illustrated in Table 6, the actual observed rates on Sections 1 and 3 are greater than the statewide average on similar facilities while the observed rate on Section 2 is less than the statewide average on similar facilities.

In summary, the study corridor had a total of 829 reported accidents in the five-year analysis period. Sixty-five percent (535) of the accidents occurred in Section 1. These resulted in 2 fatalities and 452 injuries. Twenty-eight percent (235) of the accidents occurred in Section 2. These resulted in 13 fatalities and 179 injuries. Finally, seven-percent (59) of the total accidents occurred in Section 3. These resulted in no fatalities and 36 injuries.

Section 1

A majority of the accidents reported in this section occurred near or in the intersections along this stretch of the corridor. Accident records at each of the intersections in this section were reviewed in detail. Specifically, the Primary Collision Factor (PCF) and Type of Collision (TOC) for the intersections and approaches to the intersections in Section 1 were examined.

- On the intersection approaches, 79% of the accidents were rear-end collisions. The primary collision factors were 53% speed related, 11% "other" violations, 3% failure to yield, and 33% were various factors such as improper driving, following too close and falling asleep.

- In the intersections, 75% of the accidents were broadside type of collision. The primary collision factors included 44% "other" violations, 26% failure to yield, 18% other factors, and 12% speed related.

The above results are typical for intersections and intersection approaches. At intersection approaches, rear end types of collisions are common during stop-and-go conditions. Also, drivers traveling at excessive speeds approaching an intersection often do not stop in time.

At intersections, a broadside type of collision is also common because of the presence of conflicting movements. Inadequate signal timing and excessive congestion could increase driver frustration, which may lead drivers to make risky and unsafe maneuvers such as running a red light, and not yielding.

Fatalities

Although a relatively high number of fatality accidents (11) occurred in Section 2, the actual fatality accident rate was 0.032, which is slightly less than the average fatality accident rate of 0.036. Of the 11 fatal accidents, seven were head-on; two hit objects; and two were broadside collisions. The primary collision factors in these accidents were human factors. Five of the fatal accidents were alcohol related, three were other violations, two were improper turns and one was a failure to yield.

Accident Hot Spots

Beck Avenue/SR 12 and Pennsylvania Avenue/SR 12 – These two intersections experience a relatively high rate of rear-end accidents. This is to be expected to a degree since in the eastbound direction Beck Avenue is the first intersection encountered after I-80. While side-mounted advanced warning flashers have been installed, they have not eliminated the rear-end accident problem. To a lesser degree, rear-end accidents also occur at the Marina Boulevard and Sunset Avenue intersections.

Shiloh Road/Lambie Road – The Shiloh Road/Lambie Road intersection does not provide left turn lanes for left turning vehicles to be isolated from the mainline traffic flow and inadequate acceleration/deceleration distance is provided for right turning vehicles on SR 12. This configuration combined with poor sight distance has resulted in a number of injury and a single fatality accident at this location over the last five years.

SR 12 between Walters Road and Summerset Road – While relatively few accidents occurred (per mile of roadway) in this section of the corridor, when accidents do occur they have a higher likelihood to be injury or fatality in nature. A number of head on fatality accidents have occurred in this section. As previously discussed, these accidents are most often caused by driving under the influence of alcohol or unsafe driving practices.

SR 113 – A high number of broadside accidents have occurred at the unsignalized intersection of SR 113 and SR 12. In the westbound direction a left turn lane on SR 12 is provided at this heavily trafficked location; however, high speeds and limited sight distance have resulted in a broadside fatality along with a number of broadside injury and non-injury accidents at SR 113. Frequent occurrences of broadside accidents at unsignalized intersections are an indication that a signal is needed to control conflicts between major and minor street movements.

Summerset Road – The Summerset Road/SR 12 intersection has experienced a relatively high incidence of rear end accidents. Because this is the first signalized intersection for some distance on SR 12 at this location, an advanced warning flasher is warranted at this location.

Church Road – Similar to the Shiloh Road/Lambie Road intersection, the Church Road/SR 12 intersection, does not provide left turn lanes for left turning vehicles to be removed from the mainline traffic flow and inadequate acceleration/deceleration distance is provided for right turning vehicles on SR 12. This configuration has resulted in a relatively high number of injury and non-injury accidents

Hillside Terrace - A large number of broadside and rear-end accidents have occurred at this location over the last five years. This is a location where side-street traffic can have difficulty accessing or crossing the mainline traffic flow during peak traffic periods.

Rio Vista – Through Rio Vista a relatively high number of auto/pedestrian collisions have occurred. These accidents likely occur because of poorly defined areas for pedestrians to cross SR 12 in Rio Vista along with traffic speeds and heavy traffic volumes.

Table 7 summarizes the identified accident hot spots along with potential remedies.

Other agencies, particularly the Highway 12 Safety Task Force, have studied a number of these accident problems and solutions in detail in recent years and solutions to some of these problems are funded at this time. The status of these improvements by others is also included in Table 7.

Table 7: Potential Accident Remedies

Accident Hot-Spot	Potential Remedy	Status
Beck/Pennsylvania Avenues	Overhead Actuated Advanced Flashers	
Shiloh/Lambie Roads	Install left turn lanes and accel/decel lanes for right turns	SHOPP - 2006
SR 12 between Walters and Summerset	Raised Centerline, Median Barrier, Passing Lanes, Vertical Curve Reduction	Installation of raised and inverted profile reflective centerline through corridor is now 90 percent complete. Passing lane project is currently under construction. Vertical curve reduction project is scheduled for construction in 2006.
SR 113	Install Traffic Signal	
Summerset Road	Install Advanced Warning Flashers	
Church Road	Install left turn lanes and accel/decel lanes for right turns	Funding for the installation of left turn lanes and right turn accel/decel lanes is being sought.
Hillside Terrace	Install Traffic Signal	Project is currently programmed.
Rio Vista	Install Signalized/Lighted Crosswalk at Gardiner/SR 12	Project is funded.

Highway 12 Safety Task Force

The Highway 12 Safety Task Force was convened in October of 1998 to study accident issues in the SR 12 corridor and recommend potential solutions. The Task Force has been extremely effective in identifying accident problems and causes and proactively pursuing solutions to the issues. Many of the issues discussed above were identified by the Task Force some time ago and they are responsible for the current funding and programming of geometric improvements to eliminate these accident problems. In addition to geometric improvements, the Task Force has been responsible for the introduction of signage in the corridor and increased enforcement. A summary of their actions is included in their recently published *Highway 12 Safety Corridor Action Plan*.

Caltrans SHOPP Projects

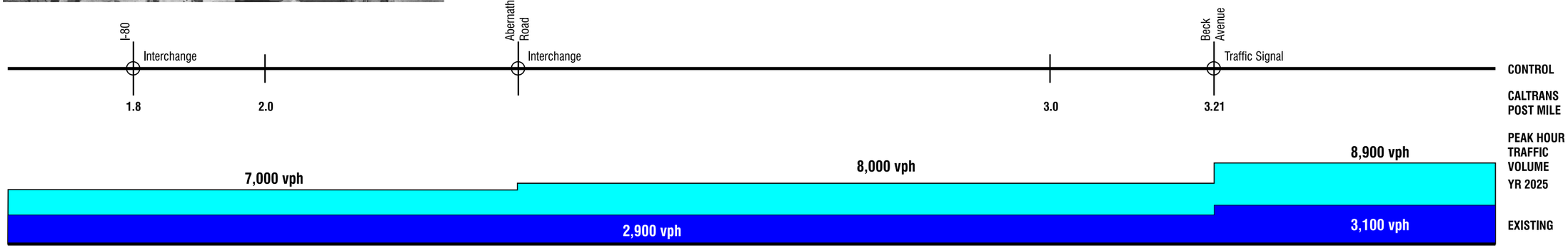
The Caltrans State Highway Operational Protection Program (SHOPP) has three active projects in the study corridor. By definition, SHOPP projects must not add roadway capacity. SHOPP funds are to be spent only for the maintenance and upkeep of existing facilities. The active projects in the SR 12 corridor, include the following:

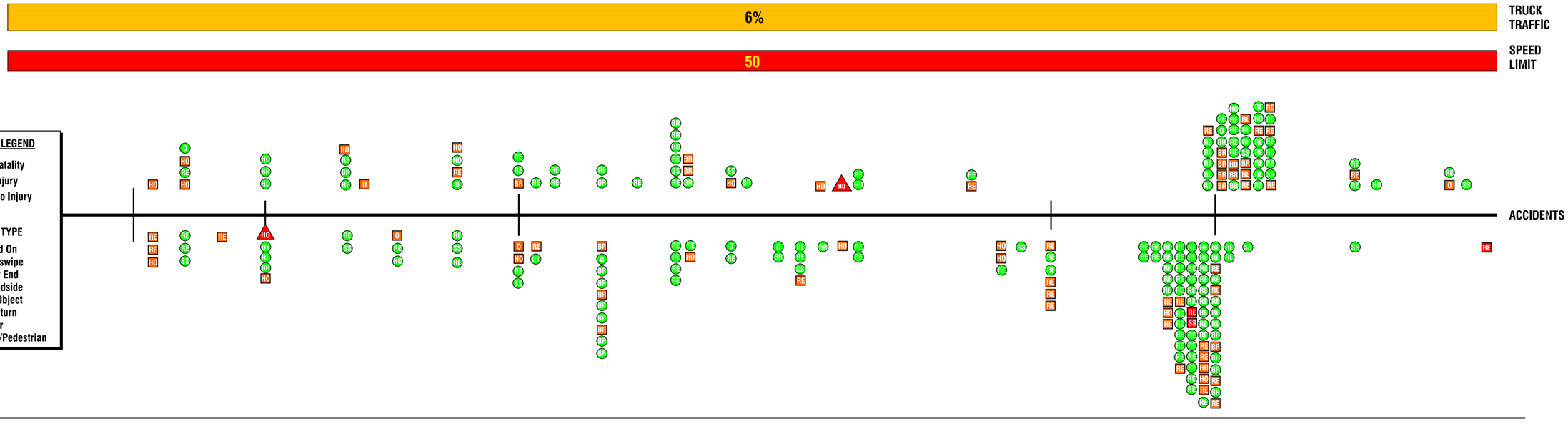
- Replacement of the Round Hill Creek Bridge;
- Highway Rehabilitation and Vertical Curve Reduction (Scally Road, PM 7.9 to the Denverton Overhead, PM 14.7); and
- Highway Rehabilitation and Vertical Curve Reduction (Denverton Overhead, PM 14.7 to Currie Road, PM 20.6).

Fact sheets for each of these projects are attached in Appendix C.

Summary Figures

To present the large amount of information that was collected through the existing conditions analysis, thirteen figures have been prepared that illustrate and summarize this data. The figures, numbered 4 through 16, are attached below and present the corridor from west to east. They illustrate intersection control, Caltrans post-miles, existing and projected year 2025 traffic volumes, speed limit, truck traffic and accidents.

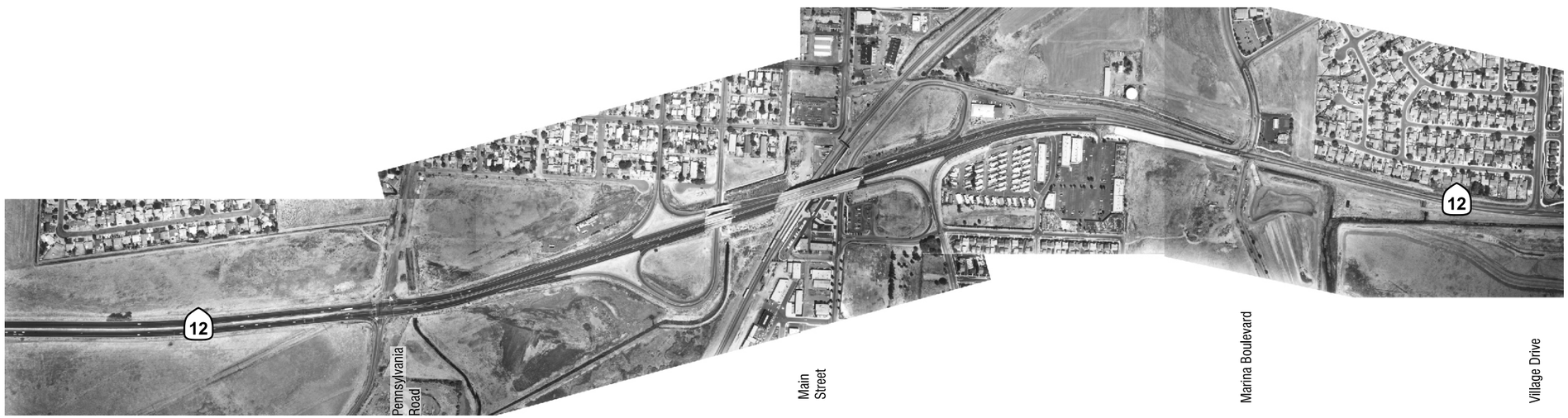


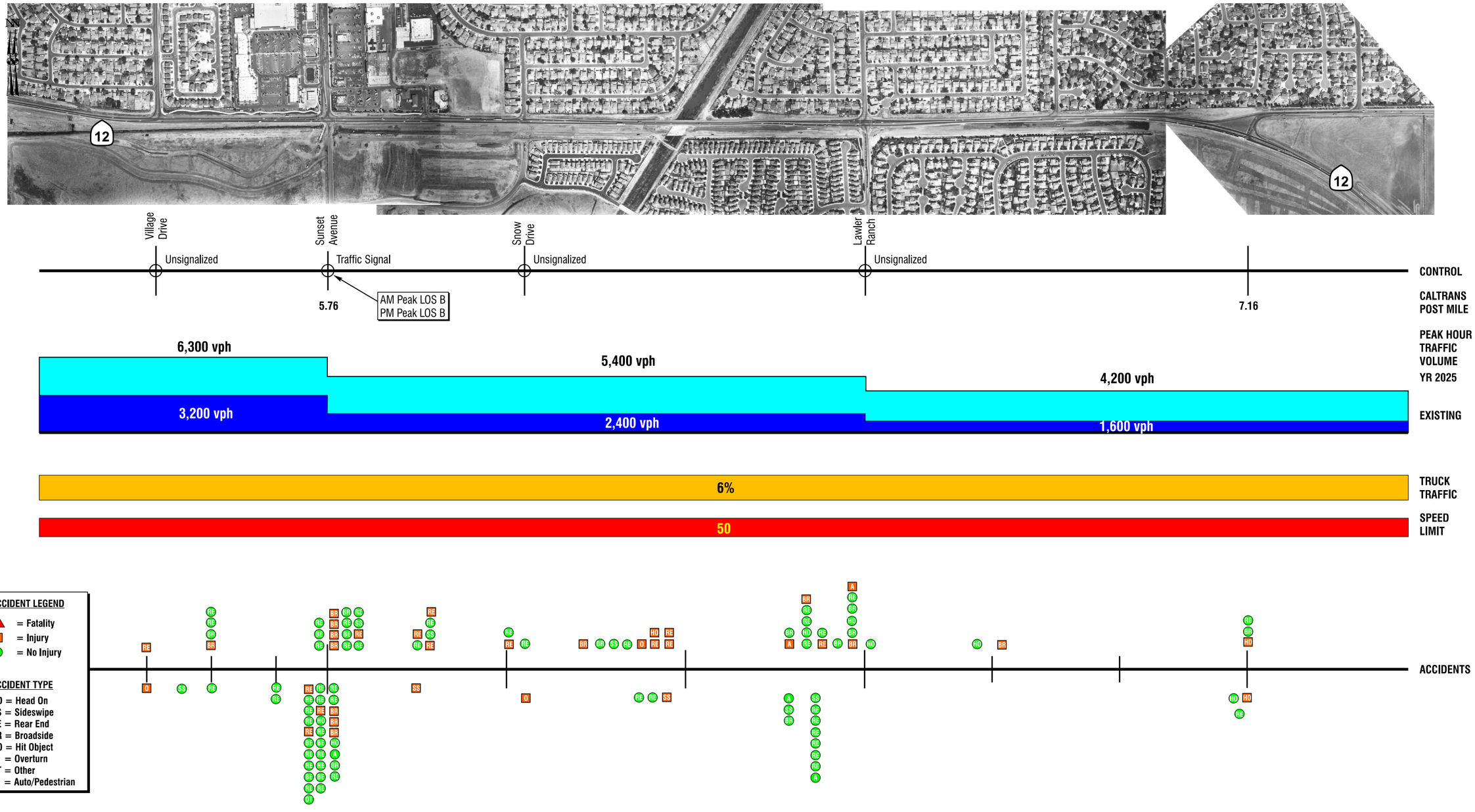


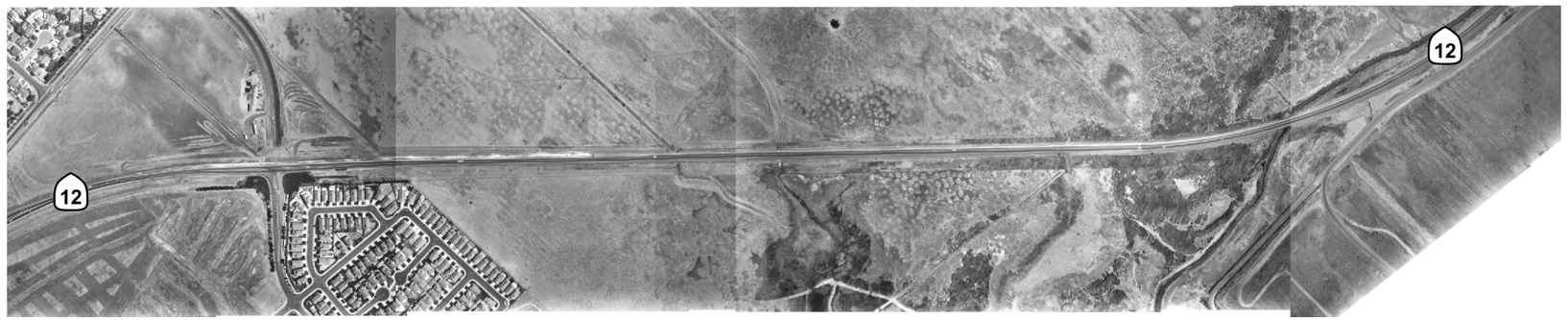
Korve Engineering

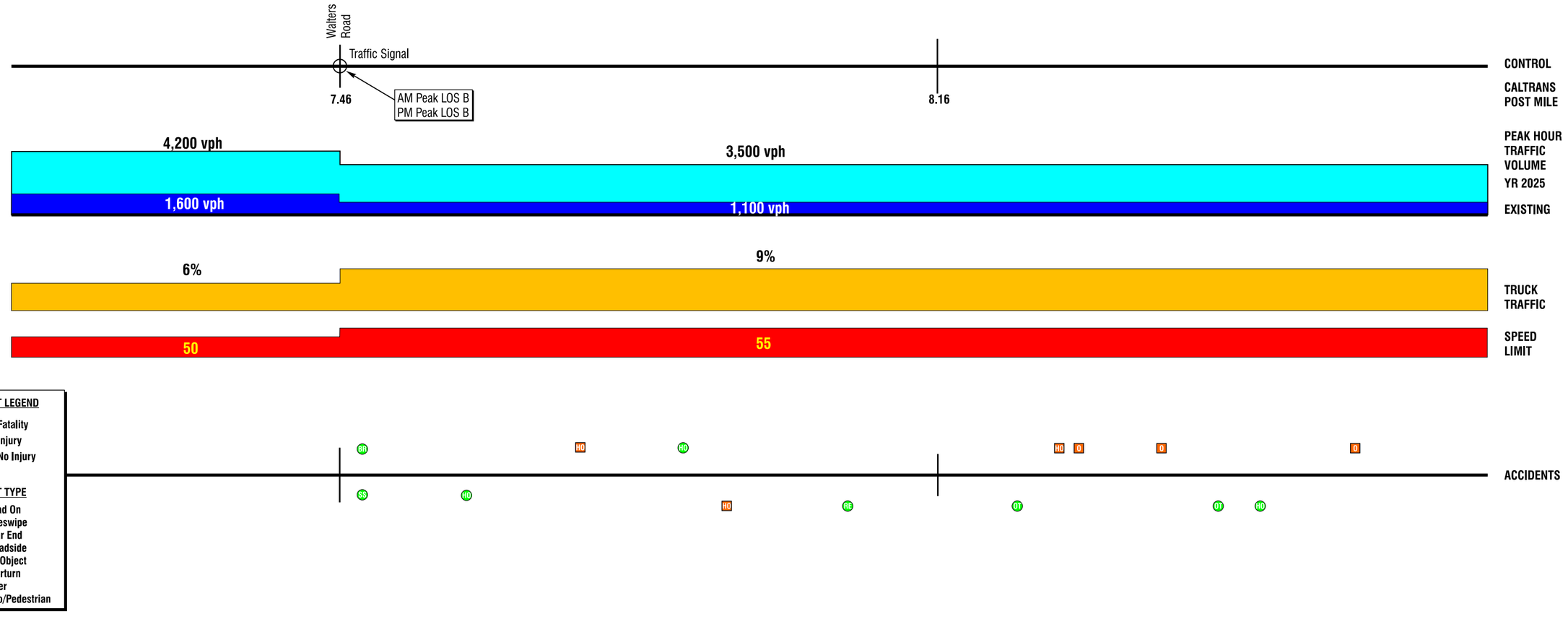
STATE ROUTE 12 MAJOR INVESTMENT STUDY

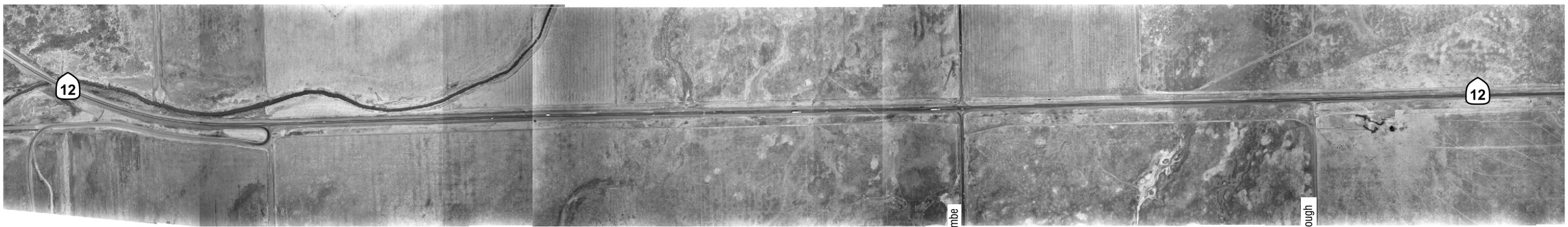
Figure 4


12
12
Pennsylvania Road
Main Street
Marina Boulevard
Village Drive
Traffic Signal
Interchange
Traffic Signal
Unsignalized
AM Peak LOS B
PM Peak LOS D
4.07
5.04
CONTROL
CALTRANS POST MILE
8,900 vph
8,400 vph
3,100 vph
4,000 vph
3,200 vph
PEAK HOUR TRAFFIC VOLUME
YR 2025
EXISTING
6%
TRUCK TRAFFIC
50
SPEED LIMIT
ACCIDENTS
ACCIDENT LEGEND
= Fatality
= Injury
= No Injury
ACCIDENT TYPE
HD = Head On
SS = Sideswipe
RE = Rear End
BR = Broadside
HO = Hit Object
O = Overturn
OT = Other
A = Auto/Pedestrian


12
12
Village Drive
Unsignalized
Sunset Avenue
Traffic Signal
5.76
AM Peak LOS B
PM Peak LOS B
Snow Drive
Unsignalized
Lawler Ranch
Unsignalized
7.16
CONTROL
CALTRANS POST MILE
PEAK HOUR TRAFFIC VOLUME
YR 2025
EXISTING
6,300 vph
5,400 vph
4,200 vph
3,200 vph
2,400 vph
1,600 vph
6%
TRUCK TRAFFIC
50
SPEED LIMIT
ACCIDENT LEGEND
= Fatality
= Injury
= No Injury
ACCIDENT TYPE
HD = Head On
SS = Sideswipe
RE = Rear End
BR = Broadside
HO = Hit Object
O = Overturn
OT = Other
A = Auto/Pedestrian
ACCIDENTS


12
12


Walters Road
Traffic Signal
7.46
AM Peak LOS B
PM Peak LOS B
8.16
CONTROL
CALTRANS POST MILE
4,200 vph
3,500 vph
1,600 vph
1,100 vph
PEAK HOUR TRAFFIC VOLUME
YR 2025
EXISTING
6%
9%
TRUCK TRAFFIC
50
55
SPEED LIMIT
ACCIDENT LEGEND
= Fatality
= Injury
= No Injury
ACCIDENT TYPE
HD = Head On
SS = Sideswipe
RE = Rear End
BR = Broadside
HO = Hit Object
O = Overturn
OT = Other
A = Auto/Pedestrian
ACCIDENTS



Scally Road
Unsignalized
8.89

Branscombe Road
Unsignalized
9.8

Nurse Slough Road
Unsignalized
10.3

CONTROL

CALTRANS POST MILE

3,500 vph
1,100 vph
3,000 vph
900 vph

PEAK HOUR TRAFFIC VOLUME
YR 2025
EXISTING

9%
12%

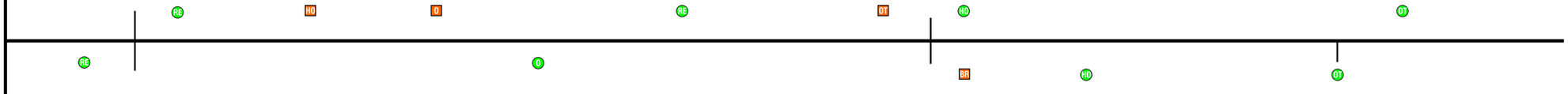
TRUCK TRAFFIC

55

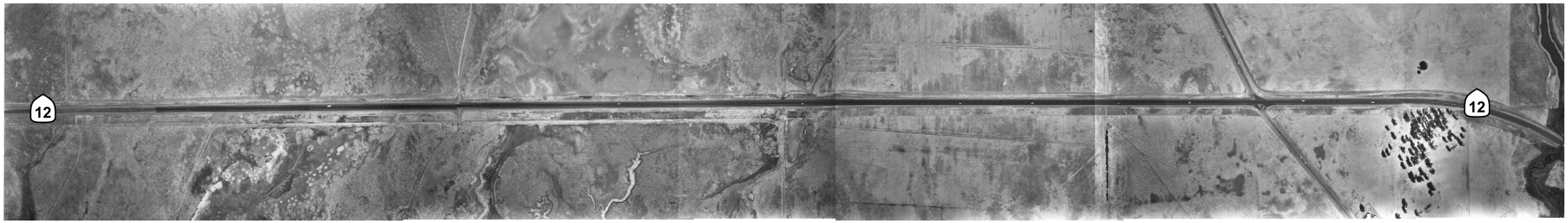
SPEED LIMIT

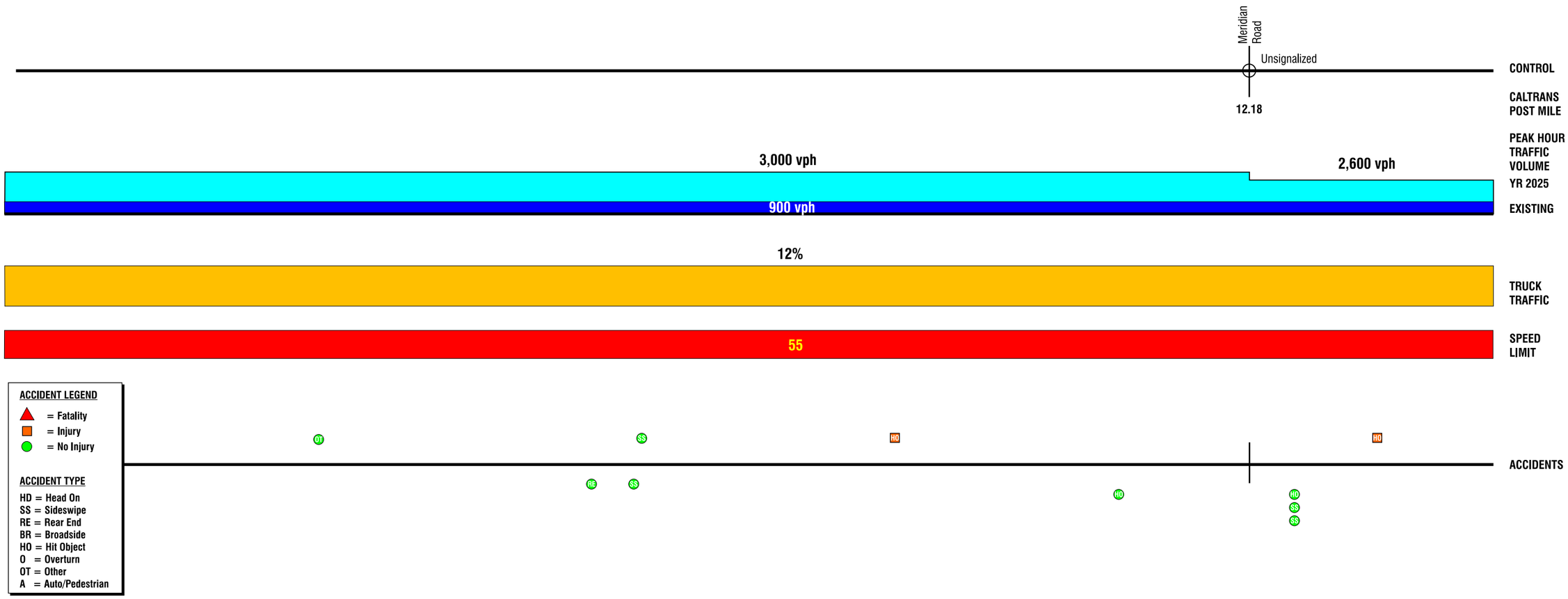
ACCIDENT LEGEND
- = Fatality
- = Injury
- = No Injury

ACCIDENT TYPE
HD = Head On
SS = Sideswipe
RE = Rear End
BR = Broadside
HO = Hit Object
O = Overturn
OT = Other
A = Auto/Pedestrian



ACCIDENTS


12
12


Meridian Road
Unsignalized
CONTROL
12.18
CALTRANS POST MILE
3,000 vph
2,600 vph
PEAK HOUR TRAFFIC VOLUME
900 vph
YR 2025
EXISTING
12%
TRUCK TRAFFIC
55
SPEED LIMIT
ACCIDENT LEGEND
= Fatality
= Injury
= No Injury
ACCIDENT TYPE
HD = Head On
SS = Sideswipe
RE = Rear End
BR = Broadside
HO = Hit Object
O = Overturn
OT = Other
A = Auto/Pedestrian
OT
SS
HO
HO
RE
SS
HO
HO
SS
SS
ACCIDENTS

Unsignalized — CONTROL

CALTRANS POST MILE

1,800 vph — PEAK HOUR TRAFFIC VOLUME

1,800 vph — YR 2025

800 vph — EXISTING

12% — TRUCK TRAFFIC

55 — SPEED LIMIT

ACCIDENT LEGEND

- = Fatality
- = Injury
- = No Injury

ACCIDENT TYPE

HD = Head On
SS = Sideswipe
RE = Rear End
BR = Broadside
HO = Hit Object
O = Overturn
OT = Other
A = Auto/Pedestrian

ACCIDENTS

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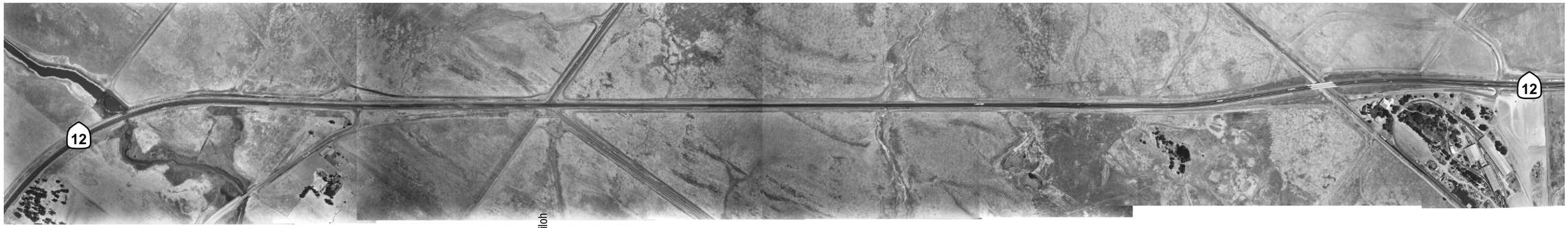
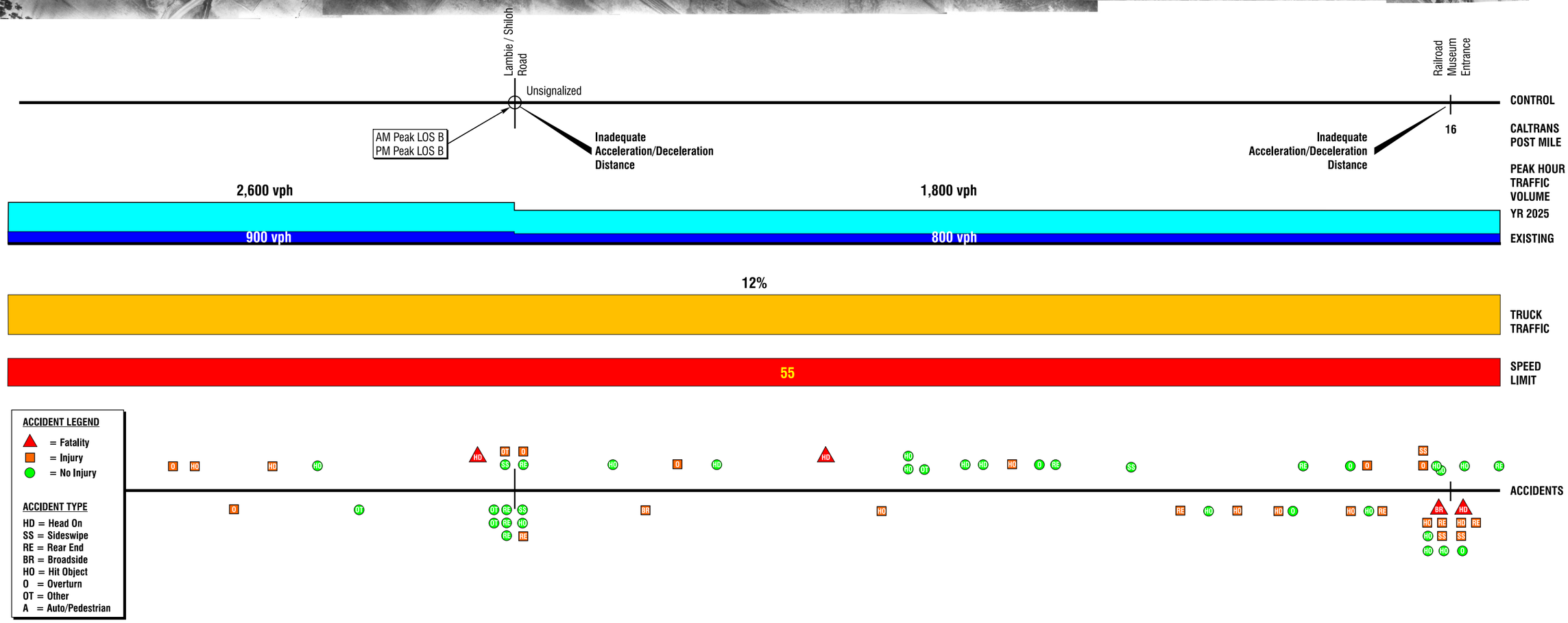
STATE ROUTE 12 MAJOR INVESTMENT STUDY

Figure 11





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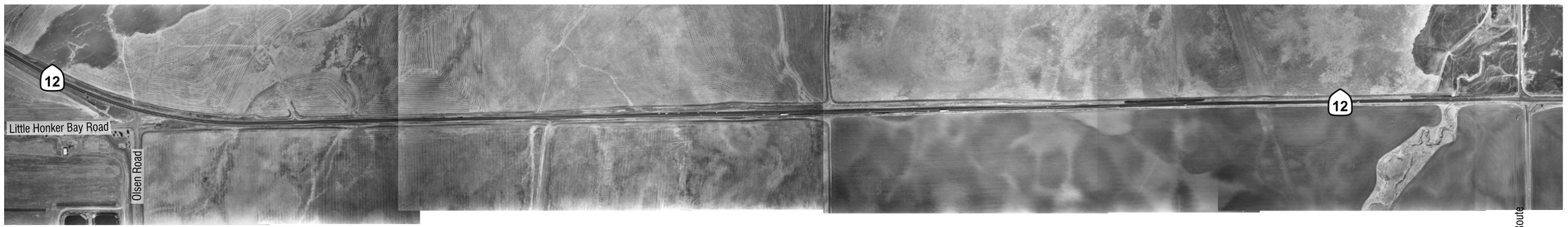
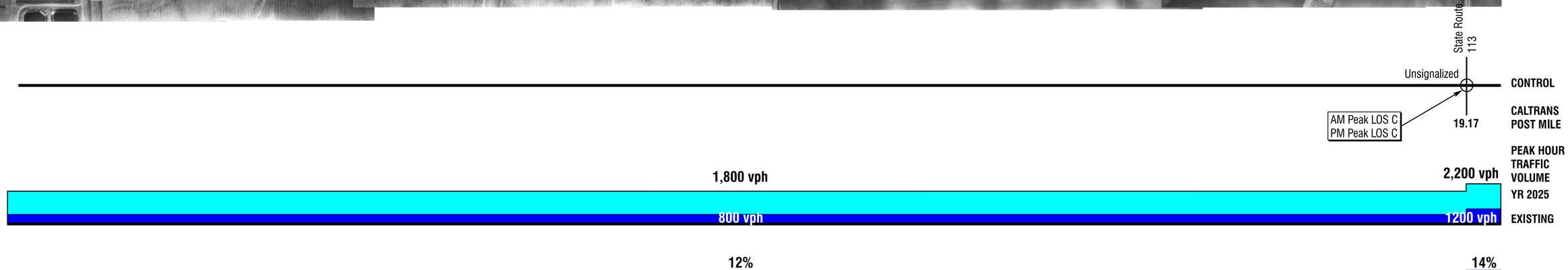
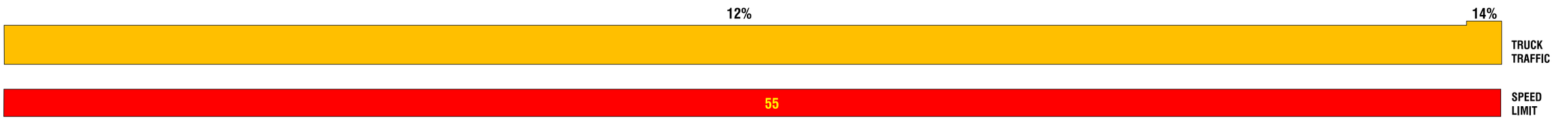
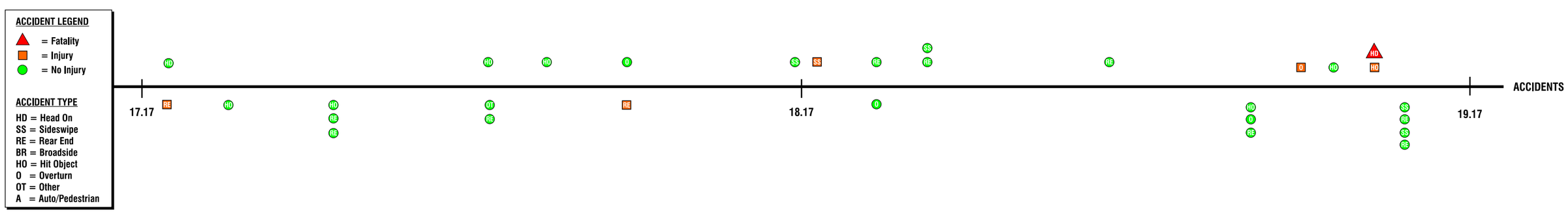
STATE ROUTE 12 MAJOR INVESTMENT STUDY

Figure 10









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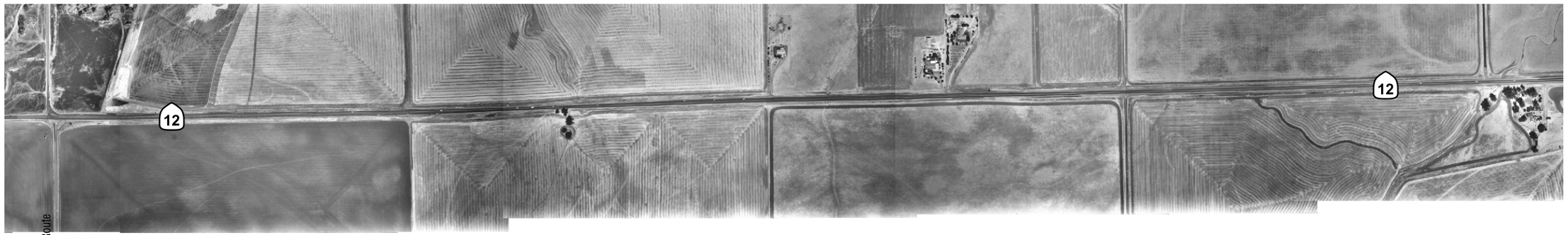
STATE ROUTE 12 MAJOR INVESTMENT STUDY

Figure 12



State Route 113

Unsignalized

19.17

20.17

21.17

CONTROL

CALTRANS POST MILE

1,800 vph

2,200 vph

800 vph

1200 vph

PEAK HOUR TRAFFIC VOLUME

YR 2025

EXISTING

12%

14%

TRUCK TRAFFIC

55

SPEED LIMIT

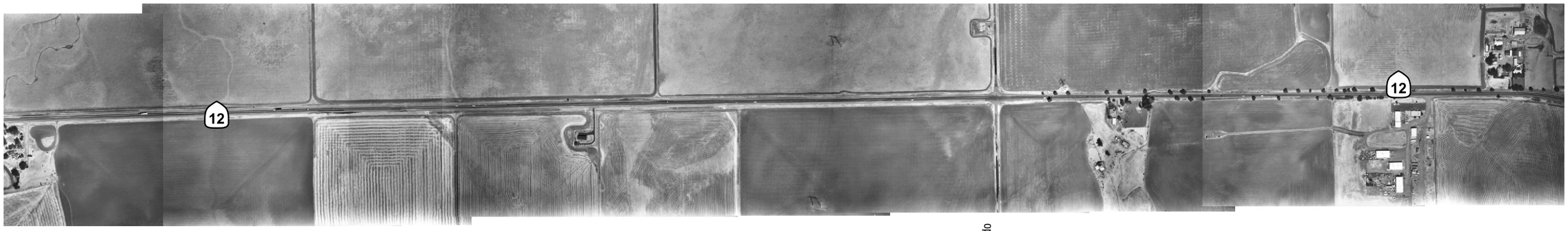
ACCIDENT LEGEND

= Fatality
= Injury
= No Injury

ACCIDENT TYPE

HD = Head On
SS = Sideswipe
RE = Rear End
BR = Broadside
HO = Hit Object
O = Overturn
OT = Other
A = Auto/Pedestrian

ACCIDENTS



Azevedo Road

Unsignalized

21.6

22.6

CONTROL

CALTRANS POST MILE

PEAK HOUR TRAFFIC VOLUME

YR 2025

EXISTING

2,200 vph

1,800 vph

1200 vph

14%

TRUCK TRAFFIC

55

SPEED LIMIT

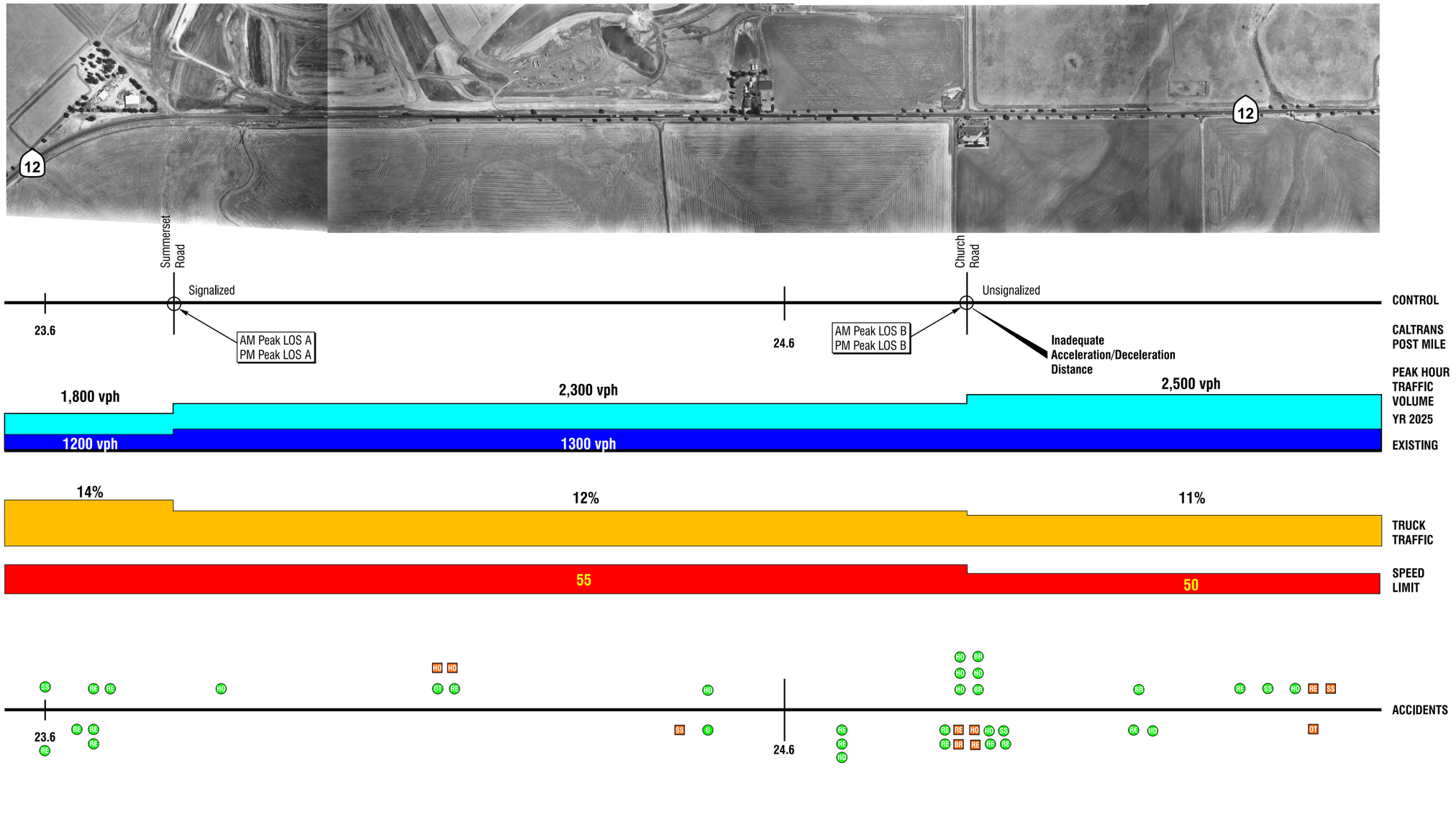
ACCIDENT LEGEND

= Fatality
= Injury
= No Injury

ACCIDENT TYPE

HD = Head On
SS = Sideswipe
RE = Rear End
BR = Broadside
HO = Hit Object
O = Overturn
OT = Other
A = Auto/Pedestrian

ACCIDENTS


12
12
Summerset Road
Church Road
Signalized
Unsignalized
23.6
24.6
AM Peak LOS A
PM Peak LOS A
AM Peak LOS B
PM Peak LOS B
Inadequate Acceleration/Deceleration Distance
CONTROL
CALTRANS POST MILE
PEAK HOUR TRAFFIC VOLUME
YR 2025
EXISTING
1,800 vph
2,300 vph
2,500 vph
1200 vph
1300 vph
14%
12%
11%
TRUCK TRAFFIC
55
50
SPEED LIMIT
ACCIDENTS
ACCIDENT LEGEND
= Fatality
= Injury
= No Injury
ACCIDENT TYPE
HD = Head On
SS = Sideswipe
RE = Rear End
BR = Broadside
HO = Hit Object
O = Overturn
OT = Other
A = Auto/Pedestrian

ACCIDENT LEGEND

= Fatality
= Injury
= No Injury

ACCIDENT TYPE

HD = Head On
SS = Sideswipe
RE = Rear End
BR = Broadside
HO = Hit Object
O = Overturn
OT = Other
A = Auto/Pedestrian

ALTERNATIVE EVALUATION METHODOLOGY

In the Major Investment Study Process, the Alternative Evaluation Methodology is developed and approved prior to the development of alternatives or packages of alternatives. This methodology must respond to the goals developed at the study's outset. As indicated in the Purpose and Need section, the goals established at the beginning of the study were to:

- Improve the transportation network and goods movement;
- Effectively serve all facility users;
- Preserve and protect the environment; and
- Preserve travel safety.

For the State Route 12 MIS, the following criteria were developed by STA and consultant staff, and approved by the SR 12 Steering Committee and Caltrans:

- Daily Vehicle/Person Trips Carried;
- Auto Travel Time Savings;
- Goods Movement Potential;
- Capital Cost;
- Operating Cost;
- Reduction in Automobile Vehicle Hours of Travel;
- Environmental Impacts;
- Ease of Implementation;
- Safety Enhancement; and
- Economic/Development Growth Potential.

For each criteria, wherever possible, quantitative information has been developed to support as much of the evaluation as is feasible, given the level of detail of the analysis. However, due to the wide range in character and scope of the alternatives, not all of the alternatives can be compared on an "apples to apples" basis. Furthermore, a variance in raw score may not translate directly into a qualitative difference between the alternatives. For these reasons, the raw data is evaluated on the following four-point scale:

- High Relative Benefit/Low Relative Cost;
- Moderate Relative Benefit/Moderate Relative Cost;
- Low Relative Benefit/High Relative Cost; and
- Fatally Flawed.

While a portion of the analysis is qualitative in nature, detailed capital and operating cost estimates have been prepared for each alternative. In addition, intersection and link LOS analysis is has been conducted for both near-term (2010) and long-term (2025) conditions for each alternative package. Finally, a detailed environmental screening analysis has been conducted and included in the alternatives evaluation.

ALTERNATIVES CONSIDERED

Through the study, a wide range of demand and supply measures to improve travel through the study corridor were taken into consideration. The least promising measures were screened out by the SR 12 Steering Committee and the most applicable measures were taken forward for consideration.

Alternative Descriptions

The different types/categories of improvement alternatives considered in the analysis are described in detail below. They have been broken into "supply" and "demand" categories. Supply measures are those improvements that would increase the capacity of the roadway system by constructing new

facilities or improving existing roadways. Demand measures would improve system performance by reducing the vehicular demand through the corridor. Finally, alternatives to improve vehicular safety in the corridor are also presented separately.

Supply Measures

- *Main-Line Widening* – This alternative would include the addition of new through travel lanes on State Route 12 for extended distances; for example, the widening of SR 12 from two lanes to four lanes through Rio Vista.

- *Auxiliary/Passing Lanes* – The addition of auxiliary or passing lanes to SR 12 would involve the addition of new through travel lanes for relatively short distances. Auxiliary lanes are typically added to facilitate vehicular weaving between intersections while passing lanes are usually constructed to allow vehicles to pass slower moving traffic on two-lane highways.

- *Acceleration/Deceleration Lanes* – Acceleration and deceleration lanes are constructed to allow vehicles to safely enter and exit the mainline traffic stream at local intersections. As an example, the Church Road intersection would benefit from the addition of acceleration and deceleration lanes to allow vehicles ingress and egress from the high-speed mainline traffic stream.

- *Traffic Signal Installation* – New traffic signals on SR 12 would allow vehicles on heavily trafficked side-streets safe and efficient entry into the mainline traffic stream. Signals would also allow pedestrians to cross the highway at a controlled location. Traffic signals would only be installed at a time when they fully meet Caltrans Traffic Signal Warrants.

- *Intersection Turning Lanes/Channelization Improvements* – This alternative would include the addition of new left or right turn lanes at intersections. Depending on where they are added, additional turn lanes can remove turning vehicles from the through traffic stream, allowing through traffic to proceed unimpeded by stopped turning traffic. Intersection improvements can also increase capacity and improve safety at poorly operating intersections.

- *Rio Vista Bridge* – Several different alternatives for improving the capacity of the Helen Madere Bridge over the Sacramento River have been discussed. These include the construction of a new “high” bridge on the existing alignment or a new alignment, modifying the operation of the existing bridge (i.e. restricting the drawbridge’s operation) and the construction of new “twin” bridge with the retention of the existing bridge.

- *Transit System Improvements* – The introduction of transit service in the study corridor would provide an alternative mode of travel to the automobile. The location of potential transit trip origins and destinations will need to be identified for an effective service to be developed.

- *Local Shuttles (Retirement Communities/Community College)* – The provision of expanded shuttle service to potential transit trip generators such as the community college or retirement communities could provide a beneficial public service, and remove automobile trips from the study corridor. The City of Rio Vista currently provides a small general dial-a-ride service.

Demand Measures

- *Ride Sharing/Carpool Programs* – Carpooling increases the efficiency of the transportation system by carrying more people in fewer vehicles. Area-wide rideshare programs usually cost about $120-$140 per person placed. Employer based programs are less expensive with an average of $1.10 per trip reduced. Carpool programs are usually made more effective by implementing supporting programs such as preferential HOV treatment, preferential parking and carpool subsidies.

- *Shifting Trips to Transit* – With the introduction of transit service in the study corridor, usage could be increased through an advertising effort to shift trips to transit. The advertising

campaign would target potential users and detail the benefits of using such a service.

- *Park and Ride Construction* – To promote ride-sharing and carpool programs, park and ride lots could be constructed at strategic locations in the corridor. These lots would serve as a meeting place for both sponsored and unsponsored carpools and vanpools.

Safety Measures

- *Median Barrier* – The physical configuration of much of the study corridor (two-lane highway with variable horizontal and vertical curves) has led to a history of severe head-on collisions. A potential solution to this problem is the introduction of a median barrier, similar to what has been installed on SR 37.

- *Acceleration/Deceleration Lanes* – These improvements are also included as a "supply" enhancing measure. Acceleration and deceleration lanes are constructed to allow vehicles to safely enter and exit the mainline traffic stream at local intersections. As an example, the Church Road intersection would benefit from the addition of acceleration and deceleration lanes to allow vehicles ingress and egress from the high-speed mainline traffic stream.

- *Auxiliary/Passing Lanes* – The addition of auxiliary or passing lanes to SR 12 would involve the addition of new through travel lanes for relatively short distances. Auxiliary lanes are typically added to facilitate vehicular weaving between intersections while passing lanes are usually constructed to allow vehicles to pass slower moving traffic on two-lane highways.

- *Shoulder Widening* – By widening shoulders on SR 12 several benefits would be gained. First it would increase the clear recovery zone provided to vehicles that may lose their way and stray off of the road to the right. Secondly, wider shoulders would provide more space for disabled vehicles to stop off of the traveled way.

- *Signing/Striping* – Additional signing and striping or re-installing old existing signing and striping could provide a safety benefit. New warning or regulatory signs informing drivers of possible dangers or existing regulations at identified problem locations could eliminate or reduce safety hazards.

- *Pavement Rehabilitation* – This measure consists of rehabilitating or replacing existing pavement sections that have failed.

ALTERNATIVE PACKAGES

Five build and one no-build alternative improvement packages were developed and are described in detail below.

Alternative Package 1 – No Build

Alternative Package number 1 is the no-build alternative. Under this alternative, no new capacity enhancing, demand reducing or new safety improvements would be recommended or pursued in the study corridor.

Alternative Package 2 – Transportation Demand Management

Alternative Package number 2 includes a series of Transportation Demand Management (TDM) measures designed to reduce existing and future travel demand in the study corridor. Based on our evaluation of the study corridor and input from the State Route 12 Major Investment Study Steering Committee, three TDM improvements were identified as being most applicable to the study corridor. Through the study process, the following three TDM measures were found to have the greatest potential for reducing traffic: carpooling programs supplemented by park-and-ride lot construction, an expanded local shuttle program and transit service.

2a. Carpooling Program – Park and Ride Lot Construction

This measure would include the construction of two park-and-ride lots, one located in Rio Vista and one located in Suisun City. In the first stage of this measure, both lots would be designed to accommodate roughly fifty automobiles. If the facilities were fully utilized, they could be expanded. The park-and-ride lots would be constructed at a location visible from SR 12 and signage would be installed on the highway identifying the lots as park-and-ride facilities. The exact location of these sites would be driven by land availability. A local advertising campaign would be undertaken to publicize the new facilities and the benefits of carpooling. The advertising campaign would also emphasize the use of STA's existing ride-matching service.

2b. Local Shuttle Program

An expanded local shuttle program, connecting the retirement communities on the eastern end of the study corridor with the retail/commercial and medical uses in Suisun City, Fairfield and Rio Vista would be implemented. A single bus, running on one-hour headways is included in this evaluation. If sufficient demand is identified, the program could be expanded to include other areas and/or headways could be reduced through the purchase of additional buses. Where possible, this service should coordinate with other existing shuttle services to the east of the study corridor, outside of Solano County.

2c. Transit Service

Under this improvement measure, transit service would be implemented in the study corridor. This is envisioned to be a new SolanoLinks route running from Fairfield to Suisun and Rio Vista along SR 12. The new route would make connections to the Capitol Corridor Station and the Fairfield Transportation Center. Headways of one-hour are assumed in the cost and effectiveness analysis.

Alternative Package 3 – Safety Improvements

The detailed accident evaluation conducted as part of the Major Investment Study's existing conditions analysis identified a number of accident issues and improvement measures in the study corridor. In addition, the SR 12 Safety Task Force identified a number of these issues and improvement measures. These measures are not included in this Alternative Package if the improvement is programmed and funding has been identified. These programmed improvements, to be implemented by others include:

- Left turn lanes at Lambie Road/Shiloh Road intersection;
- Passing lane and vertical curve reduction;
- Traffic signal installation at Hillside Terrace intersection; and
- Signalized/lighted crosswalk at Gardiner Way intersection in Rio Vista.

In addition to the above funded, programmed improvements that will be implemented by others, the following additional safety improvements have been identified by this study and are included as Alternative Package 3.

3a. Advance Overhead Flashers at Beck and Pennsylvania Avenue Intersections

The most frequent accident occurrence in the study corridor was identified to be rear-end accidents at the Beck Avenue and Pennsylvania Avenue intersections. Side-mounted advance warning flashers exist at these two locations. Under this alternative, the side-mounted warning devices would be supplemented with overhead advanced warning flashers. These devices would be installed upstream of both intersections in both the eastbound and westbound directions. The flashers would be the signal actuated "prepare to stop" type installation.

3b. Left Turn Lanes and Accel/Decel Lanes at Lambie/Shiloh Road Intersection

This improvement includes the construction of acceleration and deceleration and left turn lanes on SR 12 at the Lambie Road/Shiloh Road intersection to assist traffic in safely entering and exiting main-line traffic flow at this location. Based on Caltrans' standards, 300-foot long acceleration and deceleration lanes, with appropriate taper lengths are included in the analysis. The intersection would also be realigned so that both Lambie and Shiloh Roads would intersect SR 12 at right angles to increase sight distance and safety. Figure 18 presents these conceptual improvements at the Lambie/Shiloh Road intersection.

