

DRAFT CITYWIDE TRAFFIC IMPROVEMENT PLAN

Prepared for:



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Introduction and Summary

Introduction

This report presents an analysis of the traffic impacts that would be associated with the full build out of the City of Cotati, along with a comprehensive list of traffic improvements throughout the City needed to accommodate build out of the land uses contained in the 1998 General Plan. The traffic improvement projects primarily include capacity and operational related mitigations that are based on an updated citywide traffic analysis. Based on a review of the 1998 General Plan, other studies, field review, and analysis in this process, a list of pedestrian, bicycle, and transit improvement projects were also developed.

Summary

Existing Vehicular Traffic Conditions

The existing a.m. and p.m. peak hour traffic volumes were based on new traffic counts collected in November 2004. Under Existing Conditions, all of the signalized study intersections are operating at Level of Service (LOS) C or better. The two study intersections controlled by all-way stop-controls are operating unacceptably at LOS E. And one of the un-signalized study intersections has side street movements operating at LOS F.

Future Vehicular Traffic Conditions

Future build out traffic volumes were developed for the *1998 General Plan* land use for the Cotati study area. Under these Future Conditions, with build out of the general plan land use zoning and an increase in through traffic associated with growth within and adjacent to the sphere of influence, the signalized intersection of Old Redwood Highway/West Sierra Avenue-East Cotati Avenue would be expected to operate unacceptably at LOS F. Three of the study intersections controlled by all-way stop-controls would be expected to operate unacceptably at LOS E or F. These intersections include Old Redwood Highway/William-George Street, East Cotati Avenue/La Salle Avenue, and Old Redwood Highway/Charles Henry Street. And six of the un-signalized study intersections have side street movements operating at LOS F.

Traffic Improvement Plan Elements

New traffic signals or roundabouts should be installed at the following locations to maintain acceptable traffic operation, as warranted by either existing or future deficiencies.

- Redwood Drive/Helman Lane
- Old Redwood Highway/Commerce Boulevard
- Gravenstein Highway/Alder Avenue
- Old Redwood Highway/William-George Street
- East Cotati Avenue/Santero Way
- East Cotati Avenue/La Salle Avenue
- Old Redwood Highway/Henry-Charles Street

Geometry or turn lane improvements will need to be provided at the following study area intersections.

- Gravenstein Highway/West Cotati Avenue
- Gravenstein Highway/U.S. 101 NB Ramps
- Old Redwood Highway/West Sierra Avenue-East Cotati Avenue
- East Cotati Avenue/Charles Street

Roadway segments that would require either widening or re-striping include the following

- Gravenstein Highway (Alder Avenue to Redwood Drive)
- Old Redwood Highway (Gravenstein Highway to East Cotati Avenue)
- East Cotati Avenue (Old Redwood Highway to La Salle Avenue)

Study Parameters

Study Area

Twenty-two (22) focus intersections were identified for analysis as part of this study. The study intersections are identified by number in Figure 1.

1. Redwood Drive/Helman Lane
2. Commerce Boulevard/Wilford Lane
3. Old Redwood Highway/Commerce Boulevard
4. Gravenstein Highway/Alder Avenue
5. Gravenstein Highway/West Cotati Avenue
6. Gravenstein Highway/Redwood Drive
7. Gravenstein Highway/U.S. 101 SB Ramps
8. Gravenstein Highway/U.S. 101 NB Ramps
9. Gravenstein Highway/Old Redwood Highway
10. Old Redwood Highway/William-George Street
11. W. Sierra Avenue/School Street-U.S. 101 SB On-ramp
12. W. Sierra Avenue/U.S. 101 NB Off-ramp
13. W. Sierra/E. School Street
14. Old Redwood Highway/E. Cotati Avenue
15. E. Cotati Avenue/Charles Street
16. E. Cotati Avenue/La Salle Avenue
17. E. Cotati Avenue/Adrian Drive
18. E. Cotati Avenue/Lancaster Drive
19. E. Cotati Avenue/Beverly Drive
20. E. Cotati Avenue/Santero Way
21. Old Redwood Highway/Henry-Charles Street
22. Old Redwood Highway/Myrtle-Valparaiso Avenue

Study Period

The weekday a.m. and p.m. peak hour conditions were used as the basis of the traffic analysis.

Study Scenarios

Two scenarios are included in this study. Descriptions of these scenarios follow.

Existing Conditions

The Existing scenario provides an evaluation of current traffic operation based on traffic counts taken in November of 2004.

Future Build out Conditions

The Future Build out scenario is an evaluation of the potential traffic impacts that are expected with build out of the *1998 General Plan* land use and growth in the surrounding area. City staff provided Land use projections.

Intersection Level of Service Methodologies

Operational analyses typically focus on intersections rather than road segments since the capacity of the intersections is usually more critical than the capacity of the roadway. Level of Service (LOS) is used to rank traffic operation on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, Level of Service A represents free flow conditions and Level of Service F represents forced flow or breakdown conditions.

The study intersections were analyzed using methodologies from the *Highway Capacity Manual 2000*, Transportation Research Board, 2000. This source contains methodologies for various types of intersection control, all of which are related to a measurement of delay in average number of seconds per vehicle. The ranges of delay associated with the various levels of service are indicated in the following table.

Intersection Level of Service Criteria		
LOS	Un-signalized Intersections	Signalized or All-way Stop-controlled Intersections
A	Delay of 0 to 10 seconds. Gaps in traffic are readily available for drivers exiting the minor street.	Delay of 0 to 10 seconds. Most vehicles arrive during the green phase, so do not stop at all.
B	Delay of 10 to 15 seconds. Gaps in traffic are somewhat less readily available than with LOS A, but no queuing occurs on the minor street.	Delay of 10 to 20 seconds. More vehicles stop than with LOS A, but many drivers still do not have to stop.
C	Delay of 15 to 25 seconds. Acceptable gaps in traffic are less frequent, and drivers may approach while another vehicle is already waiting to exit the side street.	Delay of 20 to 35 seconds. The number of vehicles stopping is significant, although many still pass through without stopping.
D	Delay of 25 to 35 seconds. There are fewer acceptable gaps in traffic, and drivers may enter a queue of one or two vehicles on the side street.	Delay of 35 to 55 seconds. The influence of congestion is noticeable, and most vehicles have to stop.
E	Delay of 35 to 50 seconds. Few acceptable gaps in traffic are available, and longer queues may form on the side street.	Delay of 55 to 80 seconds. Most, if not all, vehicles must stop and drivers consider the delay excessive.
F	Delay of more than 50 seconds. Drivers may wait for long periods before there is an acceptable gap in traffic for exiting the side streets, creating long queues.	Delay of more than 80 seconds. Vehicles may wait through more than one cycle to clear the intersection.

Reference: *Highway Capacity Manual 2000*, Transportation Research Board, 2000.

Signalized Intersection Level of Service Analysis Methodology

The study intersections that are currently or will be signalized were analyzed using the Operations Method contained in the *Highway Capacity Manual 2000* (HCM). The signalized intersection methodology is based on factors including traffic volumes, green time for each movement, phasing, whether or not the signals are coordinated, truck traffic, and pedestrian activity. Average stopped delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology. It should be noted that the levels of service for this study were calculated using optimized signal timing.

All-way Stop-Controlled Intersection Level of Service Analysis Methodology

Operating conditions at the all-way stop-controlled intersections were analyzed using the “All-Way Stop-Controlled Intersection” methodology contained in the HCM. This methodology evaluates delay for each approach based on turning movements, opposing and conflicting traffic

volumes, and the number of lanes. The delay that is calculated is then related to a Level of Service.

Un-signalized Intersection Level of Service Analysis Methodology

The Levels of Service for the intersections with side street stop controls, or those that are “un-signalized,” were analyzed using the un-signalized intersection capacity method from the HCM. This method determines a level of service for each minor turning movement by estimating the level of average delay in seconds per vehicle. The movement with the highest level of delay is presented as the Worst Case Level of Service. The through movements on the main street are assumed to operate at free flow and a Level of Service A.

Traffic Signal Warrants

The Manual on Uniform Traffic Control Devices (MUTCD) contains guidelines for determining the need for a traffic signal. Potential need for installing traffic signals at the un-signalized and all-way stop controlled study intersections was evaluated using Warrant #11, Peak Hour Volume, assuming urban conditions. Although traffic signal warrants may be met for some conditions, the decision to install a traffic signal should also be based on the other traffic signal warrants that consider daily traffic volumes and collision experience, current traffic operation, and adjacent traffic controls.

Traffic Operation Standards

The following standards are recommended in evaluating the study intersections in order to determine appropriate mitigation measures.

Signalized Intersections

The City of Cotati’s adopted Level of Service (LOS) Standard is contained in their *1998 General Plan*. This standard allows for a minimum operation of LOS D for all intersections.

All-Way Stop Controlled Intersections

For intersections with stop controls on all approaches, LOS D operation was considered the minimum acceptable condition. Where lower levels of service were encountered, signalization or other modifications to the control scheme were considered as a potential mitigation to improve operation.

Un-signalized Intersections

On sections of certain arterials, it is not unusual to have all of the side streets operating at LOS E or F with long traffic delays, even where side street volumes are very low. It may be operationally, physically, and/or financially infeasible to provide mitigation that would allow Level of Service D conditions or better from all side streets during peak hours. The most typical mitigation measure used to improve operation for the side street is a traffic signal, and it is both operationally and financially undesirable to provide a traffic signal at every intersection along most road segments. Mitigation measures were considered when LOS F conditions were projected for the minor movements. The volume of traffic associated with the level of service was also considered. Where lower levels of service were encountered for significant volumes of traffic, signalization or other lane improvements were considered as a potential mitigation to improve operation.

Existing Conditions

New peak hour traffic counts were collected on November 16th and 17th 2004 for each of the study intersections. The daily traffic volume counts collected over an entire week including the time turning movements were collected are included in Appendix A. The existing turning movement counts are shown in Figures 2 and 3.

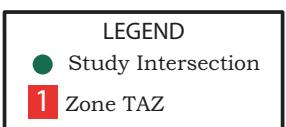
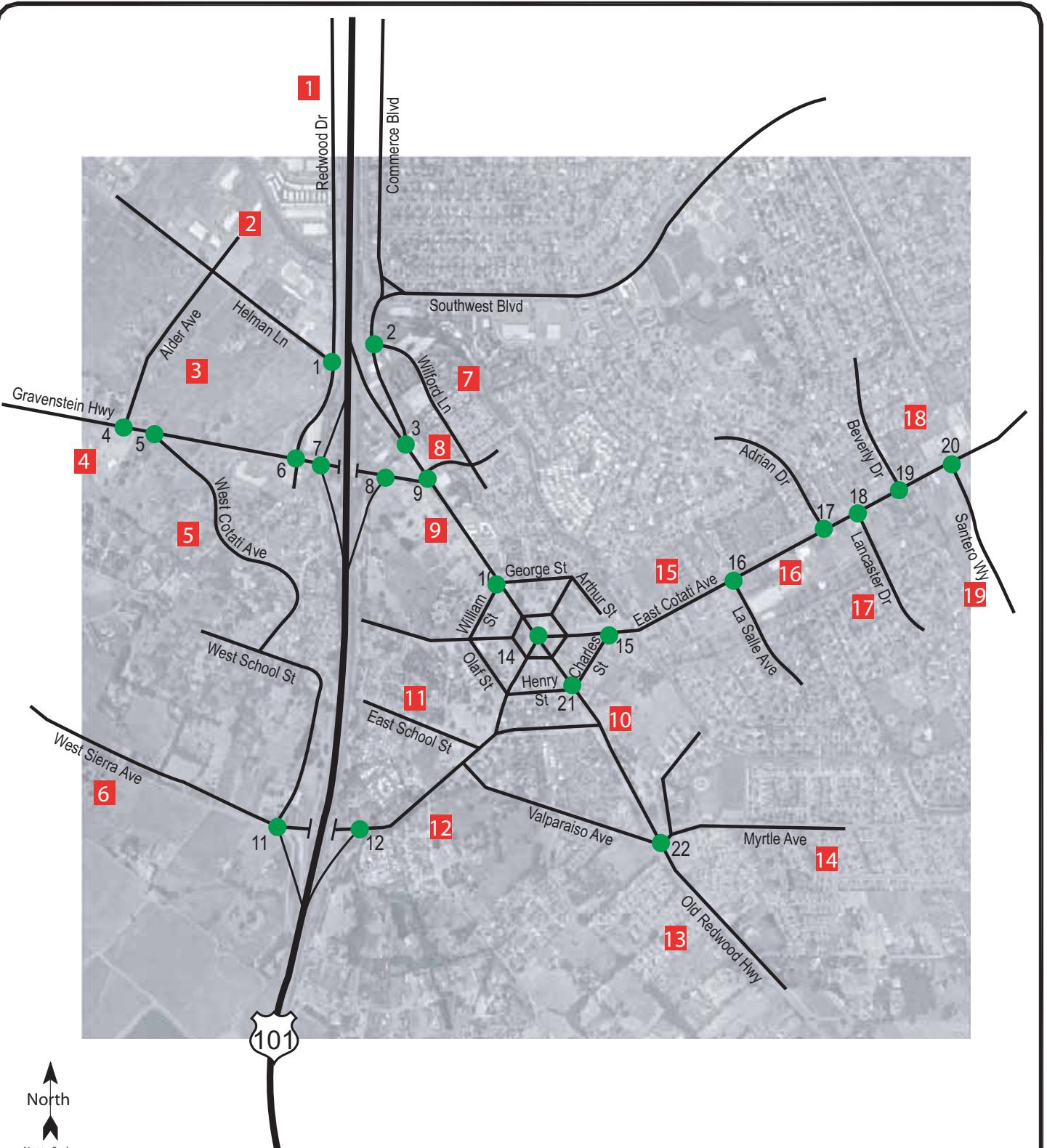
Eight of the study intersections are controlled by traffic signals and four by all-way stop controls, while the remaining ten study intersections are controlled by stop signs on the minor street approaches. The right-of-way controls for each of the study intersections are also shown in the Table 2.

Table 1 Existing Right of Way Controls –

Intersection		Control
1.	Redwood Dr/Helman Ln	Un-Signalized
2.	Commerce Blvd/Wilford Ln	Un-Signalized
3.	Old Redwood Highway/Commerce Blvd	Un-Signalized
4.	Gravenstein Hwy/Alder Ave	Un-Signalized
5.	Gravenstein Hwy/W Cotati Ave	Un-Signalized
6.	Gravenstein Hwy/Redwood Dr	Signalized
7.	Gravenstein Hwy/SB Hwy 101 Ramps	Signalized
8.	Gravenstein Hwy/NB Hwy 101 Off-Ramp	Signalized
9.	Gravenstein Hwy/Old Redwood Highway	Signalized
10.	Old Redwood Hwy/William St-George St	All-way Stop
11.	West Sierra Ave/SB Hwy 101 On-Ramp	Un-Signalized
12.	W Sierra Ave/NB Hwy 101 Off-Ramp	Un-Signalized
13.	W Sierra Ave/E School St	All-way Stop
14.	Old Redwood Hwy/W Sierra Ave-E Cotati Ave	Signalized
15.	E Cotati Ave/Charles St	Un-Signalized
16.	E Cotati Ave/La Salle Ave	All-way Stop
17.	E Cotati Ave/Adrian Dr	Signalized
18.	E Cotati Ave/Lancaster Dr	Signalized
19.	E Cotati Ave/Beverly Dr	Un-Signalized
20.	E Cotati Ave/Santero Way	Un-Signalized
21.	Old Redwood Hwy/Henry St-Charles St	All-way Stop
22.	Old Redwood Hwy/Valparaiso Ave-Myrtle Ave	Signalized

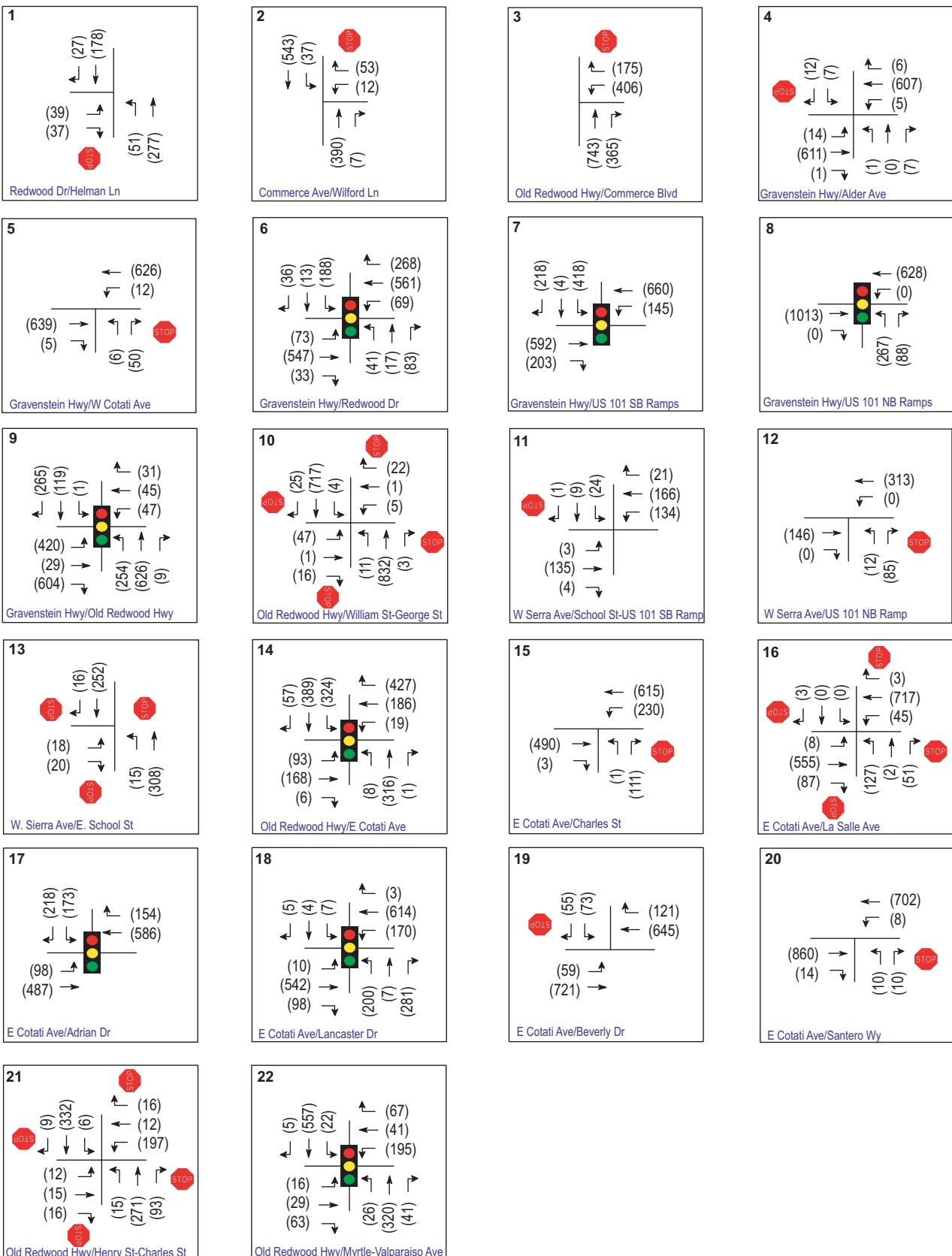
Under Existing Conditions, all of the signalized study intersections are operating at LOS D or better. However, it should be noted that the intersection of Old Redwood Highway/W. Sierra Avenue-E. Cotati Avenue is experiencing excessive queuing in the southbound left-turn lane during both the a.m. and p.m. peak periods. As delay for the left-turn movement increases so does the impact to adjacent roadways as drivers bypass the impacted movement.

The two study intersections controlled by all-way stop-controls are operating unacceptably at LOS F. These intersections include Old Redwood Highway/William-George Street and East Cotati Avenue/La Salle Avenue. However, the intersection of Old Redwood Highway/Henry-



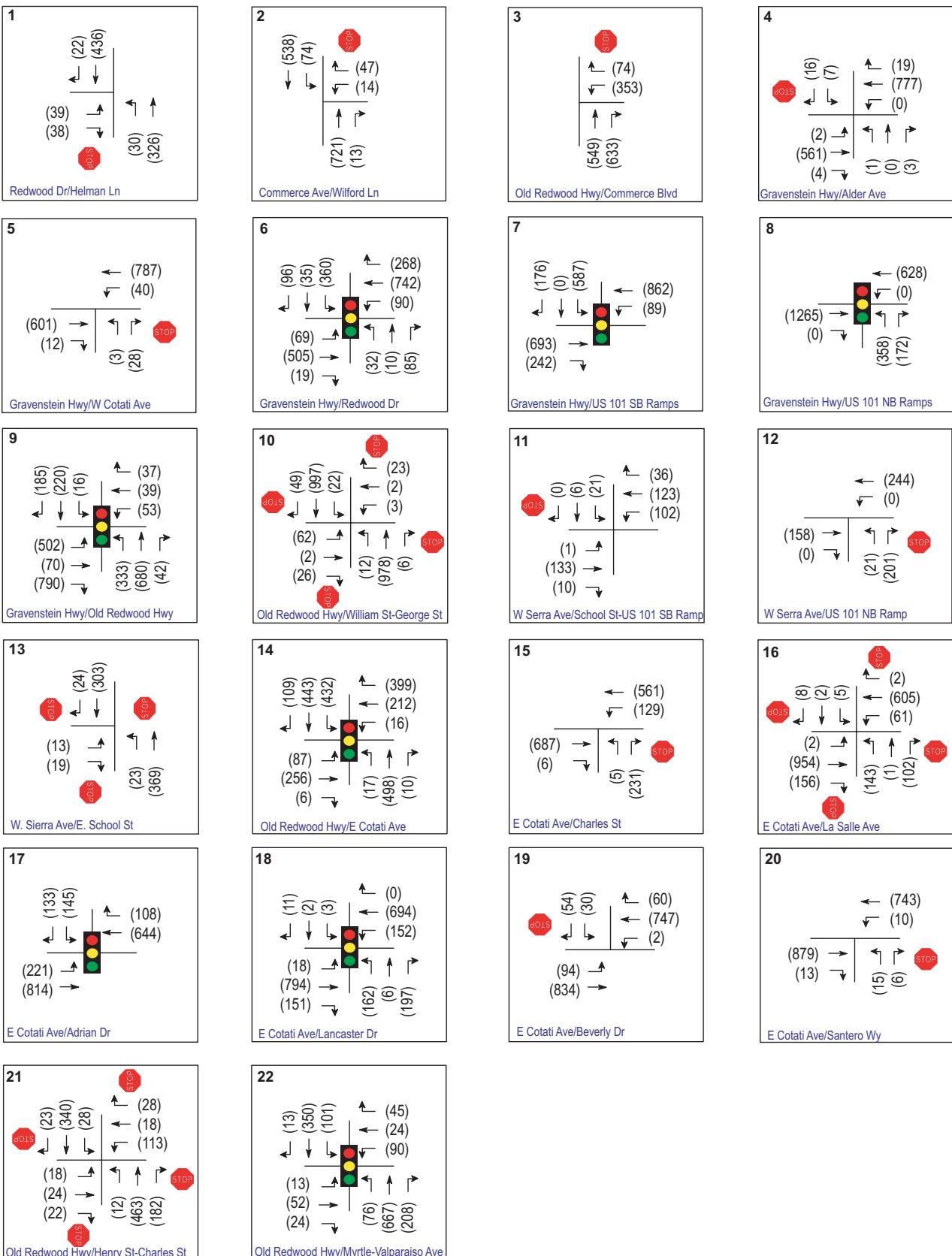
Cotati Circulation Improvement Study
City of Cotati

Figure I
Study Area



Cotati Circulation Improvement Study
City of Cotati

Figure 2
Existing Traffic Volumes A.M.



Cotati Circulation Improvement Study
City of Cotati

Figure 3
Existing Traffic Volumes P.M.

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Charles Street would be included if it were not for the recent addition of a right-turn lane. Excessive queuing can be observed at each of the intersections and signal warrants are met at all three intersections during the p.m. peak hour.

One of the un-signalized study intersections has side street movements or approaches operating at LOS E, the left-turn movement from Commerce Boulevard to southbound Old Redwood Highway. All of the other un-signalized study intersections have side streets movements or approaches operating at LOS D or better.

The Level of Service calculations for the existing conditions are summarized in Table 2. Copies of the intersection level of service calculations are provided in Appendix B.

Existing arterial roadway traffic volumes are presented in Table 3. It should be noted that the recommended threshold for acceptable operation of a two-way left-turn pocket is around 20,000 vehicles per day. Although the daily volume on Old Redwood Highway exceeds this threshold, the use of the lane is limited by the number of existing driveways on the roadway and undeveloped parcels along the northwestern edge of the roadway.

**Table 2 Network Intersection Level of Service –
Existing Conditions**

Intersection <i>Approach</i>	Existing			
	AM		PM	
	Delay	LOS	Delay	LOS
1. Redwood Dr/Helman Ln				
<i>Northbound Left</i>	7.9	A	8.6	A
<i>Eastbound Approach</i>	13.8	B	19.9	C
2. Commerce Blvd/Wilford Ln				
<i>Southbound Left</i>	8.6	A	9.8	A
<i>Westbound Approach</i>	14.4	B	21.3	C
3. Old Redwood Highway/Commerce Blvd				
<i>Westbound Approach</i>	*	F	42.7	E
4. Gravenstein Hwy/Alder Ave				
<i>Southbound Approach</i>	25.8	D	25.1	D
<i>Westbound Left</i>	8.9	A	-	-
<i>Northbound Approach</i>	16.4	C	19.6	C
<i>Eastbound Left</i>	9.3	A	9.6	A
5. Gravenstein Hwy/W Cotati Ave				
<i>Westbound Left</i>	9.5	A	9.5	A
<i>Northbound Approach</i>	21.7	C	31.0	D
6. Gravenstein Hwy/Redwood Dr	21.3	C	26.7	C
7. Gravenstein Hwy/SB Hwy 101 Ramps	21.2	C	19.5	B
8. Gravenstein Hwy/NB Hwy 101 Off-Ramp	15.3	B	16.2	B
9. Gravenstein Hwy/Old Redwood Highway	25.3	C	27.0	C
10. Old Redwood Hwy/William St-George St	20.6	C	48.1	E
11. West Sierra Ave/SB Hwy 101 On-Ramp				
<i>Southbound Approach</i>	16.6	C	13.8	B
<i>Westbound Left</i>	8.0	A	7.8	A
<i>Eastbound Left</i>	7.6	A	7.6	A
12. W Sierra Ave/NB Hwy 101 Off-Ramp				
<i>Northbound Approach</i>	10.2	B	10.8	B
13. W Sierra Ave/E School St	10.1	B	11.3	B
14. Old Redwood Hwy/W Sierra Ave-E Cotati Ave	35.1	D	37.5	D
15. E Cotati Ave/Charles St				
<i>Westbound Left</i>	10.0	A	10.0	A
<i>Northbound Approach</i>	14.7	B	24.7	C
16. E Cotati Ave/La Salle Ave	19.7	C	47.2	E
17. E Cotati Ave/Adrian Dr	20.2	C	17.1	B
18. E Cotati Ave/Lancaster Dr	23.2	C	19.0	B
19. E Cotati Ave/Beverly Dr				
<i>Southbound Approach</i>	9.3	A	20.7	C
<i>Westbound Left</i>	-	-	10.1	B
<i>Eastbound Left</i>	10.6	B	10.2	B
20. E Cotati Ave/Santero Way				
<i>Westbound Left</i>	10.6	B	10.4	B
<i>Northbound Approach</i>	17.8	C	19.1	C
21. Old Redwood Hwy/Henry St-Charles St	14.9	B	25.2	D
22. Old Redwood Hwy/Valparaiso Ave-Myrtle Ave	18.2	B	17.4	B

Notes: * = Average delay exceeds 100 seconds

- = Absence of vehicles making movement during peak hour, LOS not applicable.

Table 3 – Arterial Roadway Daily Volume Summary -

Arterial Segment		Existing Daily Volume (ADT)	GP Build out Volume (ADT)
1.	East Cotati Avenue <i>Old Redwood Hwy to Eastern City Limit</i>	17,500	29,000
2.	Gravenstein Highway <i>Old Redwood Hwy to Western City Limit</i>	17,000	30,500
3.	Old Redwood Highway <i>Gravenstein Hwy to E Cotati Ave</i>	25,270	38,500
4.	Old Redwood Highway <i>E Cotati Ave to Southern City Limit</i>	12,500	18,500
5.	West Sierra Avenue <i>Western City Limit to Old Redwood Hwy</i>	7,000	10,225

Note: ADT = Average Daily Volume

Future Conditions

Traffic Volume Projections

The future citywide traffic volume projections were determined through use of a forecasting model, *TRAFFIX 7.5*, which is an interactive computer program that enables planners and engineers to efficiently conduct citywide traffic forecasting studies for small sized cities and rapidly forecast the traffic impacts of new developments. All data in TRAFFIX is stored in a set of individual development zones, critical intersections, and gateways where new traffic enters and leaves the study area. The land uses, trip generation rates, and trip distribution percentages are then determined by the user and entered for each development zone. The paths that traffic will take moving from each development zone to each gateway are drawn on a graphically scaled street network. TRAFFIX then generates the hourly traffic, assigns it to the street system, and reports traffic volumes by link and node. A copy of the model network that was developed is included in Appendix E.

A description of the process used to evaluate future traffic conditions in Cotati follows. In summary, land use projections were obtained from City staff, used to determine trip generation, input into one of 19 Traffic Analysis Zones (TAZ), and distributed to the Cotati street network. Through traffic growth generated from areas outside of Cotati was also projected and distributed onto the City's regional arterial streets.

Land Use Assumptions for Buildout Scenario

City staff examined the adopted 1998 General Plan land use designations for undeveloped and underutilized parcels in Cotati, and developed a parcel map indicating all locations anticipated to experience future development. The estimated development potential of each identified parcel was identified by the number of acres, building square footage, or number of residential units.

Table 4 - Summary of Future Development

Land Use	Units
Single Family Dwellings	383
Multi-Family Dwellings	552
Commercial Uses	158.91 ksf
Industrial Uses	59.4 acres
Office Uses	199.44 ksf
Hotel Uses	50 rooms

Note: ksf = thousand square feet

Based on this information it was projected that approximately 935 new residential units, 358 thousand square feet of new commercial and office space, 59 acres of new industrial uses, and 50 new hotel rooms could be built in Cotati within the next 5 years. A condensed summary of the land use assumptions is shown in Table 4.

Vehicle Trip Generation

The number of a.m. and p.m. peak hour vehicular trips generated by future development was determined by using trip generation rates from *Trip Generation, 7th Edition, Institute of Transportation Engineers, 2003*. This guide is a standard reference used by jurisdictions

throughout the country, and is based on actual trip generation studies performed at numerous locations for various types of land uses in areas of various populations.

A factoring process was used to reduce the potential for double counting vehicular trips. Standard trip rates produce vehicular trips that are experienced at the “driveway” of a particular development. One example of double counting would be a trip made by someone driving from home in Cotati to work in Cotati, wherein the outbound home-based trip and inbound work-based trip would be considered two separate trips, even though in actuality it is only one. In order to reduce this double-counting effect, the trip generation projections for residential and employment-based uses within Cotati were each reduced by 5 percent.

Some portion of traffic associated with retail uses is typically drawn from existing traffic on nearby streets. These vehicle trips are not considered “new,” but are instead comprised of drivers who are already driving on the adjacent street and choose to make an interim stop. The percentage of these “pass-by” trips was based on information provided in the Trip Generation Handbook: An ITE Recommended Practice, Institute of Transportation Engineers, 2001. This reference includes pass-by data collected at numerous locations for many land uses. Based on this information, commercial trips were reduced by between 25 and 50 percent to account for pass-by traffic. Locations that are more highway commercial oriented (such as the gas station on the northwest corner of Gravenstein Highway/Old Redwood Highway) were assumed to have a high percentage of pass-by traffic, whereas locations anticipated to develop with more community-oriented retail had lower pass-by reductions. It should be noted that commercial uses at mixed-use locations, such as the Santero Way Specific Plan area, were assumed to have relatively few pass-by trips but a much higher amount of pedestrian and linked trips.

Approximately 1,703 new a.m. peak hour and 2,348 new p.m. peak hour trips are expected to occur on the Cotati street network at full buildout. These vehicle trips were assigned to the Cotati street network and added to 2004 traffic volumes in order to project future buildout conditions.

Traffic Analysis Zones (TAZ)

The various parcels that are anticipated to experience future development in Cotati were first separated into one of five “areas” of the city, and then into one of 19 “traffic analysis zones” (TAZ). The areas are predominantly used for organizational and summary purposes. Each TAZ represents an area that would be expected to have similar travel characteristics, and may incorporate one to numerous separate parcels. TAZs are often bounded by physical barriers or major roadways. Following is a brief geographical description of each of the five city sub-areas along with the trip generation associated with the specific zone.

Area A - Northwest Cotati (TAZs 1-4) This area is generally bounded on the north and west by the city limits, on the south by the Gravenstein Highway corridor, and on the east by U.S. 101. The area includes the majority of vacant land within Cotati, as well as the bulk of land zoned for non-residential uses, including the Cotati Commons Project.

Area B - Southwest Cotati (TAZs 5-6) The Southwest Cotati area is comprised of hillside residential uses bounded on the north by the Gravenstein Highway corridor, on the south and west by city limits, and on the east by U.S. 101. Future growth in this area would be residential.

Area C - Central Cotati (TAZs 7-11) The central area includes the commercial and office uses along Old Redwood Highway as well as the Cotati Hub. It is bounded on the north by the city limits, on the south by West Sierra and Valparaiso Avenues, on the east by U.S. 101 and on the west by the Old Redwood Highway corridor (including parcels on the east side of the arterial and hub). Much of the future growth in this area would be mixed-use infill development.

Area D - South Cotati (TAZs 12-14) New development in the south area would be residential in nature. The area is generally bounded by Valparaiso Avenue, West Sierra Avenue, and the Laguna de Santa Rosa on the north; the city limits on the south and east; and U.S. 101 on the west.

Area E - East Cotati (TAZs 15-19) The eastern area generally extends along East Cotati Avenue. The area is bounded by the city limits on the north and east, Laguna de Santa Rosa and the city limits on the south, and the eastern edge of the hub and Old Redwood Highway corridor on the west (not including parcels on the hub or along Old Redwood Highway). Development in the area would be predominantly residential in nature, though the easternmost parcel (the Santero Way Specific Plan area) is zoned for mixed uses including some office and retail.

A list of the development assumptions and trip generation assumptions for each Traffic Analysis Zone (TAZ) is provided in Appendix F.

Regional Traffic Growth

Traffic growth on Cotati streets will occur not only from new development within the City, but also from external growth and increased usage of regional roadways like Gravenstein Highway, Old Redwood Highway, and East Cotati Avenue. Since the County of Sonoma is currently in the process of completing a regional traffic model as part of its General Plan update, regional growth assumptions were based on historical growth trends, other available traffic studies and traffic engineering judgment.

The amount of regional through traffic growth will largely depend on available capacity outside of Cotati and the ability of the Cotati street network to attract and serve through traffic. The City of Cotati has established a trend towards transforming Old Redwood Highway in the downtown to a destination street rather than a high capacity through route, and as a result is influencing the traffic capacity of the roadway. This trend was assumed to continue in determining through traffic volume increase in Cotati.

Traffic growth on Gravenstein Highway will be largely related to growth in western Sonoma County. Historically, Gravenstein Highway has experienced growth of between 1 and 2 percent per year, which is consistent with trends observed throughout Sonoma County. A growth rate of 2 percent per year was assumed for the corridor, which translates to a 5-year growth of 13 percent.

Traffic on Old Redwood Highway, on the south side of Cotati, has increased by approximately 6 percent per year, which is a much higher growth rate than most arterials in the County. Much of the traffic growth on Old Redwood Highway has occurred as a result of drivers attempting to

avoid congestion on U.S. 101. This trend is likely to continue until the capacity of Old Redwood Highway is reached or until the freeway is widened. Because available capacity on the roadway is quickly diminishing, a sustained growth rate of 2 percent per year may be unrealistic, and therefore an average growth rate of 1 percent per year was assumed. This translates to a 5-year growth of 6 percent.

Future traffic growth on East Cotati Avenue will be influenced by growth within Rohnert Park and nearby unincorporated areas such as Canon Manor, as well as growth at Sonoma State University. Two alternate sources were reviewed for future buildout traffic volumes. The first was the environmental impact report for the Rohnert Park General Plan. The EIR traffic analysis indicated substantial growth along East Cotati Avenue, though it appears that the model may not have accounted for the planned Sonoma State University main entrance relocation to Rohnert Park Expressway. This change will shift a portion of Sonoma State bound traffic from the East Cotati Avenue corridor to Rohnert Park Expressway. The Rohnert Park analysis also projected higher traffic volume increases for Old Redwood Highway in the downtown Cotati area than could be accommodated. Because the Rohnert Park projections may not clearly reflect future conditions in Cotati, it was necessary to supplement the data with a second source.

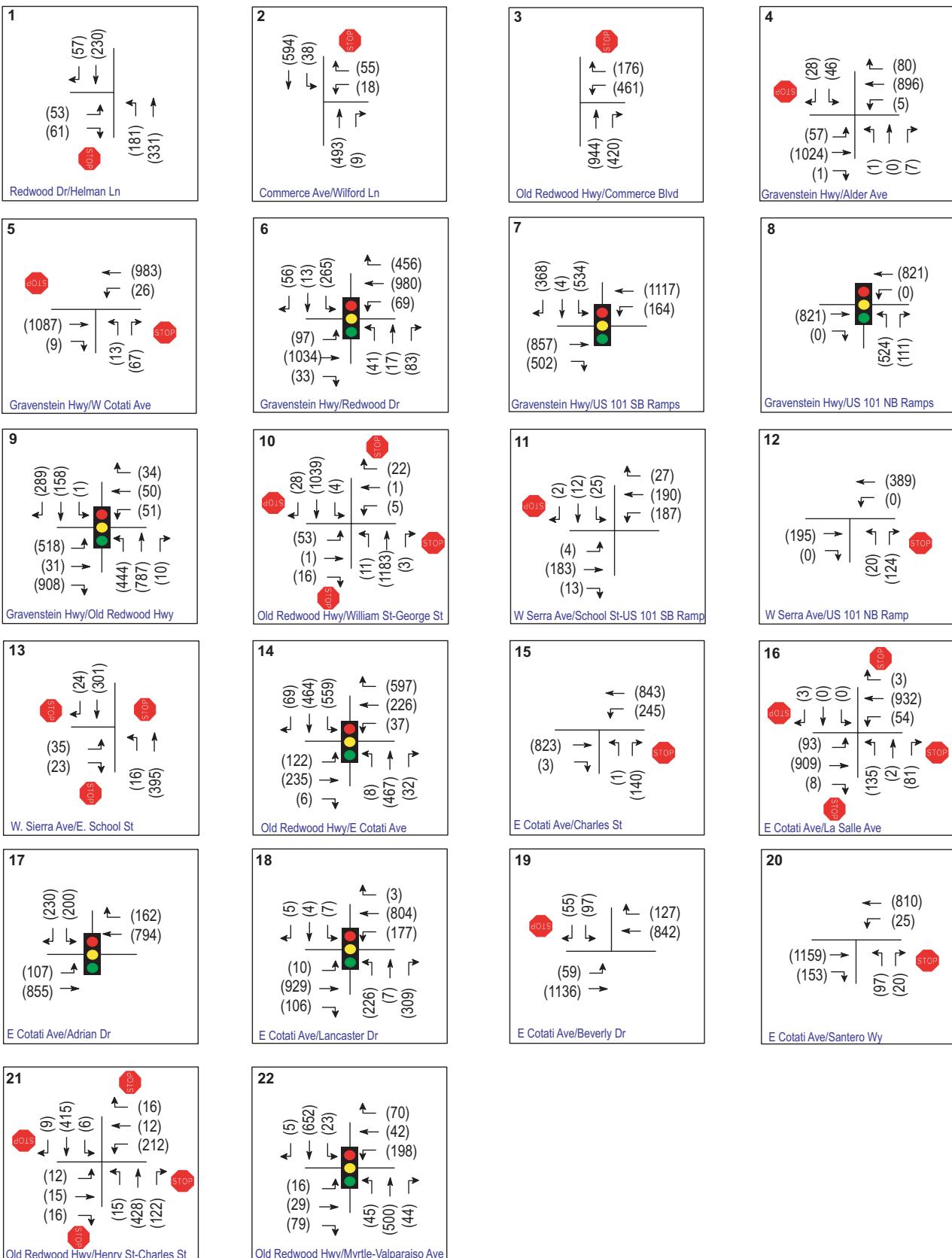
The second source of growth projections was the EIR prepared for the Sonoma State University expansion. The traffic analysis prepared for that document included growth projections from the Rohnert Park General Plan as well as detailed volumes for growth at Sonoma State, including the shift of some traffic to the new northern entrance on Rohnert Park Expressway. The EIR traffic projections indicate an approximate 23.4 percent growth in traffic along East Cotati Avenue. These projections appear to be reasonable based on historical growth and planned changes at the University, and were therefore chosen to represent regional traffic growth along the corridor. It should be noted that the traffic growth along East Cotati Avenue was also assumed to affect portions of Old Redwood Highway and Gravenstein Highway, and so the growth projections stated above for these other two regional corridors are in actuality slightly higher than stated.

Future (Buildout) Traffic Conditions

Under the future condition with buildout of the general plan land use zoning, one of the eight existing signalized intersections would be expected to operate unacceptably at LOS E or F. The intersection of Old Redwood Highway/E. Cotati Avenue-W. Sierra Avenue.

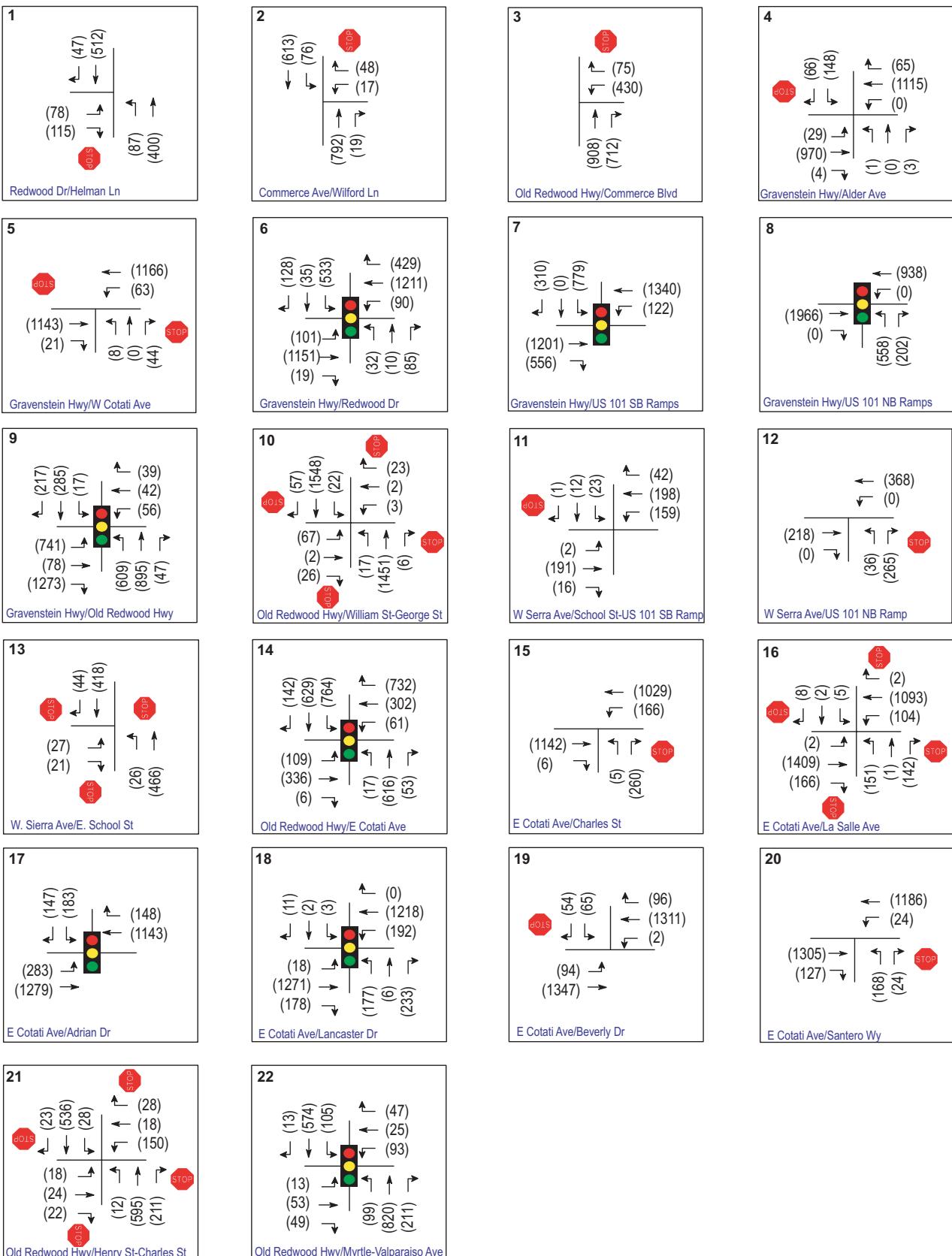
The two study intersections controlled by all-way stop-controls would be expected to continue operating unacceptably at LOS F. These intersections include Old Redwood Highway/William-George Street and E. Cotati Avenue/La Salle Avenue. Additionally the intersection of Old Redwood Highway/Henry-Charles Street would be expected to operate unacceptably.

With the exception of the two W. Sierra Avenue/U.S. 101 ramp intersections, Commerce Boulevard/Wilford Lane, and E Cotati Avenue/Beverly Drive, all of the un-signalized study intersections would have side street movements operating at LOS F. The future volumes are shown in Figure 4. Level of Service calculations under future (buildout) volumes are summarized in Table 5. Copies of the intersection level of service calculations are provided in Appendix B.



Cotati Circulation Improvement Study
City of Cotati

Figure 4
Future Traffic Volumes A.M.



Cotati Circulation Improvement Study
City of Cotati

Figure 5
Future Traffic Volumes P.M.