3c. Traffic Signal at SR 113/SR 12 Intersection

This improvement would include the installation of a traffic signal at the SR 113/SR 12 intersection to assist in assigning right-of-way to minor street traffic to minimize the identified accident problem (high incidence of broadside accidents) at this location. This improvement would also include the installation of advanced warning beacons upstream on SR 12 in both directions. The flashers would be the signal actuated "prepare to stop" type installation. A traffic signal would only be installed at a time when the intersection fully meets Caltrans Traffic Signal Warrants. Realignment of the southern leg of this intersection to intersect SR 12 precisely at the location of the northern leg is also a potential improvement at this location.

3d. Left Turn Lanes and Accel/Decel Lanes at Church Road Intersection

To assist minor street traffic in entering and exiting the main-line traffic stream at the Church Road intersection, the construction of exclusive left turn lanes and acceleration and deceleration lanes is proposed. This improvement will also eliminate delay to through traffic caused by queued left turn traffic on SR 12. Based on Caltrans' standards, 300-foot long acceleration and deceleration lanes, with appropriate taper lengths are included in the analysis. The left turn lanes are sized to include 100-foot long turn bays, with 90-foot long bay tapers and 500-foot long approach tapers, based on Caltrans' standards. North of SR 12, Church Road would be realigned to intersect with SR 12 at a location aligning with the roadway south of the highway. Figure 17 presents these conceptual improvements at the Church Road intersection.

3e. Advance Warning Flashers at Summerset Road Intersection

Summerset Road is an isolated signalized intersection that has experienced relatively high instances of rear end accidents. Advance warning beacons are recommended at this location. The flashers would be the signal actuated "prepare to stop" type installation. Caltrans is currently pursuing a project to install these types of warning devices at this location.

3f. Acceleration and Deceleration Lanes at Railroad Museum

This improvement would include the construction of acceleration and deceleration lanes to and from the west out of the Railroad Museum east of Lambie/Shiloh Road. The acceleration and deceleration lanes would be 300 feet long with appropriate Caltrans standard tapers.

3g. Acceleration and Deceleration lanes at Beck Avenue

This improvement would include the construction of acceleration and deceleration lanes into and out of the Beck Avenue intersection. The lanes would be 400 feet long with appropriate Caltrans standard tapers. Caltrans is currently pursuing a project to extend the westbound acceleration lane out of Beck Avenue.

Alternative Package 4 – Near-Term Traffic Improvements

The following eight intersections on SR 12 have been evaluated in detail as part of the MIS: Pennsylvania Avenue, Sunset Avenue, Walters Road, Shiloh Road/Lambie Road, SR 113, Summerset

Road, Church Road and Main Street/Hillside Terrace. Eight critical roadway link segments were also evaluated as part of the traffic analysis. As detailed in the Traffic Operations Analysis, operating conditions at each intersection and roadway segment have been evaluated for the following four scenarios:

- Year 2010 Base Case;
- Year 2010 High Rio Vista Bridge Alternative;
- Year 2025 Base Case; and
- Year 2025 High Rio Vista Bridge Alternative.

The year 2010 analysis was used as the basis for the development of near-term traffic operational improvements throughout the corridor, which are described for each study intersection below.

4a. SR 12/Pennsylvania Avenue

The near-term improvement (year 2010) identified for this intersection is the addition of a second southbound left turn lane and an exclusive northbound right turn lane. However, as demonstrated by the Traffic Operations Analysis, long-term (year 2025) traffic volumes may require a grade separation at this location. Figure 19 illustrates these conceptual improvements at the Pennsylvania Avenue intersection.

4b. SR 12/Shiloh Road/Lambie Road

Future, near-term, traffic volumes will require the installation of a traffic signal and an exclusive right turn lane on the southbound approach. In addition, the safety analysis (Alternative Package 3) identified the need to install acceleration and deceleration and left turn lanes on SR 12 at this intersection. A traffic signal would only be installed at a time when the intersection fully meets Caltrans Traffic Signal Warrants.

4c. SR 12/SR 113

Future, near-term, traffic volumes will require the installation of a traffic signal at this intersection. The safety analysis (Alternative Package 3) also identified the need to install a traffic signal at this intersection. This improvement would also include the installation of advanced warning beacons upstream on SR 12 in both directions. The flashers would be the signal actuated “prepare to stop” type installation. A traffic signal would only be installed at a time when the intersection fully meets Caltrans Traffic Signal Warrants.

Alternative Package 5 – Passing Lane Installation

The two-lane section of SR 12 between Walters Road and the Rio Vista Bridge is approximately 19.5 miles long. Caltrans is currently extending existing passing lanes in this section. With the completion of this construction, 2.6 miles of passing lanes will be provided in the westbound direction and 2.5 miles of passing lanes will be provided in the eastbound direction. The passing lanes are concentrated in the section of SR 12 around the SR 113 intersection. In the eastbound direction, passing lanes will be provided between postmiles 15.9 and 16.9 and postmiles 19.2 and 20.8. In the westbound direction, passing lanes will be provided between 17.7 and 18.6 and postmiles 19.2 and 20.8.

5a. New Passing Lanes – Postmiles 11.0 to 12.0 (KP 17.7 to 18.3)

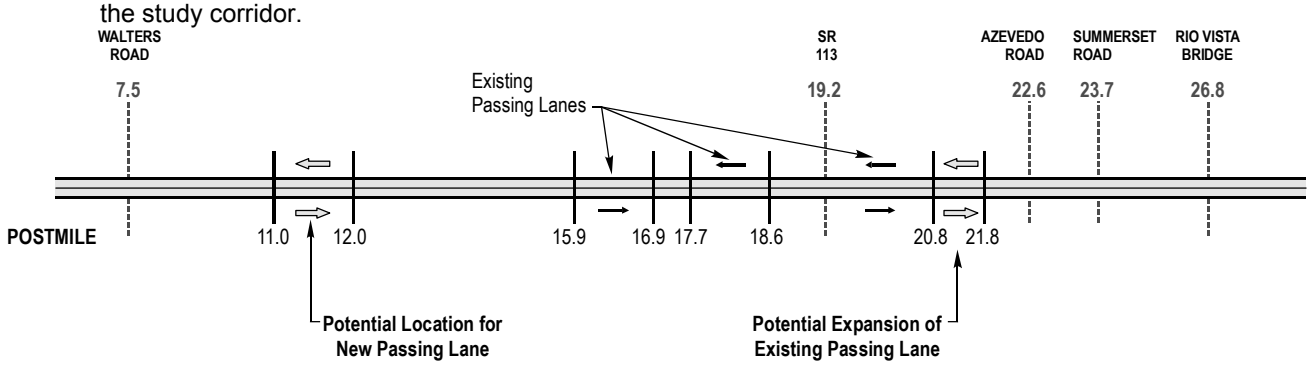
This improvement would include the construction of new eastbound and westbound passing lanes between postmiles 11.0 and 12.0 (Kilometer Post 17.7 to 18.3), centrally located between the four-lane section west of Walters Road and the passing lanes to the east. This section of SR 12 is a level stretch of road between Nurse Slough Road and Meridian Road. Vehicles are currently allowed to pass using the on-coming lane of traffic in this section.

5b. New Passing Lanes – Postmiles 20.8 to 21.8 (KP 33.5 to 35.1)

This improvement would include the expansion of the existing passing lane east of SR 113.

The existing two-way passing lanes would be expanded from their existing terminus eastward by a mile, from postmile 20.8 to 21.8 (Kilometer Post 33.5 to 35.1).

The following sketch illustrates the two potential locations for the addition of passing lanes in the study corridor.

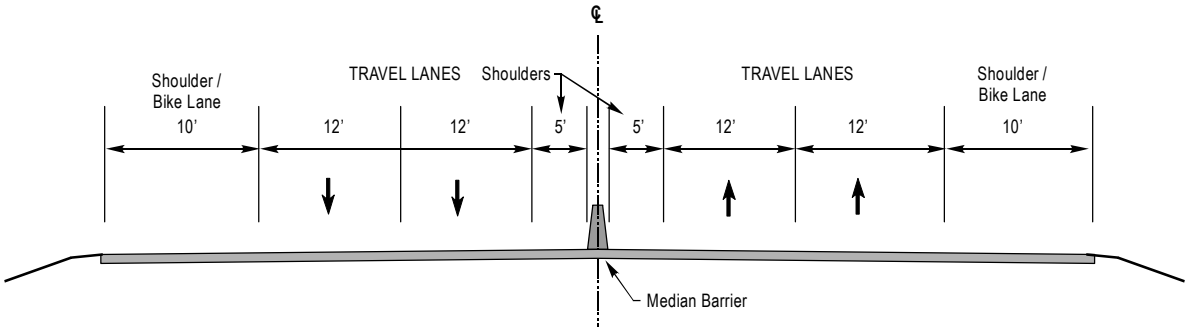


Alternative Package 6 – Long-Term Traffic Improvements

As discussed above and demonstrated in the Traffic Operations Analysis, widening of certain segments of SR 12 and grade separation of critical intersections may be necessary to serve future, long term traffic volumes in the study corridor. The improvements discussed below will be necessary to appropriately serve future, year 2025 traffic volumes in the study corridor. The improvements identified as necessary to serve near term traffic volumes in Alternative Package 4 would also be included in this analysis.

6a. Widen SR 12 to Four Lanes from Rio Vista City Limit to Sacramento River

With this improvement, SR 12 would be widened from two-lanes to a four-lane limited access facility from the western City limit of Rio Vista to River Road (SR 84) near the Sacramento River. Access would be concentrated at full-movement signalized intersections and right-in/right-out unsignalized access points at minor locations. A cross-section of this type of facility, designed to Caltrans standards, is presented below. For safety purposes, a median barrier could be installed between the opposing directions of traffic.



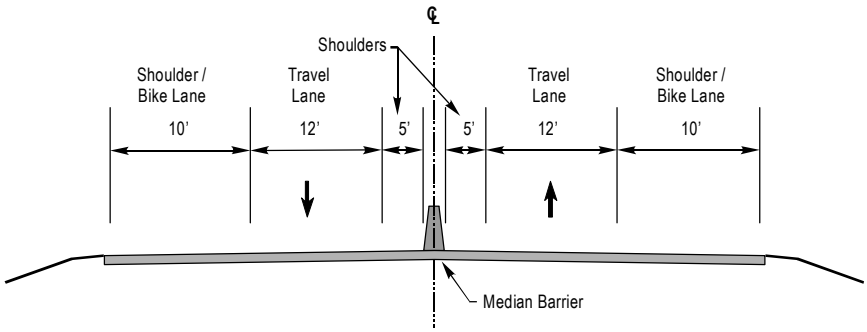
6b. Widen SR 12 to Six Lanes from Interstate 80 to the Webster/Jackson Street Interchange

With this improvement, SR 12 would be widened from four to six lanes from Interstate 80 to the Webster Street/Jackson Street interchange in Fairfield. This measure would also require improvements to the I-80/SR 12 interchange and the intersections along SR 12 in this section of highway. These improvements would be necessary to integrate the new six-lane

section of SR 12 with I-80 and other intersections and interchanges. The exact nature of this integration would need to be studied in more detail at a later date.

6c. Installation of Median Barrier and Full Shoulders on SR 12 from Walters Road to Rio Vista City Limit

While the accident analysis conducted for this study did not identify the installation of a median barrier on SR 12 as a priority, future increases in traffic volumes will likely necessitate the installation of a median barrier and Caltrans standard shoulders on the section between Walters Road and the Rio Vista City Limit. With this improvement the roadway would be widened to provide five-foot inside shoulders with 10 foot outside shoulders that would also serve as a bike lane. While this improvement does not include the widening of SR 12 to four-lanes in this section, the right-of-way for this ultimate improvement should be reserved by Caltrans, Solano County, Rio Vista, Fairfield and Suisun City. If the acquisition of additional right-of-way in areas of the corridor is necessary to implement this improvement, sufficient right-of-way should be acquired to implement an eventual widening to four-lanes with full-width shoulders.



Prior to the installation of median barriers on Highway 12, Caltrans will likely require the installation and testing of intermediate measures to improve safety and reduce head-on accidents. These intermediate measures will include items such as the installation of median and shoulder rumble strips and/or the installation of a median separation. The testing of intermediate measures is necessary because median barriers have several disadvantages, such as: emergency vehicles cannot turn around except at barrier breaks, exposed barrier ends create accidents, accidents created by vehicles striking barrier and aesthetic degradation, among others.

6d. Grade Separation at Pennsylvania Avenue

With this improvement, SR 12 would be grade separated from conflicting traffic at the Pennsylvania Avenue intersection.

6e. Left Turn Lanes at Lambie/Shiloh Roads

This improvement would include the construction of exclusive left turn lanes on SR 12 at the Lambie Road/Shiloh Road intersection.

6f. Traffic Signal Installation at Church Road

Long-term, year 2025 traffic projections warrant the installation of a traffic signal and left turn lanes on SR 12 at this intersection. A traffic signal would only be installed at a time when the intersection fully meets Caltrans Traffic Signal Warrants.

6g. Rio Vista Bridge

Long-term, year 2025 traffic projections indicate that additional capacity crossing the Sacramento River may be necessary. As indicated in item 6a above, the widening of SR 12

to four-lanes from the City Limit to River Road in Rio Vista may be necessary to serve future traffic volumes. In addition, the Major Investment Study prepared for SR 12 in San Joaquin County identified that the widening of the westernmost section of SR 12 in San Joaquin County to four-lanes to be a "Priority B, After 2010" project.

When full shoulders allowing bicycle travel on SR 12 are installed the roadway should be designated as a bicycle route and appropriate signage should be installed. An example of potential signage for this use is attached in Appendix G.

DIST.	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SOL	SR 12			

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

WILLIAM LEE BURTON
No. C053977
Exp. 12/31/03
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

Korve Engineering
155 Grand Avenue Suite 400
Oakland, CA. 94612 (510) 763-2929

FIGURE 17
CONCEPTUAL INTERSECTION IMPROVEMENTS
SCALE: 1"=80'

DATE | REVISED BY | DATE REVISED

CALCULATED BY \ DESIGNED BY | CHECKED BY

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION | CTPM

Caltrans | B. BURTON

CHURCH ROAD / HIGHWAY 12

FOR REDUCED PLANS 0 1 2 3

File Name: ALIGNMENT_ALI1 KORVE Job No.: 800082 Revision Date : REVISION Plot Date : 5/03/01

DIST.	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SOL	SR 12			

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

Korve Engineering
155 Grand Avenue Suite 400
Oakland, CA. 94612 (510) 763-2929

REGISTERED PROFESSIONAL ENGINEER
WILLIAM LEE BURTON
No. C053977
Exp. 12/31/03
CIVIL
STATE OF CALIFORNIA

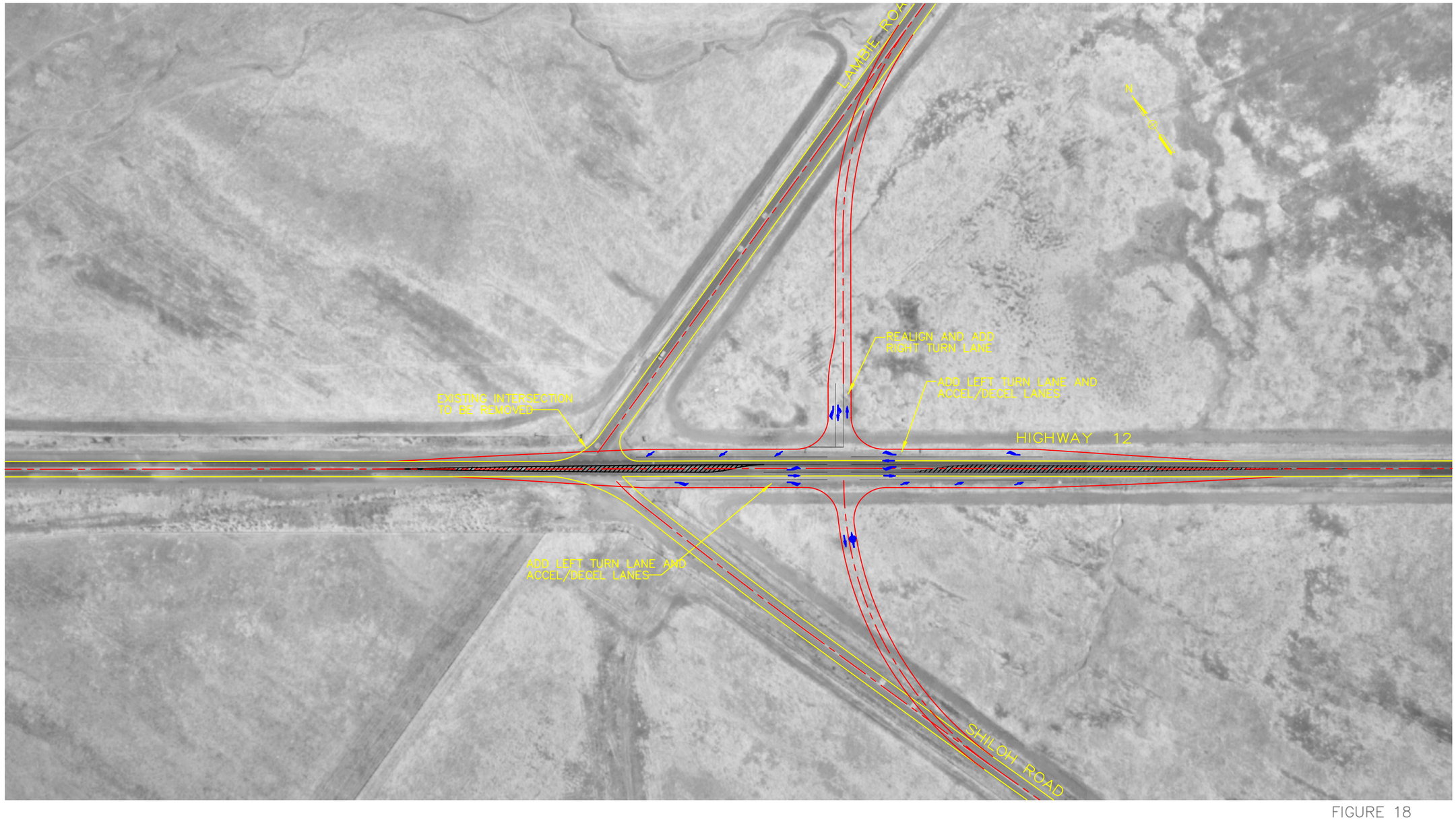


FIGURE 18
CONCEPTUAL INTERSECTION IMPROVEMENTS
SCALE: 1"=80'

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION CTPM
Caltrans LAMBIE RD/SHILOH RD @ HIGHWAY 12 B. BURTON

DATE	REVISED BY
	DATE REVISED

CALCULATED BY
DESIGNED BY
CHECKED BY

FOR REDUCED PLANS 0 1 2 3

File Name: AUGMENT_AU2 KORVE Job No.: 800082 Revision Date : REVISION Plot Date : 9/21/01

DIST.	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SOL	SR 12			

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

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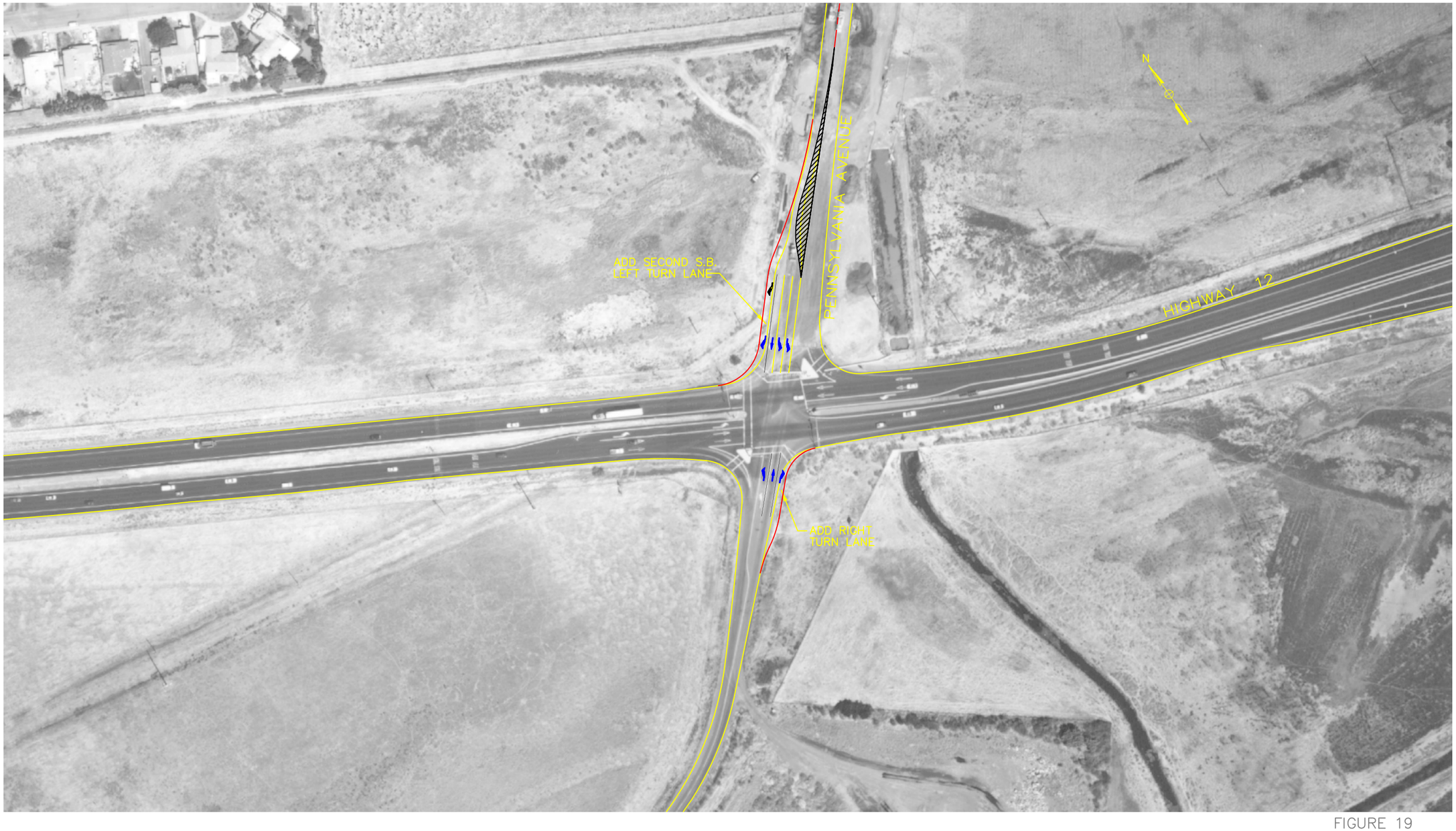


FIGURE 19
CONCEPTUAL INTERSECTION IMPROVEMENTS
SCALE: 1"=80'

DATE | REVISED BY | DATE REVISED

CALCULATED BY
DESIGNED BY
CHECKED BY

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION CTPM
Caltrans PENNSYLVANIA AVENUE / HIGHWAY 12 B. BURTON

FOR REDUCED PLANS 0 1 2 3

File Name: ALIGNMENT_ALI3 KORVE Job No.: 800082 Revision Date : REVISION Plot Date : 9/21/01

COST ELEMENT

Planning level cost estimates have been prepared for each element of the six Alternative Packages. Table 8 presents a summary of the capital costs and operating costs of these elements. Operating costs have been calculated and reported for the transit improvements. These estimates include costs associated with fueling, maintaining and manning buses. Costs associated with operating and maintaining geometric roadway improvements have not been calculated or reported. These costs, such as providing electricity for traffic signals, have not been assessed.

Table 8: Planning Level Cost Estimates

Alternative/Improvement Measure	Capital Cost Estimate	Annual Operating Cost Estimate
NEAR TERM IMPROVEMENTS		
ALTERNATIVE PACKAGE 1 – NO BUILD		
TOTAL ALTERNATIVE 1	**$0**	
ALTERNATIVE PACKAGE 2 – TRANSPORTATION DEMAND MANAGEMENT		
2a. Carpooling/Park and Ride Lot (2)	$820,000	
2b. Local Shuttle Program	$325,000	$170,000
2c. Transit Service	$620,000	$640,000
TOTAL ALTERNATIVE 2	**$1,765,000**	**$810,000**
ALTERNATIVE PACKAGE 3 – SAFETY IMPROVEMENTS		
3a. Warning Devices – Beck/Pennsylvania	$300,000	
3b. Accel/Decel/Left Turns/Realign – Shiloh/Lambie	$1,700,000	
3c. Traffic Signal – SR 113/SR 12	$450,000	
3d. Accel/Decel/Left Turns/Realign – Church Rd	$1,450,000	
3e. Warning Beacons – Summerset Road	$150,000	
3f. Accel/Decel Lanes at Railroad Museum	$600,000	
3g. Accel/Decel Lanes – Beck Avenue	$500,000	
TOTAL ALTERNATIVE 3	**$5,150,000**	
ALTERNATIVE PACKAGE 4 – NEAR-TERM TRAFFIC IMPROVEMENTS		
4a. Lane Additions – Pennsylvania	$450,000	
4d. Right Turn Lane/Traffic Signal – Shiloh/Lambie	$650,000	
4e. Traffic Signal – SR 113	$450,000	
TOTAL ALTERNATIVE 4	**$1,550,000**	
ALTERNATIVE PACKAGE 5 – PASSING LANE INSTALLATION		
5a. Passing Lanes – Postmiles 11.0 to 12.0	$8,000,000	
5b. Passing Lanes – Postmiles 20.8 to 21.8	$8,000,000	
TOTAL ALTERNATIVE 5	**$16,000,000**	
LONG-TERM IMPROVEMENTS		
ALTERNATIVE PACKAGE 6 – LONG TERM TRAFFIC IMPROVEMENTS		
6a. Widening – Rio Vista City Limit to River Road	$29,100,000	
6b. Widening – I-80 to Webster/Jackson	$26,000,000	
6c. Barrier & Shoulders – Walters to Rio Vista	$66,100,000	
6d. Grade Separation – Pennsylvania Avenue	$9,000,000	
6e. Left Turn Lanes – Lambie/Shiloh Road	$500,000	
6f. Traffic Signal Installation – Church Road	$300,000	
TOTAL ALTERNATIVE 6	**$131,000,000**	

The assumptions used in the cost analysis are described for each Alternative Package below. Note that all of the planning level cost estimates include construction costs and contingencies as well as an allowance for design. Right of way acquisition costs are not included in the estimates. Detailed cost breakdowns for each improvement are included in Appendix E.

Alternative Package 1 – No Build

There is no cost associated with the no-build alternative.

Alternative Package 2 – Transportation Demand Management

Based on industry data, the construction of a park-and-ride lot is estimated to be approximately $8,000 per space including contingencies for drainage, signing/striping, lighting and paving. Two lots containing fifty spaces per lot are estimated to cost $800,000. A $20,000 allowance for advertising and publicity has also been included in the cost for this line item.

An expanded local shuttle program is estimated to cost approximately $325,000. This includes $300,000 to purchase two, 25 seat shuttle buses, and a $25,000 allowance for the start-up of the program and publicity. It is assumed that a single bus would operate from communities in the eastern end of the corridor to commercial and retail opportunities in the western portion of the corridor. The bus would operate on one-hour headways with the second bus being used as an alternate when maintenance is required on the first. The cost to operate this program is estimated to be $60 per hour, including costs for labor, fuel and maintenance, which will compound to approximately $170,000 per year in operating costs.

Initiation of transit service in the corridor is estimated to cost approximately $620,000 which includes $500,000 for the purchase of two new buses, $100,000 for the construction of bus stops and signage and $20,000 allowance for start-up and publicity. Two buses would be adequate to provide one-hour headways throughout the corridor. The cost to operate this program is estimated to be $90 per hour per bus, including costs for labor, fuel and maintenance, which will compound to approximately $640,000 per year in operating costs for two buses.

Alternative Package 3 – Safety Improvements

A cost of $300,000 per new signalized intersection and $75,000 per new advance warning flashing beacon has been used in this analysis. Planning level cost estimates for the installation of left turn lanes and acceleration and deceleration lanes have been prepared using Caltrans' geometric standards and recent industry cost data. The estimates include standard allowances for items such as drainage and traffic control, a 30 percent contingency and a 30 percent allowance for design and construction management.

One source of funding for safety improvements in the study corridor is Caltrans SHOPP funds.

Alternative Package 4 – Near-Term Traffic Improvements

A cost of $300,000 per new signalized intersection has been used in this analysis. For new intersections that would also require advance-warning beacons (such as SR 113), costs for the beacons have been included as well. Planning level cost estimates for the installation of turning lanes have been prepared using Caltrans' geometric standards and recent industry cost data. The estimates include standard allowances for items such as drainage and traffic control, a 30 percent contingency and a 30 percent allowance for design and construction management.

Alternative Package 5 – Passing Lane Installation

Planning level cost estimates for the installation of passing lanes have been prepared using Caltrans' geometric standards and recent industry cost data. The estimates include standard allowances for items such as drainage and traffic control, a 30 percent contingency and a 30 percent allowance for design and construction management.

Alternative Package 6 – Long-Term Traffic Improvements

The typical cross sections for the main-line widening as well as for the provision of shoulders and a median barrier presented in the Alternative Package section have been used as a basis for the cost

estimates. The estimates have been prepared using Caltrans' geometric standards and recent industry cost data. The estimates include standard allowances for items such as drainage and traffic control, a 30 percent contingency and a 30 percent allowance for design and construction management. Allowances for structures and environmental mitigation are also included in the estimates.

LAND USE ELEMENT

The Solano County Travel Demand Model was used to develop future traffic forecasts for the year 2025. The model uses future land use forecasts from the Association of Bay Area Governments (ABAG) as well as General Plan information from Rio Vista, Suisun City, Fairfield and other jurisdictions to develop its traffic projections. Table 9 and Figure 20 provide a summary of the existing and future, year 2025 land use forecasts from the travel demand model. For the purposes of this summarization, the study corridor has been broken down into the following six segments:

1. Fairfield/Suisun City North of SR 12;
2. Fairfield/Suisun City South of SR 12;
3. Mid-Corridor North of SR 12;
4. Mid-Corridor South of SR 12;
5. Rio Vista North of SR 12; and
6. Rio Vista South of SR 12.

Table 9: Land-Use Summary

Zone	Residential (d.u.)[1] 2000	Residential (d.u.)[1] 2025	Change	Commercial (s.f.)[2] 2000	Commercial (s.f.)[2] 2025	Change
1	14,839	15,762	6.2%	8,529,635	10,976,509	28.7%
2	2,288	2,797	22.3%	4,178,989	10,280,246	146.0%
3	112	106	-5.36%	22,000	5,249,200	23860%
4	82	80	-2.4%	165,000	155,000	-6.1%
5	1,111	8,193	637.4%	569,900	4,028,000	606.8%
6	564	1,437	154.8%	70,500	146,000	107.1%

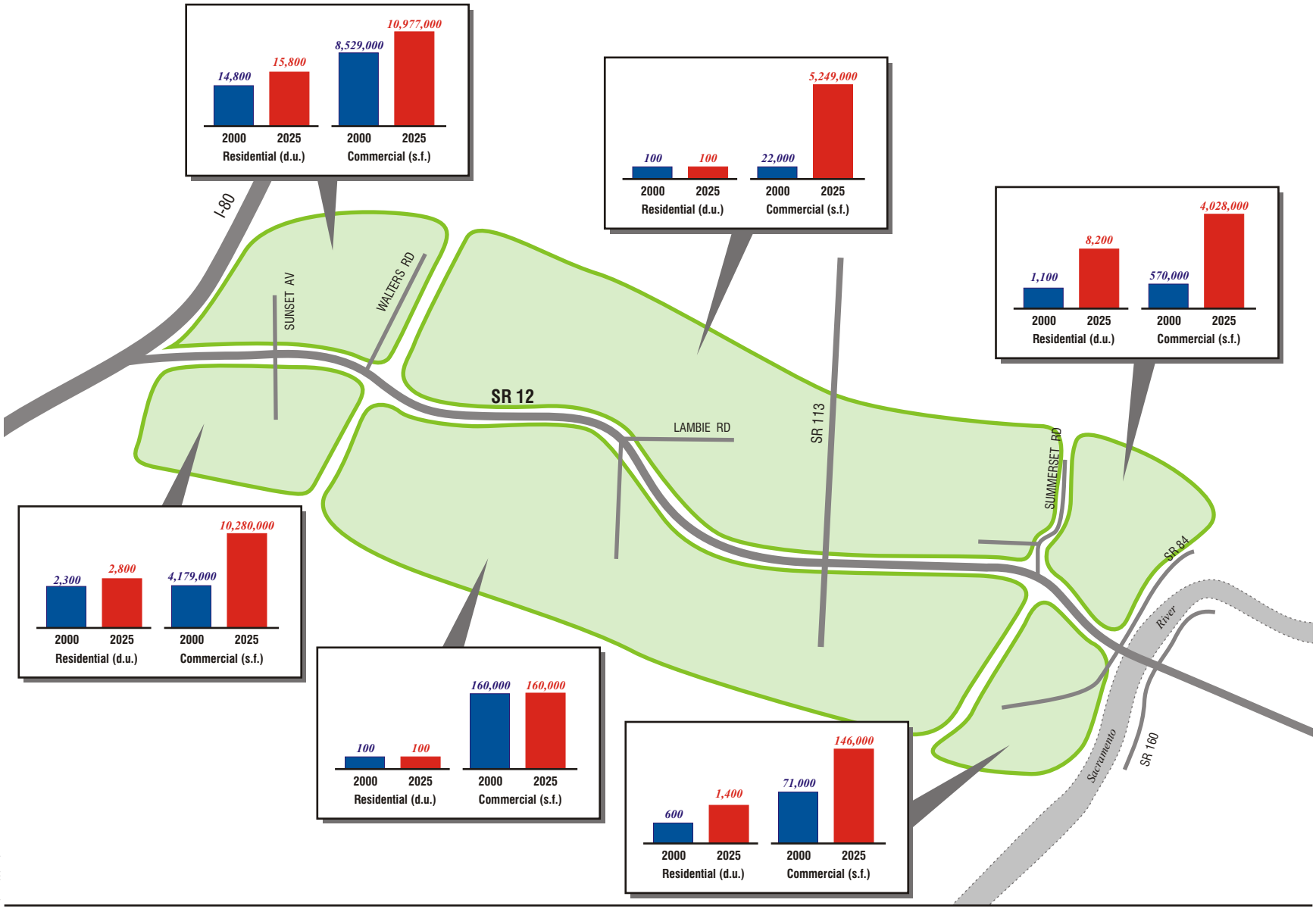
[1] Dwelling Units
[2] Square Feet

As illustrated in Table 9 and Figure 20, substantial land-use changes are anticipated in the study corridor over the next 25 years. Specifically, the number of residences in Rio Vista is anticipated to grow from approximately 1,675 to 9,630. Large increases in the amount of commercial space are also forecast to occur. Within this summary, commercial space includes retail, office and industrial square footages included in the model. Dramatic increases in the amount of commercial space are forecast for Fairfield/Suisun City South, Mid-Corridor North and in both Rio Vista North and South of SR 12. The large increase in the Mid-Corridor North section includes space associated with the Lambie Business Park. As indicated in the Traffic Operations Element, a sensitivity analysis, both with and without the Lambie Business Park has been conducted as part of this work.

Trip Origins and Destinations

Figure 21 presents a summary of trip origins and destinations on three segments within the study corridor. These three segments include the following: Rio Vista Bridge, SR 12 east of SR 113 and SR 12 east of Walters Road. Information is presented for both the eastbound and westbound directions of travel.

As illustrated on Figure 21, the Solano County Travel Demand Model indicates that at the Rio Vista Bridge roughly 60 percent of traffic has an origin or destination within Rio Vista. The remainder of traffic (40 percent) is traveling through the area on SR 12. The section just east of SR 113 is carrying a large amount of traffic between Rio Vista and the Fairfield/Suisun City area; however, a substantial number of through trips are also evident. Finally, on the section just east of Walters Road, a large number of trips have either an origin or a destination either in the Fairfield or Suisun City area or in the mid-corridor "County" portion of the study section.



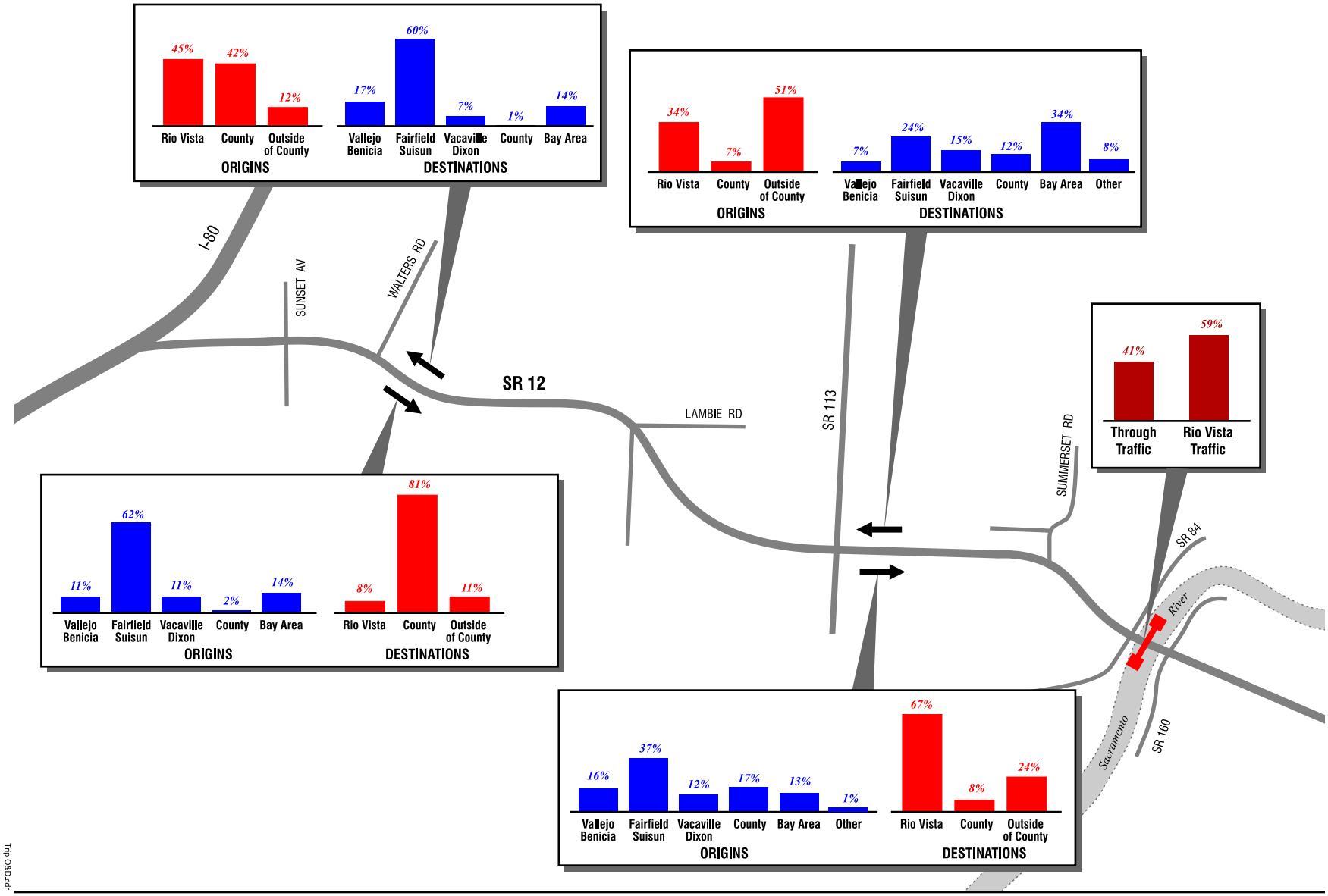
Land Use.cdr

Korve Engineering

STATE ROUTE 12 MAJOR INVESTMENT STUDY & PSR EQUIVALENT

Figure 20

LAND USE SUMMARY



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Korve Engineering

STATE ROUTE 12 MAJOR INVESTMENT STUDY & PSR EQUIVALENT

Figure 21

TRIP ORIGINS AND DESTINATIONS

Year 2025, PM Peak Hour

ENVIRONMENTAL ELEMENT

The purpose of this analysis is to provide an overview of planning considerations and environmental constraints to assess the feasibility of capacity and safety improvement plans under consideration for the State Route 12 Corridor between Interstate 80 and Rio Vista. A primary objective is to identify any constraints, or "fatal flaws", that could render a physical improvement proposal infeasible. Information has been compiled based on field reconnaissance, review of existing documents obtained from local jurisdictions, and meetings with planning and public works staff from Fairfield, Suisun City, Solano County, Rio Vista, and the Solano County Transportation Authority.

The discussion of planning considerations and environmental constraints is organized by jurisdiction, beginning with Fairfield on the western end of the study corridor, moving east through Suisun City, unincorporated Solano County, and Rio Vista, to the end of the study corridor at the Sacramento River. Korve Engineering has proposed five alternative improvement packages (5 plus the "no-build" alternative) for State Route 12. The packages range from transportation demand management strategies, safety improvements such as warning flashers and acceleration/deceleration lanes, and signals, passing lanes, and finally, widening and a grade separation. This discussion focuses on the Long Term Traffic Improvements in Alternatives 4 and 6, as they represent the most significant or "worst case" scenario in terms of physical alteration to the existing environment.

Fairfield - Interstate 80 to Jackson Street/Suisun City Limits

Planning Considerations

The SR 12 Corridor through the City of Fairfield begins at the freeway interchange at Interstate 80 and remains within the city limits until approximately Jackson Street and the bridge over the Union Pacific Railroad and Main Street. The overpass provides off ramps to both Fairfield to the north and Suisun City to the south in an unusual aerial configuration. The Fairfield General Plan Land Use Map designates SR 12 as an Expressway. Two signalized intersections cross the freeway at grade, Beck Avenue is designated as a Major Arterial, and Pennsylvania Avenue is designated as a Major Arterial north of SR 12, and a Minor Arterial to the south.

Existing land uses on the corridor are generally residential and commercial to the north, and industrial and open space to the south. The broad right-of-way is characterized by setbacks and landscaping bordering the industrial and business parks, while single family homes are set back and screened by sound walls. Widening of the roadway to six lanes would be generally compatible with existing and proposed uses since adequate buffers are in place to mitigate the noise and visual impacts from the expressway. General Plan and zoning designations south of the highway are General (IG) or Limited Industrial (IL), with the vacant area around Abernathy Road and I-80 designated for Highway and Regional Commercial (CHR). Ledgewood Creek crosses the roadway west of Beck Avenue and is shown as Open Space Conservation (OSC).

Environmental Constraints

Wetlands are the primary constraint on vacant land along the corridor from the eastern city limits west to I-80. Wetlands delineations for the U.S. Army Corps of Engineers (COE) have been completed, or are in progress, for vacant lands adjoining Ledgewood Creek and Pennsylvania Avenue. The delineation process defines the boundaries of potential wetlands, and, if no endangered species are identified, mitigation measures may be developed to offset potential impacts.

A countywide Habitat Conservation Plan (HCP) is currently being prepared for the Solano County Water Agency by LSA Associates. To assist with the identification of potential impacts to sensitive plant and animal species resulting from proposed improvements along the Route 12 corridor, LSA has provided excerpts from the Draft HCP. A listing of Solano County habitats and associated special-status species is attached as Appendix D. An oversized draft map identifying the general location of habitat type and sensitive species is described in narrative within each of the environmental constraints discussions in this report.

The HCP draft map identifies grassland habitat for the vacant lands in the vicinity of Beck Avenue/SR 12, but does not indicate the presence of any sensitive species. The area south of the intersection of SR 12 and Pennsylvania Avenue is identified as marsh habitat type, with the area slightly south listed

in the California Natural Diversity Data Base (CNDDB) as having the Salt-Marsh Harvest Mouse, a federally endangered species.

Proposed SR 12 Improvements

The proposed widening of SR 12 from four to six lanes, and the construction of a grade separation at the Pennsylvania Avenue intersection could have significant impacts on wetland habitat and may impact the federally endangered Salt-Marsh Harvest Mouse and Contra Costa Goldfields. Permitting with federal (COE, U.S. Fish and Wildlife Service) and state (Department of Fish and Game) agencies would be required.

Suisun City - Jackson St/Fairfield City Limits to e/o Walters Rd/Solano County Limit

Planning Considerations

State Route 12 traverses the full width of Suisun City, from the historic area in the west, passing north of Suisun Marsh, to the new residential and commercial developments in the central and eastern areas of the city. This area has undergone considerable urbanization in the past decade, and development standards reflect an awareness of compatibility with the highway through the use of landscaped buffers, and sound wall construction in residential subdivisions.

Land use patterns in the City reflect the designations in the General Plan and zoning ordinance. Entering the city from the west, the historic downtown and waterfront area is located south of SR 12, with land located adjacent to the highway designated for General and Service Commercial use. The Park District designation, between Marina Boulevard and Grizzly Island Road, south of SR 12, is part of the Suisun Marsh Protection District and the Hill Slough Wildlife Area. The Hill Slough Wildlife Area is owned and managed by the California Department of Fish and Game (CDFG). In the 1990's, construction of the Route 12 Expressway impacted Laurel Creek and the Hill Slough Wildlife Area, requiring replacement and restoration. The restored habitat has been dedicated to the Suisun Resource Conservation District and the California Department of Fish and Game (CDFG) as mitigation for construction of the Route 12 Expressway through Suisun City. Opposite the marsh, on the north side of the highway, Grizzly Island Road becomes Sunset Avenue, and uses are highly urbanized with shopping centers and office developments. East of the commercial area, and continuing to the city boundary, the land uses bordering either side of the Expressway are residential, with an area of commercial development proposed at the intersection with Walters Road. A joint utility trench on the south side of SR 12, running parallel to the roadway, poses a constraint to future widening and/or improvements, although none are proposed in conjunction with this MIS.

The 1992 General Plan, Circulation and Transportation Element contains policies and objectives regarding future vehicular traffic needs. Objective 1 states: “Construct Route 12 to a four lane expressway standard to Walters Road. Add an additional two lanes when conditions on any segment east of Sunset Avenue fall below LOS “E”. Provide for the long term possibility of a grade separation at Sunset Avenue.” In addition, Policy 2 states: “Funding for the additional two lanes of State Route 12 should be provided locally so as to ensure that construction will take place when needed.” The Public Works Director has indicated that Sunset Avenue and Marina Boulevard are currently at LOS “E”. The Highway 12 MIS long term improvement package (Alternative 6) is proposing the installation of a median barrier and full shoulders on SR 12 from Walters Road east to Rio Vista. No other improvements are proposed within the limits of Suisun City.

Environmental Constraints

Suisun City is bounded on the south by Suisun Marsh, the largest single estuarine marsh in the United States. The General Plan states that Suisun Marsh is a fragile ecological community of 84,000 acres, and the Plan has specific policies to avoid significant adverse physical impacts upon the marsh as a whole. McCoy Creek, crossing SR 12 east of Snow Drive, has been widened and channelized by the U.S. Army Corps of Engineers in the early 1990's as part of a flood control project. Laurel Creek, which flows parallel to the Expressway west of Grizzly Island Road, was relocated and restored with freshwater marsh vegetation in conjunction with the Caltrans construction of the Route 12 Expressway in the early 1990's.

Proposed SR 12 Improvements

The proposed improvement for SR 12 within Suisun City is the installation of a median barrier and full shoulders east of Walters Road. The HCP draft map indicates that the habitat type in the undeveloped areas adjacent to Walters is seasonally wet grassland. Areas to the east are known to contain significant vernal pools and marsh habitat; therefore, future studies should determine the need for a wetlands delineation and the possible impact on construction of the proposed shoulders.

Solano County - Suisun City Limits to Rio Vista City Limits

Planning Considerations

The long two-lane section of SR 12 located in unincorporated Solano County turns southeast from Walters Road in Suisun City, returning to an east-west alignment, with shoulders, south of Travis Air Force Base. At Denverton the roadway curves southeast again, passing the site of the Western Railway Museum, a privately operated museum adjacent to the Sacramento Northern rail line. At this point the character of the roadway changes to an undulating two-lane roadway passing through a rural landscape with no shoulders and often limited sight distance. Mixed automobile and truck traffic travels very rapidly, offering challenges to drivers in passing sections. The Existing Conditions section indicates that traffic accidents in the rural sections of SR 12 often result in injuries or fatalities. That fact was underscored during field reconnaissance trips for this environmental and planning discussion. The highway turns directly east at Little Honker Bay Road and Olsen Road, crosses SR 113, and continues on to the city limits of Rio Vista.

The Solano County General Plan Land Use and Circulation Element designates the area south of SR 12, between Suisun City and Shiloh Road, as the Suisun Marsh Management Area. The General Plan addresses marsh and wetland habitat with an objective to "Preserve and enhance the quality and diversity of marsh aquatic and wildlife habitats." Lands north and east of Suisun Marsh, are designated for agricultural use, with the exception of the Western Railway Museum site, which is designated as Park land.

Policies in support of preserving and maintaining agricultural uses include Policy 3: "Urban development should be confined to patterns which do not conflict with essential agricultural lands." Zoning is "Agriculture" and "Limited Agricultural", frequently accompanied by a minimum parcel size limit of 160 acres (AL-160). The 160 acre limit represents a "farmable unit" that is able to support agricultural activities without irrigation.

The Scenic Roadways Element of the General Plan indicates that the full length of SR 12 in Solano County is a Designated Scenic Roadway. The Plan sets forth specific policies and implementation methods to protect views, particularly in the prevailing non-urban areas of the County. Policy #7 (page 12) is germane to the current study: "Travel speeds should be limited to levels which do not require imposition of roadway improvement standards which would substantially alter the present visual experience of the scenic roadway."

A spot zone of General Manufacturing (MG) is located east of SR 12 on Lambie Road. The approximately one-acre site is designated in the General Plan as Service Commercial/Light Industrial. The site is surrounded by agricultural lands, which are designated as such by the General Plan and zoning. All of the area east of SR 12 at Lambie Road is shown on the HCP draft map as seasonally wet grassland.

Environmental Constraints

As discussed above, a Habitat Conservation Plan is currently being prepared for Solano County by LSA Associates. The draft HCP, and specific information provided by the Wildlife Biologist, indicate that the most sensitive area within the SR 12 MIS study area is from approximately Lambie Road west to Suisun City. The highway cuts through a number of significant vernal pool areas and marsh habitat area that are known to have endangered species. Denverton Slough crosses SR 12 and flows into Suisun Marsh between Denverton and Lambie Roads. A number of species listed as federally or state endangered (FE, SE) or federally or state threatened (FT, ST) are known to exist in this section of SR 12. Those species include Contra Costa Goldfields (FE), Conservancy Fairy Shrimp (FE), Vernal Pool Fairy Shrimp (FT), Vernal Pool Tadpole Shrimp (FE) and Salt Marsh Harvest Mouse (FE, SE).

Additional information regarding endangered and threatened species is provided in Appendix D.

At the point where the rail line serving the Western Railway Museum crosses under the highway at the Nambe Bridge, the habitat type transitions south and west of SR 12 from seasonally wet grasslands to cultivated grasslands. The HCP suggests that isolated wetlands and vernal pools may be present, but such features are not a dominant characteristic of the landscape. The north side of the highway between Little Honker Road and the city limits of Rio Vista contains three habitat types: seasonally wet grasslands, cultivated grassland and agriculture.

Proposed SR 12 Improvements

Proposed near and long term improvements to SR 12 within the area of unincorporated Solano County include: 1) installation of a median barrier and shoulders from Suisun City to Summerset Road in Rio Vista, 2) installation of a signal and turn lanes and acceleration and deceleration lanes at the Lambie Road/Shiloh Road intersection, 3) installation of a signal at SR 113. Improvements to the highway requiring physical expansion of the disturbed area beyond that of the existing roadway have the potential to have significant impacts on known biological resources, including endangered species. The necessity of expanding the disturbed area to accommodate shoulders or construct the Lambie Road/Shiloh Road intersection improvements would require extensive review and permitting by local, state and federal agencies including, the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service and the California Department of Fish and Game.

Rio Vista - Solano County/Rio Vista Boundary to Sacramento River

Planning Considerations

State Route 12 enters the City of Rio Vista west of Summerset Road and the main entrance to the Trilogy residential development. The intersection is signalized, and the roadway has been widened to include a left turn lane and very short acceleration/deceleration lanes. During field investigations motorists were observed using the accel/decel lanes as an opportunity to pass slower trucks on the right side before the roadway resumed its two-lane configuration. The roadway follows the topography of the undulating hills, resulting in vertical curves with poor sight distance at some locations. Church Street provides a secondary access to the Trilogy development and the majority of existing and future development in Rio Vista. The highway enters the urbanized area of Rio Vista at Drouin Drive. The roadway forms a Y at the cemetery, with Main Street continuing straight ahead to the historic downtown, and SR 12 curving east into the commercial district and, finally, the Rio Vista Bridge over the Sacramento River.

SR 12 currently functions as a barrier, dividing the community during peak hours and precluding safe vehicular and pedestrian crossings from the side streets. A signal is warranted and is programmed to be installed at Hillside Terrace, east of the Y of SR 12/Main Street.

The current population of Rio Vista is approximately 5,000 with significant population growth anticipated in the next 20 years. The existing General Plan was adopted in the mid-1980's, and an update is currently in progress with adoption anticipated in the fall of 2001. Proposed land uses adjoining SR 12 are Neighborhood Residential on the north side of the roadway from the western City limits to east of Church Road, with Commercial surrounding the Church Road intersection. Neighborhood Residential land use continues to the east, punctuated by an Open Space corridor that provides an opportunity for the preservation of native habitat and development of a public trail system. Within the urbanized area of Rio Vista SR 12 is designated as Highway 12 Commercial.

The Planning Director has indicated that the community has voiced concerns over what is seen as the “standard approach” to increasing capacity and making safety improvements on Highway 12. The undulating hills west of the downtown area are seen as a unique visual resource to be preserved rather than as a safety concern due to poor sight distance. Land use compatibility is an important issue in the commercial area along SR 12, with frequent driveway cuts and a lack of landscaping and sidewalks combining with the high volumes of through traffic to create an inhospitable appearance that could be mitigated as part of the improvement project.

Environmental Constraints

The HCP draft map depicts the majority of the vacant, non-urbanized land on the SR 12 corridor within the City of Rio Vista, as cultivated grassland. An area adjoining the south side of the highway between Azevedo Road and Church Road is identified as seasonally wet grasslands. As noted previously, the HCP suggests that isolated wetlands and vernal pools may be present, but such features are not a dominant characteristic of the landscape in areas identified as seasonally wet grasslands.

Proposed SR 12 Improvements

Proposed improvements to SR 12 in the City of Rio Vista include: 1) widening the highway to four lanes from the westerly City Limit to River Road, 2) installing a median barrier and shoulders, and 3) installation of a traffic signal and left turn lanes at the Church Road intersection. Widening of the highway would have potential benefits from a traffic safety standpoint; however, the community is desirous of preserving and enhancing the viewshed in undulating hills between Church Road and the commercial district. Studies should be conducted to determine the presence of wetlands or vernal pools in the area identified in the HCP. Pending the outcome of future studies, there is a high probably that the proposed improvements would have beneficial impacts for the City of Rio Vista, and that desired mitigation measures could be incorporated into the future project design.

Conclusions and Next Steps

Impacts on Suisun Marsh and related wetland and vernal pools remain the most significant issues to be resolved in conjunction with the proposed near and long term safety and capacity improvements to the State Route 12 corridor. The most sensitive area within the SR 12 MIS study area is from approximately Lambie Road west to Suisun City. The highway cuts through a number of significant vernal pool areas and marsh habitat area that are known to have endangered species.

Approvals will be required from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service and the California Department of Fish and Games. Potential permits may include wetlands delineation studies, 1603 Streambed Alteration Permit, 401 Permit from the Regional Water Quality Control Board, a Nationwide or Local Permit form the COE, and a Section 4(f) evaluation. Section 4(f) of the Federal Aid Highway Act prohibits use of a publicly owned park, recreation area, or wildlife and waterfowl refuge of national, state or local significance unless it may be determined that: 1) there is no feasible and prudent alternative to the use of the 4(f) land, and 2) the project includes all possible planning to minimize harm to the property resulting from such use.

TRAFFIC OPERATIONS ELEMENT

Traffic operations throughout the study corridor have been evaluated through the calculation of Levels of Service (LOS) at eight intersections and eight highway segments. The following eight critical intersections with State Route 12 have been evaluated in detail: Pennsylvania Avenue, Sunset Avenue, Walters Road, Shiloh Road/Lambie Road, SR 113, Summerset Road, Church Road and Main Street/Hillside Terrace. Existing conditions at these intersections were evaluated through the conduct of morning and evening peak hour turning movement counts in the fall of 2000. The results of this analysis were reported in the Existing Conditions Report and are also presented in Table 10 below.

Future traffic levels throughout the study corridor were evaluated using the Solano Transportation Authority's Travel Demand Model. This model evaluates future traffic conditions throughout Solano County based on the latest projections from the Association of Bay Area Governments (ABAG). The model forecasts traffic conditions in the evening peak hour of travel in the year 2025. Using this information, future traffic conditions at the eight study intersections were evaluated for the following four scenarios:

5. Year 2010 Base Case;
6. Year 2010 High Rio Vista Bridge Alternative;
7. Year 2025 Base Case; and
8. Year 2025 High Rio Vista Bridge Alternative.

Near term traffic projections for the year 2010 have been calculated assuming a linear growth in traffic from existing levels to levels projected to occur in the year 2025 by the STA model.

Given the existing configuration of the Rio Vista Bridge, its capacity is estimated to be approximately 900 vehicles per hour per direction. The bridge's capacity is constrained by its geometric configuration, the presence of up and downstream traffic signals and the nature of the bridge's drawbridge operation. The STA model projects year 2025 traffic volumes on the bridge to be roughly equal to its capacity. With vehicular demand equal to the available capacity, high levels of congestion may occur. Small decreases in capacity or breakdowns in the system can lead to extreme levels of congestion. Thus, to alleviate future congestion levels, capacity improvements over the Sacramento River may be pursued. These capacity improvements could entail a new bridge on or near to the existing bridge alignment or a new bridge on another alignment.

To account for a potential new bridge over the Sacramento River, a scenario is evaluated wherein it is assumed that a new "high bridge" structure is constructed north of the existing bridge connecting to Airport Road (scenarios 2 and 4). This new high bridge would effectively operate as a route around Rio Vista allowing traffic on Highway 12 to proceed through the area without passing through downtown. The diverted SR 12 is assumed to rejoin the existing mainline SR 12 west of Summerset Road.

Intersection Analysis Summary

Table 10 presents the results of the no-build analysis (Alternative Package 1) at the eight study intersections. By the year 2010, unacceptable conditions are forecast to prevail at the Pennsylvania Avenue, Shiloh Road/Lambie Road, and SR 113 intersections. In the year 2025, unacceptable conditions will prevail at the Church Road intersection as well as the three intersections mentioned above.

Table 11 summarizes the LOS analysis conducted for Alternative Package 2 (TDM Improvements). The TDM improvements were not found to substantially improve traffic conditions in the study corridor. The amount of traffic that would be removed from SR 12 by these measures is not of sufficient magnitude to noticeably improve operating conditions on the study facilities.

As illustrated in Table 12, the identified near-term traffic operational improvements (Alternative Package 4) would result in acceptable operating conditions in the year 2010, with the exception of the Pennsylvania Avenue intersection. The traffic volumes forecasted by the STA travel demand model may necessitate the grade separation of this intersection. Even with the installation of the improvements identified in Alternative Package 4, unacceptable operating conditions may prevail throughout the study corridor if main-line widening were not pursued.

Table 13 presents the results of the Alternative Package 6 analysis. As indicated in Table 4, acceptable operating conditions (LOS C or better) would prevail on all study facilities in the year 2025 with these improvements.

Link/Segment Analysis Summary

In addition to the intersection LOS calculations, traffic volume and LOS forecasts have been made for eight highway links/segments throughout the study corridor. The following eight links are included in this analysis:

- SR 12 West of Pennsylvania Avenue;
- SR 12 West of Sunset Avenue;
- SR 12 West of Walters Road;
- SR 12 West of Shiloh Road/Lambie Road;
- SR 12 West of SR 113;
- SR 12 West of Summerset Road;
- SR 12 West of Church Road; and
- SR 12 Through Rio Vista.

Figure 22 presents a summary of the directional traffic volumes through the corridor for the Existing,

Year 2010 and Year 2025 conditions. Directional volume to capacity ratios were calculated and used to assess link Levels of Service for each segment. The following directional capacities were used in this analysis:

- Through Rio Vista = 900 vehicles per hour per lane;
- Sunset Avenue to Summerset Road = 1,400 vehicles per hour per lane; and
- I-80 to Sunset Avenue = 1,800 vehicles per hour per lane.

Table 14 presents the results of the no-build analysis (Alternative Package 1) on the eight study segments of SR 12. By the year 2025, unacceptable conditions will prevail on the sections of SR 12 west of Pennsylvania, west of Church Road and through Rio Vista. Under the "high bridge" scenarios the sections west of Church Road and through Rio Vista would function acceptably.

Table 15 summarizes the LOS analysis conducted for Alternative Package 2 (TDM Improvements). The TDM improvements were not found to substantially improve traffic conditions in the study corridor. The amount of traffic that would be removed from SR 12 by these measures is not of sufficient magnitude to noticeably improve operating conditions on the study facilities.

As illustrated in Table 16, under Alternative Package 4, acceptable levels of service would prevail under near-term, year 2010 conditions. However under the long-term, year 2025 analysis the sections west of Pennsylvania and through Rio Vista would fail.

Table 17 presents the results of the Alternative Package 6 analysis. As indicated in Table 4, acceptable operating conditions (LOS D or better) would prevail on all study facilities in the year 2025 with these improvements.

Sensitivity Analysis

Two sensitivity analyses have been conducted as part of the SR 12 MIS. The first assesses the impact of the "Southern Bypass" alternative being reviewed as part of the I-80/680 interchange Major Investment Study. Under this alternative a new expressway or freeway connector, linking I-680 at Red Top Road with SR 12 at Pennsylvania Avenue, would be constructed. New grade separated interchanges would be constructed at Red Top Road/I-680 and SR 12/Pennsylvania Avenue. In the second sensitivity analysis, no additional development is assumed to occur at the Lambie Business Park.

Southern Bypass Alternative

With the construction of a "Southern Bypass", the segment of SR 12 between I-80 and Pennsylvania Avenue may not need to be widened to six-lanes as was identified under Alternative Package 6. The provision of such a bypass would draw traffic away from this section of SR 12 to the Bypass. Future traffic forecasts with the Southern Bypass result in traffic volumes on the section of SR 12 west of Pennsylvania Avenue that are just below capacity (i.e. LOS E). With these volumes and service levels it may be desirable to widen this section of SR 12 even with the Southern Bypass under future, year 2025 traffic volumes.

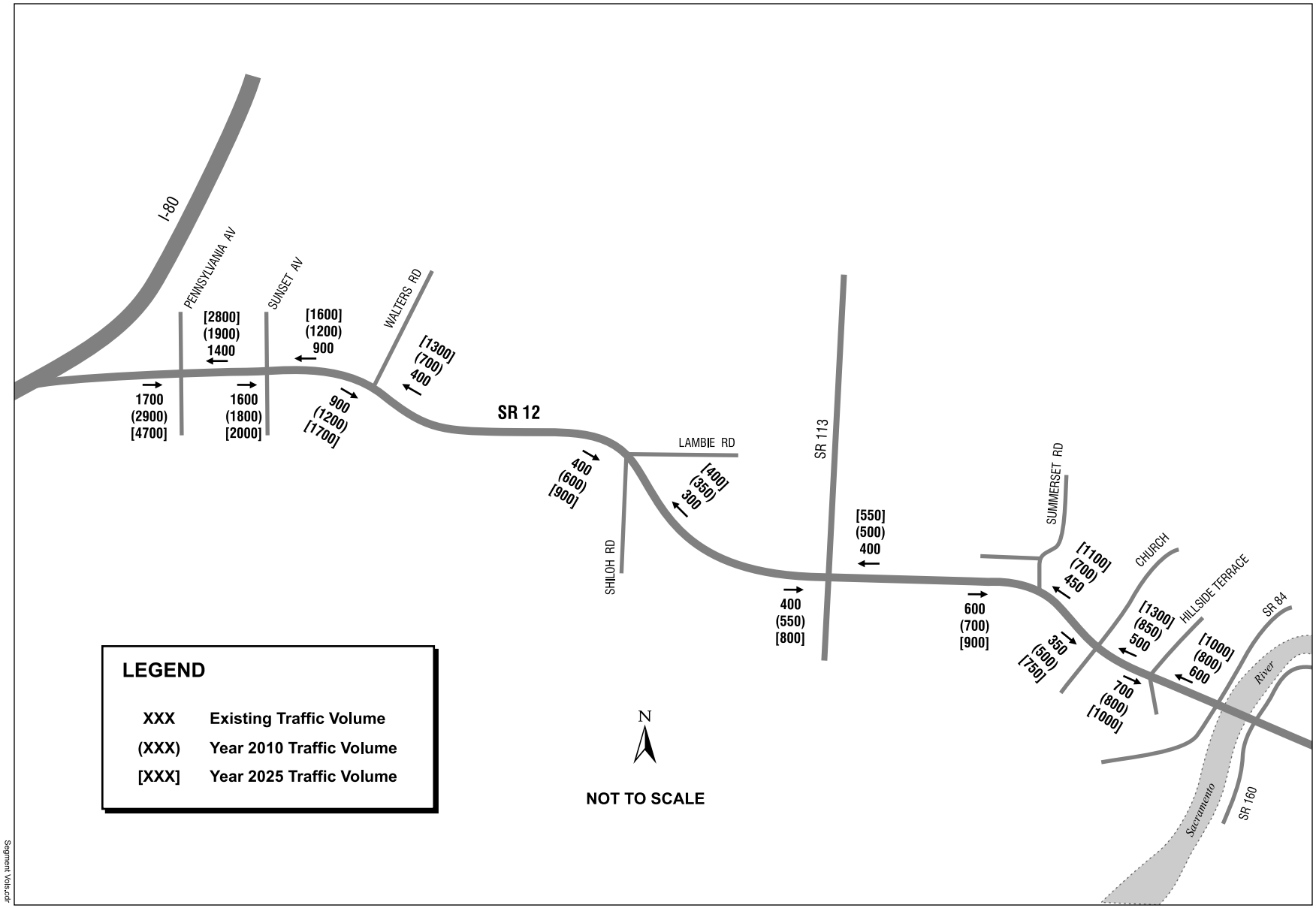
Lambie Business Park

The Lambie Business Park is currently a small commercial development north of SR 12 at the Lambie Road intersection. At this time a potential expansion of the business park is under consideration. Under the current buildout scenario the business park could grow as large as 15,000,000 square feet. Access to the business-park would be provided via Lambie Road, Branscombe Road and a Flannery Road connection to SR 113. Because of the controversial nature of the proposed development a sensitivity analysis has been conducted wherein the development would not occur. To conduct this analysis the traffic volumes associated with the development have been manually removed from the year 2025 STA travel demand model forecasts.

Tables 18 and 19 illustrate the analysis of the study corridor with traffic associated with the Lambie Business Park removed. With the removal of these volumes, the improvements identified at the Lambie Road/Shiloh Road intersection under Alternative Packages 4 and 6 would not be necessary. However, the remainder of the near-term and long-term improvements would still be required to serve

year 2010 and 2025 traffic volumes.

The STA travel demand model for the year 2025 includes approximately 5,300,000 square feet of development in the Lambie Business Park. With this level of development, the analysis found that SR 12 would not have to be widened to four-lanes between Summerset Road and Walters Road. However, if the Lambie Business Park were to grow to 8,500,000 square feet or larger, the widening of SR 12 to four-lanes would be required though this section.



Segment Vols.cdr

Korve Engineering

SR 12 MAJOR INVESTMENT STUDY

Figure 22

SEGMENT TRAFFIC VOLUMES

Table 10: Intersection Level of Service Summary
Alternative Package 1 – No Build

Intersection	Existing		2010 High Bridge Alternative	2010 Base Case	2025 High Bridge Alternative	2025 Base Case
	AM	PM	PM Peak Hour			
Pennsylvania Avenue	B	D	F	F	F	F
Sunset Avenue	B	B	C	C	C	C
Walters Road	B	B	B	B	C	C
Shiloh Road/Lambie Road	B	B	D	D	F	F
SR 113	C	C	E	E	F	F
Summerset Road	A	A	A	A	B	B
Church Road	B	B	B	C	E	F
Main Street/Hillside Terrace	C	C	B*	B*	B*	B*

* Traffic signal will be installed by others at the Main Street/Hillside Terrace intersection.

Table 11: Intersection Level of Service Summary
Alternative Package 2 – Transportation Demand Management

Intersection	Existing		2010 High Bridge Alternative	2010 Base Case	2025 High Bridge Alternative	2025 Base Case
	AM	PM	PM Peak Hour			
Pennsylvania Avenue	B	D	F	F	F	F
Sunset Avenue	B	B	C	C	C	C
Walters Road	B	B	B	B	C	C
Shiloh Road/Lambie Road	B	B	D	C	F	F
SR 113	C	C	D	E	F	F
Summerset Road	A	A	B	B	B	B
Church Road	B	B	B	C	D	F
Main Street/Hillside Terrace	C	C	B*	B*	B*	B*

* Traffic signal will be installed by others at the Main Street/Hillside Terrace intersection.

Table 12: Intersection Level of Service Summary
Alternative Package 4 – Near-Term Traffic Improvements

Intersection	Existing		2010 High Bridge Alternative	2010 Base Case	2025 High Bridge Alternative	2025 Base Case
	AM	PM	PM Peak Hour			
Pennsylvania Avenue	B	D	E	E	F	F
Sunset Avenue	B	B	C	C	C	C
Walters Road	B	B	B	B	C	C
Shiloh Road/Lambie Road	B	B	B	B	E	E
SR 113	C	C	B	B	C	C
Summerset Road	A	A	A	A	B	B
Church Road	B	B	B	C	E	F
Main Street/Hillside Terrace	C	C	B*	B*	B*	B*

* Traffic signal will be installed by others at the Main Street/Hillside Terrace intersection.

Table 13: Intersection Level of Service Summary
Alternative Package 6 – Long-Term Traffic Improvements

Intersection	Existing		2010 High Bridge Alternative	2010 Base Case	2025 High Bridge Alternative	2025 Base Case
	AM	PM	PM Peak Hour			
Pennsylvania Avenue	B	D	Grade Separation	Grade Separation	Grade Separation	Grade Separation
Sunset Avenue	B	B	C	C	C	C
Walters Road	B	B	B	B	C	C
Shiloh Road/Lambie Road	B	B	B	B	C	C
SR 113	C	C	B	B	C	C
Summerset Road	A	A	A	A	B	B
Church Road	B	B	B	B	B	B
Main Street/Hillside Terrace	C	C	B*	B*	B*	B*

* Traffic signal will be installed by others at the Main Street/Hillside Terrace intersection.

Table 14: Link Level of Service Summary
Alternative Package 1 – No Build

Intersection	Existing		2010 High Bridge Alternative	2010 Base Case	2025 High Bridge Alternative	2025 Base Case
	AM	PM	PM Peak Hour			
SR 12 West of Pennsylvania	A	A	C	C	F	F
SR 12 West of Sunset	A	A	A	A	A	A
SR 12 West of Walters	A	A	A	A	A	A
SR 12 West of Shiloh/Lambie	A	A	A	A	C	C
SR 12 West of SR 113	A	A	A	A	A	A
SR 12 West of Summerset	A	A	A	A	D	D
SR 12 West of Church	A	A	A	B	D	F
SR 12 Through Rio Vista	B	C	A	D	C	F

Table 15: Link Level of Service Summary
Alternative Package 2 – Transportation Demand Management

Intersection	Existing		2010 High Bridge Alternative	2010 Base Case	2025 High Bridge Alternative	2025 Base Case
	AM	PM	PM Peak Hour			
SR 12 West of Pennsylvania	A	A	D	D	F	F
SR 12 West of Sunset	A	A	A	A	A	A
SR 12 West of Walters	A	A	A	A	A	A
SR 12 West of Shiloh/Lambie	A	A	A	A	B	B
SR 12 West of SR 113	A	A	A	A	A	A
SR 12 West of Summerset	A	A	A	A	C	C
SR 12 West of Church	A	A	A	B	D	F
SR 12 Through Rio Vista	B	C	A	D	C	F

Table 16: Link Level of Service Summary
Alternative Package 4 – Near-Term Traffic Improvements

Intersection	Existing		2010 High Bridge Alternative	2010 Base Case	2025 High Bridge Alternative	2025 Base Case
	AM	PM	PM Peak Hour			
SR 12 West of Pennsylvania	A	A	C	C	F	F
SR 12 West of Sunset	A	A	A	A	A	A
SR 12 West of Walters	A	A	A	A	A	A
SR 12 West of Shiloh/Lambie	A	A	A	A	C	C
SR 12 West of SR 113	A	A	A	A	A	A
SR 12 West of Summerset	A	A	A	A	D	D
SR 12 West of Church	A	A	A	B	D	F
SR 12 Through Rio Vista	B	C	A	D	C	F

Table 17: Link Level of Service Summary
Alternative Package 6 – Long-Term Traffic Improvements

Intersection	Existing		2010 High Bridge Alternative	2010 Base Case	2025 High Bridge Alternative	2025 Base Case
	AM	PM	PM Peak Hour			
SR 12 West of Pennsylvania	A	A	A	A	D	D
SR 12 West of Sunset	A	A	A	A	A	A
SR 12 West of Walters	A	A	A	A	A	A
SR 12 West of Shiloh/Lambie	A	A	A	A	C	C
SR 12 West of SR 113	A	A	A	A	A	A
SR 12 West of Summerset	A	A	A	A	D	D
SR 12 West of Church	A	A	A	A	A	A
SR 12 Through Rio Vista	B	C	A	A	A	A

Table 18: Intersection Level of Service Summary
Sensitivity Analysis – Without Lambie Business Park

Intersection	Existing		2010 High Bridge Alternative	2010 Base Case	2025 High Bridge Alternative	2025 Base Case
	AM	PM	PM Peak Hour			
Pennsylvania Avenue	B	D	F	F	F	F
Sunset Avenue	B	B	C	B	C	C
Walters Road	B	B	B	B	C	B
Shiloh Road/Lambie Road	B	B	D	C	F	C
SR 113	C	C	E	E	F	F
Summerset Road	A	A	A	B	B	B
Church Road	B	B	B	C	D	F
Main Street/Hillside Terrace	C	C	B*	B*	B*	B*

* Traffic signal will be installed by others at the Main Street/Hillside Terrace intersection.

Table 19: Link Level of Service Summary
Sensitivity Analysis – Without Lambie Business Park

Intersection	Existing		2010 High Bridge Alternative	2010 Base Case	2025 High Bridge Alternative	2025 Base Case
	AM	PM	PM Peak Hour			
SR 12 West of Pennsylvania	A	A	C	C	F	F
SR 12 West of Sunset	A	A	A	A	A	A
SR 12 West of Walters	A	A	A	A	A	A
SR 12 West of Shiloh/Lambie	A	A	A	A	A	A
SR 12 West of SR 113	A	A	A	A	A	A
SR 12 West of Summerset	A	A	A	A	C	C
SR 12 West of Church	A	A	A	B	D	F
SR 12 Through Rio Vista	B	C	A	D	C	F

PUBLIC OUTREACH ELEMENT

Two public meetings were held during the course of the study. The MIS and its draft recommendations were presented to the public during evening meetings on March 28 and April 25, 2001 in Rio Vista and Suisun City, respectively. A detailed summary of the public's comments on the study and recommendations is attached in Appendix F. Some of the common, reoccurring themes that were commented on in both meetings included the following:

- SR 12 is a dangerous roadway for many different reasons including:
  - High speeds;
  - Lack of shoulders;
  - Heavy truck traffic; and
  - Poor roadway condition.
- A median barrier is needed on SR 12;
- In general, the study corridor is in poor condition and Caltrans does not adequately maintain the roadway; and
- Heavy truck traffic in the corridor causes roadway damage and safety problems.

ALTERNATIVES EVALUATION

The purpose of this section is to describe and summarize the evaluation of the five build and one no-build alternative packages. As detailed in the Alternatives Evaluation Section a series of qualitative and quantitative criteria have been developed to perform this assessment. Figure 23 provides a graphical summary of this analysis.

Alternative Package 1 – No Build

The no-build alternative was not identified as having cost or environmental impacts. However, as indicated in the traffic operations analysis, the no-build alternative will result in severe vehicular congestion throughout the SR 12 corridor. Without operational improvements in the near term, unacceptable conditions will prevail at many locations throughout the corridor. In the long term, vehicular demand on SR 12 will substantially exceed capacity and travel times, congestion and queues will become unacceptable.

Alternative Package 2 – Transportation Demand Management

The effectiveness of carpooling programs and transit varies widely by location. However, as indicated in the Traffic Operations Analysis, even the maximum usage of these demand-reducing measures would not sufficiently reduce future traffic volumes in the study corridor to have a positive effect on operations. As indicated in the Alternatives Evaluation Matrix, the TDM alternative scored relatively low when compared to the other alternative packages.

Alternative Package 3 – Safety Improvements

The identified safety improvements would positively enhance safety through the elimination of some of the most common accident locations in the study corridor. However, the improvements would not serve future projected traffic levels in the study corridor. If pursued, this package would function best if combined with a capacity enhancing alternative.

Alternative Package 4 – Near-Term Traffic Improvements

As indicated in the Traffic Operations Analysis, this alternative package would effectively serve near-term traffic volumes projected to occur in the year 2010. However, additional capacity enhancements would be necessary to serve long-term traffic volumes forecast by the STA model. As presented in

the attached Alternatives Evaluation Matrix, this alternative scored relatively well when compared with the others.

Alternative Package 5 – Passing Lane Installation

The addition of two new passing lane areas in the study corridor, as described in the description of alternatives, would provide increased opportunities for vehicles to safely pass slower moving vehicles. The addition would also result in a slight increase in corridor capacity. Because of the presence of existing passing lanes and the on-going Caltrans' project to expand these lanes, it is not recommended that this alternative be further pursued. With these improvements, adequate passing lanes will exist in the section.

Alternative Package 6 – Long-Term Traffic Improvements

As indicated in the Traffic Operations Analysis, the grade separation of the Pennsylvania Avenue intersection, the widening of SR 12 to four lanes from the Rio Vista City Limits to River Road, the widening of SR 12 to six lanes from I-80 to the Webster/Jackson interchange and capacity enhancements across the Sacramento River may be necessary to serve long-term traffic levels in the study corridor. It should be noted that the Major Investment Study for Route 12 in San Joaquin County (June 1997) concluded that the section of SR 12 to the immediate east of the current study corridor should be widened to four lanes as well. That MIS concluded that the widening of the section of SR 12 on the western end of San Joaquin County was a Priority B project to be pursued in the "Beyond 2010" timeframe. That recommendation is consistent with the findings of this study.

The widening of the identified section of SR 12 is the only identified improvement available to serve year 2025 traffic volumes. As indicated in the attached Alternatives Evaluation Matrix, Alternative Package 6 scored very well, with negative marks occurring in only the Capital Cost, Ease of Implementation and Environmental Impacts categories.

EVALUATION CRITERIA	SHORT TERM					LONG TERM	Comment
	Alternative Package 1 No-Build	Alternative Package 2 TDM	Alternative Package 3 Safety	Alternative Package 4 Traffic Ops	Alternative Package 5 Passing Lane	Alternative Package 6 Main-Line Widening	
Daily Person Trips Carried	✗	✗	✗	✓	✗	★	Long Term - only widening will serve projected demand
Auto Travel Time Savings	✗	✗	✗	✓	✗	★	Near Term - Traffic Ops will help; Long Term - only widening serves demand
Goods Movement Potential	✓	✓	✓	✓	✓	★	
Capital Cost	★	✓	✓	✓	✓	✓	Refer to Cost Element
Operating Cost	★	✓	★	✓	★	★	Refer to Cost Element
Reduction in Auto Vehicle Hours of Travel	✗	✓	✓	✓	✓	★	
Environmental Impacts	★	★	✓	✓	✓	✓	Subject to additional future analysis
Safety Enhancement	✓	✓	★	✓	✓	★	
Ease of Implementation	✓	✓	✓	✓	✓	✓	
Development Growth Potential	✓	✓	✓	✓	✓	★	
Summary of Ratings	✗ ✗ ✓ ✓ ★ ★	✗ ✗ ✓ ✓ ✓ ✓ ★	✗ ✗ ✓ ✓ ✓ ✓ ★ ★	✓ ✓ ✓ ✓ ✓ ✓ ✓	✗ ✗ ✓ ✓ ✓ ✓	✓ ✓ ✓ ★ ★ ★ ★ ★	

LEGEND

★ High Relative Benefit / Low Relative Cost

✓ Moderate Relative Benefit / Moderate Relative Cost

✓ Low Relative Benefit / High Relative Cost

✗ Severely Deficient

ALTERNATIVE PACKAGE RECOMMENDATIONS

The consultant team recommends the following Alternative Packages be recommended and carried forward for additional evaluation.

Near-Term Recommendations

To serve near-term traffic levels projected to occur in the year 2010, the following Alternative Packages are recommended:

- Alternative Package 2 (TDM);
- Alternative Package 3 (Safety Improvements); and
- Alternative Package 4 (Traffic Operations).

The combination of these three Alternative Packages will appropriately serve near-term traffic projections and resolve the identified safety issues in the study corridor.

Long-Term Recommendations

To serve long-term traffic levels projected to occur in the year 2025, the following Alternative Packages are recommended:

- Alternative Package 2 (TDM);
- Alternative Package 3 (Safety Improvements);
- Alternative Package 4 (Traffic Operations); and
- Alternative Package 6 (Main-Line Widening).

The combination of these four Alternative Packages will appropriately serve long-term traffic projections and resolve the identified safety issues in the study corridor.

IMPLEMENTATION AND NEXT STEPS

Short and long range planning for a corridor such as Highway 12 between Interstate 80 and the Sacramento River is an ongoing process that should be continuously monitored. This MIS is a snapshot in time, providing current recommendations to improve existing traffic conditions in the corridor as well as those improvements necessary to serve traffic forecasts for the corridor. However, land-use policies change frequently and periodically, traffic conditions in the study corridor must be revisited and recommendations revised, if necessary.

To ensure that the recommendations of this MIS are carried forward and that traffic conditions in the corridor are revisited periodically, the following monitoring program is proposed.

1. STA will monitor Caltrans' SHOPP program to ensure that the safety recommendations identified in the MIS (Alternative Package 3) are implemented by Caltrans.
2. STA will include the short and long-term recommendations (Alternative Packages 4 and 6) of this MIS into the Solano Comprehensive Transportation Plan.
3. STA will pursue a planning grant for a feasibility study to evaluate a potential long range capacity enhancement across the Sacramento River in Rio Vista.
4. STA will work to identify future funding sources to implement the short and long term recommendations (Alternative Packages 4 and 6) of the MIS.
5. Every 3-5 years, STA will comprehensively monitor existing and future traffic conditions through the study corridor to revisit the recommendations of this study.
6. Project Study Reports (PSR) for each of the individual recommended improvements should be pursued as soon as is feasible.

REFERENCES

San Joaquin Council of Governments, *Route 12 in San Joaquin County Corridor Study*, June 1997.

City of Rio Vista/Caltrans District 10, Rio Vista High Bridge Study, March 1993

References and Contacts for Environmental Element

Fairfield

City of Fairfield General Plan Land Use Diagram
City of Fairfield Zoning Ordinance
Erin Beavers, Principal Planner
Mike Van Lonkhuysen, Associate Planner

Rio Vista

Thomas E. Bland, Director of Community Development, City of Rio Vista
Sponamore Associates, *Marks Ranch Final EIR*, April 1990
City of Rio Vista General Plan Land Use Map
City of Rio Vista General Plan Opportunities Map

Solano County

Solano County Land Use and Circulation Element, December 1980, amended through December 2000
Solano County General Plan Land Use Map
Scenic Roadways Element, A Part of the Solano County General Plan, May 1977
LSA Associates, Inc., *Draft Solano County Habitat Conservation Plan,* _____ 2001
LSA Associates, Inc., Solano County Water Agency Habitat Conservation Plan, Highway 12 Corridor Draft Map, June 11, 2001
Steve Foreman, Associate/Wildlife Biologist, LSA Associates, Inc.
Mel Pabalinas, Planner, Department of Environmental Management, Planning Services Division

Suisun City

Route 12 Expressway Environmental Assessment, Initial Study, Negative Declaration and Initial Programmatic 4(f), December 1990
City of Suisun General Plan, Volume 1, May 1992
Suisun City Zoning Map
Michael Duncan, Public Works Director
Wayne Anderson, Project Manager

APPENDIX A

TRAFFIC COUNTS

BAYMETRICS TRAFFIC RESOURCES

LOCATION: SR 12 EAST OF SUNSET AVENUE

	11/8/2000 WEDNESDAY				11/9/2000 THURSDAY				11/10/2000 FRIDAY				11/11/2000 SATURDAY				11/12/2000 SUNDAY				11/13/2000 MONDAY				11/14/2000 TUESDAY			
	EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	20	0	16	0	46	0	25	0	46	0	25	0	43	0	27	0	41	0	25	0	10	0	12	0	25	0	16	0
1215	22	0	22	0	37	0	17	0	34	0	30	0	42	0	26	0	36	0	23	0	10	0	16	0	14	0	19	0
1230	20	0	19	0	29	0	17	0	32	0	26	0	35	0	22	0	31	0	21	0	15	0	8	0	11	0	16	0
1245	15	77	19	76	30	142	21	78	33	145	21	102	36	156	18	93	24	132	20	89	17	52	14	50	22	72	21	72
100	11	68	12	72	26	122	24	79	30	129	19	96	29	142	19	83	25	116	20	84	12	54	18	56	14	61	15	71
115	11	57	11	61	24	109	18	80	25	120	17	83	35	135	20	79	27	107	22	83	14	58	15	55	15	62	11	63
130	7	44	15	57	19	99	15	78	27	115	16	73	31	131	20	77	27	103	21	83	6	49	16	63	10	61	20	67
145	11	40	16	54	14	83	21	78	18	100	17	69	30	125	18	77	28	107	15	78	6	38	18	67	10	49	25	71
200	15	44	13	55	12	69	20	74	17	87	21	71	25	121	15	73	27	109	22	80	9	33	11	60	10	45	16	72
215	14	47	20	64	13	58	22	78	19	81	22	76	26	112	15	68	16	98	27	85	8	29	15	60	10	40	26	87
230	18	58	15	64	12	51	23	86	21	75	23	83	20	101	19	67	11	82	11	75	9	30	19	63	16	46	34	101
245	14	61	18	66	11	48	15	80	17	74	24	90	15	86	23	72	12	66	12	72	9	33	13	58	16	52	47	123
300	10	56	24	77	13	49	32	92	14	71	25	94	23	84	18	75	5	44	16	66	12	36	20	67	13	55	48	155
315	13	55	22	79	12	48	30	100	13	65	33	105	19	77	20	80	12	40	12	51	12	40	22	74	18	63	83	212
330	9	46	29	93	14	50	40	117	14	58	34	116	15	72	27	88	12	41	22	62	9	42	24	79	20	67	110	288
345	14	46	38	113	12	51	44	146	9	50	41	133	18	75	25	90	13	42	32	82	19	52	34	100	24	75	124	365
400	15	51	26	115	13	51	50	164	18	54	64	172	19	71	37	109	7	44	29	95	26	66	46	126	32	94	155	472
415	20	58	53	148	21	60	85	219	20	61	93	232	11	63	33	122	8	40	32	115	40	94	55	159	33	109	192	581
430	16	65	79	198	25	71	106	285	31	78	115	313	17	65	45	140	9	37	30	123	33	118	78	213	45	134	246	717
445	13	64	105	265	26	85	107	348	28	97	139	411	21	68	58	173	10	34	40	131	41	140	94	273	45	155	256	849
500	18	67	113	352	29	101	178	476	34	113	165	512	16	65	54	190	8	35	48	150	57	171	132	359	70	193	283	977
515	22	69	176	473	40	120	256	647	40	133	209	628	38	92	95	252	23	50	45	163	73	204	166	470	75	235	289	1074
530	34	87	188	582	52	147	255	796	39	141	232	745	34	109	87	294	30	71	43	176	93	264	215	607	98	288	314	1142
545	45	119	215	692	48	169	285	974	60	173	215	821	38	126	86	322	30	91	51	187	92	315	272	785	104	347	311	1197
600	68	169	225	804	81	221	240	1036	67	206	242	898	63	173	75	345	38	121	60	199	107	365	311	964	113	390	319	1233
615	72	219	250	878	84	265	280	1060	80	246	245	934	70	205	93	341	47	145	55	209	121	413	313	1111	135	450	383	1327
630	83	268	279	969	106	319	353	1158	87	294	279	981	73	244	110	364	39	154	65	231	155	475	425	1321	157	509	374	1387
645	111	334	342	1096	117	388	339	1212	124	358	254	1020	69	275	115	393	46	170	67	247	170	553	405	1434	153	558	341	1417
700	109	375	329	1200	116	423	325	1297	103	394	257	1035	71	283	135	453	52	184	82	269	144	590	350	1493	148	593	321	1419
715	134	437	279	1229	154	493	403	1420	96	410	276	1066	77	290	149	509	58	195	93	307	146	615	316	1496	149	607	288	1324
730	134	488	369	1319	167	554	423	1490	112	435	264	1051	87	304	141	540	57	213	110	352	142	602	299	1370	131	581	268	1218
745	154	531	369	1346	161	598	386	1537	124	435	243	1040	92	327	142	567	57	224	114	399	143	575	267	1232	117	545	253	1130
800	127	549	336	1353	138	620	318	1530	106	438	249	1032	90	346	144	576	73	245	141	458	133	564	250	1132	126	523	246	1055
815	139	554	300	1374	141	607	343	1470	127	469	225	981	102	371	187	614	92	279	149	514	137	555	230	1046	113	487	221	988
830	139	559	294	1299	141	581	242	1289	125	482	238	955	109	393	181	654	97	319	145	549	137	550	225	972	120	476	205	925
845	163	568	315	1245	127	547	256	1159	136	494	224	936	118	419	189	701	115	377	168	603	138	545	213	918	134	493	214	886
900	158	599	266	1175	128	537	231	1072	124	512	232	919	133	462	212	769	112	416	187	649	131	543	200	868	139	506	196	836
915	156	616	215	1090	143	539	225	954	136	521	239	933	131	491	226	808	125	449	178	678	137	543	204	842	133	526	187	802
930	138	615	213	1009	133	531	221	933	142	538	241	936	150	532	226	853	129	481	191	724	120	526	211	828	133	539	190	787
945	132	584	204	898	143	547	207	884	163	565	257	969	162	576	229	893	131	497	199	755	137	525	200	815	149	554	166	739
1000	127	553	199	831	139	538	229	882	157	598	232	969	182	625	242	923	119	504	217	785	139	533	190	805	149	564	167	710
1015	127	524	183	799	135	550	225	882	163	625	215	945	176	670	227	924	141	520	197	804	150	546	188	789	151	582	176	699
1030	137	523	180	766	148	565	172	833	159	642	240	944	174	694	235	953	137	528	203	816	160	586	187	765	173	622	193	702
1045	149	540	223	785	150	572	221	847	162	641	249	936	185	717	255	979	158	555	213	830	162	611	163	728	184	657	223	759
1100	142	555	220	806	158	591	195	813	172	636	247	951	192	727	259	996	165	601	222	835	191	663	183	721	187	695	186	778
1115	144	572	212	835	157	613	202	790	210	703	243	979	194	745	261	1030	167	627	204	842	191	704	183	716	194	738	205	807
1130	147	582	179	834	156	621	191	809	200	744	267	1006	206	777	246	1021	178	668	190	829	182	726	203	732	199	764	194	808
1145	158	591	219	830	184	655	194	782	208	790	266	1023	204	796	251	1017	176	686	211	827	203	767	208	777	217	797	212	797
1200	184	633	176	786	187	684	206	793	230	848	247	1023	206	810	241	999	176	697	236	841	187	763	210	804	158	768	223	834
1215	201	690	206	780	199	726	198	789	205	843	244	1024	208	824	257	995	196	726	230	867	227	799	206	827	170	744	209	838
1230	193	736	205	806	185	755	211	809	195	838	252	1009	201	819	259	1008	197	745	231	908	197	814	212	836	198	743	203	847
1245	189	767	221	808	198	769	205	820	209	839	238	981	197	812	260	1017	186	755	242	939	163	774	204	832	163	689	217	852
1300	188	771	202	834	218	800	209	823	216	825	255	989	207	813	247	1023	227	806	225	928	215	802	241	863	217	748	234	863
1315	192	762	202	830	203	804	193	818	225	845	245	990	230	835	241	1007	206	816	222	920	250	825	205	862	203	781	218	872
1330	192	761	199	824	182	801	210	817	249	899	236	974	219	853	230	978	200	819	223	912	247	875	200	850	216	799	196	865
1345	194	766	221	824	191	794	220	832	238	928	234	970	219	875	230	948	204	837	224	894	218	930	226	872	221	857	187	835
1400	188	766	193	815	215	791	228	851	247	959	245	960	200	868	243	944	207	817	240	909	207	922	236	867	250	890	180	781
1415	207	781	201	814	219	807	215	873	262	996	232	947	251	889	242	945	205	816	254	941	292	964	204	866	285	972	205	768
1430	210	799	207	822	221	846	223	886	289	1036	217	928	240	910	254	969	190	806	221	939	279	996	209	875	271	1027	207	779
1445	213	818	200	801	213	868	221	887	268	1066	228	922	246	937	245	984	216	818	234	949	250	1028	217	866	284	1090	246	838
1500	234	864	207	815	256	909	232	891	268	1087	229	906	216	953	216	957	252	863	223	932	267	1088	230	860	325	1165	220	878
1515	237	894	201	815	270	960	229	905	325	1150	253	927	230	932	210	925	192	850	226	904	307	1103	227	883	295	1175	200	873
1530	276	960	231	839	281	1020	235	917	261	1122	252	962	255	947	237	908	204	864	202	885	297	1121	227	901	299	1203	222	888
1545	263	1010	242	881	291	1098	248	944	337	1191	255	989	254	955	198	861	230	878	195	846	299	1170	240	924	318	1237	225	867
1600	264	1040	240	914	310	1152	240	952	315	1238	244	1004	248	987	239	884	228	854	240	863	301	1208	224	918	341	1253	221	868
1615	267	1070	231	944	311	1193	241	964	295	1208	256	1007	234	991	207	881	230	892	238	875	328	1225	225	916	343	1301	226	894
1630	292	1086	224	937	298	1210	224	953	328	1275	247	1002	218	954	241	885	225	913	239	912	306	1234	202	891	329	1331	235	907
1645	307	1130	235	930	303	1222	230	935	343	1281	261	1008	228	928	231	918	227	910	225	942	317	1252	223	874	320	1333	210	892
1700	317	1183	236	926	339	1251	240	935	299	1265	236	1000	218	898	211	890	232	914	210	912	314	1263	241	891	320	1312	191	862
1715	356	1272	223	918	369	1309	261	955	336	1306	227	971	221	885	199	882	220	904	205	879	303	1240	206	872	287	1256	223	859
1730	356	1336	224	918	342	1353	226	957	332	1310	243	967	197	864	189	830	203	882	206	846	275	1209	163	833	270	1197	189	813
1745	360	1389	210	893	348	1398	225	952	294	1261	192	898	209	845	183	782	192	847	197	818	281	1173	157	767	241	1118	172	775
1800	339	1411	213	870	321	1380	193	905	310	1272	183	845	191	818	175	746	180	795	172	780	218	1077	146	672	207	1005	166	750
1815	314	1369	222	869	310	1321	201	845	284	1220	179	797	225	822	170	717	178	753	167	742	202	976	123	589	189	907	145	672
1830	281	1294	189	834	265	1244	205	824	286	1174	165	719	180	805	149	677	167	717	151	687	168	869	107	533	173	810	132	615
1845	237	1171	200	824	228	1124	178	777	241	1121	165	692	160	756	137	631	149	674	142	632	143	731	132	508	160	729	105	548
1900	236	1068	162	775	225	1028	149	733	189	1000	151	660	157	722	132	588	150	644	137	597	136	649	122	484	145	667	113	495
1915	198	952	138	689	201	919	135	667	182	898	132	613	141	638	124	542	133	599	111	541	149	596	106	467	143	621	104	454
1930	199	870	118	618	204	858	112	574	177	789	117	565	144	602	110	503	125	557	114	506	142	570	115	475	137	585	90	412
1945	181	814	105	523	169	799	117	513	170	718	123	523	136	578	94	460	129	537	116	478	121	548	94	437	142	567	80	387
2000	184	762	99	460	173	747	96	460	143	672	114	486	106	527	91	419	134	521	106	447	104	516	86	401	136	558	75	349
2015	172	736	98	420	165	711	101	426	152	642	90	444	101	487	86	381	111	499	100	436	112	479	72	367	128	543	82	327
2030	151	688	86	388	145	652	85	399	145	610	100	427	107	450	80	351	97	471	86	408	97	434	73	325	118	524	71	308
2045	148	655	79	362	132	615	80	362	135	575	92	396	107	421	75	332	97	439	85	377	104	417	69	300	103	483	82	310
2100	131	602	79	342	128	570	74	340	123	555	88	370	108	423	68	309	91	396	80	351	89	402	73	287	89	438	75	310
2115	157	587	81	325	141	546	80	319	116	519	82	362	97	419	64	287	69	354	72	323	78	368	65	280	81	391	61	289
2130	129	565	91	330	136	537	72	306	114	488	78	340	93	405	97	304	67	324	75	312	72	343	50	257	82	355	62	280
2145	114	531	70	321	128	533	73	299	116	469	75	323	92	390	107	336	70	297	70	297	66	305	51	239	65	317	45	243
2200	109	509	73	317	113	518	86	311	118	464	84	319	91	373	81	349	60	266	58	275	58	274	44	210	57	285	48	216
2215	109	461	70	306	91	468	82	313	104	452	76	313	80	356	74	359	57	254	53	256	59	255	34	179	64	268	37	192
2230	83	415	58	273	77	409	65	306	93	431	68	303	86	349	70	332	47	234	49	230	48	231	31	160	40	226	45	175
2245	66	367	53	256	78	359	63	296	90	405	58	286	80	337	70	295	50	214	40	200	48	213	31	140	84	215	22	152
2300	55	313	49	230	64	310	48	258	88	375	49	251	77	323	64	278	47	201	33	173	52	207	26	122	46	204	22	126
2315	52	256	35	195	53	272	40	216	84	355	57	232	77	320	51	255	34	178	31	153	26	174	20	108	32	172	20	109
2330	45	218	33	170	49	244	33	184	75	337	45	209	69	303	43	228	28	159	27	131	31	157	15	92	28	160	19	83
2345	47	199	27	144	60	226	33	154	60	307	42	193	64	287	33	191	22	131	21	112	30	139	21	82	30	136	21	82
TOTAL	13,172	N/A	15,033	N/A	13,690	N/A	15,696	N/A	14,083	N/A	13,731	N/A	11,867	N/A	15,132	N/A	10,318	N/A	11,784	N/A	12,886	N/A	14,098	N/A	13,127	N/A	15,186	N/A
AM		616		1,374		620		1,537		565		1,066		576		893		497		755		615		1,496		607		1,419
NOON		818		835		868		887		1,066		1,024		937		1,030		837		949		1,028		875		1,090		872
PM		1,411		944		1,398		964		1,310		1,008		991		957		914		942		1,265		924		1,333		907
EVEN		762		460		747		460		672		486		527		419		521		447		516		401		558		349

Nov. 30. 00, 1:1PM FAX P. 4

WEEKLY TUBE COUNT SUMMARY

LOCATION 1 : SR 12 WEST OF WALTERS

TIME	9/1/2000 FRIDAY		9/2/2000 SATURDAY		9/3/2000 SUNDAY		9/4/2000 MONDAY		9/5/2000 TUESDAY		9/6/2000 WEDNESDAY		9/7/2000 THURSDAY		WEEKLY AVERAGES	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	30	22	32	23	17	15	22	25	10	17	8	18	6	12	16	16
12:15 AM	27	25	24	24	21	27	12	13	8	25	5	19	13	28	15	19
12:30 AM	23	23	20	19	13	18	8	12	1	27	11	33	10	18	12	18
12:45 AM	15	13	16	22	18	12	8	13	10	18	18	32	5	44	11	19
01:00 AM	10	12	22	14	10	15	10	10	8	20	10	33	18	29	11	16
01:15 AM	7	12	21	14	8	14	4	12	6	16	15	20	22	42	11	16
01:30 AM	14	21	13	16	12	8	9	10	10	38	16	33	18	79	12	24
01:45 AM	12	18	11	15	13	11	13	16	10	36	14	51	18	59	12	24
02:00 AM	13	14	13	16	10	10	6	13	17	51	21	63	34	97	14	30
02:15 AM	9	23	15	8	17	8	9	7	22	60	26	110	39	166	16	46
02:30 AM	8	29	13	19	10	10	9	18	38	63	28	123	39	154	18	51
02:45 AM	8	30	6	18	8	12	11	18	16	91	43	162	60	209	19	64
03:00 AM	6	19	16	29	5	11	8	25	39	105	63	127	78	169	25	54
03:15 AM	16	32	16	16	8	8	8	21	48	156	60	192	78	194	27	66
03:30 AM	11	28	17	38	2	18	16	29	36	166	68	154	124	203	34	67
03:45 AM	20	20	13	32	12	13	11	34	69	184	79	239	110	195	35	76
04:00 AM	22	41	14	23	7	27	13	28	79	173	127	189	129	211	43	74
04:15 AM	26	76	17	22	8	21	18	27	85	206	111	213	124	240	43	86
04:30 AM	29	83	20	42	18	31	23	48	126	196	147	198	131	195	53	85
04:45 AM	28	85	14	38	13	39	17	34	106	230	130	230	114	181	45	87
05:00 AM	44	111	29	57	12	36	27	30	131	205	90	216	97	168	43	88
05:15 AM	67	118	38	39	21	37	27	43	127	236	91	146	104	199	50	83
05:30 AM	61	149	38	51	23	37	31	33	126	228	100	228	114	192	53	99
05:45 AM	76	157	29	50	36	46	48	43	108	186	108	211	109	167	58	96
06:00 AM	74	153	43	67	34	41	35	44	98	190	87	172	131	151	58	90
06:15 AM	97	175	47	74	30	39	59	52	89	170	132	176	107	166	67	97
06:30 AM	132	170	63	60	42	63	46	58	101	160	126	137	118	182	72	96
06:45 AM	107	178	55	76	46	67	47	64	132	200	121	170	129	134	72	98
07:00 AM	133	205	76	78	44	56	58	67	96	156	131	150	119	156	80	102
07:15 AM	143	201	92	78	60	72	62	65	108	176	153	131	152	143	94	99
07:30 AM	101	189	86	93	64	94	58	96	122	134	156	154	117	112	83	105
07:45 AM	101	205	101	113	88	108	73	91	105	164	127	160	116	108	87	112
08:00 AM	122	161	106	120	70	116	93	126	100	149	140	129	138	105	96	108
08:15 AM	112	215	79	117	81	131	96	123	115	183	119	125	122	113	87	118
08:30 AM	116	166	123	138	92	139	103	143	112	134	125	150	132	121	99	122
08:45 AM	102	155	124	156	98	142	112	154	135	142	126	160	120	112	97	126
09:00 AM	130	185	134	165	118	121	124	139	126	168	168	149	129	105	115	123
09:15 AM	147	164	147	156	118	154	119	153	126	147	138	129	125	114	113	124
09:30 AM	144	173	155	174	103	180	114	120	130	118	143	114	129	108	122	124
09:45 AM	143	175	149	146	105	148	124	177	163	156	139	139	115	99	111	126
10:00 AM	179	157	135	170	120	129	119	181	150	167	120	164	122	137	114	134
10:15 AM	144	135	156	135	111	185	183	148	168	152	157	146	137	131	127	129
10:30 AM	125	150	161	176	122	165	149	153	127	145	130	149	139	148	121	134
10:45 AM	139	169	167	196	122	150	154	150	168	137	149	135	174	140	129	134
11:00 AM	139	153	173	192	117	130	139	183	153	106	161	137	140	137	126	133
11:15 AM	214	177	183	166	105	146	146	152	179	177	187	131	166	136	143	130
11:30 AM	195	146	143	158	174	138	151	196	180	164	174	133	174	137	136	130
11:45 AM	182	184	179	223	137	140	160	136	174	149	164	110	167	111	141	129
12:00 PM	191	176	203	164	119	185	151	141	191	125	175	154	165	136	141	128
12:15 PM	220	182	180	182	124	139	152	221	173	118	183	118	192	137	150	140
12:30 PM	230	179	213	160	131	144	148	218	183	163	207	169	189	136	160	144
12:45 PM	239	142	177	151	151	143	136	140	187	126	194	190	179	146	154	130
01:00 PM	211	160	176	166	147	154	156	204	208	181	229	171	177	124	157	140
01:15 PM	185	184	186	171	118	128	167	186	167	179	246	204	189	173	156	149
01:30 PM	220	179	163	133	141	152	170	167	220	159	216	171	215	167	161	138
01:45 PM	212	145	185	173	159	110	147	177	220	195	217	170	239	182	166	137
02:00 PM	190	177	197	155	134	149	173	197	209	155	226	154	237	160	165	142
02:15 PM	201	181	192	155	154	104	181	195	242	175	260	130	217	157	172	132
02:30 PM	236	162	150	124	138	118	146	177	248	166	226	158	200	124	157	123
02:45 PM	254	173	160	138	136	143	140	196	254	179	219	146	201	148	159	135
03:00 PM	220	179	168	133	143	132	156	182	247	133	219	132	206	142	159	131
03:15 PM	242	180	169	138	145	133	136	181	238	143	218	128	173	138	155	128
03:30 PM	198	217	177	129	155	107	146	166	213	119	189	137	186	124	150	126
03:45 PM	255	178	175	138	163	168	125	169	172	115	165	106	169	92	150	122
04:00 PM	266	175	187	125	140	114	134	161	192	138	155	107	160	109	149	132
04:15 PM	278	157	176	138	156	103	139	166	141	103	146	109	121	73	145	107
04:30 PM	249	169	157	120	172	94	116	165	152	94	136	86	133	76	138	101
04:45 PM	266	166	158	129	147	123	113	136	136	112	132	78	122	83	134	102
05:00 PM	285	157	154	97	148	125	112	162	124	98	112	83	102	69	130	99
05:15 PM	262	159	113	128	151	122	96	144	112	66	103	81	104	62	118	99
05:30 PM	220	153	154	104	143	107	98	137	98	59	117	57	105	64	120	89
05:45 PM	214	136	136	95	136	98	106	122	90	50	79	82	123	56	113	84
06:00 PM	202	154	128	127	116	94	78	125	93	63	112	52	81	62	102	88
06:15 PM	185	141	116	101	118	106	81	101	97	58	93	64	96	57	98	81
06:30 PM	189	160	127	111	121	90	88	78	81	53	91	60	60	56	97	79
06:45 PM	161	99	119	91	99	90	81	111	110	41	61	44	64	41	84	68
07:00 PM	147	123	123	105	86	72	73	96	95	53	70	50	69	51	81	71
07:15 PM	149	107	108	79	87	81	63	103	75	49	54	44	52	43	73	65
07:30 PM	149	103	100	70	71	63	60	67	67	50	62	32	56	37	71	53
07:45 PM	109	97	90	54	84	72	48	64	53	34	44	40	34	33	58	51
08:00 PM	119	83	96	97	67	74	63	66	30	50	58	26	31	24	61	53
08:15 PM	127	52	93	74	81	59	43	60	33	35	41	22	48	27	62	42
08:30 PM	96	80	97	59	57	64	52	56	37	25	24	22	29	16	48	42
08:45 PM	102	83	68	58	81	47	30	46	35	24	27	24	21	13	47	39
09:00 PM	101	70	72	53	65	60	37	39	26	26	36	21	18	18	47	37
09:15 PM	79	61	66	62	55	36	25	32	36	14	14	17	16	14	36	32
09:30 PM	82	74	55	50	71	42	14	28	22	26	15	13	23	14	37	32
09:45 PM	60	47	52	31	49	46	23	16	17	13	10	16	4	14	28	24
10:00 PM	66	35	66	45	49	31	24	19	21	11	21	6	22	10	35	21
10:15 PM	65	50	44	34	40	31	9	22	9	12	12	23	12	13	26	25
10:30 PM	49	40	63	32	36	27	16	17	15	12	11	5	10	19	26	20
10:45 PM	48	31	43	30	26	35	12	15	10	10	10	22	12	21	22	22
11:00 PM	57	38	29	20	28	17	6	27	14	21	14	10	10	24	21	19
11:15 PM	36	23	18	26	24	16	12	11	6	15	8	12	9	16	15	15
11:30 PM	42	25	20	36	27	15	10	12	7	7	5	23	8	21	13	19
11:45 PM	24	28	18	25	19	11	12	17	15	22	8	20	10	24	13	18
TOTAL	11,773	11,135	9,263	8,688	7,441	7,732	7,196	8,872	9,868	10,348	10,043	10,283	9,729	9,893	7,921	8,086

BAYMETRICS TRAFFIC RESOURCES

WEEKLY TUBE COUNT SUMMARY

LOCATION 2 : SR 12 EAST OF CHURCH

	9/1/2000 FRIDAY		9/2/2000 SATURDAY		9/3/2000 SUNDAY		9/4/2000 MONDAY		9/5/2000 TUESDAY		9/6/2000 WEDNESDAY		9/7/2000 THURSDAY		WEEKLY AVERAGES	
TIME	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	13	9	7	10	9	12	6	17	8	13	5	16	10	15	7	11
12:15 AM	9	11	5	7	6	16	8	9	7	9	8	16	19	13	8	10
12:30 AM	6	8	11	5	7	5	17	8	10	5	6	27	13	10	9	9
12:45 AM	5	7	12	6	4	6	6	6	6	7	6	24	8	17	6	9
01:00 AM	4	6	9	5	10	9	4	8	2	10	10	17	11	20	7	9
01:15 AM	2	5	6	4	3	11	2	9	6	12	5	13	9	22	4	9
01:30 AM	3	2	5	5	6	6	6	8	9	16	9	10	6	16	5	7
01:45 AM	5	2	4	10	6	2	3	16	9	9	7	9	5	19	4	8
02:00 AM	4	0	5	5	5	5	5	5	5	6	5	5	5	26	4	7
02:15 AM	7	4	8	8	2	3	4	2	8	5	9	4	7	22	5	6
02:30 AM	6	6	4	11	4	5	8	9	10	7	11	11	5	16	5	9
02:45 AM	6	6	3	3	8	5	3	18	12	10	13	13	7	15	6	9
03:00 AM	3	8	3	6	6	11	13	19	13	7	9	12	6	16	6	10
03:15 AM	5	4	2	5	4	15	13	17	9	5	5	9	4	22	5	10
03:30 AM	4	6	5	4	6	8	6	22	12	9	5	14	3	23	4	11
03:45 AM	3	11	4	2	7	6	15	14	15	6	7	13	8	16	6	9
04:00 AM	3	7	6	3	5	30	16	25	8	6	5	18	10	18	6	14
04:15 AM	2	5	3	9	11	12	12	26	9	5	6	16	6	22	6	13
04:30 AM	5	5	2	12	14	24	14	37	9	8	10	29	5	26	7	19
04:45 AM	4	15	10	15	16	33	21	30	5	11	7	34	4	19	9	21
05:00 AM	7	16	12	22	15	29	33	29	6	26	5	34	9	29	12	22
05:15 AM	11	29	9	34	21	22	23	39	7	33	13	56	11	46	13	32
05:30 AM	13	34	5	26	13	35	22	39	12	86	14	67	15	30	12	36
05:45 AM	5	67	13	40	28	35	36	35	16	56	19	84	13	64	16	46
06:00 AM	12	84	13	46	27	31	30	43	33	76	16	106	13	72	16	55
06:15 AM	26	109	18	55	31	38	28	48	38	139	30	132	16	67	21	64
06:30 AM	33	145	22	66	48	56	37	40	46	230	53	140	25	89	29	76
06:45 AM	46	155	26	75	45	50	59	39	77	145	37	112	37	129	36	80
07:00 AM	58	136	34	86	39	59	30	48	60	140	61	115	45	119	38	80
07:15 AM	94	140	42	75	47	46	51	76	92	138	72	127	62	152	53	88
07:30 AM	102	151	56	94	80	67	63	67	112	103	84	137	66	117	64	90
07:45 AM	95	131	66	106	67	74	69	73	100	148	133	152	113	116	78	93
08:00 AM	115	126	72	115	59	90	86	91	107	129	128	122	140	138	86	97
08:15 AM	123	118	64	126	91	92	79	93	101	146	130	134	122	122	87	98
08:30 AM	104	132	103	94	88	112	93	112	90	140	124	116	109	132	89	100
08:45 AM	120	120	86	105	83	114	91	113	115	148	106	133	115	120	86	101
09:00 AM	106	141	99	123	68	82	100	112	103	138	111	140	123	129	87	104
09:15 AM	113	122	115	104	83	93	100	134	116	106	122	103	104	125	91	97
09:30 AM	107	119	126	99	97	116	105	64	125	102	129	129	122	129	98	94
09:45 AM	126	98	104	115	116	140	103	172	110	118	122	117	131	115	100	108
10:00 AM	131	105	109	122	112	135	109	128	146	136	109	131	129	122	100	109
10:15 AM	125	148	113	132	96	127	122	130	122	118	118	112	105	103	97	107
10:30 AM	109	123	120	109	110	139	106	127	131	138	124	104	116	122	98	103
10:45 AM	115	127	115	145	100	147	166	104	118	132	139	104	135	104	110	104
11:00 AM	122	131	126	133	101	123	126	145	106	145	136	96	122	115	103	106
11:15 AM	131	128	132	150	87	115	135	135	140	132	127	131	130	123	106	112
11:30 AM	120	140	125	121	119	93	129	173	110	133	124	129	124	107	106	109
11:45 AM	104	120	104	164	89	123	117	98	131	112	152	96	128	130	99	104
12:00 NOON	115	132	95	158	88	108	137	136	126	128	134	119	140	122	101	111
12:15 PM	132	129	107	147	119	115	144	131	136	105	143	135	129	115	111	110
12:30 PM	140	132	115	135	122	109	116	138	155	119	173	128	133	128	114	112
12:45 PM	135	140	123	149	101	117	127	90	145	126	161	140	126	109	109	106
01:00 PM	133	128	120	135	100	89	148	191	166	163	153	138	145	115	114	114
01:15 PM	128	144	115	129	107	117	146	145	135	152	170	145	150	132	117	116
01:30 PM	141	133	103	140	126	124	123	101	160	117	161	129	136	126	113	108
01:45 PM	126	132	94	111	113	94	151	134	138	149	175	130	161	143	117	106
02:00 PM	132	146	126	126	127	103	184	178	148	107	207	137	152	137	133	118
02:15 PM	151	115	133	132	119	97	160	140	207	99	176	126	147	117	127	104
02:30 PM	172	141	145	94	103	109	136	122	180	125	159	104	125	100	120	96
02:45 PM	160	106	169	106	102	124	154	115	153	130	149	132	142	115	123	100
03:00 PM	123	105	141	99	117	98	152	133	136	96	144	125	129	126	115	98
03:15 PM	145	94	139	105	106	89	157	118	187	100	151	140	118	104	117	93
03:30 PM	106	86	131	73	138	78	139	97	153	123	148	111	128	100	113	78
03:45 PM	133	104	144	113	114	114	126	161	162	97	117	98	130	94	109	98
04:00 PM	115	85	148	79	124	87	117	83	123	106	116	90	132	105	107	76
04:15 PM	126	106	125	96	147	73	138	118	114	95	112	96	109	112	108	86
04:30 PM	134	97	140	94	105	85	117	109	98	115	104	89	122	98	103	82
04:45 PM	155	85	139	95	137	95	141	107	126	82	120	94	140	86	119	80
05:00 PM	146	113	115	62	126	89	132	99	202	104	105	85	122	105	107	79
05:15 PM	129	120	130	77	121	87	82	105	133	90	115	77	123	104	100	81
05:30 PM	132	113	116	74	86	100	103	86	126	86	106	68	141	105	98	78
05:45 PM	109	94	86	70	127	74	99	90	135	66	126	90	132	90	97	73
06:00 PM	142	86	101	96	92	79	100	111	122	75	106	75	126	105	93	79
06:15 PM	132	75	100	65	110	102	108	40	109	94	94	64	126	80	96	61
06:30 PM	108	90	100	63	99	76	73	44	132	82	105	45	133	60	88	54
06:45 PM	126	85	83	78	65	96	69	113	105	64	132	43	106	64	80	68
07:00 PM	106	75	72	87	92	74	66	85	94	67	90	38	94	69	74	61
07:15 PM	94	74	77	61	73	82	67	68	86	72	86	46	86	52	69	55
07:30 PM	76	64	76	53	73	64	56	58	95	56	72	51	66	56	60	49
07:45 PM	65	56	68	37	73	74	61	57	72	46	56	48	75	34	57	44
08:00 PM	72	48	74	106	46	63	43	51	66	50	55	30	82	31	53	47
08:15 PM	50	65	54	69	53	46	63	44	46	43	46	27	66	48	47	43
08:30 PM	53	41	74	41	46	59	38	47	50	33	38	28	54	29	44	35
08:45 PM	43	33	50	46	46	59	37	44	43	38	42	26	46	21	38	33
09:00 PM	33	35	56	42	43	42	24	45	35	42	33	25	35	18	32	30
09:15 PM	28	32	46	53	31	41	21	30	26	29	29	15	32	16	27	27
09:30 PM	22	20	41	35	47	38	22	26	18	26	25	13	26	23	26	22
09:45 PM	18	22	51	37	46	29	15	12	19	22	22	18	22	4	25	17
10:00 PM	16	18	36	48	42	34	26	19	13	18	18	17	18	22	22	23
10:15 PM	27	24	28	28	36	28	18	25	12	16	16	12	16	12	20	18
10:30 PM	25	15	38	22	34	26	20	23	25	6	12	12	15	10	21	15
10:45 PM	20	16	30	22	25	35	14	13	34	8	8	13	13	12	16	16
11:00 PM	19	13	37	22	28	19	17	29	22	15	15	9	12	10	18	15
11:15 PM	24	9	30	19	6	19	15	15	19	8	13	6	9	9	14	11
11:30 PM	21	7	12	29	22	19	13	13	15	6	11	5	11	8	13	12
11:45 PM	18	4	15	17	19	16	12	12	13	18	17	4	14	10	14	9
TOTAL	7,020	7,111	6,487	6,594	6,119	6,217	6,658	6,778	7,361	7,073	7,214	6,861	7,028	6,847	5,789	5,773