Table 5 - Network Intersection Level of Service - Future (General Plan Buildout) Conditions

Intersection Approach	GP Buildout				GP Buildout Mitigated			
	AM		PM		AM		PM	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Redwood Dr/Helman Ln					17.5	B	17.1	B
<i>Northbound Left</i>	8.6	A	9.4	A				
<i>Eastbound Approach</i>	30.9	D	*	F				
2. Commerce Blvd/Wilford Ln								
<i>Southbound Left</i>	8.8	A	10.3	B				
<i>Westbound Approach</i>	17.1	C	26.9	D				
3. Old Redwood Highway/Commerce Blvd					22.1	C	20.9	C
<i>Westbound Approach</i>	*	F	*	F				
4. Gravenstein Hwy/Alder Ave					8.2	A	20.4	C
<i>Southbound Approach</i>	*	F	*	F				
<i>Westbound Left</i>	10.8	B						
<i>Northbound Approach</i>	47.1	E	93.7	F				
<i>Eastbound Left</i>	11.8	B	11.9	B				
5. Gravenstein Hwy/W Cotati Ave								
<i>Westbound Left</i>	12.7	B	14.1	B	12.9	B	14.3	B
<i>Northbound Approach</i>	*	F	*	F	18.1	C	18.3	C
6. Gravenstein Hwy/Redwood Dr	22.5	C	48.9	D	14.2	B	25.1	C
7. Gravenstein Hwy/SB Hwy 101 Ramps	24.3	C	22.6	C	15.7	B	13.2	B
8. Gravenstein Hwy/NB Hwy 101 Off-Ramp	26.1	C	34.9	C	8.0	A	16.0	B
9. Gravenstein Hwy/Old Redwood Highway	26.5	C	41.4	D	25.6	C	37.9	D
10. Old Redwood Hwy/William St-George St	89.5	F	*	F	3.9	A (1)	5.0	A (1)
11. West Sierra Ave/SB Hwy 101 On-Ramp								
<i>Southbound Approach</i>	23.3	C	20.1	C				
<i>Westbound Left</i>	8.4	A	8.1	A				
<i>Eastbound Left</i>	7.7	A	7.8	A				
12. W Sierra Ave/NB Hwy 101 Off-Ramp								
<i>Northbound Approach</i>	11.3	B	12.8	B				
13. W Sierra Ave/E School St	12.3	B	15.7	C				
14. Old Redwood Hwy/W Sierra Ave-E Cotati Ave	*	F	*	F	32.9	C	40.9	D
15. E Cotati Ave/Charles St								
<i>Westbound Left</i>	13.7	B	14.4	B	13.8	B	14.5	B
<i>Northbound Approach</i>	33.4	D	*	F	15.4	C	26.4	D
16. E Cotati Ave/La Salle Ave	74.8	F	*	F	12.7	A	7.8	A
17. E Cotati Ave/Adrian Dr	19.4	B	16.9	B				
18. E Cotati Ave/Lancaster Dr	24.7	C	21.6	C				
19. E Cotati Ave/Beverly Dr								
<i>Southbound Approach</i>	14.6	B	30.9	D				
<i>Westbound Left</i>			13.5	B				
<i>Eastbound Left</i>	12.5	B	17.9	C				
20. E Cotati Ave/Santero Way					5.3	A	7.8	A
<i>Westbound Left</i>	14.4	B	14.7	B				
<i>Northbound Approach</i>	*	F	*	F				
21. Old Redwood Hwy/Henry St-Charles St	28.3	D	95.1	F	6.1	A (2)	10.0	B (2)
22. Old Redwood Hwy/Valparaiso Ave-Myrtle Ave	19.2	B	18.7	B				

Note: * = Intersection delay exceeds 100 seconds;

(1) Mitigation could include a traffic signal or roundabout. Level of service represents conditions (with a traffic signal).

(2) Mitigation could include a traffic signal or roundabout. Level of service represents conditions (with a roundabout).

Alternative Transportation Modes

Based on a review of the 1998 General Plan, other studies, and field review, alternative transportation mode traffic improvements were developed.

Bicycle Facilities

Criteria provided by Caltrans in the Traffic Manual denote a Class I bicycle facility as a separate path, Class II facilities are bike lanes, and a Class III facility is one on which bicycle traffic is promoted but where there is no separate lane or path. Within the City of Cotati, there are existing Class II facilities on Old Redwood Highway, E. Cotati Avenue and Gravenstein Highway.

- It is recommended that continuous bike lanes on Old Redwood Highway, E. Cotati Avenue, Gravenstein Highway and W. Sierra Avenue be created and maintained within the City of Cotati. Currently, there is a gap in the Class II lanes on Gravenstein Highway between Redwood Drive and Old Redwood Highway.
- The Laguna bike path that connects Commerce Boulevard to Lancaster Avenue should be completed.

Pedestrian Facilities

Pedestrian activity areas within the City of Cotati are primarily focused in the hub area of downtown. There is also moderate pedestrian activity along E. Cotati Avenue, Old Redwood Highway, and W. Sierra Avenue. These corridors are generally served by concrete sidewalks. However, there are intermittent sections without sidewalks due to adjacent undeveloped parcels. A number of the residential neighborhoods and industrial areas on the fringes of the community do not have any sidewalks, walkways or shoulder area for pedestrian traffic. In addition, the City has recognized an unwritten policy that supports using a more rural type of pedestrian path rather than the typical curb, gutter and sidewalk in the West Cotati area.

- Gaps in the sidewalk system should be addressed, especially on Old Redwood Highway between Gravenstein Highway and the hub, on Old Redwood Highway between the hub and Valparaiso Avenue-Myrtle Avenue and on West Sierra Avenue between U.S. 101 and Valparaiso Avenue.
- Enhanced pedestrian crossings, including warning lights, pedestrian signage and striping, and medians or bulbouts, should be provided at uncontrolled crossing locations including:
 - East Cotati Avenue at the Laguna trail crossing, east of Charles Street
 - East Cotati Avenue at Charles Street
 - W. Sierra Avenue at La Plaza (west)
 - W. Sierra Avenue at Henry Street-Olaf Street
 - Old Redwood Highway at La Plaza (north)
 - Old Redwood Highway at Page Street

Transit Services

- The provision and maintenance of covered and lighted seating areas at existing and future transit stops along Old Redwood Highway and East Cotati Avenue should be encouraged in order to ensure safety and convenience for riders.
- As demand increases, the City should work with Sonoma County Transit and other State agencies to locate and construct new park-and-ride facilities at the south end of the City.

Traffic Improvements

Future Traffic Conditions

The following mitigations would be necessary for street and intersections in the City of Cotati to operate with acceptable levels of service with buildout of General Plan land use under conditions with the existing interchange configurations. Intersection level of service conditions with these improvements are summarized in Table 5.

Gravenstein Highway (Redwood Drive to Alder Avenue) – At the time of the development of the Cotati Commons site, Gravenstein Highway should be widened from one lane in each direction to two, with a center turn lane. Depending on the extent of development along the Gravenstein Highway corridor, this widening may be needed further west of Alder Avenue. This improvement would allow the intersection of Gravenstein Highway/W. Cotati Avenue to operate with a LOS C. It should be noted that these improvements are planned and approved to be installed as part of the Cotati Commons Project.

Int #1 Redwood Drive/Helman Lane – A traffic signal should be installed. A left-turn lane should be added for northbound left-turns to Helman Lane from Redwood Drive. These improvements would allow the intersection to operate with a LOS B. It should be noted that these improvements are planned and approved to be installed as part of the Cotati Commons Project.

Int #3 Old Redwood Highway/Commerce Boulevard/U.S. 101 Northbound on-ramp – A traffic signal should be installed. If a traffic signal were installed, the signal would need to be interconnected with the traffic signal at Old Redwood Highway/Gravenstein Highway since there is approximately 480 feet separating the two intersections. This improvement is needed in order to provide LOS C conditions. It should be noted that these improvements are planned and approved to be installed as part of the Cotati Commons Project.

Int #4 Gravenstein Highway/Alder Avenue – A traffic signal should be installed. A left-turn lane should be added for eastbound left-turns to Alder Avenue from Gravenstein Highway. If the widening of the highway terminates at this point, the second westbound through lane would terminate at this intersection as a westbound right-turn lane. It should be noted that these improvements are planned and approved to be installed as part of the Cotati Commons Project.

Int #5 Gravenstein Highway/W. Cotati Avenue – Additional through travel lanes and the addition of a two-way left-turn lane would result in an acceptable LOS of C at this intersection. These improvements are listed above under Gravenstein Highway. It should be noted that these improvements are planned and approved to be installed as part of the Cotati Commons Project.

Int #6 Gravenstein Highway/Redwood Drive – The southbound lanes should be modified to provide a left-turn lane and a combined left-turn/through/right-turn lane. The phasing in the north-south direction should be changed to split phase to accommodate the lane re-striping. The existing 8-inch traffic signal heads should be replaced with 12-inch LED heads to increase visibility. Consideration should be given to utilizing coordinated traffic signal times during off-

peak periods to maintain driver expectation. These improvements will result in LOS C conditions. It should be noted that these improvements are planned and approved to be installed as part of the Cotati Commons Project.

Int #8 Gravenstein Highway/U.S. 101 NB Ramps – The northbound approach should be widened to include a second left-turn lane. In addition, off peak coordinated signal timing should be established. It should be noted that these improvements are planned and approved to be installed as part of the Cotati Commons Project.

Int #9 Gravenstein Highway/Old Redwood Highway – Modifications to the traffic signal phasing, re-striping and potential minor widening should be completed to accomplish the following operational improvements.

- a. The northbound Old Redwood Highway approach should be re-striped to include one left-turn lane, one combined through/left-turn lane and one through/right-turn lane.
- b. The signal phasing should be split for the north-south approaches.

It should be noted that these improvements are planned and approved to be installed as part of the Cotati Commons Project.

Int #10 Old Redwood Highway/William-George Street – A traffic signal should be installed. A traffic signal may increase speeds on Old Redwood Highway with the signal operating primarily in green for north-south Old Redwood Highway movements. Therefore, options for this location include the following.

- a. Maintain all-way stop control which will meter traffic under LOS F conditions for all movements, or
- b. Eliminate stop controls on Old Redwood Highway and replace them with arterial traffic calming such as narrower lanes and a median.

Int #14 Old Redwood Highway/W Sierra Avenue-E. Cotati Avenue – The southbound approach should be re-striped to include two left-turn lanes and a combined through/right-turn lane, and an overlap signal phase for the westbound right-turn added. The traffic signal should be re-timed to more fully serve the current traffic demand. These improvements should be completed as soon as possible in order to serve the existing queuing in the southbound left-turn lane.

E. Cotati Avenue (Old Redwood Highway to La Salle Avenue) – The two eastbound through lanes should be carried through the intersection with Charles Street. This appears feasible through re-striping within the existing curb to curb right-of-way. Based on buildout traffic volumes it is anticipated that operation of the existing two-way left-turn lane would approach unacceptable levels.

Int #15 E. Cotati Avenue/Charles Street – The second eastbound through lane discussed above will allow for acceptable conditions for the northbound right-turn lane.

Int #16 E. Cotati Avenue/La Salle Avenue – A traffic signal should be installed with protected left-turn phasing in the east-west direction. In the interim before traffic signals are installed, the City should install medians on East Cotati Avenue to assist with traffic safety conditions, as the average daily volumes approach threshold for acceptable operation of two-way left-turn lanes. These improvements will allow LOS A conditions.

Int #20 E Cotati Avenue/Santero Way – The City should install a traffic signal. It should be noted that a traffic signal is planned and approved for installation as part of the Santero Way transit center improvements.

Int #21 Old Redwood Highway/Henry-Charles Street – The City should install a traffic signal or single lane roundabout. It should be noted that the roundabout will only require single lane approaches while an intersection with a traffic signal generally requires left-turn lanes. At this location, left-turn lanes cannot be provided due to the restricted pavement width and adjacent parking activity; therefore, left-turn would have to be prohibited during peak periods if a traffic signal is installed. A comparison between a traffic signal and roundabout was previously completed as part of *Walkable Cotati Phase 1 Traffic Analysis*, January 2001, W-Trans. Although that analysis was not based on these buildout traffic projections, it demonstrated that a roundabout would result in less delay and shorter queuing than a traffic signal.

Alternative Transportation Modes

Bike Lanes – It is recommended that continuous bike lanes be created and maintained on Old Redwood Highway (except for downtown), E. Cotati Avenue, Gravenstein Highway and W. Sierra Avenue within the City of Cotati. Currently, there is a gap in the Class II lanes on Gravenstein Highway between Redwood Drive and Old Redwood Highway.

Laguna Bike Path – The Laguna bike path, which connects Commerce Boulevard to Lancaster Avenue, should be completed.

Sidewalk Gaps – New sidewalk should be constructed to eliminate gaps in the sidewalk system, especially on Old Redwood Highway between Gravenstein Highway and the hub, as well as between the hub and Valparaiso Avenue-Myrtle Avenue and on West Sierra Avenue between U.S. 101 and Valparaiso Avenue.

Pedestrian Crossings – Enhanced pedestrian crossings including warning lights, pedestrian signage and striping, and medians or bulbouts should be provided at uncontrolled crossing locations including the following.

- East Cotati Avenue at the Laguna bike trail crossing east of Charles Street
- East Cotati Avenue at Charles Street
- W. Sierra Avenue at La Plaza (west)
- W. Sierra Avenue at Henry Street-Olaf Street
- Old Redwood Highway at La Plaza (north)
- Old Redwood Highway at Page Street

Transit Shelters – The provision and maintenance of covered and lighted seating areas at existing and future transit stops along Old Redwood Highway and East Cotati Avenue should be encouraged in order to ensure safety and convenience for riders.

Park-n-Ride – As demand increases, the City should work with Sonoma County Transit and other State agencies to locate and construct new park-and-ride facilities at the south end of the City.

Study Participants and References

Study Participants

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Graphics/Project Assistance:	Renee Remillard
Report Review:	Toni Bertolero, P.E.

References

Highway Capacity Manual, Special Report No. 209, Transportation Research Board, 2000
Trip Generation, 7th Edition, Institute of Transportation Engineers, 2003
Highway Design Manual, California Department of Transportation
Cotati 1998 General Plan
Sonoma State University Master Plan Revision EIR, 1999, ESA
Walkable Cotati Phase 1 Traffic Analysis, January 2001, W-Trans

Appendix A
Traffic Volumes

Appendix B
Intersection Level of Service Calculations

Appendix C
Traffic Signal Warrant Analysis

Appendix D
Traffic Model Network

Appendix E
Citywide Buildout Trip Generation

DRAFT CITYWIDE TRAFFIC IMPROVEMENT PLAN

TECHNICAL APPENDIX

Prepared for:



MARCH 15, 2005

Prepared by:



Appendix A
Traffic Volumes

AM Existing

Thu Mar 3, 2005 17:08:16

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AM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Intersection Volume Report
 Base Volume Alternative

Node	Intersection	Northbound		Southbound		Eastbound		Westbound					
		L -- T -- R											
1	Redwood Dr/He	51	277	0	0	178	27	39	0	37	0	0	0
2	Commerce Blvd	0	390	7	37	543	0	0	0	0	12	0	53
3	Old Redwood H	0	743	365	0	0	0	0	0	406	0	175	
4	Gravenstein H	1	0	7	7	0	12	14	611	1	5	607	6
5	Gravenstein H	6	0	50	0	0	0	0	639	5	12	626	0
6	Gravenstein H	41	17	83	188	13	36	73	547	33	69	561	268
7	Gravenstein H	0	0	0	418	4	218	0	592	203	145	660	0
8	Gravenstein H	267	0	88	0	0	0	0	1013	0	0	602	0
9	Gravenstein H	254	626	9	1	119	265	420	29	604	47	45	31
10	Old Redwood H	11	832	3	4	717	25	47	1	16	5	1	22
11	W Sierra Ave/	0	0	0	24	9	1	3	135	4	134	166	21
12	W Sierra Ave/	12	0	85	0	0	0	0	146	0	0	313	0
13	W Sierra Ave/	0	0	0	18	0	20	15	308	0	0	252	16
14	Old Redwood H	8	316	1	324	389	57	93	168	6	19	186	427
15	E Cotati Ave/	1	0	111	0	0	0	0	490	3	230	615	0
16	E Cotati Ave/	127	2	51	0	0	3	8	555	87	45	717	3
17	E Cotati Ave/	0	0	0	173	0	218	98	487	0	0	586	154
18	E Cotati Ave/	200	7	281	7	4	5	10	542	98	170	614	3
19	E Cotati Ave/	0	0	0	73	0	55	59	721	0	0	645	121
20	E Cotati Ave/	10	0	10	0	0	0	0	860	14	8	702	0
21	Old Redwood H	15	271	93	6	332	9	12	15	16	197	12	16
22	Old Redwood H	26	320	41	22	557	5	16	29	63	195	41	67

PM Existing

Thu Mar 3, 2005 17:08:32

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PM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Intersection Volume Report
 Base Volume Alternative

Node	Intersection	Northbound		Southbound		Eastbound		Westbound					
		L -- T -- R											
1	Redwood Dr/He	30	326	0	0	436	22	39	0	38	0	0	0
2	Commerce Blvd	0	721	13	74	538	0	0	0	0	14	0	47
3	Old Redwood H	0	549	635	0	0	0	0	0	0	353	0	74
4	Gravenstein H	1	0	3	7	0	16	2	561	4	0	777	19
5	Gravenstein H	3	0	28	0	0	0	0	601	12	40	787	0
6	Gravenstein H	32	10	85	360	35	96	69	502	19	90	742	286
7	Gravenstein H	0	0	0	587	0	176	0	693	242	89	862	0
8	Gravenstein H	358	0	172	0	0	0	0	1265	0	0	628	0
9	Gravenstein H	333	680	42	16	220	185	502	70	790	53	39	37
10	Old Redwood H	12	978	6	22	997	49	62	2	26	3	2	23
11	W Sierra Ave/	0	0	0	21	6	0	1	133	10	102	123	36
12	W Sierra Ave/	21	0	201	0	0	0	0	158	0	0	244	0
13	W Sierra Ave/	0	0	0	13	0	19	23	369	0	0	303	24
14	Old Redwood H	17	498	10	432	443	109	87	256	6	16	212	399
15	E Cotati Ave/	5	0	231	0	0	0	0	687	6	129	561	0
16	E Cotati Ave/	143	1	102	5	2	8	2	954	156	61	605	2
17	E Cotati Ave/	0	0	0	145	0	133	221	814	0	0	644	108
18	E Cotati Ave/	162	6	197	3	2	11	18	794	151	152	694	0
19	E Cotati Ave/	0	0	0	30	0	54	94	834	0	2	747	60
20	E Cotati Ave/	15	0	6	0	0	0	0	879	13	10	743	0
21	Old Redwood H	12	463	182	28	340	23	18	24	22	113	18	28
22	Old Redwood H	76	667	208	101	350	13	13	52	24	90	24	45

AM Peakhour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Intersection Volume Report
 Future Volume Alternative

Node	Intersection	Northbound		Southbound		Eastbound		Westbound	
		L -- T -- R							
1	Redwood Dr/He	181	331	0	0	230	57	53	0
2	Commerce Blvd	0	443	9	38	594	0	0	18
3	Old Redwood H	0	944	420	0	0	0	0	461
4	Gravenstein H	1	0	7	46	0	28	57	1024
5	Gravenstein H	13	0	67	0	0	0	0	1087
6	Gravenstein H	41	17	83	265	13	56	97	1034
7	Gravenstein H	0	0	0	534	4	368	0	857
8	Gravenstein H	524	0	111	0	0	0	0	1394
9	Gravenstein H	444	787	10	1	158	289	518	31
10	Old Redwood H	11	1183	3	4	1039	28	53	1
11	W Sierra Ave/	0	0	0	25	12	2	4	183
12	W Sierra Ave/	20	0	124	0	0	0	0	195
13	W Sierra Ave/	0	0	0	35	0	23	16	395
14	Old Redwood H	8	467	32	559	464	69	122	235
15	E Cotati Ave/	1	0	140	0	0	0	0	823
16	E Cotati Ave/	135	2	81	0	0	3	8	909
17	E Cotati Ave/	0	0	0	200	0	230	107	855
18	E Cotati Ave/	226	7	309	7	4	5	10	929
19	E Cotati Ave/	0	0	0	97	0	55	59	1136
20	E Cotati Ave/	97	0	20	0	0	0	0	1159
21	Old Redwood H	15	428	122	6	415	9	12	15
22	Old Redwood H	45	500	44	23	652	5	16	29

PM Peak Hour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Intersection Volume Report
 Future Volume Alternative

Node	Intersection	Northbound		Southbound		Eastbound		Westbound	
		L -- T -- R							
1	Redwood Dr/He	87	400	0	0	512	47	78	0
2	Commerce Blvd	0	792	19	76	613	0	0	0
3	Old Redwood H	0	908	712	0	0	0	0	430
4	Gravenstein H	1	0	3	148	0	66	29	970
5	Gravenstein H	8	0	44	0	0	0	0	1143
6	Gravenstein H	32	10	85	533	35	128	101	1151
7	Gravenstein H	0	0	0	779	0	310	0	1201
8	Gravenstein H	558	0	202	0	0	0	0	1966
9	Gravenstein H	609	895	47	17	285	217	741	78
10	Old Redwood H	12	1451	6	22	1548	57	67	2
11	W Sierra Ave/	0	0	0	23	12	1	2	191
12	W Sierra Ave/	36	0	265	0	0	0	0	218
13	W Sierra Ave/	0	0	0	27	0	21	26	466
14	Old Redwood H	17	616	53	764	629	142	109	336
15	E Cotati Ave/	5	0	260	0	0	0	0	1142
16	E Cotati Ave/	151	1	142	5	2	8	2	1409
17	E Cotati Ave/	0	0	0	183	0	147	238	1279
18	E Cotati Ave/	177	6	233	3	2	11	18	1271
19	E Cotati Ave/	0	0	0	65	0	54	94	1347
20	E Cotati Ave/	168	0	24	0	0	0	0	1305
21	Old Redwood H	12	595	211	28	536	23	18	24
22	Old Redwood H	99	820	211	105	574	13	13	53

Appendix B
Intersection Level of Service Calculations

AM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Redwood Dr/Helman Ln

Average Delay (sec/veh): 2.7 Worst Case Level Of Service: B[13.8]

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign

Rights: Include Include Include Include

Lanes: 0 1 0 0 0 0 1 0 0 0 1! 0 0 0 0 0 0 0 0

Volume Module:

Base Vol: 51 277 0 0 178 27 39 0 37 0 0 0 0

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 51 277 0 0 178 27 39 0 37 0 0 0 0

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 0.81 0.81 0.81 0.88 0.88 0.88 0.68 0.68 0.68 1.00 1.00 1.00

PHF Volume: 63 342 0 0 202 31 57 0 54 0 0 0 0

Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0

Final Vol.: 63 342 0 0 202 31 57 0 54 0 0 0 0

Critical Gap Module:

Critical Gp: 4.1 xxxx xxxx xxxx xxxx xxxx 6.5 xxxx 6.3 xxxx xxxx xxxx

FollowUpTim: 2.2 xxxx xxxx xxxx xxxx xxxx 3.6 xxxx 3.4 xxxx xxxx xxxx

Capacity Module:

Conflict Vol: 233 xxxx xxxx xxxx xxxx xxxx 686 xxxx 218 xxxx xxxx xxxx

Potent Cap.: 1317 xxxx xxxx xxxx xxxx 406 xxxx 810 xxxx xxxx xxxx

Move Cap.: 1317 xxxx xxxx xxxx xxxx 391 xxxx 810 xxxx xxxx xxxx

Volume/Cap: 0.05 xxxx xxxx xxxx xxxx 0.15 xxxx 0.07 xxxx xxxx xxxx

Level Of Service Module:

Queue: 0.2 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx

Stopped Del: 7.9 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx

LOS by Move: A * * * * * * * * * *

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxxx xxxx xxxx xxxx xxxx 522 xxxx xxxx xxxx

SharedQueue: 0.2 xxxx xxxx xxxx xxxx xxxx 0.8 xxxx xxxx xxxx

Shrd StpDel: 7.9 xxxx xxxx xxxx xxxx xxxx 13.8 xxxx xxxx xxxx

Shared LOS: A * * * * * B * * * *

ApproachDel: xxxxxx xxxxxxxx 13.8 xxxxxxxx

ApproachLOS: * * * * * * * * * *

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Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Commerce Blvd/Wilford Ln

Average Delay (sec/veh): 1.4 Worst Case Level Of Service: B[14.4]

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign

Rights: Include Include Include Include

Lanes: 0 0 0 1 0 1 0 1 0 0 0 0 0 1 0 0 0 0 1

Volume Module:

Base Vol: 0 390 7 37 543 0 0 0 0 0 12 0 53

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 0 390 7 37 543 0 0 0 0 0 12 0 53

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 0.80 0.80 0.80 0.90 0.90 0.90 1.00 1.00 1.00 1.00 0.71 0.71 0.71

PHF Volume: 0 487 9 41 601 0 0 0 0 0 17 0 75

Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Final Vol.: 0 487 9 41 601 0 0 0 0 0 17 0 75

Critical Gap Module:

Critical Gp:xxxx xxxx xxxx xxxx 4.1 xxxx xxxx xxxx xxxx 6.4 xxxx 6.2

FollowUpTim:xxxx xxxx xxxx 2.2 xxxx xxxx xxxx xxxx 3.5 xxxx 3.3

Capacity Module:

Conflict Vol: xxxx xxxx xxxx 496 xxxx xxxx xxxx xxxx 1174 xxxx 492

Potent Cap.: xxxx xxxx xxxx 1052 xxxx xxxx xxxx xxxx 212 xxxx 577

Move Cap.: xxxx xxxx xxxx 1052 xxxx xxxx xxxx xxxx 206 xxxx 577

Volume/Cap: xxxx xxxx 0.04 xxxx xxxx xxxx xxxx 0.08 xxxx 0.13

Level Of Service Module:

Queue: xxxx xxxx xxxx 0.1 xxxx xxxx xxxx xxxx xxxx 0.3 xxxx 0.4

Stopped Del:xxxx xxxx xxxx 8.6 xxxx xxxx xxxx xxxx xxxx 24.1 xxxx 12.2

LOS by Move: * * * A * * * * * C * B

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx

SharedQueue:xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx

Shrd StpDel:xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx

Shared LOS: * * * * * * * * * *

ApproachDel: xxxxxx xxxxxxxx * * * * * * * * * *

ApproachLOS: * * * * * * * * * B

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2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Old Redwood Highway/Commerce Blvd.

Average Delay (sec/veh): 45.2 Worst Case Level Of Service: F[122.4]

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

Volume Module:

Base Vol:	0	743	365	0	0	0	0	0	406	0	175
Growth Adj:	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	743	365	0	0	0	0	0	406	0	175
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	759	373	0	0	0	0	0	464	0	200
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	759	373	0	0	0	0	0	464	0	200

Critical Gap Module:

Critical Gp:	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxx	xxxxxx	6.4	xxxx	6.3
FollowUpTim:	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxx	xxxxxx	3.5	xxxx	3.3

Capacity Module:

Cnflict Vol:	xxxxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	759	xxxx	759
Potent Cap.:	xxxxxx	370	xxxx	402							
Move Cap.:	xxxxxx	370	xxxx	402							
Volume/Cap:	xxxxxx	1.25	xxxx	0.50							

Level Of Service Module:

Queue:	xxxxxx	20.3	xxxx	2.7							
Stopped Del:	xxxxxx	165.4	xxxx	22.5							
LOS by Move:	*	*	*	*	*	*	*	*	F	*	C
Movement:	LT - LTR - RT										
Shared Cap.:	xxxxxx	xxxxxx	xxxxxx	xxxxxx							
SharedQueue:	xxxxxx	xxxxxx	xxxxxx	xxxxxx							
Shrd StpDel:	xxxxxx	xxxxxx	xxxxxx	xxxxxx							
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx	122.4	xxxxxx								
ApproachLOS:	*	*	*	*	*	*	*	*	F	*	*

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2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 Gravenstein Hwy/Alder Ave

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: D[25.8]

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

Volume Module:

Base Vol:	1	0	7	7	0	12	14	611	1	5	607	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	0	7	7	0	12	14	611	1	5	607	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:	0.50	0.50	0.50	0.68	0.68	0.68	0.94	0.94	0.94	0.84	0.84	0.84
PHF Volume:	2	0	14	10	0	18	15	650	1	6	723	7
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	2	0	14	10	0	18	15	650	1	6	723	7

Critical Gap Module:

Critical Gp:	7.1	xxxx	6.2	7.2	xxxx	6.3	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	3.5	xxxx	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx

Capacity Module:

Cnflict Vol:	1427	xxxx	651	1425	xxxx	726	730	xxxx	xxxxx	651	xxxx	xxxxx
Potent Cap.:	114	xxxx	472	111	xxxx	419	861	xxxx	xxxxx	921	xxxx	xxxxx
Move Cap.:	107	xxxx	472	106	xxxx	419	861	xxxx	xxxxx	921	xxxx	xxxxx
Volume/Cap:	0.02	xxxx	0.03	0.10	xxxx	0.04	0.02	xxxx	xxxxx	0.01	xxxx	xxxxx

Level Of Service Module:

Queue:	xxxxxx	0.1	xxxx	xxxxx	0.0	xxxx	xxxxx							
Stopped Del:	xxxxxx	9.3	xxxx	xxxxx	8.9	xxxx	xxxxx							
LOS by Move:	*	*	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT - LTR - RT													
Shared Cap.:	xxxxxx	201	xxxx	xxxxx	xxxxx	xxxxxx	xxxxxx							
SharedQueue:	xxxxxx	0.2	xxxx	xxxxx	0.5	xxxx	xxxxx							
Shrd StpDel:	xxxxxx	16.4	xxxx	xxxxx	25.8	xxxx	xxxxx							
Shared LOS:	*	*	*	*	*	*	*	*	C	*	*	D	*	*
ApproachDel:									16.4			25.8		
ApproachLOS:		*		*		*			C			*		*

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2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5 Gravenstein Hwy/W Cotati Ave

Average Delay (sec/veh): 1.0 Worst Case Level Of Service: C[21.7]

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 Channel Include
 Lanes: 1 0 0 0 1 0 0 0 0 0 0 0 0 1 0 0 1 0 0 0 0

Volume Module:
 Base Vol: 6 0 50 0 0 0 0 639 5 12 626 0
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 6 0 50 0 0 0 0 639 5 12 626 0
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86
 PHF Volume: 7 0 58 0 0 0 0 799 6 13 703 0
 Reduct Vol: 0
 Final Vol.: 7 0 58 0 0 0 0 799 6 13 703 0

Critical Gap Module:
 Critical Gp: 6.4 xxxx 6.2 xxxx xxxx xxxx xxxx xxxx xxxx 4.1 xxxx xxxx

FollowUpTim: 3.5 xxxx 3.3 xxxx xxxx xxxx xxxx xxxx 2.2 xxxx xxxx

Capacity Module:
 Cnflct Vol: 1880 xxxx 799 xxxx xxxx xxxx xxxx xxxx 799 xxxx xxxx
 Potent Cap.: 64 xxxx 386 xxxx xxxx xxxx xxxx xxxx 811 xxxx xxxx
 Move Cap.: 63 xxxx 386 xxxx xxxx xxxx xxxx xxxx 811 xxxx xxxx
 Volume/Cap: 0.11 xxxx 0.15 xxxx xxxx xxxx xxxx xxxx 0.02 xxxx xxxx

Level Of Service Module:
 Queue: 0.4 xxxx 0.5 xxxx xxxx xxxx xxxx xxxx 0.1 xxxx xxxx
 Stopped Del: 69.2 xxxx 16.0 xxxx xxxx xxxx xxxx xxxx 9.5 xxxx xxxx
 LOS by Move: F * C * * * * * A * *
 Movement: LT - LTR - RT
 Shared Cap.: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 SharedQueue: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 0.1 xxxx xxxx
 Shrd StpDel: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 9.5 xxxx xxxx
 Shared LOS: * * * * * * * * * A * *
 ApproachDel: 21.7 xxxxxxxx xxxxxxxx xxxxxxxx
 ApproachLOS: C *

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Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #6 Gravenstein Hwy/Redwood Dr

Cycle (sec): 100 Critical Vol./Cap. (X): 0.444
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 21.3
 Optimal Cycle: 25 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: Include Include Include Include
 Min. Green: 0
 Lanes: 1 0 0 1 0 1 0 0 1 0 1 0 1 1 0 1 0 2 0 1

Volume Module:
 Base Vol: 41 17 83 188 13 36 73 547 33 69 561 268
 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: 41 17 83 188 13 36 73 547 33 69 561 268
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.88 0.88 0.88 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.87 0.87 0.87
 PHF Volume: 47 19 94 200 14 38 78 582 35 79 645 308
 Reduct Vol: 0
 Reduced Vol: 47 19 94 200 14 38 78 582 35 79 645 308
 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.: 47 19 94 200 14 38 78 582 35 79 645 308

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.69 0.83 0.83 0.61 0.85 0.85 0.90 0.94 0.94 0.90 0.95 0.81
 Lanes: 1.00 0.17 0.83 1.00 0.27 0.73 1.00 1.89 0.11 1.00 2.00 1.00
 Final Sat.: 1313 269 1315 1161 427 1183 1718 3381 204 1718 3618 1537

Capacity Analysis Module:
 Vol/Sat: 0.04 0.07 0.07 0.17 0.03 0.03 0.05 0.17 0.17 0.05 0.18 0.20
 Crit Moves: **** **** ***
 Green/Cycle: 0.39 0.39 0.39 0.39 0.39 0.39 0.10 0.44 0.44 0.12 0.45 0.45
 Volume/Cap: 0.09 0.19 0.19 0.44 0.08 0.08 0.44 0.40 0.40 0.40 0.40 0.44
 Delay/Veh: 19.5 20.4 20.4 23.4 19.4 19.4 44.1 19.4 19.4 42.2 18.5 19.3
 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: 19.5 20.4 20.4 23.4 19.4 19.4 44.1 19.4 19.4 42.2 18.5 19.3
 HCM2kAvg: 1 2 2 7 1 1 3 6 6 3 7 7

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2000 HCM Operations Method (Base Volume Alternative)

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Intersection #8 Gravenstein Hwy/US 101 NB

Cycle (sec): 100 Critical Vol./Cap. (X): 0.536

Loss Time (sec): 4 (Y+R = 4 sec) Average Delay (sec/veh): 15.3

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:	Split Phase	Split Phase	Permitted	Permitted
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 2 0 0	0 0 2 0 0

Volume Module: 7:30 - 8:30 am

Base Vol:	267 0 88 0 0 0 0 1013 0 0 0 602 0
Growth Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:	267 0 88 0 0 0 0 1013 0 0 0 602 0
User Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:	0.72 0.72 0.72 1.00 1.00 1.00 0.93 0.93 0.93 0.93 0.79 0.79 0.79
PHF Volume:	371 0 122 0 0 0 0 1089 0 0 0 762 0
Reducut Vol:	0 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol:	371 0 122 0 0 0 0 1089 0 0 0 762 0
PCE Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 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 1.00
Final Vol.:	371 0 122 0 0 0 0 1089 0 0 0 762 0

Saturation Flow Module:

Sat/Lane:	1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:	0.91 1.00 0.82 1.00 1.00 1.00 1.00 0.95 1.00 1.00 0.95 1.00 1.00
Lanes:	1.00 0.00 1.00 0.00 0.00 0.00 0.00 2.00 0.00 0.00 2.00 0.00 0.00
Final Sat.:	1736 0 1553 0 0 0 0 3618 0 0 0 3618 0

Capacity Analysis Module:

Vol/Sat:	0.21 0.00 0.08 0.00 0.00 0.00 0.00 0.30 0.00 0.00 0.21 0.00
Crit Moves:	**** ****
Green/Cycle:	0.40 0.00 0.40 0.00 0.00 0.00 0.00 0.56 0.00 0.00 0.56 0.00
Volume/Cap:	0.54 0.00 0.20 0.00 0.00 0.00 0.00 0.54 0.00 0.00 0.38 0.00
Delay/Veh:	23.8 0.0 19.8 0.0 0.0 0.0 0.0 14.0 0.0 0.0 12.3 0.0
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 1.00
AdjDel/Veh:	23.8 0.0 19.8 0.0 0.0 0.0 0.0 14.0 0.0 0.0 12.3 0.0
HCM2kAvg:	9 0 2 0 0 0 0 11 0 0 6 0

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 2000 HCM Operations Method (Base Volume Alternative)

Intersection #9 Gravenstein Hwy/Old Redwood Hwy

Cycle (sec): 100 Critical Vol./Cap. (X): 0.462
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 25.3
 Optimal Cycle: 30 Level Of Service: C

	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Protected	Protected	Split Phase	Split Phase
Rights:	Include	Ignore	Ignore	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	1 0 1 1 0	1 0 1 0 1	1 1 0 0 1	1 0 0 1 0
Volume Module: 7:30 - 8:30 am				
Base Vol:	254 626 9 1 119	265 420 29 604	47 45 31	
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	
Initial Bse:	254 626 9 1 119	265 420 29 604	47 45 31	
User Adj:	1.00 1.00 1.00 1.00 0.00	1.00 1.00 0.00 1.00 1.00	1.00 1.00 1.00 1.00 1.00	
PHF Adj:	0.94 0.94 0.94 0.90 0.90	0.90 0.91 0.91 0.91 0.91	0.81 0.81 0.81 0.81 0.81	
PHF Volume:	270 666 10 1 132	0 462 32 0	0 58 56 38	
Reduc Vol:	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	
Reduced Vol:	270 666 10 1 132	0 462 32 0	0 58 56 38	
PCE Adj:	1.00 1.00 1.00 1.00 0.00	1.00 1.00 0.00 1.00 1.00	1.00 1.00 1.00 1.00 1.00	
MLF Adj:	1.00 1.00 1.00 1.00 0.00	1.00 1.00 0.00 1.00 1.00	1.00 1.00 1.00 1.00 1.00	
Final Vol.:	270 666 10 1 132	0 462 32 0	0 58 56 38	
Saturation Flow Module:				
Sat/Lane:	1900 1900 1900 1900 1900	1900 1900 1900 1900 1900	1900 1900 1900 1900 1900	
Adjustment:	0.90 0.95 0.95 0.93 0.98	1.00 0.91 0.91 1.00 0.93	0.92 0.92 0.92 0.92	
Lanes:	1.00 1.97 0.03 1.00 1.00	1.00 1.87 0.13 1.00 1.00	0.59 0.59 0.41	
Final Sat.:	1718 3559 51 1769 1862	1900 3232 223 1900	1769 1035 713	
Capacity Analysis Module:				
Vol/Sat:	0.16 0.19 0.19 0.00 0.07	0.00 0.14 0.14 0.00 0.03	0.05 0.05	
Crit Moves:	****	****	****	****
Green/Cycle:	0.34 0.49 0.49 0.00 0.15	0.00 0.31 0.31 0.00 0.12	0.12 0.12 0.12	0.12
Volume/Cap:	0.46 0.38 0.38 0.38 0.46	0.00 0.46 0.46 0.00 0.28	0.46 0.46	0.46
Delay/Veh:	26.4 16.0 16.0 116.7 39.7	0.0 28.1 28.1 0.0 41.1	42.9 42.9	42.9
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 1.00	1.00
AdjDel/Veh:	26.4 16.0 16.0 116.7 39.7	0.0 28.1 28.1 0.0 41.1	42.9 42.9	42.9
HCM2kAvg:	7 6 6 0 4	0 7 7 0 2	3 3	

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 City of Cotati

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

Intersection #10 Old Redwood Hwy/William St-George St

Cycle (sec): 100 Critical Vol./Cap. (X): 0.742
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 20.6
 Optimal Cycle: 0 Level Of Service: C

	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	1 0 1 1 0	1 0 1 1 0	1 0 1 1 0	1 0 1 1 0
Volume Module:				
Base Vol:	11 832 3 4 717	25 47 1 16	5 1 22	
Growth Adj:	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	
Initial Bse:	11 832 3 4 717	25 47 1 16	5 1 22	
User Adj:	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	
PHF Adj:	0.93 0.93 0.93 0.93	0.95 0.95 0.95 0.95	0.84 0.84 0.84 0.84	0.70 0.70 0.70 0.70
PHF Volume:	12 895 3 4 755	26 56 1 19	7 1 31	
Reduc Vol:	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	
Reduced Vol:	12 895 3 4 755	26 56 1 19	7 1 31	
PCE Adj:	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	
MLF Adj:	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	
Final Vol.:	12 895 3 4 755	26 56 1 19	7 1 31	
Saturation Flow Module:				
Adjustment:	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	
Lanes:	1.00 1.99 0.01 1.00	1.93 0.07 0.73 0.02	0.25 0.18 0.03 0.79	
Final Sat.:	553 1206 4 537	1138 40 374	8 127 94 19	412
Capacity Analysis Module:				
Vol/Sat:	0.02 0.74 0.74 0.01 0.66	0.66 0.15 0.15	0.15 0.08 0.08	0.08
Crit Moves:	****	****	****	****
Delay/Veh:	9.2 23.2 23.2 9.3 19.4	19.2 11.0 11.0 11.0	10.0 10.0 10.0	10.0
Delay Adj:	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	1.00 1.00 1.00	1.00
AdjDel/Veh:	9.2 23.2 23.2 9.3 19.4	19.2 11.0 11.0 11.0	10.0 10.0 10.0	10.0
LOS by Move:	A C C A C C B B B B B B			
ApproachDel:	23.0	19.3	11.0	10.0
Delay Adj:	1.00	1.00	1.00	1.00
ApprAdjDel:	23.0	19.3	11.0	10.0
LOS by Appr:	C C B B			

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Cotati Circulation Improvement Study
City of Cotati

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #11 W Sierra Ave/W School St-US 101 SB Ramp

Average Delay (sec/veh): 3.2 Worst Case Level Of Service: C[16.6]

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	Channel	Include
Lanes:	0 0 0 0	0 0 1! 0	0 0 1 0 0 1	0 0 1! 0 0

Volume Module:

Base Vol:	0	0	0	24	9	1	3	135	4	134	166	21
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	24	9	1	3	135	4	134	166	21
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	0.71	0.71	0.71	0.63	0.63	0.63	0.93	0.93	0.93
PHF Volume:	0	0	0	34	13	1	5	214	6	144	178	23
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	34	13	1	5	214	6	144	178	23

Critical Gap Module:

Critical Gp:	xxxxxx	xxxx	xxxxxx	6.4	6.5	6.2	4.1	xxxxxx	xxxxxx	4.1	xxxx	xxxx
FollowUpTim:	xxxxxx	xxxx	xxxxxx	3.5	4.0	3.3	2.2	xxxxxx	xxxxxx	2.2	xxxx	xxxx

Capacity Module:

Cnflict Vol:	xxxxxx	xxxxx	xxxxxx	705	702	190	201	xxxxxx	xxxxxx	214	xxxx	xxxx
Potent Cap.:	xxxxxx	xxxxx	xxxxxx	403	363	852	1371	xxxxxx	xxxxxx	1356	xxxx	xxxx
Move Cap.:	xxxxxx	xxxxx	xxxxxx	366	320	852	1371	xxxxxx	xxxxxx	1356	xxxx	xxxx
Volume/Cap:	xxxxxx	xxxxx	xxxxxx	0.09	0.04	0.00	0.00	xxxxxx	xxxxxx	0.11	xxxx	xxxx

Level Of Service Module:

Queue:	xxxxxx	xxxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	0.0	xxxxxx	xxxxxx	0.4	xxxx	xxxx
Stopped Del:	xxxxxx	xxxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	7.6	xxxxxx	xxxxxx	8.0	xxxx	xxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT - LTR - RT											
Shared Cap.:	xxxxxx	xxxxx	xxxxxx	xxxxxx	358	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxx	xxxx
SharedQueue:	xxxxxx	xxxxx	xxxxxx	xxxxxx	0.5	xxxxxx	0.0	xxxxxx	xxxxxx	xxxxxx	xxxx	xxxx
Shrd StpDel:	xxxxxx	xxxxx	xxxxxx	xxxxxx	16.6	xxxxxx	7.6	xxxxxx	xxxxxx	xxxxxx	xxxx	xxxx
Shared LOS:	*	*	*	*	C	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			16.6	xxxxxx		xxxxxx					
ApproachLOS:		*		C	*		*					

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Cotati Circulation Improvement Study
City of Cotati

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #12 W Sierra Ave/US 101 NB Off-ramp

Average Delay (sec/veh): 1.7 Worst Case Level Of Service: B[10.2]

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

Volume Module:

Base Vol:	12	0	85	0	0	0	0	146	0	0	313	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	12	0	85	0	0	0	0	146	0	0	313	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	1.00	1.00	1.00	0.73	0.73	0.73	0.86	0.86	0.86
PHF Volume:	14	0	98	0	0	0	0	200	0	0	364	0
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	14	0	98	0	0	0	0	200	0	0	364	0

Critical Gap Module:

Critical Gp:	6.4	xxxx	6.2	xxxxxx	xxxx	xxxxxx						
FollowUpTim:	3.5	xxxx	3.3	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxx	xxxx

Capacity Module:

Cnflict Vol:	564	xxxx	200	xxxxxx								
Potent Cap.:	487	xxxx	841	xxxxxx	xxxx	xxxx						
Move Cap.:	487	xxxx	841	xxxxxx	xxxx	xxxx						
Volume/Cap:	0.03	xxxx	0.12	xxxxxx	xxxx	xxxx						

Level Of Service Module:

Queue:	0.1	xxxx	0.4	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxx	xxxx
Stopped Del:	12.6	xxxx	9.8	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxx	xxxx
LOS by Move:	B	*	A	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT											
Shared Cap.:	xxxxxx	xxxxx	xxxxxx	xxxxxx	358	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxx	xxxx
SharedQueue:	xxxxxx	xxxxx	xxxxxx	xxxxxx	0.5	xxxxxx	0.0	xxxxxx	xxxxxx	xxxxxx	xxxx	xxxx
Shrd StpDel:	xxxxxx	xxxxx	xxxxxx	xxxxxx	16.6	xxxxxx	7.6	xxxxxx	xxxxxx	xxxxxx	xxxx	xxxx
Shared LOS:	*	*	*	*	C	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			10.2	xxxxxx		xxxxxx					
ApproachLOS:		*		B	*		*				*	

AM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #13 W Sierra Ave/E School St

Cycle (sec): 100 Critical Vol./Cap. (X): 0.456
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 10.1
 Optimal Cycle: 0 Level Of Service: B

 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 |-----| |-----| |-----| |-----|
 Control: Stop Sign Stop Sign Stop Sign Stop Sign
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0
 |-----| |-----| |-----| |-----|
 Volume Module:
 Base Vol: 0 0 0 18 0 20 15 308 0 0 252 16
 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 18 0 20 15 308 0 0 252 16
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.90 0.90 0.90 0.86 0.86 0.86 0.86 0.86 0.86 1.00 1.00 1.00
 PHF Volume: 0 0 0 21 0 23 17 358 0 0 252 16
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 0 0 0 21 0 23 17 358 0 0 252 16
 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.: 0 0 0 21 0 23 17 358 0 0 252 16
 |-----| |-----| |-----| |-----|
 Saturation Flow Module:
 Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Lanes: 0.00 0.00 0.00 0.47 0.00 0.53 0.05 0.95 0.00 0.00 0.94 0.06
 Final Sat.: 0 0 0 308 0 343 38 786 0 0 761 48
 |-----| |-----| |-----| |-----|
 Capacity Analysis Module:
 Vol/Sat: xxxx xxxx xxxx 0.07 xxxx 0.07 0.46 0.46 xxxx xxxx 0.33 0.33
 Crit Moves: **** * **** * **** * **** * **** * **** * **** *
 Delay/Veh: 0.0 0.0 0.0 8.3 0.0 8.3 10.8 10.8 0.0 0.0 9.5 9.5
 Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 0.0 0.0 0.0 8.3 0.0 8.3 10.8 10.8 0.0 0.0 9.5 9.5
 LOS by Move: * * * A * A B B * * A A
 ApproachDel: xxxxxxxx 8.3 10.8 9.5
 Delay Adj: xxxxxx 1.00 1.00 1.00
 ApprAdjDel: xxxxxxxx 8.3 10.8 9.5
 LOS by Appr: * A B A

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Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

 Intersection #14 Old Redwood Hwy/E Cotati Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 0.803
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 35.1
 Optimal Cycle: 66 Level Of Service: D

 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 |-----| |-----| |-----| |-----|
 Control: Protected Protected Protected Protected
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 1 0 1 1 0 1 0 1 0 1 0 1 1 0 1 0 1 1 0
 |-----| |-----| |-----| |-----|
 Volume Module: 7:30 - 8:30 am
 Base Vol: 8 316 1 324 389 57 93 168 6 19 186 427
 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: 8 316 1 324 389 57 93 168 6 19 186 427
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.87 0.87 0.87 0.88 0.88 0.88 0.88 0.91 0.91 0.91 0.85 0.85 0.85
 PHF Volume: 9 363 1 368 442 65 102 185 7 22 219 502
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 9 363 1 368 442 65 102 185 7 22 219 502
 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.: 9 363 1 368 442 65 102 185 7 22 219 502
 |-----| |-----| |-----| |-----|
 Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.84 0.88 0.88 0.84 0.88 0.75 0.84 0.88 0.88 0.84 0.79 0.79
 Lanes: 1.00 1.99 0.01 1.00 1.00 1.00 1.00 1.93 0.07 1.00 1.00 1.00
 Final Sat.: 1592 3341 11 1592 1676 1424 1592 3220 115 1592 1500 1500
 |-----| |-----| |-----| |-----|
 Capacity Analysis Module:
 Vol/Sat: 0.01 0.11 0.11 0.23 0.26 0.05 0.06 0.06 0.06 0.01 0.15 0.33
 Crit Moves: **** * **** * **** * **** * **** * **** * **** *
 Green/Cycle: 0.01 0.14 0.14 0.29 0.41 0.41 0.08 0.40 0.40 0.10 0.42 0.42
 Volume/Cap: 0.64 0.80 0.80 0.80 0.64 0.11 0.80 0.14 0.14 0.14 0.35 0.80
 Delay/Veh: 117.3 51.9 51.9 42.9 25.3 18.1 74.9 19.2 19.2 41.7 20.0 30.9
 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: 117.3 51.9 51.9 42.9 25.3 18.1 74.9 19.2 19.2 41.7 20.0 30.9
 HCM2kAvg: 1 8 8 13 11 1 5 2 2 1 5 16