BAYMETRICS TRAFFIC RESOURCES

INTERSECTION TURNING MOVEMENT SUMMARY

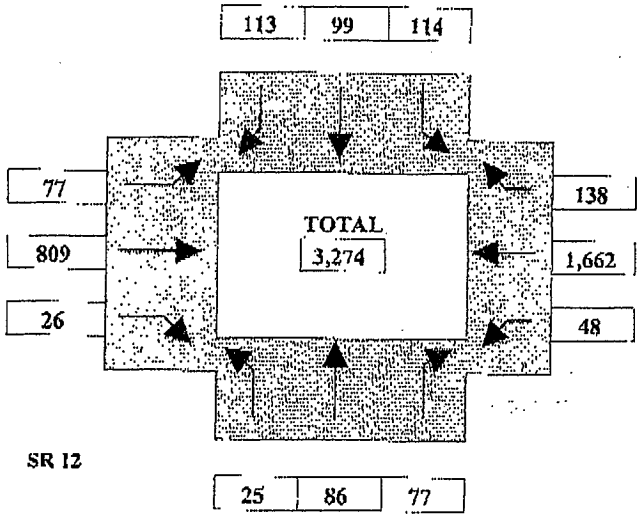
PROJECT: SR 12 MIS | SURVEY DATE: 10/11/2000 | DAY: WEDNESDAY

N-S Approach: PENNSYLVANIA | SURVEY TIME: 7:00 AM TO 9:00 AM

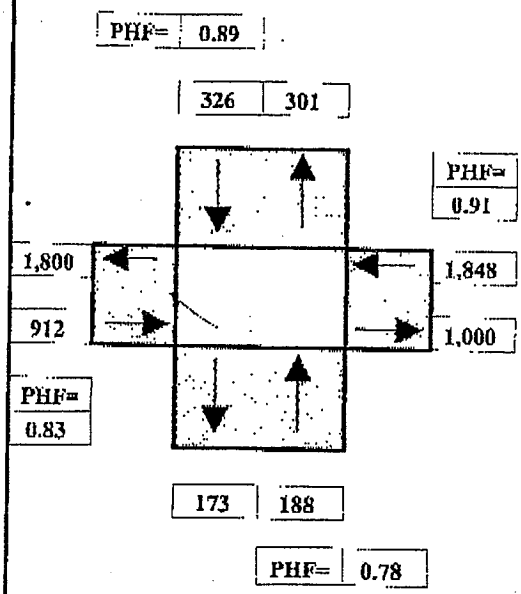
E-W Approach: SR 12 | CITY: FAIRFIELD | FILE NAME: 1AM

PEAK HOUR

07:15 AM TO 08:15 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
07:00 AM	07:15 AM	3	3	6	23	12	30	8	130	5	8	413	29	*670*
07:15 AM	07:30 AM	9	11	19	49	40	63	21	276	10	19	832	65	*1,414*
07:30 AM	07:45 AM	18	34	41	70	66	82	35	482	21	28	1,228	87	*2,192*
07:45 AM	08:00 AM	23	60	70	97	94	119	63	724	26	39	1,637	114	*3,066*
08:00 AM	08:15 AM	28	89	83	137	111	143	85	939	31	56	2,075	167	*3,944*
08:15 AM	08:30 AM	34	111	88	167	123	166	101	1,116	36	65	2,440	216	*4,663*
08:30 AM	08:45 AM	38	129	96	205	132	203	128	1,302	38	80	2,799	269	*5,419*
08:45 AM	09:00 AM	40	152	105	235	136	225	143	1,479	39	90	3,102	305	*6,051*
TOTAL BY PERIOD														
07:00 AM	07:15 AM	3	3	6	23	12	30	8	130	5	8	413	29	*670*
07:15 AM	07:30 AM	6	8	13	26	28	33	13	146	5	11	419	36	*744*
07:30 AM	07:45 AM	9	23	22	21	26	19	14	206	11	9	396	22	*778*
07:45 AM	08:00 AM	5	26	29	27	28	37	28	242	5	11	409	27	*874*
08:00 AM	08:15 AM	5	29	13	40	17	24	22	215	5	17	438	53	*878*
08:15 AM	08:30 AM	6	22	5	30	12	23	16	177	5	9	365	49	*719*
08:30 AM	08:45 AM	4	18	8	38	9	37	27	186	2	15	359	53	*756*
08:45 AM	09:00 AM	2	23	9	30	4	22	15	177	1	10	303	36	*632*
HOURLY TOTALS														
07:00 AM	08:00 AM	23	60	70	97	94	119	63	724	26	39	1,637	114	*3,066*
07:15 AM	08:15 AM	25	86	77	114	99	113	77	809	26	48	1,662	138	*3,274*
07:30 AM	08:30 AM	25	100	69	118	83	103	80	840	26	46	1,608	151	*3,249*
07:45 AM	08:45 AM	20	95	55	135	66	121	93	820	17	52	1,571	182	*3,227*
08:00 AM	09:00 AM	17	92	35	138	42	106	80	755	13	51	1,465	191	*2,985*

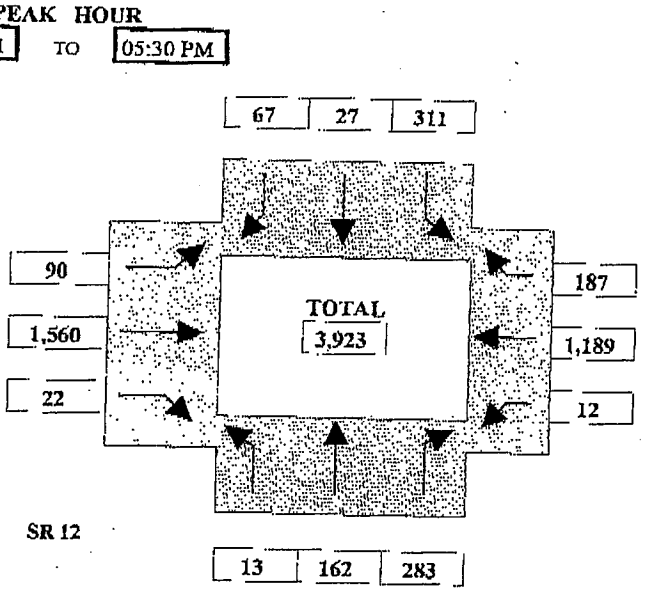
P. 2 FAX

BAYMETRICS TRAFFIC RESOURCES

INTERSECTION TURNING MOVEMENT SUMMARY

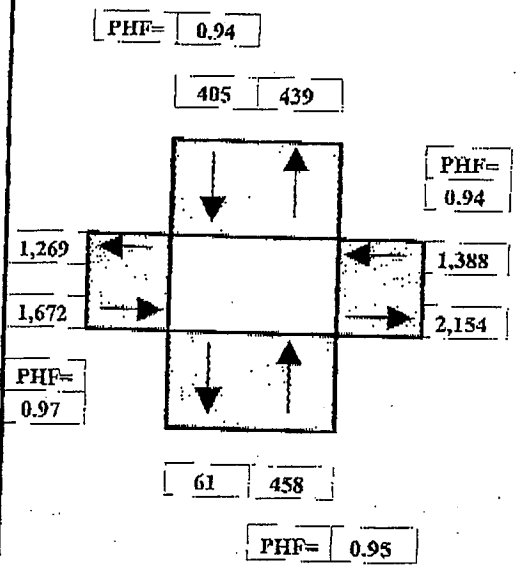
PROJECT: SR 12 MIS
N-S Approach: PENNSYLVANIA
E-W Approach: SR 12
SURVEY DATE: 10/11/2000 DAY: WEDNESDAY
SURVEY TIME: 4:00 PM TO 6:00 PM
CITY: FAIRFIELD FILE NAME: 1PM

PEAK HOUR
04:30 PM TO 05:30 PM



North

ARRIVAL / DEPARTURE VOLUMES



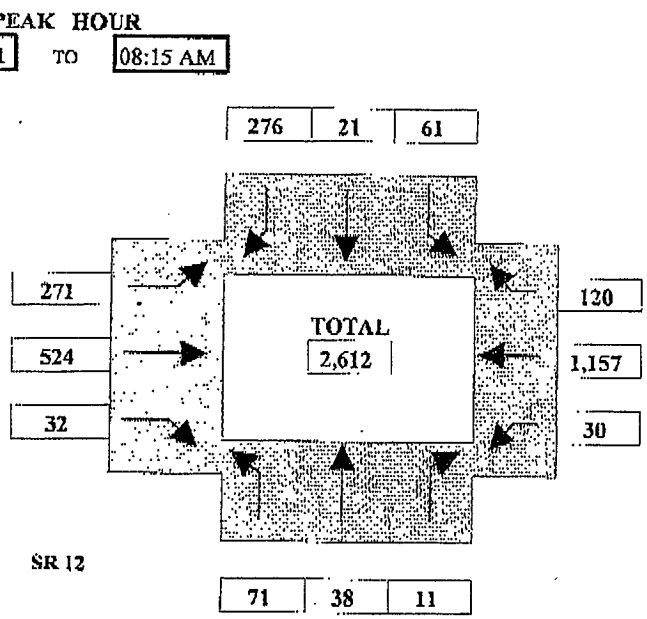
TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
04:00 PM	04:15 PM	2	27	43	61	12	15	30	366	3	4	239	45	*847*
04:15 PM	04:30 PM	6	62	99	136	17	33	58	747	8	10	498	95	*1,769*
04:30 PM	04:45 PM	9	103	166	221	20	53	83	1,142	14	13	799	139	*2,762*
04:45 PM	05:00 PM	14	148	237	297	26	70	105	1,522	18	15	1,085	187	*3,724*
05:00 PM	05:15 PM	16	184	312	380	36	84	124	1,925	25	20	1,397	240	*4,743*
05:15 PM	05:30 PM	19	224	382	447	44	100	148	2,307	30	22	1,687	282	*5,692*
05:30 PM	05:45 PM	24	257	444	509	51	113	166	2,672	34	29	1,960	320	*6,579*
05:45 PM	06:00 PM	28	292	503	565	61	128	181	3,060	38	32	2,203	352	*7,443*
TOTAL BY PERIOD														
04:00 PM	04:15 PM	2	27	43	61	12	15	30	366	3	4	239	45	*847*
04:15 PM	04:30 PM	4	35	56	75	5	18	28	381	5	6	259	50	*922*
04:30 PM	04:45 PM	3	41	67	85	3	20	25	395	6	3	301	44	*993*
04:45 PM	05:00 PM	5	45	71	76	6	17	22	380	4	2	286	48	*962*
05:00 PM	05:15 PM	2	36	75	83	10	14	19	403	7	5	312	53	*1,019*
05:15 PM	05:30 PM	3	40	70	67	8	16	24	382	5	2	290	42	*949*
05:30 PM	05:45 PM	5	33	62	62	7	13	18	365	4	7	273	38	*887*
05:45 PM	06:00 PM	4	35	59	56	10	15	15	388	4	3	243	32	*864*
HOURLY TOTALS														
04:00 PM	05:00 PM	14	148	237	297	26	70	105	1,522	18	15	1,085	187	*3,724*
04:15 PM	05:15 PM	14	157	269	319	24	69	94	1,559	22	16	1,158	195	*3,896*
04:30 PM	05:30 PM	13	162	283	311	27	67	90	1,560	22	12	1,189	187	*3,923*
04:45 PM	05:45 PM	15	154	278	288	31	60	83	1,530	20	16	1,161	181	*3,817*
05:00 PM	06:00 PM	14	144	266	268	35	58	76	1,538	20	17	1,118	165	*3,719*

BAYMETRICS TRAFFIC RESOURCES

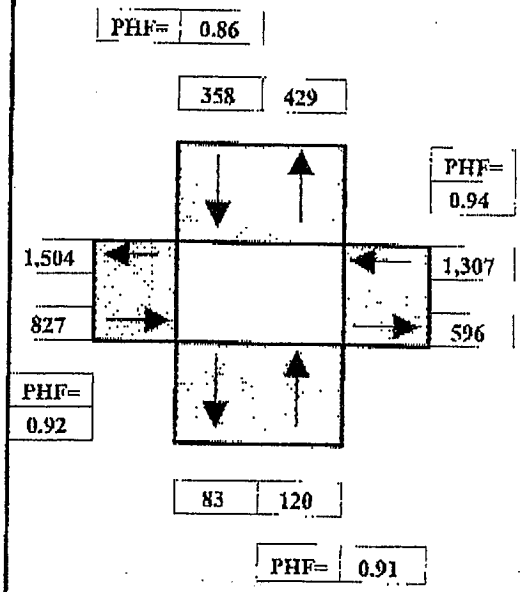
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT: SR 12 MIS
SURVEY DATE: 10/11/2000 DAY: WEDNESDAY
N-S Approach: SUNSET
SURVEY TIME: 7:00 AM TO 9:00 AM
E-W Approach: SR 12
CITY: FAIRFIELD FILE NAME: 2AM

PEAK HOUR
07:15 AM TO 08:15 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
07:00 AM	---	07:15 AM	12	5	3	24	5	70	56	95	5	4	256	17	*552*
07:15 AM	---	07:30 AM	27	12	7	42	9	134	128	214	12	12	540	43	*1,180*
07:30 AM	---	07:45 AM	45	21	9	58	11	194	208	354	17	22	843	79	*1,861*
07:45 AM	---	08:00 AM	65	31	12	73	18	269	274	486	25	29	1,134	109	*2,525*
08:00 AM	---	08:15 AM	83	43	14	85	26	346	327	619	37	34	1,413	137	*3,164*
08:15 AM	---	08:30 AM	98	50	19	94	36	431	377	741	47	37	1,677	163	*3,770*
08:30 AM	---	08:45 AM	109	58	23	112	43	503	438	850	56	41	1,917	194	*4,344*
08:45 AM	---	09:00 AM	116	63	28	133	48	575	505	947	64	45	2,132	221	*4,877*
TOTAL BY PERIOD															
07:00 AM	---	07:15 AM	12	5	3	24	5	70	56	95	5	4	256	17	*552*
07:15 AM	---	07:30 AM	15	7	4	18	4	64	72	119	7	8	284	26	*628*
07:30 AM	---	07:45 AM	18	9	2	16	2	60	80	140	5	10	303	36	*681*
07:45 AM	---	08:00 AM	20	10	3	15	7	75	66	132	8	7	291	30	*664*
08:00 AM	---	08:15 AM	18	12	2	12	8	77	53	133	12	5	279	28	*639*
08:15 AM	---	08:30 AM	15	7	5	9	10	85	50	122	10	3	264	26	*606*
08:30 AM	---	08:45 AM	11	8	4	18	7	72	61	109	9	4	240	31	*574*
08:45 AM	---	09:00 AM	7	5	5	21	5	72	67	97	8	4	215	27	*533*
HOURLY TOTALS															
07:00 AM	---	08:00 AM	65	31	12	73	18	269	274	486	25	29	1,134	109	*2,525*
07:15 AM	---	08:15 AM	71	38	11	61	21	276	271	524	32	30	1,157	120	*2,612*
07:30 AM	---	08:30 AM	71	38	12	52	27	297	249	527	35	25	1,137	120	*2,590*
07:45 AM	---	08:45 AM	64	37	14	54	32	309	230	496	39	19	1,074	115	*2,483*
08:00 AM	---	09:00 AM	51	32	16	60	30	306	231	461	39	16	998	112	*2,352*

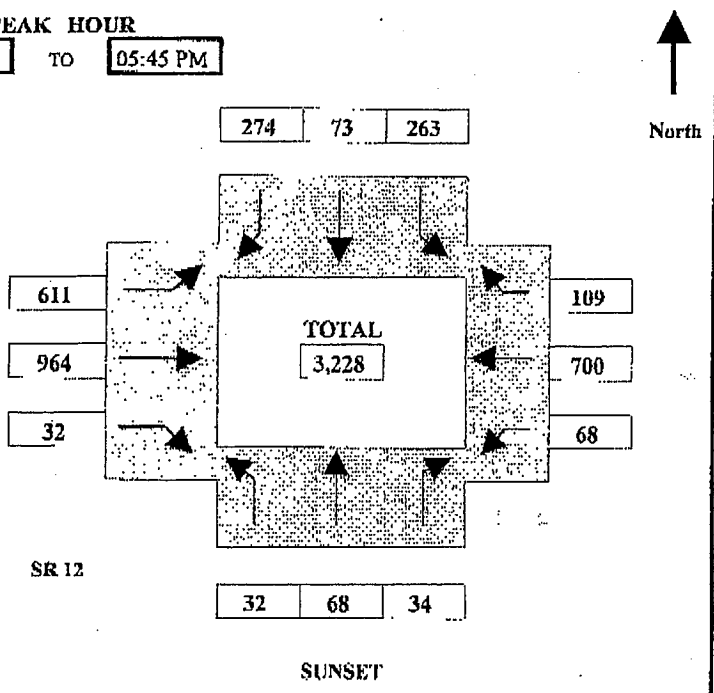
P. 3 FAX 04:48 00/12/24

BAYMETRICS TRAFFIC RESOURCES

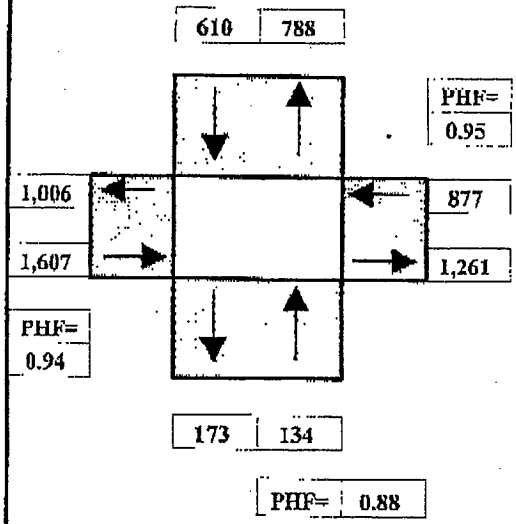
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	SR 12 MIS		SURVEY DATE: 10/11/2000	DAY:	WEDNESDAY
N-S Approach:	SUNSET		SURVEY TIME:	4:00 PM TO	6:00 PM
E-W Approach:	SR 12		CITY: FAIRFIELD	FILE NAME:	2PM

PEAK HOUR
04:45 PM TO 05:45 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
04:00 PM	—	04:15 PM	10	10	5	46	8	60	143	194	4	12	141	34	*667*
04:15 PM	—	04:30 PM	22	23	13	88	18	132	303	417	12	20	299	79	*1,426*
04:30 PM	—	04:45 PM	30	38	19	141	33	190	474	668	17	31	466	109	*2,216*
04:45 PM	—	05:00 PM	37	59	29	202	54	256	629	904	27	46	648	142	*3,033*
05:00 PM	—	05:15 PM	48	73	36	274	71	330	775	1,149	34	65	823	168	*3,846*
05:15 PM	—	05:30 PM	54	90	45	342	90	393	937	1,382	43	79	996	190	*4,641*
05:30 PM	—	05:45 PM	62	106	53	404	106	464	1,085	1,632	49	99	1,166	218	*5,444*
05:45 PM	—	06:00 PM	69	124	60	460	124	522	1,238	1,853	54	115	1,325	243	*6,187*
TOTAL BY PERIOD															
04:00 PM	—	04:15 PM	10	10	5	46	8	60	143	194	4	12	141	34	*667*
04:15 PM	—	04:30 PM	12	13	8	42	10	72	160	223	8	8	158	45	*759*
04:30 PM	—	04:45 PM	8	15	6	53	15	58	171	251	5	11	167	30	*790*
04:45 PM	—	05:00 PM	7	21	10	61	21	66	155	236	10	15	182	33	*817*
05:00 PM	—	05:15 PM	11	14	7	72	17	74	146	245	7	19	175	26	*813*
05:15 PM	—	05:30 PM	6	17	9	68	19	63	162	233	9	14	173	22	*795*
05:30 PM	—	05:45 PM	8	16	8	62	16	71	148	250	6	20	170	28	*803*
05:45 PM	—	06:00 PM	7	18	7	56	18	58	153	221	5	16	159	25	*743*
HOURLY TOTALS															
04:00 PM	—	05:00 PM	37	59	29	202	54	256	629	904	27	46	648	142	*3,033*
04:15 PM	—	05:15 PM	38	63	31	228	63	270	632	955	30	53	682	134	*3,179*
04:30 PM	—	05:30 PM	32	67	32	254	72	261	634	965	31	59	697	111	*3,215*
04:45 PM	—	05:45 PM	32	68	34	263	73	274	611	964	32	68	700	109	*3,228*
05:00 PM	—	06:00 PM	32	65	31	258	70	266	609	949	27	69	677	101	*3,154*

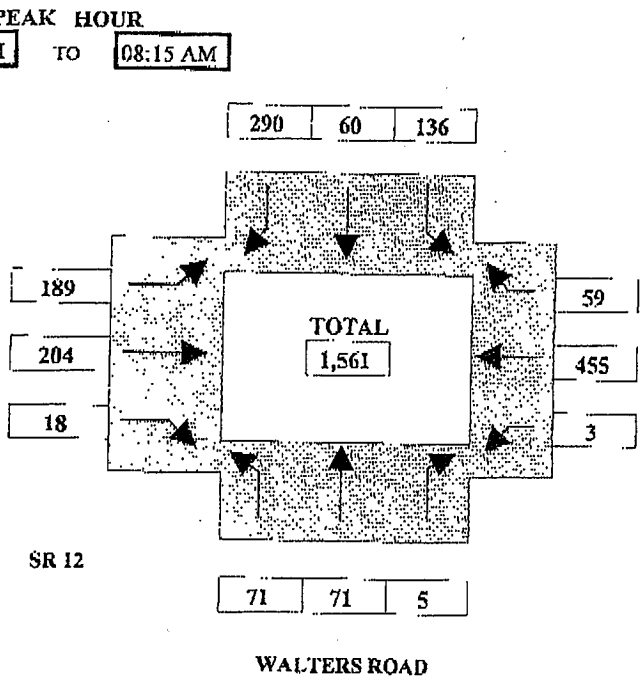
BAYMETRICS TRAFFIC RESOURCES

INTERSECTION TURNING MOVEMENT SUMMARY

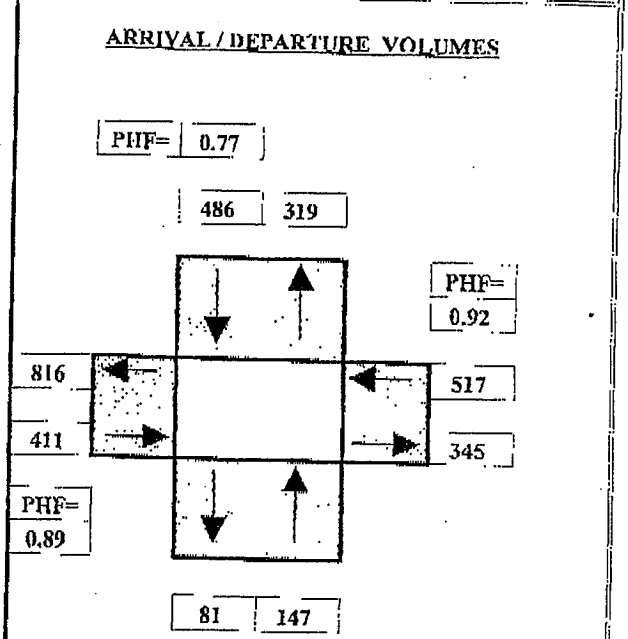
PROJECT: SR 12 MIS
N-S Approach: WALTERS ROAD
E-W Approach: SR 12

SURVEY DATE: 10/11/2000 DAY: WEDNESDAY
SURVEY TIME: 7:00 AM TO 9:00 AM
CITY: FAIRFIELD FILE NAME: 3AM

PEAK HOUR
07:15 AM TO 08:15 AM



ARRIVAL / DEPARTURE VOLUMES



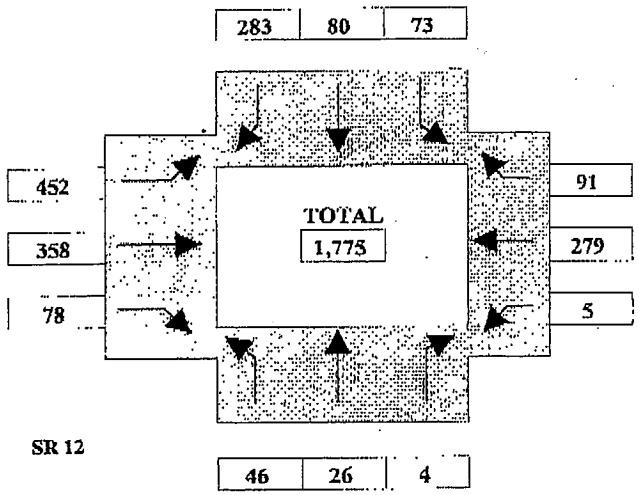
TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
07:00 AM	—	07:15 AM	22	10	2	35	11	67	40	43	3	1	87	10	*331*
07:15 AM	—	07:30 AM	39	24	5	90	30	150	92	102	7	1	190	25	*755*
07:30 AM	—	07:45 AM	59	42	5	129	44	222	138	152	11	2	304	44	*1,152*
07:45 AM	—	08:00 AM	77	64	6	152	56	284	187	192	19	2	430	58	*1,537*
08:00 AM	—	08:15 AM	93	81	7	171	71	357	229	247	21	4	542	69	*1,892*
08:15 AM	—	08:30 AM	108	93	10	186	81	421	261	308	25	5	627	78	*2,203*
08:30 AM	—	08:45 AM	119	100	12	194	90	481	284	362	30	5	704	84	*2,465*
08:45 AM	—	09:00 AM	133	108	16	203	102	539	306	413	33	8	776	92	*2,729*
TOTAL BY PERIOD															
07:00 AM	—	07:15 AM	22	10	2	35	11	67	40	43	3	1	87	10	*331*
07:15 AM	—	07:30 AM	17	14	3	55	19	83	52	59	4	0	103	15	*424*
07:30 AM	—	07:45 AM	20	18	0	39	14	72	46	50	4	1	114	19	*397*
07:45 AM	—	08:00 AM	18	22	1	23	12	62	49	40	8	0	126	14	*375*
08:00 AM	—	08:15 AM	16	17	1	19	15	73	42	55	2	2	112	11	*365*
08:15 AM	—	08:30 AM	15	12	3	15	10	64	32	61	4	1	85	9	*311*
08:30 AM	—	08:45 AM	11	7	2	8	9	60	23	54	5	0	77	6	*262*
08:45 AM	—	09:00 AM	14	8	4	9	12	58	22	51	3	3	72	8	*264*
HOURLY TOTALS															
07:00 AM	—	08:00 AM	77	64	6	152	56	284	187	192	19	2	430	58	*1,527*
07:15 AM	—	08:15 AM	71	71	5	136	60	290	189	204	18	3	455	59	*1,561*
07:30 AM	—	08:30 AM	69	69	5	96	51	271	169	206	18	4	437	53	*1,448*
07:45 AM	—	08:45 AM	60	58	7	65	46	259	146	210	19	3	400	40	*1,313*
08:00 AM	—	09:00 AM	56	44	10	51	46	255	119	221	14	6	346	34	*1,202*

BAYMETRICS TRAFFIC RESOURCES

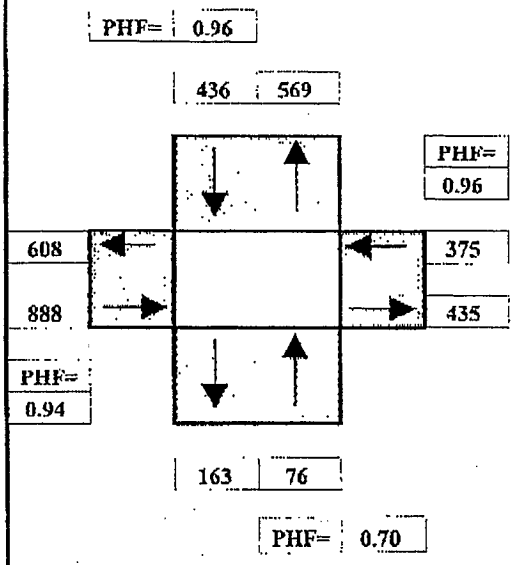
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	SR 12 MIS	SURVEY DATE: 10/11/2000	DAY: WEDNESDAY
N-S Approach:	WALTERS ROAD	SURVEY TIME: 4:00 PM	TO 6:00 PM
E-W Approach:	SR 12	CITY: FAIRFIELD	FILE NAME: 3PM

PEAK HOUR
04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
04:00 PM	---	04:15 PM	9	3	1	16	15	60	86	77	16	0	58	21	*362*
04:15 PM	---	04:30 PM	21	8	1	38	33	129	191	168	30	2	125	46	*792*
04:30 PM	---	04:45 PM	29	12	2	58	50	202	293	264	47	2	200	66	*1,225*
04:45 PM	---	05:00 PM	43	22	5	75	70	268	408	354	69	3	271	92	*1,680*
05:00 PM	---	05:15 PM	55	29	5	89	95	343	538	435	94	5	337	112	*2,137*
05:15 PM	---	05:30 PM	64	32	7	105	117	414	653	530	112	5	395	129	*2,563*
05:30 PM	---	05:45 PM	74	40	8	117	135	482	773	619	135	7	456	146	*2,992*
05:45 PM	---	06:00 PM	82	45	9	130	156	544	882	701	155	7	510	168	*3,389*
TOTAL BY PERIOD															
04:00 PM	---	04:15 PM	9	3	1	16	15	60	86	77	16	0	58	21	*362*
04:15 PM	---	04:30 PM	12	5	0	22	18	69	105	91	14	2	67	25	*430*
04:30 PM	---	04:45 PM	8	4	1	20	17	73	102	96	17	0	75	20	*433*
04:45 PM	---	05:00 PM	14	10	3	17	20	66	115	90	22	1	71	26	*455*
05:00 PM	---	05:15 PM	12	7	0	14	25	75	130	81	25	2	66	20	*457*
05:15 PM	---	05:30 PM	9	3	2	16	22	71	115	95	18	0	58	17	*426*
05:30 PM	---	05:45 PM	10	8	1	12	18	68	120	89	23	2	61	17	*429*
05:45 PM	---	06:00 PM	8	5	1	13	21	62	109	82	20	0	54	22	*397*
HOURLY TOTALS															
04:00 PM	---	05:00 PM	43	22	5	75	70	268	408	354	69	3	271	92	*1,680*
04:15 PM	---	05:15 PM	46	26	4	73	80	283	452	358	78	5	279	91	*1,775*
04:30 PM	---	05:30 PM	43	24	6	67	84	285	462	362	82	3	270	83	*1,771*
04:45 PM	---	05:45 PM	45	28	6	59	85	280	480	355	88	5	256	80	*1,767*
05:00 PM	---	06:00 PM	39	23	4	55	86	276	474	347	86	4	239	76	*1,709*

BAYMETRICS TRAFFIC RESOURCES

INTERSECTION TURNING MOVEMENT SUMMARY

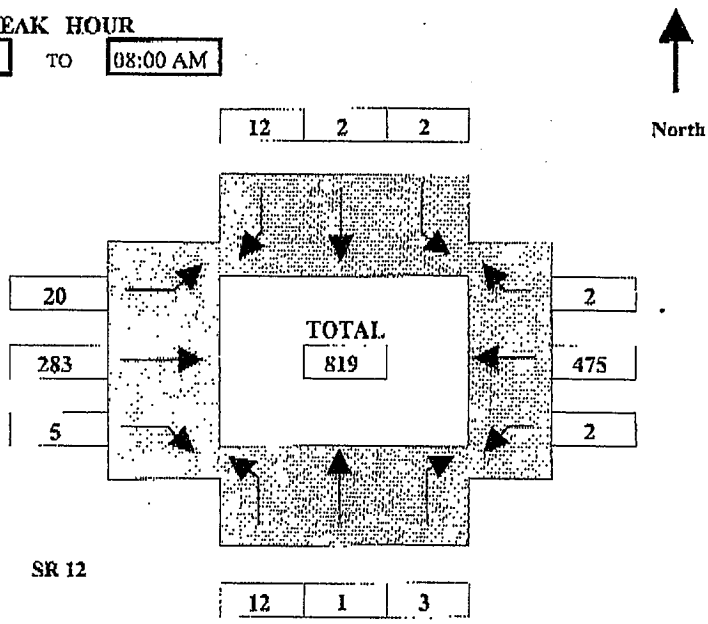
PROJECT: SR 12 MIS | SURVEY DATE: 10/11/2000 | DAY: WEDNESDAY

N-S Approach: SHILOH ROAD | SURVEY TIME: 7:00 AM TO 9:00 AM

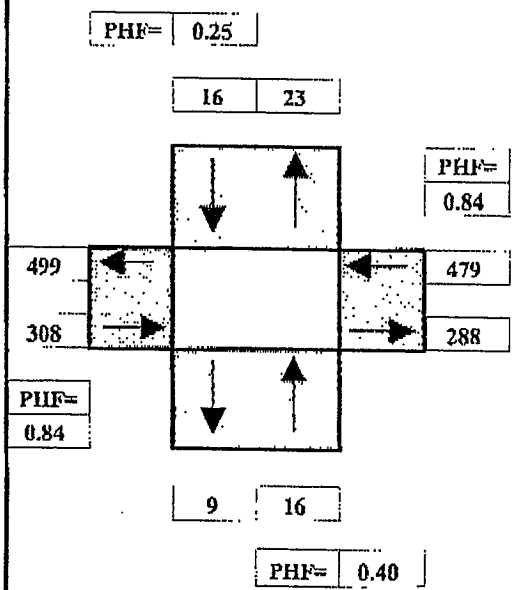
E-W Approach: SR 12 | CITY: FAIRFIELD | FILE NAME: 4AM

PEAK HOUR

07:00 AM TO 08:00 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
07:00 AM	---	07:15 AM	2	0	0	0	0	3	3	54	1	0	112	1	*176*
07:15 AM	---	07:30 AM	5	0	1	0	0	5	10	131	1	0	255	1	*409*
07:30 AM	---	07:45 AM	10	0	2	1	2	10	14	206	2	1	372	1	*621*
07:45 AM	---	08:00 AM	12	1	3	2	2	12	20	283	5	2	475	2	*819*
08:00 AM	---	08:15 AM	16	1	3	2	2	20	25	349	8	2	561	2	*991*
08:15 AM	---	08:30 AM	17	2	4	4	2	24	27	417	9	5	632	4	*1,147*
08:30 AM	---	08:45 AM	22	4	7	8	5	33	35	497	13	7	720	8	*1,359*
08:45 AM	---	09:00 AM	25	5	8	10	6	39	40	574	15	8	801	9	*1,540*
TOTAL BY PERIOD															
07:00 AM	---	07:15 AM	2	0	0	0	0	3	3	54	1	0	112	1	*176*
07:15 AM	---	07:30 AM	3	0	1	0	0	2	7	77	0	0	143	0	*233*
07:30 AM	---	07:45 AM	5	0	1	1	2	5	4	75	1	1	117	0	*212*
07:45 AM	---	08:00 AM	2	1	1	1	0	2	6	77	3	1	103	1	*198*
08:00 AM	---	08:15 AM	4	0	0	0	0	8	5	66	3	0	86	0	*172*
08:15 AM	---	08:30 AM	1	1	1	2	0	4	2	68	1	3	71	2	*156*
08:30 AM	---	08:45 AM	5	2	3	4	3	9	8	80	4	2	88	4	*212*
08:45 AM	---	09:00 AM	3	1	1	2	1	6	5	77	2	1	81	1	*181*
HOURLY TOTALS															
07:00 AM	---	08:00 AM	12	1	3	2	2	12	20	283	5	2	475	2	*819*
07:15 AM	---	08:15 AM	14	1	3	2	2	17	22	295	7	2	449	1	*815*
07:30 AM	---	08:30 AM	12	2	3	4	2	19	17	286	8	5	377	3	*738*
07:45 AM	---	08:45 AM	12	4	5	7	3	23	21	291	11	6	348	7	*738*
08:00 AM	---	09:00 AM	13	4	5	8	4	27	20	291	10	6	326	7	*721*

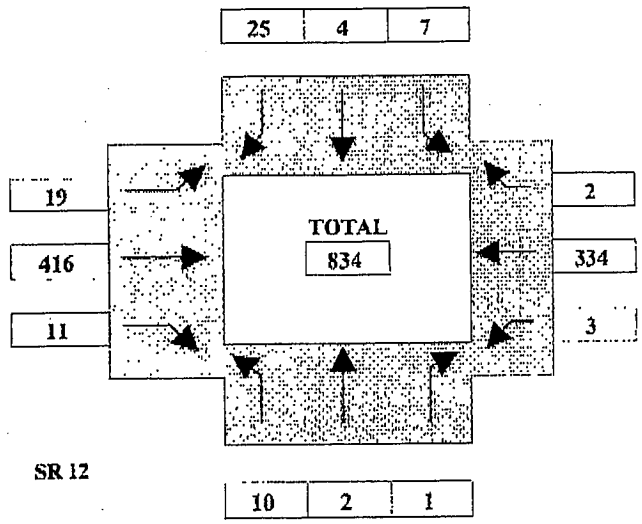
P. 5 FAX

BAYMETRICS TRAFFIC RESOURCES

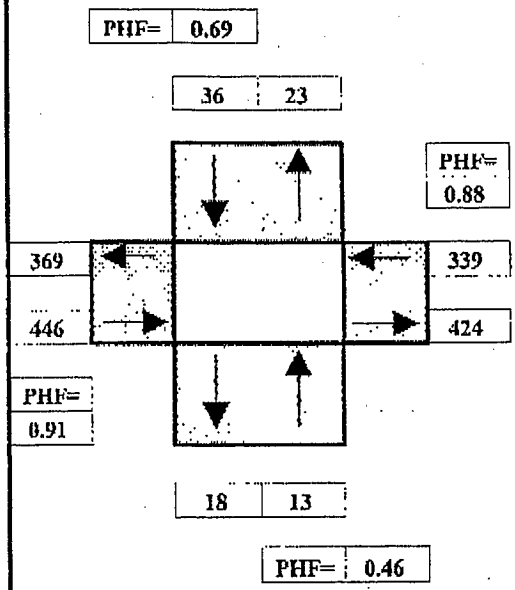
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	SR 12 MIS	SURVEY DATE: 10/11/2000	DAY: WEDNESDAY
N-S Approach:	SHILOH ROAD	SURVEY TIME: 4:00 PM TO	6:00 PM
E-W Approach:	SR 12	CITY: FAIRFIELD	FILE NAME: 4PM

PEAK HOUR
04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
04:00 PM	04:15 PM	2	0	2	0	1	6	4	104	0	0	69	0	*188*
04:15 PM	04:30 PM	3	1	2	2	1	10	8	220	2	0	152	0	*401*
04:30 PM	04:45 PM	5	1	2	4	1	17	11	321	4	2	244	2	*614*
04:45 PM	05:00 PM	10	2	3	4	4	25	18	415	8	3	333	2	*827*
05:00 PM	05:15 PM	12	2	3	7	5	31	23	520	11	3	403	2	*1,022*
05:15 PM	05:30 PM	13	3	5	10	5	41	27	606	18	5	466	2	*1,201*
05:30 PM	05:45 PM	18	3	5	12	6	48	32	683	23	7	523	3	*1,363*
05:45 PM	06:00 PM	19	3	5	15	6	53	35	753	26	7	583	3	*1,508*
TOTAL BY PERIOD														
04:00 PM	04:15 PM	2	0	2	0	1	6	4	104	0	0	69	0	*188*
04:15 PM	04:30 PM	1	1	0	2	0	4	4	116	2	0	83	0	*213*
04:30 PM	04:45 PM	2	0	0	2	0	7	3	101	2	2	92	2	*213*
04:45 PM	05:00 PM	5	1	1	0	3	8	7	94	4	1	89	0	*213*
05:00 PM	05:15 PM	2	0	0	3	1	6	5	105	3	0	70	0	*195*
05:15 PM	05:30 PM	1	1	2	3	0	10	4	86	7	2	63	0	*179*
05:30 PM	05:45 PM	5	0	0	2	1	7	5	77	5	2	57	1	*162*
05:45 PM	06:00 PM	1	0	0	3	0	5	3	70	3	0	60	0	*145*
HOURLY TOTALS														
04:00 PM	05:00 PM	10	2	3	4	4	25	18	415	8	3	333	2	*827*
04:15 PM	05:15 PM	10	2	1	7	4	25	19	416	11	3	334	2	*834*
04:30 PM	05:30 PM	10	2	3	8	4	31	19	386	16	5	314	2	*800*
04:45 PM	05:45 PM	13	2	3	8	5	31	21	362	19	5	279	1	*749*
05:00 PM	06:00 PM	9	1	2	11	2	28	17	338	18	4	250	1	*681*

BAYMETRICS TRAFFIC RESOURCES

INTERSECTION TURNING MOVEMENT SUMMARY

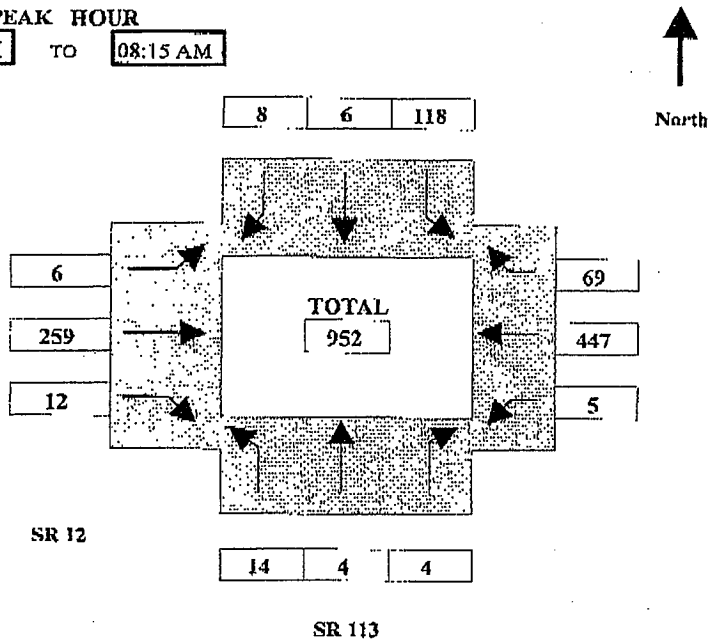
PROJECT: SR 12 MIS | SURVEY DATE: 10/11/2000 | DAY: WEDNESDAY

N-S Approach: SR 113 | SURVEY TIME: 7:00 AM TO 9:00 AM

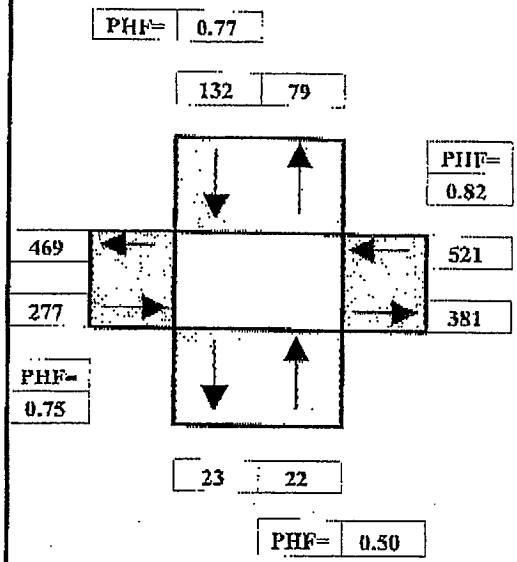
E-W Approach: SR 12 | CITY: FAIRFIELD | FILE NAME: 5AM

PEAK HOUR

07:15 AM TO 08:15 AM



ARRIVAL / DEPARTURE VOLUMES



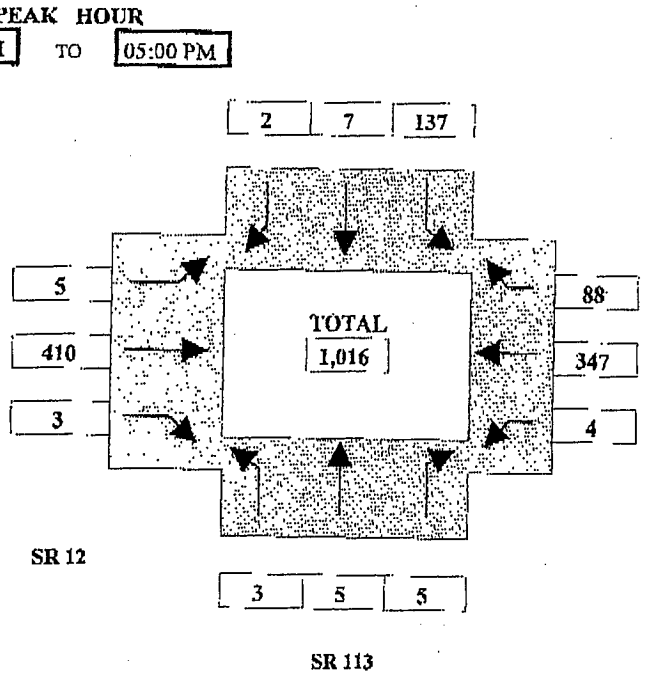
TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
07:00 AM	---	07:15 AM	0	0	1	42	1	0	0	47	0	0	122	22	*235*
07:15 AM	---	07:30 AM	1	1	1	79	2	2	0	97	2	1	261	41	*488*
07:30 AM	---	07:45 AM	5	1	3	112	2	2	2	155	5	1	377	59	*724*
07:45 AM	---	08:00 AM	8	2	3	138	4	5	4	222	6	4	481	74	*951*
08:00 AM	---	08:15 AM	14	4	5	160	7	8	6	306	12	5	569	91	*1,187*
08:15 AM	---	08:30 AM	16	7	5	185	13	10	6	373	15	9	635	111	*1,385*
08:30 AM	---	08:45 AM	22	10	7	215	15	15	8	448	17	11	718	124	*1,610*
08:45 AM	---	09:00 AM	25	12	9	239	18	19	11	530	20	13	793	140	*1,829*
TOTAL BY PERIOD															
07:00 AM	---	07:15 AM	0	0	1	42	1	0	0	47	0	0	122	22	*235*
07:15 AM	---	07:30 AM	1	1	0	37	1	2	0	50	2	1	139	19	*253*
07:30 AM	---	07:45 AM	4	0	2	33	0	0	2	58	3	0	116	18	*236*
07:45 AM	---	08:00 AM	3	1	0	26	2	3	2	67	1	3	104	15	*227*
08:00 AM	---	08:15 AM	6	2	2	22	3	3	2	84	6	1	88	17	*236*
08:15 AM	---	08:30 AM	2	3	0	25	6	2	0	67	3	4	66	20	*198*
08:30 AM	---	08:45 AM	6	3	2	30	2	5	2	75	2	2	83	13	*225*
08:45 AM	---	09:00 AM	3	2	2	24	3	4	3	82	3	2	75	16	*219*
HOURLY TOTALS															
07:00 AM	---	08:00 AM	8	2	3	138	4	5	4	222	6	4	481	74	*951*
07:15 AM	---	08:15 AM	14	4	4	118	6	8	6	259	12	5	447	69	*952*
07:30 AM	---	08:30 AM	15	6	4	106	11	8	6	276	13	8	374	70	*897*
07:45 AM	---	08:45 AM	17	9	4	103	13	13	6	293	12	10	341	65	*886*
08:00 AM	---	09:00 AM	17	10	6	101	14	14	7	308	14	9	312	66	*878*

BAYMETRICS TRAFFIC RESOURCES

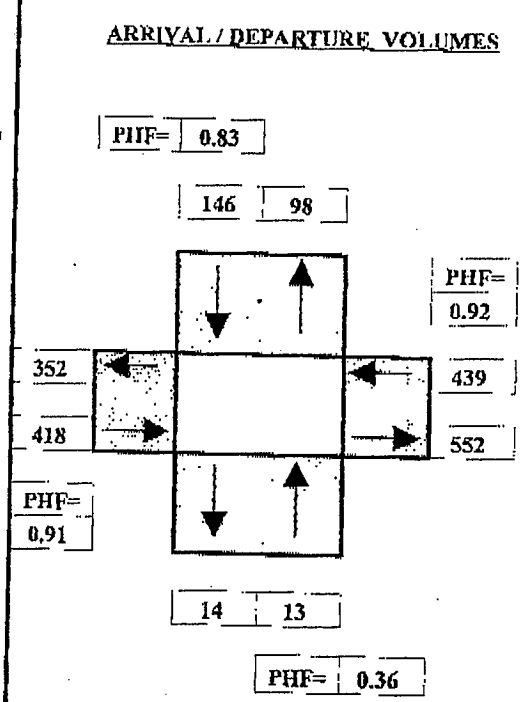
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT: SR 12 MIS
N-S Approach: SR 113
E-W Approach: SR 12
SURVEY DATE: 10/11/2000 DAY: WEDNESDAY
SURVEY TIME: 4:00 PM TO 6:00 PM
CITY: FAIRFIELD FILE NAME: 5PM

PEAK HOUR
04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
04:00 PM	04:15 PM	0	2	3	34	0	0	2	100	0	2	77	20	*240*
04:15 PM	04:30 PM	0	2	4	75	2	1	2	213	2	2	159	42	*504*
04:30 PM	04:45 PM	2	4	4	108	4	1	3	314	2	3	250	67	*762*
04:45 PM	05:00 PM	3	5	5	137	7	2	5	410	3	4	347	88	*1,016*
05:00 PM	05:15 PM	3	5	8	162	8	5	8	495	5	7	435	114	*1,255*
05:15 PM	05:30 PM	5	8	12	184	8	8	10	594	6	10	520	137	*1,502*
05:30 PM	05:45 PM	7	10	13	202	10	10	12	684	6	12	599	156	*1,721*
05:45 PM	06:00 PM	8	11	15	218	13	13	15	767	7	12	676	178	*1,933*
TOTAL BY PERIOD														
04:00 PM	04:15 PM	0	2	3	34	0	0	2	100	0	2	77	20	*240*
04:15 PM	04:30 PM	0	0	1	41	2	1	0	113	2	0	82	22	*264*
04:30 PM	04:45 PM	2	2	0	33	2	0	1	101	0	1	91	25	*258*
04:45 PM	05:00 PM	1	1	1	29	3	1	2	96	1	1	97	21	*254*
05:00 PM	05:15 PM	0	0	3	25	1	3	3	85	2	3	88	26	*239*
05:15 PM	05:30 PM	2	3	4	22	0	3	2	99	1	3	85	23	*247*
05:30 PM	05:45 PM	2	2	1	18	2	2	2	90	0	2	79	19	*219*
05:45 PM	06:00 PM	1	1	2	16	3	3	3	83	1	0	77	22	*212*
HOURLY TOTALS														
04:00 PM	05:00 PM	3	5	5	137	7	2	5	410	3	4	347	88	*1,016*
04:15 PM	05:15 PM	3	3	5	128	8	5	6	395	5	5	358	94	*1,015*
04:30 PM	05:30 PM	5	6	8	109	6	7	8	381	4	8	361	95	*998*
04:45 PM	05:45 PM	5	6	9	94	6	9	9	370	4	9	349	89	*959*
05:00 PM	06:00 PM	5	6	10	81	6	11	10	357	4	8	329	90	*917*

BAYMETRICS TRAFFIC RESOURCES

INTERSECTION TURNING MOVEMENT SUMMARY

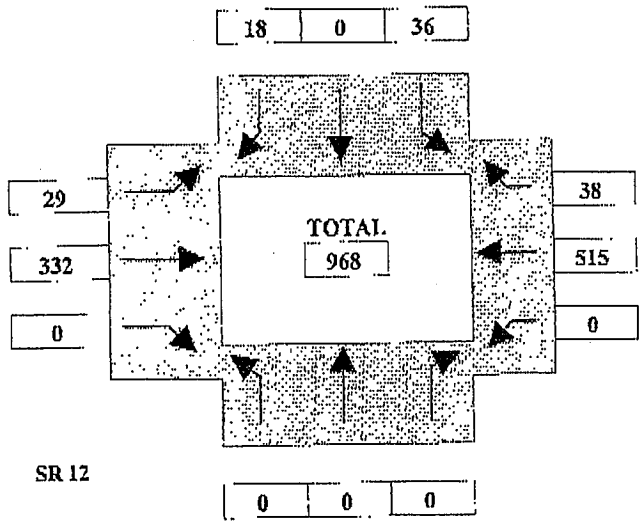
PROJECT: SR 12 MIS | SURVEY DATE: 10/11/2000 | DAY: WEDNESDAY

N-S Approach: SUMMERSET ROAD | SURVEY TIME: 7:00 AM TO 9:00 AM

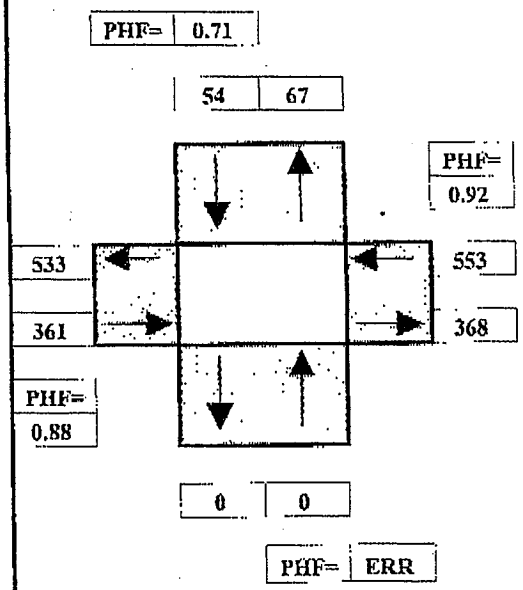
E-W Approach: SR 12 | CITY: FAIRFIELD | FILE NAME: 6AM

PEAK HOUR

07:00 AM TO 08:00 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
07:00 AM	---	07:15 AM	0	0	0	5	0	2	6	78	0	0	130	8	*229*
07:15 AM	---	07:30 AM	0	0	0	14	0	5	11	158	0	0	270	18	*476*
07:30 AM	---	07:45 AM	0	0	0	26	0	12	19	253	0	0	401	25	*736*
07:45 AM	---	08:00 AM	0	0	0	36	0	18	29	332	0	0	515	38	*968*
08:00 AM	---	08:15 AM	0	0	0	49	0	22	35	405	0	0	608	53	*1,172*
08:15 AM	---	08:30 AM	0	0	0	57	0	31	39	501	0	0	694	64	*1,386*
08:30 AM	---	08:45 AM	0	0	0	68	0	36	47	588	0	0	770	73	*1,582*
08:45 AM	---	09:00 AM	0	0	0	83	0	39	54	673	0	0	852	85	*1,786*
TOTAL BY PERIOD															
07:00 AM	---	07:15 AM	0	0	0	5	0	2	6	78	0	0	130	8	*229*
07:15 AM	---	07:30 AM	0	0	0	9	0	3	5	80	0	0	140	10	*247*
07:30 AM	---	07:45 AM	0	0	0	12	0	7	8	95	0	0	131	7	*260*
07:45 AM	---	08:00 AM	0	0	0	10	0	6	10	79	0	0	114	13	*232*
08:00 AM	---	08:15 AM	0	0	0	13	0	4	6	73	0	0	93	15	*204*
08:15 AM	---	08:30 AM	0	0	0	8	0	9	4	96	0	0	86	11	*214*
08:30 AM	---	08:45 AM	0	0	0	11	0	5	8	87	0	0	76	9	*196*
08:45 AM	---	09:00 AM	0	0	0	15	0	3	7	85	0	0	82	12	*204*
HOURLY TOTALS															
07:00 AM	---	08:00 AM	0	0	0	36	0	18	29	332	0	0	515	38	*968*
07:15 AM	---	08:15 AM	0	0	0	44	0	20	29	327	0	0	478	45	*943*
07:30 AM	---	08:30 AM	0	0	0	43	0	26	28	343	0	0	424	46	*910*
07:45 AM	---	08:45 AM	0	0	0	42	0	24	28	335	0	0	369	48	*846*
08:00 AM	---	09:00 AM	0	0	0	47	0	21	25	341	0	0	337	47	*818*

BAYMETRICS TRAFFIC RESOURCES

INTERSECTION TURNING MOVEMENT SUMMARY

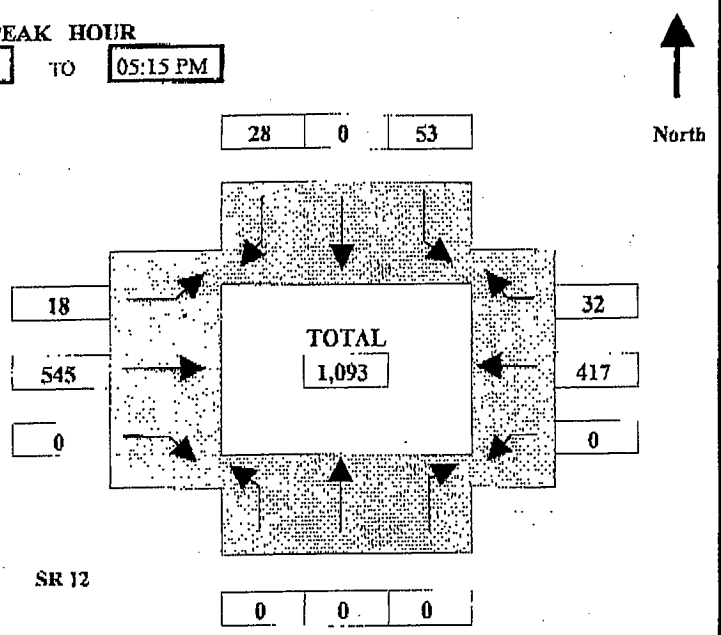
PROJECT: SR 12 MIS | SURVEY DATE: 10/11/2000 | DAY: WEDNESDAY

N-S Approach: SUMMERSET ROAD | SURVEY TIME: 4:00 PM TO 6:00 PM

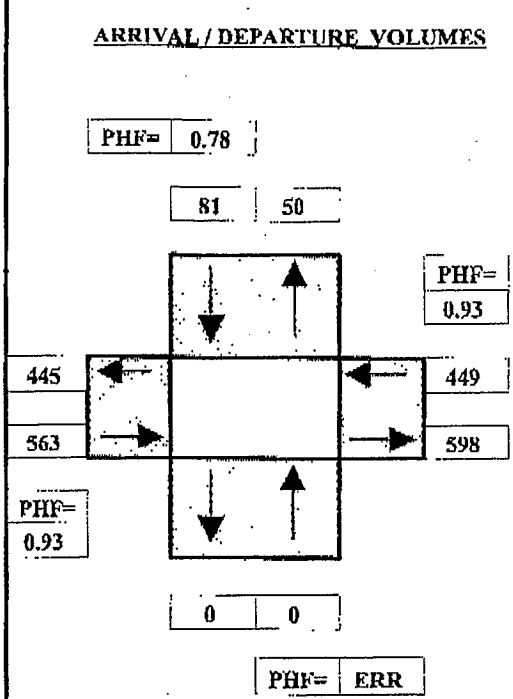
E-W Approach: SR 12 | CITY: FAIRFIELD | FILE NAME: 6PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



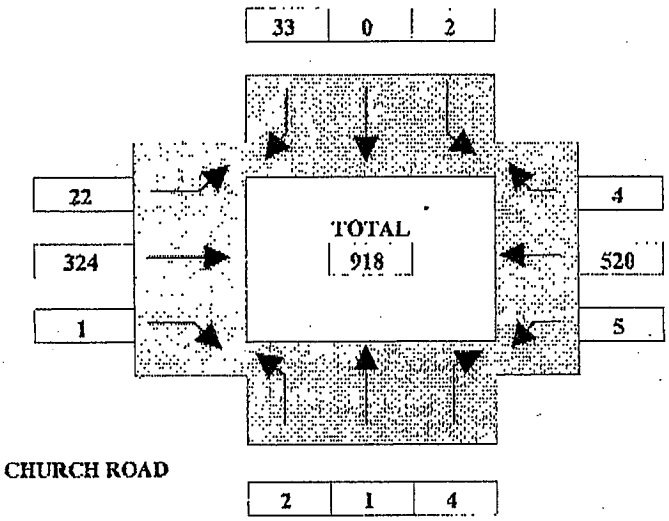
TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
04:00 PM	---	04:15 PM	0	0	0	15	0	5	4	127	0	0	96	7	*254*
04:15 PM	---	04:30 PM	0	0	0	34	0	12	11	272	0	0	208	16	*553*
04:30 PM	---	04:45 PM	0	0	0	45	0	20	16	403	0	0	302	21	*807*
04:45 PM	---	05:00 PM	0	0	0	59	0	24	19	545	0	0	412	31	*1,090*
05:00 PM	---	05:15 PM	0	0	0	68	0	33	22	672	0	0	513	39	*1,347*
05:15 PM	---	05:30 PM	0	0	0	75	0	44	29	812	0	0	597	43	*1,600*
05:30 PM	---	05:45 PM	0	0	0	80	0	52	35	945	0	0	695	50	*1,857*
05:45 PM	---	06:00 PM	0	0	0	87	0	59	40	1,084	0	0	780	56	*2,106*
TOTAL BY PERIOD															
04:00 PM	---	04:15 PM	0	0	0	15	0	5	4	127	0	0	96	7	*254*
04:15 PM	---	04:30 PM	0	0	0	19	0	7	7	145	0	0	112	9	*299*
04:30 PM	---	04:45 PM	0	0	0	11	0	8	5	131	0	0	94	5	*254*
04:45 PM	---	05:00 PM	0	0	0	14	0	4	3	142	0	0	110	10	*283*
05:00 PM	---	05:15 PM	0	0	0	9	0	9	3	127	0	0	101	8	*257*
05:15 PM	---	05:30 PM	0	0	0	7	0	11	7	140	0	0	84	4	*253*
05:30 PM	---	05:45 PM	0	0	0	5	0	8	6	133	0	0	98	7	*257*
05:45 PM	---	06:00 PM	0	0	0	7	0	7	5	139	0	0	85	6	*249*
HOURLY TOTALS															
04:00 PM	---	05:00 PM	0	0	0	59	0	24	19	545	0	0	412	31	*1,090*
04:15 PM	---	05:15 PM	0	0	0	53	0	28	18	545	0	0	417	32	*1,093*
04:30 PM	---	05:30 PM	0	0	0	41	0	32	18	540	0	0	389	27	*1,047*
04:45 PM	---	05:45 PM	0	0	0	35	0	32	19	542	0	0	393	29	*1,050*
05:00 PM	---	06:00 PM	0	0	0	28	0	35	21	539	0	0	368	25	*1,016*

BAYMETRICS TRAFFIC RESOURCES

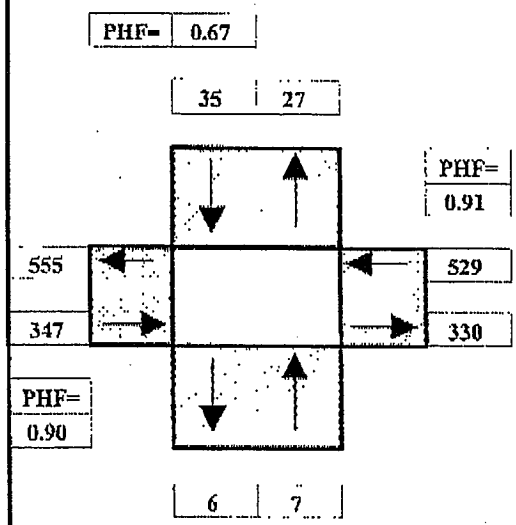
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	SR 12 MIS		SURVEY DATE: 10/11/2000	DAY:	WEDNESDAY
N-S Approach:	~~SUMMERSET ROAD~~ CHURCH RD		SURVEY TIME: 7:00 AM	TO	9:00 AM
E-W Approach:	~~CHURCH ROAD~~ SR 12		CITY: FAIRFIELD	FILE NAME:	7AM

PEAK HOUR
07:00 AM TO 08:00 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
07:00 AM	07:15 AM	0	0	0	0	0	13	6	76	0	0	122	0	*217*
07:15 AM	07:30 AM	0	1	2	0	0	21	15	153	0	4	262	0	*458*
07:30 AM	07:45 AM	1	1	4	2	0	26	20	243	1	5	405	2	*710*
07:45 AM	08:00 AM	2	1	4	2	0	33	22	324	1	5	520	4	*918*
08:00 AM	08:15 AM	4	2	7	2	0	37	23	390	1	7	612	5	*1,090*
08:15 AM	08:30 AM	5	2	11	3	0	40	27	478	1	8	697	5	*1,277*
08:30 AM	08:45 AM	5	3	13	4	0	45	30	554	2	10	778	8	*1,452*
08:45 AM	09:00 AM	6	3	16	6	0	48	33	639	2	10	858	10	*1,631*
TOTAL BY PERIOD														
07:00 AM	07:15 AM	0	0	0	0	0	13	6	76	0	0	122	0	*217*
07:15 AM	07:30 AM	0	1	2	0	0	8	9	77	0	4	140	0	*241*
07:30 AM	07:45 AM	1	0	2	2	0	5	5	90	1	1	143	2	*252*
07:45 AM	08:00 AM	1	0	0	0	0	7	2	81	0	0	115	2	*208*
08:00 AM	08:15 AM	2	1	3	0	0	4	1	66	0	2	92	1	*172*
08:15 AM	08:30 AM	1	0	4	1	0	3	4	88	0	1	85	0	*187*
08:30 AM	08:45 AM	0	1	2	1	0	5	3	76	1	2	81	3	*175*
08:45 AM	09:00 AM	1	0	3	2	0	3	3	85	0	0	80	2	*179*
HOURLY TOTALS														
07:00 AM	08:00 AM	2	1	4	2	0	33	22	324	1	5	520	4	*918*
07:15 AM	08:15 AM	4	2	7	2	0	24	17	314	1	7	490	5	*873*
07:30 AM	08:30 AM	5	1	9	3	0	19	12	325	1	4	435	5	*819*
07:45 AM	08:45 AM	4	2	9	2	0	19	10	311	1	5	373	6	*742*
08:00 AM	09:00 AM	4	2	12	4	0	15	11	315	1	5	338	6	*713*

BAYMETRICS TRAFFIC RESOURCES

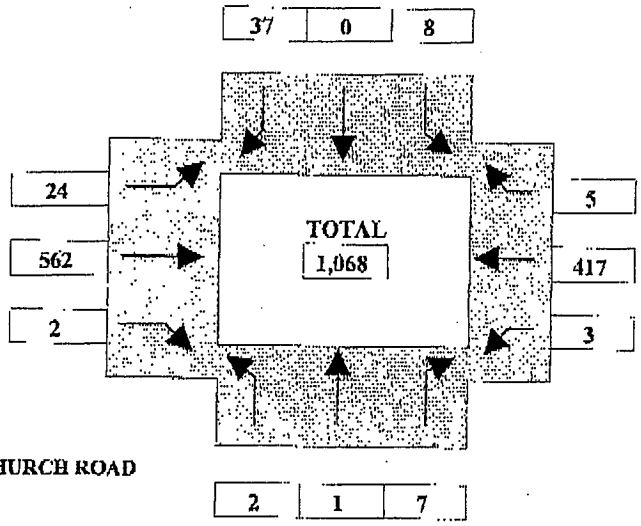
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT: SR 12 MIS | SURVEY DATE: 10/11/2000 | DAY: WEDNESDAY

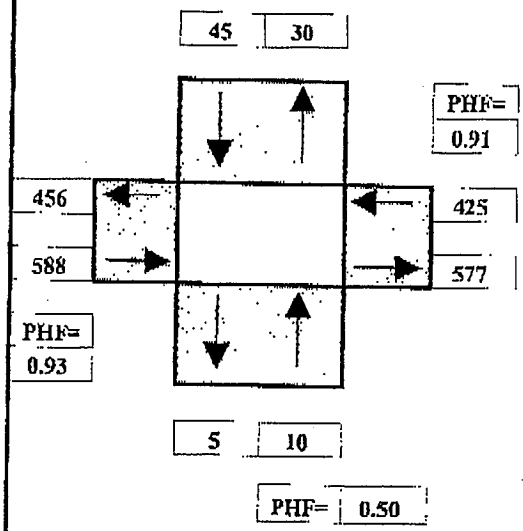
N-S Approach: ~~SUMMERSET ROAD~~ CHURCH RD | SURVEY TIME: 4:00 PM TO 6:00 PM

E-W Approach: ~~CHURCH ROAD~~ SR 12 | CITY: FAIRFIELD | FILE NAME: 7PM

PEAK HOUR
04:30 PM TO 05:30 PM



ARRIVAL / DEPARTURE VOLUMES



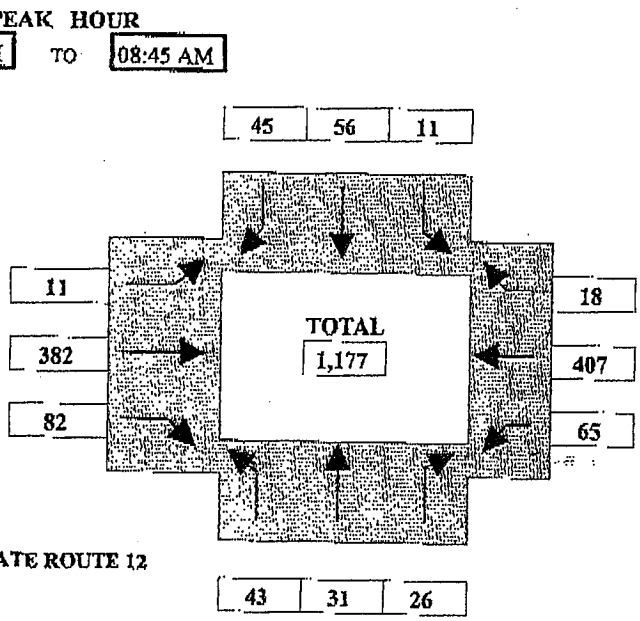
TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
04:00 PM	---	04:15 PM	0	0	1	2	0	3	3	146	0	1	106	0	*262*
04:15 PM	---	04:30 PM	1	2	1	2	0	7	5	297	0	3	200	0	*518*
04:30 PM	---	04:45 PM	1	2	3	3	0	14	7	432	0	3	315	2	*782*
04:45 PM	---	05:00 PM	1	2	3	5	0	24	12	576	2	5	417	4	*1,051*
05:00 PM	---	05:15 PM	2	3	4	7	0	32	21	709	2	5	511	5	*1,301*
05:15 PM	---	05:30 PM	3	3	8	10	0	44	29	859	2	6	617	5	*1,586*
05:30 PM	---	05:45 PM	3	3	10	11	0	53	40	1,000	3	7	707	8	*1,845*
05:45 PM	---	06:00 PM	5	3	12	11	0	60	47	1,142	3	7	793	10	*2,093*
TOTAL BY PERIOD															
04:00 PM	---	04:15 PM	0	0	1	2	0	3	3	146	0	1	106	0	*262*
04:15 PM	---	04:30 PM	1	2	0	0	0	4	2	151	0	2	94	0	*256*
04:30 PM	---	04:45 PM	0	0	2	1	0	7	2	135	0	0	115	2	*264*
04:45 PM	---	05:00 PM	0	0	0	2	0	10	5	144	2	2	102	2	*269*
05:00 PM	---	05:15 PM	1	1	1	2	0	8	9	133	0	0	94	1	*250*
05:15 PM	---	05:30 PM	1	0	4	3	0	12	8	150	0	1	106	0	*285*
05:30 PM	---	05:45 PM	0	0	2	1	0	9	11	141	1	1	90	3	*259*
05:45 PM	---	06:00 PM	2	0	2	0	0	7	7	142	0	0	86	2	*248*
HOURLY TOTALS															
04:00 PM	---	05:00 PM	1	2	3	5	0	24	12	576	2	5	417	4	*1,051*
04:15 PM	---	05:15 PM	2	3	3	5	0	29	18	563	2	4	405	5	*1,039*
04:30 PM	---	05:30 PM	2	1	7	8	0	37	24	562	2	3	417	5	*1,068*
04:45 PM	---	05:45 PM	2	1	7	8	0	39	33	568	3	4	392	6	*1,063*
05:00 PM	---	06:00 PM	4	1	9	6	0	36	35	566	1	2	376	6	*1,042*

BAYMETRICS TRAFFIC RESOURCES

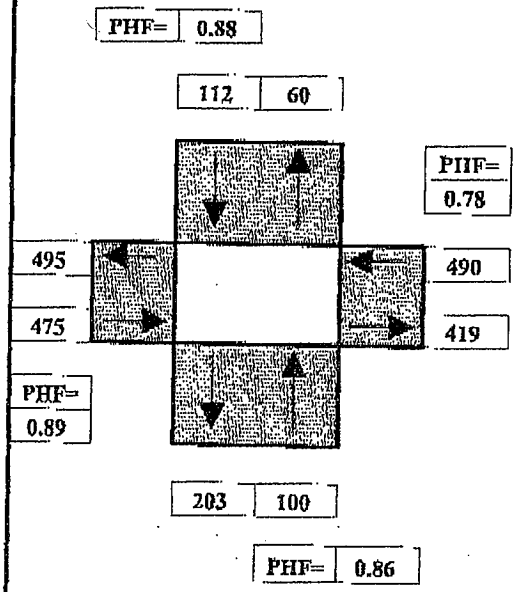
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT: SR 12 TRAFFIC STUDY
SURVEY DATE: 11/8/2000 DAY: WEDNESDAY
N-S Approach: HILLSIDE TERRACE
SURVEY TIME: 7:00 AM TO 9:00 AM
E-W Approach: STATE ROUTE 12
CITY: RIO VISTA FILE NAME: 1AM

PEAK HOUR
07:45 AM TO 08:45 AM



ARRIVAL / DEPARTURE VOLUMES



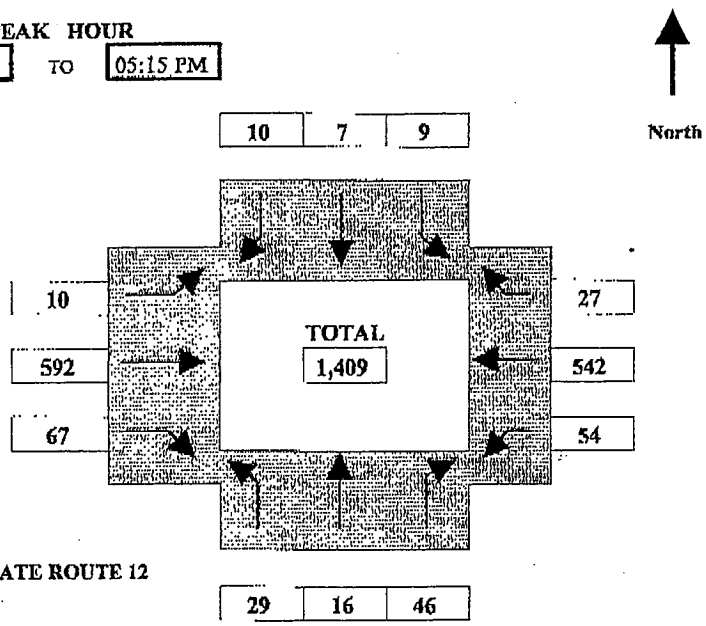
TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
07:00 AM	---	07:15 AM	6	0	4	0	0	5	1	95	2	0	151	7	*271*
07:15 AM	---	07:30 AM	8	2	5	4	1	6	1	175	9	2	285	11	*509*
07:30 AM	---	07:45 AM	22	3	9	5	6	7	2	262	16	7	397	15	*751*
07:45 AM	---	08:00 AM	33	6	16	9	19	15	6	371	36	19	508	16	*1,054*
08:00 AM	---	08:15 AM	42	15	25	13	35	27	12	457	59	38	618	22	*1,363*
08:15 AM	---	08:30 AM	55	25	31	14	50	38	12	548	80	58	717	27	*1,655*
08:30 AM	---	08:45 AM	65	34	35	16	62	52	13	644	98	72	804	33	*1,928*
08:45 AM	---	09:00 AM	73	40	43	19	72	61	15	732	120	83	896	37	*2,191*
TOTAL BY PERIOD															
07:00 AM	---	07:15 AM	6	0	4	0	0	5	1	95	2	0	151	7	*271*
07:15 AM	---	07:30 AM	2	2	1	4	1	1	0	80	7	2	134	4	*238*
07:30 AM	---	07:45 AM	14	1	4	1	5	1	1	87	7	5	112	4	*242*
07:45 AM	---	08:00 AM	11	3	7	4	13	8	4	109	20	12	111	1	*303*
08:00 AM	---	08:15 AM	9	9	9	4	16	12	6	86	23	19	110	6	*309*
08:15 AM	---	08:30 AM	13	10	6	1	15	11	0	91	21	20	99	5	*292*
08:30 AM	---	08:45 AM	10	9	4	2	12	14	1	96	18	14	87	6	*273*
08:45 AM	---	09:00 AM	8	6	8	3	10	9	2	88	22	11	92	4	*263*
HOURLY TOTALS															
07:00 AM	---	08:00 AM	33	6	16	9	19	15	6	371	36	19	508	16	*1,054*
07:15 AM	---	08:15 AM	36	15	21	13	35	22	11	362	57	38	467	15	*1,092*
07:30 AM	---	08:30 AM	47	23	26	10	49	32	11	373	71	56	432	16	*1,146*
07:45 AM	---	08:45 AM	43	31	26	11	56	45	11	382	82	65	407	18	*1,177*
08:00 AM	---	09:00 AM	40	34	27	10	53	46	9	361	84	64	388	21	*1,137*

BAYMETRICS TRAFFIC RESOURCES

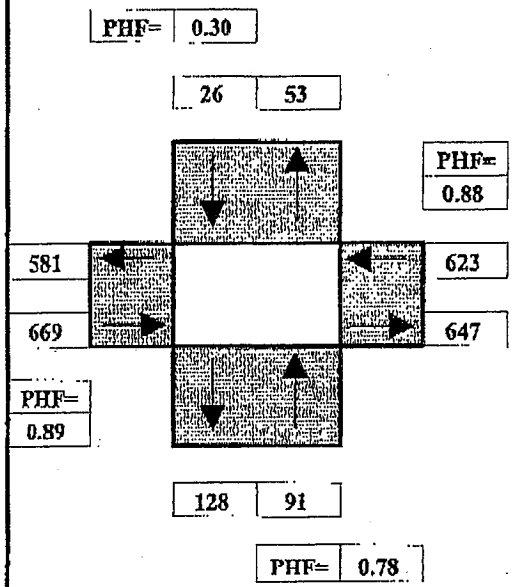
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	SR 12 TRAFFIC STUDY	SURVEY DATE: 11/8/2000	DAY: WEDNESDAY
N-S Approach:	HILLSIDE TERRACE	SURVEY TIME: 4:00 PM TO 6:00 PM	
E-W Approach:	STATE ROUTE 12	CITY: RIO VISTA	FILE NAME: 1PM

PEAK HOUR
04:15 PM TO 05:15 PM



ARRIVAL/DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
04:00 PM	---	04:15 PM	4	2	10	1	2	1	2	141	13	6	138	3	*323*
04:15 PM	---	04:30 PM	10	9	23	2	5	3	3	313	28	18	253	12	*679*
04:30 PM	---	04:45 PM	16	10	32	3	5	6	9	465	46	29	415	15	*1,051*
04:45 PM	---	05:00 PM	24	14	40	5	7	7	11	593	63	50	544	24	*1,382*
05:00 PM	---	05:15 PM	33	18	56	10	9	11	12	733	80	60	680	30	*1,732*
05:15 PM	---	05:30 PM	48	23	61	11	10	20	16	846	94	69	808	35	*2,041*
05:30 PM	---	05:45 PM	52	25	67	12	12	21	20	967	109	74	919	38	*2,316*
05:45 PM	---	06:00 PM	58	25	69	12	13	21	20	1,078	121	77	1,020	39	*2,553*
TOTAL BY PERIOD															
04:00 PM	---	04:15 PM	4	2	10	1	2	1	2	141	13	6	138	3	*323*
04:15 PM	---	04:30 PM	6	7	13	1	3	2	1	172	15	12	115	9	*356*
04:30 PM	---	04:45 PM	6	1	9	1	0	3	6	152	18	11	162	3	*372*
04:45 PM	---	05:00 PM	8	4	8	2	2	1	2	128	17	21	129	9	*331*
05:00 PM	---	05:15 PM	9	4	16	5	2	4	1	140	17	10	136	6	*350*
05:15 PM	---	05:30 PM	15	5	5	1	1	9	4	113	14	9	128	5	*309*
05:30 PM	---	05:45 PM	4	2	6	1	2	1	4	121	15	5	111	3	*275*
05:45 PM	---	06:00 PM	6	0	2	0	1	0	0	111	12	3	101	1	*237*
HOURLY TOTALS															
04:00 PM	---	05:00 PM	24	14	40	5	7	7	11	593	63	50	544	24	*1,382*
04:15 PM	---	05:15 PM	29	16	46	9	7	10	10	592	67	54	542	27	*1,409*
04:30 PM	---	05:30 PM	38	14	38	9	5	17	13	533	66	51	555	23	*1,362*
04:45 PM	---	05:45 PM	36	15	35	9	7	15	11	502	63	45	504	23	*1,265*
05:00 PM	---	06:00 PM	34	11	29	7	6	14	9	485	58	27	476	15	*1,171*

APPENDIX B

INTERSECTION LEVEL OF SERVICE ANALYSIS

SR 12 MIS

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 SR 12/Pennsylvania	B	12.8	0.758	B	12.8	0.758	+ 0.000 D/V
# 2 SR 12/Sunset	B	11.3	0.531	B	11.3	0.531	+ 0.000 D/V
# 3 SR 12/Walters Road	B	12.3	0.361	B	12.3	0.361	+ 0.000 D/V
# 4 SR 12/Shiloh/Lambie	B	0.4	0.000	B	0.4	0.000	+ 0.000 V/C
# 5 SR 12/SR 113	C	2.1	0.000	C	2.1	0.000	+ 0.000 V/C
# 6 SR 12/Summerset	A	3.4	0.187	A	3.4	0.187	+ 0.000 D/V
# 7 SR 12/Church Rd	B	0.4	0.000	B	0.4	0.000	+ 0.000 V/C
# 8 SR 12/ Hillside Terrace	C	2.6	0.000	C	2.6	0.000	+ 0.000 V/C

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 SR 12/Pennsylvania

Cycle (sec):	90	Critical Vol./Cap. (X):	0.758
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	12.8
Optimal Cycle:	67	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:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	1 1	0	1 0	2 0	1
Volume Module: >> Count Date: 11 Oct 2000 << AM Peak												
Base Vol:	25	86	77	114	99	113	77	809	26	48	1662	138
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	86	77	114	99	113	77	809	26	48	1662	138
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	25	86	77	114	99	113	77	809	26	48	1662	138
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	25	86	77	114	99	113	77	809	26	48	1662	138
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	1.05	1.05	1.00	1.05	1.00
Final Vol.:	25	86	77	114	99	113	77	849	27	48	1745	138
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.93	0.93	0.95	1.00	0.85	0.95	1.00	1.00	0.95	1.00	0.85
Lanes:	1.00	0.53	0.47	1.00	1.00	1.00	1.00	1.94	0.06	1.00	2.00	1.00
Final Sat.:	1805	932	835	1805	1900	1615	1805	3683	117	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.09	0.09	0.06	0.05	0.07	0.04	0.23	0.23	0.03	0.46	0.09
Crit Moves:		****		****			****				****	
Green/Cycle:	0.12	0.12	0.12	0.08	0.08	0.14	0.06	0.59	0.59	0.07	0.61	0.69
Volume/Cap:	0.11	0.76	0.76	0.76	0.63	0.50	0.76	0.39	0.39	0.39	0.76	0.12
Delay/Veh:	22.8	34.4	34.4	39.1	31.0	24.6	45.0	6.3	6.3	27.0	9.4	3.1
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:	22.8	34.4	34.4	39.1	31.0	24.6	45.0	6.3	6.3	27.0	9.4	3.1
DesignQueue:	1	4	3	5	5	5	4	18	1	2	39	2

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 SR 12/Sunset

Cycle (sec):	90	Critical Vol./Cap. (X):	0.531
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	11.3
Optimal Cycle:	42	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:	Split Phase		Ovl	Split Phase		Ovl	Protected		Ovl	Protected		Ovl
Rights:												
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 1	0 0	2	2 0	2 0	1	1 0	2 0	1
Volume Module: >> Count Date: 11 Oct 2000 << AM Peak												
Base Vol:	71	38	11	61	21	276	271	524	32	30	1157	120
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:	71	38	11	61	21	276	271	524	32	30	1157	120
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	71	38	11	61	21	276	271	524	32	30	1157	120
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	38	11	61	21	276	271	524	32	30	1157	120
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	1.05	1.05	1.13	1.03	1.05	1.00	1.00	1.05	1.00
Final Vol.:	71	38	11	64	22	312	279	550	32	30	1215	120
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.96	0.96	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.49	0.51	2.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	1900	1615	2715	933	3230	3610	3800	1615	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.01	0.02	0.02	0.10	0.08	0.14	0.02	0.02	0.32	0.07
Crit Moves:	****			****			****				****	
Green/Cycle:	0.07	0.07	0.15	0.04	0.04	0.19	0.15	0.67	0.75	0.08	0.60	0.65
Volume/Cap:	0.53	0.27	0.05	0.53	0.53	0.51	0.53	0.22	0.03	0.22	0.53	0.11
Delay/Veh:	29.0	25.7	21.1	29.8	29.8	21.7	23.8	3.7	1.9	25.3	6.9	3.9
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:	29.0	25.7	21.1	29.8	29.8	21.7	23.8	3.7	1.9	25.3	6.9	3.9
DesignQueue:	3	2	0	3	1	13	12	9	0	1	26	2

SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 SR 12/Walters Road

Cycle (sec): 90 Critical Vol./Cap. (X): 0.361
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 12.3
Optimal Cycle: 28 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					Protected					Protected				
Rights:	Ovl					Ovl					Include					Include				
Min. Green:	0	0	0			0	0	0			0	0	0			0	0	0		
Lanes:	1	0	1	0	1	1	0	1	0	1	1	0	2	0	1	2	0	2	0	1
Volume Module: >> Count Date: 11 Oct 2000 << AM Peak																				
Base Vol:	71	71	5			136	60	290			189	204	18			3	455	59		
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:	71	71	5			136	60	290			189	204	18			3	455	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:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	71	71	5			136	60	290			189	204	18			3	455	59		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	71	71	5			136	60	290			189	204	18			3	455	59		
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	1.05	1.00			1.03	1.05	1.00		
Final Vol.:	71	71	5			136	60	290			189	214	18			3	478	59		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.78	1.00	0.85			0.76	1.00	0.85			0.95	1.00	0.85			0.95	1.00	0.85		
Lanes:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	2.00	1.00			2.00	2.00	1.00		
Final Sat.:	1482	1900	1615			1444	1900	1615			1805	3800	1615			3610	3800	1615		
Capacity Analysis Module:																				
Vol/Sat:	0.05	0.04	0.00			0.09	0.03	0.18			0.10	0.06	0.01			0.00	0.13	0.04		
Crit Moves:						****					****						****			
Green/Cycle:	0.26	0.26	0.27			0.26	0.26	0.55			0.29	0.63	0.63			0.01	0.35	0.35		
Volume/Cap:	0.18	0.14	0.01			0.36	0.12	0.33			0.36	0.09	0.02			0.09	0.36	0.10		
Delay/Veh:	16.7	16.5	15.5			17.8	16.4	7.2			16.5	4.2	4.0			28.6	14.2	12.8		
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:	16.7	16.5	15.5			17.8	16.4	7.2			16.5	4.2	4.0			28.6	14.2	12.8		
DesignQueue:	3	3	0			5	2	7			7	4	0			0	16	2		

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 SR 12/Shiloh/Lambie

Average Delay (sec/veh): 0.4 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module: >> Count Date: 11 Oct 2000 << AM Peak												
Base Vol:	12	1	3	2	2	12	20	283	5	2	475	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	12	1	3	2	2	12	20	283	5	2	475	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	12	1	3	2	2	12	20	283	5	2	475	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	12	1	3	2	2	12	20	283	5	2	475	2
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	13	1	3	2	2	13	22	283	5	2	475	2
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	6.0	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	791	785	286	786	786	476	477	xxxx	xxxxx	288	xxxx	xxxxx
Potent Cap.:	369	423	992	372	422	795	1016	xxxx	xxxxx	1250	xxxx	xxxxx
Adj Cap:	0.96	0.97	1.00	0.97	0.97	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	354	411	992	361	410	795	1016	xxxx	xxxxx	1250	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	10.5	8.8	3.6	10.0	8.8	4.6	3.6	xxxx	xxxxx	2.9	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	406	xxxxx	xxxx	627	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	9.1	xxxxx	xxxxx	5.8	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	B	*	*	*	*	*	*	*
ApproachDel:		9.1			5.8			0.3			0.0	

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #5 SR 12/SR 113

****

Average Delay (sec/veh): 2.1 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	0 1		0 0 1!	0 0		0 0 1!	0 0		1 0 1	0 1	
Volume Module: >> Count Date: 11 Oct 2000 << AM Peak												
Base Vol:	14	4	4	118	6	8	6	259	12	5	447	69
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:	14	4	4	118	6	8	6	259	12	5	447	69
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	14	4	4	118	6	8	6	259	12	5	447	69
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	14	4	4	118	6	8	6	259	12	5	447	69
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	15	4	4	130	7	9	7	259	12	6	447	69
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	6.0	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	730	792	265	727	729	447	516	xxxx	xxxxx	271	xxxx	xxxxx
Potent Cap.:	400	419	1016	402	452	822	973	xxxx	xxxxx	1273	xxxx	xxxxx
Adj Cap:	0.97	0.99	1.00	0.98	0.99	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	388	414	1016	393	447	822	973	xxxx	xxxxx	1273	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	9.6	8.8	3.6	13.1	8.2	4.4	3.7	xxxx	xxxxx	2.8	xxxx	xxxxx
LOS by Move:	*	*	A	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	393	xxxx	xxxxx	xxxx	408	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	9.4	xxxx	xxxxx	xxxxx	12.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	B	*	*	*	C	*	*	*	*	*	*	*
ApproachDel:	8.4			12.3			0.1			0.0		

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 SR 12/Summerset

Cycle (sec):	90	Critical Vol./Cap. (X):	0.187
Loss Time (sec):	9 (Y+R = 4 sec)	Average Delay (sec/veh):	3.4
Optimal Cycle:	22	Level Of Service:	A

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			Ovl			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2 0	0	0 1	1 0	2	0 0	0 0	2	0 1
Volume Module: >> Count Date: 11 Oct 2000 << AM Peak												
Base Vol:	0	0	0	36	0	18	29	332	0	0	515	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	36	0	18	29	332	0	0	515	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	36	0	18	29	332	0	0	515	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	36	0	18	29	332	0	0	515	38
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	1.03	1.00	1.00	1.00	1.05	1.00	1.00	1.05	1.00
Final Vol.:	0	0	0	37	0	18	29	349	0	0	541	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3610	0	1615	1805	3800	0	0	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.09	0.00	0.00	0.14	0.02
Crit Moves:				****			****				****	
Green/Cycle:	0.00	0.00	0.00	0.05	0.00	0.14	0.09	0.85	0.00	0.00	0.76	0.81
Volume/Cap:	0.00	0.00	0.00	0.19	0.00	0.08	0.19	0.11	0.00	0.00	0.19	0.03
Delay/Veh:	0.0	0.0	0.0	26.3	0.0	21.7	24.8	0.8	0.0	0.0	2.0	1.0
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:	0.0	0.0	0.0	26.3	0.0	21.7	24.8	0.8	0.0	0.0	2.0	1.0
DesignQueue:	0	0	0	2	0	1	1	3	0	0	7	0

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #7 SR 12/Church Rd

Average Delay (sec/veh): 0.4 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module: >> Count Date: 11 Oct 2000 << AM Peak												
Base Vol:	2	1	4	2	0	33	22	324	1	5	520	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	1	4	2	0	33	22	324	1	5	520	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	1	4	2	0	33	22	324	1	5	520	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	2	1	4	2	0	33	22	324	1	5	520	4
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	2	1	4	2	0	36	24	324	1	6	520	4
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	xxxx	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	xxxx	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	890	876	325	876	xxxx	522	524	xxxx	xxxxx	325	xxxx	xxxxx
Potent Cap.:	323	379	948	329	xxxx	753	965	xxxx	xxxxx	1200	xxxx	xxxxx
Adj Cap:	0.92	0.96	1.00	0.96	xxxx	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	299	365	948	318	xxxx	753	965	xxxx	xxxxx	1200	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	12.1	9.9	3.8	11.4	xxxx	5.0	3.8	xxxx	xxxxx	3.0	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	513	xxxxx	xxxx	698	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	7.1	xxxxx	xxxxx	5.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	B	*	*	*	*	*	*	*
ApproachDel:		7.1			5.4			0.3			0.0	

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #8 SR 12/ Hillside Terrace

Average Delay (sec/veh): 2.6 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	43	31	26	11	56	45	11	382	82	65	407	18
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:	43	31	26	11	56	45	11	382	82	65	407	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	43	31	26	11	56	45	11	382	82	65	407	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	43	31	26	11	56	45	11	382	82	65	407	18
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	47	34	29	12	62	50	12	382	82	72	407	18
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	6.0	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	966	924	423	944	956	416	425	xxxx	xxxxx	464	xxxx	xxxxx
Potent Cap.:	292	357	845	301	344	852	1075	xxxx	xxxxx	1030	xxxx	xxxxx
Adj Cap:	0.73	0.89	1.00	0.82	0.89	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	214	319	845	246	307	852	1075	xxxx	xxxxx	1030	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	21.0	12.5	4.4	15.3	14.3	4.5	3.4	xxxx	xxxxx	3.7	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	304	xxxxx	xxxx	400	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	14.0	xxxxx	xxxxx	10.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	C	*	*	C	*	*	*	*	*	*	*
ApproachDel:		14.0			10.5			0.1			0.5	

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SR 12 MIS

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in	
# 1 SR 12/Pennsylvania	E	40.9	0.939	E	40.9	0.939	+ 0.000	D/V
# 2 SR 12/Sunset	B	14.4	0.577	B	14.4	0.577	+ 0.000	D/V
# 3 SR 12/Walters Road	B	10.0	0.411	B	10.0	0.411	+ 0.000	D/V
# 4 SR 12/Shiloh/Lambie	B	0.5	0.000	B	0.5	0.000	+ 0.000	V/C
# 5 SR 12/SR 113	C	2.5	0.000	C	2.5	0.000	+ 0.000	V/C
# 6 SR 12/Summerset	A	3.5	0.184	A	3.5	0.184	+ 0.000	D/V
# 7 SR 12/Church Rd	B	0.5	0.000	B	0.5	0.000	+ 0.000	V/C
# 8 SR 12/ Hillside Terrace	C	1.3	0.000	C	1.3	0.000	+ 0.000	V/C

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 SR 12/Pennsylvania

Cycle (sec): 180 Critical Vol./Cap. (X): 0.939
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 40.9
Optimal Cycle: 180 Level Of Service: E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	1 1	0	1 0	2 0	1
Volume Module: >> Count Date: 11 Oct 2000 << PM Peak												
Base Vol:	13	162	283	311	27	67	90	1560	22	12	1189	187
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:	13	162	283	311	27	67	90	1560	22	12	1189	187
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	162	283	311	27	67	90	1560	22	12	1189	187
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	162	283	311	27	67	90	1560	22	12	1189	187
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	1.05	1.05	1.00	1.05	1.00
Final Vol.:	13	162	283	311	27	67	90	1638	23	12	1248	187
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	1.00	0.85	0.95	1.00	1.00	0.95	1.00	0.85
Lanes:	1.00	0.36	0.64	1.00	1.00	1.00	1.00	1.97	0.03	1.00	2.00	1.00
Final Sat.:	1805	623	1087	1805	1900	1615	1805	3747	53	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.26	0.26	0.17	0.01	0.04	0.05	0.44	0.44	0.01	0.33	0.12
Crit Moves:		****		****				****		****		
Green/Cycle:	0.28	0.28	0.28	0.18	0.18	0.25	0.06	0.47	0.47	0.01	0.41	0.59
Volume/Cap:	0.03	0.94	0.94	0.94	0.08	0.17	0.80	0.94	0.94	0.94	0.80	0.19
Delay/Veh:	30.6	60.4	60.4	71.3	39.3	34.5	75.1	37.0	37.0	214.0	32.3	10.9
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:	30.6	60.4	60.4	71.3	39.3	34.5	75.1	37.0	37.0	214.0	32.3	10.9
DesignQueue:	1	12	22	27	2	5	9	99	1	1	81	8

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 SR 12/Sunset

Cycle (sec):	90	Critical Vol./Cap. (X):	0.577
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	14.4
Optimal Cycle:	46	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:	Split Phase			Split Phase			Protected			Protected		
Rights:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 1	0 0	2	2 0	2 0	1	1 0	2 0	1
Volume Module: >> Count Date: 11 Oct 2000 << PM Peak												
Base Vol:	32	68	34	263	73	274	611	964	32	68	700	109
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:	32	68	34	263	73	274	611	964	32	68	700	109
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	68	34	263	73	274	611	964	32	68	700	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	68	34	263	73	274	611	964	32	68	700	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	1.05	1.05	1.13	1.03	1.05	1.00	1.00	1.05	1.00
Final Vol.:	32	68	34	276	77	310	629	1012	32	68	735	109
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.96	0.96	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.56	0.44	2.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	1900	1615	2852	796	3230	3610	3800	1615	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.04	0.02	0.10	0.10	0.10	0.17	0.27	0.02	0.04	0.19	0.07
Crit Moves:		****			****		****				****	
Green/Cycle:	0.06	0.06	0.14	0.17	0.17	0.47	0.30	0.56	0.62	0.08	0.34	0.50
Volume/Cap:	0.29	0.58	0.15	0.58	0.58	0.20	0.58	0.48	0.03	0.48	0.58	0.13
Delay/Veh:	26.4	31.4	21.9	23.3	23.3	9.1	17.7	7.9	4.3	27.6	16.4	7.7
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:	26.4	31.4	21.9	23.3	23.3	9.1	17.7	7.9	4.3	27.6	16.4	7.7
DesignQueue:	2	3	1	12	3	8	23	24	1	3	26	3

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 SR 12/Walters Road

Cycle (sec):	90	Critical Vol./Cap. (X):	0.411
Loss Time (sec):	9 (Y+R = 4 sec)	Average Delay (sec/veh):	10.0
Optimal Cycle:	30	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			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 1		0 1	1 0 1		0 1	1 0 2		0 1	2 0 2		0 1
Volume Module: >> Count Date: 11 Oct 2000 << PM Peak												
Base Vol:	46	26	4	73	80	283	452	358	78	5	279	91
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:	46	26	4	73	80	283	452	358	78	5	279	91
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	46	26	4	73	80	283	452	358	78	5	279	91
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	46	26	4	73	80	283	452	358	78	5	279	91
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.00	1.03	1.05	1.00
Final Vol.:	46	26	4	73	80	283	452	376	78	5	293	91
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.68	1.00	0.85	0.87	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1292	1900	1615	1653	1900	1615	1805	3800	1615	3610	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.04	0.01	0.00	0.04	0.04	0.18	0.25	0.10	0.05	0.00	0.08	0.06
Crit Moves:					****		****				****	
Green/Cycle:	0.10	0.10	0.11	0.10	0.10	0.71	0.61	0.79	0.79	0.01	0.19	0.19
Volume/Cap:	0.35	0.13	0.02	0.43	0.41	0.25	0.41	0.13	0.06	0.13	0.41	0.30
Delay/Veh:	24.9	23.8	22.9	25.6	25.3	2.9	6.1	1.5	1.4	28.6	21.0	20.5
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:	24.9	23.8	22.9	25.6	25.3	2.9	6.1	1.5	1.4	28.6	21.0	20.5
DesignQueue:	2	1	0	3	4	4	9	4	1	0	12	4

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 SR 12/Shiloh/Lambie

Average Delay (sec/veh): 0.5 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module: >> Count Date: 11 Oct 2000 << PM Peak												
Base Vol:	10	2	1	7	4	25	19	416	11	3	334	1
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:	10	2	1	7	4	25	19	416	11	3	334	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	2	1	7	4	25	19	416	11	3	334	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	2	1	7	4	25	19	416	11	3	334	1
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	11	2	1	8	4	28	21	416	11	3	334	1
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	6.0	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	793	779	422	780	784	335	335	xxxx	xxxxx	427	xxxx	xxxxx
Potent Cap.:	368	426	847	374	423	937	1187	xxxx	xxxxx	1073	xxxx	xxxxx
Adj Cap:	0.94	0.97	1.00	0.97	0.97	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	347	414	847	365	412	937	1187	xxxx	xxxxx	1073	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	10.7	8.7	4.3	10.1	8.8	3.9	3.1	xxxx	xxxxx	3.4	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	373	xxxxx	xxxx	648	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	9.9	xxxxx	xxxxx	5.7	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	B	*	*	*	*	*	*	*
ApproachDel:		9.9			5.7			0.1			0.0	

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5 SR 12/SR 113

Average Delay (sec/veh): 2.5 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	0 1		0 0 1!	0 0		0 0 1!	0 0		1 0 1	0 1	
Volume Module: >> Count Date: 11 Oct 2000 << PM Peak												
Base Vol:	3	5	5	137	7	2	5	410	3	4	347	88
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	5	5	137	7	2	5	410	3	4	347	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:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	5	5	137	7	2	5	410	3	4	347	88
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	5	5	137	7	2	5	410	3	4	347	88
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	3	6	6	151	8	2	6	410	3	4	347	88
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	6.0	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	772	856	412	773	769	347	435	xxxx	xxxxx	413	xxxx	xxxxx
Potent Cap.:	378	388	857	378	431	924	1064	xxxx	xxxxx	1090	xxxx	xxxxx
Adj Cap:	0.98	0.99	1.00	0.97	0.99	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	369	384	857	368	426	924	1064	xxxx	xxxxx	1090	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	9.8	9.5	4.2	15.5	8.6	3.9	3.4	xxxx	xxxxx	3.3	xxxx	xxxxx
LOS by Move:	*	*	A	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	378	xxxx	xxxxx	xxxx	374	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	9.6	xxxx	xxxxx	xxxxx	15.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	B	*	*	*	C	*	*	*	*	*	*	*
ApproachDel:		7.6			15.0			0.0			0.0	

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 SR 12/Summerset

Cycle (sec): 90 Critical Vol./Cap. (X): 0.184
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 3.5
Optimal Cycle: 22 Level Of Service: A

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			Ovl			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2	0 0	0 1	1	0 2	0 0	0	0 2	0 1
Volume Module: >> Count Date: 11 Oct 2000 << PM Peak												
Base Vol:	0	0	0	53	0	28	18	545	0	0	417	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	53	0	28	18	545	0	0	417	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	53	0	28	18	545	0	0	417	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	53	0	28	18	545	0	0	417	32
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.03	1.00	1.00	1.00	1.05	1.00	1.00	1.05	1.00
Final Vol.:	0	0	0	55	0	28	18	572	0	0	438	32
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3610	0	1615	1805	3800	0	0	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.02	0.01	0.15	0.00	0.00	0.12	0.02
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.08	0.00	0.15	0.07	0.82	0.00	0.00	0.75	0.83
Volume/Cap:	0.00	0.00	0.00	0.18	0.00	0.12	0.15	0.18	0.00	0.00	0.15	0.02
Delay/Veh:	0.0	0.0	0.0	24.9	0.0	21.5	25.7	1.1	0.0	0.0	2.0	0.8
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:	0.0	0.0	0.0	24.9	0.0	21.5	25.7	1.1	0.0	0.0	2.0	0.8
DesignQueue:	0	0	0	3	0	1	1	5	0	0	6	0

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

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Intersection #7 SR 12/Church Rd

****

Average Delay (sec/veh): 0.5 Worst Case Level Of Service: B

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module: >> Count Date: 11 Oct 2000 << PM Peak												
Base Vol:	2	1	7	8	0	37	24	562	2	3	417	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	1	7	8	0	37	24	562	2	3	417	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	1	7	8	0	37	24	562	2	3	417	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	2	1	7	8	0	37	24	562	2	3	417	5
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	2	1	8	9	0	41	26	562	2	3	417	5
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	xxxx	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	xxxx	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1028	1012	563	1014	xxxx	420	422	xxxx	xxxxx	564	xxxx	xxxxx
Potent Cap.:	269	321	718	274	xxxx	849	1079	xxxx	xxxxx	923	xxxx	xxxxx
Adj Cap:	0.92	0.96	1.00	0.96	xxxx	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	248	308	718	262	xxxx	849	1079	xxxx	xxxxx	923	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	14.6	11.7	5.1	14.2	xxxx	4.4	3.4	xxxx	xxxxx	3.9	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	475	xxxxx	xxxx	607	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	7.6	xxxxx	xxxxx	6.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	B	*	*	*	*	*	*	*
ApproachDel:		7.6			6.2			0.2			0.0	

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

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Intersection #8 SR 12/ Hillside Terrace

****

Average Delay (sec/veh): 1.3 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			1 0 0 1 0			1 0 0 1 0		
Volume Module:												
Base Vol:	29	16	46	9	7	10	10	592	67	27	542	27
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:	29	16	46	9	7	10	10	592	67	27	542	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:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	16	46	9	7	10	10	592	67	27	542	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	29	16	46	9	7	10	10	592	67	27	542	27
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	32	18	51	10	8	11	11	592	67	30	542	27
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	6.0	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1227	1232	626	1249	1252	556	569	xxxx	xxxxx	659	xxxx	xxxxx
Potent Cap.:	206	246	667	200	240	724	918	xxxx	xxxxx	832	xxxx	xxxxx
Adj Cap:	0.93	0.95	1.00	0.84	0.95	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	191	235	667	168	229	724	918	xxxx	xxxxx	832	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	22.2	16.5	5.8	22.6	16.2	5.0	4.0	xxxx	xxxxx	4.5	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	315	xxxxx	xxxx	266	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	12.9	xxxxx	xxxxx	14.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	C	*	*	C	*	*	*	*	*	*	*
ApproachDel:		12.9			14.1			0.1			0.2	

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SR 12 MIS

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 SR 12/Pennsylvania	F	151.0	1.307	F	151.0	1.307	+ 0.000 D/V
# 2 SR 12/Sunset	C	15.3	0.679	C	15.3	0.679	+ 0.000 D/V
# 3 SR 12/Walters Road	B	12.0	0.607	B	12.0	0.607	+ 0.000 D/V
# 4 SR 12/Shiloh/Lambie	D	2.6	0.000	D	2.6	0.000	+ 0.000 V/C
# 5 SR 12/SR 113	E	8.3	0.000	E	8.3	0.000	+ 0.000 V/C
# 6 SR 12/Summerset	A	4.9	0.255	A	4.9	0.255	+ 0.000 D/V
# 7 SR 12/Church Rd	C	1.3	0.000	C	1.3	0.000	+ 0.000 V/C
# 9 SR 12/Hillside Terrace	B	5.2	0.578	B	5.2	0.578	+ 0.000 D/V

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 SR 12/Pennsylvania

Cycle (sec):	180	Critical Vol./Cap. (X):	1.307
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	151.0
Optimal Cycle:	180	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:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	13	167	292	344	30	74	155	2682	38	17	1664	262
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:	13	167	292	344	30	74	155	2682	38	17	1664	262
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	167	292	344	30	74	155	2682	38	17	1664	262
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	167	292	344	30	74	155	2682	38	17	1664	262
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	1.05	1.05	1.00	1.05	1.00
Final Vol.:	13	167	292	344	30	74	155	2816	40	17	1747	262
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	1.00	0.85	0.95	1.00	1.00	0.95	1.00	0.85
Lanes:	1.00	0.36	0.64	1.00	1.00	1.00	1.00	1.97	0.03	1.00	2.00	1.00
Final Sat.:	1805	622	1088	1805	1900	1615	1805	3747	53	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.27	0.27	0.19	0.02	0.05	0.09	0.75	0.75	0.01	0.46	0.16
Crit Moves:		****		****				****		****		
Green/Cycle:	0.21	0.21	0.21	0.15	0.15	0.24	0.09	0.57	0.57	0.01	0.49	0.64
Volume/Cap:	0.04	1.31	1.31	1.31	0.11	0.19	0.94	1.31	1.31	1.31	0.94	0.25
Delay/Veh:	37.0	253	252.9	263.7	43.1	35.5	89.7	211	210.8	534.2	35.0	9.2
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:	37.0	253	252.9	263.7	43.1	35.5	89.7	211	210.8	534.2	35.0	9.2
DesignQueue:	1	14	25	31	3	6	14	149	2	2	101	10

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 SR 12/Sunset

Cycle (sec):	90	Critical Vol./Cap. (X):	0.679
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	15.3
Optimal Cycle:	55	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:	Split Phase			Split Phase			Protected			Protected		
Rights:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 1	0 0	2	2 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	34	72	36	286	79	298	668	1054	35	90	923	144
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	34	72	36	286	79	298	668	1054	35	90	923	144
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	34	72	36	286	79	298	668	1054	35	90	923	144
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	72	36	286	79	298	668	1054	35	90	923	144
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	1.05	1.05	1.13	1.03	1.05	1.00	1.00	1.05	1.00
Final Vol.:	34	72	36	300	83	337	688	1107	35	90	969	144
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.96	0.96	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.57	0.43	2.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	1900	1615	2857	791	3230	3610	3800	1615	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.04	0.02	0.10	0.10	0.10	0.19	0.29	0.02	0.05	0.26	0.09
Crit Moves:		****			****		****				****	
Green/Cycle:	0.06	0.06	0.15	0.15	0.15	0.44	0.28	0.56	0.62	0.10	0.38	0.53
Volume/Cap:	0.34	0.68	0.15	0.68	0.68	0.24	0.68	0.52	0.04	0.52	0.68	0.17
Delay/Veh:	27.2	37.5	21.4	25.5	25.5	10.4	19.9	8.1	4.4	27.2	16.1	7.1
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:	27.2	37.5	21.4	25.5	25.5	10.4	19.9	8.1	4.4	27.2	16.1	7.1
DesignQueue:	2	3	2	13	4	10	26	26	1	4	32	3

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

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Intersection #3 SR 12/Walters Road

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Cycle (sec): 90 Critical Vol./Cap. (X): 0.607
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 12.0
Optimal Cycle: 41 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						Protected						Protected					
Rights:		Ovl						Ovl						Include						Include				
Min. Green:	0	0	0				0	0	0				0	0	0				0	0	0			
Lanes:	1	0	1	0	1		1	0	1	0	1		1	0	2	0	1		2	0	2	0	1	
Volume Module:																								
Base Vol:	56	32	5				93	101	359				612	484	106				10	541	177			
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:	56	32	5				93	101	359				612	484	106				10	541	177			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Volume:	56	32	5				93	101	359				612	484	106				10	541	177			
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
Reduced Vol:	56	32	5				93	101	359				612	484	106				10	541	177			
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	1.05	1.00				1.03	1.05	1.00			
Final Vol.:	56	32	5				93	101	359				612	508	106				10	568	177			
Saturation Flow Module:																								
Sat/Lane:	1900	1900	1900				1900	1900	1900				1900	1900	1900				1900	1900	1900			
Adjustment:	0.55	1.00	0.85				0.85	1.00	0.85				0.95	1.00	0.85				0.95	1.00	0.85			
Lanes:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	2.00	1.00				2.00	2.00	1.00			
Final Sat.:	1045	1900	1615				1615	1900	1615				1805	3800	1615				3610	3800	1615			
Capacity Analysis Module:																								
Vol/Sat:	0.05	0.02	0.00				0.06	0.05	0.22				0.34	0.13	0.07				0.00	0.15	0.11			
Crit Moves:							****						****							****				
Green/Cycle:	0.09	0.09	0.11				0.09	0.09	0.65				0.56	0.79	0.79				0.02	0.25	0.25			
Volume/Cap:	0.56	0.18	0.03				0.61	0.56	0.34				0.61	0.17	0.08				0.17	0.61	0.44			
Delay/Veh:	30.4	24.3	23.0				30.0	28.0	4.6				9.3	1.5	1.4				28.3	20.2	19.1			
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:	30.4	24.3	23.0				30.0	28.0	4.6				9.3	1.5	1.4				28.3	20.2	19.1			
DesignQueue:	3	1	0				4	5	7				15	6	1				0	22	7			

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 SR 12/Shiloh/Lambie

Average Delay (sec/veh): 2.6 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	10	2	1	67	38	240	26	574	15	3	365	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	2	1	67	38	240	26	574	15	3	365	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	2	1	67	38	240	26	574	15	3	365	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	2	1	67	38	240	26	574	15	3	365	2
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	11	2	1	74	42	264	29	574	15	3	365	2
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	6.0	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1116	978	582	978	984	366	367	xxxx	xxxxx	589	xxxx	xxxxx
Potent Cap.:	239	335	703	287	332	903	1146	xxxx	xxxxx	898	xxxx	xxxxx
Adj Cap:	0.62	0.96	1.00	0.96	0.96	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	147	321	703	276	318	903	1146	xxxx	xxxxx	898	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	26.2	11.3	5.1	17.2	12.9	5.4	3.2	xxxx	xxxxx	4.0	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	172	xxxxx	xxxx	550	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	22.3	xxxxx	xxxxx	8.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	D	*	*	B	*	*	*	*	*	*	*
ApproachDel:		22.3			8.5			0.1			0.0	

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5 SR 12/SR 113

Average Delay (sec/veh): 8.3 Worst Case Level Of Service: E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	0	1	0 0 1!	0	0	0 0 1!	0	0	1 0 1	0	1
Volume Module:												
Base Vol:	3	5	5	214	11	3	7	546	4	4	379	96
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	5	5	214	11	3	7	546	4	4	379	96
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Volume:	3	5	5	214	11	3	7	546	4	4	379	96
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	5	5	214	11	3	7	546	4	4	379	96
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10 1.10	1.10		1.10 1.10	1.10		1.10 1.00	1.00		1.10 1.00	1.00	
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	3	6	6	235	12	3	8	546	4	4	379	96
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	6.0	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	945	1034	548	943	940	379	475	xxxx	xxxxx	550	xxxx	xxxxx
Potent Cap.:	300	313	731	301	350	890	1018	xxxx	xxxxx	938	xxxx	xxxxx
Adj Cap:	0.96 0.98	1.00		0.97 0.98	1.00		1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	288	308	731	291	345	890	1018	xxxx	xxxxx	938	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	12.6	11.9	5.0	44.4	10.8	4.1	3.6	xxxx	xxxxx	3.9	xxxx	xxxxx
LOS by Move:	*	*	A	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	300	xxxx	xxxxx	xxxx	296	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	12.2	xxxx	xxxxx	xxxxx	42.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	C	*	*	*	E	*	*	*	*	*	*	*
ApproachDel:	9.4			42.3			0.0			0.0		

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 SR 12/Summerset

Cycle (sec):	90	Critical Vol./Cap. (X):	0.255
Loss Time (sec):	9 (Y+R = 4 sec)	Average Delay (sec/veh):	4.9
Optimal Cycle:	24	Level Of Service:	A

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			Ovl			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2	0 0	0 1	1	0 2	0 0	0	0 2	0 1
Volume Module:												
Base Vol:	0	0	0	122	0	65	22	673	0	0	659	51
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	122	0	65	22	673	0	0	659	51
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	122	0	65	22	673	0	0	659	51
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	122	0	65	22	673	0	0	659	51
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	1.03	1.00	1.00	1.00	1.05	1.00	1.00	1.05	1.00
Final Vol.:	0	0	0	126	0	65	22	707	0	0	692	51
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3610	0	1615	1805	3800	0	0	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.04	0.01	0.19	0.00	0.00	0.18	0.03
Crit Moves:				****			****				****	
Green/Cycle:	0.00	0.00	0.00	0.14	0.00	0.18	0.05	0.76	0.00	0.00	0.72	0.85
Volume/Cap:	0.00	0.00	0.00	0.25	0.00	0.22	0.25	0.24	0.00	0.00	0.25	0.04
Delay/Veh:	0.0	0.0	0.0	22.5	0.0	20.2	27.0	2.0	0.0	0.0	2.9	0.7
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:	0.0	0.0	0.0	22.5	0.0	20.2	27.0	2.0	0.0	0.0	2.9	0.7
DesignQueue:	0	0	0	5	0	3	1	9	0	0	10	0

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #7 SR 12/Church Rd

Average Delay (sec/veh): 1.3 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0 0		0 0 1!	0 0		0 0 1!	0 0		0 0 1!	0 0	
Volume Module:												
Base Vol:	3	2	6	8	0	134	32	471	1	8	822	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	2	6	8	0	134	32	471	1	8	822	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	2	6	8	0	134	32	471	1	8	822	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	2	6	8	0	134	32	471	1	8	822	6
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	3	2	7	9	0	147	35	471	1	9	822	6
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	xxxx	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	xxxx	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1404	1340	472	1341	xxxx	825	828	xxxx	xxxxx	472	xxxx	xxxxx
Potent Cap.:	163	216	799	177	xxxx	529	691	xxxx	xxxxx	1021	xxxx	xxxxx
Adj Cap:	0.67	0.91	1.00	0.92	xxxx	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	110	198	799	163	xxxx	529	691	xxxx	xxxxx	1021	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	33.7	18.4	4.5	23.3	xxxx	9.1	5.5	xxxx	xxxxx	3.6	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	245	xxxxx	xxxx	469	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	15.0	xxxxx	xxxxx	9.9	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	C	*	*	B	*	*	*	*	*	*	*
ApproachDel:		15.0			9.9			0.4			0.0	

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

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Intersection #9 SR 12/Hillside Terrace