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 City of Cotati

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #15 E Cotati Ave/Charles St

Average Delay (sec/veh): 2.7 Worst Case Level Of Service: B[14.7]

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 0 0 0 0 1 0 1 0 1 0 0

Volume Module:

Base Vol:	1	0	111	0	0	0	0	490	3	230	615	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	0	111	0	0	0	0	490	3	230	615	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.88	0.88	0.88	0.88
PHF Volume:	1	0	135	0	0	0	0	598	4	261	699	0
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	1	0	135	0	0	0	0	598	4	261	699	0

Critical Gap Module:

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

Capacity Module:

Cnflict Vol:	2296	xxxxx	599	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	601	xxxxx	xxxxx
Potent Cap.:	34	xxxxx	501	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	976	xxxxx	xxxxx
Move Cap.:	27	xxxxx	501	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	976	xxxxx	xxxxx
Total Cap:	186	0	xxxxx	0	0	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
Volume/Cap:	0.01	xxxxx	0.27	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	0.27	xxxxx	xxxxx

Level Of Service Module:

Queue:	xxxxx	1.1	xxxxx	xxxxx										
Stopped Del:	xxxxx	10.0	xxxxx	xxxxx										
LOS by Move:	*	*	*	*	*	*	*	*	B	*	*			
Movement:	LT	-	LTR	-	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxxx	506	xxxxx											
SharedQueue:	xxxxx	1.1	xxxxx											
Shrd StpDel:	xxxxx	14.7	xxxxx											
Shared LOS:	*	B	*	*	*	*	*	*	*	*	*			
ApproachDel:	14.7	xxxxx												
ApproachLOS:	B	*	*	*	*	*	*	*	*	*	*			

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 City of Cotati

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #16 E Cotati Ave/La Salle Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 0.706

Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 19.7

Optimal Cycle: 0 Level Of Service: C

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Stop Sign Stop Sign

Rights: Include Include Include Include

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Lanes: 0 0 1! 0 0 0 0 0 0 1 0 1 1 0 1 0 1 1 0

Volume Module: 7:30 - 8:30 am

Base Vol:	127	2	51	0	0	3	8	555	87	45	717	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	127	2	51	0	0	3	8	555	87	45	717	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.50	0.50	0.50	0.87	0.87	0.87	0.89	0.89	0.89
PHF Volume:	144	2	58	0	0	6	9	638	100	51	806	3
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	144	2	58	0	0	6	9	638	100	51	806	3
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.:	144	2	58	0	0	6	9	638	100	51	806	3

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.71	0.01	0.28	0.00	0.00	1.00	1.00	1.73	0.27	1.00	1.99	0.01
Final Sat.:	373	6	150	0	0	485	513	980	156	527	1141	5

Capacity Analysis Module:

Vol/Sat:	0.39	0.39	0.39	xxxxx	xxxxx	0.01	0.02	0.65	0.64	0.10	0.71	0.71
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Delay/Veh:	13.6	13.6	13.6	0.0	0.0	9.9	9.7	19.7	18.9	10.1	22.1	22.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.6	13.6	13.6	0.0	0.0	9.9	9.7	19.7	18.9	10.1	22.1	22.1
LOS by Move:	B	B	B	*	*	A	A	C	C	B	C	C
ApproachDel:	13.6					9.9			19.4			21.4
Delay Adj:	1.00					1.00			1.00			1.00
ApprAdjDel:	13.6					9.9			19.4			21.4
LOS by Appr:	B					A			C			C

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 City of Cotati

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

Intersection #17 E Cotati Ave/Adrian Dr

Cycle (sec): 100 Critical Vol./Cap. (X): 0.520
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 20.2
 Optimal Cycle: 28 Level Of Service: C

	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	0 0 0 0
Lanes:	1 0 0 0	1 0 0 1	1 0 2 0	0 0 1 1
Volume Module:				
Base Vol:	0 0 0 173	0 218 98 487	0 0 0 586	154
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 0 173	0 218 98 487	0 0 0 586	154
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	0.72 0.72 0.72	0.83 0.83 0.83	0.89 0.89 0.89
PHF Volume:	0 0 0 240	0 303 118 587	0 0 0 658	173
Reduc Vol:	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
Reduced Vol:	0 0 0 240	0 303 118 587	0 0 0 658	173
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.:	0 0 0 240	0 303 118 587	0 0 0 658	173
Saturation Flow Module:				
Sat/Lane:	1900 1900 1900 1900	1900 1900 1900 1900	1900 1900 1900 1900	1900 1900 1900 1900
Adjustment:	1.00 1.00 1.00	0.93 1.00 0.83	0.93 0.93 1.00	0.95 0.95 1.00
Lanes:	0.00 1.00 0.00	1.00 0.00 2.00	0.00 0.00 1.58	0.42
Final Sat.:	0 1900	0 1769	0 1583	3538 0 2858 751
Capacity Analysis Module:				
Vol/Sat:	0.00 0.00 0.00	0.14 0.00 0.19	0.07 0.17 0.00	0.00 0.23 0.23
Crit Moves:	****			
Green/Cycle:	0.00 0.00 0.00	0.37 0.00 0.37	0.13 0.57 0.00	0.00 0.44 0.44
Volume/Cap:	0.00 0.00 0.00	0.37 0.00 0.52	0.52 0.29 0.00	0.00 0.52 0.52
Delay/Veh:	0.0 0.0 0.0	23.5 0.0 25.5	42.8 11.1 0.0	0.0 20.4 20.4
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:	0.0 0.0 0.0	23.5 0.0 25.5	42.8 11.1 0.0	0.0 20.4 20.4
HCM2kAvg:	0 0 0	6 0 8	4 5 0	0 9 9

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 City of Cotati

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

Intersection #18 E Cotati Ave/Lancaster Dr

Cycle (sec): 100 Critical Vol./Cap. (X): 0.588
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 23.2
 Optimal Cycle: 32 Level Of Service: C

	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	0 0 0 0
Lanes:	1 0 0 1 0	1 0 0 0 1	0 1 0 1 1	0 1 0 1 1
Volume Module: >> Count Date: 17 Nov 2004 <<				
Base Vol:	200 7 281	7 4 5	10 542 98	170 614 3
Growth Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
Initial Bse:	200 7 281	7 4 5	10 542 98	170 614 3
User Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
PHF Adj:	0.81 0.81 0.81	0.57 0.57 0.57	0.81 0.81 0.81	0.81 0.86 0.86
PHF Volume:	247 9 347	12 7 9	12 669 121	198 714 3
Reduc Vol:	0 0 0	0 0 0	0 0 0	0 0 0
Reduced Vol:	247 9 347	12 7 9	12 669 121	198 714 3
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.:	247 9 347	12 7 9	12 669 121	198 714 3
Saturation Flow Module:				
Sat/Lane:	1900 1900 1900 1900	1900 1900 1900 1900	1900 1900 1900 1900	1900 1900 1900 1900
Adjustment:	0.74 0.84 0.84	0.35 0.90 0.90	0.93 0.96 0.96	0.93 0.98 0.98
Lanes:	1.00 0.02 0.98	1.00 0.44 0.56	1.00 1.69 0.31	1.00 1.99 0.01
Final Sat.:	1406 39 1551	661 759 949	1769 3081 557	1769 3702 18
Capacity Analysis Module:				
Vol/Sat:	0.18 0.22 0.22	0.02 0.01 0.01	0.01 0.22 0.22	0.11 0.19 0.19
Crit Moves:	****			
Green/Cycle:	0.38 0.38	0.38 0.38	0.38 0.37	0.37 0.54 0.54
Volume/Cap:	0.46 0.59	0.59 0.05	0.02 0.36	0.59 0.36 0.36
Delay/Veh:	23.9 26.2	26.2 19.6	19.4 54.6	26.1 39.6 13.2
User DelAdj:	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00 1.00
AdjDel/Veh:	23.9 26.2	26.2 19.6	19.4 54.6	26.1 39.6 13.2
HCM2kAvg:	8 9	9 1	0 10	7 6 6

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Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #19 E Cotati Ave/Beverly Dr

Average Delay (sec/veh): 1.1 Worst Case Level Of Service: B[10.6]

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Rights:	Include	Include	Include	Include
Lanes:	0 0 0 0	0 0 1! 0	0 1 0 2 0 0	1 0 1 1 0

Volume Module: >> Count Date: 17 Nov 2004 <<

Base Vol:	0 0 0 73 0 55 59 721 0 0 645 121
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 73 0 55 59 721 0 0 645 121
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 0.76 0.76 0.76 0.81 0.81 0.81 0.81 0.81 0.81
PHF Volume:	0 0 0 96 0 72 73 890 0 0 796 149
Reduc Vol:	0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.:	0 0 0 96 0 72 73 890 0 0 796 149

Critical Gap Module:

Critical Gp:	xxxxxx xxxx xxxx 6.8 xxxx 6.9 4.1 xxxx xxxx xxxx xxxx xxxx
FollowUpTim:	xxxxxx xxxx xxxx 3.5 xxxx 3.3 2.2 xxxx xxxx xxxx xxxx xxxx

Capacity Module:

Cnflict Vol:	xxxxxx xxxx xxxx 1660 xxxx 537 803 xxxx xxxx xxxx xxxx xxxx
Potent Cap.:	xxxxxx xxxx 78 xxxx 430 719 xxxx xxxx xxxx xxxx xxxx
Move Cap.:	xxxxxx xxxx 72 xxxx 430 719 xxxx xxxx xxxx xxxx xxxx
Total Cap:	0 656 xxxx 245 690 xxxx xxxx xxxx xxxx xxxx xxxx
Volume/Cap:	xxxxxx xxxx 0.39 xxxx 0.17 0.10 xxxx xxxx xxxx xxxx xxxx

Level Of Service Module:

Queue:	xxxxxx xxxx xxxx xxxx xxxx 0.3 xxxx xxxx xxxx xxxx xxxx
Stopped Del:	xxxxxx xxxx xxxx xxxx xxxx 10.6 xxxx xxxx xxxx xxxx xxxx
LOS by Move:	* * * * * * B * * * * *
Movement:	LT - LTR - RT
Shared Cap.:	xxxxxx xxxx xxxx xxxx 1001 xxxx xxxx xxxx xxxx xxxx xxxx
SharedQueue:	xxxxxx xxxx xxxx 0.6 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shrd StpDel:	xxxxxx xxxx xxxx 9.3 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shared LOS:	* * * * A * * * * *
ApproachDel:	xxxxxx 9.3 xxxx xxxx xxxx *
ApproachLOS:	*

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Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #20 E Cotati Ave/Santero Way

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: C[17.8]

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Rights:	Include	Include	Include	Include
Lanes:	0 0 0 1! 0 0	0 0 0 0 0 0	0 0 1 1 0	1 0 2 0 0

Volume Module:

Base Vol:	10 0 10 0 0 0 0 860 14 8 702 0
Growth Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:	10 0 10 0 0 0 0 860 14 8 702 0
User Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:	0.71 0.71 0.71 1.00 1.00 1.00 1.00 0.83 0.83 0.83 0.81 0.81
PHF Volume:	14 0 14 0 0 0 0 1036 17 10 867 0
Reduc Vol:	0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.:	14 0 14 0 0 0 0 1036 17 10 867 0

Critical Gap Module:

Critical Gp:	6.8 xxxx 6.9 xxxx xxxx xxxx xxxx xxxx xxxx 4.1 xxxx xxxx
FollowUpTim:	3.5 xxxx 3.3 xxxx xxxx xxxx xxxx xxxx xxxx 2.2 xxxx xxxx

Capacity Module:

Cnflict Vol:	1498 xxxx 527 xxxx xxxx xxxx xxxx xxxx xxxx 1053 xxxx xxxx
Potent Cap.:	113 xxxx 496 xxxx xxxx xxxx xxxx xxxx 657 xxxx xxxx
Move Cap.:	112 xxxx 496 xxxx xxxx xxxx xxxx xxxx 657 xxxx xxxx
Total Cap:	226 0 xxxx 789 0 xxxx xxxx xxxx xxxx xxxx
Volume/Cap:	0.06 xxxx 0.03 xxxx xxxx xxxx xxxx xxxx 0.02 xxxx xxxx

Level Of Service Module:

Queue:	xxxxxx xxxx xxxx xxxx xxxx 0.0 xxxx xxxx xxxx xxxx xxxx
Stopped Del:	xxxxxx xxxx xxxx xxxx xxxx 10.6 xxxx xxxx xxxx xxxx xxxx
LOS by Move:	* * * * * * B * * * * *
Movement:	LT - LTR - RT
Shared Cap.:	xxxxxx 310 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
SharedQueue:	0.3 xxxx
Shrd StpDel:	xxxxxx 17.8 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shared LOS:	* C * * * * * * * *
ApproachDel:	17.8 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
ApproachLOS:	C * * * *

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Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #21 Old Redwood Highway/Henry-Charles St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.637
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 14.9
 Optimal Cycle: 0 Level Of Service: B

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

Volume Module:
 Base Vol: 15 271 93 6 332 9 12 15 16 197 12 16
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 15 271 93 6 332 9 12 15 16 197 12 16
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.93 0.93 0.93 0.87 0.87 0.87 0.83 0.83 0.83 0.84 0.84 0.84
 PHF Volume: 16 291 100 7 382 10 14 18 19 235 14 19
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 16 291 100 7 382 10 14 18 19 235 14 19
 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.: 16 291 100 7 382 10 14 18 19 235 14 19

Saturation Flow Module:
 Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Lanes: 0.05 0.95 1.00 0.02 0.96 0.02 0.28 0.35 0.37 0.88 0.05 0.07
 Final Sat.: 30 546 651 11 599 16 133 166 178 480 29 39

Capacity Analysis Module:
 Vol/Sat: 0.53 0.53 0.15 0.64 0.64 0.64 0.11 0.11 0.11 0.49 0.49 0.49
 Crit Moves: **** * * * * * * * * * * * *
 Delay/Veh: 15.1 15.1 9.0 17.3 17.3 17.3 10.1 10.1 10.1 14.3 14.3 14.3
 Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 15.1 15.1 9.0 17.3 17.3 17.3 10.1 10.1 10.1 14.3 14.3 14.3
 LOS by Move: C C A C C C B B B B B B
 ApproachDel: 13.6 17.3 10.1 14.3
 Delay Adj: 1.00 1.00 1.00 1.00
 ApprAdjDel: 13.6 17.3 10.1 14.3
 LOS by Appr: B C B B

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2000 HCM Operations Method (Base Volume Alternative)

 Intersection #22 Old Redwood Hwy/Myrtle-Valparaiso Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 0.561
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 18.2
 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:	Protected	Protected	Permitted	Permitted
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0 0	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 0 0 1 0	1 0 0 1 0

Volume Module:
 Base Vol: 26 320 41 22 557 5 16 29 63 195 41 67
 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: 26 320 41 22 557 5 16 29 63 195 41 67
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.87 0.87 0.87 0.90 0.90 0.90 0.87 0.87 0.87 0.92 0.92 0.92
 PHF Volume: 30 367 47 24 618 6 18 33 72 211 44 73
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 30 367 47 24 618 6 18 33 72 211 44 73
 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.: 30 367 47 24 618 6 18 33 72 211 44 73

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.93 0.98 0.83 0.93 0.98 0.83 0.61 0.88 0.88 0.62 0.89 0.89
 Lanes: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.32 0.68 1.00 0.38 0.62
 Final Sat.: 1769 1862 1583 1769 1862 1583 1153 526 1144 1184 641 1048

Capacity Analysis Module:
 Vol/Sat: 0.02 0.20 0.03 0.01 0.33 0.00 0.02 0.06 0.06 0.18 0.07 0.07
 Crit Moves: **** * * * * * * * * * * * *
 Green/Cycle: 0.03 0.58 0.58 0.04 0.59 0.59 0.32 0.32 0.32 0.32 0.32 0.32
 Volume/Cap: 0.56 0.34 0.05 0.34 0.56 0.01 0.05 0.20 0.20 0.56 0.22 0.22
 Delay/Veh: 60.7 11.1 9.1 49.5 13.1 8.4 23.7 25.0 25.0 30.2 25.2 25.2
 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 11.1 9.1 49.5 13.1 8.4 23.7 25.0 25.0 30.2 25.2 25.2
 HCM2kAvg: 2 6 1 1 12 0 1 2 2 9 3 3

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2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Redwood Dr/Helman Ln

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

Volume Module:

Base Vol:	30 326	0 0 436	22 39	0 38	0 0 0 0
Growth Adj:	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00
Initial Bse:	30 326	0 0 436	22 39	0 38	0 0 0 0
User Adj:	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00
PHF Adj:	0.81 0.81	0.81 0.88	0.88 0.88	0.68 0.68	0.68 1.00 1.00
PHF Volume:	37 402	0 0 495	25 57	0 56	0 0 0 0
Reduc Vol:	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0 0
Final Vol.:	37 402	0 0 495	25 57	0 56	0 0 0 0

Critical Gap Module:

Critical Gp:	4.1 xxxx xxxx xxxx xxxx xxxx	6.5 xxxx	6.3 xxxx xxxx xxxx
FollowUpTim:	2.2 xxxx xxxx xxxx xxxx xxxx	3.6 xxxx	3.4 xxxx xxxx xxxx

Capacity Module:

Cnflict Vol:	520 xxxx xxxx xxxx xxxx xxxx	984 xxxx	508 xxxx xxxx xxxx
Potent Cap.:	1031 xxxx xxxx xxxx xxxx xxxx	270 xxxx	555 xxxx xxxx xxxx
Move Cap.:	1031 xxxx xxxx xxxx xxxx xxxx	262 xxxx	555 xxxx xxxx xxxx
Volume/Cap:	0.04 xxxx xxxx xxxx xxxx	0.22 xxxx	0.10 xxxx xxxx xxxx

Level Of Service Module:

Queue:	0.1 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx				
Stopped Del:	8.6 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx				
LOS by Move:	A * * * * * * * * * *				
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	
Shared Cap.:	xxxx xxxx xxxx xxxx xxxx xxxx	354 xxxx	xxxx xxxx xxxx		
SharedQueue:	0.1 xxxx xxxx xxxx xxxx xxxx xxxx	1.3 xxxx	xxxx xxxx xxxx		
Shrd StpDel:	8.6 xxxx xxxx xxxx xxxx xxxx xxxx	19.9 xxxx	xxxx xxxx xxxx		
Shared LOS:	A * * * * C	*	*	*	
ApproachDel:	xxxxxx	xxxxxx	19.9	xxxxxx	
ApproachLOS:	*	*	C	*	

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2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Commerce Blvd/Wilford Ln

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

Volume Module:

Base Vol:	0 721	13 74	538 0	0 0 0 0	14 0	47
Growth Adj:	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00
Initial Bse:	0 721	13 74	538 0	0 0 0 0	14 0	47
User Adj:	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00
PHF Adj:	0.94 0.94	0.94 0.92	0.92 0.92	0.92 1.00	1.00 1.00	0.76 0.76
PHF Volume:	0 766	14 81	587 0	0 0 0 0	18 0	62
Reduc Vol:	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
Final Vol.:	0 766	14 81	587 0	0 0 0 0	18 0	62

Critical Gap Module:

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

Capacity Module:

Cnflict Vol:	xxxxx xxxx xxxx	780 xxxx xxxx xxxx xxxx xxxx	1522 xxxx	773
Potent Cap.:	xxxxx xxxx xxxx	824 xxxx xxxx xxxx xxxx xxxx	130 xxxx	399
Move Cap.:	xxxxx xxxx xxxx	824 xxxx xxxx xxxx xxxx xxxx	121 xxxx	399
Volume/Cap:	xxxxx xxxx xxxx	0.10 xxxx xxxx xxxx xxxx xxxx	0.15 xxxx	0.15

Level Of Service Module:

Queue:	xxxxx xxxx xxxx	0.3 xxxx xxxx xxxx xxxx xxxx	0.5 xxxx	0.5
Stopped Del:	xxxxx xxxx xxxx	9.8 xxxx xxxx xxxx xxxx xxxx	40.2 xxxx	15.7
LOS by Move:	* * * A	* * * * * E	* C	
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxxx xxxx xxxx	xxxxx xxxx xxxx xxxx xxxx	xxxxx xxxx xxxx	xxxxx xxxx xxxx
SharedQueue:	xxxxx xxxx xxxx	xxxxx xxxx xxxx xxxx xxxx	xxxxx xxxx xxxx	xxxxx xxxx xxxx
Shrd StpDel:	xxxxx xxxx xxxx	xxxxx xxxx xxxx xxxx xxxx	xxxxx xxxx xxxx	xxxxx xxxx xxxx
Shared LOS:	* * * * * * * * * *			
ApproachDel:	xxxxxx	xxxxxx	xxxxxx	21.3
ApproachLOS:	*	*	*	C

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2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Old Redwood Highway/Commerce Blvd.

Average Delay (sec/veh): 11.9 Worst Case Level Of Service: E[42.7]

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

Volume Module: >> Count Date: 16 Nov 2004 <<
Base Vol: 0 549 635 0 0 0 0 0 0 353 0 74
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: 0 549 635 0 0 0 0 0 0 353 0 74
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.92 0.92 0.92 1.00 1.00 1.00 1.00 1.00 1.00 0.86 0.86 0.86
PHF Volume: 0 595 689 0 0 0 0 0 0 410 0 86
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 0 595 689 0 0 0 0 0 0 410 0 86

Critical Gap Module:
Critical Gp:xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 6.4 xxxx 6.3
FollowUpTim:xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 3.5 xxxx 3.3

Capacity Module:
Cnflict Vol:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 595 xxxx 595
Potent Cap.:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 462 xxxx 498
Move Cap.:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 462 xxxx 498
Volume/Cap:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx 0.89 xxxx 0.17

Level Of Service Module:
Queue:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 9.6 xxxx 0.6
Stopped Del:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx 48.8 xxxx 13.7
LOS by Move: * * * * * * * * * * E * B
Movement: LT - LTR - RT
Shared Cap.:xxxxx xxxx
SharedQueue:xxxxx xxxx
Shrd StpDel:xxxxx xxxx
Shared LOS: * * * * * * * * * *
ApproachDel:xxxxxx xxxx xxxx xxxx xxxx 42.7
ApproachLOS: * * * *

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2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 Gravenstein Hwy/Alder Ave

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: D[25.1]

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 0 0 0	0 0 1! 0 0	0 0 0 1 0

Volume Module: >> Count Date: 16 Nov 2004 <<
Base Vol: 1 0 3 7 0 16 2 561 4 0 777 19
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 1 0 3 7 0 16 2 561 4 0 777 19
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.50 0.50 0.50 0.72 0.72 0.72 0.93 0.93 0.93 0.95 0.95 0.95
PHF Volume: 2 0 6 10 0 22 2 606 4 0 816 20
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 2 0 6 10 0 22 2 606 4 0 816 20

Critical Gap Module:
Critical Gp: 7.1 xxxx 6.2 7.2 xxxx 6.3 4.1 xxxx xxxx xxxx xxxx xxxx
FollowUpTim: 3.5 xxxx 3.3 3.5 xxxx 3.3 2.2 xxxx xxxx xxxx xxxx xxxx

Capacity Module:
Cnflict Vol: 1449 xxxx 608 1441 xxxx 826 836 xxxx xxxx xxxx xxxx xxxx
Potent Cap.: 110 xxxx 500 109 xxxx 367 785 xxxx xxxx xxxx xxxx xxxx
Move Cap.: 103 xxxx 500 107 xxxx 367 785 xxxx xxxx xxxx xxxx xxxx
Volume/Cap: 0.02 xxxx 0.01 0.09 xxxx 0.06 0.00 xxxx xxxx xxxx xxxx

Level Of Service Module:
Queue:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx 0.0 xxxx xxxx xxxx xxxx xxxx
Stopped Del:xxxxx xxxx xxxx xxxx xxxx xxxx 9.6 xxxx xxxx xxxx xxxx xxxx
LOS by Move: * * * * * * A * * * * *
Movement: LT - LTR - RT
Shared Cap.:xxxxx 255 xxxx xxxx 211 xxxx xxxx xxxx xxxx xxxx xxxx
SharedQueue:xxxxx 0.1 xxxx xxxx 0.5 xxxx xxxx xxxx xxxx xxxx xxxx
Shrd StpDel:xxxxx 19.6 xxxx xxxx 25.1 xxxx xxxx xxxx xxxx xxxx xxxx
Shared LOS: * C * * D * * * * * * * *
ApproachDel: 19.6 25.1 xxxx * * * *
ApproachLOS: C D *

PM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
 City of Cotati

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

Intersection #5 Gravenstein Hwy/W Cotati Ave

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: D[31.0]

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	Channel	Include
Lanes:	1 0 0 0 1 0 0 0 0 0 0 0 0 1 0 0 1 0 0 0 0			

Volume Module: >> Count Date: 16 Nov 2004 <<

Base Vol:	3 0 28 0 0 0 0 601 12 40 787 0			
Growth Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00			
Initial Bse:	3 0 28 0 0 0 0 601 12 40 787 0			
User Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00			
PHF Adj:	0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86			
PHF Volume:	3 0 33 0 0 0 0 751 15 45 884 0			
Reduc Vol:	0 0 0 0 0 0 0 0 0 0 0 0			
Final Vol.:	3 0 33 0 0 0 0 751 15 45 884 0			

Critical Gap Module:

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

Capacity Module:

Cnflict Vol:	2447 xxxx 751 xxxx xxxx xxxx xxxx xxxx 751 xxxx xxxx			
Potent Cap.:	24 xxxx 411 xxxx xxxx xxxx xxxx xxxx 845 xxxx xxxx			
Move Cap.:	23 xxxx 411 xxxx xxxx xxxx xxxx xxxx 845 xxxx xxxx			
Volume/Cap:	0.15 xxxx 0.08 xxxx xxxx xxxx xxxx xxxx 0.05 xxxx xxxx			

Level Of Service Module:

Queue:	0.4 xxxx 0.3 xxxx xxxx xxxx xxxx xxxx 0.2 xxxx xxxx			
Stopped Del:	185.2 xxxx 14.5 xxxx xxxx xxxx xxxx xxxx 9.5 xxxx xxxx			
LOS by Move:	F * B * * * * * A *			
Movement:	LT - LTR - RT			
Shared Cap.:	xxxx			
SharedQueue:	xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx			
Shrd StpDel:	xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx			
Shared LOS:	* * * * * * * * * A *			
ApproachDel:	31.0 xxxxxxxx xxxxxxxx xxxxxxxx			
ApproachLOS:	D * *			

PM Peak Hour - Existing Conditions
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Level Of Service Computation Report
 2000 HCM Operations Method (Base Volume Alternative)

Intersection #6 Gravenstein Hwy/Redwood Dr

Cycle (sec): 100 Critical Vol./Cap. (X): 0.647
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 26.7
 Optimal Cycle: 37 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:	Include	Include	Include	Include
Min. Green:	0 0			
Lanes:	1 0 0 1 0 0 1 0 1 0 1 0 1 0 2 0 1			

Volume Module:

Base Vol:	32 10 85 360 35 96 69 502 19 90 742 286			
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 10 85 360 35 96 69 502 19 90 742 286			
User Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00			
PHF Adj:	0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88			
PHF Volume:	36 11 97 409 40 109 71 518 20 100 824 318			
Reduc Vol:	0 0 0 0 0 0 0 0 0 0 0 0			
Reduced Vol:	36 11 97 409 40 109 71 518 20 100 824 318			
PCE Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00			
MLF Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00			
Final Vol.:	36 11 97 409 40 109 71 518 20 100 824 318			

Saturation Flow Module:

Sat/Lane:	1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900			
Adjustment:	0.60 0.82 0.82 0.63 0.85 0.84 0.90 0.95 0.95 0.90 0.95 0.81			
Lanes:	1.00 0.10 0.90 1.00 0.27 0.73 1.00 1.93 0.07 1.00 2.00 1.00			
Final Sat.:	1131 164 1395 1206 429 1176 1718 3468 131 1718 3618 1537			

Capacity Analysis Module:

Vol/Sat:	0.03 0.07 0.07 0.34 0.09 0.09 0.04 0.15 0.15 0.06 0.23 0.21			
Crit Moves:	**** **** ****			
Green/Cycle:	0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.35			
Volume/Cap:	0.06 0.13 0.13 0.65 0.18 0.18 0.65 0.50 0.50 0.50 0.65 0.59			
Delay/Veh:	11.7 12.2 12.2 19.5 12.6 12.6 58.4 29.2 29.2 43.4 28.4 28.1			
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:	11.7 12.2 12.2 19.5 12.6 12.6 58.4 29.2 29.2 43.4 28.4 28.1			
HCM2kAvg:	1 2 2 14 2 2 3 7 7 4 11 9			

PM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
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Level Of Service Computation Report
 2000 HCM Operations Method (Base Volume Alternative)

Intersection #7 Gravenstein Hwy/US 101 SB

Cycle (sec): 100 Critical Vol./Cap. (X): 0.478
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 19.5
 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:	Split Phase	Split Phase	Protected	Protected
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0 0 0	0 0 0 1 0	0 0 0 0 0	0 0 0 0 0
Lanes:	2 0 0 1 0	0 0 2 0 1	1 0 2 0 0	0 0 0 0 0

Volume Module:
Base Vol: 0 0 0 587 0 176 0 693 242 89 862 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 587 0 176 0 693 242 89 862 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 0.93 0.93 0.93 0.94 0.94 0.94 0.89 0.89 0.89
PHF Volume: 0 0 0 631 0 189 0 737 257 100 969 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 0 0 631 0 189 0 737 257 100 969 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 0 0 0 631 0 189 0 737 257 100 969 0

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 1.00 1.00 1.00 0.91 1.00 0.82 1.00 0.95 0.81 0.90 0.95 1.00
Lanes: 0.00 0.00 0.00 2.00 0.00 1.00 0.00 2.00 1.00 1.00 2.00 0.00
Final Sat.: 0 0 0 3471 0 1553 0 3618 1537 1718 3618 0

Capacity Analysis Module:
Vol/Sat: 0.00 0.00 0.00 0.18 0.00 0.12 0.00 0.20 0.17 0.06 0.27 0.00
Crit Moves: ****
Green/Cycle: 0.00 0.00 0.00 0.38 0.00 0.38 0.00 0.44 0.44 0.12 0.56 0.00
Volume/Cap: 0.00 0.00 0.00 0.48 0.00 0.32 0.00 0.47 0.38 0.47 0.48 0.00
Delay/Veh: 0.0 0.0 0.0 23.8 0.0 22.2 0.0 20.2 19.5 42.3 13.4 0.0
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 23.8 0.0 22.2 0.0 20.2 19.5 42.3 13.4 0.0
HCM2kAvg: 0 0 0 8 0 4 0 8 5 4 9 0

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

Intersection #8 Gravenstein Hwy/US 101 NB

Cycle (sec): 100 Critical Vol./Cap. (X): 0.637
 Loss Time (sec): 4 (Y+R = 4 sec) Average Delay (sec/veh): 16.2
 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:	Split Phase	Split Phase	Permitted	Permitted
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 2 0 0	0 0 2 0 0

Volume Module: >> Count Date: 16 Nov 2004 << 4:45 - 5:45 pm
Base Vol: 358 0 172 0 0 0 0 1265 0 0 628 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 358 0 172 0 0 0 0 1265 0 0 628 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.86 0.86 0.86 1.00 1.00 1.00 0.94 0.94 0.94 0.91 0.91 0.91
PHF Volume: 416 0 200 0 0 0 0 1346 0 0 690 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 416 0 200 0 0 0 0 1346 0 0 690 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 416 0 200 0 0 0 0 1346 0 0 690 0

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.91 1.00 0.82 1.00 1.00 1.00 1.00 0.95 1.00 1.00 0.95 1.00
Lanes: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 2.00 0.00 0.00 2.00 0.00
Final Sat.: 1736 0 1553 0 0 0 0 3618 0 0 3618 0

Capacity Analysis Module:
Vol/Sat: 0.24 0.00 0.13 0.00 0.00 0.00 0.00 0.37 0.00 0.00 0.19 0.00
Crit Moves: ****
Green/Cycle: 0.38 0.00 0.38 0.00 0.00 0.00 0.00 0.58 0.00 0.00 0.58 0.00
Volume/Cap: 0.64 0.00 0.34 0.00 0.00 0.00 0.00 0.64 0.00 0.00 0.33 0.00
Delay/Veh: 27.7 0.0 22.7 0.0 0.0 0.0 0.0 14.5 0.0 0.0 10.8 0.0
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: 27.7 0.0 22.7 0.0 0.0 0.0 0.0 14.5 0.0 0.0 10.8 0.0
HCM2kAvg: 12 0 4 0 0 0 0 14 0 0 5 0

PM Peak Hour - Existing Conditions
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Level Of Service Computation Report
 2000 HCM Operations Method (Base Volume Alternative)

Intersection #9 Gravenstein Hwy/Old Redwood Hwy

Cycle (sec): 100 Critical Vol./Cap. (X): 0.612
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 27.0
 Optimal Cycle: 39 Level Of Service: C

	North Bound	South Bound	East Bound	West Bound		
Movement:	L - T - R	L - T - R	L - T - R	L - T - R		
Control:	Protected	Protected	Split Phase	Split Phase		
Rights:	Include	Ignore	Ignore	Include		
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0		
Lanes:	1 0 1 1 0	1 0 1 0 1	1 1 0 0 1	1 0 0 1 0		
Volume Module: 5:00 - 6:00 pm						
Base Vol:	333 680 42 16 220	185 502 70 790	53 39 37			
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 1.00		
Initial Bse:	333 680 42 16 220	185 502 70 790	53 39 37			
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 1.00		
PHF Adj:	0.91 0.91 0.91 0.92 0.92	0.92 0.92 0.92 0.93 0.93	0.94 0.94 0.94 0.95 0.95	0.95 0.95 0.95 0.96 0.96		
PHF Volume:	366 747 46 17 239	0 534 74 0	0 56 41 39			
Reduc Vol:	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0			
Reduced Vol:	366 747 46 17 239	0 534 74 0	0 56 41 39			
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 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 1.00 1.00 1.00	1.00 1.00 1.00 1.00 1.00		
Final Vol.:	366 747 46 17 239	0 534 74 0	0 56 41 39			
Saturation Flow Module:						
Sat/Lane:	1900 1900 1900 1900 1900	1900 1900 1900 1900 1900	1900 1900 1900 1900 1900	1900 1900 1900 1900 1900		
Adjustment:	0.90 0.94 0.94 0.93 0.98	0.93 0.93 0.93 0.92 0.92	1.00 0.91 0.91 0.90 0.90	1.00 0.93 0.93 0.92 0.92	0.91 0.91 0.91 0.90 0.90	
Lanes:	1.00 1.88 0.12 1.00 1.00	1.00 1.76 0.24 1.00 1.00	1.00 0.51 0.49 1.00 1.00	1.00 0.51 0.49 1.00 1.00	0.49 0.49 0.49 1.00 1.00	
Final Sat.:	1718 3376 209 1769 1862	1900 3042 424 1900 1769	886 840 0 1769	886 840 0 1769	840 800 0 1769	
Capacity Analysis Module:						
Vol/Sat:	0.21 0.22 0.22 0.01 0.13	0.00 0.18 0.18 0.00 0.03	0.05 0.05 0.05 0.05 0.05	0.05 0.05 0.05 0.05 0.05	0.05 0.05 0.05 0.05 0.05	
Crit Moves:	****	****	****	****	****	
Green/Cycle:	0.35 0.53 0.53 0.02 0.21	0.00 0.29 0.29 0.00 0.08	0.08 0.08 0.08 0.08 0.08	0.08 0.08 0.08 0.08 0.08	0.08 0.08 0.08 0.08 0.08	
Volume/Cap:	0.61 0.41 0.41 0.41 0.61	0.61 0.61 0.61 0.61 0.61	0.61 0.61 0.61 0.61 0.61	0.61 0.61 0.61 0.61 0.61	0.61 0.61 0.61 0.61 0.61	
Delay/Veh:	28.9 14.1 14.1 54.7 38.7	0.0 32.0 32.0 0.0 46.2	53.1 53.1 53.1 53.1 53.1	53.1 53.1 53.1 53.1 53.1	53.1 53.1 53.1 53.1 53.1	
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 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	
AdjDel/Veh:	28.9 14.1 14.1 54.7 38.7	0.0 32.0 32.0 0.0 46.2	53.1 53.1 53.1 53.1 53.1	53.1 53.1 53.1 53.1 53.1	53.1 53.1 53.1 53.1 53.1	
HCM2kAvg:	10 7 7 1 7	0 9 9 0 2	3 3 3 3 3	3 3 3 3 3	3 3 3 3 3	

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

Intersection #10 Old Redwood Hwy/William St-George St

Cycle (sec): 100 Critical Vol./Cap. (X): 0.970
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 48.1
 Optimal Cycle: 0 Level Of Service: E

	North Bound	South Bound	East Bound	West Bound		
Movement:	L - T - R	L - T - R	L - T - R	L - T - R		
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign		
Rights:	Include	Include	Include	Include		
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0		
Lanes:	1 0 1 1 0	1 0 1 1 0	1 0 0 1 0	0 0 1 0 0		
Volume Module:						
Base Vol:	12 978 6 22 997	49 62 2 26	3 2 23			
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	1.00 1.00 1.00 1.00	
Initial Bse:	12 978 6 22 997	49 62 2 26	3 2 23			
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	1.00 1.00 1.00 1.00	
PHF Adj:	0.98 0.98 0.98 0.97	0.97 0.97 0.97 0.97	0.80 0.80 0.80 0.80	0.78 0.78 0.78 0.78	0.78 0.78 0.78 0.78	
PHF Volume:	12 998 6 23 1028	51 78 3 33	4 3 29			
Reduc Vol:	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	
Reduced Vol:	12 998 6 23 1028	51 78 3 33	4 3 29			
PCE Adj:	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	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	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	
Final Vol.:	12 998 6 23 1028	51 78 3 33	4 3 29			
Saturation Flow Module:						
Adjustment:	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	
Lanes:	1.00 1.99 0.01 1.00	1.91 0.09 0.69 0.02	0.91 0.29 0.11 0.07	0.91 0.82		
Final Sat.:	503 1082 7 507	1059 52 352	11 148 55 36	419		
Capacity Analysis Module:						
Vol/Sat:	0.02 0.92 0.92 0.04 0.97	0.97 0.22 0.22 0.22	0.22 0.07 0.07 0.07	0.07 0.07 0.07 0.07	0.07 0.07 0.07 0.07	
Crit Moves:	****	****	****	****	****	
Delay/Veh:	10.0 46.5 46.4 10.0 55.9	54.6 11.9 11.9 11.9	10.4 10.4 10.4 10.4	10.4 10.4 10.4 10.4	10.4 10.4 10.4 10.4	
Delay Adj:	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	
AdjDel/Veh:	10.0 46.5 46.4 10.0 55.9	54.6 11.9 11.9 11.9	10.4 10.4 10.4 10.4	10.4 10.4 10.4 10.4	10.4 10.4 10.4 10.4	
LOS by Move:	A E E F F	B B B B B	B B B B B	B B B B B	B B B B B	
ApproachDel:	46.1	54.9	11.9		10.4	
Delay Adj:	1.00	1.00	1.00		1.00	
ApprAdjDel:	46.1	54.9	11.9		10.4	
LOS by Appr:	E F	B	B	B	B	

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2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #11 W Sierra Ave/W School St-US 101 SB Ramp

Average Delay (sec/veh): 2.7 Worst Case Level Of Service: B[13.8]

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

Volume Module:

Base Vol:	0 0 0 21 6 0 1 133 10 102 123 36
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 21 6 0 1 133 10 102 123 36
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 0.84 0.84 0.84 0.82 0.82 0.82 0.88 0.88 0.88
PHF Volume:	0 0 0 25 7 0 1 162 12 116 140 41
Reduc Vol:	0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.:	0 0 0 25 7 0 1 162 12 116 140 41

Critical Gap Module:

Critical Gp:	xxxxxx xxxx xxxx 6.4 6.5 xxxx 4.1 xxxx xxxx 4.1 xxxx xxxx
FollowUpTim:	xxxxxx xxxx xxxx 3.5 4.0 xxxx 2.2 xxxx xxxx 2.2 xxxx xxxx

Capacity Module:

Cnflict Vol:	xxxxxx xxxx xxxx 563 557 xxxx 181 xxxx xxxx 162 xxxx xxxx
Potent Cap.:	xxxxxx xxxx 488 439 xxxx 1395 xxxx xxxx 1417 xxxx xxxx
Move Cap.:	xxxxxx xxxx 455 400 xxxx 1395 xxxx xxxx 1417 xxxx xxxx
Volume/Cap:	xxxxxx xxxx 0.05 0.02 xxxx 0.00 xxxx xxxx 0.08 xxxx xxxx

Level Of Service Module:

Queue:	xxxxxx xxxx xxxx xxxx xxxx 0.0 xxxx xxxx 0.3 xxxx xxxx
Stopped Del:	xxxxxx xxxx xxxx xxxx xxxx 7.6 xxxx xxxx 7.8 xxxx xxxx
LOS by Move:	* * * * * A * * A * *
Movement:	LT - LTR - RT
Shared Cap.:	xxxxxx xxxx 441 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
SharedQueue:	xxxxxx xxxx 0.2 xxxx xxxx 0.0 xxxx xxxx xxxx xxxx xxxx xxxx
Shrd StpDel:	xxxxxx xxxx 13.8 xxxx xxxx 7.6 xxxx xxxx xxxx xxxx xxxx
Shared LOS:	* * * * B * * A * * * * * *
ApproachDel:	xxxxxx 13.8 xxxx * * * *
ApproachLOS:	* B * * * *

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 City of Cotati

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #12 W Sierra Ave/US 101 NB Off-ramp

Average Delay (sec/veh): 3.8 Worst Case Level Of Service: B[10.8]

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

Volume Module:

Base Vol:	21 0 201 0 0 0 0 158 0 0 244 0
Growth Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:	21 0 201 0 0 0 0 158 0 0 244 0
User Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:	0.84 0.84 0.84 1.00 1.00 1.00 1.00 0.90 0.90 0.90 0.88 0.88
PHF Volume:	25 0 239 0 0 0 0 176 0 0 305 0
Reduc Vol:	0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.:	25 0 239 0 0 0 0 176 0 0 305 0

Critical Gap Module:

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

Capacity Module:

Cnflict Vol:	481 xxxx 176 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Potent Cap.:	544 xxxx 868 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Move Cap.:	544 xxxx 868 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Volume/Cap:	0.05 xxxx 0.28 xxxx xxxx xxxx xxxx xxxx xxxx

Level Of Service Module:

Queue:	0.1 xxxx 1.1 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Stopped Del:	11.9 xxxx 10.7 xxxx xxxx xxxx xxxx xxxx xxxx
LOS by Move:	B * B * * * * * * * *
Movement:	LT - LTR - RT
Shared Cap.:	xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
SharedQueue:	xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shrd StpDel:	xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shared LOS:	* * * * * * * * * * * * * *
ApproachDel:	10.8 xxxx * * * *
ApproachLOS:	B * * * *

PM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
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Level Of Service Computation Report
 2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #13 W Sierra Ave/E School St

Cycle (sec): 100 Critical Vol./Cap. (X): 0.539
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 11.3
 Optimal Cycle: 0 Level Of Service: B

	North Bound	South Bound	East Bound	West Bound	
Movement:	L - T - R	L - T - R	L - T - R	L - T - R	
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign	
Rights:	Include	Include	Include	Include	
Min. Green:	0 0 0 0 0	0 0 0 1! 0	0 0 0 0 0	0 0 0 0 0	
Lanes:	0 0 0 0 0	0 0 1 0 0	0 0 0 0 0	0 0 0 1 0	
Volume Module:					
Base Vol:	0 0 0 13 0	19 23 369 0	0 0 303 24		
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		
Initial Bse:	0 0 0 13 0	19 23 369 0	0 0 303 24		
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		
PHF Adj:	0.89 0.89 0.89 0.92 0.92	0.92 0.92 0.89 0.89 0.89	0.89 1.00 1.00 1.00 1.00		
PHF Volume:	0 0 0 14 0	21 26 415 0	0 0 303 24		
Reduc Vol:	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0		
Reduced Vol:	0 0 0 14 0	21 26 415 0	0 0 303 24		
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 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 1.00 1.00 1.00		
Final Vol.:	0 0 0 14 0	21 26 415 0	0 0 303 24		
Saturation Flow Module:					
Adjustment:	1.00 1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00 1.00		
Lanes:	0.00 0.00 0.00 0.41 0.00	0.59 0.06 0.94 0.00 0.00	0.93 0.07		
Final Sat.:	0 0 0 252 0	368 48 770 0	0 0 744 59		
Capacity Analysis Module:					
Vol/Sat:	xxxx xxxx xxxx 0.06 xxxx	0.06 0.54 0.54 xxxx	0.41 0.41 xxxx		
Crit Moves:	****				
Delay/Veh:	0.0 0.0 0.0 8.5 0.0	8.5 12.2 12.2 0.0	0.0 10.3 10.3		
Delay Adj:	1.00 1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00 1.00		
AdjDel/Veh:	0.0 0.0 0.0 8.5 0.0	8.5 12.2 12.2 0.0	0.0 10.3 10.3		
LOS by Move:	* * * A * A B B	*	*	B B	
ApproachDel:	xxxxxx	8.5	12.2	10.3	
Delay Adj:	xxxxxx	1.00	1.00	1.00	
ApprAdjDel:	xxxxxx	8.5	12.2	10.3	
LOS by Appr:	*	A	B	B	

PM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
 City of Cotati

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

Intersection #14 Old Redwood Hwy/E Cotati Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 0.863
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 37.5
 Optimal Cycle: 83 Level Of Service: D

	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 0 0 0	0 0 0 0 0	
Lanes:	1 0 1 1 0	1 0 1 0 1	1 0 1 1 0	1 0 1 1 0	
Volume Module: >> Count Date: 17 Nov 2004 << 4:45 - 5:45 pm					
Base Vol:	17 498 10 432 443	109 87 256 6	16 212 399		
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		
Initial Bse:	17 498 10 432 443	109 87 256 6	16 212 399		
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		
PHF Adj:	0.94 0.94 0.94 0.97 0.97	0.97 0.97 0.97 0.88 0.88	0.88 0.88 0.88 0.91 0.91		
PHF Volume:	18 530 11 445 457	112 99 291 7	18 233 438		
Reduc Vol:	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0		
Reduced Vol:	18 530 11 445 457	112 99 291 7	18 233 438		
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 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 1.00 1.00 1.00		
Final Vol.:	18 530 11 445 457	112 99 291 7	18 233 438		
Saturation Flow Module:					
Sat/Lane:	1900 1900 1900 1900 1900	1900 1900 1900 1900 1900	1900 1900 1900 1900 1900		
Adjustment:	0.84 0.88 0.88 0.84 0.88	0.75 0.84 0.88 0.84 0.80	0.88 0.84 0.80 0.84 0.80		
Lanes:	1.00 1.96 0.04	1.00 1.00 1.00	1.00 1.95 0.05	1.00 1.00 1.00	1.00
Final Sat.:	1592 3276 66	1592 1676 1424	1592 3265 77	1592 1512 1512	
Capacity Analysis Module:					
Vol/Sat:	0.01 0.16 0.16 0.28 0.27	0.08 0.06 0.09 0.09 0.09	0.01 0.15 0.29		
Crit Moves:	****	****	****		
Green/Cycle:	0.02 0.19 0.19	0.32 0.49 0.49	0.07 0.36 0.36	0.05 0.34 0.34	
Volume/Cap:	0.55 0.86 0.86	0.86 0.55 0.16	0.86 0.25 0.25	0.25 0.46 0.86	
Delay/Veh:	67.8 51.2 51.2	45.6 18.6 14.2	90.6 22.4 22.4	47.9 26.3 40.8	
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:	67.8 51.2 51.2	45.6 18.6 14.2	90.6 22.4 22.4	47.9 26.3 40.8	
HCM2kAvg:	1 11 11	17 10 2	6 3 3	1 6 16	

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Cotati Circulation Improvement Study
City of Cotati

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #15 E Cotati Ave/Charles St

Average Delay (sec/veh): 4.3 Worst Case Level Of Service: C[24.7]

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 0 0 0 0 1 0 1 0 1 0 0
Volume Module:
Base Vol: 5 0 231 0 0 0 0 687 6 129 561 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 5 0 231 0 0 0 0 687 6 129 561 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 1.00 1.00 1.00 0.94 0.94 0.94 0.88 0.88 0.88
PHF Volume: 5 0 243 0 0 0 0 731 6 147 638 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 5 0 243 0 0 0 0 731 6 147 638 0
Critical Gap Module:
Critical Gp: 6.4 xxxx 6.2 xxxx xxxx xxxx xxxx xxxx xxxx 4.1 xxxx xxxx
FollowUpTim: 3.5 xxxx 3.3 xxxx xxxx xxxx xxxx xxxx 2.2 xxxx xxxx
Capacity Module:
Cnflct Vol: 2454 xxxx 734 xxxx xxxx xxxx xxxx xxxx 737 xxxx xxxx
Potent Cap.: 23 xxxx 420 xxxx xxxx xxxx xxxx xxxx 869 xxxx xxxx
Move Cap.: 20 xxxx 420 xxxx xxxx xxxx xxxx xxxx 869 xxxx xxxx
Total Cap: 286 0 xxxx 221 0 xxxx xxxx xxxx xxxx xxxx xxxx
Volume/Cap: 0.02 xxxx 0.58 xxxx xxxx xxxx xxxx xxxx 0.17 xxxx xxxx
Level Of Service Module:
Queue: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 0.6 xxxx xxxx
Stopped Del:xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx 10.0 xxxx xxxx
LOS by Move: * * * * * * * * * A * *
Movement: LT - LTR - RT
Shared Cap.: xxxx 425 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
SharedQueue:xxxxxx 3.6 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shrd StpDel:xxxxx 24.7 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shared LOS: * C * * * * * * * * * * *
ApproachDel: 24.7 xxxx xxxx xxxx xxxx xxxx
ApproachLOS: C * * *

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Cotati Circulation Improvement Study
City of Cotati

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #16 E Cotati Ave/La Salle Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 1.035
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 47.2
Optimal Cycle: 0 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 Stop Sign Stop Sign
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 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: >> Count Date: 17 Nov 2004 << 4:15 - 5:15 pm
Base Vol: 143 1 102 5 2 8 2 954 156 61 605 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: 143 1 102 5 2 8 2 954 156 61 605 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: 0.93 0.93 0.93 0.50 0.50 0.50 0.50 0.97 0.97 0.97 0.97 0.97
PHF Volume: 154 1 110 10 4 16 2 984 161 64 630 2
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 154 1 110 10 4 16 2 984 161 64 630 2
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 154 1 110 10 4 16 2 984 161 64 630 2
Saturation Flow Module:
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.58 0.01 0.41 0.33 0.13 0.54 1.00 1.72 0.28 1.00 1.99 0.01
Final Sat.: 307 2 219 149 60 239 501 950 158 476 1016 3
Capacity Analysis Module:
Vol/Sat: 0.50 0.50 0.50 0.07 0.07 0.07 0.00 1.03 1.02 0.13 0.62 0.62
Crit Moves: **** *** *** *** ***
Delay/Veh: 16.2 16.2 16.2 11.0 11.0 11.0 9.8 72.9 67.2 11.4 20.5 20.5
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 16.2 16.2 16.2 11.0 11.0 11.0 9.8 72.9 67.2 11.4 20.5 20.5
LOS by Move: C C B B B A F F B C C
ApproachDel: 16.2 11.0 72.0 19.6
Delay Adj: 1.00 1.00 1.00 1.00
ApprAdjDel: 16.2 11.0 72.0 19.6
LOS by Appr: C B F C

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 Cotati Circulation Improvement Study
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Level Of Service Computation Report
 2000 HCM Operations Method (Base Volume Alternative)

Intersection #17 E Cotati Ave/Adrian Dr

Cycle (sec): 100 Critical Vol./Cap. (X): 0.478
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 17.1
 Optimal Cycle: 26 Level Of Service: B

	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	0 0 0 0
Lanes:	1 0 0 0	1 0 0 0	1 0 2 0	0 0 1 1
Volume Module:				
Base Vol:	0 0 0 145	0 133 221 814	0 0 0 644	108
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 0 145	0 133 221 814	0 0 0 644	108
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	0.87 0.87 0.87	0.92 0.92 0.92	0.95 0.95 0.95
PHF Volume:	0 0 0 167	0 153 240 885	0 0 0 678	114
Reduc Vol:	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
Reduced Vol:	0 0 0 167	0 153 240 885	0 0 0 678	114
PCE Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
MLF Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
Final Vol.:	0 0 0 167	0 153 240 885	0 0 0 678	114
Saturation Flow Module:				
Sat/Lane:	1900 1900 1900 1900	1900 1900 1900 1900	1900 1900 1900 1900	1900 1900 1900 1900
Adjustment:	1.00 1.00 1.00	0.93 1.00 0.83	0.93 0.93 1.00	0.96 0.96 0.96
Lanes:	0.00 1.00 0.00	1.00 0.00 2.00	0.00 0.00 1.71	0.29 0.29 0.29
Final Sat.:	0 1900 0	1769 0 1583	1769 3538 0	3119 523 0
Capacity Analysis Module:				
Vol/Sat:	0.00 0.00 0.00	0.09 0.00 0.10	0.14 0.25 0.00	0.00 0.22 0.22
Crit Moves:	****			
Green/Cycle:	0.00 0.00 0.00	0.20 0.00 0.20	0.28 0.74 0.00	0.00 0.45 0.45
Volume/Cap:	0.00 0.00 0.00	0.47 0.00 0.48	0.48 0.34 0.00	0.00 0.48 0.48
Delay/Veh:	0.0 0.0 0.0	36.1 0.0 36.4	30.4 4.7 0.0	0.0 19.2 19.2
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:	0.0 0.0 0.0	36.1 0.0 36.4	30.4 4.7 0.0	0.0 19.2 19.2
HCM2kAvg:	0 0 0	5 0 5	7 5 0	9 9 9

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 Cotati Circulation Improvement Study
 City of Cotati

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

Intersection #18 E Cotati Ave/Lancaster Dr

Cycle (sec): 100 Critical Vol./Cap. (X): 0.572
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 19.0
 Optimal Cycle: 31 Level Of Service: B

	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	0 0 0 0
Lanes:	1 0 0 1 0	1 0 0 0 1	0 1 0 1 1	0 1 0 1 1
Volume Module:				
Base Vol:	162 6 197	3 2 11 18	794 151 152 694	0
Growth Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
Initial Bse:	162 6 197	3 2 11 18	794 151 152 694	0
User Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
PHF Adj:	0.89 0.89 0.89	0.50 0.50 0.50	0.50 0.87 0.87	0.87 0.93 0.93
PHF Volume:	183 7 222	6 4 22	21 914 174	164 748 0
Reduc Vol:	0 0 0	0 0 0	0 0 0	0 0 0
Reduced Vol:	183 7 222	6 4 22	21 914 174	164 748 0
PCE Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
MLF Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
Final Vol.:	183 7 222	6 4 22	21 914 174	164 748 0
Saturation Flow Module:				
Sat/Lane:	1900 1900 1900 1900	1900 1900 1900 1900	1900 1900 1900 1900	1900 1900 1900 1900
Adjustment:	0.72 0.84 0.83	0.39 0.86 0.85	0.93 0.96 0.96	0.93 0.98 1.00
Lanes:	1.00 0.03 0.97	1.00 0.15 0.85	1.00 1.68 0.32	1.00 2.00 0.00
Final Sat.:	1375 47 1528	734 248 1364	1769 3054 581	1769 3724 0
Capacity Analysis Module:				
Vol/Sat:	0.13 0.15 0.15	0.01 0.02 0.02	0.01 0.30 0.30	0.09 0.20 0.00
Crit Moves:	****			
Green/Cycle:	0.25 0.25	0.25 0.25	0.25 0.04 0.52	0.52 0.16 0.65
Volume/Cap:	0.52 0.57	0.57 0.03 0.06	0.06 0.31 0.57	0.57 0.57 0.31
Delay/Veh:	33.5 34.5	34.5 28.1 28.3	28.3 49.5 16.6	16.6 41.5 7.8
User DelAdj:	1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
AdjDel/Veh:	33.5 34.5	34.5 28.1 28.3	28.3 49.5 16.6	16.6 41.5 7.8
HCM2kAvg:	7 7 7	0 1 1	1 12 12	6 5 0

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 Cotati Circulation Improvement Study
 City of Cotati

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

Intersection #19 E Cotati Ave/Beverly Dr

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: C[20.7]

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R

Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Rights:	Include	Include	Include	Include
Lanes:	0 0 0 0	0 0 1! 0	0 1 0 2 0 0	1 0 1 1 0

Volume Module:

Base Vol:	0 0 0 30 0 54 94 834 0 2 747 60
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 30 0 54 94 834 0 2 747 60
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 0.82 0.82 0.82 0.87 0.87 0.87 0.95 0.95 0.95
PHF Volume:	0 0 0 37 0 66 108 959 0 2 786 63
Reduc Vol:	0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.:	0 0 0 37 0 66 108 959 0 2 786 63

Critical Gap Module:

Critical Gp:	xxxxxx xxxx xxxx 6.8 xxxx 6.9 4.1 xxxx xxxx 4.1 xxxx xxxx
FollowUpTim:	xxxxxx xxxx xxxx 3.5 xxxx 3.3 2.2 xxxx xxxx 2.2 xxxx xxxx

Capacity Module:

Cnflict Vol:	xxxxxx xxxx xxxx 1794 xxxx 502 640 xxxx xxxx 959 xxxx xxxx
Potent Cap.:	xxxxxx xxxx xxxx 61 xxxx 435 795 xxxx xxxx 713 xxxx xxxx
Move Cap.:	xxxxxx xxxx xxxx 54 xxxx 435 795 xxxx xxxx 713 xxxx xxxx
Total Cap:	0 0 xxxx 231 649 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Volume/Cap:	xxxxxx xxxx xxxx 0.16 xxxx 0.15 0.14 xxxx xxxx 0.00 xxxx xxxx

Level Of Service Module:

Queue:	xxxxxx xxxx xxxx xxxx xxxx xxxx 0.5 xxxx xxxx 0.0 xxxx xxxx
Stopped Del:	xxxxxx xxxx xxxx xxxx xxxx xxxx 10.2 xxxx xxxx 10.1 xxxx xxxx
LOS by Move:	* * * * * * B * * * B * *
Movement:	LT - LTR - RT
Shared Cap.:	xxxxxx xxxx xxxx xxxx 331 xxxx xxxx xxxx xxxx xxxx xxxx
SharedQueue:	xxxxxx xxxx xxxx 1.3 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shrd StpDel:	xxxxxx xxxx xxxx xxxx 20.7 xxxx xxxx xxxx xxxx xxxx xxxx
Shared LOS:	* * * * * C * * * * * * * *
ApproachDel:	xxxxxx 20.7 xxxx xxxx xxxx xxxx
ApproachLOS:	*

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 Cotati Circulation Improvement Study
 City of Cotati

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

Intersection #20 E Cotati Ave/Santero Way

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: C[19.1]

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R

Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Rights:	Include	Include	Include	Include
Lanes:	0 0 0 1! 0 0	0 0 0 0 0 0	0 0 1 1 0	1 0 2 0 0

Volume Module:

Base Vol:	15 0 6 0 0 0 0 879 13 10 743 0
Growth Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:	15 0 6 0 0 0 0 879 13 10 743 0
User Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:	0.75 0.75 0.75 1.00 1.00 1.00 0.88 0.88 0.88 0.97 0.97 0.97
PHF Volume:	20 0 8 0 0 0 0 999 15 10 766 0
Reduc Vol:	0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.:	20 0 8 0 0 0 0 999 15 10 766 0

Critical Gap Module:

Critical Gp:	6.8 xxxx 6.9 xxxx xxxx xxxx xxxx xxxx xxxx 4.1 xxxx xxxx
FollowUpTim:	3.5 xxxx 3.3 xxxx xxxx xxxx xxxx xxxx xxxx 2.2 xxxx xxxx

Capacity Module:

Cnflict Vol:	1410 xxxx 507 xxxx xxxx xxxx xxxx xxxx xxxx 1014 xxxx xxxx
Potent Cap.:	129 xxxx 511 xxxx xxxx xxxx xxxx xxxx xxxx 680 xxxx xxxx
Move Cap.:	128 xxxx 511 xxxx xxxx xxxx xxxx xxxx xxxx 680 xxxx xxxx
Total Cap:	241 0 xxxx 0 0 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Volume/Cap:	0.08 xxxx 0.02 xxxx xxxx xxxx xxxx xxxx 0.02 xxxx xxxx

Level Of Service Module:

Queue:	xxxxxx xxxx xxxx xxxx xxxx xxxx 0.0 xxxx xxxx
Stopped Del:	xxxxxx xxxx xxxx xxxx xxxx xxxx 10.4 xxxx xxxx
LOS by Move:	* * * * * * * * * * * B * *
Movement:	LT - LTR - RT
Shared Cap.:	xxxxxx 284 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
SharedQueue:	xxxxxx 0.3 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shrd StpDel:	xxxxxx 19.1 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shared LOS:	* C * * * * * * * *
ApproachDel:	19.1 xxxx xxxx
ApproachLOS:	C *

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Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #21 Old Redwood Highway/Henry-Charles St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.896
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 25.2
 Optimal Cycle: 0 Level Of Service: D

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

Volume Module:
 Base Vol: 12 463 182 28 340 23 18 24 22 113 18 28
 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: 12 463 182 28 340 23 18 24 22 113 18 28
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.92 0.92 0.92 0.91 0.91 0.91 0.73 0.73 0.73 0.72 0.72 0.72
 PHF Volume: 13 503 198 31 374 25 25 33 30 157 25 39
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 13 503 198 31 374 25 25 33 30 157 25 39
 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.: 13 503 198 31 374 25 25 33 30 157 25 39

Saturation Flow Module:
 Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Lanes: 0.03 0.97 1.00 0.07 0.87 0.06 0.28 0.38 0.34 0.71 0.11 0.18
 Final Sat.: 15 562 651 42 511 35 127 169 155 352 56 87

Capacity Analysis Module:
 Vol/Sat: 0.90 0.90 0.30 0.73 0.73 0.73 0.19 0.19 0.19 0.45 0.45 0.45
 Crit Moves: **** **** **** ****
 Delay/Veh: 39.7 39.7 10.5 22.8 22.8 22.8 11.6 11.6 11.6 14.7 14.7 14.7
 Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 39.7 39.7 10.5 22.8 22.8 22.8 11.6 11.6 11.6 14.7 14.7 14.7
 LOS by Move: E E B C C C B B B B B B
 ApproachDel: 31.6 22.8 11.6 14.7
 Delay Adj: 1.00 1.00 1.00 1.00
 ApprAdjDel: 31.6 22.8 11.6 14.7
 LOS by Appr: D C B B

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2000 HCM Operations Method (Base Volume Alternative)

 Intersection #22 Old Redwood Hwy/Myrtle-Valparaiso Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 0.595
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 17.4
 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:	Protected	Protected	Permitted	Permitted
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0 0	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 0 0 1	1 0 0 0 1

Volume Module:
 Base Vol: 76 667 208 101 350 13 13 52 24 90 24 45
 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: 76 667 208 101 350 13 13 52 24 90 24 45
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.90 0.90 0.90 0.88 0.88 0.88 0.86 0.86 0.86 0.86 0.86 0.86
 PHF Volume: 84 741 231 115 398 15 15 60 28 105 28 52
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 84 741 231 115 398 15 15 60 28 105 28 52
 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.: 84 741 231 115 398 15 15 60 28 105 28 52

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.93 0.98 0.83 0.93 0.98 0.83 0.59 0.93 0.92 0.57 0.88 0.87
 Lanes: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.68 0.32 1.00 0.34 0.66
 Final Sat.: 1769 1862 1583 1769 1862 1583 1128 1210 559 1087 576 1081

Capacity Analysis Module:
 Vol/Sat: 0.05 0.40 0.15 0.06 0.21 0.01 0.01 0.05 0.05 0.10 0.05 0.05
 Crit Moves: **** ****
 Green/Cycle: 0.14 0.67 0.67 0.11 0.64 0.64 0.16 0.16 0.16 0.16 0.16 0.16
 Volume/Cap: 0.34 0.59 0.22 0.59 0.34 0.01 0.08 0.31 0.31 0.59 0.30 0.30
 Delay/Veh: 39.4 9.9 6.5 47.4 8.6 6.7 35.8 37.6 37.6 44.3 37.5 37.5
 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: 39.4 9.9 6.5 47.4 8.6 6.7 35.8 37.6 37.6 44.3 37.5 37.5
 HCM2kAvg: 3 13 3 5 6 0 1 3 3 6 2 2

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2000 HCM Unsignalized Method (Future Volume Alternative)

```
*****
Intersection #1 Redwood Dr/Helman Ln
*****
Average Delay (sec/veh): 6.3 Worst Case Level Of Service: D[ 30.9]
*****
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
-----|-----|-----|-----|
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 0 1 0 0 0 0 1 0 0 0 1! 0 0 0 0 0 0
-----|-----|-----|-----|-----|
Volume Module:
Base Vol: 51 277 0 0 178 27 39 0 37 0 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 51 277 0 0 178 27 39 0 37 0 0 0 0
Added Vol: 130 54 0 0 52 30 14 0 24 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 181 331 0 0 230 57 53 0 61 0 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.81 0.81 0.81 0.88 0.88 0.68 0.68 0.68 1.00 1.00 1.00 1.00
PHF Volume: 223 409 0 0 261 65 78 0 90 0 0 0 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 223 409 0 0 261 65 78 0 90 0 0 0 0
Critical Gap Module:
Critical Gp: 4.1 xxxx xxxx xxxx xxxx xxxx 6.5 xxxx 6.3 xxxx xxxx xxxx
FollowUpTim: 2.2 xxxx xxxx xxxx xxxx xxxx 3.6 xxxx 3.4 xxxx xxxx xxxx
-----|-----|-----|-----|-----|
Capacity Module:
Conflict Vol: 326 xxxx xxxx xxxx xxxx 1149 xxxx 294 xxxx xxxx xxxx
Potent Cap.: 1217 xxxx xxxx xxxx xxxx 214 xxxx 734 xxxx xxxx xxxx
Move Cap.: 1217 xxxx xxxx xxxx xxxx 180 xxxx 734 xxxx xxxx xxxx
Volume/Cap: 0.18 xxxx xxxx xxxx xxxx 0.43 xxxx 0.12 xxxx xxxx xxxx
-----|-----|-----|-----|-----|
Level Of Service Module:
Queue: 0.7 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Stopped Del: 8.6 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
LOS by Move: A * * * * * * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxx xxxx xxxx xxxx 302 xxxx xxxx xxxx xxxx
SharedQueue: 0.7 xxxx xxxx xxxx xxxx xxxx 3.2 xxxx xxxx xxxx xxxx
Shrd StpDel: 8.6 xxxx xxxx xxxx xxxx xxxx 30.9 xxxx xxxx xxxx xxxx
Shared LOS: A * * * * * D * * * *
ApproachDel: xxxx xxxx xxxx xxxx 30.9 xxxx xxxx
ApproachLOS: * * D * *

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2000 HCM Unsignalized Method (Future Volume Alternative)

```
*****
Intersection #2 Commerce Blvd/Wilford Ln
*****
Average Delay (sec/veh): 1.6 Worst Case Level Of Service: C[ 17.1]
*****
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
-----|-----|-----|-----|
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 0 0 0 1 0 1 0 0 0 0 0 0 0 0 0 1 0 0 0 1
-----|-----|-----|-----|-----|
Volume Module:
Base Vol: 0 390 7 37 543 0 0 0 0 0 12 0 53
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 390 7 37 543 0 0 0 0 0 12 0 53
Added Vol: 0 53 2 1 51 0 0 0 0 0 6 0 2
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 443 9 38 594 0 0 0 0 0 18 0 55
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.80 0.80 0.80 0.90 0.90 0.90 1.00 1.00 1.00 1.00 0.71 0.71 0.71
PHF Volume: 0 553 11 42 657 0 0 0 0 0 25 0 78
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 0 553 11 42 657 0 0 0 0 0 25 0 78
Critical Gap Module:
Critical Gp:xxxx xxxx xxxx xxxx 4.1 xxxx xxxx xxxx xxxx 6.4 xxxx 6.2
FollowUpTim:xxxx xxxx xxxx 2.2 xxxx xxxx xxxx xxxx 3.5 xxxx 3.3
-----|-----|-----|-----|-----|
Capacity Module:
Conflict Vol: xxxx xxxx xxxx 565 xxxx xxxx xxxx xxxx 1301 xxxx 559
Potent Cap.: xxxx xxxx xxxx 992 xxxx xxxx xxxx xxxx 178 xxxx 528
Move Cap.: xxxx xxxx xxxx 992 xxxx xxxx xxxx xxxx 172 xxxx 528
Volume/Cap: xxxx xxxx xxxx 0.04 xxxx xxxx xxxx xxxx 0.15 xxxx 0.15
-----|-----|-----|-----|-----|
Level Of Service Module:
Queue: xxxx xxxx 0.1 xxxx xxxx xxxx xxxx 0.5 xxxx 0.5
Stopped Del:xxxx xxxx 8.8 xxxx xxxx xxxx xxxx 29.5 xxxx 13.0
LOS by Move: * * * * * A * * * * * D * B
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
SharedQueue:xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shrd StpDel:xxxx xxxx 30.9 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shared LOS: * * * * * * * * * * * * * *
ApproachDel: xxxx xxxx xxxx xxxx 17.1
ApproachLOS: * * * C

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2000 HCM Unsignalized Method (Future Volume Alternative)

 Intersection #3 Old Redwood Highway/Commerce Blvd.

 Average Delay (sec/veh): 113.3 Worst Case Level Of Service: F[330.2]

 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 -----|-----|-----|-----|
 Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
 Rights: Include Include Include Include
 Lanes: 0 0 1 0 1 0 0 0 0 0 0 0 1 0 0 0 1
 -----|-----|-----|-----|
 Volume Module:
 Base Vol: 0 743 365 0 0 0 0 0 406 0 175
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 0 743 365 0 0 0 0 0 406 0 175
 Added Vol: 0 201 55 0 0 0 0 0 55 0 1
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 0 944 420 0 0 0 0 0 461 0 176
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.98 0.98 0.98 1.00 1.00 1.00 1.00 1.00 0.88 0.88 0.88
 PHF Volume: 0 964 429 0 0 0 0 0 527 0 201
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0
 Final Vol.: 0 964 429 0 0 0 0 0 527 0 201
 Critical Gap Module:
 Critical Gp:xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 6.4 xxxx 6.3
 FollowUpTim:xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx 3.5 xxxx 3.3
 -----|-----|-----|-----|
 Capacity Module:
 Cnflict Vol: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 964 xxxx 964
 Potent Cap.: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 279 xxxx 305
 Move Cap.: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 279 xxxx 305
 Volume/Cap: xxxx xxxx xxxx xxxx xxxx xxxx xxxx 1.89 xxxx 0.66
 -----|-----|-----|-----|
 Level Of Service Module:
 Queue: xxxx xxxx xxxx xxxx xxxx xxxx xxxx 36.4 xxxx 4.3
 Stopped Del:xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx 442.1 xxxx 36.9
 LOS by Move: * * * * * * * * * * F * E
 Movement: LT - LTR - RT
 Shared Cap.: xxxx
 SharedQueue:xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shrd StpDel:xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shared LOS: * * * * * * * * * * * * * * * * * *
 ApproachDel: xxxxxxxx xxxxxxxx xxxxxxxx 330.2
 ApproachLOS: * * * * * * * * * * * * * * * * * *

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Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

 Intersection #4 Gravenstein Hwy/Alder Ave

 Average Delay (sec/veh): 7.7 Worst Case Level Of Service: F[158.9]

 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 -----|-----|-----|-----|
 Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
 Rights: Include Include Include Include
 Lanes: 0 0 1! 0 0 0 0 1! 0 0 0 0 1! 0 0 0 1! 0 0
 -----|-----|-----|-----|
 Volume Module:
 Base Vol: 1 0 7 7 0 12 14 611 1 5 607 6
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 1 0 7 7 0 12 14 611 1 5 607 6
 Added Vol: 0 0 0 39 0 16 43 413 0 0 289 74
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 1 0 7 46 0 28 57 1024 1 5 896 80
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.50 0.50 0.50 0.68 0.68 0.68 0.94 0.94 0.94 0.94 0.84 0.84 0.84
 PHF Volume: 2 0 14 68 0 41 61 1089 1 6 1067 95
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Final Vol.: 2 0 14 68 0 41 61 1089 1 6 1067 95
 Critical Gap Module:
 Critical Gp: 7.1 xxxx 6.2 7.2 xxxx 6.3 4.1 xxxx xxxx 4.1 xxxx xxxx
 FollowUpTim: 3.5 xxxx 3.3 3.5 xxxx 3.3 2.2 xxxx xxxx 2.2 xxxx xxxx
 -----|-----|-----|-----|
 Capacity Module:
 Cnflict Vol: 2358 xxxx 1090 2344 xxxx 1114 1162 xxxx xxxx 1090 xxxx xxxx
 Potent Cap.: 25 xxxx 264 25 xxxx 250 591 xxxx xxxx 629 xxxx xxxx
 Move Cap.: 19 xxxx 264 21 xxxx 250 591 xxxx xxxx 629 xxxx xxxx
 Volume/Cap: 0.10 xxxx 0.05 3.17 xxxx 0.17 0.10 xxxx xxxx 0.01 xxxx xxxx
 -----|-----|-----|-----|
 Level Of Service Module:
 Queue: xxxx xxxx xxxx xxxx xxxx xxxx 0.3 xxxx xxxx 0.0 xxxx xxxx
 Stopped Del:xxxxxx xxxx xxxx xxxx xxxx 11.8 xxxx xxxx 10.8 xxxx xxxx
 LOS by Move: * * * * * * * * * * B * * *
 Movement: LT - LTR - RT
 Shared Cap.: xxxx 101 xxxx 109 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 SharedQueue:xxxxxx 0.5 xxxx xxxx 6.4 xxxx xxxx xxxx xxxx xxxx xxxx
 Shrd StpDel:xxxxxx 47.1 xxxx xxxx 159 xxxx xxxx xxxx xxxx xxxx xxxx
 Shared LOS: * E * * F * * * * * * * * * * * *
 ApproachDel: 47.1 158.9 xxxx xxxx xxxx xxxx
 ApproachLOS: E F * * *

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 2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 Gravenstein Hwy/W Cotati Ave

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

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	Channel	Include
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 0 1 0	0 1 0 0 0

Volume Module:				
Base Vol:	6 0 50 0 0 0 0 639 5 12 626 0			
Growth Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00			
Initial Bse:	6 0 50 0 0 0 0 639 5 12 626 0			
Added Vol:	7 0 17 0 0 0 0 448 4 14 357 0			
PasserByVol:	0 0 0 0 0 0 0 0 0 0 0 0			
Initial Fut:	13 0 67 0 0 0 0 1087 9 26 983 0			
User Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00			
PHF Adj:	0.86 0.86 0.86 1.00 1.00 1.00 0.80 0.80 0.80 0.89 0.89 0.89			
PHF Volume:	15 0 78 0 0 0 0 1359 11 29 1104 0			
Reducet Vol:	0 0 0 0 0 0 0 0 0 0 0 0			
Final Vol.:	15 0 78 0 0 0 0 1359 11 29 1104 0			
Critical Gap Module:				
Critical Gp:	6.4 xxxx 6.2 xxxx xxxx xxxx xxxx xxxx xxxx 4.1 xxxx xxxx			
FollowUpTim:	3.5 xxxx 3.3 xxxx xxxx xxxx xxxx xxxx 2.2 xxxx xxxx			

Capacity Module:				
Cnflict Vol:	xxxx xxxx 1359 xxxx xxxx xxxx xxxx xxxx 1359 xxxx xxxx			
Potent Cap.:	0 xxxx 182 xxxx xxxx xxxx xxxx xxxx 496 xxxx xxxx			
Move Cap.:	0 xxxx 182 xxxx xxxx xxxx xxxx xxxx 496 xxxx xxxx			
Volume/Cap:	xxxx xxxx 0.43 xxxx xxxx xxxx xxxx xxxx 0.06 xxxx xxxx			

Level Of Service Module:				
Queue:	3.5 xxxx 2.0 xxxx xxxx xxxx xxxx xxxx 0.2 xxxx xxxx			
Stopped Del:	xxxxxx xxxx 38.9 xxxx xxxx xxxx xxxx xxxx 12.7 xxxx xxxx			
LOS by Move:	F * E * * * * * * B *			
Movement:	LT - LTR - RT			
Shared Cap.:	xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx			
SharedQueue:	xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx			
Shrd StpDel:	xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 12.7 xxxx xxxx			
Shared LOS:	* * * * * * * * * * B *			
ApproachDel:	xxxxxx xxxx xxxx xxxx xxxx			
ApproachLOS:	F * * *			

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 2000 HCM Operations Method (Future Volume Alternative)

Intersection #6 Gravenstein Hwy/Redwood Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.688
Loss Time (sec):	6 (Y+R = 4 sec)	Average Delay (sec/veh):	22.5
Optimal Cycle:	41	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:	Include	Include	Include	Include
Min. Green:	0 0 0 0	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 2 0 1

Volume Module:				
Base Vol:	41 17 83 188 13 36 73 547 33 69 561 268			
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:	41 17 83 188 13 36 73 547 33 69 561 268			
Added Vol:	0 0 0 77 0 20 24 487 0 0 419 188			
PasserByVol:	0 0 0 0 0 0 0 0 0 0 0 0			
Initial Fut:	41 17 83 265 13 56 97 1034 33 69 980 456			
User Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00			
PHF Adj:	0.88 0.88 0.88 0.94 0.94 0.94 0.94 0.94 0.94 0.87 0.87 0.87			
PHF Volume:	47 19 94 282 14 60 103 1100 35 79 1126 524			
Reducet Vol:	0 0 0 0 0 0 0 0 0 0 0 0			
Reduced Vol:	47 19 94 282 14 60 103 1100 35 79 1126 524			
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.:	47 19 94 282 14 60 103 1100 35 79 1126 524			

Saturation Flow Module:				
Sat/Lane:	1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900			
Adjustment:	0.66 0.83 0.83 0.60 0.84 0.84 0.90 0.95 0.95 0.90 0.95 0.81			
Lanes:	1.00 0.17 0.83 1.00 0.19 0.81 1.00 1.94 0.06 1.00 2.00 1.00			
Final Sat.:	1257 269 1315 1149 299 1289 1718 3488 111 1718 3618 1537			

Capacity Analysis Module:				
Vol/Sat:	0.04 0.07 0.07 0.25 0.05 0.05 0.06 0.32 0.32 0.05 0.31 0.34			
Crit Moves:	****	****	****	****
Green/Cycle:	0.36 0.36 0.36 0.36 0.36 0.36 0.09 0.51 0.51 0.07 0.50 0.50			
Volume/Cap:	0.10 0.20 0.20 0.69 0.13 0.13 0.69 0.62 0.62 0.62 0.63 0.69			
Delay/Veh:	21.6 22.5 22.5 32.3 21.8 21.8 56.9 18.3 18.3 53.9 19.2 21.9			
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:	21.6 22.5 22.5 32.3 21.8 21.8 56.9 18.3 18.3 53.9 19.2 21.9			
HCM2kAvg:	1 2 2 13 2 2 5 13 13 4 13 13			

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2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 W Sierra Ave/W School St-US 101 SB Ramp

Average Delay (sec/veh): 3.7 Worst Case Level Of Service: C[23.3]

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	Channel	Include
Lanes:	0 0 0 0	0 0 1! 0	0 1 0 0	1 0 0 1! 0 0

Volume Module:

Base Vol:	0 0 0 24 9 1 3 135 4 134 166 21
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 24 9 1 3 135 4 134 166 21
Added Vol:	0 0 0 1 3 1 1 48 9 53 24 6
PasserByVol:	0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut:	0 0 0 25 12 2 4 183 13 187 190 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 0.71 0.71 0.71 0.63 0.63 0.63 0.93 0.93 0.93
PHF Volume:	0 0 0 35 17 3 6 290 21 201 204 29
Reduc Vol:	0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.:	0 0 0 35 17 3 6 290 21 201 204 29

Critical Gap Module:

Critical Gp:	xxxxxx xxxx 6.4 6.5 6.2 4.1 xxxx xxxx 4.1 xxxx xxxx
FollowUpTim:	xxxxxx xxxx 3.5 4.0 3.3 2.2 xxxx xxxx 2.2 xxxx xxxx

Capacity Module:

Cnflict Vol:	xxxxxx xxxx 934 924 219 233 xxxx xxxx 290 xxxx xxxx
Potent Cap.:	xxxxxx xxxx 295 269 821 1334 xxxx xxxx 1271 xxxx xxxx
Move Cap.:	xxxxxx xxxx 254 220 821 1334 xxxx xxxx 1271 xxxx xxxx
Volume/Cap:	xxxxxx xxxx 0.14 0.08 0.00 0.00 xxxx xxxx 0.16 xxxx xxxx

Level Of Service Module:

Queue:	xxxxxx xxxx xxxx xxxx xxxx xxxx 0.0 xxxx xxxx 0.6 xxxx xxxx
Stopped Del:	xxxxxx xxxx xxxx xxxx xxxx xxxx 7.7 xxxx xxxx 8.4 xxxx xxxx
LOS by Move:	* * * * * * A * * * A * *
Movement:	LT - LTR - RT
Shared Cap.:	xxxxxx xxxx xxxx 251 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
SharedQueue:	xxxxxx xxxx xxxx xxxx 0.8 xxxx 0.0 xxxx xxxx xxxx xxxx xxxx
Shrd StpDel:	xxxxxx xxxx xxxx xxxx 23.3 xxxx 7.7 xxxx xxxx xxxx xxxx xxxx
Shared LOS:	* * * * * C * A * * * * * * * *
ApproachDel:	xxxxxx 23.3 xxxx xxxx xxxx xxxx
ApproachLOS:	* C * * *

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2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #12 W Sierra Ave/US 101 NB Off-ramp

Average Delay (sec/veh): 2.1 Worst Case Level Of Service: B[11.3]

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

Volume Module:

Base Vol:	12 0 85 0 0 0 0 146 0 0 313 0
Growth Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:	12 0 85 0 0 0 0 146 0 0 313 0
Added Vol:	8 0 39 0 0 0 0 49 0 0 76 0
PasserByVol:	0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut:	20 0 124 0 0 0 0 195 0 0 389 0
User Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:	0.87 0.87 0.87 1.00 1.00 1.00 0.73 0.73 0.73 0.73 0.86 0.86
PHF Volume:	23 0 143 0 0 0 0 267 0 0 452 0
Reduc Vol:	0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.:	23 0 143 0 0 0 0 267 0 0 452 0

Critical Gap Module:

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

Capacity Module:

Cnflict Vol:	719 xxxx 267 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Potent Cap.:	395 xxxx 772 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Move Cap.:	395 xxxx 772 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Volume/Cap:	0.06 xxxx 0.18 xxxx xxxx xxxx xxxx xxxx xxxx xxxx

Level Of Service Module:

Queue:	0.2 xxxx 0.7 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Stopped Del:	14.7 xxxx 10.7 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
LOS by Move:	B * B * * * * * * * *
Movement:	LT - LTR - RT
Shared Cap.:	xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
SharedQueue:	xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shrd StpDel:	xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shared LOS:	* * * * * C * A * * * * * * * *
ApproachDel:	11.3 xxxx xxxx xxxx xxxx
ApproachLOS:	B * * *

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2000 HCM 4-Way Stop Method (Future Volume Alternative)

 Intersection #13 W Sierra Ave/E School St

Cycle (sec): 100 Critical Vol./Cap. (X): 0.600
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 12.3
 Optimal Cycle: 0 Level Of Service: B

 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 |-----| |-----| |-----| |-----|
 Control: Stop Sign Stop Sign Stop Sign Stop Sign
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 0 0 0 0 0 0 1! 0 0 0 1 0 0 0 0 1 0
 |-----| |-----| |-----| |-----|
 Volume Module:
 Base Vol: 0 0 0 18 0 20 15 308 0 0 252 16
 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 18 0 20 15 308 0 0 252 16
 Added Vol: 0 0 0 17 0 3 1 87 0 0 49 8
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 0 0 0 35 0 23 16 395 0 0 301 24
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.90 0.90 0.90 0.86 0.86 0.86 0.86 0.86 0.86 1.00 1.00 1.00
 PHF Volume: 0 0 0 41 0 27 19 459 0 0 301 24
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 0 0 0 41 0 27 19 459 0 0 301 24
 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.: 0 0 0 41 0 27 19 459 0 0 301 24

 Saturation Flow Module:
 Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Lanes: 0.00 0.00 0.00 0.60 0.00 0.40 0.04 0.96 0.00 0.00 0.93 0.07
 Final Sat.: 0 0 0 358 0 235 31 766 0 0 716 57

 Capacity Analysis Module:
 Vol/Sat: xxxx xxxx xxxx 0.11 xxxx 0.11 0.60 0.60 xxxx xxxx 0.42 0.42
 Crit Moves: **** * **** * **** * **** * **** *
 Delay/Veh: 0.0 0.0 0.0 9.1 0.0 9.1 13.8 13.8 0.0 0.0 10.7 10.7
 Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 0.0 0.0 0.0 9.1 0.0 9.1 13.8 13.8 0.0 0.0 10.7 10.7
 LOS by Move: * * * A * A B B * * B B
 ApproachDel: xxxxxxxx 9.1 13.8 10.7
 Delay Adj: xxxxxx 1.00 1.00 1.00
 ApprAdjDel: xxxxxx 9.1 13.8 10.7
 LOS by Appr: * A B B

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2000 HCM Operations Method (Future Volume Alternative)

 Intersection #14 Old Redwood Hwy/E Cotati Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 1.224
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 107.0
 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: Protected Protected Protected Protected
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 1 0 1 1 0 1 0 1 0 1 1 0 1 0 1 1 0
 |-----| |-----| |-----| |-----|
 Volume Module: 7:30 - 8:30 am
 Base Vol: 8 316 1 324 389 57 93 168 6 19 186 427
 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: 8 316 1 324 389 57 93 168 6 19 186 427
 Added Vol: 0 151 31 235 75 12 29 67 0 18 40 170
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 8 467 32 559 464 69 122 235 6 37 226 597
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.87 0.87 0.87 0.88 0.88 0.88 0.91 0.91 0.91 0.91 0.85 0.85
 PHF Volume: 9 537 37 635 527 78 134 258 7 44 266 702
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 9 537 37 635 527 78 134 258 7 44 266 702
 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.: 9 537 37 635 527 78 134 258 7 44 266 702

 Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.84 0.87 0.87 0.84 0.88 0.75 0.84 0.88 0.88 0.84 0.79 0.79
 Lanes: 1.00 1.87 0.13 1.00 1.00 1.00 1.00 1.95 0.05 1.00 1.00 1.00
 Final Sat.: 1592 3105 213 1592 1676 1424 1592 3255 83 1592 1493 1493

 Capacity Analysis Module:
 Vol/Sat: 0.01 0.17 0.17 0.40 0.31 0.06 0.08 0.08 0.08 0.03 0.18 0.47
 Crit Moves: **** * **** * **** * **** * **** *
 Green/Cycle: 0.01 0.14 0.14 0.33 0.46 0.46 0.07 0.34 0.34 0.12 0.38 0.38
 Volume/Cap: 0.69 1.22 1.22 1.22 0.69 0.12 1.22 0.24 0.24 0.24 0.46 1.22
 Delay/Veh: 141.4 162 161.8 151.0 24.0 15.6 204.8 24.0 24.0 40.8 23.2 143.0
 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: 141.4 162 161.8 151.0 24.0 15.6 204.8 24.0 24.0 40.8 23.2 143.0
 HCM2kAvg: 1 18 18 38 14 1 10 3 3 1 6 40

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 2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #15 E Cotati Ave/Charles St

Average Delay (sec/veh): 4.0 Worst Case Level Of Service: D[33.4]

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 0 0 0 0 1 0 1 0 1 0 0

Volume Module:

Base Vol:	1	0	111	0	0	0	0	490	3	230	615	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	0	111	0	0	0	0	490	3	230	615	0
Added Vol:	0	0	29	0	0	0	0	333	0	15	228	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	0	140	0	0	0	0	823	3	245	843	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	1.00	1.00	1.00	0.82	0.82	0.82	0.88	0.88	0.88
PHF Volume:	1	0	171	0	0	0	0	1004	4	278	958	0
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	1	0	171	0	0	0	0	1004	4	278	958	0

Critical Gap Module:

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

Capacity Module:

Cnflict Vol:	4063	xxxxx	1005	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	1007	xxxxx	xxxxx
Potent Cap.:	2	xxxxx	293	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	688	xxxxx	xxxxx
Move Cap.:	1	xxxxx	293	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	688	xxxxx	xxxxx
Total Cap:	97	0	xxxxx	0	0	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
Volume/Cap:	0.01	xxxxx	0.58	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	0.40	xxxxx	xxxxx

Level Of Service Module:

Queue:	xxxxx	2.0	xxxxx	xxxxx								
Stopped Del:	xxxxx	13.7	xxxxx	xxxxx								
LOS by Move:	*	*	*	*	*	*	*	*	B	*	*	
Movement:	LT -	LTR -	RT									
Shared Cap.:	xxxxx	293	xxxxx									
SharedQueue:	xxxxx	3.5	xxxxx									
Shrd StpDel:	xxxxx	33.4	xxxxx									
Shared LOS:	*	D	*	*	*	*	*	*	*	*	*	*
ApproachDel:	33.4	xxxxx										
ApproachLOS:	D		*		*		*		*		*	

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 2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #16 E Cotati Ave/La Salle Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 1.109
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 74.8
 Optimal Cycle: 0 Level Of Service: F

Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Stop Sign Stop Sign
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Lanes: 0 0 1! 0 0 0 0 0 0 1 0 1 0 1 1 0 1 0 1 1 0

Volume Module: 7:30 - 8:30 am

Base Vol:	127	2	51	0	0	3	8	555	87	45	717	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	127	2	51	0	0	3	8	555	87	45	717	3
Added Vol:	8	0	30	0	0	0	0	354	6	9	215	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	135	2	81	0	0	3	8	909	93	54	932	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.50	0.50	0.50	0.87	0.87	0.87	0.89	0.89	0.89
PHF Volume:	153	2	92	0	0	6	9	1045	107	61	1047	3
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	153	2	92	0	0	6	9	1045	107	61	1047	3
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.:	153	2	92	0	0	6	9	1045	107	61	1047	3

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.62	0.01	0.37	0.00	0.00	1.00	1.00	1.81	0.19	1.00	1.99	0.01
Final Sat.:	327	5	196	0	0	467	480	942	97	484	1036	3

Capacity Analysis Module:

Vol/Sat:	0.47	0.47	xxxxx	xxxxx	0.01	0.02	1.11	1.10	0.13	1.01	1.01	
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	
Delay/Veh:	15.7	15.7	15.7	0.0	0.0	10.4	10.3	98.0	93.8	11.2	68.4	68.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.7	15.7	15.7	0.0	0.0	10.4	10.3	98.0	93.8	11.2	68.4	68.3
LOS by Move:	C	C	C	*	*	B	B	F	F	B	F	F
ApproachDel:	15.7			10.4				96.9			65.3	
Delay Adj:	1.00			1.00				1.00			1.00	
ApprAdjDel:	15.7			10.4				96.9			65.3	
LOS by Appr:	C		B			F					F	

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2000 HCM Operations Method (Future Volume Alternative)

 Intersection #17 E Cotati Ave/Adrian Dr

 Cycle (sec): 100 Critical Vol./Cap. (X): 0.624
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 19.4
 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 0 0 0 0
 Lanes: 0 0 1! 0 0 1 0 0 0 1 1 0 2 0 0 0 0 0 1 1 0
 |-----| |-----| |-----| |-----|
 Volume Module:
 Base Vol: 0 0 0 173 0 218 98 487 0 0 0 586 154
 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
 Initial Bse: 0 0 0 173 0 218 98 487 0 0 0 586 154
 Added Vol: 0 0 0 27 0 12 9 368 0 0 0 208 8
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 0 0 0 200 0 230 107 855 0 0 0 794 162
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 1.00 1.00 1.00 0.72 0.72 0.72 0.83 0.83 0.83 0.89 0.89 0.89
 PHF Volume: 0 0 0 278 0 319 129 1030 0 0 0 892 182
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 0 0 0 278 0 319 129 1030 0 0 0 892 182
 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.: 0 0 0 278 0 319 129 1030 0 0 0 892 182
 |-----| |-----| |-----| |-----|
 Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 1.00 1.00 1.00 0.93 1.00 0.83 0.93 0.93 1.00 1.00 0.91 0.91
 Lanes: 0.00 1.00 0.00 1.00 0.00 1.00 1.00 2.00 0.00 0.00 1.66 0.34
 Final Sat.: 0 1900 0 1769 0 1583 1769 3538 0 0 2865 585
 |-----| |-----| |-----| |-----|

Capacity Analysis Module:

Vol/Sat:	0.00	0.00	0.00	0.16	0.00	0.20	0.07	0.29	0.00	0.00	0.31	0.31
Crit Moves:	**** * * * * ****											
Green/Cycle:	0.00	0.00	0.00	0.32	0.00	0.32	0.12	0.62	0.00	0.00	0.50	0.50
Volume/Cap:	0.00	0.00	0.00	0.49	0.00	0.62	0.62	0.47	0.00	0.00	0.62	0.62
Delay/Veh:	0.0	0.0	0.0	27.8	0.0	31.0	47.9	10.5	0.0	0.0	18.9	18.9
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	27.8	0.0	31.0	47.9	10.5	0.0	0.0	18.9	18.9
HCM2kAvg:	0	0	0	7	0	9	5	9	0	0	12	12

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2000 HCM Operations Method (Future Volume Alternative)