****

Cycle (sec): 60 Critical Vol./Cap. (X): 0.578
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 5.2
Optimal Cycle: 30 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			Protected				Protected			
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	1 0	0 1	0		1 0	0 1	0	
Volume Module:														
Base Vol:	30	17	48	29	23	33	12	704	80		66	667	33	
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	17	48	29	23	33	12	704	80		66	667	33	
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	30	17	48	29	23	33	12	704	80		66	667	33	
Reduct Vol:	0	0	0	0	0	0	0	0	0		0	0	0	
Reduced Vol:	30	17	48	29	23	33	12	704	80		66	667	33	
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	17	48	29	23	33	12	704	80		66	667	33	
Saturation Flow Module:														
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900		1900	1900	1900	
Adjustment:	0.75	0.75	0.75	0.74	0.74	0.74	0.95	0.99	0.99		0.95	0.99	0.99	
Lanes:	0.32	0.18	0.50	0.34	0.27	0.39	1.00	0.90	0.10		1.00	0.95	0.05	
Final Sat.:	448	254	717	479	380	545	1805	1689	192		1805	1792	89	
Capacity Analysis Module:														
Vol/Sat:	0.07	0.07	0.07	0.06	0.06	0.06	0.01	0.42	0.42		0.04	0.37	0.37	
Crit Moves:		****						****			****			
Green/Cycle:	0.12	0.12	0.12	0.12	0.12	0.12	0.01	0.72	0.72		0.06	0.77	0.77	
Volume/Cap:	0.58	0.58	0.58	0.52	0.52	0.52	0.48	0.58	0.58		0.58	0.48	0.48	
Delay/Veh:	19.8	19.8	19.8	18.5	18.5	18.5	28.8	3.1	3.1		22.7	1.8	1.8	
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:	19.8	19.8	19.8	18.5	18.5	18.5	28.8	3.1	3.1		22.7	1.8	1.8	
DesignQueue:	1	1	1	1	1	1	0	7	1		2	6	0	

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SR 12 MIS

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 SR 12/Pennsylvania	F	710.9	1.857	F	710.9	1.857	+ 0.000 D/V
# 2 SR 12/Sunset	C	17.9	0.833	C	17.9	0.833	+ 0.000 D/V
# 3 SR 12/Walters Road	C	19.0	0.897	C	19.0	0.897	+ 0.000 D/V
# 4 SR 12/Shiloh/Lambie	F	16.0	0.000	F	16.0	0.000	+ 0.000 V/C
# 5 SR 12/SR 113	F	247.4	0.000	F	247.4	0.000	+ 0.000 V/C
# 6 SR 12/Summerset	B	6.1	0.403	B	6.1	0.403	+ 0.000 D/V
# 7 SR 12/Church Rd	F	OVRFL	0.000	F	OVRFL	0.000	+ 0.000 V/C
# 9 SR 12/Hillside Terrace	B	8.4	0.763	B	8.4	0.763	+ 0.000 D/V

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 SR 12/Pennsylvania

Cycle (sec):	180	Critical Vol./Cap. (X):	1.857
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	710.9
Optimal Cycle:	180	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:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	16	174	305	392	34	85	252	4364	62	24	2376	374
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:	16	174	305	392	34	85	252	4364	62	24	2376	374
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	16	174	305	392	34	85	252	4364	62	24	2376	374
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	174	305	392	34	85	252	4364	62	24	2376	374
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	1.05	1.05	1.00	1.05	1.00
Final Vol.:	16	174	305	392	34	85	252	4582	65	24	2495	374
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	1.00	0.85	0.95	1.00	1.00	0.95	1.00	0.85
Lanes:	1.00	0.36	0.64	1.00	1.00	1.00	1.00	1.97	0.03	1.00	2.00	1.00
Final Sat.:	1805	621	1089	1805	1900	1615	1805	3747	53	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.28	0.28	0.22	0.02	0.05	0.14	1.22	1.22	0.01	0.66	0.23
Crit Moves:		****		****				****		****		
Green/Cycle:	0.15	0.15	0.15	0.12	0.12	0.23	0.12	0.66	0.66	0.01	0.55	0.67
Volume/Cap:	0.06	1.86	1.86	1.86	0.15	0.23	1.20	1.86	1.86	1.86	1.20	0.35
Delay/Veh:	42.3	1111	1111	1121	46.2	36.1	189.0	1047	1047	1609	129	8.5
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:	42.3	1111	1111	1121	46.2	36.1	189.0	1047	1047	1609	129	8.5
DesignQueue:	1	16	28	37	3	7	23	231	3	2	136	13

SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 SR 12/Sunset

Cycle (sec):	90	Critical Vol./Cap. (X):	0.833
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	17.9
Optimal Cycle:	82	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:	Split Phase			Split Phase			Protected			Protected		
Rights:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 1	0 0	2	2 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	37	79	39	320	89	333	754	1190	40	122	1257	196
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	79	39	320	89	333	754	1190	40	122	1257	196
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	37	79	39	320	89	333	754	1190	40	122	1257	196
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	79	39	320	89	333	754	1190	40	122	1257	196
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	1.05	1.05	1.13	1.03	1.05	1.00	1.00	1.05	1.00
Final Vol.:	37	79	39	336	93	376	777	1250	40	122	1320	196
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.96	0.96	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.57	0.43	2.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	1900	1615	2857	791	3230	3610	3800	1615	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.04	0.02	0.12	0.12	0.12	0.22	0.33	0.02	0.07	0.35	0.12
Crit Moves:		****			****		****				****	
Green/Cycle:	0.05	0.05	0.17	0.14	0.14	0.40	0.26	0.56	0.61	0.12	0.42	0.56
Volume/Cap:	0.41	0.83	0.15	0.83	0.83	0.29	0.83	0.59	0.04	0.59	0.83	0.22
Delay/Veh:	28.5	56.6	20.8	32.1	32.1	11.9	25.0	8.7	4.5	27.5	18.0	6.5
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:	28.5	56.6	20.8	32.1	32.1	11.9	25.0	8.7	4.5	27.5	18.0	6.5
DesignQueue:	2	4	2	15	4	12	30	30	1	5	42	4

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 SR 12/Walters Road

Cycle (sec):	90	Critical Vol./Cap. (X):	0.897
Loss Time (sec):	9 (Y+R = 4 sec)	Average Delay (sec/veh):	19.0
Optimal Cycle:	96	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:	Permitted			Permitted			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 0	1 0	1	1 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	71	40	6	122	134	472	851	674	147	17	935	305
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:	71	40	6	122	134	472	851	674	147	17	935	305
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	71	40	6	122	134	472	851	674	147	17	935	305
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	40	6	122	134	472	851	674	147	17	935	305
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	1.05	1.00	1.03	1.05	1.00
Final Vol.:	71	40	6	122	134	472	851	708	147	18	982	305
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.52	1.00	0.85	0.83	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	988	1900	1615	1577	1900	1615	1805	3800	1615	3610	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.07	0.02	0.00	0.08	0.07	0.29	0.47	0.19	0.09	0.00	0.26	0.19
Crit Moves:				****			****				****	
Green/Cycle:	0.09	0.09	0.11	0.09	0.09	0.61	0.53	0.79	0.79	0.02	0.29	0.29
Volume/Cap:	0.83	0.24	0.03	0.90	0.82	0.48	0.90	0.24	0.11	0.24	0.90	0.66
Delay/Veh:	57.7	25.0	23.2	59.4	43.9	6.5	20.4	1.5	1.4	28.3	27.0	20.5
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:	57.7	25.0	23.2	59.4	43.9	6.5	20.4	1.5	1.4	28.3	27.0	20.5
DesignQueue:	3	2	0	6	6	10	23	8	2	1	38	11

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

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Intersection #4 SR 12/Shiloh/Lambie

****

Average Delay (sec/veh): 16.0 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	10	2	1	158	90	563	37	811	21	4	411	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	2	1	158	90	563	37	811	21	4	411	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	2	1	158	90	563	37	811	21	4	411	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	2	1	158	90	563	37	811	21	4	411	2
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	11	2	1	174	99	619	41	811	21	4	411	2
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	6.0	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1601	1276	822	1276	1285	412	413	xxxx	xxxxx	832	xxxx	xxxxx
Potent Cap.:	125	234	531	193	231	856	1090	xxxx	xxxxx	688	xxxx	xxxxx
Adj Cap:	0.17	0.92	1.00	0.93	0.92	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	21	215	531	179	212	856	1090	xxxx	xxxxx	688	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	314.2	16.9	6.8	120.8	29.3	12.2	3.4	xxxx	xxxxx	5.3	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	B	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	26	xxxxx	xxxx	413	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	245	xxxxx	xxxxx	35.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	F	*	*	E	*	*	*	*	*	*	*
ApproachDel:	244.8			35.2			0.2			0.1		

SR 12 MIS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5 SR 12/SR 113

Average Delay (sec/veh): 247.4 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0 0	1	0 0	1! 0	0	0 0	1! 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	3	5	5	329	17	5	9	749	5	5	428	109
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	5	5	329	17	5	9	749	5	5	428	109
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	5	5	329	17	5	9	749	5	5	428	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	5	5	329	17	5	9	749	5	5	428	109
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	3	6	6	362	19	6	10	749	5	6	428	109
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	6.0	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1205	1303	752	1199	1196	428	537	xxxx	xxxxx	754	xxxx	xxxxx
Potent Cap.:	212	226	576	214	257	840	951	xxxx	xxxxx	750	xxxx	xxxxx
Adj Cap:	0.92	0.97	1.00	0.95	0.97	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	195	220	576	204	250	840	951	xxxx	xxxxx	750	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	18.7	16.7	6.3	1165	15.4	4.3	3.8	xxxx	xxxxx	4.8	xxxx	xxxxx
LOS by Move:	*	*	B	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	210	xxxx	xxxxx	xxxx	208	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	17.5	xxxx	xxxxx	xxxxx	1093	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	C	*	*	*	F	*	*	*	*	*	*	*
ApproachDel:	13.2			1092.8			0.0			0.0		

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 SR 12/Summerset

Cycle (sec): 90 Critical Vol./Cap. (X): 0.403
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 6.1
Optimal Cycle: 29 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:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2 0	0	0 1	1 0	2	0 0	0 0	2	0 1
Volume Module:												
Base Vol:	0	0	0	226	0	119	29	865	0	0	1021	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	226	0	119	29	865	0	0	1021	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:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	226	0	119	29	865	0	0	1021	78
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	226	0	119	29	865	0	0	1021	78
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	1.03	1.00	1.00	1.00	1.05	1.00	1.00	1.05	1.00
Final Vol.:	0	0	0	233	0	119	29	908	0	0	1072	78
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3610	0	1615	1805	3800	0	0	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.06	0.00	0.07	0.02	0.24	0.00	0.00	0.28	0.05
Crit Moves:				****			****				****	
Green/Cycle:	0.00	0.00	0.00	0.16	0.00	0.20	0.04	0.74	0.00	0.00	0.70	0.86
Volume/Cap:	0.00	0.00	0.00	0.40	0.00	0.37	0.40	0.32	0.00	0.00	0.40	0.06
Delay/Veh:	0.0	0.0	0.0	22.2	0.0	20.4	29.2	2.6	0.0	0.0	3.7	0.6
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:	0.0	0.0	0.0	22.2	0.0	20.4	29.2	2.6	0.0	0.0	3.7	0.6
DesignQueue:	0	0	0	10	0	5	1	13	0	0	17	1

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #7 SR 12/Church Rd

Average Delay (sec/veh): OVERFLOW Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	5	3	10	17	0	285	47	691	2	10	1275	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:	5	3	10	17	0	285	47	691	2	10	1275	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	5	3	10	17	0	285	47	691	2	10	1275	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	5	3	10	17	0	285	47	691	2	10	1275	10
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	6	3	11	19	0	314	52	691	2	11	1275	10
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	xxxx	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	xxxx	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	2172	2034	692	2036	xxxx	1280	1285	xxxx	xxxxx	693	xxxx	xxxxx
Potent Cap.:	59	93	618	70	xxxx	311	419	xxxx	xxxxx	801	xxxx	xxxxx
Adj Cap:	0.00	0.75	1.00	0.76	xxxx	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	0	70	618	54	xxxx	311	419	xxxx	xxxxx	801	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	53.9	5.9	97.7	xxxx	93.6	9.7	xxxx	xxxxx	4.5	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	245	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	93.9	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	F	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			93.9			0.7			0.0		

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 SR 12/Hillside Terrace

Cycle (sec):	60	Critical Vol./Cap. (X):	0.763
Loss Time (sec):	6 (Y+R = 4 sec)	Average Delay (sec/veh):	8.4
Optimal Cycle:	46	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			Protected			Protected		
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	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	32	18	51	60	47	67	15	871	99	85	856	43
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:	32	18	51	60	47	67	15	871	99	85	856	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	18	51	60	47	67	15	871	99	85	856	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	18	51	60	47	67	15	871	99	85	856	43
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.:	32	18	51	60	47	67	15	871	99	85	856	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.69	0.69	0.69	0.74	0.74	0.74	0.95	0.99	0.99	0.95	0.99	0.99
Lanes:	0.32	0.18	0.50	0.34	0.27	0.39	1.00	0.90	0.10	1.00	0.95	0.05
Final Sat.:	415	233	661	485	380	541	1805	1689	192	1805	1791	90
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.08	0.12	0.12	0.12	0.01	0.52	0.52	0.05	0.48	0.48
Crit Moves:					****			****		****		
Green/Cycle:	0.16	0.16	0.16	0.16	0.16	0.16	0.01	0.68	0.68	0.06	0.73	0.73
Volume/Cap:	0.48	0.48	0.48	0.76	0.76	0.76	0.66	0.76	0.76	0.76	0.66	0.66
Delay/Veh:	16.0	16.0	16.0	25.0	25.0	25.0	50.7	6.2	6.2	35.0	3.6	3.6
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:	16.0	16.0	16.0	25.0	25.0	25.0	50.7	6.2	6.2	35.0	3.6	3.6
DesignQueue:	1	1	1	2	1	2	0	11	1	3	9	0

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SR 12 MIS

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 6 SR 12/Summerset	B	6.5	0.180	B	6.5	0.180	+ 0.000 D/V
# 7 SR 12/Church Rd	B	1.3	0.000	B	1.3	0.000	+ 0.000 V/C
# 9 SR 12/Hillside Terrace	B	5.6	0.403	B	5.6	0.403	+ 0.000 D/V

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 SR 12/Summerset

Cycle (sec): 90 Critical Vol./Cap. (X): 0.180
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 6.5
Optimal Cycle: 22 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:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2 0	0	0 1	1 0	2	0 0	0 0	2	0 1
Volume Module:												
Base Vol:	0	0	0	122	0	65	22	375	0	0	414	51
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	122	0	65	22	375	0	0	414	51
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	122	0	65	22	375	0	0	414	51
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	122	0	65	22	375	0	0	414	51
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	1.03	1.00	1.00	1.00	1.05	1.00	1.00	1.05	1.00
Final Vol.:	0	0	0	126	0	65	22	394	0	0	435	51
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3610	0	1615	1805	3800	0	0	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.04	0.01	0.10	0.00	0.00	0.11	0.03
Crit Moves:				****			****				****	
Green/Cycle:	0.00	0.00	0.00	0.19	0.00	0.26	0.07	0.71	0.00	0.00	0.64	0.83
Volume/Cap:	0.00	0.00	0.00	0.18	0.00	0.15	0.18	0.15	0.00	0.00	0.18	0.04
Delay/Veh:	0.0	0.0	0.0	19.6	0.0	16.5	25.6	2.8	0.0	0.0	4.3	0.8
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:	0.0	0.0	0.0	19.6	0.0	16.5	25.6	2.8	0.0	0.0	4.3	0.8
DesignQueue:	0	0	0	5	0	2	1	6	0	0	8	0

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #7 SR 12/Church Rd

Average Delay (sec/veh): 1.3 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	3	2	6	8	0	134	32	173	1	6	577	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	2	6	8	0	134	32	173	1	6	577	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	2	6	8	0	134	32	173	1	6	577	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	2	6	8	0	134	32	173	1	6	577	8
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	3	2	7	9	0	147	35	173	1	7	577	8
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	xxxx	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	xxxx	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	860	797	174	797	xxxx	581	585	xxxx	xxxxx	174	xxxx	xxxxx
Potent Cap.:	337	417	1131	366	xxxx	703	902	xxxx	xxxxx	1416	xxxx	xxxxx
Adj Cap:	0.76	0.95	1.00	0.95	xxxx	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	256	396	1131	349	xxxx	703	902	xxxx	xxxxx	1416	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	14.2	9.1	3.2	10.6	xxxx	6.3	4.1	xxxx	xxxxx	2.6	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	498	xxxxx	xxxx	665	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	7.3	xxxxx	xxxxx	6.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	B	*	*	*	*	*	*	*
ApproachDel:		7.3			6.6			0.7			0.0	

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 SR 12/Hillside Terrace

Cycle (sec):	60	Critical Vol./Cap. (X):	0.403
Loss Time (sec):	6 (Y+R = 4 sec)	Average Delay (sec/veh):	5.6
Optimal Cycle:	23	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			Protected			Protected		
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	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	30	17	48	29	23	33	12	406	80	66	422	33
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	17	48	29	23	33	12	406	80	66	422	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	17	48	29	23	33	12	406	80	66	422	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	17	48	29	23	33	12	406	80	66	422	33
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	17	48	29	23	33	12	406	80	66	422	33
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	0.76	0.76	0.77	0.77	0.77	0.95	0.98	0.98	0.95	0.99	0.99
Lanes:	0.32	0.18	0.50	0.34	0.27	0.39	1.00	0.84	0.16	1.00	0.93	0.07
Final Sat.:	458	260	733	501	398	571	1805	1555	307	1805	1745	136
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.06	0.06	0.06	0.01	0.26	0.26	0.04	0.24	0.24
Crit Moves:		****						****		****		
Green/Cycle:	0.16	0.16	0.16	0.16	0.16	0.16	0.02	0.65	0.65	0.09	0.72	0.72
Volume/Cap:	0.40	0.40	0.40	0.36	0.36	0.36	0.34	0.40	0.40	0.40	0.34	0.34
Delay/Veh:	15.2	15.2	15.2	14.8	14.8	14.8	20.8	3.4	3.4	17.5	2.1	2.1
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:	15.2	15.2	15.2	14.8	14.8	14.8	20.8	3.4	3.4	17.5	2.1	2.1
DesignQueue:	1	0	1	1	1	1	0	5	1	2	4	0

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SR 12 MIS

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 6 SR 12/Summerset	B	7.4	0.302	B	7.4	0.302	+ 0.000 D/V
# 7 SR 12/Church Rd	E	4.7	0.000	E	4.7	0.000	+ 0.000 V/C
# 9 SR 12/Hillside Terrace	B	7.2	0.542	B	7.2	0.542	+ 0.000 D/V

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 SR 12/Summerset

Cycle (sec):	90	Critical Vol./Cap. (X):	0.302
Loss Time (sec):	9 (Y+R = 4 sec)	Average Delay (sec/veh):	7.4
Optimal Cycle:	26	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:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2	0 0	0 1	1 0	2	0 0	0 0	2	0 1
Volume Module:												
Base Vol:	0	0	0	226	0	119	29	482	0	0	691	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	226	0	119	29	482	0	0	691	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:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	226	0	119	29	482	0	0	691	78
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	226	0	119	29	482	0	0	691	78
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	1.03	1.00	1.00	1.00	1.05	1.00	1.00	1.05	1.00
Final Vol.:	0	0	0	233	0	119	29	506	0	0	726	78
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3610	0	1615	1805	3800	0	0	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.06	0.00	0.07	0.02	0.13	0.00	0.00	0.19	0.05
Crit Moves:				****			****				****	
Green/Cycle:	0.00	0.00	0.00	0.21	0.00	0.27	0.05	0.69	0.00	0.00	0.63	0.85
Volume/Cap:	0.00	0.00	0.00	0.30	0.00	0.28	0.30	0.19	0.00	0.00	0.30	0.06
Delay/Veh:	0.0	0.0	0.0	19.3	0.0	17.0	27.0	3.3	0.0	0.0	4.9	0.7
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:	0.0	0.0	0.0	19.3	0.0	17.0	27.0	3.3	0.0	0.0	4.9	0.7
DesignQueue:	0	0	0	9	0	4	1	8	0	0	14	1

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #7 SR 12/Church Rd

Average Delay (sec/veh): 4.7 Worst Case Level Of Service: E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	5	3	10	17	0	285	47	308	2	12	945	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:	5	3	10	17	0	285	47	308	2	12	945	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	5	3	10	17	0	285	47	308	2	12	945	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	5	3	10	17	0	285	47	308	2	12	945	10
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	6	3	11	19	0	314	52	308	2	13	945	10
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	xxxx	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	xxxx	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1461	1323	309	1325	xxxx	950	955	xxxx	xxxxx	310	xxxx	xxxxx
Potent Cap.:	151	221	966	181	xxxx	457	601	xxxx	xxxxx	1220	xxxx	xxxxx
Adj Cap:	0.28	0.87	1.00	0.88	xxxx	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	43	192	966	159	xxxx	457	601	xxxx	xxxxx	1220	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	95.1	19.0	3.8	25.3	xxxx	20.7	6.5	xxxx	xxxxx	3.0	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	126	xxxxx	xxxx	414	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	31.7	xxxxx	xxxxx	20.9	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	E	*	*	D	*	*	*	*	*	*	*
ApproachDel:		31.7			20.9			0.9			0.0	

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SR 12 MIS

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 SR 12/Hillside Terrace

Cycle (sec): 60 Critical Vol./Cap. (X): 0.542
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 7.2
Optimal Cycle: 28 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			Protected			Protected		
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	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	32	18	51	60	47	67	15	488	99	85	526	43
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:	32	18	51	60	47	67	15	488	99	85	526	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	18	51	60	47	67	15	488	99	85	526	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	18	51	60	47	67	15	488	99	85	526	43
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.:	32	18	51	60	47	67	15	488	99	85	526	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.72	0.72	0.72	0.75	0.75	0.75	0.95	0.97	0.97	0.95	0.99	0.99
Lanes:	0.32	0.18	0.50	0.34	0.27	0.39	1.00	0.83	0.17	1.00	0.92	0.08
Final Sat.:	435	245	693	490	384	547	1805	1532	311	1805	1739	142
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.12	0.12	0.12	0.01	0.32	0.32	0.05	0.30	0.30
Crit Moves:					****			****		****		
Green/Cycle:	0.23	0.23	0.23	0.23	0.23	0.23	0.02	0.59	0.59	0.09	0.66	0.66
Volume/Cap:	0.33	0.33	0.33	0.54	0.54	0.54	0.46	0.54	0.54	0.54	0.46	0.46
Delay/Veh:	12.8	12.8	12.8	14.7	14.7	14.7	25.5	5.3	5.3	19.9	3.5	3.5
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:	12.8	12.8	12.8	14.7	14.7	14.7	25.5	5.3	5.3	19.9	3.5	3.5
DesignQueue:	1	0	1	2	1	2	0	7	1	3	7	1

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 SR 12/Pennsylvania	F	140.2	1.287	F	140.2	1.287	+ 0.000 D/V
# 2 SR 12/Sunset	C	15.3	0.670	C	15.3	0.670	+ 0.000 D/V
# 3 SR 12/Walters Road	B	12.2	0.598	B	12.2	0.598	+ 0.000 D/V
# 4 SR 12/Shiloh/Lambie	C	2.6	0.000	C	2.6	0.000	+ 0.000 V/C
# 5 SR 12/SR 113	E	6.4	0.000	E	6.4	0.000	+ 0.000 V/C
# 6 SR 12/Summerset	B	5.1	0.245	B	5.1	0.245	+ 0.000 D/V
# 7 SR 12/Church Rd	C	1.3	0.000	C	1.3	0.000	+ 0.000 V/C
# 9 SR 12/Hillside Terrace	B	5.1	0.559	B	5.1	0.559	+ 0.000 D/V

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 SR 12/Pennsylvania

Cycle (sec): 180 Critical Vol./Cap. (X): 1.287
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 140.2
Optimal Cycle: 180 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:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	13	167	292	344	30	74	155	2612	38	17	1634	262
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:	13	167	292	344	30	74	155	2612	38	17	1634	262
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	167	292	344	30	74	155	2612	38	17	1634	262
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	167	292	344	30	74	155	2612	38	17	1634	262
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	1.05	1.05	1.00	1.05	1.00
Final Vol.:	13	167	292	344	30	74	155	2743	40	17	1716	262
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	1.00	0.85	0.95	1.00	1.00	0.95	1.00	0.85
Lanes:	1.00	0.36	0.64	1.00	1.00	1.00	1.00	1.97	0.03	1.00	2.00	1.00
Final Sat.:	1805	622	1088	1805	1900	1615	1805	3745	55	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.27	0.27	0.19	0.02	0.05	0.09	0.73	0.73	0.01	0.45	0.16
Crit Moves:		****		****				****		****		
Green/Cycle:	0.21	0.21	0.21	0.15	0.15	0.24	0.09	0.57	0.57	0.01	0.48	0.63
Volume/Cap:	0.03	1.29	1.29	1.29	0.11	0.19	0.93	1.29	1.29	1.29	0.93	0.26
Delay/Veh:	36.7	235	235.1	245.8	42.9	35.2	88.4	194	193.8	506.5	34.9	9.4
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:	36.7	235	235.1	245.8	42.9	35.2	88.4	194	193.8	506.5	34.9	9.4
DesignQueue:	1	14	25	31	3	6	14	146	2	2	100	10

SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 SR 12/Sunset

Cycle (sec):	90	Critical Vol./Cap. (X):	0.670
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	15.3
Optimal Cycle:	54	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:	Split Phase			Split Phase			Protected.			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 1	0 0	2	2 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	34	72	36	286	79	298	668	984	35	90	893	144
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	34	72	36	286	79	298	668	984	35	90	893	144
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	34	72	36	286	79	298	668	984	35	90	893	144
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	72	36	286	79	298	668	984	35	90	893	144
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	1.05	1.05	1.13	1.03	1.05	1.00	1.00	1.05	1.00
Final Vol.:	34	72	36	300	83	337	688	1033	35	90	938	144
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.96	0.96	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.57	0.43	2.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	1900	1615	2857	791	3230	3610	3800	1615	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.04	0.02	0.10	0.10	0.10	0.19	0.27	0.02	0.05	0.25	0.09
Crit Moves:		****			****		****				****	
Green/Cycle:	0.06	0.06	0.16	0.16	0.16	0.44	0.28	0.55	0.61	0.10	0.37	0.53
Volume/Cap:	0.33	0.67	0.14	0.67	0.67	0.24	0.67	0.49	0.04	0.49	0.67	0.17
Delay/Veh:	27.1	36.7	21.1	25.2	25.2	10.1	19.6	8.2	4.6	26.4	16.3	7.2
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:	27.1	36.7	21.1	25.2	25.2	10.1	19.6	8.2	4.6	26.4	16.3	7.2
DesignQueue:	2	3	2	13	4	10	26	25	1	4	32	3

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 SR 12/Walters Road

Cycle (sec): 90 Critical Vol./Cap. (X): 0.598
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 12.2
Optimal Cycle: 40 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			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 0	1 0	1	1 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	56	32	5	93	101	359	612	414	106	10	511	177
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:	56	32	5	93	101	359	612	414	106	10	511	177
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	56	32	5	93	101	359	612	414	106	10	511	177
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	32	5	93	101	359	612	414	106	10	511	177
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	1.05	1.00	1.03	1.05	1.00
Final Vol.:	56	32	5	93	101	359	612	435	106	10	537	177
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.55	1.00	0.85	0.85	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1045	1900	1615	1615	1900	1615	1805	3800	1615	3610	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.05	0.02	0.00	0.06	0.05	0.22	0.34	0.11	0.07	0.00	0.14	0.11
Crit Moves:				****			****				****	
Green/Cycle:	0.10	0.10	0.12	0.10	0.10	0.66	0.57	0.78	0.78	0.02	0.24	0.24
Volume/Cap:	0.56	0.17	0.03	0.60	0.55	0.33	0.60	0.15	0.08	0.15	0.60	0.46
Delay/Veh:	29.9	24.2	22.8	29.5	27.8	4.3	8.9	1.5	1.4	28.1	20.5	19.7
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:	29.9	24.2	22.8	29.5	27.8	4.3	8.9	1.5	1.4	28.1	20.5	19.7
DesignQueue:	3	1	0	4	5	6	14	5	1	0	21	7

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 SR 12/Shiloh/Lambie

Average Delay (sec/veh): 2.6 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	10	2	1	67	38	240	26	524	15	3	335	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	2	1	67	38	240	26	524	15	3	335	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	2	1	67	38	240	26	524	15	3	335	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	2	1	67	38	240	26	524	15	3	335	2
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	11	2	1	74	42	264	29	524	15	3	335	2
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	6.0	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1036	898	532	898	904	336	337	xxxx	xxxxx	539	xxxx	xxxxx
Potent Cap.:	266	369	745	320	366	936	1184	xxxx	xxxxx	949	xxxx	xxxxx
Adj Cap:	0.63	0.96	1.00	0.96	0.96	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	169	354	745	308	351	936	1184	xxxx	xxxxx	949	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	22.7	10.2	4.8	14.9	11.5	5.2	3.1	xxxx	xxxxx	3.8	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	196	xxxxx	xxxx	593	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	19.4	xxxxx	xxxxx	7.8	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	C	*	*	B	*	*	*	*	*	*	*
ApproachDel:		19.4			7.8			0.2			0.0	

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5 SR 12/SR 113

Average Delay (sec/veh): 6.4 Worst Case Level Of Service: E

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Uncontrolled						Uncontrolled					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	0	0	1		0	0.	1!	0	0		0	0	1!	0	0		1	0	1	0	1	
Volume Module:																								
Base Vol:	3		5		5		214		11		3		7		496		4		4		349		96	
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		5		5		214		11		3		7		496		4		4		349		96	
User Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
PHF Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
PHF Volume:	3		5		5		214		11		3		7		496		4		4		349		96	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
Final Vol.:	3		5		5		214		11		3		7		496		4		4		349		96	
Adjusted Volume Module:																								
Grade:	0%						0%						0%						0%					
% Cycle/Cars:	xxxx	xxxx					xxxx	xxxx					xxxx	xxxx					xxxx	xxxx				
% Truck/Comb:	xxxx	xxxx					xxxx	xxxx					xxxx	xxxx					xxxx	xxxx				
PCE Adj:	1.10	1.10		1.10			1.10	1.10		1.10			1.10	1.00		1.00			1.10	1.00		1.00		
Cycl/Car PCE:	xxxx	xxxx					xxxx	xxxx					xxxx	xxxx					xxxx	xxxx				
Trck/Cmb PCE:	xxxx	xxxx					xxxx	xxxx					xxxx	xxxx					xxxx	xxxx				
Adj Vol.:	3		6		6		235		12		3		8		496		4		4		349		96	
Critical Gap Module:																								
MoveUp Time:	3.4	3.3		2.6			3.4	3.3		2.6			2.1	xxxx	xxxxx				2.1	xxxx	xxxxx			
Critical Gp:	6.5	6.0		5.5			6.5	6.0		5.5			5.0	xxxx	xxxxx				5.0	xxxx	xxxxx			
Capacity Module:																								
Cnflict Vol:	865		954		498		863		860		349		445	xxxx	xxxxx				500	xxxx	xxxxx			
Potent Cap.:	334		344		774		335		386		922		1052	xxxx	xxxxx				990	xxxx	xxxxx			
Adj Cap:	0.96	0.99		1.00			0.97	0.99		1.00			1.00	xxxx	xxxxx				1.00	xxxx	xxxxx			
Move Cap.:	321		339		774		325		380		922		1052	xxxx	xxxxx				990	xxxx	xxxxx			
Level Of Service Module:																								
Stopped Del:	11.3	10.8		4.7			31.8		9.8		3.9		3.4	xxxx	xxxxx				3.6	xxxx	xxxxx			
LOS by Move:	*		*		A		*		*		*		A	*		*			A	*		*		
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	332	xxxx	xxxxx				xxxx		330	xxxxx			xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx			
Shrd StpDel:	11.0	xxxx	xxxxx				xxxxx		30.3	xxxxx			xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx			
Shared LOS:	C	*		*			*		E	*			*	*		*			*	*		*		
ApproachDel:	8.6						30.3						0.1						0.0					

SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 SR 12/Summerset

Cycle (sec): 90 Critical Vol./Cap. (X): 0.245
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 5.1
Optimal Cycle: 24 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:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	2 0	0 0	1	1 0	2 0	0	0 0	2 0	1
Volume Module:												
Base Vol:	0	0	0	122	0	65	22	623	0	0	629	51
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	122	0	65	22	623	0	0	629	51
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	122	0	65	22	623	0	0	629	51
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	122	0	65	22	623	0	0	629	51
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	1.03	1.00	1.00	1.00	1.05	1.00	1.00	1.05	1.00
Final Vol.:	0	0	0	126	0	65	22	654	0	0	660	51
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3610	0	1615	1805	3800	0	0	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.04	0.01	0.17	0.00	0.00	0.17	0.03
Crit Moves:				****			****				****	
Green/Cycle:	0.00	0.00	0.00	0.14	0.00	0.19	0.05	0.76	0.00	0.00	0.71	0.85
Volume/Cap:	0.00	0.00	0.00	0.25	0.00	0.21	0.25	0.23	0.00	0.00	0.25	0.04
Delay/Veh:	0.0	0.0	0.0	22.2	0.0	19.8	26.9	2.1	0.0	0.0	3.0	0.7
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:	0.0	0.0	0.0	22.2	0.0	19.8	26.9	2.1	0.0	0.0	3.0	0.7
DesignQueue:	0	0	0	5	0	3	1	8	0	0	10	0

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

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Intersection #7 SR 12/Church Rd

****

Average Delay (sec/veh): 1.3 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	3	2	6	8	0	134	32	431	1	8	802	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	2	6	8	0	134	32	431	1	8	802	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	2	6	8	0	134	32	431	1	8	802	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	2	6	8	0	134	32	431	1	8	802	6
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	3	2	7	9	0	147	35	431	1	9	802	6
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	xxxx	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	xxxx	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1344	1280	432	1281	xxxx	805	808	xxxx	xxxxx	432	xxxx	xxxxx
Potent Cap.:	177	232	837	192	xxxx	541	706	xxxx	xxxxx	1067	xxxx	xxxxx
Adj Cap:	0.68	0.92	1.00	0.92	xxxx	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	120	214	837	177	xxxx	541	706	xxxx	xxxxx	1067	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	30.6	17.0	4.3	21.3	xxxx	8.8	5.3	xxxx	xxxxx	3.4	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	265	xxxxx	xxxx	485	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	13.8	xxxxx	xxxxx	9.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	C	*	*	B	*	*	*	*	*	*	*
ApproachDel:		13.8			9.5			0.4			0.0	

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 SR 12/Hillside Terrace

Cycle (sec): 60 Critical Vol./Cap. (X): 0.559
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 5.1
Optimal Cycle: 29 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			Protected			Protected		
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	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	30	17	48	29	23	33	12	664	80	66	647	33
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	17	48	29	23	33	12	664	80	66	647	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	17	48	29	23	33	12	664	80	66	647	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	17	48	29	23	33	12	664	80	66	647	33
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	17	48	29	23	33	12	664	80	66	647	33
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.75	0.75	0.75	0.74	0.74	0.74	0.95	0.98	0.98	0.95	0.99	0.99
Lanes:	0.32	0.18	0.50	0.34	0.27	0.39	1.00	0.89	0.11	1.00	0.95	0.05
Final Sat.:	448	254	717	479	380	545	1805	1662	200	1805	1790	91
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.06	0.06	0.06	0.01	0.40	0.40	0.04	0.36	0.36
Crit Moves:		****						****		****		
Green/Cycle:	0.12	0.12	0.12	0.12	0.12	0.12	0.01	0.71	0.71	0.07	0.77	0.77
Volume/Cap:	0.56	0.56	0.56	0.51	0.51	0.51	0.47	0.56	0.56	0.56	0.47	0.47
Delay/Veh:	19.1	19.1	19.1	18.0	18.0	18.0	27.8	3.0	3.0	21.8	1.8	1.8
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:	19.1	19.1	19.1	18.0	18.0	18.0	27.8	3.0	3.0	21.8	1.8	1.8
DesignQueue:	1	1	1	1	1	1	0	7	1	2	6	0

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 SR 12/Pennsylvania	F	679.5	1.837	F	679.5	1.837	+ 0.000 D/V
# 2 SR 12/Sunset	C	17.7	0.823	C	17.7	0.823	+ 0.000 D/V
# 3 SR 12/Walters Road	C	18.9	0.888	C	18.9	0.888	+ 0.000 D/V
# 4 SR 12/Shiloh/Lambie	F	19.3	0.000	F	19.3	0.000	+ 0.000 V/C
# 5 SR 12/SR 113	F	192.4	0.000	F	192.4	0.000	+ 0.000 V/C
# 6 SR 12/Summerset	B	6.2	0.394	B	6.2	0.394	+ 0.000 D/V
# 7 SR 12/Church Rd	F	54.4	0.000	F	54.4	0.000	+ 0.000 V/C
# 9 SR 12/Hillside Terrace	B	8.2	0.745	B	8.2	0.745	+ 0.000 D/V

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

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Intersection #1 SR 12/Pennsylvania

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Cycle (sec): 180 Critical Vol./Cap. (X): 1.837
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 679.5
Optimal Cycle: 180 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:	Split Phase						Split Phase						Protected						Protected					
Rights:	Include						Ovl						Include						Ovl					
Min. Green:	0	0	0				0	0	0				0	0	0				0	0	0			
Lanes:	1	0	0	1	0		1	0	1	0	1		1	0	1	1	0		1	0	2	0	1	
Volume Module:																								
Base Vol:	16	174	305				392	34	85				252	4294	62				24	2346	374			
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:	16	174	305				392	34	85				252	4294	62				24	2346	374			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Volume:	16	174	305				392	34	85				252	4294	62				24	2346	374			
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
Reduced Vol:	16	174	305				392	34	85				252	4294	62				24	2346	374			
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	1.05	1.05				1.00	1.05	1.00			
Final Vol.:	16	174	305				392	34	85				252	4509	65				24	2463	374			
Saturation Flow Module:																								
Sat/Lane:	1900	1900	1900				1900	1900	1900				1900	1900	1900				1900	1900	1900			
Adjustment:	0.95	0.90	0.90				0.95	1.00	0.85				0.95	1.00	1.00				1.00	2.00	1.00			
Lanes:	1.00	0.36	0.64				1.00	1.00	1.00				1.00	1.97	0.03				1.00	1.00	0.85			
Final Sat.:	1805	621	1089				1805	1900	1615				1805	3746	54				1805	3800	1615			
Capacity Analysis Module:																								
Vol/Sat:	0.01	0.28	0.28				0.22	0.02	0.05				0.14	1.20	1.20				0.01	0.65	0.23			
Crit Moves:		****					****							****					****					
Green/Cycle:	0.15	0.15	0.15				0.12	0.12	0.24				0.12	0.66	0.66				0.01	0.55	0.66			
Volume/Cap:	0.06	1.84	1.84				1.84	0.15	0.22				1.19	1.84	1.84				1.84	1.19	0.35			
Delay/Veh:	42.1	1064	1064				1074	46.1	35.9				184.1	1001	1001				1548	124	8.7			
User DelAdj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
AdjDel/Veh:	42.1	1064	1064				1074	46.1	35.9				184.1	1001	1001				1548	124	8.7			
DesignQueue:	1	16	28				37	3	7				23	228	3				2	135	13			

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 SR 12/Sunset

Cycle (sec):	90	Critical Vol./Cap. (X):	0.823
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	17.7
Optimal Cycle:	80	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:	Split Phase			Split Phase			Protected			Protected		
Rights:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 1	0 0	2	2 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	37	79	39	320	89	333	754	1120	40	122	1227	196
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	79	39	320	89	333	754	1120	40	122	1227	196
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	37	79	39	320	89	333	754	1120	40	122	1227	196
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	79	39	320	89	333	754	1120	40	122	1227	196
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	1.05	1.05	1.13	1.03	1.05	1.00	1.00	1.05	1.00
Final Vol.:	37	79	39	336	93	376	777	1176	40	122	1288	196
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.96	0.96	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.57	0.43	2.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	1900	1615	2857	791	3230	3610	3800	1615	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.04	0.02	0.12	0.12	0.12	0.22	0.31	0.02	0.07	0.34	0.12
Crit Moves:		****			****		****				****	
Green/Cycle:	0.05	0.05	0.17	0.14	0.14	0.40	0.26	0.55	0.60	0.12	0.41	0.55
Volume/Cap:	0.41	0.82	0.14	0.82	0.82	0.29	0.82	0.56	0.04	0.56	0.82	0.22
Delay/Veh:	28.4	54.7	20.5	31.3	31.3	11.7	24.4	8.7	4.7	26.5	17.8	6.6
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:	28.4	54.7	20.5	31.3	31.3	11.7	24.4	8.7	4.7	26.5	17.8	6.6
DesignQueue:	2	4	2	15	4	11	30	29	1	5	42	4

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

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Intersection #3 SR 12/Walters Road

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Cycle (sec): 90 Critical Vol./Cap. (X): 0.888
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 18.9
Optimal Cycle: 92 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:	Permitted			Permitted			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	0 1	1 0	1	0 1	1 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	71	40	6	122	134	472	851	604	147	17	905	305
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:	71	40	6	122	134	472	851	604	147	17	905	305
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	71	40	6	122	134	472	851	604	147	17	905	305
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	40	6	122	134	472	851	604	147	17	905	305
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	1.05	1.00	1.03	1.05	1.00
Final Vol.:	71	40	6	122	134	472	851	634	147	18	950	305
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.51	1.00	0.85	0.83	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	969	1900	1615	1577	1900	1615	1805	3800	1615	3610	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.07	0.02	0.00	0.08	0.07	0.29	0.47	0.17	0.09	0.00	0.25	0.19
Crit Moves:				****			****				****	
Green/Cycle:	0.09	0.09	0.11	0.09	0.09	0.62	0.53	0.79	0.79	0.02	0.28	0.28
Volume/Cap:	0.84	0.24	0.03	0.89	0.81	0.47	0.89	0.21	0.12	0.21	0.89	0.67
Delay/Veh:	59.2	24.9	23.1	57.3	42.8	6.3	19.3	1.6	1.4	28.0	26.6	21.1
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:	59.2	24.9	23.1	57.3	42.8	6.3	19.3	1.6	1.4	28.0	26.6	21.1
DesignQueue:	3	2	0	6	6	10	23	7	2	1	37	11

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 SR 12/Shiloh/Lambie

Average Delay (sec/veh): 19.3 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	10	2	1	158	90	563	37	761	21	4	481	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	2	1	158	90	563	37	761	21	4	481	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	2	1	158	90	563	37	761	21	4	481	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	2	1	158	90	563	37	761	21	4	481	2
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	11	2	1	174	99	619	41	761	21	4	481	2
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	6.0	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1621	1296	772	1296	1305	482	483	xxxx	xxxxx	782	xxxx	xxxxx
Potent Cap.:	122	228	563	188	225	789	1009	xxxx	xxxxx	727	xxxx	xxxxx
Adj Cap:	0.13	0.92	1.00	0.93	0.92	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	15	209	563	174	207	789	1009	xxxx	xxxxx	727	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	526.6	17.4	6.4	137.8	30.6	15.7	3.7	xxxx	xxxxx	5.0	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	20	xxxxx	xxxx	395	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	408	xxxxx	xxxxx	41.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	F	*	*	E	*	*	*	*	*	*	*
ApproachDel:	408.2			41.1			0.2			0.0		

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #5 SR 12/SR 113

****

Average Delay (sec/veh): 192.4 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0 0	1	0 0	1! 0	0	0 0	1! 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	3	5	5	329	17	5	9	699	5	5	398	109
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	5	5	329	17	5	9	699	5	5	398	109
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Volume:	3	5	5	329	17	5	9	699	5	5	398	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	5	5	329	17	5	9	699	5	5	398	109
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10 1.10	1.10		1.10 1.10	1.10		1.10 1.00	1.00		1.10 1.00	1.00	
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	3	6	6	362	19	6	10	699	5	6	398	109
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	6.0	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1125	1223	702	1119	1116	398	507	xxxx	xxxxx	704	xxxx	xxxxx
Potent Cap.:	236	249	611	238	283	870	983	xxxx	xxxxx	792	xxxx	xxxxx
Adj Cap:	0.93	0.98	1.00	0.96	0.98	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	219	243	611	228	276	870	983	xxxx	xxxxx	792	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	16.7	15.1	5.9	863.3	13.9	4.2	3.7	xxxx	xxxxx	4.6	xxxx	xxxxx
LOS by Move:	*	*	B	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	233	xxxx	xxxxx	xxxx	232	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	15.7	xxxx	xxxxx	xxxxx	810	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	C	*	*	*	F	*	*	*	*	*	*	*
ApproachDel:	12.0			810.0			0.1			0.0		

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****

Intersection #6 SR 12/Summerset

****

Cycle (sec): 90 Critical Vol./Cap. (X): 0.394
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 6.2
Optimal Cycle: 29 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:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2	0 0	0 1	1	0 2	0 0	0	0 2	0 1
Volume Module:												
Base Vol:	0	0	0	226	0	119	29	815	0	0	991	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	226	0	119	29	815	0	0	991	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:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	226	0	119	29	815	0	0	991	78
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	226	0	119	29	815	0	0	991	78
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	1.03	1.00	1.00	1.00	1.05	1.00	1.00	1.05	1.00
Final Vol.:	0	0	0	233	0	119	29	856	0	0	1041	78
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3610	0	1615	1805	3800	0	0	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.06	0.00	0.07	0.02	0.23	0.00	0.00	0.27	0.05
Crit Moves:				****			****				****	
Green/Cycle:	0.00	0.00	0.00	0.16	0.00	0.20	0.04	0.74	0.00	0.00	0.70	0.86
Volume/Cap:	0.00	0.00	0.00	0.39	0.00	0.36	0.39	0.31	0.00	0.00	0.39	0.06
Delay/Veh:	0.0	0.0	0.0	22.0	0.0	20.2	29.0	2.6	0.0	0.0	3.8	0.6
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:	0.0	0.0	0.0	22.0	0.0	20.2	29.0	2.6	0.0	0.0	3.8	0.6
DesignQueue:	0	0	0	10	0	5	1	12	0	0	17	1

****

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #7 SR 12/Church Rd

****

Average Delay (sec/veh): 54.4 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	5	3	10	17	0	285	47	651	2	10	1255	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:	5	3	10	17	0	285	47	651	2	10	1255	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	5	3	10	17	0	285	47	651	2	10	1255	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	5	3	10	17	0	285	47	651	2	10	1255	10
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	6	3	11	19	0	314	52	651	2	11	1255	10
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	xxxx	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	xxxx	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	2112	1974	652	1976	xxxx	1260	1265	xxxx	xxxxx	653	xxxx	xxxxx
Potent Cap.:	63	100	647	76	xxxx	318	428	xxxx	xxxxx	837	xxxx	xxxxx
Adj Cap:	0.01	0.76	1.00	0.78	xxxx	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	1	77	647	59	xxxx	318	428	xxxx	xxxxx	837	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	17997	48.9	5.7	85.0	xxxx	81.7	9.5	xxxx	xxxxx	4.4	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	A	*	*
Movement:	LT	- LTR	- RT	LT	- LTR	- RT	LT	- LTR	- RT	LT	- LTR	- RT
Shared Cap.:	xxxx	3	xxxxx	xxxx	255	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	5010	xxxxx	xxxxx	81.9	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	F	*	*	F	*	*	*	*	*	*	*
ApproachDel:	5010.4			81.9			0.7			0.0		

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****

Intersection #9 SR 12/Hillside Terrace

****

Cycle (sec): 60 Critical Vol./Cap. (X): 0.745
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 8.2
Optimal Cycle: 44 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			Protected			Protected		
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	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	32	18	51	60	47	67	15	831	99	85	836	43
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:	32	18	51	60	47	67	15	831	99	85	836	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	18	51	60	47	67	15	831	99	85	836	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	18	51	60	47	67	15	831	99	85	836	43
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.:	32	18	51	60	47	67	15	831	99	85	836	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.69	0.69	0.69	0.74	0.74	0.74	0.95	0.98	0.98	0.95	0.99	0.99
Lanes:	0.32	0.18	0.50	0.34	0.27	0.39	1.00	0.89	0.11	1.00	0.95	0.05
Final Sat.:	415	233	661	485	380	541	1805	1664	198	1805	1789	92
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.08	0.12	0.12	0.12	0.01	0.50	0.50	0.05	0.47	0.47
Crit Moves:					****			****		****		
Green/Cycle:	0.17	0.17	0.17	0.17	0.17	0.17	0.01	0.67	0.67	0.06	0.72	0.72
Volume/Cap:	0.46	0.46	0.46	0.74	0.74	0.74	0.65	0.74	0.74	0.74	0.65	0.65
Delay/Veh:	15.8	15.8	15.8	23.6	23.6	23.6	48.4	5.9	5.9	32.9	3.6	3.6
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:	15.8	15.8	15.8	23.6	23.6	23.6	48.4	5.9	5.9	32.9	3.6	3.6
DesignQueue:	1	1	1	2	1	2	0	10	1	3	9	0

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 6 SR 12/Summerset	B	6.9	0.170	B	6.9	0.170	+ 0.000 D/V
# 7 SR 12/Church Rd	B	1.4	0.000	B	1.4	0.000	+ 0.000 V/C
# 9 SR 12/Hillside Terrace	B	5.8	0.383	B	5.8	0.383	+ 0.000 D/V

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****

Intersection #6 SR 12/Summerset

****

Cycle (sec): 90 Critical Vol./Cap. (X): 0.170
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 6.9
Optimal Cycle: 22 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:	Protected			Protected			Protected			Protected		
Rights:		Include			Ovl			Include			Ovl	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	0	2	0	1	1	0	2	0	2	1
Volume Module:												
Base Vol:	0	0	0	122	0	65	22	325	0	0	384	51
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	122	0	65	22	325	0	0	384	51
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	122	0	65	22	325	0	0	384	51
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	122	0	65	22	325	0	0	384	51
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	1.03	1.00	1.00	1.00	1.05	1.00	1.00	1.05	1.00
Final Vol.:	0	0	0	126	0	65	22	341	0	0	403	51
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3610	0	1615	1805	3800	0	0	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.04	0.01	0.09	0.00	0.00	0.11	0.03
Crit Moves:				****			****				****	
Green/Cycle:	0.00	0.00	0.00	0.21	0.00	0.28	0.07	0.69	0.00	0.00	0.62	0.83
Volume/Cap:	0.00	0.00	0.00	0.17	0.00	0.15	0.17	0.13	0.00	0.00	0.17	0.04
Delay/Veh:	0.0	0.0	0.0	19.0	0.0	15.9	25.4	3.0	0.0	0.0	4.6	0.9
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:	0.0	0.0	0.0	19.0	0.0	15.9	25.4	3.0	0.0	0.0	4.6	0.9
DesignQueue:	0	0	0	5	0	2	1	5	0	0	8	0

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #7 SR 12/Church Rd

****

Average Delay (sec/veh): 1.4 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	3	2	6	8	0	134	32	133	1	6	557	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	2	6	8	0	134	32	133	1	6	557	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	2	6	8	0	134	32	133	1	6	557	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	2	6	8	0	134	32	133	1	6	557	8
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	3	2	7	9	0	147	35	133	1	7	557	8
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	xxxx	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	xxxx	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	800	737	134	737	xxxx	561	565	xxxx	xxxxx	134	xxxx	xxxxx
Potent Cap.:	365	448	1185	397	xxxx	720	922	xxxx	xxxxx	1480	xxxx	xxxxx
Adj Cap:	0.77	0.95	1.00	0.95	xxxx	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	279	427	1185	378	xxxx	720	922	xxxx	xxxxx	1480	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	13.0	8.5	3.1	9.7	xxxx	6.1	4.0	xxxx	xxxxx	2.4	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	537	xxxxx	xxxx	685	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	6.8	xxxxx	xxxxx	6.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	B	*	*	*	*	*	*	*
ApproachDel:		6.8			6.3			0.8			0.0	

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 SR 12/Hillside Terrace

Cycle (sec): 60 Critical Vol./Cap. (X): 0.383
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 5.8
Optimal Cycle: 22 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			Protected			Protected		
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	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	30	17	48	29	23	33	12	366	80	66	402	33
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	17	48	29	23	33	12	366	80	66	402	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	17	48	29	23	33	12	366	80	66	402	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	17	48	29	23	33	12	366	80	66	402	33
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	17	48	29	23	33	12	366	80	66	402	33
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	0.76	0.76	0.77	0.77	0.77	0.95	0.97	0.97	0.95	0.99	0.99
Lanes:	0.32	0.18	0.50	0.34	0.27	0.39	1.00	0.82	0.18	1.00	0.92	0.08
Final Sat.:	453	257	725	501	398	571	1805	1512	331	1805	1738	143
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.06	0.06	0.06	0.01	0.24	0.24	0.04	0.23	0.23
Crit Moves:		****						****		****		
Green/Cycle:	0.17	0.17	0.17	0.17	0.17	0.17	0.02	0.63	0.63	0.10	0.71	0.71
Volume/Cap:	0.38	0.38	0.38	0.33	0.33	0.33	0.33	0.38	0.38	0.38	0.33	0.33
Delay/Veh:	14.7	14.7	14.7	14.4	14.4	14.4	20.6	3.6	3.6	17.2	2.2	2.2
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:	14.7	14.7	14.7	14.4	14.4	14.4	20.6	3.6	3.6	17.2	2.2	2.2
DesignQueue:	1	0	1	1	1	1	0	5	1	2	4	0

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 6 SR 12/Summerset	B	7.6	0.292	B	7.6	0.292	+ 0.000 D/V
# 7 SR 12/Church Rd	D	4.6	0.000	D	4.6	0.000	+ 0.000 V/C
# 9 SR 12/Hillside Terrace	B	7.2	0.518	B	7.2	0.518	+ 0.000 D/V

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 SR 12/Summerset

Cycle (sec):	90	Critical Vol./Cap. (X):	0.292
Loss Time (sec):	9 (Y+R = 4 sec)	Average Delay (sec/veh):	7.6
Optimal Cycle:	25	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:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2	0 0	0 1	1	0 2	0 0	0	0 2	0 1
Volume Module:												
Base Vol:	0	0	0	226	0	119	29	432	0	0	661	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	226	0	119	29	432	0	0	661	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:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	226	0	119	29	432	0	0	661	78
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	226	0	119	29	432	0	0	661	78
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	1.03	1.00	1.00	1.00	1.05	1.00	1.00	1.05	1.00
Final Vol.:	0	0	0	233	0	119	29	454	0	0	694	78
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3610	0	1615	1805	3800	0	0	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.06	0.00	0.07	0.02	0.12	0.00	0.00	0.18	0.05
Crit Moves:				****			****				****	
Green/Cycle:	0.00	0.00	0.00	0.22	0.00	0.28	0.05	0.68	0.00	0.00	0.62	0.85
Volume/Cap:	0.00	0.00	0.00	0.29	0.00	0.27	0.29	0.18	0.00	0.00	0.29	0.06
Delay/Veh:	0.0	0.0	0.0	18.9	0.0	16.5	26.9	3.4	0.0	0.0	5.0	0.7
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:	0.0	0.0	0.0	18.9	0.0	16.5	26.9	3.4	0.0	0.0	5.0	0.7
DesignQueue:	0	0	0	9	0	4	1	8	0	0	14	1

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #7 SR 12/Church Rd

Average Delay (sec/veh): 4.6 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	5	3	10	17	0	285	47	268	2	12	925	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:	5	3	10	17	0	285	47	268	2	12	925	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	5	3	10	17	0	285	47	268	2	12	925	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	5	3	10	17	0	285	47	268	2	12	925	10
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	6	3	11	19	0	314	52	268	2	13	925	10
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	xxxx	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	xxxx	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1401	1263	269	1265	xxxx	930	935	xxxx	xxxxx	270	xxxx	xxxxx
Potent Cap.:	164	237	1012	196	xxxx	468	615	xxxx	xxxxx	1275	xxxx	xxxxx
Adj Cap:	0.30	0.88	1.00	0.89	xxxx	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	49	209	1012	174	xxxx	468	615	xxxx	xxxxx	1275	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	81.8	17.5	3.6	22.9	xxxx	19.5	6.3	xxxx	xxxxx	2.9	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	142	xxxxx	xxxx	427	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	27.6	xxxxx	xxxxx	19.7	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	D	*	*	C	*	*	*	*	*	*	*
ApproachDel:		27.6			19.7			1.0			0.0	

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SR 12 MIS
Alternative 2 - Transportation Demand Management

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 SR 12/Hillside Terrace

Cycle (sec):	60	Critical Vol./Cap. (X):	0.518
Loss Time (sec):	6 (Y+R = 4 sec)	Average Delay (sec/veh):	7.2
Optimal Cycle:	27	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			Protected			Protected		
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	1	0	1	0	1
Volume Module:												
Base Vol:	32	18	51	60	47	67	15	448	99	85	506	43
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:	32	18	51	60	47	67	15	448	99	85	506	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	18	51	60	47	67	15	448	99	85	506	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	18	51	60	47	67	15	448	99	85	506	43
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.:	32	18	51	60	47	67	15	448	99	85	506	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.72	0.72	0.72	0.75	0.75	0.75	0.95	0.97	0.97	0.95	0.99	0.99
Lanes:	0.32	0.18	0.50	0.34	0.27	0.39	1.00	0.82	0.18	1.00	0.92	0.08
Final Sat.:	435	245	693	490	384	547	1805	1509	334	1805	1734	147
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.12	0.12	0.12	0.01	0.30	0.30	0.05	0.29	0.29
Crit Moves:					****			****		****		
Green/Cycle:	0.24	0.24	0.24	0.24	0.24	0.24	0.02	0.57	0.57	0.09	0.65	0.65
Volume/Cap:	0.31	0.31	0.31	0.52	0.52	0.52	0.45	0.52	0.52	0.52	0.45	0.45
Delay/Veh:	12.4	12.4	12.4	14.0	14.0	14.0	24.9	5.4	5.4	19.1	3.6	3.6
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:	12.4	12.4	12.4	14.0	14.0	14.0	24.9	5.4	5.4	19.1	3.6	3.6
DesignQueue:	1	0	1	2	1	2	0	7	2	3	6	1

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SR 12 MIS
Alternative 4 - Traffic Operations

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 SR 12/Pennsylvania	E	57.8	1.104	E	57.8	1.104	+ 0.000 D/V
# 4 SR 12/Shiloh/Lambie	B	13.6	0.769	B	13.6	0.769	+ 0.000 D/V
# 5 SR 12/SR 113	B	14.6	0.668	B	14.6	0.668	+ 0.000 D/V

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SR 12 MIS
Alternative 4 - Traffic Operations

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 SR 12/Pennsylvania

Cycle (sec): 180 Critical Vol./Cap. (X): 1.104
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 57.8
Optimal Cycle: 180 Level Of Service: E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:		Ovl			Ovl			Include			Ovl	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	2 0	1 0	1	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	13	167	292	344	30	74	155	2682	38	17	1664	262
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:	13	167	292	344	30	74	155	2682	38	17	1664	262
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	167	292	344	30	74	155	2682	38	17	1664	262
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	167	292	344	30	74	155	2682	38	17	1664	262
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	1.03	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.00
Final Vol.:	13	167	292	354	30	74	155	2816	40	17	1747	262
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	1.00	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.97	0.03	1.00	2.00	1.00
Final Sat.:	1805	1900	1615	3610	1900	1615	1805	3747	53	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.09	0.18	0.10	0.02	0.05	0.09	0.75	0.75	0.01	0.46	0.16
Crit Moves:			****	****				****		****		
Green/Cycle:	0.16	0.16	0.16	0.09	0.09	0.20	0.11	0.68	0.68	0.01	0.58	0.67
Volume/Cap:	0.05	0.57	1.10	1.10	0.18	0.23	0.79	1.10	1.10	1.10	0.79	0.24
Delay/Veh:	41.8	47.4	129.3	129.1	49.1	39.3	63.6	68.5	68.5	306.5	20.4	7.6
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:	41.8	47.4	129.3	129.1	49.1	39.3	63.6	68.5	68.5	306.5	20.4	7.6
DesignQueue:	1	14	25	33	3	6	14	112	2	2	83	9

SR 12 MIS
Alternative 4 - Traffic Operations

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 SR 12/Shiloh/Lambie

Cycle (sec):	60	Critical Vol./Cap. (X):	0.769		
Loss Time (sec):	9 (Y+R = 4 sec)	Average Delay (sec/veh):	13.6		
Optimal Cycle:	54	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:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0 1	1! 0	1	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	10	2	1	67	38	240	26	574	15	3	365	2
Growth Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Initial Bse:	10	2	1	67	38	240	26	574	15	3	365	2
User Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Volume:	10	2	1	67	38	240	26	574	15	3	365	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	2	1	67	38	240	26	574	15	3	365	2
PCE Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
MLF Adj:	1.00 1.00		1.00	1.05 1.05		1.05	1.00 1.00		1.00	1.00 1.00		1.00
Final Vol.:	10	2	1	70	40	252	26	574	15	3	365	2
Saturation Flow Module:												
Sat/Lane:	1900 1900		1900	1900 1900		1900	1900 1900		1900	1900 1900		1900
Adjustment:	0.85 0.85		0.85	0.89 0.89		0.89	0.90 0.90		0.90	0.90 0.90		0.90
Lanes:	0.77 0.15		0.08	0.59 0.34		2.07	0.04 0.94		0.02	0.01 0.98		0.01
Final Sat.:	1249	250	125	1004	574	3501	72	1596	42	14	1687	9
Capacity Analysis Module:												
Vol/Sat:	0.01 0.01		0.01	0.07 0.07		0.07	0.36 0.36		0.36	0.22 0.22		0.22
Crit Moves:			****		****		****				****	
Green/Cycle:	0.01 0.01		0.01	0.09 0.09		0.56	0.47 0.47		0.47	0.28 0.28		0.28
Volume/Cap:	0.77 0.77		0.77	0.77 0.77		0.13	0.77 0.77		0.77	0.77 0.77		0.77
Delay/Veh:	86.0 86.0		86.0	22.4 22.4		4.1	11.8 11.8		11.8	17.9 17.9		17.9
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:	86.0 86.0		86.0	22.4 22.4		4.1	11.8 11.8		11.8	17.9 17.9		17.9
DesignQueue:	0	0	0	2	1	4	1	11	0	0	9	0

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SR 12 MIS
Alternative 4 - Traffic Operations

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #5 SR 12/SR 113

Cycle (sec):	100	Critical Vol./Cap. (X):	0.668
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	14.6
Optimal Cycle:	69	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:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 1	0 0	1! 0	0	0 0	1! 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	3	5	5	214	11	3	7	546	4	4	379	96
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	5	5	214	11	3	7	546	4	4	379	96
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	5	5	214	11	3	7	546	4	4	379	96
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	5	5	214	11	3	7	546	4	4	379	96
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.:	3	5	5	214	11	3	7	546	4	4	379	96
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	0.98	0.85	0.86	0.86	0.86	0.90	0.90	0.90	0.95	1.00	0.85
Lanes:	0.38	0.62	1.00	0.94	0.05	0.01	0.01	0.98	0.01	1.00	1.00	1.00
Final Sat.:	698	1164	1615	1541	79	22	21	1676	12	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.14	0.14	0.14	0.33	0.33	0.33	0.00	0.20	0.06
Crit Moves:		****		****			****				****	
Green/Cycle:	0.01	0.01	0.01	0.21	0.21	0.21	0.49	0.78	0.78	0.01	0.30	0.30
Volume/Cap:	0.67	0.67	0.48	0.67	0.67	0.67	0.67	0.42	0.42	0.42	0.67	0.20
Delay/Veh:	83.8	83.8	51.5	27.0	27.0	27.0	14.0	2.4	2.4	45.1	22.0	16.9
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:	83.8	83.8	51.5	27.0	27.0	27.0	14.0	2.4	2.4	45.1	22.0	16.9
DesignQueue:	0	0	0	10	0	0	0	7	0	0	16	4

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SR 12 MIS
Alternative 4 - Traffic Operations

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 SR 12/Pennsylvania	F	394.2	1.632	F	394.2	1.632	+ 0.000 D/V
# 4 SR 12/Shiloh/Lambie	E	52.2	1.088	E	52.2	1.088	+ 0.000 D/V
# 5 SR 12/SR 113	C	22.1	0.890	C	22.1	0.890	+ 0.000 D/V

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SR 12 MIS
Alternative 4 - Traffic Operations

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 SR 12/Pennsylvania

Cycle (sec): 180 Critical Vol./Cap. (X): 1.632
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 394.2
Optimal Cycle: 180 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:	Split Phase					Split Phase					Protected					Protected				
Rights:			Ovl					Ovl			Include							Ovl		
Min. Green:	0		0		0	0		0		0	0		0		0	0		0		0
Lanes:	1	0	1	0	1	2	0	1	0	1	1	0	1	1	0	1	0	2	0	1
Volume Module:																				
Base Vol:	16		174		305	392		34		85	252		4364		62	24		2376		374
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:	16		174		305	392		34		85	252		4364		62	24		2376		374
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	16		174		305	392		34		85	252		4364		62	24		2376		374
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	16		174		305	392		34		85	252		4364		62	24		2376		374
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	1.03		1.00		1.00	1.00		1.05		1.05	1.00		1.05		1.00
Final Vol.:	16		174		305	404		34		85	252		4582		65	24		2495		374
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		1.00		0.85	0.95		1.00		0.85	0.95		1.00		1.00	0.95		1.00		0.85
Lanes:	1.00		1.00		1.00	2.00		1.00		1.00	1.00		1.97		0.03	1.00		2.00		1.00
Final Sat.:	1805		1900		1615	3610		1900		1615	1805		3747		53	1805		3800		1615
Capacity Analysis Module:																				
Vol/Sat:	0.01		0.09		0.19	0.11		0.02		0.05	0.14		1.22		1.22	0.01		0.66		0.23
Crit Moves:					****	****							****			****				
Green/Cycle:	0.11		0.11		0.12	0.07		0.07		0.20	0.13		0.75		0.75	0.01		0.62		0.69
Volume/Cap:	0.08		0.85		1.63	1.63		0.26		0.26	1.05		1.63		1.63	1.63		1.05		0.33
Delay/Veh:	46.7		69.7		681.8	673.6		51.6		39.2	111.9		601		601.1	1030		50.5		7.2
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:	46.7		69.7		681.8	673.6		51.6		39.2	111.9		601		601.1	1030		50.5		7.2
DesignQueue:	1		16		28	39		3		7	23		170		2	2		113		12

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SR 12 MIS
Alternative 4 - Traffic Operations

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 SR 12/Shiloh/Lambie

Cycle (sec): 60 Critical Vol./Cap. (X): 1.088
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 52.2
Optimal Cycle: 180 Level Of Service: E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0 1!	0	0	1 1!	0 1	0	0 1!	0 0	0	0 1!	0 0
Volume Module:												
Base Vol:	10	2	1	158	90	563	37	811	21	4	411	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	2	1	158	90	563	37	811	21	4	411	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	2	1	158	90	563	37	811	21	4	411	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	2	1	158	90	563	37	811	21	4	411	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	10	2	1	166	95	591	37	811	21	4	411	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.85	0.85	0.85	0.89	0.89	0.89	0.90	0.90	0.90	0.90	0.90	0.90
Lanes:	0.77	0.15	0.08	0.60	0.34	2.06	0.04	0.94	0.02	0.01	0.98	0.01
Final Sat.:	1249	250	125	1010	578	3491	73	1596	41	16	1685	8
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.16	0.16	0.17	0.51	0.51	0.51	0.24	0.24	0.24
Crit Moves:			****	****			****				****	
Green/Cycle:	0.01	0.01	0.01	0.15	0.15	0.62	0.47	0.47	0.47	0.22	0.22	0.22
Volume/Cap:	1.09	1.09	1.09	1.09	1.09	0.27	1.09	1.09	1.09	1.09	1.09	1.09
Delay/Veh:	284.7	285	284.7	69.7	69.7	3.4	63.3	63.3	63.3	80.1	80.1	80.1
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:	284.7	285	284.7	69.7	69.7	3.4	63.3	63.3	63.3	80.1	80.1	80.1
DesignQueue:	0	0	0	5	3	8	1	16	0	0	11	0

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SR 12 MIS
Alternative 4 - Traffic Operations

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #5 SR 12/SR 113

Cycle (sec): 100 Critical Vol./Cap. (X): 0.890
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 22.1
Optimal Cycle: 180 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:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 1	0 0	1! 0	0	0 0	1! 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	3	5	5	329	17	5	9	749	5	5	428	109
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	5	5	329	17	5	9	749	5	5	428	109
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	5	5	329	17	5	9	749	5	5	428	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	5	5	329	17	5	9	749	5	5	428	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.:	3	5	5	329	17	5	9	749	5	5	428	109
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	0.98	0.85	0.86	0.86	0.86	0.90	0.90	0.90	0.95	1.00	0.85
Lanes:	0.38	0.62	1.00	0.94	0.05	0.01	0.01	0.98	0.01	1.00	1.00	1.00
Final Sat.:	698	1164	1615	1539	80	23	20	1679	11	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.21	0.21	0.21	0.45	0.45	0.45	0.00	0.23	0.07
Crit Moves:		****		****			****				****	
Green/Cycle:	0.00	0.00	0.00	0.24	0.24	0.24	0.50	0.75	0.75	0.00	0.25	0.25
Volume/Cap:	0.89	0.89	0.64	0.89	0.89	0.89	0.89	0.59	0.59	0.59	0.89	0.27
Delay/Veh:	189.9	190	92.0	38.7	38.7	38.7	22.6	4.2	4.2	77.0	36.1	19.4
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:	189.9	190	92.0	38.7	38.7	38.7	22.6	4.2	4.2	77.0	36.1	19.4
DesignQueue:	0	0	0	15	1	0	0	12	0	0	19	5

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SR 12 MIS
Alternative 6 - Long Term Improvements

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in D/V
# 1 SR 12/Pennsylvania	D	26.9	0.861	D	26.9	0.861	+ 0.000
# 4 SR 12/Shiloh/Lambie	B	13.6	0.646	B	13.6	0.646	+ 0.000
# 7 SR 12/Church Rd	B	7.2	0.371	B	7.2	0.371	+ 0.000
# 9 SR 12/Hillside Terrace	B	7.2	0.359	B	7.2	0.359	+ 0.000

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SR 12 MIS
Alternative 6 - Long Term Improvements

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 SR 12/Pennsylvania

Cycle (sec): 180 Critical Vol./Cap. (X): 0.861
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 26.9
Optimal Cycle: 116 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:	Split Phase			Split Phase			Protected				Protected			
Rights:		Ovl			Ovl			Include				Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0		0	0	0	
Lanes:	1 0	1 0	1	2 0	1 0	1	1 0	2 1	0		1 0	3 0	1	
Volume Module:														
Base Vol:	13	167	292	344	30	74	155	2682	38		17	1664	262	
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:	13	167	292	344	30	74	155	2682	38		17	1664	262	
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	13	167	292	344	30	74	155	2682	38		17	1664	262	
Reduct Vol:	0	0	0	0	0	0	0	0	0		0	0	0	
Reduced Vol:	13	167	292	344	30	74	155	2682	38		17	1664	262	
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	1.03	1.00	1.00	1.00	1.10	1.10		1.00	1.10	1.00	
Final Vol.:	13	167	292	354	30	74	155	2950	42		17	1830	262	
Saturation Flow Module:														
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	1.00		0.95	1.00	0.85	
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	1.00	2.96	0.04		1.00	3.00	1.00	
Final Sat.:	1805	1900	1615	3610	1900	1615	1805	5620	80		1805	5700	1615	
Capacity Analysis Module:														
Vol/Sat:	0.01	0.09	0.18	0.10	0.02	0.05	0.09	0.52	0.52		0.01	0.32	0.16	
Crit Moves:			****	****				****			****			
Green/Cycle:	0.20	0.20	0.21	0.11	0.11	0.24	0.13	0.61	0.61		0.01	0.49	0.60	
Volume/Cap:	0.04	0.44	0.86	0.86	0.14	0.19	0.66	0.86	0.86		0.86	0.66	0.27	
Delay/Veh:	37.6	41.5	57.9	62.3	46.4	34.8	52.5	20.4	20.4		148.3	22.7	11.0	
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:	37.6	41.5	57.9	62.3	46.4	34.8	52.5	20.4	20.4		148.3	22.7	11.0	
DesignQueue:	1	14	24	32	3	6	14	134	2		2	102	11	

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SR 12 MIS
Alternative 6 - Long Term Improvements

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 SR 12/Shiloh/Lambie

Cycle (sec):	90	Critical Vol./Cap. (X):	0.646
Loss Time (sec):	9 (Y+R = 4 sec)	Average Delay (sec/veh):	13.6
Optimal Cycle:	44	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:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 1	1!	0 1	1 0	0 1	0	0 1	0 0	1
Volume Module:												
Base Vol:	10	2	1	67	38	240	26	574	15	3	365	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	2	1	67	38	240	26	574	15	3	365	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	2	1	67	38	240	26	574	15	3	365	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	2	1	67	38	240	26	574	15	3	365	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	10	2	1	70	40	252	26	574	15	3	365	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.85	0.85	0.85	0.89	0.89	0.89	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.77	0.15	0.08	0.59	0.34	2.07	1.00	0.97	0.03	0.01	0.99	1.00
Final Sat.:	1249	250	125	1004	574	3501	1805	1852	48	15	1885	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.07	0.07	0.07	0.01	0.31	0.31	0.19	0.19	0.00
Crit Moves:			****		****			****		****		
Green/Cycle:	0.01	0.01	0.01	0.11	0.11	0.16	0.05	0.48	0.48	0.30	0.73	0.73
Volume/Cap:	0.65	0.65	0.65	0.65	0.65	0.44	0.27	0.65	0.65	0.65	0.27	0.00
Delay/Veh:	60.7	60.7	60.7	26.7	26.7	22.3	26.8	12.5	12.5	19.5	2.7	2.2
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:	60.7	60.7	60.7	26.7	26.7	22.3	26.8	12.5	12.5	19.5	2.7	2.2
DesignQueue:	0	0	0	3	2	11	1	16	0	0	5	0

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SR 12 MIS
Alternative 6 - Long Term Improvements

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 SR 12/Church Rd

Cycle (sec):	90	Critical Vol./Cap. (X):	0.371
Loss Time (sec):	9 (Y+R = 4 sec)	Average Delay (sec/veh):	7.2
Optimal Cycle:	28	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:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0 1	0	1 0	0 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	3	2	6	8	0	134	32	471	1	8	822	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	2	6	8	0	134	32	471	1	8	822	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	2	6	8	0	134	32	471	1	8	822	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	2	6	8	0	134	32	471	1	8	822	6
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	1.05	1.05	1.00	1.05	1.05
Final Vol.:	3	2	6	8	0	134	32	495	1	8	863	6
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.89	0.89	0.95	1.00	0.85	0.95	1.00	1.00	0.95	1.00	1.00
Lanes:	1.00	0.25	0.75	1.00	0.00	1.00	1.00	1.99	0.01	1.00	1.99	0.01
Final Sat.:	1805	423	1268	1805	0	1615	1805	3792	8	1805	3774	26
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.08	0.02	0.13	0.13	0.00	0.23	0.23
Crit Moves:		****				****	****				****	
Green/Cycle:	0.01	0.01	0.01	0.22	0.00	0.22	0.05	0.64	0.64	0.02	0.62	0.62
Volume/Cap:	0.13	0.37	0.37	0.02	0.00	0.37	0.37	0.20	0.20	0.20	0.37	0.37
Delay/Veh:	28.5	33.0	33.0	17.6	0.0	19.4	28.1	4.3	4.3	28.3	5.6	5.6
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:	28.5	33.0	33.0	17.6	0.0	19.4	28.1	4.3	4.3	28.3	5.6	5.6
DesignQueue:	0	0	0	0	0	5	2	9	0	0	18	0

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SR 12 MIS
Alternative 6 - Long Term Improvements

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 SR 12/Hillside Terrace

Cycle (sec): 90 Critical Vol./Cap. (X): 0.359
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 7.2
Optimal Cycle: 27 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			Protected			Protected		
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	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	30	17	48	29	23	33	12	704	80	66	667	33
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	17	48	29	23	33	12	704	80	66	667	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	17	48	29	23	33	12	704	80	66	667	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	17	48	29	23	33	12	704	80	66	667	33
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	1.05	1.05	1.00	1.05	1.05
Final Vol.:	30	17	48	29	23	33	12	739	84	66	700	35
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.74	0.74	0.74	0.75	0.75	0.75	0.95	0.99	0.99	0.95	0.99	0.99
Lanes:	0.32	0.18	0.50	0.34	0.27	0.39	1.00	1.80	0.20	1.00	1.90	0.10
Final Sat.:	443	251	709	485	385	552	1805	3378	384	1805	3583	179
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.06	0.06	0.06	0.01	0.22	0.22	0.04	0.20	0.20
Crit Moves:		****						****		****		
Green/Cycle:	0.19	0.19	0.19	0.19	0.19	0.19	0.02	0.61	0.61	0.10	0.69	0.69
Volume/Cap:	0.36	0.36	0.36	0.32	0.32	0.32	0.28	0.36	0.36	0.36	0.28	0.28
Delay/Veh:	20.9	20.9	20.9	20.6	20.6	20.6	28.9	5.7	5.7	24.9	3.5	3.5
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:	20.9	20.9	20.9	20.6	20.6	20.6	28.9	5.7	5.7	24.9	3.5	3.5
DesignQueue:	1	1	2	1	1	1	1	15	2	3	12	1

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SR 12 MIS
Alternative 6 - Long Term Improvements

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in D/V
# 1 SR 12/Pennsylvania	F	105.8	1.237	F	105.8	1.237	+ 0.000
# 4 SR 12/Shiloh/Lambie	C	22.0	0.921	C	22.0	0.921	+ 0.000
# 7 SR 12/Church Rd	B	10.4	0.628	B	10.4	0.628	+ 0.000
# 9 SR 12/Hillside Terrace	B	9.2	0.492	B	9.2	0.492	+ 0.000

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SR 12 MIS
Alternative 6 - Long Term Improvements

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 SR 12/Pennsylvania

Cycle (sec):	180	Critical Vol./Cap. (X):	1.237
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	105.8
Optimal Cycle:	180	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:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ovl			Ovl			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 1		0 1	2 0 1		0 1	1 0 2		1 0	1 0 3		0 1
Volume Module:												
Base Vol:	16	174	305	392	34	85	252	4364	62	24	2376	374
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:	16	174	305	392	34	85	252	4364	62	24	2376	374
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	16	174	305	392	34	85	252	4364	62	24	2376	374
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	174	305	392	34	85	252	4364	62	24	2376	374
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	1.03	1.00	1.00	1.00	1.10	1.10	1.00	1.10	1.00
Final Vol.:	16	174	305	404	34	85	252	4800	68	24	2614	374
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	1.00	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	1.00	2.96	0.04	1.00	3.00	1.00
Final Sat.:	1805	1900	1615	3610	1900	1615	1805	5620	80	1805	5700	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.09	0.19	0.11	0.02	0.05	0.14	0.85	0.85	0.01	0.46	0.23
Crit Moves:			****	****				****		****		
Green/Cycle:	0.14	0.14	0.15	0.09	0.09	0.25	0.16	0.69	0.69	0.01	0.54	0.63
Volume/Cap:	0.06	0.65	1.24	1.24	0.20	0.21	0.85	1.24	1.24	1.24	0.85	0.37
Delay/Veh:	43.2	50.8	210.0	206.3	49.1	34.2	61.6	146	146.4	395.2	24.8	10.6
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:	43.2	50.8	210.0	206.3	49.1	34.2	61.6	146	146.4	395.2	24.8	10.6
DesignQueue:	1	15	27	38	3	6	22	192	3	2	138	15

SR 12 MIS
Alternative 6 - Long Term Improvements

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 SR 12/Shiloh/Lambie

Cycle (sec):	90	Critical Vol./Cap. (X):	0.921
Loss Time (sec):	9 (Y+R = 4 sec)	Average Delay (sec/veh):	22.0
Optimal Cycle:	109	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:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0	1	1! 0	1	0 0	1 0	0	1	0 0 1
Volume Module:												
Base Vol:	10	2	1	158	90	563	37	811	21	4	411	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	2	1	158	90	563	37	811	21	4	411	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	2	1	158	90	563	37	811	21	4	411	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	2	1	158	90	563	37	811	21	4	411	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	10	2	1	166	95	591	37	811	21	4	411	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.85	0.85	0.85	0.89	0.89	0.89	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.77	0.15	0.08	0.60	0.34	2.06	1.00	0.97	0.03	0.01	0.99	1.00
Final Sat.:	1249	250	125	1010	578	3491	1805	1852	48	18	1882	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.16	0.16	0.17	0.02	0.44	0.44	0.22	0.22	0.00
Crit Moves:			****	****				****		****		
Green/Cycle:	0.01	0.01	0.01	0.18	0.18	0.24	0.06	0.48	0.48	0.24	0.65	0.65
Volume/Cap:	0.92	0.92	0.92	0.92	0.92	0.71	0.34	0.92	0.92	0.92	0.34	0.00
Delay/Veh:	167.4	167	167.4	33.7	33.7	21.6	26.9	24.6	24.6	39.0	4.6	3.5
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:	167.4	167	167.4	33.7	33.7	21.6	26.9	24.6	24.6	39.0	4.6	3.5
DesignQueue:	0	0	0	7	4	23	2	24	1	0	8	0

SR 12 MIS
Alternative 6 - Long Term Improvements

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 SR 12/Church Rd

Cycle (sec): 90 Critical Vol./Cap. (X): 0.628
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 10.4
Optimal Cycle: 43 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:	Split Phase						Split Phase						Protected						Protected					
Rights:	Include						Include						Include						Include					
Min. Green:	0	0	0				0	0	0				0	0	0				0	0	0			
Lanes:	1	0	0	1	0		1	0	0	1	0		1	0	1	1	0		1	0	1	1	0	
Volume Module:																								
Base Vol:	5		3		10		17		0		285		47		691		2		10		1275		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:	5		3		10		17		0		285		47		691		2		10		1275		10	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Volume:	5		3		10		17		0		285		47		691		2		10		1275		10	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
Reduced Vol:	5		3		10		17		0		285		47		691		2		10		1275		10	
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		1.05		1.05		1.00		1.05		1.05	
Final Vol.:	5		3		10		17		0		285		47		726		2		10		1339		11	
Saturation Flow Module:																								
Sat/Lane:	1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900	
Adjustment:	0.95		0.88		0.88		0.95		1.00		0.85		0.95		1.00		1.00		0.95		1.00		1.00	
Lanes:	1.00		0.23		0.77		1.00		0.00		1.00		1.00		1.99		0.01		1.00		1.98		0.02	
Final Sat.:	1805		386		1286		1805		0		1615		1805		3790		10		1805		3769		31	
Capacity Analysis Module:																								
Vol/Sat:	0.00		0.01		0.01		0.01		0.00		0.18		0.03		0.19		0.19		0.01		0.36		0.36	
Crit Moves:			****								****		****								****			
Green/Cycle:	0.01		0.01		0.01		0.28		0.00		0.28		0.04		0.59		0.59		0.02		0.57		0.57	
Volume/Cap:	0.22		0.63		0.63		0.03		0.00		0.63		0.63		0.32		0.32		0.32		0.63		0.63	
Delay/Veh:	29.3		57.2		57.2		15.2		0.0		20.2		37.7		6.1		6.1		30.3		8.9		8.9	
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:	29.3		57.2		57.2		15.2		0.0		20.2		37.7		6.1		6.1		30.3		8.9		8.9	
DesignQueue:	0		0		0		1		0		11		2		16		0		0		32		0	

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SR 12 MIS
Alternative 6 - Long Term Improvements

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 SR 12/Hillside Terrace

Cycle (sec): 90 Critical Vol./Cap. (X): 0.492
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 9.2
Optimal Cycle: 33 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			Protected			Protected		
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	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	32	18	51	60	47	67	15	871	99	85	856	43
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:	32	18	51	60	47	67	15	871	99	85	856	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	18	51	60	47	67	15	871	99	85	856	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	18	51	60	47	67	15	871	99	85	856	43
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	1.05	1.05	1.00	1.05	1.05
Final Vol.:	32	18	51	60	47	67	15	915	104	85	899	45
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.70	0.70	0.70	0.73	0.73	0.73	0.95	0.99	0.99	0.95	0.99	0.99
Lanes:	0.32	0.18	0.50	0.34	0.27	0.39	1.00	1.80	0.20	1.00	1.90	0.10
Final Sat.:	420	236	669	479	375	535	1805	3378	384	1805	3583	179
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.08	0.13	0.13	0.13	0.01	0.27	0.27	0.05	0.25	0.25
Crit Moves:					****			****		****		
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.02	0.55	0.55	0.10	0.62	0.62
Volume/Cap:	0.30	0.30	0.30	0.49	0.49	0.49	0.40	0.49	0.49	0.49	0.40	0.40
Delay/Veh:	17.7	17.7	17.7	19.4	19.4	19.4	31.7	8.2	8.2	26.8	5.5	5.5
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:	17.7	17.7	17.7	19.4	19.4	19.4	31.7	8.2	8.2	26.8	5.5	5.5
DesignQueue:	1	1	2	2	2	3	1	22	3	4	18	1

SR 12 MIS
Alternative 6 - Long Term Improvements

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 7 SR 12/Church Rd	B	9.3	0.297	B	9.3	0.297	+ 0.000 D/V
# 9 SR 12/Hillside Terrace	B	6.1	0.266	B	6.1	0.266	+ 0.000 D/V

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SR 12 MIS
Alternative 6 - Long Term Improvements

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 SR 12/Church Rd

Cycle (sec): 90 Critical Vol./Cap. (X): 0.297
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 9.3
Optimal Cycle: 25 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:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	3	2	6	8	0	134	32	173	1	6	577	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	2	6	8	0	134	32	173	1	6	577	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	2	6	8	0	134	32	173	1	6	577	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	2	6	8	0	134	32	173	1	6	577	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	3	2	6	8	0	134	32	182	1	6	606	8
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.89	0.89	0.95	1.00	0.85	0.95	1.00	1.00	0.95	1.00	1.00
Lanes:	1.00	0.25	0.75	1.00	0.00	1.00	1.00	1.99	0.01	1.00	1.97	0.03
Final Sat.:	1805	423	1268	1805	0	1615	1805	3779	21	1805	3750	50
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.08	0.02	0.05	0.05	0.00	0.16	0.16
Crit Moves:		****				****	****				****	
Green/Cycle:	0.02	0.02	0.02	0.28	0.00	0.28	0.06	0.57	0.57	0.04	0.54	0.54
Volume/Cap:	0.10	0.30	0.30	0.02	0.00	0.30	0.30	0.09	0.09	0.09	0.30	0.30
Delay/Veh:	28.3	30.0	30.0	15.2	0.0	16.6	26.6	5.8	5.8	26.9	7.2	7.2
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:	28.3	30.0	30.0	15.2	0.0	16.6	26.6	5.8	5.8	26.9	7.2	7.2
DesignQueue:	0	0	0	0	0	5	2	4	0	0	14	0

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SR 12 MIS
Alternative 6 - Long Term Improvements

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

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Intersection #9 SR 12/Hillside Terrace

****

Cycle (sec): 60 Critical Vol./Cap. (X): 0.266
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 6.1
Optimal Cycle: 19 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			Protected			Protected		
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	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	30	17	48	29	23	33	12	406	80	66	422	33
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	17	48	29	23	33	12	406	80	66	422	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	17	48	29	23	33	12	406	80	66	422	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	17	48	29	23	33	12	406	80	66	422	33
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	1.05	1.05	1.00	1.05	1.05
Final Vol.:	30	17	48	29	23	33	12	426	84	66	443	35
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	0.76	0.76	0.76	0.76	0.76	0.95	0.98	0.98	0.95	0.99	0.99
Lanes:	0.32	0.18	0.50	0.34	0.27	0.39	1.00	1.67	0.33	1.00	1.85	0.15
Final Sat.:	453	257	725	490	389	558	1805	3111	613	1805	3487	275
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.06	0.06	0.06	0.01	0.14	0.14	0.04	0.13	0.13
Crit Moves:		****						****		****		
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.03	0.51	0.51	0.14	0.62	0.62
Volume/Cap:	0.27	0.27	0.27	0.24	0.24	0.24	0.21	0.27	0.27	0.27	0.21	0.21
Delay/Veh:	11.8	11.8	11.8	11.7	11.7	11.7	18.5	5.3	5.3	15.1	3.2	3.2
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:	11.8	11.8	11.8	11.7	11.7	11.7	18.5	5.3	5.3	15.1	3.2	3.2
DesignQueue:	1	0	1	1	1	1	0	7	1	2	6	0

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SR 12 MIS
Alternative 6 - Long Term Improvements

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 7 SR 12/Church Rd	B	11.7	0.527	B	11.7	0.527	+ 0.000 D/V
# 9 SR 12/Hillside Terrace	B	7.4	0.376	B	7.4	0.376	+ 0.000 D/V

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SR 12 MIS
Alternative 6 - Long Term Improvements

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 SR 12/Church Rd

Cycle (sec):	90	Critical Vol./Cap. (X):	0.527
Loss Time (sec):	9 (Y+R = 4 sec)	Average Delay (sec/veh):	11.7
Optimal Cycle:	35	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:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0 1	0	1 0	0 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	5	3	10	17	0	285	47	308	2	12	945	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:	5	3	10	17	0	285	47	308	2	12	945	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	5	3	10	17	0	285	47	308	2	12	945	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	3	10	17	0	285	47	308	2	12	945	10
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	1.05	1.05	1.00	1.05	1.05
Final Vol.:	5	3	10	17	0	285	47	323	2	12	992	11
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	1.00	0.85	0.95	1.00	1.00	0.95	1.00	1.00
Lanes:	1.00	0.23	0.77	1.00	0.00	1.00	1.00	1.99	0.01	1.00	1.98	0.02
Final Sat.:	1805	386	1286	1805	0	1615	1805	3777	23	1805	3758	42
Capacity Analysis Module:												
Vol/Sat:	0.00	0.01	0.01	0.01	0.00	0.18	0.03	0.09	0.09	0.01	0.26	0.26
Crit Moves:		****				****	****				****	
Green/Cycle:	0.01	0.01	0.01	0.33	0.00	0.33	0.05	0.51	0.51	0.04	0.50	0.50
Volume/Cap:	0.19	0.53	0.53	0.03	0.00	0.53	0.53	0.17	0.17	0.17	0.53	0.53
Delay/Veh:	28.7	41.8	41.8	13.0	0.0	16.4	31.3	7.6	7.6	27.1	10.1	10.1
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:	28.7	41.8	41.8	13.0	0.0	16.4	31.3	7.6	7.6	27.1	10.1	10.1
DesignQueue:	0	0	0	1	0	10	2	8	0	1	27	0

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SR 12 MIS
Alternative 6 - Long Term Improvements

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 SR 12/Hillside Terrace

Cycle (sec): 60 Critical Vol./Cap. (X): 0.376
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 7.4
Optimal Cycle: 22 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			Protected			Protected		
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	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	32	18	51	60	47	67	15	488	99	85	526	43
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:	32	18	51	60	47	67	15	488	99	85	526	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	18	51	60	47	67	15	488	99	85	526	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	18	51	60	47	67	15	488	99	85	526	43
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	1.05	1.05	1.00	1.05	1.05
Final Vol.:	32	18	51	60	47	67	15	512	104	85	552	45
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.71	0.71	0.71	0.74	0.74	0.74	0.95	0.97	0.97	0.95	0.99	0.99
Lanes:	0.32	0.18	0.50	0.34	0.27	0.39	1.00	1.66	0.34	1.00	1.85	0.15
Final Sat.:	425	239	677	485	380	541	1805	3064	622	1805	3478	284
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.08	0.12	0.12	0.12	0.01	0.17	0.17	0.05	0.16	0.16
Crit Moves:					****			****		****		
Green/Cycle:	0.33	0.33	0.33	0.33	0.33	0.33	0.03	0.44	0.44	0.13	0.54	0.54
Volume/Cap:	0.23	0.23	0.23	0.38	0.38	0.38	0.29	0.38	0.38	0.38	0.29	0.29
Delay/Veh:	9.5	9.5	9.5	10.2	10.2	10.2	19.4	7.2	7.2	16.1	4.9	4.9
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:	9.5	9.5	9.5	10.2	10.2	10.2	19.4	7.2	7.2	16.1	4.9	4.9
DesignQueue:	1	0	1	1	1	2	0	10	2	3	9	1

SR 12 MIS
Lambie Business Park Sensitivity Analysis

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 SR 12/Pennsylvania	F	146.9	1.298	F	146.9	1.298	+ 0.000 D/V
# 2 SR 12/Sunset	B	14.8	0.622	B	14.8	0.622	+ 0.000 D/V
# 3 SR 12/Walters Road	B	10.5	0.525	B	10.5	0.525	+ 0.000 D/V
# 4 SR 12/Shiloh/Lambie	C	0.5	0.000	C	0.5	0.000	+ 0.000 V/C
# 5 SR 12/SR 113	E	5.7	0.000	E	5.7	0.000	+ 0.000 V/C
# 6 SR 12/Summerset	B	5.0	0.250	B	5.0	0.250	+ 0.000 D/V
# 7 SR 12/Church Rd	C	1.3	0.000	C	1.3	0.000	+ 0.000 V/C
# 9 SR 12/Hillside Terrace	B	5.1	0.559	B	5.1	0.559	+ 0.000 D/V

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****

Intersection #1 SR 12/Pennsylvania

****

Cycle (sec): 180 Critical Vol./Cap. (X): 1.298
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 146.9
Optimal Cycle: 180 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:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	13	167	292	344	30	74	153	2655	37	16	1589	250
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:	13	167	292	344	30	74	153	2655	37	16	1589	250
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	167	292	344	30	74	153	2655	37	16	1589	250
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	167	292	344	30	74	153	2655	37	16	1589	250
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	1.05	1.05	1.00	1.05	1.00
Final Vol.:	13	167	292	344	30	74	153	2788	39	16	1668	250
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	1.00	0.85	0.95	1.00	1.00	0.95	1.00	0.85
Lanes:	1.00	0.36	0.64	1.00	1.00	1.00	1.00	1.97	0.03	1.00	2.00	1.00
Final Sat.:	1805	622	1088	1805	1900	1615	1805	3748	52	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.27	0.27	0.19	0.02	0.05	0.08	0.74	0.74	0.01	0.44	0.15
Crit Moves:		****		****				****		****		
Green/Cycle:	0.21	0.21	0.21	0.15	0.15	0.24	0.09	0.57	0.57	0.01	0.49	0.63
Volume/Cap:	0.03	1.30	1.30	1.30	0.11	0.19	0.90	1.30	1.30	1.30	0.90	0.24
Delay/Veh:	36.9	245	245.3	256.0	43.0	35.2	81.9	203	203.4	533.3	32.2	9.3
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:	36.9	245	245.3	256.0	43.0	35.2	81.9	203	203.4	533.3	32.2	9.3
DesignQueue:	1	14	25	31	3	6	14	148	2	2	97	10

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****

Intersection #2 SR 12/Sunset

****

Cycle (sec): 90 Critical Vol./Cap. (X): 0.622
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 14.8
Optimal Cycle: 49 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:	Split Phase						Split Phase						Protected						Protected					
Rights:			Ovl						Ovl						Ovl						Ovl			
Min. Green:	0		0		0		0		0		0		0		0		0		0		0		0	
Lanes:	1	0	1	0	1		1	1	0	0	2		2	0	2	0	1		1	0	2	0	1	
Volume Module:																								
Base Vol:	34		72		36		286		79		298		656		1036		34		73		755		118	
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:	34		72		36		286		79		298		656		1036		34		73		755		118	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Volume:	34		72		36		286		79		298		656		1036		34		73		755		118	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
Reduced Vol:	34		72		36		286		79		298		656		1036		34		73		755		118	
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		1.05		1.05		1.13		1.03		1.05		1.00		1.00		1.05		1.00	
Final Vol.:	34		72		36		300		83		337		676		1088		34		73		793		118	
Saturation Flow Module:																								
Sat/Lane:	1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900	
Adjustment:	0.95		1.00		0.85		0.96		0.96		0.85		0.95		1.00		0.85		0.95		1.00		0.85	
Lanes:	1.00		1.00		1.00		1.57		0.43		2.00		2.00		2.00		1.00		1.00		2.00		1.00	
Final Sat.:	1805		1900		1615		2857		791		3230		3610		3800		1615		1805		3800		1615	
Capacity Analysis Module:																								
Vol/Sat:	0.02		0.04		0.02		0.10		0.10		0.10		0.19		0.29		0.02		0.04		0.21		0.07	
Crit Moves:			****						****				****								****			
Green/Cycle:	0.06		0.06		0.14		0.17		0.17		0.47		0.30		0.56		0.62		0.08		0.34		0.50	
Volume/Cap:	0.31		0.62		0.16		0.62		0.62		0.22		0.62		0.51		0.03		0.51		0.62		0.14	
Delay/Veh:	26.7		33.3		22.0		23.8		23.8		9.1		18.3		8.1		4.3		28.3		16.9		7.7	
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:	26.7		33.3		22.0		23.8		23.8		9.1		18.3		8.1		4.3		28.3		16.9		7.7	
DesignQueue:	2		3		2		13		4		9		25		26		1		3		28		3	

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 SR 12/Walters Road

Cycle (sec): 90 Critical Vol./Cap. (X): 0.525
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 10.5
Optimal Cycle: 35 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						Protected						Protected					
Rights:	Ovl						Ovl						Include						Include					
Min. Green:	0		0		0		0		0		0		0		0		0		0		0		0	
Lanes:	1	0	1	0	1		1	0	1	0	1		1	0	2	0	1		2	0	2	0	1	
Volume Module:																								
Base Vol:	56		32		5		93		101		359		579		458		100		6		340		111	
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:	56		32		5		93		101		359		579		458		100		6		340		111	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Volume:	56		32		5		93		101		359		579		458		100		6		340		111	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
Reduced Vol:	56		32		5		93		101		359		579		458		100		6		340		111	
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		1.05		1.00		1.03		1.05		1.00	
Final Vol.:	56		32		5		93		101		359		579		481		100		6		357		111	
Saturation Flow Module:																								
Sat/Lane:	1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900	
Adjustment:	0.57		1.00		0.85		0.85		1.00		0.85		0.95		1.00		0.85		0.95		1.00		0.85	
Lanes:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		2.00		1.00		2.00		2.00		1.00	
Final Sat.:	1083		1900		1615		1615		1900		1615		1805		3800		1615		3610		3800		1615	
Capacity Analysis Module:																								
Vol/Sat:	0.05		0.02		0.00		0.06		0.05		0.22		0.32		0.13		0.06		0.00		0.09		0.07	
Crit Moves:							****						****								****			
Green/Cycle:	0.11		0.11		0.12		0.11		0.11		0.72		0.61		0.78		0.78		0.01		0.18		0.18	
Volume/Cap:	0.47		0.15		0.03		0.52		0.48		0.31		0.52		0.16		0.08		0.16		0.52		0.38	
Delay/Veh:	26.5		23.5		22.6		26.7		25.7		3.0		6.8		1.6		1.5		28.7		22.2		21.5	
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:	26.5		23.5		22.6		26.7		25.7		3.0		6.8		1.6		1.5		28.7		22.2		21.5	
DesignQueue:	3		1		0		4		5		5		12		5		1		0		15		5	

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #4 SR 12/Shiloh/Lambie

****

Average Delay (sec/veh): 0.5 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	10	2	1	7	4	25	24	518	14	3	350	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	2	1	7	4	25	24	518	14	3	350	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	2	1	7	4	25	24	518	14	3	350	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	2	1	7	4	25	24	518	14	3	350	2
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	11	2	1	8	4	28	26	518	14	3	350	2
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	6.0	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	918	904	525	905	910	351	352	xxxx	xxxxx	532	xxxx	xxxxx
Potent Cap.:	312	366	750	317	363	919	1165	xxxx	xxxxx	956	xxxx	xxxxx
Adj Cap:	0.93	0.96	1.00	0.97	0.96	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	291	352	750	306	350	919	1165	xxxx	xxxxx	956	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	12.8	10.3	4.8	12.0	10.4	4.0	3.2	xxxx	xxxxx	3.8	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	314	xxxxx	xxxx	585	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	11.8	xxxxx	xxxxx	6.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	C	*	*	B	*	*	*	*	*	*	*
ApproachDel:		11.8			6.3			0.1			0.0	

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #5 SR 12/SR 113

****

Average Delay (sec/veh): 5.7 Worst Case Level Of Service: E

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	0 1		0 0 1!	0 0		0 0 1!	0 0		1 0 1	0 1	
Volume Module:												
Base Vol:	3	5	5	191	10	3	7	537	4	4	367	93
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	5	5	191	10	3	7	537	4	4	367	93
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	5	5	191	10	3	7	537	4	4	367	93
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	5	5	191	10	3	7	537	4	4	367	93
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	3	6	6	210	11	3	8	537	4	4	367	93
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	6.0	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	924	1010	539	922	919	367	460	xxxx	xxxxx	541	xxxx	xxxxx
Potent Cap.:	309	322	738	310	359	902	1035	xxxx	xxxxx	947	xxxx	xxxxx
Adj Cap:	0.96	0.98	1.00	0.97	0.98	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	297	317	738	300	354	902	1035	xxxx	xxxxx	947	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	12.2	11.5	4.9	32.5	10.5	4.0	3.5	xxxx	xxxxx	3.8	xxxx	xxxxx
LOS by Move:	*	*	A	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	309	xxxx	xxxxx	xxxx	305	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	11.8	xxxx	xxxxx	xxxxx	31.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	C	*	*	*	E	*	*	*	*	*	*	*
ApproachDel:	9.2			31.0			0.0			0.0		

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

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Intersection #6 SR 12/Summerset

****

Cycle (sec): 90 Critical Vol./Cap. (X): 0.250
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 5.0
Optimal Cycle: 24 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:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2 0	0	0 1	1 0	2	0 0	0 0	2	0 1
Volume Module:												
Base Vol:	0	0	0	122	0	65	21	639	0	0	645	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	122	0	65	21	639	0	0	645	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	122	0	65	21	639	0	0	645	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	122	0	65	21	639	0	0	645	50
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	1.03	1.00	1.00	1.00	1.05	1.00	1.00	1.05	1.00
Final Vol.:	0	0	0	126	0	65	21	671	0	0	677	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3610	0	1615	1805	3800	0	0	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.04	0.01	0.18	0.00	0.00	0.18	0.03
Crit Moves:				****			****				****	
Green/Cycle:	0.00	0.00	0.00	0.14	0.00	0.19	0.05	0.76	0.00	0.00	0.71	0.85
Volume/Cap:	0.00	0.00	0.00	0.25	0.00	0.22	0.25	0.23	0.00	0.00	0.25	0.04
Delay/Veh:	0.0	0.0	0.0	22.3	0.0	20.1	27.1	2.0	0.0	0.0	2.9	0.6
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:	0.0	0.0	0.0	22.3	0.0	20.1	27.1	2.0	0.0	0.0	2.9	0.6
DesignQueue:	0	0	0	5	0	3	1	8	0	0	10	0

****

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #7 SR 12/Church Rd

****

Average Delay (sec/veh): 1.3 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	3	2	6	8	0	134	31	454	1	8	810	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	2	6	8	0	134	31	454	1	8	810	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	2	6	8	0	134	31	454	1	8	810	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	2	6	8	0	134	31	454	1	8	810	6
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	3	2	7	9	0	147	34	454	1	9	810	6
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	xxxx	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	xxxx	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1374	1310	455	1311	xxxx	813	816	xxxx	xxxxx	455	xxxx	xxxxx
Potent Cap.:	170	224	815	184	xxxx	536	700	xxxx	xxxxx	1041	xxxx	xxxxx
Adj Cap:	0.68	0.92	1.00	0.92	xxxx	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	115	206	815	170	xxxx	536	700	xxxx	xxxxx	1041	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	32.1	17.7	4.5	22.2	xxxx	8.9	5.4	xxxx	xxxxx	3.5	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	255	xxxxx	xxxx	478	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	14.4	xxxxx	xxxxx	9.7	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	C	*	*	B	*	*	*	*	*	*	*
ApproachDel:		14.4			9.7			0.4			0.0	

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****

Intersection #9 SR 12/Hillside Terrace

****

Cycle (sec): 60 Critical Vol./Cap. (X): 0.559
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 5.1
Optimal Cycle: 29 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			Protected			Protected		
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	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	30	17	48	29	23	33	11	676	76	66	662	33
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	17	48	29	23	33	11	676	76	66	662	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	17	48	29	23	33	11	676	76	66	662	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	17	48	29	23	33	11	676	76	66	662	33
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	17	48	29	23	33	11	676	76	66	662	33
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.75	0.75	0.75	0.74	0.74	0.74	0.95	0.99	0.99	0.95	0.99	0.99
Lanes:	0.32	0.18	0.50	0.34	0.27	0.39	1.00	0.90	0.10	1.00	0.95	0.05
Final Sat.:	448	254	717	479	380	545	1805	1691	190	1805	1792	89
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.06	0.06	0.06	0.01	0.40	0.40	0.04	0.37	0.37
Crit Moves:		****						****		****		
Green/Cycle:	0.12	0.12	0.12	0.12	0.12	0.12	0.01	0.71	0.71	0.07	0.77	0.77
Volume/Cap:	0.56	0.56	0.56	0.51	0.51	0.51	0.48	0.56	0.56	0.56	0.48	0.48
Delay/Veh:	19.1	19.1	19.1	18.0	18.0	18.0	29.4	3.0	3.0	21.8	1.9	1.9
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:	19.1	19.1	19.1	18.0	18.0	18.0	29.4	3.0	3.0	21.8	1.9	1.9
DesignQueue:	1	1	1	1	1	1	0	7	1	2	6	0

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 SR 12/Pennsylvania	F	681.2	1.837	F	681.2	1.837	+ 0.000 D/V
# 2 SR 12/Sunset	C	15.6	0.689	C	15.6	0.689	+ 0.000 D/V
# 3 SR 12/Walters Road	B	11.9	0.700	B	11.9	0.700	+ 0.000 D/V
# 4 SR 12/Shiloh/Lambie	C	0.6	0.000	C	0.6	0.000	+ 0.000 V/C
# 5 SR 12/SR 113	F	100.5	0.000	F	100.5	0.000	+ 0.000 V/C
# 6 SR 12/Summerset	B	6.2	0.391	B	6.2	0.391	+ 0.000 D/V
# 7 SR 12/Church Rd	F	33.5	0.000	F	33.5	0.000	+ 0.000 V/C
# 9 SR 12/Hillside Terrace	B	7.8	0.715	B	7.8	0.715	+ 0.000 D/V

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

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Intersection #1 SR 12/Pennsylvania

****

Cycle (sec): 180 Critical Vol./Cap. (X): 1.837
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 681.2
Optimal Cycle: 180 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:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	16	174	305	392	34	85	248	4299	61	22	2190	344
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:	16	174	305	392	34	85	248	4299	61	22	2190	344
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	16	174	305	392	34	85	248	4299	61	22	2190	344
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	174	305	392	34	85	248	4299	61	22	2190	344
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	1.05	1.05	1.00	1.05	1.00
Final Vol.:	16	174	305	392	34	85	248	4514	64	22	2300	344
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	1.00	0.85	0.95	1.00	1.00	0.95	1.00	0.85
Lanes:	1.00	0.36	0.64	1.00	1.00	1.00	1.00	1.97	0.03	1.00	2.00	1.00
Final Sat.:	1805	621	1089	1805	1900	1615	1805	3747	53	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.28	0.28	0.22	0.02	0.05	0.14	1.20	1.20	0.01	0.61	0.21
Crit Moves:		****		****				****		****		
Green/Cycle:	0.15	0.15	0.15	0.12	0.12	0.24	0.12	0.66	0.66	0.01	0.54	0.66
Volume/Cap:	0.06	1.84	1.84	1.84	0.15	0.22	1.12	1.84	1.84	1.84	1.12	0.32
Delay/Veh:	42.1	1064	1064	1074	46.1	35.4	144.5	1001	1001	1582	86.2	8.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.1	1064	1064	1074	46.1	35.4	144.5	1001	1001	1582	86.2	8.7
DesignQueue:	1	16	28	37	3	7	23	228	3	2	126	12

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 SR 12/Sunset

Cycle (sec):	90	Critical Vol./Cap. (X):	0.689
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	15.6
Optimal Cycle:	57	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:	Split Phase			Split Phase			Protected			Protected		
Rights:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 1	0 0	2	2 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	37	79	39	320	89	333	725	1143	38	81	837	130
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	79	39	320	89	333	725	1143	38	81	837	130
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	37	79	39	320	89	333	725	1143	38	81	837	130
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	79	39	320	89	333	725	1143	38	81	837	130
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	1.05	1.05	1.13	1.03	1.05	1.00	1.00	1.05	1.00
Final Vol.:	37	79	39	336	93	376	747	1200	38	81	879	130
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.96	0.96	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.57	0.43	2.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	1900	1615	2857	791	3230	3610	3800	1615	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.04	0.02	0.12	0.12	0.12	0.21	0.32	0.02	0.04	0.23	0.08
Crit Moves:		****			****		****				****	
Green/Cycle:	0.06	0.06	0.14	0.17	0.17	0.47	0.30	0.56	0.62	0.08	0.34	0.51
Volume/Cap:	0.34	0.69	0.17	0.69	0.69	0.25	0.69	0.57	0.04	0.57	0.69	0.16
Delay/Veh:	26.9	37.3	22.1	24.9	24.9	9.2	19.3	8.6	4.4	29.6	17.8	7.7
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:	26.9	37.3	22.1	24.9	24.9	9.2	19.3	8.6	4.4	29.6	17.8	7.7
DesignQueue:	2	4	2	14	4	10	28	29	1	4	31	3

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

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Intersection #3 SR 12/Walters Road

****

Cycle (sec): 90 Critical Vol./Cap. (X): 0.700
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 11.9
Optimal Cycle: 50 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			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 0	1 0	1	1 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	71	40	6	122	134	472	769	609	133	8	432	141
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:	71	40	6	122	134	472	769	609	133	8	432	141
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	71	40	6	122	134	472	769	609	133	8	432	141
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	40	6	122	134	472	769	609	133	8	432	141
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	1.05	1.00	1.03	1.05	1.00
Final Vol.:	71	40	6	122	134	472	769	639	133	8	454	141
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.44	1.00	0.85	0.83	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	836	1900	1615	1577	1900	1615	1805	3800	1615	3610	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.08	0.02	0.00	0.08	0.07	0.29	0.43	0.17	0.08	0.00	0.12	0.09
Crit Moves:	****						****				****	
Green/Cycle:	0.12	0.12	0.13	0.12	0.12	0.73	0.61	0.77	0.77	0.01	0.17	0.17
Volume/Cap:	0.70	0.17	0.03	0.64	0.58	0.40	0.70	0.22	0.11	0.22	0.70	0.51
Delay/Veh:	37.1	23.0	22.0	29.1	26.8	3.1	9.2	1.9	1.7	29.0	25.1	23.3
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:	37.1	23.0	22.0	29.1	26.8	3.1	9.2	1.9	1.7	29.0	25.1	23.3
DesignQueue:	3	2	0	5	6	7	17	8	2	0	19	6

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

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Intersection #4 SR 12/Shiloh/Lambie

****

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: C

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	10	2	1	7	4	25	31	671	18	3	375	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	2	1	7	4	25	31	671	18	3	375	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	2	1	7	4	25	31	671	18	3	375	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	2	1	7	4	25	31	671	18	3	375	2
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	11	2	1	8	4	28	34	671	18	3	375	2
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	6.0	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1105	1091	680	1092	1099	376	377	xxxx	xxxxx	689	xxxx	xxxxx
Potent Cap.:	243	292	626	247	289	893	1134	xxxx	xxxxx	805	xxxx	xxxxx
Adj Cap:	0.92	0.94	1.00	0.95	0.94	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	223	276	626	235	273	893	1134	xxxx	xxxxx	805	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	16.9	13.2	5.8	15.8	13.4	4.1	3.3	xxxx	xxxxx	4.5	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	242	xxxxx	xxxx	497	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	15.5	xxxxx	xxxxx	7.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	C	*	*	B	*	*	*	*	*	*	*
ApproachDel:		15.5			7.4			0.2			0.0	

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

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Intersection #5 SR 12/SR 113

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Average Delay (sec/veh): 100.5 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	0	1	0 0 1!	0	0	0 0 1!	0	0	1 0 1	0	1
Volume Module:												
Base Vol:	3 5	5		273	14	4	9	728	5	5	396	100
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 5	5		273	14	4	9	728	5	5	396	100
User Adj:	1.00 1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00 1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3 5	5		273	14	4	9	728	5	5	396	100
Reduct Vol:	0 0	0		0	0	0	0	0	0	0	0	0
Final Vol.:	3 5	5		273	14	4	9	728	5	5	396	100
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx xxxx			xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx xxxx			xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10 1.10	1.10		1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx xxxx			xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx xxxx			xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	3 6	6		300	15	4	10	728	5	6	396	100
Critical Gap Module:												
MoveUp Time:	3.4 3.3	2.6		3.4	3.3	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5 6.0	5.5		6.5	6.0	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1150 1241	731		1146	1143	396	496	xxxx	xxxxx	733	xxxx	xxxxx
Potent Cap.:	229 244	590		230	274	872	995	xxxx	xxxxx	767	xxxx	xxxxx
Adj Cap:	0.93 0.98	1.00		0.96	0.98	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	213 238	590		220	267	872	995	xxxx	xxxxx	767	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	17.1 15.5	6.1		526.6	14.2	4.1	3.7	xxxx	xxxxx	4.7	xxxx	xxxxx
LOS by Move:	* *	B		*	*	*	A	*	*	A	*	*
Movement:	LT - LTR	- RT		LT - LTR		- RT	LT - LTR		- RT	LT - LTR		- RT
Shared Cap.:	228 xxxx	xxxxx		xxxx	224	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	16.1 xxxx	xxxxx		xxxxx	495	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	C *	*		*	F	*	*	*	*	*	*	*
ApproachDel:	12.3			494.7			0.0			0.1		

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****

Intersection #6 SR 12/Summerset

****

Cycle (sec): 90 Critical Vol./Cap. (X): 0.391
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 6.2
Optimal Cycle: 29 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:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2 0	0	0 1	1 0	2	0 0	0 0	2	0 1
Volume Module:												
Base Vol:	0	0	0	226	0	119	26	781	0	0	988	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	226	0	119	26	781	0	0	988	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	226	0	119	26	781	0	0	988	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	226	0	119	26	781	0	0	988	76
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	1.03	1.00	1.00	1.00	1.05	1.00	1.00	1.05	1.00
Final Vol.:	0	0	0	233	0	119	26	820	0	0	1037	76
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3610	0	1615	1805	3800	0	0	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.06	0.00	0.07	0.01	0.22	0.00	0.00	0.27	0.05
Crit Moves:				****			****				****	
Green/Cycle:	0.00	0.00	0.00	0.17	0.00	0.20	0.04	0.73	0.00	0.00	0.70	0.86
Volume/Cap:	0.00	0.00	0.00	0.39	0.00	0.36	0.39	0.29	0.00	0.00	0.39	0.05
Delay/Veh:	0.0	0.0	0.0	21.9	0.0	20.3	29.3	2.6	0.0	0.0	3.7	0.6
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:	0.0	0.0	0.0	21.9	0.0	20.3	29.3	2.6	0.0	0.0	3.7	0.6
DesignQueue:	0	0	0	10	0	5	1	12	0	0	17	1

****

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #7 SR 12/Church Rd

****

Average Delay (sec/veh): 33.5 Worst Case 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						Uncontrolled						Uncontrolled					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	1!	0	0		0	0	1!	0	0		0	0	1!	0	0		0	0	1!	0	0	
Volume Module:																								
Base Vol:	5		3		10		17		0		285		44		650		2		10		1245		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	1.00	1.00		1.00		1.00
Initial Bse:	5		3		10		17		0		285		44		650		2		10		1245		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	1.00	1.00		1.00		1.00
PHF Adj:	1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00
PHF Volume:	5		3		10		17		0		285		44		650		2		10		1245		10	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
Final Vol.:	5		3		10		17		0		285		44		650		2		10		1245		10	
Adjusted Volume Module:																								
Grade:	0%						0%						0%						0%					
% Cycle/Cars:	xxxx		xxxx				xxxx		xxxx				xxxx		xxxx				xxxx		xxxx			
% Truck/Comb:	xxxx		xxxx				xxxx		xxxx				xxxx		xxxx				xxxx		xxxx			
PCE Adj:	1.10	1.10		1.10		1.10	1.10	1.10		1.10		1.10	1.10	1.00		1.00		1.10	1.10	1.00		1.00		1.00
Cycl/Car PCE:	xxxx		xxxx				xxxx		xxxx				xxxx		xxxx				xxxx		xxxx			
Trck/Cmb PCE:	xxxx		xxxx				xxxx		xxxx				xxxx		xxxx				xxxx		xxxx			
Adj Vol.:	6		3		11		19		0		314		48		650		2		11		1245		10	
Critical Gap Module:																								
MoveUp Time:	3.4	3.3		2.6		3.4	xxxx		2.6		2.1	xxxx	xxxxx		2.1	xxxx	xxxxx							
Critical Gp:	6.5	6.0		5.5		6.5	xxxx		5.5		5.0	xxxx	xxxxx		5.0	xxxx	xxxxx							
Capacity Module:																								
Cnflict Vol:	2098	1960		651		1962	xxxx		1250		1255	xxxx	xxxxx		652	xxxx	xxxxx							
Potent Cap.:	65	102		648		77	xxxx		322		433	xxxx	xxxxx		838	xxxx	xxxxx							
Adj Cap:	0.02	0.78		1.00		0.79	xxxx		1.00		1.00	xxxx	xxxxx		1.00	xxxx	xxxxx							
Move Cap.:	1	79		648		61	xxxx		322		433	xxxx	xxxxx		838	xxxx	xxxxx							
Level Of Service Module:																								
Stopped Del:	9348	47.1		5.6		81.1	xxxx		76.5		9.3	xxxx	xxxxx		4.3	xxxx	xxxxx							
LOS by Move:	*	*		*		*	*		*		B	*	*		A	*	*							
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx		5	xxxxx		xxxx		260	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx							
Shrd StpDel:	xxxxx	2608	xxxxx		xxxxx		76.7	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx								
Shared LOS:	*	F	*		*		F	*		*	*	*		*	*	*								
ApproachDel:	2607.7						76.7				0.6				0.0									