 Intersection #18 E Cotati Ave/Lancaster Dr

 Cycle (sec): 100 Critical Vol./Cap. (X): 0.775
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 24.7
 Optimal Cycle: 53 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: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 1 0 0 1 0 1 0 0 1 0 0 1 0 1 1 0 1 0 1 1 0
 |-----| |-----| |-----| |-----|
 Volume Module: >> Count Date: 17 Nov 2004 <<
 Base Vol: 200 7 281 7 4 5 10 542 98 170 614 3
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 200 7 281 7 4 5 10 542 98 170 614 3
 Added Vol: 26 0 28 0 0 0 0 0 387 8 7 190 0
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 226 7 309 7 4 5 10 929 106 177 804 3
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.81 0.81 0.81 0.57 0.57 0.57 0.81 0.81 0.81 0.81 0.86 0.86
 PHF Volume: 279 9 381 12 7 9 12 1147 131 206 935 3
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 279 9 381 12 7 9 12 1147 131 206 935 3
 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.: 279 9 381 12 7 9 12 1147 131 206 935 3
 |-----| |-----| |-----| |-----|
 Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.74 0.84 0.84 0.24 0.90 0.90 0.93 0.92 0.92 0.92 0.93 0.93 0.93
 Lanes: 1.00 0.02 0.98 1.00 0.44 0.56 1.00 1.80 0.20 1.00 1.99 0.01
 Final Sat.: 1406 35 1553 462 759 949 1769 3128 357 1769 3521 13
 |-----| |-----| |-----| |-----|
 Capacity Analysis Module:
 Vol/Sat: 0.20 0.25 0.25 0.03 0.01 0.01 0.01 0.37 0.37 0.12 0.27 0.27
 Crit Moves: **** * * * * ****
 Green/Cycle: 0.32 0.32 0.32 0.32 0.32 0.32 0.02 0.47 0.47 0.15 0.61 0.61
 Volume/Cap: 0.63 0.78 0.78 0.08 0.03 0.03 0.44 0.78 0.78 0.78 0.44 0.44
 Delay/Veh: 31.9 38.3 38.3 24.2 23.6 23.6 59.2 24.3 24.3 54.2 10.6 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: 31.9 38.3 38.3 24.2 23.6 23.6 59.2 24.3 24.3 54.2 10.6 10.6
 HCM2kAvg: 10 13 13 1 0 0 1 18 18 8 8 8 8

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2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #19 E Cotati Ave/Beverly Dr

Average Delay (sec/veh): 1.3 Worst Case Level Of Service: B[14.6]

Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R

Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Rights:	Include	Include	Include	Include
Lanes:	0 0 0 0	0 0 1! 0	0 1 0 2 0 0	1 0 1 1 0

Volume Module: >> Count Date: 17 Nov 2004 <<

Base Vol:	0 0 0 73 0 55 59 721 0 0 645 121
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 73 0 55 59 721 0 0 645 121
Added Vol:	0 0 0 24 0 0 415 0 0 197 6
PasserByVol:	0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut:	0 0 0 97 0 55 59 1136 0 0 842 127
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 0.76 0.76 0.76 0.81 0.81 0.81 0.81 0.81 0.81
PHF Volume:	0 0 0 128 0 72 73 1402 0 0 1040 157
Reduc Vol:	0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.:	0 0 0 128 0 72 73 1402 0 0 1040 157

Critical Gap Module:

Critical Gp:	xxxxxx xxxx 6.8 xxxx 6.9 4.1 xxxx xxxx xxxx xxxx xxxx
FollowUpTim:	xxxxxx xxxx 3.5 xxxx 3.3 2.2 xxxx xxxx xxxx xxxx

Capacity Module:

Cnflict Vol:	xxxxxx xxxx 2498 xxxx 761 978 xxxx xxxx xxxx xxxx xxxx
Potent Cap.:	xxxxxx xxxx 19 xxxx 274 551 xxxx xxxx xxxx xxxx xxxx
Move Cap.:	xxxxxx xxxx 17 xxxx 274 551 xxxx xxxx xxxx xxxx xxxx
Total Cap:	0 577 xxxx 175 615 xxxx xxxx xxxx xxxx xxxx xxxx
Volume/Cap:	xxxxxx xxxx 0.73 xxxx 0.26 0.13 xxxx xxxx xxxx xxxx xxxx

Level Of Service Module:

Queue:	xxxxxx xxxx xxxx xxxx xxxx xxxx 0.5 xxxx xxxx xxxx xxxx
Stopped Del:	xxxxxx xxxx xxxx xxxx xxxx 12.5 xxxx xxxx xxxx xxxx xxxx
LOS by Move:	* * * * * B * * * * *
Movement:	LT - LTR - RT
Shared Cap.:	xxxxxx xxxx xxxx 572 xxxx xxxx xxxx xxxx xxxx xxxx
SharedQueue:	xxxxxx xxxx xxxx 1.6 xxxx xxxx xxxx xxxx xxxx xxxx
Shrd StpDel:	xxxxxx xxxx xxxx xxxx 14.6 xxxx xxxx xxxx xxxx xxxx xxxx
Shared LOS:	* * * * * B * * * * *
ApproachDel:	xxxxxx 14.6 xxxx xxxx xxxx
ApproachLOS:	*

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2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #20 E Cotati Ave/Santero Way

Average Delay (sec/veh): 10.2 Worst Case Level Of Service: F[169.2]

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 0 0 0 1 1 0 1 0 2 0 0			

Volume Module:

Base Vol:	10 0 10 0 0 0 0 860 14 8 702 0
Growth Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:	10 0 10 0 0 0 0 860 14 8 702 0
Added Vol:	87 0 10 0 0 0 0 299 139 17 108 0
PasserByVol:	0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut:	97 0 20 0 0 0 0 1159 153 25 810 0
User Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:	0.71 0.71 0.71 1.00 1.00 1.00 0.83 0.83 0.83 0.83 0.81 0.81
PHF Volume:	137 0 28 0 0 0 0 1396 184 31 1000 0
Reduc Vol:	0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.:	137 0 28 0 0 0 0 1396 184 31 1000 0

Critical Gap Module:

Critical Gp:	6.8 xxxx 6.9 xxxx xxxx xxxx xxxx xxxx xxxx 4.1 xxxx
FollowUpTim:	3.5 xxxx 3.3 xxxx xxxx xxxx xxxx xxxx 2.2 xxxx

Capacity Module:

Cnflict Vol:	2050 xxxx 790 xxxx xxxx xxxx xxxx xxxx xxxx 1581 xxxx
Potent Cap.:	48 xxxx 333 xxxx xxxx xxxx xxxx xxxx 412 xxxx
Move Cap.:	45 xxxx 333 xxxx xxxx xxxx xxxx xxxx 412 xxxx
Total Cap:	132 0 xxxx 720 0 xxxx xxxx xxxx xxxx xxxx
Volume/Cap:	1.03 xxxx 0.08 xxxx xxxx xxxx xxxx xxxx 0.07 xxxx

Level Of Service Module:

Queue:	xxxxxx xxxx xxxx xxxx xxxx xxxx 0.2 xxxx xxxx
Stopped Del:	xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx 14.4 xxxx
LOS by Move:	* * * * * B * * * * *
Movement:	LT - LTR - RT
Shared Cap.:	xxxxxx 148 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
SharedQueue:	9.0 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shrd StpDel:	169 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shared LOS:	* F * * * * * * * *
ApproachDel:	169.2 xxxx * * * *
ApproachLOS:	F * * * *

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2000 HCM 4-Way Stop Method (Future Volume Alternative)

 Intersection #21 Old Redwood Highway/Henry-Charles St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.864
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 28.3
 Optimal Cycle: 0 Level Of Service: D

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

Volume Module:
 Base Vol: 15 271 93 6 332 9 12 15 16 197 12 16
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 15 271 93 6 332 9 12 15 16 197 12 16
 Added Vol: 0 157 29 0 83 0 0 0 0 15 0 0
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 15 428 122 6 415 9 12 15 16 212 12 16
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.93 0.93 0.93 0.87 0.87 0.87 0.83 0.83 0.83 0.84 0.84 0.84
 PHF Volume: 16 460 131 7 477 10 14 18 19 252 14 19
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 16 460 131 7 477 10 14 18 19 252 14 19
 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.: 16 460 131 7 477 10 14 18 19 252 14 19

Saturation Flow Module:
 Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Lanes: 0.03 0.97 1.00 0.01 0.97 0.02 0.28 0.35 0.37 0.88 0.05 0.07
 Final Sat.: 19 533 619 8 561 12 120 150 160 435 25 33

Capacity Analysis Module:
 Vol/Sat: 0.86 0.86 0.21 0.85 0.85 0.85 0.12 0.12 0.12 0.58 0.58 0.58
 Crit Moves: **** * **** * **** * ****
 Delay/Veh: 36.3 36.3 10.0 33.2 33.2 33.2 11.4 11.4 11.4 18.0 18.0 18.0
 Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 36.3 36.3 10.0 33.2 33.2 33.2 11.4 11.4 11.4 18.0 18.0 18.0
 LOS by Move: E E A D D D B B B C C C
 ApproachDel: 30.6 33.2 11.4 18.0
 Delay Adj: 1.00 1.00 1.00 1.00
 ApprAdjDel: 30.6 33.2 11.4 18.0
 LOS by Appr: D D B C

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2000 HCM Operations Method (Future Volume Alternative)

 Intersection #22 Old Redwood Hwy/Myrtle-Valparaiso Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 0.648
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 19.2
 Optimal Cycle: 37 Level Of Service: B

	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Protected	Protected	Permitted	Permitted
Rights:	Include	Include	Include	Include
Min. Green:	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 0 0 1 0	1 0 0 0 1 0

Volume Module:
 Base Vol: 26 320 41 22 557 5 16 29 63 195 41 67
 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: 26 320 41 22 557 5 16 29 63 195 41 67
 Added Vol: 19 180 3 1 95 0 0 0 16 3 1 3
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 45 500 44 23 652 5 16 29 79 198 42 70
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.87 0.87 0.87 0.90 0.90 0.90 0.87 0.87 0.87 0.92 0.92 0.92
 PHF Volume: 52 574 50 26 723 6 18 33 91 214 45 76
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 52 574 50 26 723 6 18 33 91 214 45 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 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Final Vol.: 52 574 50 26 723 6 18 33 91 214 45 76

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.93 0.98 0.83 0.93 0.98 0.83 0.59 0.87 0.87 0.59 0.89 0.89
 Lanes: 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 Sat.: 1769 1862 1583 1769 1862 1583 1127 445 1212 1117 633 1054

Capacity Analysis Module:
 Vol/Sat: 0.03 0.31 0.03 0.01 0.39 0.00 0.02 0.07 0.07 0.19 0.07 0.07
 Crit Moves: **** * **** * **** * ****
 Green/Cycle: 0.05 0.62 0.62 0.03 0.60 0.60 0.30 0.30 0.30 0.30 0.30 0.30
 Volume/Cap: 0.65 0.50 0.05 0.50 0.65 0.01 0.06 0.25 0.25 0.65 0.24 0.24
 Delay/Veh: 64.2 11.0 7.7 55.4 14.5 8.1 25.3 27.1 27.1 35.1 27.0 27.0
 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: 64.2 11.0 7.7 55.4 14.5 8.1 25.3 27.1 27.1 35.1 27.0 27.0
 HCM2kAvg: 3 10 1 2 15 0 1 3 3 10 3 3

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2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 Old Redwood Highway/Commerce Blvd.

Average Delay (sec/veh): 90.9 Worst Case Level Of Service: F[363.0]

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R

Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Rights:	Include	Include	Include	Include
Lanes:	0 0 1 0 1	0 0 0 0 0	0 0 0 0 0	1 0 0 0 1

Volume Module: >> Count Date: 16 Nov 2004 <<
Base Vol: 0 549 635 0 0 0 0 0 0 353 0 74
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 549 635 0 0 0 0 0 0 353 0 74
Added Vol: 0 359 77 0 0 0 0 0 0 77 0 1
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 908 712 0 0 0 0 0 0 430 0 75
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.92 0.92 1.00 1.00 1.00 1.00 1.00 1.00 0.86 0.86 0.86
PHF Volume: 0 985 772 0 0 0 0 0 0 499 0 87
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 0 985 772 0 0 0 0 0 0 499 0 87

Critical Gap Module:

Critical Gp:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 6.4 xxxx 6.3
FollowUpTim:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx 3.5 xxxx 3.3

Capacity Module:

Cnflict Vol:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 985 xxxx 985
Potent Cap.:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 272 xxxx 297
Move Cap.:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 272 xxxx 297
Volume/Cap:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 1.84 xxxx 0.29

Level Of Service Module:

Queue:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 34.0 xxxx 1.2
Stopped Del:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 422.5 xxxx 22.1
LOS by Move: * * * * * * * * * * F * C
Movement: LT - LTR - RT
Shared Cap.:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
SharedQueue:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shrd StpDel:xxxxx xxxx
Shared LOS: * * * * * * * * * * *
ApproachDel:xxxxxx xxxx xxxx xxxx 363.0
ApproachLOS: * * * * * * * * * * *

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Intersection #4 Gravenstein Hwy/Alder Ave

Average Delay (sec/veh): 321.6 Worst Case Level Of Service: F[2834.9]

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R

Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Rights:	Include	Include	Include	Include
Lanes:	0 0 1! 0 0	0 0 0 1! 0 0	0 0 1! 0 0	0 0 0 1 0

Volume Module: >> Count Date: 16 Nov 2004 <<
Base Vol: 1 0 3 7 0 16 2 561 4 0 777 19
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 1 0 3 7 0 16 2 561 4 0 777 19
Added Vol: 0 0 0 141 0 50 27 409 0 0 338 46
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 1 0 3 148 0 66 29 970 4 0 1115 65
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.50 0.50 0.50 0.72 0.72 0.72 0.93 0.93 0.93 0.93 0.95
PHF Volume: 2 0 6 206 0 92 31 1047 4 0 1171 68
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 2 0 6 206 0 92 31 1047 4 0 1171 68

Critical Gap Module:

Critical Gp: 7.1 xxxx 6.2 7.2 xxxx 6.3 4.1 xxxx xxxx xxxx xxxx
FollowUpTim: 3.5 xxxx 3.3 3.5 xxxx 3.3 2.2 xxxx xxxx xxxx xxxx

Capacity Module:

Cnflict Vol: 2363 xxxx 1049 2320 xxxx 1205 1239 xxxx xxxx xxxx xxxx
Potent Cap.: 25 xxxx 279 26 xxxx 221 552 xxxx xxxx xxxx xxxx
Move Cap.: 14 xxxx 279 24 xxxx 221 552 xxxx xxxx xxxx xxxx
Volume/Cap: 0.14 xxxx 0.02 8.54 xxxx 0.42 0.06 xxxx xxxx xxxx xxxx

Level Of Service Module:

Queue:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx 0.2 xxxx xxxx xxxx xxxx
Stopped Del:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx 11.9 xxxx xxxx xxxx xxxx
LOS by Move: * * * * * * * * * * B * * * *
Movement: LT - LTR - RT
Shared Cap.:xxxxx 48 xxxx 43 xxxx xxxx xxxx xxxx xxxx xxxx
SharedQueue:xxxxx 0.5 xxxx xxxx 35.0 xxxx xxxx xxxx xxxx xxxx xxxx
Shrd StpDel:xxxxx 93.7 xxxx xxxx 2835 xxxx xxxx xxxx xxxx xxxx xxxx
Shared LOS: * F * * F * * * * * * * *
ApproachDel: 93.7 2834.9 xxxx xxxx xxxx xxxx
ApproachLOS: F F * *

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Intersection #5 Gravenstein Hwy/W Cotati Ave

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

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	Channel	Include
Lanes:	1 0 0	0 1 0	0 0 0	0 0 0

Volume Module: >> Count Date: 16 Nov 2004 <<		
Base Vol:	3 0 28 0 0 0 601 12 40 787 0	
Growth Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	
Initial Bse:	3 0 28 0 0 0 601 12 40 787 0	
Added Vol:	5 0 16 0 0 0 542 9 23 379 0	
PasserByVol:	0 0 0 0 0 0 0 0 0 0 0	
Initial Fut:	8 0 44 0 0 0 1143 21 63 1166 0	
User Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	
PHF Adj:	0.86 0.86 0.86 1.00 1.00 1.00 0.80 0.80 0.80 0.89 0.89	
PHF Volume:	9 0 51 0 0 0 1429 26 71 1310 0	
Reduc Vol:	0 0 0 0 0 0 0 0 0 0 0	
Final Vol.:	9 0 51 0 0 0 1429 26 71 1310 0	
Critical Gap Module:		
Critical Gp:	6.4 xxxx 6.2 xxxx xxxx xxxx xxxx xxxx xxxx 4.1 xxxx xxxx	
FollowUpTim:	3.5 xxxx 3.3 xxxx xxxx xxxx xxxx xxxx 2.2 xxxx xxxx	
Capacity Module:		
Cnflict Vol:	xxxx xxxx 1429 xxxx xxxx xxxx xxxx xxxx 1429 xxxx xxxx	
Potent Cap.:	0 xxxx 165 xxxx xxxx xxxx xxxx xxxx 467 xxxx xxxx	
Move Cap.:	0 xxxx 165 xxxx xxxx xxxx xxxx xxxx 467 xxxx xxxx	
Volume/Cap:	xxxx xxxx 0.31 xxxx xxxx xxxx xxxx xxxx 0.15 xxxx xxxx	
Level Of Service Module:		
Queue:	2.5 xxxx 1.2 xxxx xxxx xxxx xxxx xxxx 0.5 xxxx xxxx	
Stopped Del:	xxxxxx xxxx 36.2 xxxx xxxx xxxx xxxx xxxx 14.1 xxxx xxxx	
LOS by Move:	F * E * * * * * B *	
Movement:	LT - LTR - RT	
Shared Cap.:	xxxx	
SharedQueue:	xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 0.5 xxxx xxxx	
Shrd StpDel:	xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 14.1 xxxx xxxx	
Shared LOS:	* * * * * * * * * B *	
ApproachDel:	xxxxxx xxxx xxxx xxxx xxxx	
ApproachLOS:	F * * *	

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 2000 HCM Operations Method (Future Volume Alternative)

Intersection #6 Gravenstein Hwy/Redwood Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.996
Loss Time (sec):	6 (Y+R = 4 sec)	Average Delay (sec/veh):	48.9
Optimal Cycle:	180	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:	Permitted	Permitted	Protected	Protected
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
Lanes:	1 0 0 1 0 0 1 0 1 0 1 1 0 1 0 2 0 1			

Volume Module:		
Base Vol:	32 10 85 360 35 96 69 502 19 90 742 286	
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 10 85 360 35 96 69 502 19 90 742 286	
Added Vol:	0 0 0 173 0 32 32 649 0 0 469 143	
PasserByVol:	0 0 0 0 0 0 0 0 0 0 0 0	
Initial Fut:	32 10 85 533 35 128 101 1151 19 90 1211 429	
User Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	
PHF Adj:	0.88 0.88 0.88 0.88 0.88 0.88 0.97 0.97 0.97 0.90 0.90 0.90	
PHF Volume:	36 11 97 606 40 145 104 1187 20 100 1346 477	
Reduc Vol:	0 0 0 0 0 0 0 0 0 0 0 0	
Reduced Vol:	36 11 97 606 40 145 104 1187 20 100 1346 477	
PCE Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	
MLF Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	
Final Vol.:	36 11 97 606 40 145 104 1187 20 100 1346 477	
Saturation Flow Module:		
Sat/Lane:	1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900	
Adjustment:	0.56 0.82 0.82 0.63 0.84 0.84 0.90 0.95 0.95 0.90 0.95 0.81	
Lanes:	1.00 0.10 0.90 1.00 0.21 0.79 1.00 1.97 0.03 1.00 2.00 1.00	
Final Sat.:	1059 164 1395 1202 341 1248 1718 3552 59 1718 3618 1537	
Capacity Analysis Module:		
Vol/Sat:	0.03 0.07 0.07 0.50 0.12 0.12 0.06 0.33 0.33 0.06 0.37 0.31	
Crit Moves:	****	
Green/Cycle:	0.51 0.51 0.51 0.51 0.51 0.51 0.06 0.37 0.37 0.06 0.37 0.37	
Volume/Cap:	0.07 0.14 0.14 1.00 0.23 0.23 1.00 0.90 0.90 0.90 1.00 0.83	
Delay/Veh:	12.7 13.2 13.2 60.1 14.0 14.0 133.7 38.7 38.7 102.6 54.8 38.3	
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:	12.7 13.2 13.2 60.1 14.0 14.0 133.7 38.7 38.7 102.6 54.8 38.3	
HCM2kAvg:	1 2 36 3 3 7 21 21 6 28 16	

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2000 HCM Operations Method (Future Volume Alternative)

 Intersection #7 Gravenstein Hwy/US 101 SB

Cycle (sec): 100 Critical Vol./Cap. (X): 0.751
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 22.6
 Optimal Cycle: 49 Level Of Service: C

	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:	0 0 0 0 0	2 0 0 1 0	0 0 2 0 1	1 0 2 0 0

Volume Module:

	Base Vol.	Growth Adj:	Initial Bse:	Added Vol:	PasserByVol:	Initial Fut:	User Adj:	PHF Adj:	PHF Volume:	Reduc Vol:	Reduced Vol:	PCE Adj:	MLF Adj:	Final Vol.:
Base Vol:	0 0 0	587 0 176	0 693 242	89 862 0										
Growth Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	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 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	0 0 0
Initial Bse:	0 0 0	587 0 176	0 693 242	89 862 0										
Added Vol:	0 0 0	192 0 134	0 508 314	33 478 0										
PasserByVol:	0 0 0	0 0 0	0 0 0	0 0 0										
Initial Fut:	0 0 0	779 0 310	0 1201 556	122 1340 0										
User Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 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 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	0 0 0
PHF Adj:	1.00 1.00 1.00	0.93 0.93 0.93	0.93 0.93 0.93	0.94 0.94 0.94	0.94 0.94 0.94	0.89 0.89 0.89	0.89 0.89 0.89	0.89 0.89 0.89	0.89 0.89 0.89	0.89 0.89 0.89	0.89 0.89 0.89	0.89 0.89 0.89	0.89 0.89 0.89	0 0 0
PHF Volume:	0 0 0	838 0 333	0 1278 591	137 1506 0										
Reduc Vol:	0 0 0	0 0 0	0 0 0	0 0 0										
Reduced Vol:	0 0 0	838 0 333	0 1278 591	137 1506 0										
PCE Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	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 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	0 0 0
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	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 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	0 0 0
Final Vol.:	0 0 0	838 0 333	0 1278 591	137 1506 0										

Saturation Flow Module:

	Sat/Lane:	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900
Adjustment:	1.00 1.00 1.00	0.91 1.00 0.82	1.00 0.95 0.81	0.90 0.95 1.00	0.95 1.00 1.00	0.95 1.00 1.00	0.95 1.00 1.00	0.95 1.00 1.00	0.95 1.00 1.00	0.95 1.00 1.00	0.95 1.00 1.00	0.95 1.00 1.00	0.95 1.00 1.00	0.95 1.00 1.00
Lanes:	0.00 0.00 0.00	2.00 0.00 0.00	1.00 0.00 0.00	2.00 1.00 0.00	2.00 1.00 0.00	2.00 1.00 0.00	2.00 1.00 0.00	2.00 1.00 0.00	2.00 1.00 0.00	2.00 1.00 0.00	2.00 1.00 0.00	2.00 1.00 0.00	2.00 1.00 0.00	2.00 1.00 0.00
Final Sat.:	0 0 0	3471 0 1553	0 3618 1537	0 1718 3618	0									

Capacity Analysis Module:

	Vol/Sat:	0.00 0.00 0.00	0.24 0.00 0.21	0.00 0.35 0.38	0.08 0.42 0.00
Crit Moves:	****	****	****	****	
Green/Cycle:	0.00 0.00 0.00	0.32 0.00 0.32	0.00 0.51 0.51	0.11 0.62 0.00	
Volume/Cap:	0.00 0.00 0.00	0.75 0.00 0.67	0.00 0.69 0.75	0.75 0.67 0.00	
Delay/Veh:	0.0 0.0 0.0	33.2 0.0 32.8	0.0 19.5 23.4	59.3 13.3 0.0	
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	33.2 0.0 32.8	0.0 19.5 23.4	59.3 13.3 0.0	
HCM2kAvg:	0 0 0	14 0 10	0 15 16	6 16 0	

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2000 HCM Operations Method (Future Volume Alternative)

 Intersection #8 Gravenstein Hwy/US 101 NB

Cycle (sec): 100 Critical Vol./Cap. (X): 0.992
 Loss Time (sec): 4 (Y+R = 4 sec) Average Delay (sec/veh): 34.9
 Optimal Cycle: 180 Level Of Service: C

	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	Permitted	Permitted
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 2 0 0	0 0 2 0 0

Volume Module: >> Count Date: 16 Nov 2004 << 4:45 - 5:45 pm

	Base Vol.	Growth Adj:	Initial Bse:	Added Vol:	PasserByVol:	Initial Fut:	User Adj:	PHF Adj:	PHF Volume:	Reduc Vol:	Reduced Vol:	PCE Adj:	MLF Adj:	Final Vol.:
Base Vol:	358 0 172	0 0 0	0 1265 0	0 0 0	0 0 0	0 628 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
Growth Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	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 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	0 0 0
Initial Bse:	358 0 172	0 0 0	0 1265 0	0 0 0	0 0 0	0 628 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
Added Vol:	200 0 30	0 0 0	0 701 0	0 0 0	0 0 0	0 310 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
PasserByVol:	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
Initial Fut:	558 0 202	0 0 0	0 1966 0	0 0 0	0 0 0	0 938 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
User Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	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 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	0 0 0
PHF Adj:	0.86 0.86 0.86	1.00 1.00 1.00	1.00 0.94 0.94	0.94 0.94 0.94	0.94 0.94 0.94	0.91 0.91 0.91	0.91 0.91 0.91	0.91 0.91 0.91	0.91 0.91 0.91	0.91 0.91 0.91	0.91 0.91 0.91	0.91 0.91 0.91	0.91 0.91 0.91	0 0 0
PHF Volume:	649 0 235	0 0 0	0 2091 0	0 0 0	0 0 0	0 1031 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
Reduc Vol:	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
Reduced Vol:	649 0 235	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
PCE Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	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 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
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	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 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
Final Vol.:	649 0 235	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0

Saturation Flow Module:

	Sat/Lane:	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900
Adjustment:	0.91 1.00 0.82	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 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 1.00	1.00 1.00 1.00	1.00 1.00 1.00
Lanes:	1.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
Final Sat.:	1736 0 1553	0 0 0	0 0 0	0 0 0	0 0 0	0 3618 0	0 0 0	0 3618 0	0 0 0	0 3618 0	0 0 0	0 3618 0	0 0 0	0 3618 0

Capacity Analysis Module:

	Vol/Sat:	0.37 0.00 0.15	0.00 0.00 0.00	0.00 0.00 0.58	0.00 0.00 0.28	0.00 0.00 0.00
Crit Moves:	****	****	****	****		
Green/Cycle:	0.38 0.00 0.38	0.00 0.00 0.00	0.00 0.00 0.58	0.00 0.00 0.58		
Volume/Cap:	0.99 0.00 0.40	0.00 0.00 0.00	0.00 0.00 0.99	0.00 0.00 0.99		
Delay/Veh:	64.0 0.0 23.3	0.0 0.0 0.0	0.0 0.0 0.382	0.0 0.0 0.382		
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:	64.0 0.0 23.3	0.0 0.0 0.0	0.0 0.0 0.382	0.0 0.0 0.382		
HCM2kAvg:	28 0 5	0 0 0	0 0 40	0 0 0		

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2000 HCM Operations Method (Future Volume Alternative)

 Intersection #9 Gravenstein Hwy/Old Redwood Hwy

Cycle (sec): 100 Critical Vol./Cap. (X): 0.931
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 41.4
 Optimal Cycle: 120 Level Of Service: D

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Protected	Protected	Split Phase	Split Phase
Rights:	Include	Ignore	Ignore	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	1 0 1 1 0	1 0 1 0 1	1 1 0 0 1	1 0 0 1 0

Volume Module: 5:00 - 6:00 pm

Base Vol:	333	680	42	16	220	185	502	70	790	53	39	37
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:	333	680	42	16	220	185	502	70	790	53	39	37
Added Vol:	276	215	5	1	65	32	239	8	483	3	3	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	609	895	47	17	285	217	741	78	1273	56	42	39
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.92	0.92	0.00	0.94	0.94	0.00	0.95	0.95	0.95
PHF Volume:	669	984	52	18	310	0	788	83	0	59	44	41
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	669	984	52	18	310	0	788	83	0	59	44	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Final Vol.:	669	984	52	18	310	0	788	83	0	59	44	41

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.95	0.95	0.93	0.98	1.00	0.91	0.91	1.00	0.93	0.91	0.91
Lanes:	1.00	1.90	0.10	1.00	1.00	1.00	1.81	0.19	1.00	1.00	0.52	0.48
Final Sat.:	1718	3413	179	1769	1862	1900	3132	330	1900	1769	896	832

Capacity Analysis Module:

Vol/Sat:	0.39	0.29	0.29	0.01	0.17	0.00	0.25	0.25	0.00	0.03	0.05	0.05
Crit Moves:	****	****	****	****	****		****	****		****	****	
Green/Cycle:	0.42	0.58	0.58	0.02	0.18	0.00	0.27	0.27	0.00	0.05	0.05	0.05
Volume/Cap:	0.93	0.50	0.50	0.93	0.00	0.93	0.93	0.00	0.63	0.93	0.93	0.93
Delay/Veh:	46.5	12.8	12.8	58.7	72.5	0.0	51.1	51.1	0.0	59.3	119	118.8
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:	46.5	12.8	12.8	58.7	72.5	0.0	51.1	51.1	0.0	59.3	119	118.8
HCM2kAvg:	25	10	10	1	13	0	18	18	0	3	5	5

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2000 HCM 4-Way Stop Method (Future Volume Alternative)

 Intersection #10 Old Redwood Hwy/William St-George St

Cycle (sec): 100 Critical Vol./Cap. (X): 1.527
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 221.8
 Optimal Cycle: 0 Level Of Service: F

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

Volume Module:

Base Vol:	12	978	6	22	997	49	62	2	26	3	2	23
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	978	6	22	997	49	62	2	26	3	2	23
Added Vol:	0	473	0	0	551	8	5	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	1451	6	22	1548	57	67	2	26	3	2	23
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.97	0.97	0.97	0.80	0.80	0.80	0.78	0.78	0.78
PHF Volume:	12	1481	6	23	1596	59	84	3	33	4	3	29
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	1481	6	23	1596	59	84	3	33	4	3	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	12	1481	6	23	1596	59	84	3	33	4	3	29

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.99	0.01	1.00	1.93	0.07	0.71	0.02	0.27	0.11	0.07	0.82
Final Sat.:	502	1074	4	502	1045	39	360	11	140	54	36	417

Capacity Analysis Module:

Vol/Sat:	0.02	1.38	0.05	1.53	1.52	0.23	0.23	0.23	0.07	0.07	0.07	
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	
Delay/Veh:	10.1	201	200.8	10.2	265	261.9	12.1	12.1	12.1	10.5	10.5	10.5
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.1	201	200.8	10.2	265	261.9	12.1	12.1	12.1	10.5	10.5	10.5
LOS by Move:	B	F	F	B	F	F	B	B	B	B	B	B
ApproachDel:	199.5			261.0			12.1			10.5		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	199.5			261.0			12.1			10.5		
LOS by Appr:	F			F			B			B		

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2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 W Sierra Ave/W School St-US 101 SB Ramp

Average Delay (sec/veh): 3.1 Worst Case Level Of Service: C[20.1]

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	Channel	Include
Lanes:	0 0 0 0	0 0 1! 0	0 1 0 0	1 0 0 1! 0 0

Volume Module:

Base Vol:	0 0 0 21 6 0 1 133 10 102 123 36
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 21 6 0 1 133 10 102 123 36
Added Vol:	0 0 0 2 6 1 1 58 6 57 75 6
PasserByVol:	0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut:	0 0 0 23 12 1 2 191 16 159 198 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 0.84 0.84 0.84 0.82 0.82 0.82 0.88 0.88 0.88
PHF Volume:	0 0 0 27 14 1 2 233 20 181 225 48
Reduc Vol:	0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.:	0 0 0 27 14 1 2 233 20 181 225 48

Critical Gap Module:

Critical Gp:	xxxxxx xxxx 6.4 6.5 6.2 4.1 xxxx xxxx 4.1 xxxx xxxx
FollowUpTim:	xxxxxx xxxx 3.5 4.0 3.3 2.2 xxxx xxxx 2.2 xxxx xxxx

Capacity Module:

Cnflict Vol:	xxxxxx xxxx 858 848 249 273 xxxx xxxx 233 xxxx xxxx
Potent Cap.:	xxxxxx xxxx 327 298 790 1291 xxxx xxxx 1335 xxxx xxxx
Move Cap.:	xxxxxx xxxx 289 253 790 1291 xxxx xxxx 1335 xxxx xxxx
Volume/Cap:	xxxxxx xxxx 0.09 0.06 0.00 0.00 xxxx xxxx 0.14 xxxx xxxx

Level Of Service Module:

Queue:	xxxxxx xxxx xxxx xxxx xxxx xxxx 0.0 xxxx xxxx 0.5 xxxx xxxx
Stopped Del:	xxxxxx xxxx xxxx xxxx xxxx xxxx 7.8 xxxx xxxx 8.1 xxxx xxxx
LOS by Move:	* * * * * * A * * * A * *
Movement:	LT - LTR - RT
Shared Cap.:	xxxxxx xxxx xxxx 281 xxxx xxxx xxxx xxxx xxxx xxxx
SharedQueue:	xxxxxx xxxx xxxx xxxx 0.5 xxxx xxxx 0.0 xxxx xxxx xxxx xxxx
Shrd StpDel:	xxxxxx xxxx xxxx xxxx 20.1 xxxx 7.8 xxxx xxxx xxxx xxxx
Shared LOS:	* * * * * C * A * * * * * * * *
ApproachDel:	xxxxxx 20.1 xxxx xxxx xxxx
ApproachLOS:	* C * * *

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2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #12 W Sierra Ave/US 101 NB Off-ramp

Average Delay (sec/veh): 4.3 Worst Case Level Of Service: B[12.8]

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

Volume Module:

Base Vol:	21 0 201 0 0 0 0 158 0 0 244 0
Growth Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:	21 0 201 0 0 0 0 158 0 0 244 0
Added Vol:	15 0 64 0 0 0 0 60 0 0 124 0
PasserByVol:	0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut:	36 0 265 0 0 0 0 218 0 0 368 0
User Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:	0.84 0.84 0.84 1.00 1.00 1.00 0.90 0.90 0.90 0.88 0.80 0.88
PHF Volume:	43 0 315 0 0 0 0 242 0 0 460 0
Reduc Vol:	0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.:	43 0 315 0 0 0 0 242 0 0 460 0

Critical Gap Module:

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

Capacity Module:

Cnflict Vol:	702 xxxx 242 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Potent Cap.:	404 xxxx 797 xxxx xxxx xxxx xxxx xxxx xxxx
Move Cap.:	404 xxxx 797 xxxx xxxx xxxx xxxx xxxx xxxx
Volume/Cap:	0.11 xxxx 0.40 xxxx xxxx xxxx xxxx xxxx xxxx

Level Of Service Module:

Queue:	0.4 xxxx 1.9 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Stopped Del:	15.0 xxxx 12.5 xxxx xxxx xxxx xxxx xxxx xxxx
LOS by Move:	B * B * * * * * * * *
Movement:	LT - LTR - RT
Shared Cap.:	xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
SharedQueue:	xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shrd StpDel:	xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shared LOS:	* * * * * C * A * * * * * * * *
ApproachDel:	12.8 xxxx xxxx xxxx xxxx
ApproachLOS:	B * * *

PM Peak Hour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

 Intersection #13 W Sierra Ave/E School St

Cycle (sec): 100 Critical Vol./Cap. (X): 0.710
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 15.7
 Optimal Cycle: 0 Level Of Service: C

 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 |-----| |-----| |-----| |-----|
 Control: Stop Sign Stop Sign Stop Sign Stop Sign
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0
 |-----| |-----| |-----| |-----|
 Volume Module:
 Base Vol: 0 0 0 13 0 19 23 369 0 0 303 24
 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 13 0 19 23 369 0 0 303 24
 Added Vol: 0 0 0 14 0 2 3 97 0 0 115 20
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 0 0 0 27 0 21 26 466 0 0 418 44
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.89 0.89 0.89 0.92 0.92 0.92 0.89 0.89 0.89 1.00 1.00 1.00
 PHF Volume: 0 0 0 29 0 23 29 524 0 0 418 44
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 0 0 0 29 0 23 29 524 0 0 418 44
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Final Vol.: 0 0 0 29 0 23 29 524 0 0 418 44
 |-----| |-----| |-----| |-----|
 Saturation Flow Module:
 Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Lanes: 0.00 0.00 0.00 0.56 0.00 0.44 0.05 0.95 0.00 0.00 0.90 0.10
 Final Sat.: 0 0 0 311 0 242 41 737 0 0 698 73
 |-----| |-----| |-----| |-----|
 Capacity Analysis Module:
 Vol/Sat: xxxx xxxx xxxx 0.09 xxxx 0.09 0.71 0.71 xxxx xxxx 0.60 0.60
 Crit Moves: **** **** ****
 Delay/Veh: 0.0 0.0 0.0 9.3 0.0 9.3 17.7 17.7 0.0 0.0 14.1 14.1
 Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 0.0 0.0 0.0 9.3 0.0 9.3 17.7 17.7 0.0 0.0 14.1 14.1
 LOS by Move: * * * A * A C C * * B B
 ApproachDel: xxxxxxxx 9.3 17.7 14.1
 Delay Adj: xxxxxx 1.00 1.00 1.00
 ApprAdjDel: xxxxxx 9.3 17.7 14.1
 LOS by Appr: * A C B

PM Peak Hour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #14 Old Redwood Hwy/E Cotati Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 1.440
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 159.2
 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: Protected Protected Protected Protected
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 1 0 1 1 0 1 0 1 0 1 1 0 1 0 1 1 0
 |-----| |-----| |-----| |-----|
 Volume Module: >> Count Date: 17 Nov 2004 << 4:45 - 5:45 pm
 Base Vol: 17 498 10 432 443 109 87 256 6 16 212 399
 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: 17 498 10 432 443 109 87 256 6 16 212 399
 Added Vol: 0 118 43 332 186 33 22 80 0 45 90 333
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 17 616 53 764 629 142 109 336 6 61 302 732
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.94 0.94 0.94 0.97 0.97 0.97 0.88 0.88 0.88 0.91 0.91 0.91
 PHF Volume: 18 655 56 788 648 146 124 382 7 67 332 804
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 18 655 56 788 648 146 124 382 7 67 332 804
 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.: 18 655 56 788 648 146 124 382 7 67 332 804
 |-----| |-----| |-----| |-----|
 Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.84 0.87 0.87 0.84 0.88 0.75 0.84 0.88 0.88 0.84 0.79 0.79
 Lanes: 1.00 1.84 0.16 1.00 1.00 1.00 1.00 1.96 0.04 1.00 1.00 1.00
 Final Sat.: 1592 3049 262 1592 1676 1424 1592 3283 59 1592 1498 1498
 |-----| |-----| |-----| |-----|
 Capacity Analysis Module:
 Vol/Sat: 0.01 0.21 0.21 0.49 0.39 0.10 0.08 0.12 0.12 0.04 0.22 0.54
 Crit Moves: **** **** ****
 Green/Cycle: 0.01 0.15 0.15 0.34 0.48 0.48 0.05 0.31 0.31 0.11 0.37 0.37
 Volume/Cap: 0.81 1.44 1.44 1.44 0.81 0.21 1.44 0.37 0.37 0.37 0.59 1.44
 Delay/Veh: 154.7 252 251.6 240.9 28.3 15.3 298.9 26.9 26.9 42.3 25.8 236.4
 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: 154.7 252 251.6 240.9 28.3 15.3 298.9 26.9 26.9 42.3 25.8 236.4
 HCM2kAvg: 2 26 26 58 19 3 11 5 5 2 9 56

PM Peak Hour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

 Intersection #15 E Cotati Ave/Charles St

 Average Delay (sec/veh): 20.9 Worst Case Level Of Service: F[204.3]

 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 0 0 0 0 1 0 1 0 1 0 0
 Volume Module:
 Base Vol: 5 0 231 0 0 0 0 687 6 129 561 0
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 5 0 231 0 0 0 0 687 6 129 561 0
 Added Vol: 0 0 29 0 0 0 0 455 0 37 468 0
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 5 0 260 0 0 0 0 1142 6 166 1029 0
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.95 0.95 0.95 1.00 1.00 1.00 0.94 0.94 0.94 0.88 0.88 0.88
 PHF Volume: 5 0 274 0 0 0 0 1215 6 189 1169 0
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Final Vol.: 5 0 274 0 0 0 0 1215 6 189 1169 0
 Critical Gap Module:
 Critical Gp: 6.4 xxxx 6.2 xxxx xxxx xxxx xxxx xxxx xxxx 4.1 xxxx xxxx
 FollowUpTim: 3.5 xxxx 3.3 xxxx xxxx xxxx xxxx xxxx 2.2 xxxx xxxx
 Capacity Module:
 Cnflct Vol: 4930 xxxx 1218 xxxx xxxx xxxx xxxx xxxx 1221 xxxx xxxx
 Potent Cap.: 0 xxxx 220 xxxx xxxx xxxx xxxx xxxx 571 xxxx xxxx
 Move Cap.: 0 xxxx 220 xxxx xxxx xxxx xxxx xxxx 571 xxxx xxxx
 Total Cap: 100 0 xxxx 0 0 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Volume/Cap: 0.05 xxxx 1.24 xxxx xxxx xxxx xxxx xxxx 0.33 xxxx xxxx
 Level Of Service Module:
 Queue: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 1.4 xxxx xxxx
 Stopped Del:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 14.4 xxxx xxxx
 LOS by Move: * * * * * * * * * * B * *
 Movement: LT - LTR - RT
 Shared Cap.: xxxx 216 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 SharedQueue:xxxxx 14.9 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shrd StpDel:xxxxx 204 xxxx
 Shared LOS: * F * * * * * * * * * * * *
 ApproachDel: 204.3 xxxx xxxx xxxx xxxx
 ApproachLOS: F * * *

PM Peak Hour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

 Intersection #16 E Cotati Ave/La Salle Ave

 Cycle (sec): 100 Critical Vol./Cap. (X): 1.648
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 201.6
 Optimal Cycle: 0 Level Of Service: F

 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 Control: Stop Sign Stop Sign Stop Sign Stop Sign
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 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: >> Count Date: 17 Nov 2004 << 4:15 - 5:15 pm
 Base Vol: 143 1 102 5 2 8 2 954 156 61 605 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: 143 1 102 5 2 8 2 954 156 61 605 2
 Added Vol: 8 0 40 0 0 0 0 455 10 43 488 0
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 151 1 142 5 2 8 2 1409 166 104 1093 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: 0.93 0.93 0.93 0.50 0.50 0.50 0.50 0.97 0.97 0.97 0.97 0.96
 PHF Volume: 162 1 153 10 4 16 2 1453 171 108 1139 2
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 162 1 153 10 4 16 2 1453 171 108 1139 2
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Final Vol.: 162 1 153 10 4 16 2 1453 171 108 1139 2
 Saturation Flow Module:
 Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Lanes: 0.51 0.01 0.48 0.33 0.13 0.54 1.00 1.79 0.21 1.00 1.99 0.01
 Final Sat.: 269 2 253 142 57 228 457 881 105 467 997 2
 Capacity Analysis Module:
 Vol/Sat: 0.60 0.60 0.60 0.07 0.07 0.07 0.00 1.65 1.63 0.23 1.14 1.14
 Crit Moves: **** **** *** ***
 Delay/Veh: 19.6 19.6 19.6 11.6 11.6 11.6 10.6 318 310.1 12.7 110 110.1
 Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 19.6 19.6 19.6 11.6 11.6 11.6 10.6 318 310.1 12.7 110 110.1
 LOS by Move: C C C B B B B F F B F F
 ApproachDel: 19.6 11.6 317.2 101.7
 Delay Adj: 1.00 1.00 1.00 1.00
 ApprAdjDel: 19.6 11.6 317.2 101.7
 LOS by Appr: C B F F

PM Peak Hour - Buildout Conditions
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Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #17 E Cotati Ave/Adrian Dr

 Cycle (sec): 100 Critical Vol./Cap. (X): 0.698
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 16.9
 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 Split Phase Protected Protected
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 0 0 1! 0 0 1 0 0 0 1 0 2 0 0 0 0 0 1 1 0
 |-----| |-----| |-----| |-----|
 Volume Module:
 Base Vol: 0 0 0 145 0 133 221 814 0 0 0 644 108
 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
 Initial Bse: 0 0 0 145 0 133 221 814 0 0 0 644 108
 Added Vol: 0 0 0 38 0 14 17 465 0 0 0 499 40
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 0 0 0 183 0 147 238 1279 0 0 0 1143 148
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 1.00 1.00 1.00 0.87 0.87 0.87 0.92 0.92 0.92 0.95 0.95 0.95
 PHF Volume: 0 0 0 210 0 169 259 1390 0 0 0 1203 156
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 0 0 0 210 0 169 259 1390 0 0 0 1203 156
 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 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 1.00
 Final Vol.: 0 0 0 210 0 169 259 1390 0 0 0 1203 156
 |-----| |-----| |-----| |-----|
 Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 1.00 1.00 1.00 0.93 1.00 0.83 0.93 0.93 1.00 1.00 0.92 0.92
 Lanes: 0.00 1.00 0.00 1.00 0.00 1.00 1.00 2.00 0.00 0.00 1.77 0.23
 Final Sat.: 0 1900 0 1769 0 1583 1769 3538 0 0 3079 399
 |-----| |-----| |-----| |-----|

Capacity Analysis Module:

Vol/Sat:	0.00	0.00	0.00	0.12	0.00	0.11	0.15	0.39	0.00	0.00	0.39	0.39
Crit Moves:	****											
Green/Cycle:	0.00	0.00	0.00	0.17	0.00	0.17	0.21	0.77	0.00	0.00	0.56	0.56
Volume/Cap:	0.00	0.00	0.00	0.70	0.00	0.63	0.70	0.51	0.00	0.00	0.70	0.70
Delay/Veh:	0.0	0.0	0.0	46.1	0.0	43.1	42.4	4.5	0.0	0.0	17.0	17.0
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	46.1	0.0	43.1	42.4	4.5	0.0	0.0	17.0	17.0
HCM2kAvg:	0	0	0	8	0	6	9	8	0	0	16	16

PM Peak Hour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #18 E Cotati Ave/Lancaster Dr

 Cycle (sec): 100 Critical Vol./Cap. (X): 0.818
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 21.2
 Optimal Cycle: 62 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: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 1 0 0 1 0 1 0 0 1 0 0 1 0 1 1 0
 |-----| |-----| |-----| |-----|
 Volume Module:
 Base Vol: 162 6 197 3 2 11 18 794 151 152 694 0
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 162 6 197 3 2 11 18 794 151 152 694 0
 Added Vol: 15 0 36 0 0 0 0 0 477 27 40 524 0
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 177 6 233 3 2 11 18 1271 178 192 1218 0
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.89 0.89 0.89 0.50 0.50 0.50 0.87 0.87 0.87 0.93 0.93 0.93
 PHF Volume: 200 7 263 6 4 22 21 1462 205 207 1313 0
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 200 7 263 6 4 22 21 1462 205 207 1313 0
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Final Vol.: 200 7 263 6 4 22 21 1462 205 207 1313 0
 |-----| |-----| |-----| |-----|
 Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.72 0.84 0.83 0.25 0.86 0.85 0.93 0.91 0.91 0.93 0.93 0.95
 Lanes: 1.00 0.02 0.98 1.00 0.15 0.85 1.00 1.75 0.25 1.00 2.00 0.00
 Final Sat.: 1372 39 1529 468 248 1361 1769 3047 427 1769 3538 0
 |-----| |-----| |-----| |-----|
 Capacity Analysis Module:
 Vol/Sat: 0.15 0.17 0.17 0.01 0.02 0.02 0.01 0.48 0.48 0.12 0.37 0.00
 Crit Moves: **** **** ****
 Green/Cycle: 0.21 0.21 0.21 0.21 0.21 0.21 0.02 0.59 0.59 0.14 0.71 0.00
 Volume/Cap: 0.69 0.82 0.82 0.06 0.08 0.08 0.52 0.82 0.82 0.82 0.52 0.00
 Delay/Veh: 43.6 52.4 52.4 31.9 31.8 31.8 60.7 19.1 19.1 60.1 7.0 0.0
 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: 43.6 52.4 52.4 31.9 31.8 31.8 60.7 19.1 19.1 60.1 7.0 0.0
 HCM2kAvg: 9 10 1 1 1 22 22 9 10 0

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 City of Cotati

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

 Intersection #19 E Cotati Ave/Beverly Dr

 Average Delay (sec/veh): 2.0 Worst Case Level Of Service: D[30.9]

 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
 Rights: Include Include Include Include
 Lanes: 0 0 0 0 0 0 1! 0 0 1 0 2 0 0 1 0 1 1 0
 Volume Module:
 Base Vol: 0 0 0 30 0 54 94 834 0 2 747 60
 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 30 0 54 94 834 0 2 747 60
 Added Vol: 0 0 0 35 0 0 513 0 0 564 36
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 0 0 0 65 0 54 94 1347 0 2 1311 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 0.82 0.82 0.82 0.87 0.87 0.87 0.95 0.95 0.95
 PHF Volume: 0 0 0 79 0 66 108 1548 0 2 1380 101
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Final Vol.: 0 0 0 79 0 66 108 1548 0 2 1380 101
 Critical Gap Module:
 Critical Gp:xxxxx xxxx 6.8 xxxx 6.9 4.1 xxxx xxxx 4.1 xxxx xxxx
 FollowUpTim:xxxxx xxxx 3.5 xxxx 3.3 2.2 xxxx xxxx 2.2 xxxx xxxx
 Capacity Module:
 Cnflict Vol:xxxxx xxxx 3417 xxxx 1044 1269 xxxx xxxx 1548 xxxx xxxx
 Potent Cap.:xxxxx xxxx 4 xxxx 160 386 xxxx xxxx 424 xxxx xxxx
 Move Cap.:xxxxx xxxx 3 xxxx 160 386 xxxx xxxx 424 xxxx xxxx
 Total Cap.: 0 464 xxxx 119 501 xxxx xxxx xxxx xxxx xxxx xxxx
 Volume/Cap:xxxxx xxxx 0.67 xxxx 0.41 0.28 xxxx xxxx 0.00 xxxx xxxx
 Level Of Service Module:
 Queue:xxxxx xxxx xxxx xxxx xxxx xxxx 1.1 xxxx xxxx 0.0 xxxx xxxx
 Stopped Del:xxxxx xxxx xxxx xxxx xxxx xxxx 17.9 xxxx xxxx 13.5 xxxx xxxx
 LOS by Move: * * * * * C * * * B * *
 Movement: LT - LTR - RT
 Shared Cap.:xxxxx xxxx xxxx 280 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 SharedQueue:xxxxx xxxx xxxx 2.8 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shrd StpDel:xxxxx xxxx xxxx xxxx 30.9 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shared LOS: * * * * D * * * * * * * * * * * * *
 ApproachDel:xxxxxx 30.9 xxxxxxxx xxxxxxxx
 ApproachLOS: * D * * * * * * * * * * * * * * * *

PM Peak Hour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

 Intersection #20 E Cotati Ave/Santero Way

 Average Delay (sec/veh): 42.8 Worst Case Level Of Service: F[522.5]

 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 0 0 0 1 1 0 1 0 2 0 0
 Volume Module:
 Base Vol: 15 0 6 0 0 0 0 879 13 10 743 0
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 15 0 6 0 0 0 0 879 13 10 743 0
 Added Vol: 153 0 18 0 0 0 0 426 114 14 443 0
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 168 0 24 0 0 0 0 1305 127 24 1186 0
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.75 0.75 0.75 1.00 1.00 1.00 0.88 0.88 0.88 0.97 0.97 0.97
 PHF Volume: 224 0 32 0 0 0 0 1483 144 25 1223 0
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Final Vol.: 224 0 32 0 0 0 0 1483 144 25 1223 0
 Critical Gap Module:
 Critical Gp: 6.8 xxxx 6.9 xxxx xxxx xxxx xxxx xxxx xxxx 4.1 xxxx xxxx
 FollowUpTim: 3.5 xxxx 3.3 xxxx xxxx xxxx xxxx xxxx 2.2 xxxx xxxx
 Capacity Module:
 Cnflict Vol: 2216 xxxx 814 xxxx xxxx xxxx xxxx xxxx xxxx 1627 xxxx xxxx
 Potent Cap.: 37 xxxx 321 xxxx xxxx xxxx xxxx xxxx 395 xxxx xxxx
 Move Cap.: 35 xxxx 321 xxxx xxxx xxxx xxxx xxxx 395 xxxx xxxx
 Total Cap.: 119 0 xxxx 715 0 xxxx xxxx xxxx xxxx xxxx
 Volume/Cap: 1.88 xxxx 0.10 xxxx xxxx xxxx xxxx xxxx 0.06 xxxx xxxx
 Level Of Service Module:
 Queue:xxxxx xxxx xxxx xxxx xxxx xxxx 0.2 xxxx xxxx
 Stopped Del:xxxxx xxxx xxxx xxxx xxxx xxxx 14.7 xxxx xxxx
 LOS by Move: * * * * * * * * * * * * * * * * * *
 Movement: LT - LTR - RT
 Shared Cap.:xxxxx 130 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 SharedQueue:xxxxx 20.5 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shrd StpDel:xxxxx 523 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shared LOS: * F * * * * * * * * * * * * * * * * * *
 ApproachDel: 522.5 xxxxxxxx xxxxxxxx
 ApproachLOS: F * * * * * * * * * * * * * * * *

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2000 HCM 4-Way Stop Method (Future Volume Alternative)

 Intersection #21 Old Redwood Highway/Henry-Charles St.

Cycle (sec): 100 Critical Vol./Cap. (X): 1.249
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 95.1
 Optimal Cycle: 0 Level Of Service: F

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

Volume Module:
 Base Vol: 12 463 182 28 340 23 18 24 22 113 18 28
 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: 12 463 182 28 340 23 18 24 22 113 18 28
 Added Vol: 0 132 29 0 196 0 0 0 0 37 0 0
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 12 595 211 28 536 23 18 24 22 150 18 28
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.92 0.92 0.92 0.91 0.91 0.91 0.73 0.73 0.73 0.72 0.72 0.72
 PHF Volume: 13 647 229 31 589 25 25 33 30 208 25 39
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 13 647 229 31 589 25 25 33 30 208 25 39
 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.: 13 647 229 31 589 25 25 33 30 208 25 39

Saturation Flow Module:
 Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Lanes: 0.02 0.98 1.00 0.05 0.91 0.04 0.28 0.38 0.34 0.77 0.09 0.14
 Final Sat.: 10 518 590 27 510 22 122 162 149 370 44 69

Capacity Analysis Module:
 Vol/Sat: 1.25 1.25 0.39 1.16 1.16 1.16 0.20 0.20 0.20 0.56 0.56 0.56
 Crit Moves: **** * **** * **** * **** * **** * **** *
 Delay/Veh: 149.1 149 12.6 112.2 112 112.2 12.9 12.9 12.9 19.4 19.4 19.4
 Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 149.1 149 12.6 112.2 112 112.2 12.9 12.9 12.9 19.4 19.4 19.4
 LOS by Move: F F B F F B B B C C C
 ApproachDel: 113.9 112.2 12.9 19.4
 Delay Adj: 1.00 1.00 1.00 1.00
 ApprAdjDel: 113.9 112.2 12.9 19.4
 LOS by Appr: F F B C

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2000 HCM Operations Method (Future Volume Alternative)

 Intersection #22 Old Redwood Hwy/Myrtle-Valparaiso Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 0.716
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 18.7
 Optimal Cycle: 44 Level Of Service: B

	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Protected	Protected	Permitted	Permitted
Rights:	Include	Include	Include	Include
Min. Green:	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 0 0 1 0	1 0 0 0 1 0

Volume Module:
 Base Vol: 76 667 208 101 350 13 13 52 24 90 24 45
 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: 76 667 208 101 350 13 13 52 24 90 24 45
 Added Vol: 23 153 3 4 224 0 0 1 25 3 1 2
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 99 820 211 105 574 13 13 53 49 93 25 47
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.90 0.90 0.90 0.88 0.88 0.88 0.86 0.86 0.86 0.86 0.86 0.86
 PHF Volume: 110 911 234 119 652 15 15 62 57 108 29 55
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 110 911 234 119 652 15 15 62 57 108 29 55
 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.: 110 911 234 119 652 15 15 62 57 108 29 55

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.93 0.98 0.83 0.93 0.98 0.83 0.58 0.91 0.90 0.49 0.88 0.87
 Lanes: 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 Sat.: 1769 1862 1583 1769 1862 1583 1107 891 824 931 575 1082

Capacity Analysis Module:
 Vol/Sat: 0.06 0.49 0.15 0.07 0.35 0.01 0.01 0.07 0.07 0.12 0.05 0.05
 Crit Moves: **** * **** * **** * **** * **** * **** *
 Green/Cycle: 0.12 0.68 0.68 0.09 0.66 0.66 0.16 0.16 0.16 0.16 0.16 0.16
 Volume/Cap: 0.53 0.72 0.22 0.72 0.53 0.01 0.08 0.43 0.43 0.72 0.31 0.31
 Delay/Veh: 44.1 11.8 6.0 57.8 9.3 5.8 35.8 38.8 38.8 54.8 37.6 37.6
 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: 44.1 11.8 6.0 57.8 9.3 5.8 35.8 38.8 38.8 54.8 37.6 37.6
 HCM2kAvg: 4 18 3 5 11 0 1 4 4 8 3 2

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2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 Redwood Dr/Helman Ln

Average Delay (sec/veh): 24.1 Worst Case Level Of Service: F[125.5]

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

Volume Module:

Base Vol:	30	326	0	0	436	22	39	0	38	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	30	326	0	0	436	22	39	0	38	0	0	0
Added Vol:	57	74	0	0	76	25	39	0	77	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	87	400	0	0	512	47	78	0	115	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.81	0.81	0.81	0.88	0.88	0.88	0.68	0.68	0.68	1.00	1.00	1.00
PHF Volume:	107	494	0	0	582	53	115	0	169	0	0	0
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	107	494	0	0	582	53	115	0	169	0	0	0

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxx	xxxx	xxxx	xxxx	6.5	xxxx	6.3	xxxx	xxxx	xxxx
FollowUpTim:	2.2	xxxx	xxxx	xxxx	xxxx	xxxx	3.6	xxxx	3.4	xxxx	xxxx	xxxx

Capacity Module:

CnFLICT Vol:	635	xxxx	xxxx	xxxx	xxxx	xxxx	1317	xxxx	609	xxxx	xxxx	xxxx
Potent Cap.:	934	xxxx	xxxx	xxxx	xxxx	xxxx	169	xxxx	486	xxxx	xxxx	xxxx
Move Cap.:	934	xxxx	xxxx	xxxx	xxxx	xxxx	154	xxxx	486	xxxx	xxxx	xxxx
Volume/Cap:	0.12	xxxx	xxxx	xxxx	xxxx	xxxx	0.75	xxxx	0.35	xxxx	xxxx	xxxx

Level Of Service Module:

Queue:	0.4	xxxx										
Stopped Del:	9.4	xxxx										
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT											
Shared Cap.:	xxxx											
SharedQueue:	0.4	xxxx	xxxx	xxxx	xxxx	xxxx	259	xxxx	xxxx	xxxx	xxxx	xxxx
Shrd StpDel:	9.4	xxxx	xxxx	xxxx	xxxx	xxxx	126	xxxx	xxxx	xxxx	xxxx	xxxx
Shared LOS:	A	*	*	*	*	*	F	*	*	*	*	*
ApproachDel:	xxxxxx	xxxxxx	xxxxxx	125.5	xxxxxx							
ApproachLOS:	*	*	*	F	*			*				

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2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Commerce Blvd/Wilford Ln

Average Delay (sec/veh): 1.8 Worst Case Level Of Service: D[26.9]

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

Volume Module:

Base Vol:	0	721	13	74	538	0	0	0	0	14	0	47
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	721	13	74	538	0	0	0	0	14	0	47
Added Vol:	0	71	6	2	75	0	0	0	0	3	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	792	19	76	613	0	0	0	0	17	0	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.92	0.92	0.92	1.00	1.00	1.00	0.76	0.76	0.76
PHF Volume:	0	842	20	83	669	0	0	0	0	22	0	63
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	842	20	83	669	0	0	0	0	22	0	63

Critical Gap Module:

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

Capacity Module:

CnFLICT Vol:	xxxx	xxxx	xxxx	862	xxxx	xxxx	xxxx	xxxx	1687	xxxx	852
Potent Cap.:	xxxx	xxxx	xxxx	768	xxxx	xxxx	xxxx	xxxx	103	xxxx	359
Move Cap.:	xxxx	xxxx	xxxx	768	xxxx	xxxx	xxxx	xxxx	95	xxxx	359
Volume/Cap:	xxxx	xxxx	xxxx	0.11	xxxx	xxxx	xxxx	xxxx	0.24	xxxx	0.18

Level Of Service Module:

Queue:	xxxxxx	xxxxxx	xxxxxx	0.4	xxxx	xxxx	xxxx	xxxx	0.8	xxxx	0.6
Stopped Del:	xxxxxx	xxxxxx	xxxxxx	10.3	xxxx	xxxx	xxxx	xxxx	54.4	xxxx	17.1
LOS by Move:	*	*	*	B	*	*	*	*	F	*	C
Movement:	LT - LTR - RT										
Shared Cap.:	xxxxxx										
SharedQueue:	0.4	xxxxxx									
Shrd StpDel:	9.4	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	126	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Shared LOS:	A	*	*	*	*	*	F	*	*	*	*
ApproachDel:	xxxxxx	xxxxxx	xxxxxx	125.5	xxxxxx						
ApproachLOS:	*	*	*	F	*			*	*	*	D

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2000 HCM Operations Method (Future Volume Alternative)

 Intersection #1 Redwood Dr/Helman Ln

 Cycle (sec): 100 Critical Vol./Cap. (X): 0.419
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 17.5
 Optimal Cycle: 39 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 Split Phase Split Phase
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 1 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0

Volume Module:
 Base Vol: 51 277 0 0 178 27 39 0 37 0 0 0 0
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 51 277 0 0 178 27 39 0 37 0 0 0 0
 Added Vol: 130 54 0 0 52 30 14 0 24 0 0 0 0
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 181 331 0 0 230 57 53 0 61 0 0 0 0
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.81 0.81 0.81 0.88 0.88 0.88 0.68 0.68 0.68 1.00 1.00 1.00 1.00
 PHF Volume: 223 409 0 0 261 65 78 0 90 0 0 0 0
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 223 409 0 0 261 65 78 0 90 0 0 0 0
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 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 1.00
 Final Vol.: 223 409 0 0 261 65 78 0 90 0 0 0 0

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.90 0.95 1.00 1.00 0.93 0.93 0.85 1.00 0.85 1.00 1.00 1.00 1.00
 Lanes: 1.00 1.00 0.00 0.00 0.80 0.20 0.46 0.00 0.54 0.00 0.00 0.00
 Final Sat.: 1718 1809 0 0 1410 350 749 0 862 0 0 0 0

Capacity Analysis Module:
 Vol/Sat: 0.13 0.23 0.00 0.00 0.19 0.19 0.10 0.00 0.10 0.00 0.00 0.00
 Crit Moves: **** * **** * ****
 Green/Cycle: 0.31 0.75 0.00 0.00 0.44 0.44 0.25 0.00 0.25 0.00 0.00 0.00
 Volume/Cap: 0.42 0.30 0.00 0.00 0.42 0.42 0.42 0.00 0.42 0.00 0.00 0.00
 Delay/Veh: 27.9 4.1 0.0 0.0 19.5 19.5 32.3 0.0 32.3 0.0 0.0 0.0
 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: 27.9 4.1 0.0 0.0 19.5 19.5 32.3 0.0 32.3 0.0 0.0 0.0
 HCM2kAvg: 6 4 0 0 7 7 5 0 5 0 0 0

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2000 HCM Unsignalized Method (Future Volume Alternative)

 Intersection #2 Commerce Blvd/Wilford Ln

 Average Delay (sec/veh): 1.6 Worst Case Level Of Service: C [17.1]

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

 Volume Module:
 Base Vol: 0 390 7 37 543 0 0 0 0 0 12 0 0 53
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 0 390 7 37 543 0 0 0 0 0 12 0 0 53
 Added Vol: 0 53 2 1 51 0 0 0 0 0 6 0 0 2
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 0 443 9 38 594 0 0 0 0 0 18 0 0 55
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.80 0.80 0.80 0.90 0.90 0.90 1.00 1.00 1.00 1.00 0.71 0.71 0.71
 PHF Volume: 0 553 11 42 657 0 0 0 0 0 25 0 0 78
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Final Vol.: 0 553 11 42 657 0 0 0 0 0 25 0 0 78
 Critical Gap Module:
 Critical Gp:xxxxx xxxx xxxx 4.1 xxxx xxxx xxxx xxxx xxxx 6.4 xxxx 6.2
 FollowUpTim:xxxxx xxxx xxxx 2.2 xxxx xxxx xxxx xxxx xxxx 3.5 xxxx 3.3

 Capacity Module:
 Cnflct Vol: xxxx xxxx xxxx 565 xxxx xxxx xxxx xxxx xxxx 1301 xxxx 559
 Potent Cap.: xxxx xxxx xxxx 992 xxxx xxxx xxxx xxxx xxxx 178 xxxx 528
 Move Cap.: xxxx xxxx xxxx 992 xxxx xxxx xxxx xxxx xxxx 172 xxxx 528
 Volume/Cap: xxxx xxxx xxxx 0.04 xxxx xxxx xxxx xxxx xxxx 0.15 xxxx 0.15

 Level Of Service Module:
 Queue: xxxx xxxx xxxx 0.1 xxxx xxxx xxxx xxxx xxxx 0.5 xxxx 0.5
 Stopped Del:xxxxx xxxx xxxx 8.8 xxxx xxxx xxxx xxxx xxxx 29.5 xxxx 13.0
 LOS by Move: * * * A * * * * * D * * B
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
 Shared Cap.: xxxx xxxx
 SharedQueue:xxxxx xxxx xxxx
 Shrd StpDel:xxxxx xxxx xxxx
 Shared LOS: * * * * * * * * * * * *
 ApproachDel: xxxxxx xxxxxx xxxxxx 17.1
 ApproachLOS: * * * C

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2000 HCM Operations Method (Future Volume Alternative)

 Intersection #3 Old Redwood Highway/Commerce Blvd.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.840
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 22.1
 Optimal Cycle: 142 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	Split Phase	Split Phase
Rights:	Ignore	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	0 0 1 0 1	0 0 0 0 0	0 0 0 0 0	1 0 0 0 1

Volume Module:
 Base Vol: 0 743 365 0 0 0 0 0 406 0 175
 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: 0 743 365 0 0 0 0 0 406 0 175
 Added Vol: 0 201 55 0 0 0 0 0 55 0 1
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 0 944 420 0 0 0 0 0 461 0 176
 User Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.98 0.98 0.00 1.00 1.00 1.00 1.00 1.00 0.88 0.88 0.88
 PHF Volume: 0 964 0 0 0 0 0 0 527 0 201
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 0 964 0 0 0 0 0 0 527 0 201
 PCE Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Final Vol.: 0 964 0 0 0 0 0 0 527 0 201

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 1.00 0.95 1.00 1.00 1.00 1.00 1.00 1.00 0.90 1.00 0.81
 Lanes: 0.00 1.00 1.00 0.00 0.00 0.00 0.00 0.00 1.00 0.00 1.00
 Final Sat.: 0 1809 1900 0 0 0 0 0 1718 0 1537

Capacity Analysis Module:
 Vol/Sat: 0.00 0.53 0.00 0.00 0.00 0.00 0.00 0.00 0.31 0.00 0.13
 Crit Moves: **** ****
 Green/Cycle: 0.00 0.63 0.00 0.00 0.00 0.00 0.00 0.00 0.37 0.00 0.37
 Volume/Cap: 0.00 0.84 0.00 0.00 0.00 0.00 0.00 0.00 0.84 0.00 0.36
 Delay/Veh: 0.0 12.6 0.0 0.0 0.0 0.0 0.0 0.0 38.9 0.0 23.6
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 0.0 12.6 0.0 0.0 0.0 0.0 0.0 0.0 38.9 0.0 23.6
 HCM2kAvg: 0 19 0 0 0 0 0 0 18 0 5

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2000 HCM Operations Method (Future Volume Alternative)

 Intersection #4 Gravenstein Hwy/Alder Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 0.701
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 8.2
 Optimal Cycle: 62 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:	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 1 0 1

Volume Module:
 Base Vol: 1 0 7 7 0 12 14 611 1 5 607 6
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 1 0 7 7 0 12 14 611 1 5 607 6
 Added Vol: 0 0 0 39 0 16 43 413 0 0 289 74
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 1 0 7 46 0 28 57 1024 1 5 896 80
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.50 0.50 0.50 0.68 0.68 0.68 0.94 0.94 0.94 0.94 0.84 0.84
 PHF Volume: 2 0 14 68 0 41 61 1089 1 6 1067 95
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 2 0 14 68 0 41 61 1089 1 6 1067 95
 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.: 2 0 14 68 0 41 61 1089 1 6 1067 95

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.86 1.00 0.86 0.76 1.00 0.76 0.90 0.95 0.95 0.90 0.95 0.81
 Lanes: 0.13 0.00 0.87 0.62 0.00 0.38 1.00 0.99 0.01 1.00 1.00 1.00
 Final Sat.: 205 0 1433 893 0 544 1718 1807 2 1718 1809 1537

Capacity Analysis Module:
 Vol/Sat: 0.01 0.00 0.01 0.08 0.00 0.08 0.04 0.60 0.60 0.00 0.59 0.06
 Crit Moves: **** ****
 Green/Cycle: 0.11 0.00 0.11 0.11 0.00 0.11 0.05 0.89 0.89 0.01 0.84 0.84
 Volume/Cap: 0.09 0.00 0.09 0.70 0.00 0.70 0.70 0.68 0.68 0.68 0.70 0.07
 Delay/Veh: 40.4 0.0 40.4 56.4 0.0 56.4 69.3 2.8 2.8 170.4 4.6 1.4
 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: 40.4 0.0 40.4 56.4 0.0 56.4 69.3 2.8 2.8 170.4 4.6 1.4
 HCM2kAvg: 0 0 0 5 0 5 3 11 11 1 -15 -0

AM Peakhour - Buildout Conditions(Mitigated)
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City of Cotati

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 Gravenstein Hwy/W Cotati Ave

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: C[18.1]

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 Channel Include
Lanes: 1 0 0 0 1 0 0 0 0 0 0 0 1 1 0 1 0 2 0 0

Volume Module:
Base Vol: 6 0 50 0 0 0 0 639 5 12 626 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 6 0 50 0 0 0 0 639 5 12 626 0
Added Vol: 7 0 17 0 0 0 0 448 4 14 357 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 13 0 67 0 0 0 0 1087 9 26 983 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.86 0.86 0.86 1.00 1.00 1.00 0.80 0.80 0.80 0.89 0.89 0.89
PHF Volume: 15 0 78 0 0 0 0 1359 11 29 1104 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 15 0 78 0 0 0 0 1359 11 29 1104 0

Critical Gap Module:
Critical Gp: 6.8 xxxx 6.9 xxxx xxxx xxxx xxxx xxxx 4.2 xxxx xxxx
FollowUpTim: 3.5 xxxx 3.3 xxxx xxxx xxxx xxxx 2.3 xxxx xxxx

Capacity Module:
Cnflct Vol: 1975 xxxx 679 xxxx xxxx xxxx xxxx xxxx 1359 xxxx xxxx
Potent Cap.: 54 xxxx 394 xxxx xxxx xxxx xxxx 487 xxxx xxxx
Move Cap.: 52 xxxx 394 xxxx xxxx xxxx xxxx xxxx 487 xxxx xxxx
Total Cap: 180 0 xxxxx 658 0 xxxxx xxxx xxxx xxxx xxxx xxxx
Volume/Cap: 0.08 xxxx 0.20 xxxx xxxx xxxx xxxx 0.06 xxxx xxxx

Level Of Service Module:
Queue: 0.3 xxxx 0.7 xxxx xxxx xxxx xxxx xxxx 0.2 xxxx xxxx
Stopped Del: 26.8 xxxx 16.4 xxxx xxxx xxxx xxxx xxxx 12.9 xxxx xxxx
LOS by Move: D * C * * * * * * B * *
Movement: LT - LTR - RT
Shared Cap.: xxxx
SharedQueue:xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shrd StpDel:xxxx xxxx
Shared LOS: *
ApproachDel: 18.1 xxxx xxxx xxxx xxxx
ApproachLOS: C * * * *

AM Peakhour - Buildout Conditions(Mitigated)
Cotati Circulation Improvement Study
City of Cotati

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #6 Gravenstein Hwy/Redwood Dr

Cycle (sec): 100 Critical Vol./Cap. (X): 0.637
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 14.2
Optimal Cycle: 36 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
Lanes: 1 0 0 1 0 1 0 1! 0 0 1 0 1 1 0 1 0 2 0 1

Volume Module:
Base Vol: 41 17 83 188 13 36 73 547 33 69 561 268
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: 41 17 83 188 13 36 73 547 33 69 561 268
Added Vol: 0 0 0 77 0 20 24 487 0 0 419 188
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 41 17 83 265 13 56 97 1034 33 69 980 456
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.88 0.88 0.88 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.87 0.87 0.87
PHF Volume: 47 19 94 282 14 60 103 1100 35 79 1126 524
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 47 19 94 282 14 60 103 1100 35 79 1126 524
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.: 47 19 94 282 14 60 103 1100 35 79 1126 524

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.90 0.83 0.83 0.89 0.89 0.89 0.90 0.95 0.95 0.90 0.95 0.81
Lanes: 1.00 0.17 0.83 1.66 0.06 0.28 1.00 1.94 0.06 1.00 2.00 1.00
Final Sat.: 1718 269 1315 2812 109 472 1718 3488 111 1718 3618 1537

Capacity Analysis Module:
Vol/Sat: 0.03 0.07 0.07 0.10 0.13 0.13 0.06 0.32 0.32 0.05 0.31 0.34
Crit Moves: *** *** ***
Green/Cycle: 0.11 0.11 0.11 0.20 0.20 0.20 0.09 0.55 0.55 0.08 0.53 0.53
Volume/Cap: 0.24 0.64 0.64 0.51 0.64 0.64 0.64 0.57 0.57 0.57 0.58 0.64
Delay/Veh: 41.1 49.9 49.9 36.3 39.2 39.2 51.8 10.6 10.6 47.6 4.1 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: 41.1 49.9 49.9 36.3 39.2 39.2 51.8 10.6 10.6 47.6 4.1 5.5
HCM2kAvg: 2 5 5 5 7 7 4 9 9 3 5 5

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

Intersection #7 Gravenstein Hwy/US 101 SB

Cycle (sec): 100 Critical Vol./Cap. (X): 0.785

Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 15.7

Optimal Cycle: 55 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	0	0	0	0	0	0	0	
Lanes:	0	0	0	0	0	0	2	0	0	1	0	0	0	0	2	0	1	1	0	
Volume Module:																				
Base Vol.:	0	0	0	418	4	218	0	592	203	145	660	0								
Growth Adj.:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Initial Bse:	0	0	0	418	4	218	0	592	203	145	660	0								
Added Vol.:	0	0	0	116	0	150	0	265	299	19	457	0								
PasserByVol.:	0	0	0	0	0	0	0	0	0	0	0	0								
Initial Fut.:	0	0	0	534	4	368	0	857	502	164	1117	0								
User Adj.:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
PHF Adj.:	1.00	1.00	1.00	0.86	0.86	0.86	0.95	0.95	0.95	0.82	0.82	0.82								
PHF Volume:	0	0	0	621	5	428	0	902	528	200	1362	0								
Reduced Vol.:	0	0	0	0	0	0	0	0	0	0	0	0								
Reduced Vol.:	0	0	0	621	5	428	0	902	528	200	1362	0								
PCE Adj.:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
MLF Adj.:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Final Vol.:	0	0	0	621	5	428	0	902	528	200	1362	0								
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900								
Adjustment:	1.00	1.00	1.00	0.82	0.82	0.82	1.00	0.95	0.81	0.90	0.95	1.00								
Lanes:	0.00	0.00	0.00	2.00	0.01	0.99	0.00	2.00	1.00	1.00	2.00	0.00								
Final Sat.:	0	0	0	3113	17	1540	0	3618	1537	1718	3618	0								
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.00	0.00	0.20	0.28	0.28	0.00	0.25	0.34	0.12	0.38	0.00								
Crit Moves:	****																			
Green/Cycle:	0.00	0.00	0.00	0.35	0.35	0.35	0.00	0.44	0.44	0.15	0.59	0.00								
Volume/Cap:	0.00	0.00	0.00	0.56	0.79	0.79	0.00	0.57	0.79	0.79	0.64	0.00								
Delay/Veh:	0.0	0.0	0.0	26.7	36.2	36.2	0.0	10.6	17.6	51.0	1.5	0.0								
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	26.7	36.2	36.2	0.0	10.6	17.6	51.0	1.5	0.0								
HCM2kAvg:	0	0	0	9	14	14	0	7	12	8	3	0								

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

Intersection #8 Gravenstein Hwy/US 101 NB

Cycle (sec): 100 Critical Vol./Cap. (X): 0.650

Loss Time (sec): 4 (Y+R = 4 sec) Average Delay (sec/veh): 8.0

Optimal Cycle: 31 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Split Phase			Split Phase			Permitted			Permitted					
Rights:	Include			Include			Include			Include					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Lanes:	2	0	0	0	1	0	0	0	0	0	0	2	0	0	
Volume Module: 7:30 - 8:30 am															
Base Vol.:	267	0	88	0	0	0	0	1013	0	0	602	0			
Growth Adj.:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Initial Bse:	267	0	88	0	0	0	0	1013	0	0	602	0			
Added Vol.:	257	0	23	0	0	0	0	381	0	0	219	0			
PasserByVol.:	0	0	0	0	0	0	0	0	0	0	0	0			
Initial Fut.:	524	0	111	0	0	0	0	1394	0	0	821	0			
User Adj.:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PHF Adj.:	0.72	0.72	0.72	1.00	1.00	1.00	1.00	0.93	0.93	0.93	0.79	0.79	0.79	0.79	
PHF Volume:	728	0	154	0	0	0	0	1499	0	0	1039	0			
Reduced Vol.:	0	0	0	0	0	0	0	0	0	0	0	0			
Reduced Vol.:	728	0	154	0	0	0	0	1499	0	0	1039	0			
PCE Adj.:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	1.00	1.00	
Final Vol.:	728	0	154	0	0	0	0	1499	0	0	1039	0			
Saturation Flow Module:															
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Adjustment:	0.91	1.00	0.82	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00			
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00			
Final Sat.:	3471	0	1553	0	0	0	0	3618	0	0	3618	0			
Capacity Analysis Module:															
Vol/Sat:	0.21	0.00	0.10	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.29	0.00			
Crit Moves:	****							****							
Green/Cycle:	0.32	0.00	0.32	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.64	0.00			
Volume/Cap:	0.65	0.00	0.31	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.45	0.00			
Delay/Veh:	30.4	0.0	25.8	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.1	0.0			
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:	30.4	0.0	25.8	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.1	0.0			
HCM2kAvg:	11	0	4	0	0	0	0	-2	0	0	-1	0			

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2000 HCM Operations Method (Future Volume Alternative)

 Intersection #9 Gravenstein Hwy/Old Redwood Hwy

Cycle (sec): 100 Critical Vol./Cap. (X): 0.626
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 25.6
 Optimal Cycle: 41 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	Split Phase	Split Phase
Rights:	Include	Ovl	Ignore	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	1 1 0 1 0	1 0 1 0 1	1 1 0 0 1	1 0 0 1 0

Volume Module: 7:30 - 8:30 am

Base Vol:	254	626	9	1	119	265	420	29	604	47	45	31
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:	254	626	9	1	119	265	420	29	604	47	45	31
Added Vol:	190	161	1	0	39	24	98	2	304	4	5	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	444	787	10	1	158	289	518	31	908	51	50	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.90	0.90	0.90	0.91	0.91	0.00	0.81	0.81	0.81
PHF Volume:	472	837	11	1	176	321	569	34	0	63	62	42
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	472	837	11	1	176	321	569	34	0	63	62	42
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Final Vol.:	472	837	11	1	176	321	569	34	0	63	62	42

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.93	0.93	0.98	0.83	0.91	0.91	1.00	0.93	0.92	0.92
Lanes:	1.07	1.91	0.02	1.00	1.00	1.00	1.89	0.11	1.00	1.00	0.60	0.40
Final Sat.:	1905	3376	43	1769	1862	1583	3260	195	1900	1769	1041	708

Capacity Analysis Module:

Vol/Sat:	0.25	0.25	0.25	0.00	0.09	0.20	0.17	0.17	0.00	0.04	0.06	0.06
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green/Cycle:	0.40	0.40	0.40	0.15	0.15	0.43	0.28	0.28	0.00	0.09	0.09	0.09
Volume/Cap:	0.63	0.63	0.63	0.00	0.63	0.47	0.63	0.63	0.00	0.38	0.63	0.63
Delay/Veh:	22.4	22.4	22.4	36.1	44.3	18.1	24.7	24.7	0.0	43.9	50.9	50.9
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:	22.4	22.4	22.4	36.1	44.3	18.1	24.7	24.7	0.0	43.9	50.9	50.9
HCM2kAvg:	10	10	10	0	6	6	8	8	0	2	4	4

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Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #10 Old Redwood Hwy/William St-George St

Cycle (sec): 100 Critical Vol./Cap. (X): 0.418
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 3.9
 Optimal Cycle: 32 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	Permitted	Permitted
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	1 0 1 0	1 0 1 1	0 0 1 0	0 0 1 0

Volume Module:

Base Vol:	11	832	3	4	717	25	47	1	16	5	1	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	832	3	4	717	25	47	1	16	5	1	22
Added Vol:	0	351	0	0	322	3	6	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	1183	3	4	1039	28	53	1	16	5	1	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.95	0.95	0.95	0.84	0.84	0.84	0.70	0.70	0.70
PHF Volume:	12	1272	3	4	1094	29	63	1	19	7	1	31
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	1272	3	4	1094	29	63	1	19	7	1	31
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	12	1272	3	4	1094	29	63	1	19	7	1	31

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.93	0.93	0.98	0.83	0.91	0.91	1.00	0.93	0.92	0.92
Lanes:	1.00	1.99	0.01	1.00	1.95	0.05	0.76	0.01	1.00	0.23	0.18	0.04
Final Sat.:	1769	3529	9	1769	3431	92	1135	21	343	287	57	1263

Capacity Analysis Module:

Vol/Sat:	0.01	0.36	0.36	0.00	0.32	0.32	0.06	0.06	0.06	0.02	0.02	0.02
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green/Cycle:	0.02	0.86	0.86	0.01	0.85	0.85	0.13	0.13	0.13	0.13	0.13	0.13
Volume/Cap:	0.38	0.42	0.42	0.42	0.38	0.38	0.42	0.42	0.42	0.19	0.19	0.19
Delay/Veh:	55.9	1.6	1.6	75.3	1.7	1.7	41.2	41.2	41.2	39.0	39.0	39.0
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:	55.9	1.6	1.6	75.3	1.7	1.7	41.2	41.2	41.2	39.0	39.0	39.0
HCM2kAvg:	1	-4	-4	1	-3	-3	3	3	3	1	1	1

AM Peakhour - Buildout Conditions(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

 Intersection #11 W Sierra Ave/W School St-US 101 SB Ramp

 Average Delay (sec/veh): 3.7 Worst Case Level Of Service: C[23.3]

 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 Channel Include
 Lanes: 0 0 0 0 0 0 1! 0 0 0 1 0 0 1! 0 0
 Volume Module:
 Base Vol: 0 0 0 24 9 1 3 135 4 134 166 21
 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 24 9 1 3 135 4 134 166 21
 Added Vol: 0 0 0 1 3 1 1 48 9 53 24 6
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 0 0 0 25 12 2 4 183 13 187 190 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 0.71 0.71 0.71 0.63 0.63 0.63 0.93 0.93 0.93
 PHF Volume: 0 0 0 35 17 3 6 290 21 201 204 29
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Final Vol.: 0 0 0 35 17 3 6 290 21 201 204 29
 Critical Gap Module:
 Critical Gp:xxxxx xxxx 6.4 6.5 6.2 4.1 xxxx xxxx 4.1 xxxx xxxx
 FollowUpTim:xxxxx xxxx 3.5 4.0 3.3 2.2 xxxx xxxx 2.2 xxxx xxxx
 Capacity Module:
 Cnflict Vol:xxxxx xxxx 934 924 219 233 xxxx xxxx 290 xxxx xxxx
 Potent Cap.:xxxxx xxxx 295 269 821 1334 xxxx xxxx 1271 xxxx xxxx
 Move Cap.:xxxxx xxxx 254 220 821 1334 xxxx xxxx 1271 xxxx xxxx
 Volume/Cap:xxxxx xxxx 0.14 0.08 0.00 0.00 xxxx xxxx 0.16 xxxx xxxx
 Level Of Service Module:
 Queue:xxxxx xxxx xxxx xxxx xxxx xxxx 0.0 xxxx xxxx 0.6 xxxx xxxx
 Stopped Del:xxxxx xxxx xxxx xxxx xxxx xxxx 7.7 xxxx xxxx 8.4 xxxx xxxx
 LOS by Move: * * * * * * A * * * A * *
 Movement: LT - LTR - RT
 Shared Cap.:xxxxx xxxx xxxx 251 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 SharedQueue:xxxxx xxxx xxxx xxxx 0.8 xxxx 0.0 xxxx xxxx xxxx xxxx xxxx
 Shrd StpDel:xxxxx xxxx xxxx xxxx 23.3 xxxx 7.7 xxxx xxxx xxxx xxxx xxxx
 Shared LOS: * * * * C * A * * * * * *
 ApproachDel:xxxxxx 23.3 xxxxxxxx xxxxxxxx
 ApproachLOS: * C * * *

AM Peakhour - Buildout Conditions(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

 Intersection #12 W Sierra Ave/US 101 NB Off-ramp

 Average Delay (sec/veh): 2.1 Worst Case Level Of Service: B[11.3]

 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
 Rights: Include Include Include Include
 Lanes: 1 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 1 0 0
 Volume Module:
 Base Vol: 12 0 85 0 0 0 0 146 0 0 313 0
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 12 0 85 0 0 0 0 146 0 0 313 0
 Added Vol: 8 0 39 0 0 0 0 49 0 0 76 0
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 20 0 124 0 0 0 0 195 0 0 389 0
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.87 0.87 0.87 1.00 1.00 1.00 0.73 0.73 0.73 0.73 0.86 0.86 0.86
 PHF Volume: 23 0 143 0 0 0 0 267 0 0 452 0
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Final Vol.: 23 0 143 0 0 0 0 267 0 0 452 0
 Critical Gap Module:
 Critical Gp: 6.4 xxxx 6.2 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 FollowUpTim: 3.5 xxxx 3.3 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Capacity Module:
 Cnflict Vol: 719 xxxx 267 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Potent Cap.: 395 xxxx 772 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Move Cap.: 395 xxxx 772 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Volume/Cap: 0.06 xxxx 0.18 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Level Of Service Module:
 Queue: 0.2 xxxx 0.7 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Stopped Del: 14.7 xxxx 10.7 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 LOS by Move: B * B * * * * * * * * * *
 Movement: LT - LTR - RT
 Shared Cap.:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 SharedQueue:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shrd StpDel:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shared LOS: * * * * * * * * * * * * *
 ApproachDel: 11.3 xxxxxxxx xxxxxxxx
 ApproachLOS: B * * *

AM Peakhour - Buildout Conditions(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

 Intersection #13 W Sierra Ave/E School St

Cycle (sec): 100 Critical Vol./Cap. (X): 0.600
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 12.3
 Optimal Cycle: 0 Level Of Service: B

 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 |-----| |-----| |-----| |-----|
 Control: Stop Sign Stop Sign Stop Sign Stop Sign
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 0 0 0 0 0 0 1! 0 0 0 1 0 0 0 0 1 0
 |-----| |-----| |-----| |-----|
 Volume Module:
 Base Vol: 0 0 0 18 0 20 15 308 0 0 252 16
 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 18 0 20 15 308 0 0 252 16
 Added Vol: 0 0 0 17 0 3 1 87 0 0 49 8
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 0 0 0 35 0 23 16 395 0 0 301 24
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.90 0.90 0.90 0.86 0.86 0.86 0.86 0.86 0.86 1.00 1.00 1.00
 PHF Volume: 0 0 0 41 0 27 19 459 0 0 301 24
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 0 0 0 41 0 27 19 459 0 0 301 24
 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.: 0 0 0 41 0 27 19 459 0 0 301 24

 Saturation Flow Module:
 Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Lanes: 0.00 0.00 0.00 0.60 0.00 0.40 0.04 0.96 0.00 0.00 0.93 0.07
 Final Sat.: 0 0 0 358 0 235 31 766 0 0 716 57

 Capacity Analysis Module:
 Vol/Sat: xxxx xxxx xxxx 0.11 xxxx 0.11 0.60 0.60 xxxx xxxx 0.42 0.42
 Crit Moves: **** **** ****
 Delay/Veh: 0.0 0.0 0.0 9.1 0.0 9.1 13.8 13.8 0.0 0.0 10.7 10.7
 Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 0.0 0.0 0.0 9.1 0.0 9.1 13.8 13.8 0.0 0.0 10.7 10.7
 LOS by Move: * * * A * A B B * * B B
 ApproachDel: xxxxxxxx 9.1 13.8 10.7
 Delay Adj: xxxxxx 1.00 1.00 1.00
 ApprAdjDel: xxxxxx 9.1 13.8 10.7
 LOS by Appr: * A B B

AM Peakhour - Buildout Conditions(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #14 Old Redwood Hwy/E Cotati Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 0.793
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 32.9
 Optimal Cycle: 64 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: 1 0 1 1 0 2 0 0 1 0 1 1 0 1 0 1 1 0
 |-----| |-----| |-----| |-----|
 Volume Module: 7:30 - 8:30 am
 Base Vol: 8 316 1 324 389 57 93 168 6 19 186 427
 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: 8 316 1 324 389 57 93 168 6 19 186 427
 Added Vol: 0 151 31 235 75 12 29 67 0 18 40 170
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 8 467 32 559 464 69 122 235 6 37 226 597
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.87 0.87 0.87 0.88 0.88 0.88 0.91 0.91 0.91 0.91 0.85 0.85
 PHF Volume: 9 537 37 635 527 78 134 258 7 44 266 702
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 9 537 37 635 527 78 134 258 7 44 266 702
 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.: 9 537 37 635 527 78 134 258 7 44 266 702

 Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.84 0.87 0.87 0.84 0.87 0.87 0.84 0.88 0.88 0.88 0.84 0.79
 Lanes: 1.00 1.87 0.13 2.00 0.87 0.13 1.00 1.95 0.05 1.00 1.00 1.00
 Final Sat.: 1592 3105 213 3184 1431 213 1592 3255 83 1592 1493 1493

 Capacity Analysis Module:
 Vol/Sat: 0.01 0.17 0.17 0.20 0.37 0.37 0.08 0.08 0.08 0.03 0.18 0.47
 Crit Moves: **** **** ****
 Green/Cycle: 0.01 0.22 0.22 0.25 0.46 0.46 0.11 0.33 0.33 0.11 0.34 0.59
 Volume/Cap: 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.24 0.24 0.24 0.52 0.79
 Delay/Veh: 201.0 42.6 42.6 40.1 28.4 28.4 65.7 24.3 24.3 41.0 26.6 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: 201.0 42.6 42.6 40.1 28.4 28.4 65.7 24.3 24.3 41.0 26.6 19.1
 HCM2kAvg: 1 10 10 11 16 16 6 3 3 1 6 14

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AM Peakhour - Buildout Conditions(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

 Intersection #15 E Cotati Ave/Charles St

 Average Delay (sec/veh): 2.7 Worst Case Level Of Service: C[15.4]

 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 0 0 0 0 1 1 0 1 0 2 0 0
 Volume Module:
 Base Vol: 1 0 111 0 0 0 0 490 3 230 615 0
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 1 0 111 0 0 0 0 490 3 230 615 0
 Added Vol: 0 0 29 0 0 0 0 333 0 15 228 0
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 1 0 140 0 0 0 0 823 3 245 843 0
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.82 0.82 0.82 1.00 1.00 1.00 0.82 0.82 0.82 0.88 0.88 0.88
 PHF Volume: 1 0 171 0 0 0 0 1004 4 278 958 0
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Final Vol.: 1 0 171 0 0 0 0 1004 4 278 958 0
 Critical Gap Module:
 Critical Gp: 6.8 xxxx 6.9 xxxx xxxx xxxx xxxx xxxx xxxx 4.1 xxxx xxxx
 FollowUpTim: 3.5 xxxx 3.3 xxxx xxxx xxxx xxxx xxxx 2.2 xxxx xxxx
 Capacity Module:
 Cnflct Vol: 2416 xxxx 504 xxxx xxxx xxxx xxxx xxxx 1007 xxxx xxxx
 Potent Cap.: 23 xxxx 513 xxxx xxxx xxxx xxxx xxxx 684 xxxx xxxx
 Move Cap.: 16 xxxx 513 xxxx xxxx xxxx xxxx xxxx 684 xxxx xxxx
 Total Cap: 178 0 xxxx 0 0 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Volume/Cap: 0.01 xxxx 0.33 xxxx xxxx xxxx xxxx xxxx 0.41 xxxx xxxx
 Level Of Service Module:
 Queue: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 2.0 xxxx xxxx
 Stopped Del:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 13.8 xxxx xxxx
 LOS by Move: * * * * * * * * * * B * *
 Movement: LT - LTR - RT
 Shared Cap.: xxxx 517 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 SharedQueue:xxxx 1.4 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shrd StpDel:xxxx 15.4 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shared LOS: * C * * * * * * * * * * * *
 ApproachDel: 15.4 xxxx xxxx xxxx xxxx
 ApproachLOS: C * * * *

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AM Peakhour - Buildout Conditions(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #16 E Cotati Ave/La Salle Ave

 Cycle (sec): 100 Critical Vol./Cap. (X): 0.535
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 12.7
 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
 Lanes: 0 0 1! 0 0 0 0 0 0 1 0 1 1 0 1 0 1 1 0 1 0 1 1 0
 Volume Module: 7:30 - 8:30 am
 Base Vol: 127 2 51 0 0 3 8 555 87 45 717 3
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 127 2 51 0 0 3 8 555 87 45 717 3
 Added Vol: 8 0 30 0 0 0 0 0 354 6 9 215 0
 PasserByVol: 0
 Initial Fut: 135 2 81 0 0 3 8 909 93 54 932 3
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.88 0.88 0.88 0.50 0.50 0.50 0.50 0.87 0.87 0.87 0.87 0.89
 PHF Volume: 153 2 92 0 0 6 9 1045 107 61 1047 3
 Reduct Vol: 0
 Reduced Vol: 153 2 92 0 0 6 9 1045 107 61 1047 3
 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.: 153 2 92 0 0 6 9 1045 107 61 1047 3
 Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.77 0.77 0.77 1.00 1.00 0.85 0.93 0.92 0.92 0.93 0.93 0.93
 Lanes: 0.62 0.01 0.37 0.00 0.00 1.00 1.00 1.81 0.19 1.00 1.99 0.01
 Final Sat.: 900 13 540 0 0 1611 1769 3165 324 1769 3526 11
 Capacity Analysis Module:
 Vol/Sat: 0.17 0.17 0.17 0.00 0.00 0.00 0.01 0.33 0.33 0.03 0.30 0.30
 Crit Moves: **** ****
 Green/Cycle: 0.32 0.32 0.32 0.00 0.00 0.32 0.01 0.62 0.62 0.06 0.67 0.67
 Volume/Cap: 0.53 0.53 0.53 0.00 0.00 0.01 0.44 0.53 0.53 0.53 0.44 0.44
 Delay/Veh: 29.2 29.2 29.2 0.0 0.0 23.3 63.5 11.2 11.2 50.3 7.9 7.9
 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: 29.2 29.2 29.2 0.0 0.0 23.3 63.5 11.2 11.2 50.3 7.9 7.9
 HCM2kAvg: 8 8 8 0 0 0 1 10 10 3 8 8