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 SR 12/Hillside Terrace

Cycle (sec): 60 Critical Vol./Cap. (X): 0.715
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 7.8
Optimal Cycle: 40 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			Protected			Protected		
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	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	32	18	51	60	47	67	14	801	91	84	842	42
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:	32	18	51	60	47	67	14	801	91	84	842	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	18	51	60	47	67	14	801	91	84	842	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	18	51	60	47	67	14	801	91	84	842	42
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.:	32	18	51	60	47	67	14	801	91	84	842	42
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.70	0.70	0.70	0.75	0.75	0.75	0.95	0.99	0.99	0.95	0.99	0.99
Lanes:	0.32	0.18	0.50	0.34	0.27	0.39	1.00	0.90	0.10	1.00	0.95	0.05
Final Sat.:	420	236	669	490	384	547	1805	1689	192	1805	1792	89
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.08	0.12	0.12	0.12	0.01	0.47	0.47	0.05	0.47	0.47
Crit Moves:					****			****		****		
Green/Cycle:	0.17	0.17	0.17	0.17	0.17	0.17	0.01	0.66	0.66	0.07	0.72	0.72
Volume/Cap:	0.45	0.45	0.45	0.71	0.71	0.71	0.66	0.71	0.71	0.71	0.66	0.66
Delay/Veh:	15.4	15.4	15.4	21.6	21.6	21.6	51.5	5.6	5.6	29.9	3.8	3.8
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:	15.4	15.4	15.4	21.6	21.6	21.6	51.5	5.6	5.6	29.9	3.8	3.8
DesignQueue:	1	1	1	2	1	2	0	10	1	3	9	0

SR 12 MIS
Lambie Business Park Sensitivity Analysis

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 7 SR 12/Church Rd	B	1.3	0.000	B	1.3	0.000	+ 0.000 V/C
# 9 SR 12/Hillside Terrace	B	5.7	0.387	B	5.7	0.387	+ 0.000 D/V

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #7 SR 12/Church Rd

****

Average Delay (sec/veh): 1.3 Worst Case 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			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	3	2	6	8	0	134	31	156	1	8	565	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	2	6	8	0	134	31	156	1	8	565	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	2	6	8	0	134	31	156	1	8	565	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	2	6	8	0	134	31	156	1	8	565	6
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	3	2	7	9	0	147	34	156	1	9	565	6
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	xxxx	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	xxxx	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	831	767	157	768	xxxx	568	571	xxxx	xxxxx	157	xxxx	xxxxx
Potent Cap.:	350	432	1154	381	xxxx	714	916	xxxx	xxxxx	1443	xxxx	xxxxx
Adj Cap:	0.76	0.95	1.00	0.95	xxxx	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	267	411	1154	362	xxxx	714	916	xxxx	xxxxx	1443	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	13.6	8.8	3.1	10.2	xxxx	6.2	4.1	xxxx	xxxxx	2.5	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	516	xxxxx	xxxx	677	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	7.0	xxxxx	xxxxx	6.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	B	*	*	*	*	*	*	*
ApproachDel:		7.0			6.4			0.7			0.0	

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 SR 12/Hillside Terrace

Cycle (sec): 60 Critical Vol./Cap. (X): 0.387
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 5.7
Optimal Cycle: 22 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						Protected						Protected					
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		1	0	0	1	0		1	0	0	1	0	
Volume Module:																								
Base Vol:	30	17	48				29	23	33				11	378	76				66	417	33			
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	17	48				29	23	33				11	378	76				66	417	33			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Volume:	30	17	48				29	23	33				11	378	76				66	417	33			
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
Reduced Vol:	30	17	48				29	23	33				11	378	76				66	417	33			
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	17	48				29	23	33				11	378	76				66	417	33			
Saturation Flow Module:																								
Sat/Lane:	1900	1900	1900				1900	1900	1900				1900	1900	1900				1900	1900	1900			
Adjustment:	0.76	0.76	0.76				0.77	0.77	0.77				0.95	0.97	0.97				0.95	0.99	0.99			
Lanes:	0.32	0.18	0.50				0.34	0.27	0.39				1.00	0.83	0.17				1.00	0.93	0.07			
Final Sat.:	458	260	733				501	398	571				1805	1534	309				1805	1743	138			
Capacity Analysis Module:																								
Vol/Sat:	0.07	0.07	0.07				0.06	0.06	0.06				0.01	0.25	0.25				0.04	0.24	0.24			
Crit Moves:		****												****						****				
Green/Cycle:	0.17	0.17	0.17				0.17	0.17	0.17				0.02	0.64	0.64				0.09	0.71	0.71			
Volume/Cap:	0.39	0.39	0.39				0.34	0.34	0.34				0.34	0.39	0.39				0.39	0.34	0.34			
Delay/Veh:	14.8	14.8	14.8				14.5	14.5	14.5				21.0	3.5	3.5				17.2	2.2	2.2			
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:	14.8	14.8	14.8				14.5	14.5	14.5				21.0	3.5	3.5				17.2	2.2	2.2			
DesignQueue:	1	0	1				1	1	1				0	5	1				2	4	0			

SR 12 MIS
Lambie Business Park Sensitivity Analysis

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 7 SR 12/Church Rd	D	4.5	0.000	D	4.5	0.000	+ 0.000 V/C
# 9 SR 12/Hillside Terrace	B	7.3	0.498	B	7.3	0.498	+ 0.000 D/V

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #7 SR 12/Church Rd

****

Average Delay (sec/veh): 4.5 Worst Case 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						Uncontrolled						Uncontrolled					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	1!	0	0		0	0	1!	0	0		0	0	1!	0	0		0	0	1!	0	0	
Volume Module:																								
Base Vol:	5		3		10		17		0		285		44		267		2		12		915		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:	5		3		10		17		0		285		44		267		2		12		915		10	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Volume:	5		3		10		17		0		285		44		267		2		12		915		10	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
Final Vol.:	5		3		10		17		0		285		44		267		2		12		915		10	
Adjusted Volume Module:																								
Grade:	0%						0%						0%						0%					
% Cycle/Cars:	xxxx		xxxx				xxxx		xxxx				xxxx		xxxx				xxxx		xxxx			
% Truck/Comb:	xxxx		xxxx				xxxx		xxxx				xxxx		xxxx				xxxx		xxxx			
PCE Adj:	1.10		1.10		1.10		1.10		1.10		1.10		1.10		1.00		1.00		1.10		1.00		1.00	
Cycl/Car PCE:	xxxx		xxxx				xxxx		xxxx				xxxx		xxxx				xxxx		xxxx			
Trck/Cmb PCE:	xxxx		xxxx				xxxx		xxxx				xxxx		xxxx				xxxx		xxxx			
Adj Vol.:	6		3		11		19		0		314		48		267		2		13		915		10	
Critical Gap Module:																								
MoveUp Time:	3.4		3.3		2.6		3.4		xxxx		2.6		2.1		xxxx		xxxxx		2.1		xxxx		xxxxx	
Critical Gp:	6.5		6.0		5.5		6.5		xxxx		5.5		5.0		xxxx		xxxxx		5.0		xxxx		xxxxx	
Capacity Module:																								
Cnflict Vol:	1387		1249		268		1251		xxxx		920		925		xxxx		xxxxx		269		xxxx		xxxxx	
Potent Cap.:	167		241		1013		200		xxxx		473		621		xxxx		xxxxx		1276		xxxx		xxxxx	
Adj Cap:	0.31		0.89		1.00		0.89		xxxx		1.00		1.00		xxxx		xxxxx		1.00		xxxx		xxxxx	
Move Cap.:	51		214		1013		178		xxxx		473		621		xxxx		xxxxx		1276		xxxx		xxxxx	
Level Of Service Module:																								
Stopped Del:	77.5		17.1		3.6		22.3		xxxx		18.9		6.2		xxxx		xxxxx		2.8		xxxx		xxxxx	
LOS by Move:	*		*		*		*		*		*		B		*		*		A		*		*	
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx		149		xxxxx		xxxx		433		xxxxx		xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx	
Shrd StpDel:	xxxxx		26.4		xxxxx		xxxxx		19.1		xxxxx		xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx	
Shared LOS:	*		D		*		*		C		*		*		*		*		*		*		*	
ApproachDel:			26.4						19.1						1.0						0.0			

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SR 12 MIS
Lambie Business Park Sensitivity Analysis

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****

Intersection #9 SR 12/Hillside Terrace

****

Cycle (sec): 60 Critical Vol./Cap. (X): 0.498
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 7.3
Optimal Cycle: 26 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			Protected			Protected		
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	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	32	18	51	60	47	67	14	418	91	84	512	42
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:	32	18	51	60	47	67	14	418	91	84	512	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	18	51	60	47	67	14	418	91	84	512	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	18	51	60	47	67	14	418	91	84	512	42
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.:	32	18	51	60	47	67	14	418	91	84	512	42
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.71	0.71	0.71	0.73	0.73	0.73	0.95	0.97	0.97	0.95	0.99	0.99
Lanes:	0.32	0.18	0.50	0.34	0.27	0.39	1.00	0.82	0.18	1.00	0.92	0.08
Final Sat.:	430	242	685	479	375	535	1805	1514	329	1805	1738	143
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.13	0.13	0.13	0.01	0.28	0.28	0.05	0.29	0.29
Crit Moves:					****			****		****		
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.02	0.55	0.55	0.09	0.63	0.63
Volume/Cap:	0.30	0.30	0.30	0.50	0.50	0.50	0.47	0.50	0.50	0.50	0.47	0.47
Delay/Veh:	11.9	11.9	11.9	13.4	13.4	13.4	26.3	5.6	5.6	18.6	3.9	3.9
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:	11.9	11.9	11.9	13.4	13.4	13.4	26.3	5.6	5.6	18.6	3.9	3.9
DesignQueue:	1	0	1	2	1	2	0	7	1	3	7	1

****

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APPENDIX C

SHOPP FACT SHEETS

FACT SHEET
Sol-12 Rehabilitation and Vertical Curve Correction
EA 04-0T1010

PROJECT DESCRIPTION:

This project proposes to rehabilitate Route 12 in Solano County from the Denverton Overhead (PM 14.7) to Currie Road (PM 20.6). The proposed work will include overlay of the existing road, drainage modifications, vertical alignment improvements, left-turn lane construction, and intersection widening.

FUNDING:

Support:	$259,000
Right of Way:	$70,000
Construction:	$24.98 million
Total:	$25.31 million

SCHEDULE:

	Present Schedule	Proposed Schedule
PA & ED	April 2002	October 2004
PS & E	August 2003	February 2006
R/W Certification	August 2003	February 2006
RTL	December 2003	June 2006
Construction Begin	May 2004	November 2006

CURRENT STATUS:

- Preliminary design is underway.
- Office of Environmental Planning is preparing the Negative Declaration/FONSI. They cannot complete the Negative Declaration/FONSI until 2004 because of the need to assess wetlands along Route 12 for the presence of Fairy Shrimp for two wet seasons. The Fairy Shrimp is an endangered species and the United States Fish and Wildlife Service requires that wetlands that may be habitat for them be assessed for their presence for two years.

June 13, 2001

FACT SHEET
Sol-12 Bridge Replacement
EA 04-0T1021

PROJECT DESCRIPTION:

The project is located in Solano County on State Route 12 at Round Hill Creek Bridge. It will replace the Round Hill Creek Bridge with a structure that meets present standards and will conform to the highway improvements planned for the project to rehabilitate Route 12 from Denverton Overhead to Currie Road, Sol-12-14.7/20.6, EA 0T1010. This work was originally part of the highway rehabilitation project, but the Round Hill Creek Bridge was showing serious scour difficulties so this work was made into a separate project which could be accomplished more quickly.

FUNDING: (2000 SHOPP)

Bridge Construction	$858,000
Highway Construction	$742,000
Total	$1,600,000

SCHEDULE:

PA & ED	April 2000
PS & E	July 2001
R/W Certification	July 2001
RTL	October, 2001
Construction Begin	April 2002

CURRENT STATUS:

- Final design is underway.
- Acquiring needed environmental permits.

FACT SHEET
Sol-12 Rehabilitation and Vertical Curve Correction
EA 04-0T0900

PROJECT DESCRIPTION:

The project is located in Solano County on State Route 12 from 07 miles east of Scally Road (PM 7.9, KP 12.7) near Suisun City to the Denverton Overhead (PM 14.7, KP 23.7). The proposed work for this project includes rehabilitation of the existing roadway and miscellaneous improvements such as shoulder widening, bridge rail upgrades, drainage modifications and profile grade modification.

FUNDING: (2000 SHOPP)

Right of Way	$45,000
Construction	$8.237 million
Total	$8.282 million

SCHEDULE:

	Present Schedule	Proposed Schedule
PA & ED	April 2002	October 2004
PS & E	August 2003	February 2006
R/W Certification	August 2003	February 2006
RTL	December 2003	June 2006
Construction Begin	May 2004	November 2006

CURRENT STATUS:

- Preliminary design is underway.
- Office of Environmental Planning is preparing the Negative Declaration/FONSI. They cannot complete the Negative Declaration/FONSI until 2004 because of the need to assess wetlands along Route 12 for the presence of Fairy Shrimp for two wet seasons. The Fairy Shrimp is an endangered species and the United States Fish and Wildlife Service requires that wetlands that may be habitat for them be assessed for their presence for two years.

June 13, 2001

APPENDIX D

ENVIRONMENTAL REFERENCES

Habitat & Species	Scientific Name	Status[L]			Comments
		Federal	State	CNPS	
**Short-eared Owl	*Asio flammeus*	—	CSC		Grassland, marsh, and shrubby riparian habitat. Would generally be covered by conservation actions for other required species.
**Salt Marsh Common Yellowthroat	*Geothlypis trichas sinuosa*	SOC	CSC		Would generally be covered by conservation actions for other required species in marsh habitats.
**Suisun Song Sparrow	*Melospiza melodia maxillaris*	SOC	CSC		Would generally be covered by conservation actions for other required species in marsh habitats.
**San Pablo Song Sparrow	*Melospiza melodia samuelis*	SOC	CSC		Would generally be covered by conservation actions for other required species in marsh habitats.
**Tricolored Blackbird	*Agelaius tricolor*	SOC	CSC		Potential for future listing. Some overlap in habitat associations with required species such as giant garter snake, but has wider range in County.
**Suisun Shrew	*Sorex ornatus sinuosus*	SOC	CSC		Would generally be covered by conservation actions for other required species in marsh habitats such as clapper rail, black rail, and salt marsh harvest mouse.
**Salt-Marsh Harvest Mouse	*Reithrodontomys raviventris*	FE	SE, CFP		Required species.
DEVELOPED					
Includes Burrowing owl and species associated with seasonally wet grasslands and marsh habitats					
GRASSLAND					
Plants					
Showy Indian Clover	*Trifolium amoenum*	FE	—	List 1B	Natural populations extinct in County. One known wild population in Sonoma County. If present, impacts and required conservation measures would be project specific.

JUN-14-01 15:43 From:KORVE ENGINEERING OAKLAND 5108345220 T-675 P.02 Job-113

Habitat & Species	Scientific Name	Status[1]			Comments
		Federal	State	CNPS	
**Contra Costa Goldfields	*Lasthenia conjugens*	FE	—	List 1B	Required species.
**Alkali Milk-vetch	*Astragalus tener* var. *tener*	SOC	—	List 1B	Required species.
Adobe-lily	*Fritillaria pluriflora*	SOC	—	List 1B	Generally associated with serpentine or high clay soils. Not regularly encountered and suitable habitat is limited within member agency jurisdictions. Conservation measures may be best addressed on a project specific basis.
Big-scale Balsamroot	*Balsamorhiza macrolepis* var. *macrolepis*	—	—	List 1B	Likely limited distribution within member agency jurisdictions. Conservation measures may be best addressed on a project specific basis.
**Brittlescale	*Atriplex depressa*	—	—	List 1B	Required species.
Mt. Diablo Fairy-lantern	*Calochortus pulchellus*	—	—	List 1B	Likely limited distribution within member agency jurisdictions. Conservation measures may be best addressed on a project specific basis.
**Congdon's Tarplant	*Hemizonia parryi* ssp. *congdonii*	SOC	—	List 1B	Required species.
**Crampton's Tuctoria (Solano Grass)	*Tuctoria mucronata*	FE	SE	List 1B	Required species.
**Baker's Navarretia	*Navarretia leucocephala* ssp. *bakeri*	SOC	—	List 1B	Required species.
**Brewer's Western Flax	*Hesperolinon breweri*	SOC	—	List 1B	Required species.
Big Tarplant	*Blepharizonia plumosa* ssp. *plumosa*	—	—	List 1B	Likely limited distribution within member agency jurisdictions. Conservation measures may be best addressed on a project specific basis.
**Carquinez Goldenbush	*Isocoma arguta*	SOC	—	List 1B	Required species.
**Fragrant Fritillary	*Fritillaria liliacea*	SOC	—	List 1B	Required species.
Woolly-headed Lessingia	*Lessingia hololeuca*	—	—	List 3	Generally in coniferous forest and grasslands on serpentine or heavy clay soils. Suitable habitat likely limited within member agency jurisdictions. Conservation measures may be best addressed on a project specific basis.

JUN-14-01 15:43 From:KORVE ENGINEERING OAKLAND 5108345220 T-675 P.03 Job-113

Habitat & Species	Scientific Name	Status[1]			Comments
		Federal	State	CNPS	
**Crownscale	*Atriplex coronata var. coronata*	—	—	List 4	List 4 plants are not generally addressed in most CEQA documents as threatened or endangered. Occurs in vernal pools on alkali soils, conservation measures could likely be incorporated with other required species.
**Gairdner's Yampah	*Perideridia gairdneri ssp. gairdneri*	SOC	—	List 4	List 4 plants are not generally addressed in most CEQA documents as threatened or endangered. Typically occurs around vernal pools and conservation measures could likely be incorporated with other required species.
**Lobb's Aquatic Buttercup	*Ranunculus lobbii*	—	—	List 4	List 4 plants are not generally addressed in most CEQA documents as threatened or endangered. Typically occurs around vernal pools and conservation measures could likely be incorporated with other required species.
Wildlife					
Prairie Falcon	*Falco mexicanus*	—	CSC		Limited potential for significant impacts for anticipated activities. Primary concerns would be for impacts to limited nesting habitat. Impacts would typicaly be project specific and best addressed on an individual project basis.
Golden Eagle	*Aquila chrysaetos*	—	CSC		Limited potential for significant impacts for anticipated activities. Primary concerns would be for impacts to limited nesting habitat. Impacts would typicaly be project specific and best addressed on an individual project basis.
**Swainson's Hawk	*Buteo swainsoni*	—	ST		State listed species, a concern for development and some O&M activities in much of county.
Mountain Plover	*Charadrius montanus*	FPT	CSC		Winter migrant to region. Concerns for population are based on nesting habitat and not wintering habitat.
**Burrowing Owl	*Athene cunicularia*	SOC	CSC		Occurs in a broad variety of habitats. Nest sites are protected under State and Federal regulations. Potential for future listing.
California Horned Lark	*Eremophila alpestris actia*	—	CSC		Would be covered in part by conservation measures for vernal pool species, but has a broader occurrence in grassland habitats and may require additional measures.
Loggerhead Shrike	*Lanius ludovicianus*	—	CSC		Would be covered in part by conservation measures for vernal pool species, but has a broader occurrence in grassland habitats and may require additional measures.

JUN-14-01 15:43 From:KORVE ENGINEERING OAKLAND 5108345220 T-675 P.04 Job-113

Habitat & Species	Scientific Name	Status[1]			Comments
		Federal	State	CNPS	
**Callippe Silverspot Butterfly	*Speyeria callippe callippe*	FE	—		Required species.
GRASSLAND - SEASONALLY WET (includes vernal pools)					
Plants					
**Heartscale	*Atriplex cordulata*	SOC	—	List 1B	Required species.
**Recurved Larkspur	*Delphinium recurvatum*	SOC	—	List 1B	Required species.
**Colusa Grass	*Neostapfia colusana*	FT	SE	List 1B	Required species.
**Legenere	*Legenere limosa*	SOC	—	List 1B	Required species.
**Vernal Pool Smallscale	*Atriplex persistens*	—	—	List 1B	Conservation measures would generally be covered in association with other required species.
**Brittlescale	*Atriplex depressa*	SOC	—	List 1B	Required species.
**Hispid Bird's-beak	*Cordylanthus mollis* ssp. *hispidus*	SOC	—	List 1B	Required species.
**Contra Costa Goldfields	*Lasthenia conjugens*	FE	—	List 1B	Required species.
**Crampton's Tuctoria (Solano Grass)	*Tuctoria mucronata*	FE	SE	List 1B	Required species.
**Boggs Lake Hedge-hyssop	*Gratiola heterosepala*	SOC	SE	List 1B	Required species.
**Baker's Navarretia	*Navarretia leucocephala* ssp. *bakeri*	SOC	—	List 1B	Required species.
**Ferris's Milk-vetch	*Astragalus tener* var. *ferrisiae*	SOC	—	List 1B	Required species.
**San Joaquin Spearscale	*Atriplex joaquiniana*	SOC	—	List 1B	Required species.
**Alkali Milk-vetch	*Astragalus tener* var. *tener*	SOC	—	List 1B	Required species.
**Dwarf Downingia	*Downingia pusilla*	SOC	—	List 2	Required species.

JUN-14-01 15:43 From:KORVE ENGINEERING OAKLAND 5108345220 T-675 P.05/14 Job-113

JUN-14-01 15:44 From:KORVE ENGINEERING OAKLAND 5108345220 T-675 P.06/14 Job-113

Habitat & Species	Scientific Name	Status[1]			Comments
		Federal	State	CNPS	
**Rayless Ragwort	*Senecio aphanactis*	—	—	List 2	Generally associated with alkaline soils and seasonal wetlands. Conservation measures could be incorporated with other required species.
**Crownscale	*Atriplex coronata var. coronata*	—	—	List 4	List 4 plants are not generally addressed in most CEQA documents as threatened or endangered. Typically occurs around vernal pools and conservation measures could likely be incorporated with other required species.
**Gairdner's Yampah	*Perideridia gairdneri ssp. gairdneri*	SOC	—	List 4	List 4 plants are not generally addressed in most CEQA documents as threatened or endangered. Typically occurs around vernal pools and conservation measures could likely be incorporated with other required species.
**Delta Woolly-marbles	*Psilocarphus brevissimus var. multiflorus*	—	—	List 4	List 4 plants are not generally addressed in most CEQA documents as threatened or endangered. Typically occurs around vernal pools and conservation measures could likely be incorporated with other required species.
**Lobb's Aquatic Buttercup	*Ranunculus lobbii*	—	—	List 4	List 4 plants are not generally addressed in most CEQA documents as threatened or endangered. Typically occurs around vernal pools and conservation measures could likely be incorporated with other required species.
Wildlife					
**California Tiger Salamander	*Ambystoma californiense*	FC	CSC		Required species.
**Conservancy Fairy Shrimp	*Branchinecta conservatio*	FE	—		Required species.
**Vernal Pool Fairy Shrimp	*Branchinecta lynchi*	FT	—		Required species.
**Vernal Pool Tadpole Shrimp	*Lepidurus packardi*	FE	—		Required species.
**Delta Green Ground Beetle	*Elaphrus viridis*	FT	—		Required species.
**Ricksecker's Water Beetle	*Hydrochara rickseckeri*	SOC	—		Conservation actions likely to be covered by other required species.
Levees					

JUN-14-01 15:44 From:KORVE ENGINEERING OAKLAND 5108345220 T-675 P.07/14 Job-113

Habitat & Species	Scientific Name	Status[1]			Comments
		Federal	State	CNPS	
Plants – None Expected					
Wildlife					
**Burrowing Owl	*Athene cunicularia*	SOC	CSC		Occurs in a broad variety of habitats. Nest sites are protected under State and Federal regulations. Potential for future listing and an issue for actions of several member agencies. Required species.
**Giant Garter Snake	*Thamnophis gigas*	FT	ST		
**Valley Elderberry Longhorn Beetle	*Desmocerus californicus dimorphus*	FT	—		Required species.
OAK SAVANNA - WOODLAND					
Plants					
**Recurved Larkspur	*Delphinium recurvatum*	SOC	—	List 1B	Required species.
Adobe-lily	*Fritillaria pluriflora*	SOC	—	List 1B	Generally associated with serpentine or high clay soils. Not regularly encountered and suitable habitat is limited within member agency jurisdictions. Conservation measures may be best addressed on a project specific basis. Required species.
**Contra Costa Goldfields	*Lasthenia conjugens*	FE	—	List 1B	
Big-scale Balsamroot	*Balsamorhiza macrolepis* var. *macrolepis*	—	—	List 1B	Likely limited distribution within member agency jurisdictions. Conservation measures may be best addressed on a project specific basis. Required species.
**Baker's Navarretia	*Navarretia leucocephala* ssp. *bakeri*	SOC	—	List 1B	
Mt. Diablo Fairy-lantern	*Calochortus pulchellus*	—	—	List 1B	Likely limited distribution within member agency jurisdictions. Conservation measures may be best addressed on a project specific basis. Required species.
**Brewer's Western Flax	*Hesperolinon breweri*	SOC	—	List 1B	

Habitat & Species	Scientific Name	Status[1]			Comments
		Federal	State	CNPS	
**Rayless Ragwort	*Senecio aphanactis*	—	—	List 2	Generally associated with alkaline soils and seasonal wetlands. Conservation measures could be incorporated with other required species.
Streamside Daisy	*Erigeron biolettii*	—	—	List 3	In broad-leaved and coniferous forest and woodland in mesic and often rocky areas. Suitable habitat is limited or absent in most member agency jurisdictions and conservation measures may be best addressed on a case by case basis.
Green Monardella	*Monardella viridis ssp. viridis*	—	—	List 4	Typical habitats are limited in member agency jurisdictions and conservation measures may be best addressed on a case by case basis.
**Gairdner's Yampah	*Perideridia gairdneri ssp. gairdneri*	SOC	—	List 4	List 4 plants are not generally addressed in most CEQA documents as threatened or endangered. Typically occurs around vernal pools and conservation measures could likely be incorporated with other required species.
**Lobb's Aquatic buttercup	*Ranunculus lobbii*	—	—	List 4	List 4 plants are not generally addressed in most CEQA documents as threatened or endangered. Typically occurs around vernal pools and conservation measures could likely be incorporated with other required species.
Victor's Gooseberry	*Ribes victoris*	—	—	List 4	Typical habitats are limited in member agency jurisdictions and conservation measures may be best addressed on a case by case basis.
Wildlife					
Golden Eagle	*Aquila chrysaetos*	—	CSC		Primary concerns would be for impacts to limited nesting habitat. Limited potential for significant impacts for anticipated activities. Impacts would typically be project specific and best addressed on an individual project basis.
Peregrine Falcon	*Falco peregrinus*	FE	SE		Primary concerns would be for impacts to limited nesting habitat. Limited potential for significant impacts for anticipated activities. Impacts would typically be project specific and best addressed on an individual project basis.
Sharp-shinned Hawk	*Accipiter striatus*	—	CSC		Primary concerns would be for impacts to limited nesting habitat. Limited potential for significant impacts for anticipated activities. Impacts would typically be project specific and best addressed on an individual project basis.

JUN-14-01 15:44 From:KORVE ENGINEERING OAKLAND 5108345220 T-675 P.08/14 Job-113

Habitat & Species	Scientific Name	Status[1]			Comments
		Federal	State	CNPS	
**Swainson's Hawk	*Buteo swainsoni*	—	ST		State listed species.
**California Red-legged Frog	*Rana aurora draytonii*	FT	CSC		Required species.
Foothill Yellow-legged Frog	*Rana boylei*	—	CSC		Suitable habitat is not generally present within jurisdiction of member agencies. Impacts would typically be project specific and conservation measures best addressed on an individual project basis.
**Callippe Silverspot Butterfly	*Speyeria callippe callippe*	FE	—		Required species.
OPEN WATER					
Plants – None Expected					
Wildlife					
Osprey	*Pandion haliaetus*	—	CSC		Primary concerns would be for impacts to nesting habitat. Limited potential for significant impacts for anticipated activities. Impacts would typically be project specific and best addressed on an individual project basis.
Bald Eagle	*Haliaeetus leucocephalus*	FE	SE		Primary concerns would be for impacts to nesting habitat. Limited potential for significant impacts for anticipated activities. Impacts would typically be project specific and best addressed on an individual project basis.
**Western Pond Turtle	*Clemmys marmorata*	SOC	CSC		Conservation actions will likely be addressed through other required species such as red-legged frog and giant garter snake.
**Giant Garter Snake	*Thamnophis gigas*	FT	ST		Required species.
**California Red-legged Frog	*Rana aurora draytonii*	FT	CSC		Required species.

JUN-14-01 15:44 From:KORVE ENGINEERING OAKLAND 5108345220 T-675 P.09/14 Job-113

Habitat & Species	Scientific Name	Status[1]			Comments
		Federal	State	CNPS	
Foothill Yellow-legged Frog	*Rana boylei*		CSC		Suitable habitat is not generally present within jurisdiction of member agencies. Impacts would typically be project specific and conservation measures best addressed on an individual project basis.
RIPARIAN					
Plants					
Northern California Black Walnut	*Juglans californica* var. *hindsii*	SOC	—	List 1B	Pure strain native stands are of limited distribution. Conservation measures best addressed on an individual project basis.
**Mason's Lilaeopsis	*Lilaeopsis masonii*	SOC	SR	List 1B	Required species.
**Delta Mudwort	*Limosella subulata*	—	—	List 2	Conservation measures can be addressed in association with other required species.
Wildlife					
Merlin	*Falco columbarius*	—	CSC		Winter migrant to region. Primary concerns for species are for impacts to nesting habitat. Limited potential for significant impacts for anticipated activities. Impacts would typically be project specific and best addressed on an individual project basis.
**Swainson's Hawk	*Buteo swainsoni*	—	ST		State listed species.
Sharp-shinned Hawk	*Accipiter striatus*	—	CSC		Primary concerns would be for impacts to nesting habitat. Limited potential for significant impacts for anticipated activities. Impacts would typically be project specific and best addressed on an individual project basis.
Cooper's Hawk	*Accipiter cooperii*	—	CSC		If included, will likely require additional conservation measures. Not directly covered by other required species. Could be addressed in part with conservation measures other riparian species such as yellow warbler and yellow-breasted chat.

JUN-14-01 15:45 From:KORVE ENGINEERING OAKLAND 5109345220 T-675 P.10/14 Job-113

Habitat & Species	Scientific Name	Status[1]			Comments
		Federal	State	CNPS	
Yellow-breasted Chat	*Icteria virens*	—	CSC		If included, will likely require additional conservation measures. Not directly covered by other required species. Could be addressed in part with conservation measures other riparian species such as yellow warbler and Cooper's hawk.
Yellow Warbler	*Dendroica petechia brewsteri*	—	CSC		If included, will likely require additional conservation measures. Not directly covered by other required species. Could be addressed in part with conservation measures other riparian species such as yellow-breasted chat and Cooper's hawk.
**California Red-legged Frog	*Rana aurora draytonii*	FT	CSC		Required species.
**Valley Elderberry Longhorn Beetle	*Desmocerus californicus dimorphus*	FT	—		Required species.
SCRUB/CHAPARRAL					
Plants					
Mt. Diablo Fairy-lantern	*Calochortus pulchellus*	—	—	List 1B	Limited potential for direct impacts through anticipated actions of member agencies. Impacts would typically be project specific and conservation measures best addressed on an individual project basis. Recommendations could change if hillside vineyard development becomes a regulated activity.
**Brewer's Western Flax	*Hesperolinon brewerl*	SDC	—	List 1B	Required species.
Holly-leaf Ceanothus	*Ceanothus purpureus*	—	—	List 4	Limited potential for direct impacts through anticipated actions of member agencies. Impacts would typically be project specific and conservation measures best addressed on an individual project basis. Recommendations could change if hillside vineyard development becomes a regulated activity.
Green Monardella	*Monardella viridis ssp. viridis*	—	—	List 4	Limited potential for direct impacts through anticipated actions of member agencies. Impacts would typically be project specific and conservation measures best addressed on an individual project basis. Recommendations could change if hillside vineyard development becomes a regulated activity.

JUN-14-01 15:45 From:KORVE ENGINEERING OAKLAND 5108345220 T-675 P.11/14 Job-113

Habitat & Species	Scientific Name	Status[1]			Comments
		Federal	State	CNPS	
Victor's Gooseberry	*Ribes victoris*	—	—	List 4	Limited potential for direct impacts through anticipated actions of member agencies. Impacts would typically be project specific and conservation measures best addressed on an individual project basis. Recommendations could change if hillside vineyard development becomes a regulated activity.
Wildlife					
Loggerhead Shrike	*Lanius ludovicianus*	—	CSC		Would be covered in part by conservation measures for vernal pool species, but has a broader occurrence in other habitats and may require additional measures.
Foothill Yellow-legged Frog	*Rana boylei*	—	CSC		Suitable habitat is not generally present within jurisdiction of member agencies. Impacts would typically be project specific and conservation measures best addressed on an individual project basis.
Misc.					
Sacramento Anthicid Beetle	*Anthicus sacramento*	SOC	—		Limited distribution, conservation measures would be best addressed on a project specific basis.

**Species tentatively proposed for inclusion in the Solano Project HCP
ESU = Evolutionarily Significant Unit

Status 1

Federal
FE = Federally Endangered Species
FT = Federally Threatened Species
SOC = Federal Species of Concern
FC = Federal Candidate for listing
FPT = Federally Proposed Threatened Species

State

CNPS (California Native Plant Society)
List 1B = Plant rare, threatened or endangered in California and elsewhere.
List 2 = Plant rare, threatened or endangered in California but common elsewhere.
List 3 = Plant for which more information is needed for assignment to a list.
List 4 = Plant of limited distribution (a watch list).

JUN-14-01 15:45 From:KORVE ENGINEERING OAKLAND 5108345220 T-675 P.12/14 Job-113

SR = State Rare Species (applies only to plants)
SE = State Endangered Species
ST = State Threatened Species
CSC = California Species of Special Concern
CFP = California Fully Protected Species

JUN-14-01 15:45 From:KORVE ENGINEERING OAKLAND 5108345220 T-675 P.13/14 Job-113

SOLANO COUNTY HABITAT CONSERVATION PLAN

Primary Habitat Description Summaries

Agriculture. Cultivated lands (currently or in recent past). Includes row crops, orchards, irrigated hay/pastures, agricultural bay lands, non-irrigated hay fields and dryland farmed lands. This habitat type can include areas of perennial and seasonal wetlands such as freshwater wetlands and vernal pool/swale complexes. Stands of trees (i.e., wind rows > 400ft long or clumps > 1 ac) and agric. structures (e.g., buildings, farms houses & assoc. landscaping and lots) are also included.

Grassland. Typically dominated by introduced annual grasses characteristic of upland areas. Isolated seasonal wetlands and vernal pools may be present, but such features are not a dominant characteristics of the landscape.

Seasonally Wet Grassland. Grassland habitat which exhibits substantial occurrence of vernal pool/swale complexes or other seasonal wetland habitats

Marsh. Includes Freshwater marshes, Tidally-influenced Marshes (Salt Marsh, Brackish Marsh, and Freshwater Marsh), Tidal flats, Diked wetlands, and shallow and deep Bays/Channel.

Levees. Variable cover along the edges of constructed dikes and various watercourses.

Riparian. Associated with the edges of ponds, lakes, intermittant and perennial watercourses. Typically dominated by trees such as willow, cottonwood, ash, oaks, and bay, as well as shrub communities such as elderberry, blackberry, California rose, and poison oak.

Open Water. Includes lakes, ponds, storage or treatment ponds, stock ponds, rivers, streams and creeks, sloughs, irrigation canals

Oak Savanna. Oak and grassland mix with tree canopy cover 10% to 25%.

Oak Woodland. Oaks and other trees are dominant with variable understory. Tree canopy cover is greater 25%.

Scrub/Chaparral. Vegetation community dominated by low growing shrubs such as coyote brush, chemise, manzanita, and ceanothus.

Developed. Urban, Residential, Golf Courses, Parks, Vacant/Disturbed Lots

Vacant/Disturbed. Habitat designation for areas of ruderal (weedy vegetation), i.e., a typical vacant lot habitat. Designated primarily for in-fill type lots and other areas which are subject to or exhibit evidence of substantial past or ongoing ground disturbance (discing, weed abatement, grading, etc.).

Rural Residential. More a land use category than a specific habitat type. This habitat is composed of typically small parcels (1 to 5+ acres), usually on the outskirts of towns, where the residential and associated land uses have a major influence on habitat conditions. Rural residential can include areas of woodland, grassland, vernal pools and swales, other seasonal wetlands, and various combinations of the habitat types listed above.

APPENDIX E

PLANNING LEVEL COST ESTIMATES

SR 12/Lambie Road/Shiloh Road
Add Accel/Decel Lanes, Left Turn Lanes and Realign

Item #	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ITEM TOTAL
1	Widen/Overlay Mainline	Mile	1	$25,000	$25,000
3	Lane Section	M	1500	$300	$450,000
4	Shoulder	M	1500	$125	$187,500
5	Drainage 10% of 1-4	LS	1		$66,250
6	Traffic Control 10% 1-5	LS	1		$72,875
7	Minor Items 10% 1-6	LS	1		$80,163
8	Roadway Additions 5% 1-7	LS	1		$44,089
9	Mobilization 10% 1-7	LS	1		$88,179
10	Contingencies 30% 1-7	LS	1		$264,536
11	Hazardous Waste Work	LS	1	$5,000	$5,000
12	Enviornmental Mitigation	AC	2	$10,000	$20,000
13	TOTAL ROADWAY ITEMS				$1,303,592

Engineering Cost though Construction 30% Item 13 $391,077.56

TOTAL PROJECT COSTS **$1,694,669**

SR 12/Church Road
Add Accel/Decel Lanes, Left Turn Lanes and Realign

Item #	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ITEM TOTAL
1	Widen/Overlay Mainline	Mile	1	$25,000	$25,000
3	Lane Section	M	1300	$300	$390,000
4	Shoulder	M	1150	$125	$143,750
5	Drainage 10% of 1-4	LS	1		$55,875
6	Traffic Control 10% 1-5	LS	1		$61,463
7	Minor Items 10% 1-6	LS	1		$67,609
8	Roadway Additions 5% 1-7	LS	1		$37,185
9	Mobilization 10% 1-7	LS	1		$74,370
10	Contingencies 30% 1-7	LS	1		$223,109
11	Hazardous Waste Work	LS	1	$5,000	$5,000
12	Enviornmental Mitigation	AC	2	$10,000	$20,000
13	TOTAL ROADWAY ITEMS				$1,103,360

Engineering Cost though Construction 30% Item 13 $331,007.87

TOTAL PROJECT COSTS **$1,434,367**

Add Accel/Decel Lanes to Railroad Museum

Item #	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ITEM TOTAL
1	Widen/Overlay Mainline	LS	0	$0	$0
3	Lane Section	M	500	$300	$150,000
4	Shoulder	M	500	$125	$62,500
5	Drainage 10% of 1-4	LS	1		$21,250
6	Traffic Control 10% 1-5	LS	1		$23,375
7	Minor Items 10% 1-6	LS	1		$25,713
8	Roadway Additions 5% 1-7	LS	1		$14,142
9	Mobilization 10% 1-7	LS	1		$28,284
10	Contingencies 30% 1-7	LS	1		$84,851
11	Hazardous Waste Work	LS	1	$5,000	$5,000
12	Enviornmental Mitigation	AC	2	$10,000	$20,000
13	TOTAL ROADWAY ITEMS				$435,114

Engineering Cost though Construction 30% Item 13 $130,534

TOTAL PROJECT COSTS $565,649

Beck Avenue - Add Accel/Decel Lanes

Item #	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ITEM TOTAL
1	Widen/Overlay Mainline	Mile	1	$0	$0
3	Lane Section	M	400	$300	$120,000
4	Shoulder	M	400	$125	$50,000
5	Drainage 10% of 1-4	LS	1		$17,000
6	Traffic Control 10% 1-5	LS	1		$18,700
7	Minor Items 10% 1-6	LS	1		$20,570
8	Roadway Additions 5% 1-7	LS	1		$11,314
9	Mobilization 10% 1-7	LS	1		$22,627
10	Contingencies 30% 1-7	LS	1		$67,881
11	Hazardous Waste Work	LS	1	$5,000	$5,000
12	Enviornmental Mitigation	AC	2	$10,000	$20,000
13	TOTAL ROADWAY ITEMS				$353,092

Engineering Cost though Construction 30% Item 13 $105,927.45

TOTAL PROJECT COSTS **$459,019**

Pennslyvania Avenue - Lane Additions

Item #	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ITEM TOTAL
1	Widen/Overlay Mainline	Mile	1	$25,000	$25,000
3	Lane Section	M	300	$300	$90,000
4	Shoulder	M	300	$125	$37,500
5	Drainage 10% of 1-4	LS	1		$15,250
6	Traffic Control 10% 1-5	LS	1		$16,775
7	Minor Items 10% 1-6	LS	1		$18,453
8	Roadway Additions 5% 1-7	LS	1		$10,149
9	Mobilization 10% 1-7	LS	1		$20,298
10	Contingencies 30% 1-7	LS	1		$60,893
11	Hazardous Waste Work	LS	1	$5,000	$5,000
12	Enviornmental Mitigation	AC	2	$10,000	$20,000
13	TOTAL ROADWAY ITEMS				$319,317

Engineering Cost though Construction 30% Item 13 $95,795.21

TOTAL PROJECT COSTS **$415,113**

Shiloh/Lambie Road - Add Right Turn Lane

Item #	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ITEM TOTAL
1	Widen/Overlay Mainline	Mile	1	$25,000	$25,000
3	Lane Section	M	100	$300	$30,000
4	Shoulder	M	100	$125	$12,500
5	Drainage 10% of 1-4	LS	1		$6,750
6	Traffic Control 10% 1-5	LS	1		$7,425
7	Minor Items 10% 1-6	LS	1		$8,168
8	Roadway Additions 5% 1-7	LS	1		$4,492
9	Mobilization 10% 1-7	LS	1		$8,984
10	Contingencies 30% 1-7	LS	1		$26,953
11	Hazardous Waste Work	LS	1	$5,000	$5,000
12	Enviornmental Mitigation	AC	2	$10,000	$20,000
13	TOTAL ROADWAY ITEMS				$155,272

Engineering Cost though Construction 30% Item 13 $46,581.49

TOTAL PROJECT COSTS **$201,853**

Widening 2 lanes to 4 lanes City Limits to River Road - 3.5 miles

Item #	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ITEM TOTAL
1	Widen/Overlay Mainline	Mile	7	$250,000	$1,750,000
2	Median Barrier	M	6000	$100	$600,000
3	Lane Section	Lane Mile	7	$950,000	$6,650,000
4	Shoulder	Lane Mile	7	$365,000	$2,555,000
5	Drainage 10% of 1-4	LS	1		$1,155,500
6	Traffic Control 10% 1-5	LS	1		$1,271,050
7	Minor Items 10% 1-6	LS	1		$1,398,155
8	Roadway Additions 5% 1-7	LS	1		$768,985
9	Mobilization 10% 1-7	LS	1		$1,537,971
10	Contingencies 30% 1-7	LS	1		$4,613,912
11	Hazardous Waste Work	LS	1		$100,000
12	Enviornmental Mitigation	AC	0	$10,000	$0
13	TOTAL ROADWAY ITEMS				$22,400,572

Engineering Cost though Construction 30% Item 13 $6,720,172

TOTAL PROJECT COSTS $29,120,744

State Route 12 - Add 1 Mile of Passing Lane
PM 11.0 to 12.0/PM 20.8 to 21.8

Item #	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ITEM TOTAL
1	Widen/Overlay Mainline	Mile	1	$250,000	$250,000
2	Median Barrier	M	0	$100	$0
3	Lane Section	Lane Mile	1	$950,000	$950,000
4	Shoulder	Lane Mile	1	$375,000	$375,000
5	Drainage 10% of 1-4	LS	1		$157,500
6	Traffic Control 10% 1-5	LS	1		$173,250
7	Minor Items 10% 1-6	LS	1		$190,575
8	Roadway Additions 5% 1-7	LS	1		$104,816
9	Mobilization 10% 1-7	LS	1		$209,633
10	Contingencies 30% 1-7	LS	1		$628,898
11	Hazardous Waste Work	LS	1		$100,000
12	Environmental Mitigation	AC	2	$10,000	$20,000
13	Structures				$3,000,000
14	TOTAL ROADWAY ITEMS				$6,159,671

Engineering Cost though Construction 30% Item 13 $1,847,901.38

TOTAL PROJECT COSTS **$8,007,573**

State Route 12 - Widening 2 Lanes to 6 Lanes
Webster/Jackson to I-80

Item #	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ITEM TOTAL
1	Widen/Overlay Mainline	Mile	5.4	$250,000	$1,350,000
2	Median Barrier	M	0	$100	$0
3	Lane Section	Lane Mile	5.4	$950,000	$5,130,000
4	Shoulder	Lane Mile	5.4	$375,000	$2,025,000
5	Drainage 10% of 1-4	LS	1		$850,500
6	Traffic Control 10% 1-5	LS	1		$935,550
7	Minor Items 10% 1-6	LS	1		$1,029,105
8	Roadway Additions 5% 1-7	LS	1		$566,008
9	Mobilization 10% 1-7	LS	1		$1,132,016
10	Contingencies 30% 1-7	LS	1		$3,396,047
11	Hazardous Waste Work	LS	1		$100,000
12	Enviornmental Mitigation	AC	10	$10,000	$100,000
13	Structures				$3,000,000
14	TOTAL ROADWAY ITEMS				$19,614,225

Engineering Cost though Construction 30% Item 13 $5,884,267.43

TOTAL PROJECT COSTS **$25,498,492**

Add median Barrier/Shoulders - Walters to Summerset Road - 16.3 miles

Item #	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ITEM TOTAL
1	Widen/Overlay Mainline	Mile	32.6	$250,000	$8,150,000
2	Median Barrier	M	26200	$100	$2,620,000
3	Lane Section	Lane Mile	0	$950,000	$0
4	Shoulder	Lane Mile	32.6	$365,000	$11,899,000
5	Drainage 10% of 1-4	LS	1		$2,266,900
6	Traffic Control 10% 1-5	LS	1		$2,493,590
7	Minor Items 10% 1-6	LS	1		$2,742,949
8	Roadway Additions 5% 1-7	LS	1		$1,508,622
9	Mobilization 10% 1-7	LS	1		$3,017,244
10	Contingencies 30% 1-7	LS	1		$9,051,732
11	Hazardous Waste Work	LS	1		$100,000
12	Enviornmental Mitigation	AC	700	$10,000	$7,000,000
13	TOTAL ROADWAY ITEMS				$50,850,037

Engineering Cost though Construction 30% Item 13 $15,255,011

TOTAL PROJECT COSTS $66,105,048

Grade Separation - Pennsylvania Avenue

Item #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
1	Remove Existing Signals/Lighting	LS	1	$75,000	$75,000
2	Remove Existing Roadway	LS	1	$75,000	$75,000
3	Obliterate Crossing	LS	1	$75,000	$75,000
4	Mainline Approach	M	125	$2,000	$250,000
5	Ramps	M	1250	$450	$562,500
6	Accel/Decel	LS	1	$250,000	$250,000
7	Drainage 10% of 1-6	LS	1		$128,750
8	Traffic Control 10% 1-7	LS	1		$141,625
9	Minor Items 10% 1-8	LS	1		$155,788
10	Roadway Additions 5% 1-9	LS	1		$85,683
11	Mobilization 10% 1-9	LS	1		$171,366
12	Contingencies 30% 1-9	LS	1		$514,099
13	Hazardous Waste Work	LS	1	$50,000	$50,000
14	Enviornmental Mitigation	Acre	10	$10,000	$100,000
15	TOTAL ROADWAY ITEMS				$2,634,811

16	Finished Width	M	18.2		
17	Span Length	M	90		
18	Total Area	M2	1638		
19	Footing Type	PILE			
20	Cost	M2		$2,350	
21	Inc. 10% mobilization				
22	Inc. 40% contingency				
23					
24					
25	TOTAL COST FOR STRUCTURE				$3,849,300

TOTAL COST FOR INTERCHANGE	$6,484,111
Engineering Costs (30%)	$1,945,233
TOTAL PROJECT COSTS	**$8,429,344**

Lambie/Shiloh Road - Addition of Left Turn Lanes

Item #	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ITEM TOTAL
1	Widen/Overlay Mainline	Mile	1	$25,000	$25,000
3	Lane Section	M	300	$300	$90,000
4	Shoulder	M	500	$125	$62,500
5	Drainage 10% of 1-4	LS	1		$17,750
6	Traffic Control 10% 1-5	LS	1		$19,525
7	Minor Items 10% 1-6	LS	1		$21,478
8	Roadway Additions 5% 1-7	LS	1		$11,813
9	Mobilization 10% 1-7	LS	1		$23,625
10	Contingencies 30% 1-7	LS	1		$70,876
11	Hazardous Waste Work	LS	1	$5,000	$5,000
12	Enviornmental Mitigation	AC	2	$10,000	$20,000
13	TOTAL ROADWAY ITEMS				$367,566

Engineering Cost though Construction 30% Item 13 $110,269.84

TOTAL PROJECT COSTS **$477,836**

APPENDIX F

SUMMARY OF PUBLIC INPUT TAKEN AT PUBLIC HEARINGS

Rio Vista and Suisun City Hwy 12 MIS Public Input Meeting Comment Summary (3-28-01 and 4-25-01)

Subject	Comment	Comment Origination
Hwy 113/12 intersection	What modifications will be made to Hwy 12/113 intersection? Will there be a left turn lane? Signal?	Rio Vista
	Hwy 113 is a terrible road. From a taxpayers view point there is a problem when there are no road improvements and growth continues to take place. Why do improvements only take place with developer fees?	Suisun
Speed Limits	No where on the power point presentation does it comment on a possible speed reduction on Hwy 12. Speeding attributes to accidents at Church and Summerset intersections.	Rio Vista
	Are speed limits too slow?	Rio Vista
Truck Traffic	Where is the truck traffic originating from? Is there a study to assess the truck traffic?	Rio Vista
	What percentage of vehicles that travel on Hwy 12 are trucks? What are the percentages based on?	Rio Vista
	Accident accountability: Are trucks the main causes of accidents on Hwy 12?	Rio Vista
	There needs to be a specific comparison/ clarification on the percentage of trucks to the local traffic (Rio Vista numbers vs. Suisun numbers).	Rio Vista
	Classify Hwy 12 as a high risk corridor to deter truck traffic. This a possible insurance incentive for trucks not to drive on Hwy 12.	Rio Vista
	Truck scale avoidance may be a contributor of truck traffic on this corridor.	Rio Vista
	Hwy 12 has a high rate of road damage (potholes etc.). The construction of the road was inadequate especially for truck traffic.	Suisun
	Truck traffic numbers may be low. Analysis of truck traffic on a daily basis would be helpful.	Suisun
Passing Lanes	Money spent on passing lanes could've been spent on double stripping the Hwy or on road repair. Passing lanes don't perform well.	Rio Vista
	No shoulders are a problem. Shoulders could provide some safety for people who want to pull over to let other people pass.	Rio Vista
	Passing lanes are very helpful.	Rio Vista
	Passing lanes are very dangerous because of merging problems, however, if done properly it may be helpful. At this point it is hard to guage when the passing lane ends because of the rolling hills.	Rio Vista
	Shiloh and Lambie is dangerous. Accel/Deceleration lanes are need for people to enter or exit the Hwy.	Suisun
Barriers	Sears Point (Highway 37 west of Vallejo) is a good comparison to Hwy 12. Highway 37 had some of the same safety issues and it was double striped to disallow passing. Another option is putting median barriers on the road.	Rio Vista

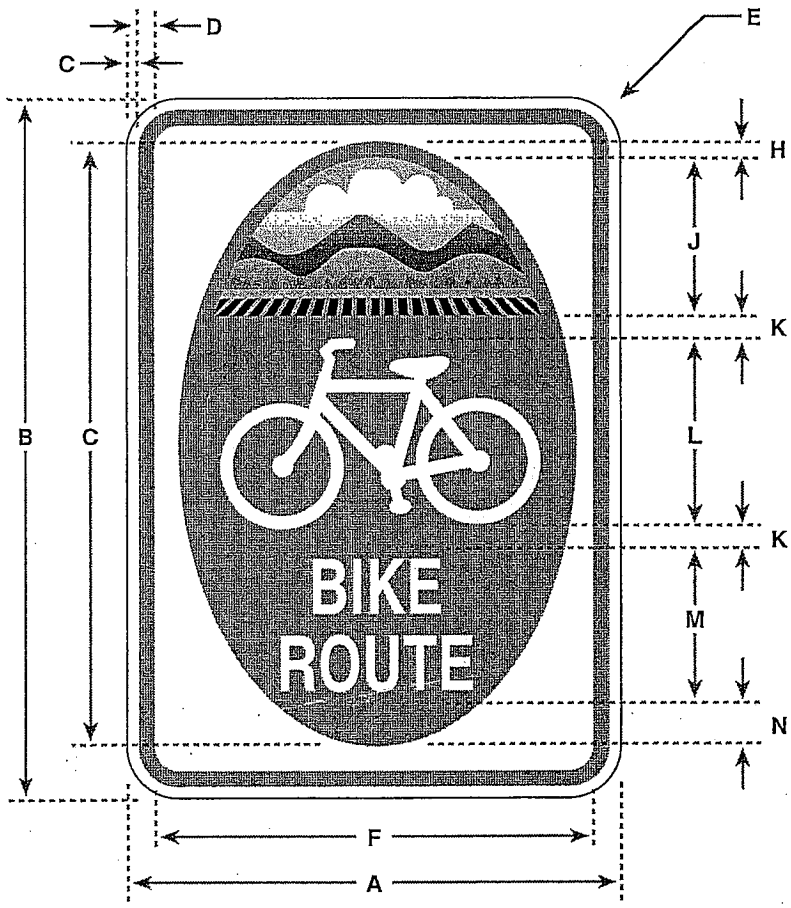
Barriers	Barriers on a two lane road work just as well (or just as bad) as on a four lane road.	Rio Vista
	Why can't median barriers be constructed as it was on Hwy 37?	Suisun
	To what extent is Caltrans involved in the study? What are Caltrans standards for putting median barriers on the Hwy.	Suisun
	HWY 12 needs median barriers for safety.	Suisun
Alternative Routes	At what point in time will traffic on alternative routes in Rio Vista (or on adjacent County roads) become a problem if congestion on Hwy 12 become worse.	Rio Vista
Planning	Coordination with San Joaquin and Sacramento County is needed for Hwy 12 planning purposes.	Rio Vista
	How will restricted or future growth affect the circulation of Hwy 12?	Rio Vista
	Prioritize funding projects for Hwy 12.	Rio Vista
	How many single-family dwellings and businesses are located directly on Hwy 12?	Suisun
Signage	More traffic safety signs would be helpful.	Rio Vista
Hwy 12 MIS	Alternatives matrix needs to be explained further.	Rio Vista
	How can citizens track impact fees to ensure that the money collected from developers was properly spent?	Rio Vista
	Western Railway Museum access and Azevedo Rd intersection need to be included in the study.	Rio Vista
	What are the next steps to the Hwy 12 MIS study?	Rio Vista
	Statistics may be low due to unreported accidents.	Suisun
	How current are the traffic counts?	Suisun
	What is the purpose of widening HWY 12? How does this project fit into the RTP?	Suisun
	I support Improvments to Hwy 12.	Comment Card

5/1/01

APPENDIX G

POTENTIAL BIKE ROUTE SIGNAGE

State of California - Department of Transportation
Code : SG45
MUTCD Number: None



Sign Size	Dimensions (inches)												
	A	B	C	D	E	F	G	H	J	K	L	M	N
12 x 18	12	18	1/4	1/4	1-1/2	10	16	1/4	4	3/4	4-1/2	4D	1-3/4
18 x 24	18	24	3/8	1/2	1-1/2	15	21	1/2	5	1	6	5D	2-1/2

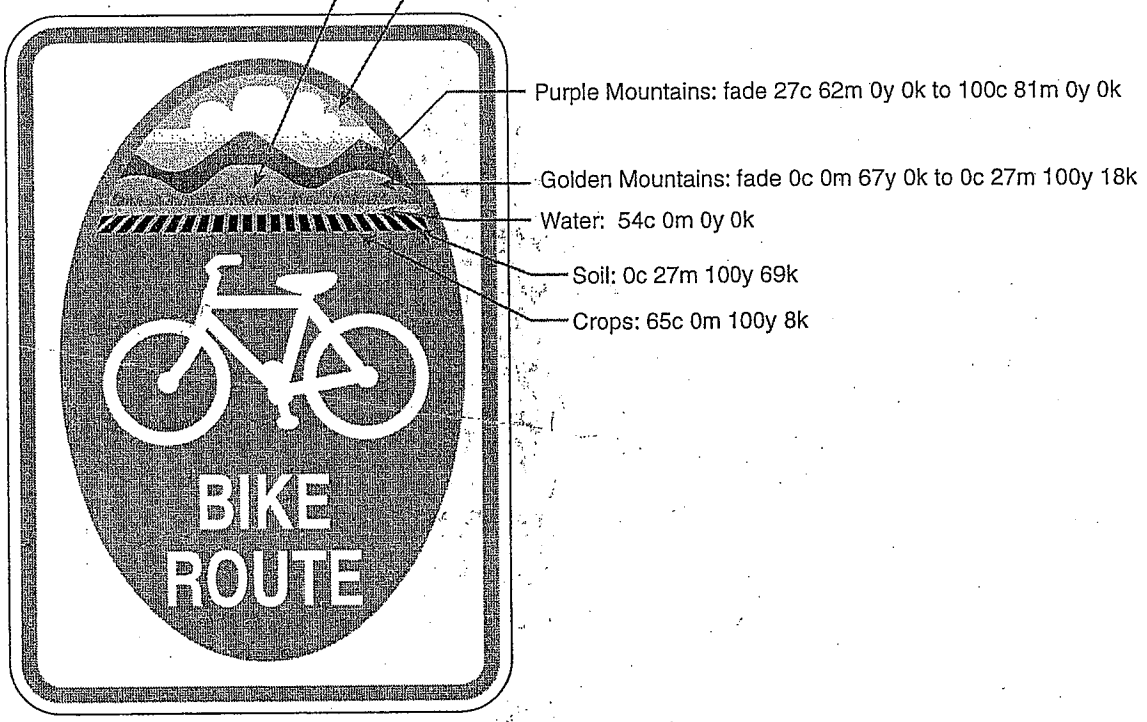
Colors
Border and Legend - Green (Reflective)
Background - White (Reflective)

06/01

CALTRANS CUSTOMIZED BIKEWAY SIGNS FOR SOLANO COUNTY

alta TRANSPORTATION CONSULTING

State of California - Department of Transportation
Code : SG45
MUTCD Number: None



06/01

CMYK COLORS
FOR SOLANO COUNTY BIKEWAY SIGNS

alta
TRANSPORTATION CONSULTING