AM Peakhour - Buildout Conditions(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #17 E Cotati Ave/Adrian Dr

Cycle (sec): 100 Critical Vol./Cap. (X): 0.624
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 19.4
 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	0 0 0 0
Lanes:	0 0 1! 0 0	1 0 0 0 1	1 0 2 0 0	0 0 1 1 0

Volume Module:
 Base Vol: 0 0 0 173 0 218 98 487 0 0 586 154
 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 0 173 0 218 98 487 0 0 586 154
 Added Vol: 0 0 0 27 0 12 9 368 0 0 208 8
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 0 0 0 200 0 230 107 855 0 0 794 162
 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 0.72 0.72 0.72 0.83 0.83 0.83 0.89 0.89 0.89
 PHF Volume: 0 0 0 278 0 319 129 1030 0 0 892 182
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 0 0 0 278 0 319 129 1030 0 0 892 182
 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.: 0 0 0 278 0 319 129 1030 0 0 892 182

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 1.00 1.00 1.00 0.93 1.00 0.83 0.93 0.93 1.00 1.00 0.91 0.91
 Lanes: 0.00 1.00 0.00 1.00 0.00 1.00 1.00 2.00 0.00 0.00 1.66 0.34
 Final Sat.: 0 1900 0 1769 0 1583 1769 3538 0 0 2865 585

Capacity Analysis Module:

Vol/Sat:	0.00 0.00 0.00 0.16 0.00 0.20 0.07 0.29 0.00 0.00 0.31 0.31
Crit Moves:	**** * *** ***
Green/Cycle:	0.00 0.00 0.00 0.32 0.00 0.32 0.12 0.62 0.00 0.00 0.50 0.50
Volume/Cap:	0.00 0.00 0.00 0.49 0.00 0.62 0.62 0.47 0.00 0.00 0.62 0.62
Delay/Veh:	0.0 0.0 0.0 27.8 0.0 31.0 47.9 10.5 0.0 0.0 18.9 18.9
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 27.8 0.0 31.0 47.9 10.5 0.0 0.0 18.9 18.9
HCM2kAvg:	0 0 0 7 0 9 5 5 0 0 10 10

AM Peakhour - Buildout Conditions(Mitigated)
 Cotati Circulation Improvement Study
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Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #18 E Cotati Ave/Lancaster Dr

Cycle (sec): 100 Critical Vol./Cap. (X): 0.775
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 24.7
 Optimal Cycle: 53 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:	Include	Include	Include	Include
Min. Green:	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
Lanes:	1 0 0 1 0	1 0 0 0 1	0 1 0 1 1	0 1 0 1 1 0

Volume Module: >> Count Date: 17 Nov 2004 <<
 Base Vol: 200 7 281 7 4 5 10 542 98 170 614 3
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 200 7 281 7 4 5 10 542 98 170 614 3
 Added Vol: 26 0 28 0 0 0 0 387 8 7 190 0
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 226 7 309 7 4 5 10 929 106 177 804 3
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.81 0.81 0.81 0.57 0.57 0.57 0.81 0.81 0.81 0.81 0.86 0.86
 PHF Volume: 279 9 381 12 7 9 12 1147 131 206 935 3
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 279 9 381 12 7 9 12 1147 131 206 935 3
 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.: 279 9 381 12 7 9 12 1147 131 206 935 3

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.74 0.84 0.84 0.24 0.90 0.90 0.93 0.92 0.92 0.93 0.93 0.93
 Lanes: 1.00 0.02 0.98 1.00 0.44 0.56 1.00 1.80 0.20 1.00 1.99 0.01
 Final Sat.: 1406 35 1553 462 759 949 1769 3128 357 1769 3521 13

Capacity Analysis Module:
 Vol/Sat: 0.20 0.25 0.25 0.03 0.01 0.01 0.01 0.37 0.37 0.12 0.27 0.27
 Crit Moves: **** * *** ***
 Green/Cycle: 0.32 0.32 0.32 0.32 0.32 0.32 0.02 0.47 0.47 0.15 0.61 0.61
 Volume/Cap: 0.63 0.78 0.78 0.08 0.03 0.03 0.44 0.78 0.78 0.78 0.44 0.44
 Delay/Veh: 31.9 38.3 38.3 24.2 23.6 23.6 59.2 24.3 24.3 54.2 10.6 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: 31.9 38.3 38.3 24.2 23.6 23.6 59.2 24.3 24.3 54.2 10.6 10.6
 HCM2kAvg: 10 13 13 1 0 0 1 16 16 8 5 5

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AM Peakhour - Buildout Conditions(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

 Intersection #19 E Cotati Ave/Beverly Dr

 Average Delay (sec/veh): 1.5 Worst Case Level Of Service: C[16.3]

 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
 Rights: Include Include Include Include
 Lanes: 0 0 0 0 0 0 1! 0 0 1 0 2 0 0 1 0 1 1 0
 Volume Module: >> Count Date: 17 Nov 2004 <<
 Base Vol: 0 0 0 73 0 55 59 721 0 0 0 645 121
 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
 Initial Bse: 0 0 0 73 0 55 59 721 0 0 0 645 121
 Added Vol: 0 0 0 24 0 0 415 0 0 197 6
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 0 0 0 97 0 55 59 1136 0 0 842 127
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 1.00 1.00 1.00 0.76 0.76 0.76 0.81 0.81 0.81 0.81 0.81 0.81 0.81
 PHF Volume: 0 0 0 128 0 72 73 1402 0 0 1040 157
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0
 Final Vol.: 0 0 0 128 0 72 73 1402 0 0 1040 157
 Critical Gap Module:
 Critical Gp:xxxxx xxxx xxxx 6.8 xxxx 6.9 4.1 xxxx xxxx xxxx xxxx xxxx
 FollowUpTim:xxxxx xxxx xxxx 3.5 xxxx 3.3 2.2 xxxx xxxx xxxx xxxx xxxx
 Capacity Module:
 Cnflct Vol: xxxx xxxx xxxx 2391 xxxx 728 1022 xxxx xxxx xxxx xxxx xxxx
 Potent Cap.: xxxx xxxx xxxx 23 xxxx 301 555 xxxx xxxx xxxx xxxx xxxx
 Move Cap.: xxxx xxxx xxxx 21 xxxx 301 555 xxxx xxxx xxxx xxxx xxxx
 Total Cap: 0 605 xxxx 171 639 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Volume/Cap: xxxx xxxx xxxx 0.75 xxxx 0.24 0.13 xxxx xxxx xxxx xxxx xxxx
 Level Of Service Module:
 Queue: xxxx xxxx xxxx xxxx xxxx 0.5 xxxx xxxx xxxx xxxx xxxx
 Stopped Del:xxxxx xxxx xxxx xxxx xxxx 12.5 xxxx xxxx xxxx xxxx xxxx
 LOS by Move: * * * * * B * * * * *
 Movement: LT - LTR - RT
 Shared Cap.: xxxx xxxx xxxx 517 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 SharedQueue:xxxxx xxxx xxxx 1.8 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shrd StpDel:xxxxx xxxx xxxx xxxx 16.3 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shared LOS: * * * * C * * * * * *
 ApproachDel: xxxx 16.3 xxxx xxxx xxxx
 ApproachLOS: * C * * *

AM Buildout

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AM Peakhour - Buildout Conditions(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #20 E Cotati Ave/Santero Way

 Cycle (sec): 100 Critical Vol./Cap. (X): 0.550
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 5.3
 Optimal Cycle: 51 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: Split Phase Split Phase Protected Protected
 Rights: Include Include Include Include
 Min. Green: 0
 Lanes: 1 0 0 0 1 0 0 0 0 0 0 0 1 1 0 1 0 2 0 0
 Volume Module:
 Base Vol: 10 0 10 0 0 0 0 0 860 14 8 702 0
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 10 0 10 0 0 0 0 0 860 14 8 702 0
 Added Vol: 87 0 10 0 0 0 0 0 299 139 17 108 0
 PasserByVol: 0
 Initial Fut: 97 0 20 0 0 0 0 0 1159 153 25 810 0
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.71 0.71 0.71 1.00 1.00 1.00 0.83 0.83 0.83 0.83 0.83 0.83 0.83
 PHF Volume: 137 0 28 0 0 0 0 0 1396 184 31 1000 0
 Reduct Vol: 0
 Reduced Vol: 137 0 28 0 0 0 0 0 1396 184 31 1000 0
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 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 1.00
 Final Vol.: 137 0 28 0 0 0 0 0 1396 184 31 1000 0
 Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.93 1.00 0.83 1.00 1.00 1.00 1.00 0.91 0.91 0.93 0.93 0.93 1.00
 Lanes: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 1.77 0.23 1.00 2.00 0.00
 Final Sat.: 1769 0 1583 0 0 0 0 3069 405 1769 3538 0
 Capacity Analysis Module:
 Vol/Sat: 0.08 0.00 0.02 0.00 0.00 0.00 0.00 0.45 0.45 0.02 0.28 0.00
 Crit Moves: **** *** *** ***
 Green/Cycle: 0.14 0.00 0.14 0.00 0.00 0.00 0.00 0.83 0.83 0.03 0.86 0.00
 Volume/Cap: 0.55 0.00 0.13 0.00 0.00 0.00 0.00 0.55 0.55 0.55 0.33 0.00
 Delay/Veh: 42.6 0.0 37.9 0.0 0.0 0.0 0.0 3.0 3.0 58.8 1.4 0.0
 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: 42.6 0.0 37.9 0.0 0.0 0.0 0.0 3.0 3.0 58.8 1.4 0.0
 HCM2kAvg: 5 0 1 0 0 0 0 8 8 2 3 0

AM Peakhour - Buildout Conditions(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

FHWA Roundabout Method (Future Volume Alternative)

Intersection #21 Old Redwood Highway/Henry-Charles St.

Average Delay (sec/veh): 6.1 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: Yield Sign Yield Sign Yield Sign Yield Sign
 Lanes: 1 1 1 1

Volume Module:

Base Vol:	15	271	93	6	332	9	12	15	16	197	12	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	271	93	6	332	9	12	15	16	197	12	16
Added Vol:	0	157	29	0	83	0	0	0	0	15	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	428	122	6	415	9	12	15	16	212	12	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.87	0.87	0.87	0.83	0.83	0.83	0.84	0.84	0.84
PHF Volume:	16	460	131	7	477	10	14	18	19	252	14	19
Reducet Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	460	131	7	477	10	14	18	19	252	14	19
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.:	16	460	131	7	477	10	14	18	19	252	14	19
PCE Module:												
AutoPCE:	16	460	131	7	477	10	14	18	19	252	14	19
TruckPCE:	0	0	0	0	0	0	0	0	0	0	0	0
ComboPCE:	0	0	0	0	0	0	0	0	0	0	0	0
BicyclePCE:	0	0	0	0	0	0	0	0	0	0	0	0
AdjVolume:	16	460	131	7	477	10	14	18	19	252	14	19
Delay Module: >> Time Period: 0.25 hours <<												
CircVolume:	39	283		736		491						
MaxVolume:	1179		1047		802		935					
PedVolume:	0		0		0		0					
AdjMaxVol:	1179		1047		802		935					
ApproachVol:	608		494		52		286					
ApproachDel:	6.3		6.5		4.8		5.5					
Queue:	3.1		2.6		0.2		1.3					

AM Peakhour - Buildout Conditions(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #22 Old Redwood Hwy/Myrtle-Valparaiso Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 0.648
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 19.2
 Optimal Cycle: 37 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 Permitted Permitted
 Rights: Include Include Include Include
 Min. Green: 0

Lanes: 1 0 1 0 1 0 1 0 1 0 0 0 1 0 1 0 0 0 1 0 1 0 0 1 0

Volume Module:

Base Vol:	26	320	41	22	557	5	16	29	63	195	41	67
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:	26	320	41	22	557	5	16	29	63	195	41	67
Added Vol:	19	180	3	1	95	0	0	0	16	3	1	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	45	500	44	23	652	5	16	29	79	198	42	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92
PHF Volume:	52	574	50	26	723	6	18	33	91	214	45	76
Reducet Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	52	574	50	26	723	6	18	33	91	214	45	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	52	574	50	26	723	6	18	33	91	214	45	76
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.98	0.83	0.59	0.87	0.87	0.59	0.89	0.89
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.38	0.62
Final Sat.:	1769	1862	1583	1769	1862	1583	1127	445	1212	1117	633	1054
Capacity Analysis Module:												
Vol/Sat:	0.03	0.31	0.03	0.01	0.39	0.00	0.02	0.07	0.07	0.19	0.07	0.07
Crit Moves:	****		****							****		
Green/Cycle:	0.05	0.62	0.62	0.03	0.60	0.60	0.30	0.30	0.30	0.30	0.30	0.30
Volume/Cap:	0.65	0.50	0.05	0.50	0.65	0.01	0.06	0.25	0.25	0.65	0.24	0.24
Delay/Veh:	64.2	11.0	7.7	55.4	14.5	8.1	25.3	27.1	27.1	35.1	27.0	27.0
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:	64.2	11.0	7.7	55.4	14.5	8.1	25.3	27.1	27.1	35.1	27.0	27.0
HCM2kAvg:	3	10	1	2	15	0	1	3	3	10	3	3

PM Peak Hour - Buildout Conditions-(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #1 Redwood Dr/Helman Ln

 Cycle (sec): 100 Critical Vol./Cap. (X): 0.595
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 17.1
 Optimal Cycle: 56 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 Split Phase Split Phase
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 1 0 1 0 0 0 0 0 1 0 0 0 0 1 0 0

Volume Module:
 Base Vol: 30 326 0 0 436 22 39 0 38 0 0 0
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 30 326 0 0 436 22 39 0 38 0 0 0
 Added Vol: 57 74 0 0 76 25 39 0 77 0 0 0
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 87 400 0 0 512 47 78 0 115 0 0 0
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.81 0.81 0.81 0.88 0.88 0.88 0.68 0.68 0.68 1.00 1.00 1.00
 PHF Volume: 107 494 0 0 582 53 115 0 169 0 0 0
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 107 494 0 0 582 53 115 0 169 0 0 0
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Final Vol.: 107 494 0 0 582 53 115 0 169 0 0 0

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.90 0.95 1.00 1.00 0.94 0.94 0.84 1.00 0.84 1.00 1.00 1.00
 Lanes: 1.00 1.00 0.00 0.00 0.92 0.08 0.40 0.00 0.60 0.00 0.00 0.00
 Final Sat.: 1718 1809 0 0 1638 150 647 0 954 0 0 0

Capacity Analysis Module:
 Vol/Sat: 0.06 0.27 0.00 0.00 0.36 0.36 0.18 0.00 0.18 0.00 0.00 0.00
 Crit Moves: **** * **** *
 Green/Cycle: 0.11 0.70 0.00 0.00 0.60 0.60 0.30 0.00 0.30 0.00 0.00 0.00
 Volume/Cap: 0.59 0.39 0.00 0.00 0.59 0.59 0.59 0.00 0.59 0.00 0.00 0.00
 Delay/Veh: 48.0 6.3 0.0 0.0 13.5 13.5 32.0 0.0 32.0 0.0 0.0 0.0
 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: 48.0 6.3 0.0 0.0 13.5 13.5 32.0 0.0 32.0 0.0 0.0 0.0
 HCM2kAvg: 4 6 0 0 12 12 8 0 8 0 0 0

PM Peak Hour - Buildout Conditions-(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Unsigned Method (Future Volume Alternative)

 Intersection #2 Commerce Blvd/Wilford Ln

 Average Delay (sec/veh): 1.8 Worst Case Level Of Service: D [26.9]

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

 Volume Module:
 Base Vol: 0 721 13 74 538 0 0 0 0 14 0 0 47
 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: 0 721 13 74 538 0 0 0 0 14 0 0 47
 Added Vol: 0 71 6 2 75 0 0 0 0 3 0 1 1
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 0 792 19 76 613 0 0 0 0 17 0 48
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.94 0.94 0.94 0.94 0.92 0.92 0.92 1.00 1.00 1.00 1.00 0.76
 PHF Volume: 0 842 20 83 669 0 0 0 0 22 0 63
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Final Vol.: 0 842 20 83 669 0 0 0 0 22 0 63
 Critical Gap Module:
 Critical Gp:xxxxx xxxx xxxx 4.1 xxxx xxxx xxxx xxxx xxxx 6.4 xxxx 6.2
 FollowUpTim:xxxxx xxxx xxxx 2.2 xxxx xxxx xxxx xxxx xxxx 3.5 xxxx 3.3

 Capacity Module:
 Cnflct Vol: xxxx xxxx xxxx 862 xxxx xxxx xxxx xxxx xxxx 1687 xxxx 852
 Potent Cap.: xxxx xxxx xxxx 768 xxxx xxxx xxxx xxxx xxxx 103 xxxx 359
 Move Cap.: xxxx xxxx xxxx 768 xxxx xxxx xxxx xxxx xxxx 95 xxxx 359
 Volume/Cap: xxxx xxxx xxxx 0.11 xxxx xxxx xxxx xxxx xxxx 0.24 xxxx 0.18

 Level Of Service Module:
 Queue: xxxx xxxx xxxx 0.4 xxxx xxxx xxxx xxxx xxxx 0.8 xxxx 0.6
 Stopped Del:xxxxx xxxx xxxx 10.3 xxxx xxxx xxxx xxxx xxxx 54.4 xxxx 17.1
 LOS by Move: * * * B * * * * * F * * C
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
 Shared Cap.: xxxx xxxx
 SharedQueue:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shrd StpDel:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shared LOS: * * * * * * * * * * * * * *
 ApproachDel: xxxxxxxx xxxxxxxx xxxxxxxx 26.9
 ApproachLOS: * * * D

PM Peak Hour - Buildout Conditions-(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #3 Old Redwood Highway/Commerce Blvd.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.835
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 20.9
 Optimal Cycle: 138 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	Split Phase	Split Phase
Rights:	Ignore	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	0 0 1 0 1	0 0 0 0 0	0 0 0 0 0	1 0 0 0 1

Volume Module: >> Count Date: 16 Nov 2004 <<

Base Vol:	0	549	635	0	0	0	0	0	353	0	74
Growth Adj:	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	549	635	0	0	0	0	0	353	0	74
Added Vol:	0	359	77	0	0	0	0	0	77	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	908	712	0	0	0	0	0	430	0	75
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
PHF Volume:	0	985	0	0	0	0	0	0	499	0	87
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	985	0	0	0	0	0	0	499	0	87
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	985	0	0	0	0	0	0	499	0	87

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	0.81
Lanes:	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00
Final Sat.:	0	1809	1900	0	0	0	0	0	1718	0	1537

Capacity Analysis Module:

Vol/Sat:	0.00	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.06
Crit Moves:	****								****		
Green/Cycle:	0.00	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.35
Volume/Cap:	0.00	0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.84	0.00	0.16
Delay/Veh:	0.0	11.1	0.0	0.0	0.0	0.0	0.0	0.0	39.9	0.0	22.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	11.1	0.0	0.0	0.0	0.0	0.0	0.0	39.9	0.0	22.7
HCM2kAvg:	0	17	0	0	0	0	0	0	17	0	2

PM Peak Hour - Buildout Conditions-(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #4 Gravenstein Hwy/Alder Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 0.883
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 20.4
 Optimal Cycle: 158 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:	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 0 1	1 0 1 0 1

Volume Module: >> Count Date: 16 Nov 2004 <<

Base Vol:	1	0	3	7	0	16	2	561	4	0	777	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	0	3	7	0	16	2	561	4	0	777	19
Added Vol:	0	0	0	141	0	50	27	409	0	0	338	46
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	0	3	148	0	66	29	970	4	0	1115	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.50	0.50	0.50	0.72	0.72	0.72	0.93	0.93	0.93	0.95	0.95	0.95
PHF Volume:	2	0	6	206	0	92	31	1047	4	0	1171	68
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	0	6	206	0	92	31	1047	4	0	1171	68
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.:	2	0	6	206	0	92	31	1047	4	0	1171	68

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.86	1.00	0.86	1.00	0.72	1.00	0.72	0.90	0.95	0.95	1.00	0.95
Lanes:	0.25	0.00	0.75	0.69	0.00	0.31	1.00	0.99	0.01	1.00	1.00	1.00
Final Sat.:	407	0	1222	949	0	423	1718	1800	7	1900	1809	1537

Capacity Analysis Module:

Vol/Sat:	0.00	0.00	0.00	0.22	0.00	0.22	0.02	0.58	0.58	0.00	0.65	0.04
Crit Moves:	****			****			****			****		
Green/Cycle:	0.25	0.00	0.25	0.00	0.25	0.02	0.75	0.75	0.00	0.73	0.73	0.73
Volume/Cap:	0.02	0.00	0.02	0.88	0.00	0.88	0.88	0.77	0.77	0.00	0.88	0.06
Delay/Veh:	28.6	0.0	28.6	59.1	0.0	59.1	153.0	10.0	10.0	0.0	17.3	3.7
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:	28.6	0.0	28.6	59.1	0.0	59.1	153.0	10.0	10.0	0.0	17.3	3.7
HCM2kAvg:	0	0	0	12	0	12	3	20	20	0	11	0

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2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 Gravenstein Hwy/W Cotati Ave

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: C[18.3]

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 Channel Include
 Lanes: 1 0 0 0 1 0 0 0 0 0 0 0 1 1 0 1 0 2 0 0

Volume Module: >> Count Date: 16 Nov 2004 <<
 Base Vol: 3 0 28 0 0 0 0 601 12 40 787 0
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 3 0 28 0 0 0 0 601 12 40 787 0
 Added Vol: 5 0 16 0 0 0 0 542 9 23 379 0
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 8 0 44 0 0 0 0 1143 21 63 1166 0
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.86 0.86 0.86 1.00 1.00 1.00 0.80 0.80 0.80 0.89 0.89 0.89
 PHF Volume: 9 0 51 0 0 0 0 1429 26 71 1310 0
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Final Vol.: 9 0 51 0 0 0 0 1429 26 71 1310 0

Critical Gap Module:
 Critical Gp: 6.8 xxxx 6.9 xxxx xxxx xxxx xxxx xxxx xxxx 4.2 xxxx xxxx

FollowUpTim: 3.5 xxxx 3.3 xxxx xxxx xxxx xxxx xxxx 2.3 xxxx xxxx

Capacity Module:
 Cnflict Vol: 2239 xxxx 714 xxxx xxxx xxxx xxxx xxxx 1429 xxxx xxxx
 Potent Cap.: 36 xxxx 374 xxxx xxxx xxxx xxxx xxxx 457 xxxx xxxx
 Move Cap.: 32 xxxx 374 xxxx xxxx xxxx xxxx xxxx 457 xxxx xxxx
 Total Cap: 154 0 xxxx 669 0 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Volume/Cap: 0.06 xxxx 0.14 xxxx xxxx xxxx xxxx xxxx 0.15 xxxx xxxx

Level Of Service Module:
 Queue: 0.2 xxxx 0.5 xxxx xxxx xxxx xxxx xxxx 0.5 xxxx xxxx
 Stopped Del: 29.8 xxxx 16.2 xxxx xxxx xxxx xxxx xxxx 14.3 xxxx xxxx
 LOS by Move: D * C * * * * * * B * *
 Movement: LT - LTR - RT
 Shared Cap.: xxxx
 SharedQueue:xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shrd StpDel:xxxx xxxx
 Shared LOS: *
 ApproachDel: 18.3 xxxx xxxx xxxx xxxx
 ApproachLOS: C * * * * *

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PM Peak Hour - Buildout Conditions-(Mitigated)
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Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #6 Gravenstein Hwy/Redwood Dr

Cycle (sec): 100 Critical Vol./Cap. (X): 0.840
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 25.1
 Optimal Cycle: 68 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 Include Include Include
 Min. Green: 0
 Lanes: 1 0 0 1 0 1 0 1 0 1 0 1 1 0 1 0 2 0 0 1

Volume Module:
 Base Vol: 32 10 85 360 35 96 69 502 19 90 742 286
 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 10 85 360 35 96 69 502 19 90 742 286
 Added Vol: 0 0 0 173 0 32 32 649 0 0 469 143
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 32 10 85 533 35 128 101 1151 19 90 1211 429
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.88 0.88 0.88 0.88 0.88 0.88 0.97 0.97 0.97 0.97 0.90 0.90
 PHF Volume: 36 11 97 606 40 145 104 1187 20 100 1346 477
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 36 11 97 606 40 145 104 1187 20 100 1346 477
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Final Vol.: 36 11 97 606 40 145 104 1187 20 100 1346 477

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.90 0.82 0.82 0.89 0.89 0.89 0.90 0.95 0.95 0.90 0.95 0.81
 Lanes: 1.00 0.11 0.89 1.62 0.08 0.30 1.00 1.97 0.03 1.00 2.00 1.00
 Final Sat.: 1718 165 1402 2744 138 505 1718 3552 59 1718 3618 1537

Capacity Analysis Module:
 Vol/Sat: 0.02 0.07 0.07 0.22 0.29 0.29 0.06 0.33 0.33 0.06 0.37 0.31
 Crit Moves: **** **** ****
 Green/Cycle: 0.08 0.08 0.08 0.34 0.34 0.34 0.07 0.44 0.44 0.08 0.44 0.44
 Volume/Cap: 0.26 0.84 0.84 0.64 0.84 0.84 0.84 0.76 0.76 0.76 0.84 0.70
 Delay/Veh: 44.0 81.6 81.6 28.9 37.1 37.1 83.2 22.4 22.4 65.5 15.8 13.8
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 44.0 81.6 81.6 28.9 37.1 37.1 83.2 22.4 22.4 65.5 15.8 13.8
 HCM2kAvg: 1 6 6 11 17 17 6 15 15 5 17 9

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

Intersection #8 Gravenstein Hwy/US 101 NB

Cycle (sec): 100 Critical Vol./Cap. (X): 0.797
Loss Time (sec): 4 (Y+R = 4 sec) Average Delay (sec/veh): 9.9
Optimal Cycle: 49 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	L - T - R	L - T - R					
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2	0	0	1	0	0	0	0	0	0	2	0
Volume Module: >> Count Date: 16 Nov 2004 << 4:45 - 5:45 pm												
Base Vol.: 358 0 172 0 0 0 0 0 1265 0 0 628 0												
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00												
Initial Bse: 358 0 172 0 0 0 0 0 1265 0 0 628 0												
Added Vol.: 200 0 30 0 0 0 0 0 701 0 0 310 0												
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0												
Initial Fut: 558 0 202 0 0 0 0 0 1966 0 0 938 0												
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00												
PHF Adj: 0.86 0.86 0.86 1.00 1.00 1.00 0.94 0.94 0.94 0.94 0.91 0.91 0.91												
PHF Volume: 649 0 235 0 0 0 0 0 2091 0 0 1031 0												
Reducet Vol.: 0 0 0 0 0 0 0 0 0 0 0 0 0												
Reduced Vol.: 649 0 235 0 0 0 0 0 2091 0 0 1031 0												
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 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 1.00												
Final Vol.: 649 0 235 0 0 0 0 0 2091 0 0 1031 0												
Saturation Flow Module:												
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900												
Adjustment: 0.91 1.00 0.82 1.00 1.00 1.00 1.00 1.00 0.95 1.00 1.00 0.95 1.00												
Lanes: 2.00 0.00 1.00 0.00 0.00 0.00 0.00 2.00 0.00 0.00 2.00 0.00 0.00												
Final Sat.: 3471 0 1553 0 0 0 0 3618 0 0 3618 0 0												
Capacity Analysis Module:												
Vol/Sat: 0.19 0.00 0.15 0.00 0.00 0.00 0.00 0.00 0.58 0.00 0.00 0.28 0.00												
Crit Moves: **** ****												
Green/Cycle: 0.23 0.00 0.23 0.00 0.00 0.00 0.00 0.73 0.00 0.00 0.00 0.73 0.00												
Volume/Cap: 0.80 0.00 0.64 0.00 0.00 0.00 0.00 0.80 0.00 0.00 0.00 0.39 0.00												
Delay/Veh: 41.6 0.0 38.5 0.0 0.0 0.0 0.0 1.8 0.0 0.0 0.0 0.1 0.0												
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 1.00												
AdjDel/Veh: 41.6 0.0 38.5 0.0 0.0 0.0 0.0 1.8 0.0 0.0 0.0 0.1 0.0												
HCM2kAvg: 12 0 8 0 0 0 0 -164 0 0 0 -5 0												

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2000 HCM Operations Method (Future Volume Alternative)

 Intersection #9 Gravenstein Hwy/Old Redwood Hwy

Cycle (sec): 100 Critical Vol./Cap. (X): 0.857
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 34.0
 Optimal Cycle: 81 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	Split Phase	Split Phase
Rights:	Include	Ovl	Ignore	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	1 1 0 1 0	1 0 1 0 1	1 1 0 0 1	1 0 0 1 0

Volume Module: 5:00 - 6:00 pm

Base Vol:	333	680	42	16	220	185	502	70	790	53	39	37
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:	333	680	42	16	220	185	502	70	790	53	39	37
Added Vol:	276	215	5	1	65	32	239	8	483	3	3	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	609	895	47	17	285	217	741	78	1273	56	42	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.00	0.95	0.95	0.95
PHF Volume:	669	984	52	18	310	236	788	83	0	59	44	41
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	669	984	52	18	310	236	788	83	0	59	44	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	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.:	669	984	52	18	310	236	788	83	0	59	44	41

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.93	0.93	0.98	0.83	0.91	0.91	1.00	0.93	0.91	0.91
Lanes:	1.18	1.73	0.09	1.00	1.00	1.00	1.81	0.19	1.00	1.00	0.52	0.48
Final Sat.:	2082	3060	161	1769	1862	1583	3132	330	1900	1769	896	832

Capacity Analysis Module:

Vol/Sat:	0.32	0.32	0.32	0.01	0.17	0.15	0.25	0.25	0.00	0.03	0.05	0.05
Crit Moves:	****	****	****				****	****				
Green/Cycle:	0.37	0.37	0.37	0.19	0.19	0.49	0.29	0.29	0.00	0.06	0.06	0.06
Volume/Cap:	0.86	0.86	0.86	0.05	0.86	0.31	0.86	0.86	0.00	0.58	0.86	0.86
Delay/Veh:	30.5	30.5	30.5	32.9	57.0	12.3	31.5	31.5	0.0	54.0	94.8	94.8
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:	30.5	30.5	30.5	32.9	57.0	12.3	31.5	31.5	0.0	54.0	94.8	94.8
HCM2kAvg:	18	18	18	0	12	3	15	15	0	3	5	5

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2000 HCM Operations Method (Future Volume Alternative)

 Intersection #10 Old Redwood Hwy/William St-George St

Cycle (sec): 100 Critical Vol./Cap. (X): 0.557
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 5.0
 Optimal Cycle: 42 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	Permitted	Permitted
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	1 0 1 0	1 0 1 1	0 0 1 0	0 0 1 0

Volume Module:

Base Vol:	12	978	6	22	997	49	62	2	26	3	2	23
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	978	6	22	997	49	62	2	26	3	2	23
Added Vol:	0	473	0	0	551	8	5	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	1451	6	22	1548	57	67	2	26	3	2	23
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.97	0.97	0.97	0.80	0.80	0.80	0.78	0.78	0.78
PHF Volume:	12	1481	6	23	1596	59	84	3	33	4	3	29
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	1481	6	23	1596	59	84	3	33	4	3	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	12	1481	6	23	1596	59	84	3	33	4	3	29

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.78	0.78	0.86
Lanes:	1.00	1.99	0.01	1.00	1.93	0.07	0.71	0.02	0.27	0.11	0.07	0.82
Final Sat.:	1769	3520	15	1769	3395	125	1047	31	406	175	116	1338

Capacity Analysis Module:

Vol/Sat:	0.01	0.42	0.42	0.01	0.47	0.47	0.08	0.08	0.08	0.02	0.02	0.02
Crit Moves:	****	****	****				****	****				
Green/Cycle:	0.01	0.83	0.83	0.03	0.84	0.84	0.14	0.14	0.14	0.14	0.14	0.14
Volume/Cap:	0.56	0.51	0.51	0.51	0.56	0.56	0.56	0.56	0.56	0.15	0.15	0.15
Delay/Veh:	77.2	2.6	2.6	57.2	2.5	2.5	43.1	43.1	43.1	37.8	37.8	37.8
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:	77.2	2.6	2.6	57.2	2.5	2.5	43.1	43.1	43.1	37.8	37.8	37.8
HCM2kAvg:	1	-4	-4	1	-6	-6	5	5	5	1	1	1

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2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 W Sierra Ave/W School St-US 101 SB Ramp

Average Delay (sec/veh): 3.1 Worst Case Level Of Service: C[20.1]

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	Channel	Include
Lanes:	0 0 0 0	0 0 1! 0	0 1 0 0	1 0 0 1! 0 0

Volume Module:

Base Vol:	0 0 0 21 6 0 1 133 10 102 123 36
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 21 6 0 1 133 10 102 123 36
Added Vol:	0 0 0 2 6 1 1 58 6 57 75 6
PasserByVol:	0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut:	0 0 0 23 12 1 2 191 16 159 198 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 0.84 0.84 0.84 0.82 0.82 0.82 0.88 0.88 0.88
PHF Volume:	0 0 0 27 14 1 2 233 20 181 225 48
Reduc Vol:	0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.:	0 0 0 27 14 1 2 233 20 181 225 48

Critical Gap Module:

Critical Gp:	xxxxxx xxxx 6.4 6.5 6.2 4.1 xxxx xxxx 4.1 xxxx xxxx
FollowUpTim:	xxxxxx xxxx 3.5 4.0 3.3 2.2 xxxx xxxx 2.2 xxxx xxxx

Capacity Module:

Cnflict Vol:	xxxxxx xxxx 858 848 249 273 xxxx xxxx 233 xxxx xxxx
Potent Cap.:	xxxxxx xxxx 327 298 790 1291 xxxx xxxx 1335 xxxx xxxx
Move Cap.:	xxxxxx xxxx 289 253 790 1291 xxxx xxxx 1335 xxxx xxxx
Volume/Cap:	xxxxxx xxxx 0.09 0.06 0.00 0.00 xxxx xxxx 0.14 xxxx xxxx

Level Of Service Module:

Queue:	xxxxxx xxxx xxxx xxxx xxxx xxxx 0.0 xxxx xxxx 0.5 xxxx xxxx
Stopped Del:	xxxxxx xxxx xxxx xxxx xxxx xxxx 7.8 xxxx xxxx 8.1 xxxx xxxx
LOS by Move:	* * * * * * A * * * A * *
Movement:	LT - LTR - RT
Shared Cap.:	xxxxxx xxxx xxxx 281 xxxx xxxx xxxx xxxx xxxx xxxx
SharedQueue:	xxxxxx xxxx xxxx xxxx 0.5 xxxx xxxx 0.0 xxxx xxxx xxxx xxxx
Shrd StpDel:	xxxxxx xxxx xxxx xxxx 20.1 xxxx 7.8 xxxx xxxx xxxx xxxx
Shared LOS:	* * * * * C * A * * * * * * * *
ApproachDel:	xxxxxx 20.1 xxxx xxxx xxxx
ApproachLOS:	* C * * *

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2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #12 W Sierra Ave/US 101 NB Off-ramp

Average Delay (sec/veh): 4.3 Worst Case Level Of Service: B[12.8]

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

Volume Module:

Base Vol:	21 0 201 0 0 0 0 158 0 0 244 0
Growth Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:	21 0 201 0 0 0 0 158 0 0 244 0
Added Vol:	15 0 64 0 0 0 0 60 0 0 124 0
PasserByVol:	0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut:	36 0 265 0 0 0 0 218 0 0 368 0
User Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:	0.84 0.84 0.84 1.00 1.00 1.00 0.90 0.90 0.90 0.88 0.80 0.88
PHF Volume:	43 0 315 0 0 0 0 242 0 0 460 0
Reduc Vol:	0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.:	43 0 315 0 0 0 0 242 0 0 460 0

Critical Gap Module:

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

Capacity Module:

Cnflict Vol:	702 xxxx 242 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Potent Cap.:	404 xxxx 797 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Move Cap.:	404 xxxx 797 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Volume/Cap:	0.11 xxxx 0.40 xxxx xxxx xxxx xxxx xxxx xxxx xxxx

Level Of Service Module:

Queue:	0.4 xxxx 1.9 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Stopped Del:	15.0 xxxx 12.5 xxxx xxxx xxxx xxxx xxxx xxxx
LOS by Move:	B * B * * * * * * * *
Movement:	LT - LTR - RT
Shared Cap.:	xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
SharedQueue:	xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shrd StpDel:	xxxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
Shared LOS:	* * * * * C * A * * * * * * * *
ApproachDel:	12.8 xxxx xxxx xxxx
ApproachLOS:	B * * *

PM Peak Hour - Buildout Conditions-(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

 Intersection #13 W Sierra Ave/E School St

Cycle (sec): 100 Critical Vol./Cap. (X): 0.710
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 15.7
 Optimal Cycle: 0 Level Of Service: C

 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 |-----| |-----| |-----| |-----|
 Control: Stop Sign Stop Sign Stop Sign Stop Sign
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 0 0 0 0 0 0 1! 0 0 0 1 0 0 0 0 1 0
 |-----| |-----| |-----| |-----|
 Volume Module:
 Base Vol: 0 0 0 13 0 19 23 369 0 0 303 24
 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 13 0 19 23 369 0 0 303 24
 Added Vol: 0 0 0 14 0 2 3 97 0 0 115 20
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 0 0 0 27 0 21 26 466 0 0 418 44
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.89 0.89 0.89 0.92 0.92 0.92 0.89 0.89 0.89 1.00 1.00 1.00
 PHF Volume: 0 0 0 29 0 23 29 524 0 0 418 44
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 0 0 0 29 0 23 29 524 0 0 418 44
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Final Vol.: 0 0 0 29 0 23 29 524 0 0 418 44
 |-----| |-----| |-----| |-----|
 Saturation Flow Module:
 Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Lanes: 0.00 0.00 0.00 0.56 0.00 0.44 0.05 0.95 0.00 0.00 0.90 0.10
 Final Sat.: 0 0 0 311 0 242 41 737 0 0 698 73
 |-----| |-----| |-----| |-----|
 Capacity Analysis Module:
 Vol/Sat: xxxx xxxx xxxx 0.09 xxxx 0.09 0.71 0.71 xxxx xxxx 0.60 0.60
 Crit Moves: **** **** ****
 Delay/Veh: 0.0 0.0 0.0 9.3 0.0 9.3 17.7 17.7 0.0 0.0 14.1 14.1
 Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 0.0 0.0 0.0 9.3 0.0 9.3 17.7 17.7 0.0 0.0 14.1 14.1
 LOS by Move: * * * A * A C C * * B B
 ApproachDel: xxxxxxxx 9.3 17.7 14.1
 Delay Adj: xxxxxx 1.00 1.00 1.00
 ApprAdjDel: xxxxxx 9.3 17.7 14.1
 LOS by Appr: * A C B

PM Peak Hour - Buildout Conditions-(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #14 Old Redwood Hwy/E Cotati Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 0.942
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 40.9
 Optimal Cycle: 129 Level Of Service: D

 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 |-----| |-----| |-----| |-----|
 Control: Protected Protected Protected Protected
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 1 0 1 1 0 2 0 0 1 0 1 1 0 1 0 1 1 0
 |-----| |-----| |-----| |-----|
 Volume Module: >> Count Date: 17 Nov 2004 << 4:45 - 5:45 pm
 Base Vol: 17 498 10 432 443 109 87 256 6 16 212 399
 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: 17 498 10 432 443 109 87 256 6 16 212 399
 Added Vol: 0 118 43 332 186 33 22 80 0 45 90 333
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 17 616 53 764 629 142 109 336 6 61 302 732
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.94 0.94 0.94 0.97 0.97 0.97 0.88 0.88 0.88 0.91 0.91 0.91
 PHF Volume: 18 655 56 788 648 146 124 382 7 67 332 804
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 18 655 56 788 648 146 124 382 7 67 332 804
 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.: 18 655 56 788 648 146 124 382 7 67 332 804
 |-----| |-----| |-----| |-----|
 Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.84 0.87 0.87 0.84 0.86 0.86 0.84 0.88 0.88 0.88 0.84 0.79 0.79
 Lanes: 1.00 1.84 0.16 2.00 0.82 0.18 1.00 1.96 0.04 1.00 1.00 1.00 1.00
 Final Sat.: 1592 3049 262 3184 1329 300 1592 3283 59 1592 1498 1498
 |-----| |-----| |-----| |-----|
 Capacity Analysis Module:
 Vol/Sat: 0.01 0.21 0.21 0.25 0.49 0.49 0.08 0.12 0.12 0.04 0.22 0.54
 Crit Moves: **** **** ****
 Green/Cycle: 0.01 0.25 0.25 0.28 0.52 0.52 0.08 0.29 0.29 0.10 0.31 0.59
 Volume/Cap: 0.94 0.87 0.87 0.87 0.94 0.94 0.94 0.41 0.41 0.41 0.72 0.91
 Delay/Veh: 226.7 46.3 46.3 43.4 41.1 41.1 106.3 29.1 29.1 43.6 32.5 27.9
 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: 226.7 46.3 46.3 43.4 41.1 41.1 106.3 29.1 29.1 43.6 32.5 27.9
 HCM2kAvg: 2 14 14 15 27 27 7 5 5 2 10 23

PM Peak Hour - Buildout Conditions-(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

 Intersection #15 E Cotati Ave/Charles St

 Average Delay (sec/veh): 3.5 Worst Case Level Of Service: D[26.4]

 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 0 0 0 0 1 1 0 1 0 2 0 0
 Volume Module:
 Base Vol: 5 0 231 0 0 0 0 687 6 129 561 0
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 5 0 231 0 0 0 0 687 6 129 561 0
 Added Vol: 0 0 29 0 0 0 0 455 0 37 468 0
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 5 0 260 0 0 0 0 1142 6 166 1029 0
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.95 0.95 0.95 1.00 1.00 1.00 0.94 0.94 0.94 0.88 0.88 0.88
 PHF Volume: 5 0 274 0 0 0 0 1215 6 189 1169 0
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Final Vol.: 5 0 274 0 0 0 0 1215 6 189 1169 0
 Critical Gap Module:
 Critical Gp: 6.8 xxxx 6.9 xxxx xxxx xxxx xxxx xxxx xxxx 4.1 xxxx xxxx
 FollowUpTim: 3.5 xxxx 3.3 xxxx xxxx xxxx xxxx xxxx 2.2 xxxx xxxx
 Capacity Module:
 Cnflict Vol: 2983 xxxx 611 xxxx xxxx xxxx xxxx xxxx 1221 xxxx xxxx
 Potent Cap.: 8 xxxx 437 xxxx xxxx xxxx xxxx xxxx 567 xxxx xxxx
 Move Cap.: 6 xxxx 437 xxxx xxxx xxxx xxxx xxxx 567 xxxx xxxx
 Total Cap: 193 0 xxxx 0 0 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Volume/Cap: 0.03 xxxx 0.63 xxxx xxxx xxxx xxxx xxxx 0.33 xxxx xxxx
 Level Of Service Module:
 Queue: xxxx xxxx xxxx xxxx xxxx xxxx xxxx 1.5 xxxx xxxx
 Stopped Del:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx 14.5 xxxx xxxx
 LOS by Move: * * * * * * * * * * B * *
 Movement: LT - LTR - RT
 Shared Cap.: xxxx 439 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 SharedQueue:xxxx 4.3 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shrd StpDel:xxxxx 26.4 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shared LOS: * D * * * * * * * * * * * *
 ApproachDel: 26.4 xxxx xxxx xxxx xxxx
 ApproachLOS: D * * * *

PM Peak Hour - Buildout Conditions-(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #16 E Cotati Ave/La Salle Ave

 Cycle (sec): 100 Critical Vol./Cap. (X): 0.746
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 16.0
 Optimal Cycle: 73 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
 Lanes: 0 0 1! 0 0 0 0 1! 0 0 1 0 1 1 0 1 0 1 1 0 1 0 1 1 0
 Volume Module: >> Count Date: 17 Nov 2004 << 4:15 - 5:15 pm
 Base Vol: 143 1 102 5 2 8 2 954 156 61 605 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: 143 1 102 5 2 8 2 954 156 61 605 2
 Added Vol: 8 0 40 0 0 0 0 455 10 43 488 0
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 151 1 142 5 2 8 2 1409 166 104 1093 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: 0.93 0.93 0.93 0.50 0.50 0.50 0.50 0.97 0.97 0.97 0.96 0.96
 PHF Volume: 162 1 153 10 4 16 2 1453 171 108 1139 2
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 162 1 153 10 4 16 2 1453 171 108 1139 2
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Final Vol.: 162 1 153 10 4 16 2 1453 171 108 1139 2
 Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.76 0.76 0.76 0.83 0.83 0.83 0.93 0.92 0.92 0.93 0.93 0.93
 Lanes: 0.51 0.01 0.48 0.33 0.13 0.54 1.00 1.79 0.21 1.00 1.99 0.01
 Final Sat.: 745 5 700 523 209 837 1769 3114 367 1769 3531 6
 Capacity Analysis Module:
 Vol/Sat: 0.22 0.22 0.22 0.02 0.02 0.02 0.00 0.47 0.47 0.06 0.32 0.32
 Crit Moves: **** *** ***
 Green/Cycle: 0.29 0.29 0.29 0.29 0.29 0.29 0.00 0.63 0.63 0.08 0.71 0.71
 Volume/Cap: 0.75 0.75 0.75 0.07 0.07 0.07 0.46 0.75 0.75 0.75 0.46 0.46
 Delay/Veh: 39.1 39.1 39.1 25.6 25.6 25.6 109.3 14.6 14.6 63.7 6.6 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: 39.1 39.1 39.1 25.6 25.6 25.6 109.3 14.6 14.6 63.7 6.6 6.6
 HCM2kAvg: 12 12 12 1 1 1 0 19 19 5 8 8

PM Peak Hour - Buildout Conditions-(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #17 E Cotati Ave/Adrian Dr

Cycle (sec): 100 Critical Vol./Cap. (X): 0.698
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 16.9
 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	Split Phase	Protected	Protected
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
Lanes:	0 0 1! 0 0	1 0 0 0 1	1 0 2 0 0	0 0 1 1 0

Volume Module:
 Base Vol: 0 0 0 145 0 133 221 814 0 0 644 108
 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 0 145 0 133 221 814 0 0 644 108
 Added Vol: 0 0 0 38 0 14 17 465 0 0 499 40
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 0 0 0 183 0 147 238 1279 0 0 1143 148
 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 0.87 0.87 0.87 0.92 0.92 0.92 0.95 0.95 0.95
 PHF Volume: 0 0 0 210 0 169 259 1390 0 0 1203 156
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 0 0 0 210 0 169 259 1390 0 0 1203 156
 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.: 0 0 0 210 0 169 259 1390 0 0 1203 156

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 1.00 1.00 1.00 0.93 1.00 0.83 0.93 0.93 1.00 1.00 0.92 0.92
 Lanes: 0.00 1.00 0.00 1.00 0.00 1.00 1.00 2.00 0.00 0.00 1.77 0.23
 Final Sat.: 0 1900 0 1769 0 1583 1769 3538 0 0 3079 399

Capacity Analysis Module:

Vol/Sat:	0.00 0.00 0.00 0.12 0.00 0.11 0.15 0.39 0.00 0.00 0.39 0.39
Crit Moves:	****
Green/Cycle:	0.00 0.00 0.00 0.17 0.00 0.17 0.21 0.77 0.00 0.00 0.56 0.56
Volume/Cap:	0.00 0.00 0.00 0.70 0.00 0.63 0.70 0.51 0.00 0.00 0.70 0.70
Delay/Veh:	0.0 0.0 0.0 46.1 0.0 43.1 42.4 4.5 0.0 0.0 17.0 17.0
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 46.1 0.0 43.1 42.4 4.5 0.0 0.0 17.0 17.0
HCM2kAvg:	0 0 0 8 0 6 9 -0 0 0 12 12

PM Peak Hour - Buildout Conditions-(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #18 E Cotati Ave/Lancaster Dr

Cycle (sec): 100 Critical Vol./Cap. (X): 0.818
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 21.2
 Optimal Cycle: 62 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:	Include	Include	Include	Include
Min. Green:	0 0 0 0	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: 162 6 197 3 2 11 18 794 151 152 694 0
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 162 6 197 3 2 11 18 794 151 152 694 0
 Added Vol: 15 0 36 0 0 0 0 0 477 27 40 524 0
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 177 6 233 3 2 11 18 1271 178 192 1218 0
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.89 0.89 0.89 0.50 0.50 0.50 0.87 0.87 0.87 0.93 0.93 0.93
 PHF Volume: 200 7 263 6 4 22 21 1462 205 207 1313 0
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 200 7 263 6 4 22 21 1462 205 207 1313 0
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Final Vol.: 200 7 263 6 4 22 21 1462 205 207 1313 0

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.72 0.84 0.83 0.25 0.86 0.85 0.93 0.91 0.91 0.93 0.93 0.95
 Lanes: 1.00 0.02 0.98 1.00 0.15 0.85 1.00 1.75 0.25 1.00 2.00 0.00
 Final Sat.: 1372 39 1529 468 248 1361 1769 3047 427 1769 3538 0

Capacity Analysis Module:
 Vol/Sat: 0.15 0.17 0.17 0.01 0.02 0.02 0.01 0.48 0.48 0.12 0.37 0.00
 Crit Moves: ****
 Green/Cycle: 0.21 0.21 0.21 0.21 0.21 0.21 0.02 0.59 0.59 0.14 0.71 0.00
 Volume/Cap: 0.69 0.82 0.82 0.06 0.08 0.08 0.52 0.82 0.82 0.82 0.52 0.00
 Delay/Veh: 43.6 52.4 52.4 31.9 31.8 31.8 60.7 19.1 19.1 60.1 7.0 0.0
 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: 43.6 52.4 52.4 31.9 31.8 31.8 60.7 19.1 19.1 60.1 7.0 0.0
 HCM2kAvg: 9 10 1 1 1 1 18 18 9 3 0 0

PM Peak Hour - Buildout Conditions-(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #19 E Cotati Ave/Beverly Dr

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: C[22.5]

Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
 Rights: Include Include Include Include
 Lanes: 0 0 0 0 0 0 1! 0 0 1 0 2 0 0 1 0 1 1 0

Volume Module:
 Base Vol: 0 0 0 30 0 54 94 834 0 2 747 60
 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 30 0 54 94 834 0 2 747 60
 Added Vol: 0 0 0 35 0 0 513 0 0 564 36
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 0 0 0 65 0 54 94 1347 0 2 1311 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 0.82 0.82 0.82 0.87 0.87 0.87 0.95 0.95 0.95
 PHF Volume: 0 0 0 79 0 66 108 1548 0 2 1380 101
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Final Vol.: 0 0 0 79 0 66 108 1548 0 2 1380 101

Critical Gap Module:
 Critical Gp:xxxxx xxxx xxxx 6.8 xxxx 6.9 4.1 xxxx xxxx 4.1 xxxx xxxx
 FollowUpTim:xxxxx xxxx xxxx 3.5 xxxx 3.3 2.2 xxxx xxxx 2.2 xxxx xxxx

Capacity Module:
 Cnflct Vol: xxxx xxxx xxxx 3098 xxxx 946 1337 xxxx xxxx 1548 xxxx xxxx
 Potent Cap.: xxxx xxxx xxxx 7 xxxx 205 401 xxxx xxxx 424 xxxx xxxx
 Move Cap.: xxxx xxxx xxxx 6 xxxx 205 401 xxxx xxxx 424 xxxx xxxx
 Total Cap: 0 515 xxxx 112 542 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Volume/Cap: xxxx xxxx xxxx 0.71 xxxx 0.32 0.27 xxxx xxxx 0.00 xxxx xxxx

Level Of Service Module:
 Queue: xxxx xxxx xxxx xxxx xxxx 1.1 xxxx xxxx 0.0 xxxx xxxx
 Stopped Del:xxxxx xxxx xxxx xxxx xxxx 17.3 xxxx xxxx 13.5 xxxx xxxx
 LOS by Move: * * * * * C * * * B * *
 Movement: LT - LTR - RT
 Shared Cap.: xxxx xxxx xxxx 349 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 SharedQueue:xxxxx xxxx xxxx 2.0 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shrd StpDel:xxxxx xxxx xxxx xxxx 22.5 xxxx xxxx xxxx xxxx xxxx xxxx xxxx
 Shared LOS: * * * * C * * * * * * *
 ApproachDel: xxxx 22.5 xxxx xxxx xxxx
 ApproachLOS: * C * * *

PM Peak Hour - Buildout Conditions-(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #20 E Cotati Ave/Santero Way

Cycle (sec): 100 Critical Vol./Cap. (X): 0.607
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 7.8
 Optimal Cycle: 58 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: Split Phase Split Phase Protected Protected
 Rights: Include Include Include Include
 Min. Green: 0
 Lanes: 1 0 0 0 1 0 0 0 0 0 0 0 0 1 1 0 1 0 2 0 0

Volume Module:
 Base Vol: 15 0 6 0 0 0 0 0 879 13 10 743 0
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 15 0 6 0 0 0 0 0 879 13 10 743 0
 Added Vol: 153 0 18 0 0 0 0 0 426 114 14 443 0
 PasserByVol: 0
 Initial Fut: 168 0 24 0 0 0 0 0 1305 127 24 1186 0
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.75 0.75 0.75 1.00 1.00 1.00 0.88 0.88 0.88 0.97 0.97 0.97
 PHF Volume: 224 0 32 0 0 0 0 0 1483 144 25 1223 0
 Reduct Vol: 0
 Reduced Vol: 224 0 32 0 0 0 0 0 1483 144 25 1223 0
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Final Vol.: 224 0 32 0 0 0 0 0 1483 144 25 1223 0

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.93 1.00 0.83 1.00 1.00 1.00 1.00 0.92 0.92 0.93 0.93 1.00
 Lanes: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 1.82 0.18 1.00 2.00 0.00
 Final Sat.: 1769 0 1583 0 0 0 0 3182 310 1769 3538 0

Capacity Analysis Module:
 Vol/Sat: 0.13 0.00 0.02 0.00 0.00 0.00 0.00 0.47 0.47 0.01 0.35 0.00
 Crit Moves: **** *** *** ***
 Green/Cycle: 0.21 0.00 0.21 0.00 0.00 0.00 0.00 0.77 0.77 0.02 0.79 0.00
 Volume/Cap: 0.61 0.00 0.10 0.00 0.00 0.00 0.00 0.61 0.61 0.61 0.44 0.00
 Delay/Veh: 38.7 0.0 32.1 0.0 0.0 0.0 0.0 5.4 5.4 71.9 3.4 0.0
 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: 38.7 0.0 32.1 0.0 0.0 0.0 0.0 5.4 5.4 71.9 3.4 0.0
 HCM2kAvg: 7 0 1 0 0 0 0 11 11 2 6 0

PM Peak Hour - Buildout Conditions-(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

FHWA Roundabout Method (Future Volume Alternative)

 Intersection #21 Old Redwood Highway/Henry-Charles St.

 Average Delay (sec/veh): 10.0 Level Of Service: B

 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 Control: Yield Sign Yield Sign Yield Sign Yield Sign
 Lanes: 1 1 1 1
 Volume Module:
 Base Vol: 12 463 182 28 340 23 18 24 22 113 18 28
 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: 12 463 182 28 340 23 18 24 22 113 18 28
 Added Vol: 0 132 29 0 196 0 0 0 0 37 0 0
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 12 595 211 28 536 23 18 24 22 150 18 28
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.92 0.92 0.92 0.91 0.91 0.91 0.73 0.73 0.73 0.72 0.72 0.72
 PHF Volume: 13 647 229 31 589 25 25 33 30 208 25 39
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 13 647 229 31 589 25 25 33 30 208 25 39
 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.: 13 647 229 31 589 25 25 33 30 208 25 39
 PCE Module:
 AutoPCE: 13 647 229 31 589 25 25 33 30 208 25 39
 TruckPCE: 0 0 0 0 0 0 0 0 0 0 0 0
 ComboPCE: 0 0 0 0 0 0 0 0 0 0 0 0
 BicyclePCE: 0 0 0 0 0 0 0 0 0 0 0 0
 AdjVolume: 13 647 229 31 589 25 25 33 30 208 25 39
 Delay Module: >> Time Period: 0.25 hours <<

CircVolume:	88	246	828	684
MaxVolume:	1152	1067	753	830
PedVolume:	0	0	0	0
AdjMaxVol:	1152	1067	753	830
ApproachVol:	889	645	88	272
ApproachDel:	12.8	8.4	5.4	6.4
Queue:	8.1	4.2	0.4	1.4

PM Peak Hour - Buildout Conditions-(Mitigated)
 Cotati Circulation Improvement Study
 City of Cotati

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #22 Old Redwood Hwy/Myrtle-Valparaiso Ave

 Cycle (sec): 100 Critical Vol./Cap. (X): 0.716
 Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 18.7
 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: Protected Protected Permitted Permitted
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 1 0 1 0 1 0 1 0 1 0 0 1 0 1 0 0 0 1 0
 Volume Module:
 Base Vol: 76 667 208 101 350 13 13 52 24 90 24 45
 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: 76 667 208 101 350 13 13 52 24 90 24 45
 Added Vol: 23 153 3 4 224 0 0 1 25 3 1 2
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fut: 99 820 211 105 574 13 13 53 49 93 25 47
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.90 0.90 0.90 0.88 0.88 0.88 0.86 0.86 0.86 0.86 0.86 0.86
 PHF Volume: 110 911 234 119 652 15 15 62 57 108 29 55
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 110 911 234 119 652 15 15 62 57 108 29 55
 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.: 110 911 234 119 652 15 15 62 57 108 29 55
 Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.93 0.98 0.83 0.93 0.98 0.83 0.58 0.91 0.90 0.49 0.88 0.87
 Lanes: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.34 0.66
 Final Sat.: 1769 1862 1583 1769 1862 1583 1107 891 824 931 575 1082
 Capacity Analysis Module:
 Vol/Sat: 0.06 0.49 0.15 0.07 0.35 0.01 0.01 0.07 0.07 0.12 0.05 0.05
 Crit Moves: **** ***
 Green/Cycle: 0.12 0.68 0.68 0.09 0.66 0.66 0.16 0.16 0.16 0.16 0.16 0.16
 Volume/Cap: 0.53 0.72 0.22 0.72 0.53 0.01 0.08 0.43 0.43 0.72 0.31 0.31
 Delay/Veh: 44.1 11.8 6.0 57.8 9.3 5.8 35.8 38.8 38.8 54.8 37.6 37.6
 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: 44.1 11.8 6.0 57.8 9.3 5.8 35.8 38.8 38.8 54.8 37.6 37.6
 HCM2kAvg: 4 18 3 5 11 0 1 4 4 8 3 2

Appendix C
Traffic Signal Warrant Analysis

AM Existing

Thu Mar 3, 2005 17:08:16

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AM Peak Hour - Existing Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Summary Report

Intersection	Base	Future
	Met	Met
# 1 Redwood Dr/Helman Ln	No	???
# 2 Commerce Blvd/Wilford Ln	No	???
# 3 Old Redwood Highway/Commerce Blvd.	Yes	???
# 4 Gravenstein Hwy/Alder Ave	No	???
# 5 Gravenstein Hwy/W Cotati Ave	No	???
# 10 Old Redwood Hwy/William St-George S	Yes	???
# 11 W Sierra Ave/W School St-US 101 SB	No	???
# 12 W Sierra Ave/US 101 NB Off-ramp	No	???
# 13 W Sierra Ave/E School St	No	???
# 15 E Cotati Ave/Charles St	No	???
# 16 E Cotati Ave/La Salle Ave	Yes	???
# 19 E Cotati Ave/Beverly Dr	No	???
# 20 E Cotati Ave/Santero Way	No	???
# 21 Old Redwood Highway/Henry-Charles S	No	???

AM Existing

Thu Mar 3, 2005 17:08:16

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AM Peak Hour - Existing Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

Intersection #1 Redwood Dr/Helman Ln

Base Volume Alternative: Peak Hour Warrant NOT Met
-----|-----|-----|-----|-----|
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
-----|-----|-----|-----|-----|-----|-----|-----|
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Lanes: 0 1 0 0 0 0 0 1 0 0 0 1! 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 63 342 0 0 202 31 57 0 54 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
ApproachDel: xxxxxxxx xxxxxxxx 13.8 xxxxxxxx
-----|-----|-----|-----|-----|-----|-----|-----|
Approach[eastbound][lanes=1][control=Stop]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=112]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=750]
SUCCEED - Total volume greater than or equal to 650 for intersection
with less than four approaches.

AM Existing

Thu Mar 3, 2005 17:08:16

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AM Peak Hour - Existing Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

Intersection #2 Commerce Blvd/Wilford Ln

Base Volume Alternative: Peak Hour Warrant NOT Met
-----|-----|-----|-----|-----|
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
-----|-----|-----|-----|-----|
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Lanes: 0 0 0 1 0 1 0 1 0 0 0 0 0 1 0 0 0 1
Final Vol.: 0 487 9 41 601 0 0 0 0 0 17 0 75
ApproachDel: xxxxxx xxxxxx xxxxxx 14.4
-----|-----|-----|-----|-----|
Approach[westbound][lanes=2][control=Stop]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=92]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1230]
SUCCEED - Total volume greater than or equal to 650 for intersection
with less than four approaches.

AM Existing

Thu Mar 3, 2005 17:08:16

Page 5-3

AM Peak Hour - Existing Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

Intersection #3 Old Redwood Highway/Commerce Blvd.

Base Volume Alternative: Peak Hour Warrant Met
-----|-----|-----|-----|-----|
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
-----|-----|-----|-----|-----|
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Lanes: 0 0 1 0 1 0 0 0 0 0 0 0 0 1 0 0 0 1
Final Vol.: 0 759 373 0 0 0 0 0 0 0 0 0 0 464 0 200
ApproachDel: xxxxxx xxxxxx xxxxxx 122.4
-----|-----|-----|-----|-----|
Approach[westbound][lanes=2][control=Stop]
Signal Warrant Rule #1: [vehicle-hours=22.6]
SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=664]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=1796]
SUCCEED - Total volume greater than or equal to 650 for intersection
with less than four approaches.

AM Existing

Thu Mar 3, 2005 17:08:16

Page 5-4

AM Peak Hour - Existing Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

Intersection #4 Gravenstein Hwy/Alder Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

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
Lanes:	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0
Final Vol.:	2 0 14	10 0 18	15 650	1 6 723 7
ApproachDel:	16.4	25.8	xxxxxx	xxxxxx

Approach[northbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=16]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1446]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.2]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=28]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1446]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

AM Existing

Thu Mar 3, 2005 17:08:16

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AM Peak Hour - Existing Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

Intersection #5 Gravenstein Hwy/W Cotati Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

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
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 0 1 0	0 1 0 0 0
Final Vol.:	7 0 58	0 0 0	0 0 799	6 13 703 0
ApproachDel:	21.7	xxxxxx	xxxxxx	xxxxxx

Approach[northbound][lanes=2][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.4]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=65]

FAIL - Approach volume less than 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=1587]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

AM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #10 Old Redwood Hwy/William St-George St

Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Lanes:	1 0 1 1 0	1 0 1 1 0	0 0 1! 0 0	0 0 1! 0 0
Final Vol.:	12 895	3 4 755	26 56	1 19 7 1 31
ApprAdjDel:	23.0	19.3	11.0	10.0

Approach[northbound][lanes=3][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=5.8]

SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=910]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1811]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=3][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=4.2]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=785]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1811]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[eastbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.2]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=76]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1811]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=40]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1811]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

AM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #11 W Sierra Ave/W School St-US 101 SB Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

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
Lanes:	0 0 0 0 0	0 0 1! 0 0	0 1 0 0 1	0 0 1! 0 0
Final Vol.:	0 0 0 0	34 13 1 5 214	6 144 178 23	
ApprAdjDel:	xxxxxx	16.6	xxxxxx	xxxxxx

Approach[southbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.2]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=48]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=618]

FAIL - Total volume less than 650 for intersection with less than four approaches.

AM Existing

Thu Mar 3, 2005 17:08:16

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AM Peak Hour - Existing Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

Intersection #12 W Sierra Ave/US 101 NB Off-ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

	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
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 1 0 0	0 0 1 0 0
Final Vol.:	14 0 98	0 0 0 0	0 200 0	0 364 0
ApproachDel:	10.2	xxxxxx	xxxxxx	xxxxxx

Approach[northbound][lanes=2][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.3]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=111]

FAIL - Approach volume less than 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=675]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

AM Existing

Thu Mar 3, 2005 17:08:16

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AM Peak Hour - Existing Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

Intersection #13 W Sierra Ave/E School St

Base Volume Alternative: Peak Hour Warrant NOT Met

	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Lanes:	0 0 0 0 0	0 0 1! 0 0	0 1 0 0 0	0 0 0 1 0
Final Vol.:	0 0 0 21	0 23 17 358	0 0 0 0	0 252 16
ApprAdjDel:	xxxxxx	8.3	10.8	9.5

Approach[southbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=44]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=688]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

Approach[eastbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=1.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=376]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=688]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

Approach[westbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.7]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=268]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=688]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

AM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #15 E Cotati Ave/Charles St

Base Volume Alternative: Peak Hour Warrant NOT Met

	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
Lanes:	0 0 1! 0 0	0 0 0 0 0	0 0 0 1 0	1 0 1 0 0
Final Vol.:	1 0 135	0 0 0	0 598 4	261 699 0
ApproachDel:	14.7	xxxxxx	xxxxxx	xxxxxx

Approach[northbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.6]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=137]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=1698]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

AM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #16 E Cotati Ave/La Salle Ave

Base Volume Alternative: Peak Hour Warrant Met

	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Lanes:	0 0 1! 0 0	0 0 0 0 0	1 0 1 1 0	1 0 1 1 0
Final Vol.:	144	2 58	6 9 638 100	51 806 3
ApprAdjDel:	13.6	9.9	19.4	21.4

Approach[northbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.8]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=205]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1817]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.0]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=6]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1817]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[eastbound][lanes=3][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=4.0]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=747]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1817]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=3][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=5.1]

SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=860]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1817]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

AM Existing

Thu Mar 3, 2005 17:08:16

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AM Peak Hour - Existing Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

Intersection #19 E Cotati Ave/Beverly Dr

Base Volume Alternative: Peak Hour Warrant NOT Met
-----|-----|-----|-----|-----|
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
Lanes: 0 0 0 0 0 0 1! 0 0 1 0 2 0 0 1 0 1 1 0
Final Vol.: 0 0 0 96 0 72 73 890 0 0 796 149
ApproachDel: xxxxx 9.3 xxxxx xxxxx
-----|-----|-----|-----|-----|
Approach[southbound][lanes=1][control=Stop]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=168]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2077]
SUCCEED - Total volume greater than or equal to 650 for intersection
with less than four approaches.

AM Existing

Thu Mar 3, 2005 17:08:16

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AM Peak Hour - Existing Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

Intersection #20 E Cotati Ave/Santero Way

Base Volume Alternative: Peak Hour Warrant NOT Met
-----|-----|-----|-----|-----|
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
Lanes: 0 0 1! 0 0 0 0 0 0 0 0 1 1 0 1 0 2 0 0
Final Vol.: 14 0 14 0 0 0 0 0 1036 17 10 867 0
ApproachDel: 17.8 xxxxx xxxxx xxxxx
-----|-----|-----|-----|-----|
Approach[northbound][lanes=1][control=Stop]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=28]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1958]
SUCCEED - Total volume greater than or equal to 650 for intersection
with less than four approaches.

AM Peak Hour - Existing Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

Intersection #21 Old Redwood Highway/Henry-Charles St.

Base Volume Alternative: Peak Hour Warrant NOT Met

	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Lanes:	0 1 0 0 1	0 0 1! 0 0	0 0 0 1! 0 0	0 0 1! 0 0
Final Vol.:	16 291 100	7 382 10	14 18 19	235 14 19
ApprAdjDel:	13.6	17.3	10.1	14.3

Approach[northbound][lanes=2][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=1.5]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=408]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1126]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=1.9]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=399]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1126]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[eastbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=52]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1126]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=1.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=268]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1126]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

PM Existing

Thu Mar 3, 2005 17:08:33

Page 4-1

PM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Summary Report		
Intersection	Base	Future
# 1 Redwood Dr/Helman Ln	Met	Met
# 2 Commerce Blvd/Wilford Ln	No	???
# 3 Old Redwood Highway/Commerce Blvd.	Yes	???
# 4 Gravenstein Hwy/Alder Ave	No	???
# 5 Gravenstein Hwy/W Cotati Ave	No	???
# 10 Old Redwood Hwy/William St-George S	Yes	???
# 11 W Sierra Ave/W School St-US 101 SB	No	???
# 12 W Sierra Ave/US 101 NB Off-ramp	No	???
# 13 W Sierra Ave/E School St	No	???
# 15 E Cotati Ave/Charles St	No	???
# 16 E Cotati Ave/La Salle Ave	Yes	???
# 19 E Cotati Ave/Beverly Dr	No	???
# 20 E Cotati Ave/Santero Way	No	???
# 21 Old Redwood Highway/Henry-Charles S	Yes	???

PM Existing

Thu Mar 3, 2005 17:08:33

Page 5-1

PM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #1 Redwood Dr/Helman Ln

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 1 0 0 0	0 0 0 1 0	0 0 1! 0 0	0 0 0 0 0
Final Vol.:	37 402	0 0 495	25 57 0 56	0 0 0 0
ApproachDel:	xxxxxx	xxxxxx	19.9	xxxxxx

Approach[eastbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.6]
 FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=113]
 SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=1073]
 SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

PM Existing

Thu Mar 3, 2005 17:08:33

Page 5-2

PM Peak Hour - Existing Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

Intersection #2 Commerce Blvd/Wilford Ln

Base Volume Alternative: Peak Hour Warrant NOT Met
-----|-----|-----|-----|-----|
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
-----|-----|-----|-----|-----|
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Lanes: 0 0 0 1 0 1 0 1 0 0 0 0 0 1 0 0 0 1
Final Vol.: 0 766 14 81 587 0 0 0 0 0 18 0 62
ApproachDel: xxxxxx xxxxxx xxxxxx 21.3
-----|-----|-----|-----|-----|
Approach[westbound][lanes=2][control=Stop]
Signal Warrant Rule #1: [vehicle-hours=0.5]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=80]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1528]
SUCCEED - Total volume greater than or equal to 650 for intersection
with less than four approaches.

PM Existing

Thu Mar 3, 2005 17:08:33

Page 5-3

PM Peak Hour - Existing Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

Intersection #3 Old Redwood Highway/Commerce Blvd.

Base Volume Alternative: Peak Hour Warrant Met
-----|-----|-----|-----|-----|
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
-----|-----|-----|-----|-----|
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Lanes: 0 0 1 0 1 0 0 0 0 0 0 0 0 1 0 0 0 1
Final Vol.: 0 595 689 0 0 0 0 0 0 0 0 0 0 410 0 86
ApproachDel: xxxxxx xxxxxx xxxxxx 42.7
-----|-----|-----|-----|-----|
Approach[westbound][lanes=2][control=Stop]
Signal Warrant Rule #1: [vehicle-hours=5.9]
SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=496]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=1780]
SUCCEED - Total volume greater than or equal to 650 for intersection
with less than four approaches.

PM Existing

Thu Mar 3, 2005 17:08:33

Page 5-4

PM Peak Hour - Existing Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

Intersection #4 Gravenstein Hwy/Alder Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

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
Lanes:	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0	0 0 0 1 0
Final Vol.:	2 0 6	10 0 22	2 606 4	0 816 20
ApproachDel:	19.6	25.1	xxxxxx	xxxxxx

Approach[northbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.0]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=8]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1488]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.2]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=32]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1488]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

PM Existing

Thu Mar 3, 2005 17:08:33

Page 5-5

PM Peak Hour - Existing Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

Intersection #5 Gravenstein Hwy/W Cotati Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

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
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 0 1 0	0 1 0 0 0
Final Vol.:	3 0 33	0 0 0 0 0	0 751 15	45 884 0
ApproachDel:	31.0	xxxxxx	xxxxxx	xxxxxx

Approach[northbound][lanes=2][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.3]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=36]

FAIL - Approach volume less than 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=1732]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

PM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #10 Old Redwood Hwy/William St-George St

Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Lanes:	1 0 1 1 0	1 0 1 1 0	0 0 1! 0 0	0 0 1! 0 0
Final Vol.:	12 998	6 23 1028	51 78	3 33 4 3 29
ApprAdjDel:	46.1	54.9	11.9	10.4

Approach[northbound][lanes=3][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=13.0]

SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=1016]
 SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=2266]
 SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=3][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=16.8]
 SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=1101]
 SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=2266]
 SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[eastbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.4]
 FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=113]
 SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=2266]
 SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.1]
 FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=36]
 FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=2266]
 SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

PM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #11 W Sierra Ave/W School St-US 101 SB Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

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
Lanes:	0 0 0 0 0	0 1 0 0 0	0 1 0 0 1	0 0 1! 0 0
Final Vol.:	0 0 0 0 0	25 7 0	1 162 12	116 140 41
ApprAdjDel:	xxxxxx	13.8	xxxxxx	xxxxxx

Approach[southbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=32]
 FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=504]
 FAIL - Total volume less than 650 for intersection with less than four approaches.

PM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #12 W Sierra Ave/US 101 NB Off-ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

	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
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 1 0 0	0 0 1 0 0
Final Vol.:	25 0 239	0 0 0 0	0 176 0	0 305 0
ApproachDel:	10.8	xxxxxx	xxxxxx	xxxxxx

Approach[northbound][lanes=2][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.8]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=264]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=745]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

PM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #13 W Sierra Ave/E School St

Base Volume Alternative: Peak Hour Warrant NOT Met

	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Lanes:	0 0 0 0 0	0 0 1! 0 0	0 1 0 0 0	0 0 0 1 0
Final Vol.:	0 0 0 0	14 0 21 26 415	0 0 303 24	0 0 0 0
ApprAdjDel:	xxxxxx	8.5	12.2	10.3

Approach[southbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=35]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=802]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

Approach[eastbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=1.5]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=440]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=802]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

Approach[westbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.9]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=327]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=802]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

PM Peak Hour - Existing Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

Intersection #15 E Cotati Ave/Charles St

Base Volume Alternative: Peak Hour Warrant NOT Met

	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
Lanes:	0 0 1! 0 0	0 0 0 0 0	0 0 0 1 0	1 0 1 0 0
Final Vol.:	5 0 243	0 0 0	0 731 6	147 638 0
ApproachDel:	24.7	xxxxxx	xxxxxx	xxxxxx

Approach[northbound][lanes=1][control=Stop]
Signal Warrant Rule #1: [vehicle-hours=1.7]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=248]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1770]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

PM Peak Hour - Existing Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

Intersection #16 E Cotati Ave/La Salle Ave

Base Volume Alternative: Peak Hour Warrant Met

	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Lanes:	0 0 1! 0 0	0 0 0 1! 0 0	1 0 1 1 0	1 0 1 1 0
Final Vol.:	154 1 110	10 4 16	2 984 161	64 630 2
ApprAdjDel:	16.2	11.0	72.0	19.6

Approach[northbound][lanes=1][control=Stop]
Signal Warrant Rule #1: [vehicle-hours=1.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=265]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2137]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=30]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2137]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[eastbound][lanes=3][control=Stop]
Signal Warrant Rule #1: [vehicle-hours=22.9]
SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=1146]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2137]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=3][control=Stop]
Signal Warrant Rule #1: [vehicle-hours=3.8]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=696]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2137]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

PM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #19 E Cotati Ave/Beverly Dr

Base Volume Alternative: Peak Hour Warrant NOT Met

	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
Lanes:	0 0 0 0 0	0 0 1! 0 0	1 0 2 0 0	1 0 1 1 0
Final Vol.:	0 0 0 0	37 0 66	108 959 0	2 786 63
ApproachDel:	xxxxxx	20.7	xxxxxx	xxxxxx

Approach[southbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.6]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=102]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=2021]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

PM Peak Hour - Existing Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #20 E Cotati Ave/Santero Way

Base Volume Alternative: Peak Hour Warrant NOT Met

	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
Lanes:	0 0 1! 0 0	0 0 0 0 0	0 0 1 1 0	1 0 2 0 0
Final Vol.:	20 0 8	0 0 0	0 0 999 15	10 766 0
ApproachDel:	19.1	xxxxxx	xxxxxx	xxxxxx

Approach[northbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=28]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=1818]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

PM Peak Hour - Existing Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

Intersection #21 Old Redwood Highway/Henry-Charles St.

Base Volume Alternative: Peak Hour Warrant Met

	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Lanes:	0 1 0 0 1	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0
Final Vol.:	13 503 198	31 374 25	25 33 30	157 25 39
ApprAdjDel:	31.6	22.8	11.6	14.7

Approach[northbound][lanes=2][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=6.3]

SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=714]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1452]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=2.7]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=430]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1452]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[eastbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.3]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=88]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1452]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.9]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=221]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1452]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

AM Buildout

Thu Mar 3, 2005 17:51:44

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AM Peakhour - Buildout Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Summary Report

Intersection	Base	Future
# 1 Redwood Dr/Helman Ln	Met	Met
# 2 Commerce Blvd/Wilford Ln	???	No
# 3 Old Redwood Highway/Commerce Blvd.	???	Yes
# 4 Gravenstein Hwy/Alder Ave	???	Yes
# 5 Gravenstein Hwy/W Cotati Ave	???	No
# 10 Old Redwood Hwy/William St-George S	???	Yes
# 11 W Sierra Ave/W School St-US 101 SB	???	No
# 12 W Sierra Ave/US 101 NB Off-ramp	???	No
# 13 W Sierra Ave/E School St	???	No
# 15 E Cotati Ave/Charles St	???	No
# 16 E Cotati Ave/La Salle Ave	???	Yes
# 19 E Cotati Ave/Beverly Dr	???	No
# 20 E Cotati Ave/Santero Way	???	Yes
# 21 Old Redwood Highway/Henry-Charles S	???	Yes

AM Buildout

Thu Mar 3, 2005 17:51:44

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AM Peakhour - Buildout Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

Intersection #1 Redwood Dr/Helman Ln

Future Volume Alternative: Peak Hour Warrant NOT Met
-----|-----|-----|-----|-----|
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
-----|-----|-----|-----|-----|-----|-----|-----|
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Lanes: 0 1 0 0 0 0 0 1 0 0 0 1! 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 223 409 0 0 261 65 78 0 90 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
ApproachDel: xxxxxxxx xxxxxxxx 30.9 xxxxxxxx
-----|-----|-----|-----|-----|-----|-----|-----|
Approach[eastbound][lanes=1][control=Stop]
Signal Warrant Rule #1: [vehicle-hours=1.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=168]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1126]
SUCCEED - Total volume greater than or equal to 650 for intersection
with less than four approaches.

AM Peakhour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

 Intersection #2 Commerce Blvd/Wilford Ln

 Future Volume Alternative: Peak Hour Warrant NOT Met

 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R

 Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
 Lanes: 0 0 0 1 0 1 0 1 0 0 0 0 0 0 0 1 0 0 0 1
 Final Vol.: 0 553 11 42 657 0 0 0 0 0 25 0 78
 ApproachDel: xxxxxx xxxxxx xxxxxx 17.1

 Approach[westbound][lanes=2][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.5]
 FAIL - Vehicle-hours less than 5 for two or more lane approach.
 Signal Warrant Rule #2: [approach volume=103]
 FAIL - Approach volume less than 150 for two or more lane approach.
 Signal Warrant Rule #3: [approach count=3][total volume=1367]
 SUCCEED - Total volume greater than or equal to 650 for intersection
 with less than four approaches.

AM Peakhour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

 Intersection #3 Old Redwood Highway/Commerce Blvd.

 Future Volume Alternative: Peak Hour Warrant Met

 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R

 Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
 Lanes: 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 1
 Final Vol.: 0 964 429 0 0 0 0 0 0 0 0 0 0 527 0 201
 ApproachDel: xxxxxx xxxxxx xxxxxx 330.2

 Approach[westbound][lanes=2][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=66.8]
 SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
 Signal Warrant Rule #2: [approach volume=728]
 SUCCEED - Approach volume >= 150 for two or more lane approach.
 Signal Warrant Rule #3: [approach count=2][total volume=2122]
 SUCCEED - Total volume greater than or equal to 650 for intersection
 with less than four approaches.

AM Peakhour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

 Intersection #4 Gravenstein Hwy/Alder Ave

 Future Volume Alternative: Peak Hour Warrant Met

 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
 Lanes: 0 0 1! 0 0 0 0 1! 0 0 0 0 1! 0 0 0 0 1! 0 0
 Final Vol.: 2 0 14 68 0 41 61 1089 1 6 1067 95
 ApproachDel: 47.1 158.9 xxxxxx xxxxxx

 Approach[northbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.2]
 FAIL - Vehicle-hours less than 4 for one lane approach.
 Signal Warrant Rule #2: [approach volume=16]
 FAIL - Approach volume less than 100 for one lane approach.
 Signal Warrant Rule #3: [approach count=4][total volume=2444]
 SUCCEED - Total volume greater than or equal to 800 for intersection
 with four or more approaches.

 Approach[southbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=4.8]
 SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
 Signal Warrant Rule #2: [approach volume=109]
 SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
 Signal Warrant Rule #3: [approach count=4][total volume=2444]
 SUCCEED - Total volume greater than or equal to 800 for intersection
 with four or more approaches.

AM Peakhour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

 Intersection #5 Gravenstein Hwy/W Cotati Ave

 Future Volume Alternative: Peak Hour Warrant NOT Met

 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
 Lanes: 1 0 0 0 1 0 0 0 0 0 0 0 0 1 0 0 1 0 0 0
 Final Vol.: 15 0 78 0 0 0 0 0 0 1359 11 29 1104 0
 ApproachDel: xxxxxx xxxxxx xxxxxx xxxxxx

 Approach[northbound][lanes=2][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
 SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
 Signal Warrant Rule #2: [approach volume=93]
 FAIL - Approach volume less than 150 for two or more lane approach.
 Signal Warrant Rule #3: [approach count=3][total volume=2597]
 SUCCEED - Total volume greater than or equal to 650 for intersection
 with less than four approaches.

AM Peakhour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

 Intersection #10 Old Redwood Hwy/William St-George St

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Lanes:	1 0 1 1 0	1 0 1 1 0	0 0 1! 0 0	0 0 1! 0 0
Final Vol.:	12 1272 3	4 1094 29	63 1 19	7 1 31
ApprAdjDel:	114.6	69.5	11.4	10.4

Approach[northbound][lanes=3][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=41.0]

SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=1287]
 SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=2538]
 SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=3][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=21.8]
 SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=1127]
 SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=2538]
 SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[eastbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.3]
 FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=83]
 FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=2538]
 SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.1]
 FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=40]
 FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=2538]
 SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

AM Peakhour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

 Intersection #11 W Sierra Ave/W School St-US 101 SB Ramp

Future Volume Alternative: Peak Hour Warrant NOT Met

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
Lanes:	0 0 0 0 0	0 0 1! 0 0	0 1 0 0 1	0 0 1! 0 0
Final Vol.:	0 0 0 0 35	17 3 6 290 21	201 204 29	
ApprAdjDel:	xxxxxx	23.3	xxxxxx	xxxxxx

Approach[southbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.4]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=55]
 FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=807]
 SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

AM Peakhour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #12 W Sierra Ave/US 101 NB Off-ramp

Future Volume Alternative: Peak Hour Warrant NOT Met

	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
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 1 0 0	0 0 1 0 0
Final Vol.:	23 0	143 0	0 267 0	0 452 0
ApproachDel:	11.3	xxxxxx	xxxxxx	xxxxxx

Approach[northbound][lanes=2][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.5]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=166]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=885]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

AM Peakhour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #13 W Sierra Ave/E School St

Future Volume Alternative: Peak Hour Warrant NOT Met

	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Lanes:	0 0 0 0 0	0 0 1! 0 0	0 1 0 0 0	0 0 0 1 0
Final Vol.:	0 0 0	41 0 27	19 459 0	0 301 24
ApprAdjDel:	xxxxxx	9.1	13.8	10.7

Approach[southbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.2]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=67]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=870]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

Approach[eastbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=1.8]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=478]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=870]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

Approach[westbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=1.0]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=325]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=870]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

AM Peakhour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #15 E Cotati Ave/Charles St

Future Volume Alternative: Peak Hour Warrant NOT Met

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
Lanes:	0 0 1! 0 0	0 0 0 0 0	0 0 0 1 0	1 0 1 0 0
Final Vol.:	1 0 171	0 0 0	0 1004	4 278 958 0
ApproachDel:	33.4	xxxxxx	xxxxxx	xxxxxx

Approach[northbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=1.6]
 FAIL - Vehicle-hours less than 4 for one lane approach.
 Signal Warrant Rule #2: [approach volume=172]
 SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
 Signal Warrant Rule #3: [approach count=3][total volume=2416]
 SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

AM Peakhour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #16 E Cotati Ave/La Salle Ave

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Lanes:	0 0 1! 0 0	0 0 0 0 0	1 0 1 1 0	1 0 1 1 0
Final Vol.:	153 2 92	0 0 6	9 1045 107	61 1047 3
ApprAdjDel:	15.7	10.4	96.9	65.3

Approach[northbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=1.1]
 FAIL - Vehicle-hours less than 4 for one lane approach.
 Signal Warrant Rule #2: [approach volume=248]
 SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
 Signal Warrant Rule #3: [approach count=4][total volume=2526]
 SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.0]
 FAIL - Vehicle-hours less than 4 for one lane approach.
 Signal Warrant Rule #2: [approach volume=6]
 FAIL - Approach volume less than 100 for one lane approach.
 Signal Warrant Rule #3: [approach count=4][total volume=2526]
 SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[eastbound][lanes=3][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=31.3]
 SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
 Signal Warrant Rule #2: [approach volume=1161]
 SUCCEED - Approach volume >= 150 for two or more lane approach.
 Signal Warrant Rule #3: [approach count=4][total volume=2526]
 SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=3][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=20.1]
 SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
 Signal Warrant Rule #2: [approach volume=1111]
 SUCCEED - Approach volume >= 150 for two or more lane approach.
 Signal Warrant Rule #3: [approach count=4][total volume=2526]
 SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

AM Peakhour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

 Intersection #19 E Cotati Ave/Beverly Dr

 Future Volume Alternative: Peak Hour Warrant NOT Met

 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
 Lanes: 0 0 0 0 0 0 0 1! 0 0 1 0 2 0 0 1 0 1 1 0
 Final Vol.: 0 0 0 128 0 72 73 1402 0 0 1040 157
 ApproachDel: xxxxxx 14.6 xxxxxx xxxxxx

 Approach[southbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.8]
 FAIL - Vehicle-hours less than 4 for one lane approach.
 Signal Warrant Rule #2: [approach volume=200]
 SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
 Signal Warrant Rule #3: [approach count=3][total volume=2872]
 SUCCEED - Total volume greater than or equal to 650 for intersection
 with less than four approaches.

AM Peakhour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

 Intersection #20 E Cotati Ave/Santero Way

 Future Volume Alternative: Peak Hour Warrant Met

 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
 Lanes: 0 0 1! 0 0 0 0 0 0 0 0 0 1 1 0 1 0 2 0 0
 Final Vol.: 137 0 28 0 0 0 0 1396 184 31 1000 0
 ApproachDel: 169.2 xxxxxx xxxxxx xxxxxx

 Approach[northbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=7.7]
 SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
 Signal Warrant Rule #2: [approach volume=165]
 SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
 Signal Warrant Rule #3: [approach count=3][total volume=2776]
 SUCCEED - Total volume greater than or equal to 650 for intersection
 with less than four approaches.

AM Peakhour - Buildout Conditions
Cotati Circulation Improvement Study
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Signal Warrant Report

Intersection #21 Old Redwood Highway/Henry-Charles St.

Future Volume Alternative: Peak Hour Warrant Met

	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Lanes:	0 1 0 0 1	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0
Final Vol.:	16 460 131	7 477 10	14 18 19	252 14 19
ApprAdjDel:	30.6	33.2	11.4	18.0

Approach[northbound][lanes=2][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=5.2]

SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=608]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1439]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=4.6]

SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=494]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1439]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[eastbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.2]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=52]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1439]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=1.4]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=286]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1439]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

PM Peak Hour - Buildout Conditions
Cotati Circulation Improvement Study
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Signal Warrant Summary Report

	Intersection	Base Met	Future Met
# 1	Redwood Dr/Helman Ln	???	Yes
# 2	Commerce Blvd/Wilford Ln	???	No
# 3	Old Redwood Highway/Commerce Blvd.	???	Yes
# 4	Gravenstein Hwy/Alder Ave	???	Yes
# 5	Gravenstein Hwy/W Cotati Ave	???	No
# 10	Old Redwood Hwy/William St-George S	???	Yes
# 11	W Sierra Ave/W School St-US 101 SB	???	No
# 12	W Sierra Ave/US 101 NB Off-ramp	???	No
# 13	W Sierra Ave/E School St	???	No
# 15	E Cotati Ave/Charles St	???	Yes
# 16	E Cotati Ave/La Salle Ave	???	Yes
# 19	E Cotati Ave/Beverly Dr	???	No
# 20	E Cotati Ave/Santero Way	???	Yes
# 21	Old Redwood Highway/Henry-Charles S	???	Yes

PM Peak Hour - Buildout Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

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*****
Intersection #1 Redwood Dr/Helman Ln
*****
Future Volume Alternative: Peak Hour Warrant Met
-----
|-----|-----||-----|-----||-----| |-----|
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
-----
|-----|-----||-----|-----||-----| |-----|
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Lanes: 0 1 0 0 0 0 0 0 1 0 0 0 1! 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 107 494 0 0 582 53 115 0 169 0 0 0 0 0 0 0 0 0 0
ApproachDel: xxxxxx xxxxxx 125.5 xxxxxx
-----
|-----|-----||-----|-----||-----| |-----|
Approach[eastbound][lanes=1][control=Stop]
Signal Warrant Rule #1: [vehicle-hours=9.9]
    SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=284]
    SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1520]
    SUCCEED - Total volume greater than or equal to 650 for intersection
        with less than four approaches.
```

PM Peak Hour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

 Intersection #2 Commerce Blvd/Wilford Ln

 Future Volume Alternative: Peak Hour Warrant NOT Met

 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R

 Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
 Lanes: 0 0 0 1 0 1 0 1 0 0 0 0 0 0 0 1 0 0 0 1
 Final Vol.: 0 842 20 83 669 0 0 0 0 0 22 0 63
 ApproachDel: xxxxxx xxxxxx xxxxxx 26.9

 Approach[westbound][lanes=2][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.6]
 FAIL - Vehicle-hours less than 5 for two or more lane approach.
 Signal Warrant Rule #2: [approach volume=85]
 FAIL - Approach volume less than 150 for two or more lane approach.
 Signal Warrant Rule #3: [approach count=3][total volume=1699]
 SUCCEED - Total volume greater than or equal to 650 for intersection
 with less than four approaches.

PM Peak Hour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

 Intersection #3 Old Redwood Highway/Commerce Blvd.

 Future Volume Alternative: Peak Hour Warrant Met

 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R

 Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
 Lanes: 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 1
 Final Vol.: 0 985 772 0 0 0 0 0 0 0 0 0 0 499 0 87
 ApproachDel: xxxxxx xxxxxx xxxxxx 363.0

 Approach[westbound][lanes=2][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=59.2]
 SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
 Signal Warrant Rule #2: [approach volume=587]
 SUCCEED - Approach volume >= 150 for two or more lane approach.
 Signal Warrant Rule #3: [approach count=2][total volume=2343]
 SUCCEED - Total volume greater than or equal to 650 for intersection
 with less than four approaches.

PM Peak Hour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #4 Gravenstein Hwy/Alder Ave

Future Volume Alternative: Peak Hour Warrant Met

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
Lanes:	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0	0 0 0 1 0
Final Vol.:	2 0 6 206	0 92 31 1047	4 0 1171	68 xxxxxx
ApproachDel:	93.7	2834.9	xxxxxx	xxxxxx

Approach[northbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.2]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=8]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=2628]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=234.4]

SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=298]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=2628]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

PM Peak Hour - Buildout Conditions
 Cotati Circulation Improvement Study
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Signal Warrant Report

Intersection #5 Gravenstein Hwy/W Cotati Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

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
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 0 1 0	0 1 0 0 0
Final Vol.:	9 0 51	0 0 0 0 0	0 1429 26	71 1310 0
ApproachDel:	xxxxxx	xxxxxx	xxxxxx	xxxxxx

Approach[northbound][lanes=2][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]

SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=60]

FAIL - Approach volume less than 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=2896]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

PM Peak Hour - Buildout Conditions
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Signal Warrant Report

 Intersection #10 Old Redwood Hwy/William St-George St

 Future Volume Alternative: Peak Hour Warrant Met

 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R

 Control: Stop Sign Stop Sign Stop Sign Stop Sign
 Lanes: 1 0 1 1 0 1 0 1 1 0 0 0 1! 0 0 0 0 1! 0 0
 Final Vol.: 12 1481 6 23 1596 59 84 3 33 4 3 29
 ApprAdjDel: 199.5 261.0 12.1 10.5

 Approach[northbound][lanes=3][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=83.1]
 SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
 Signal Warrant Rule #2: [approach volume=1499]
 SUCCEED - Approach volume >= 150 for two or more lane approach.
 Signal Warrant Rule #3: [approach count=4][total volume=3331]
 SUCCEED - Total volume greater than or equal to 800 for intersection
 with four or more approaches.

 Approach[southbound][lanes=3][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=121.6]
 SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
 Signal Warrant Rule #2: [approach volume=1677]
 SUCCEED - Approach volume >= 150 for two or more lane approach.
 Signal Warrant Rule #3: [approach count=4][total volume=3331]
 SUCCEED - Total volume greater than or equal to 800 for intersection
 with four or more approaches.

 Approach[eastbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.4]
 FAIL - Vehicle-hours less than 4 for one lane approach.
 Signal Warrant Rule #2: [approach volume=119]
 SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
 Signal Warrant Rule #3: [approach count=4][total volume=3331]
 SUCCEED - Total volume greater than or equal to 800 for intersection
 with four or more approaches.

 Approach[westbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.1]
 FAIL - Vehicle-hours less than 4 for one lane approach.
 Signal Warrant Rule #2: [approach volume=36]
 FAIL - Approach volume less than 100 for one lane approach.
 Signal Warrant Rule #3: [approach count=4][total volume=3331]
 SUCCEED - Total volume greater than or equal to 800 for intersection
 with four or more approaches.

PM Peak Hour - Buildout Conditions
 Cotati Circulation Improvement Study
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Signal Warrant Report

 Intersection #11 W Sierra Ave/W School St-US 101 SB Ramp

 Future Volume Alternative: Peak Hour Warrant NOT Met

 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
 Lanes: 0 0 0 0 0 0 1! 0 0 0 1 0 0 1 0 0 1 0 0
 Final Vol.: 0 0 0 0 27 14 1 2 233 20 181 225 48
 ApprAdjDel: xxxxxx 20.1 xxxxxx xxxxxx

 Approach[southbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.2]
 FAIL - Vehicle-hours less than 4 for one lane approach.
 Signal Warrant Rule #2: [approach volume=43]
 FAIL - Approach volume less than 100 for one lane approach.
 Signal Warrant Rule #3: [approach count=3][total volume=751]
 SUCCEED - Total volume greater than or equal to 650 for intersection
 with less than four approaches.

PM Peak Hour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #12 W Sierra Ave/US 101 NB Off-ramp

Future Volume Alternative: Peak Hour Warrant NOT Met

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
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 1 0 0	0 0 1 0 0
Final Vol.:	43 0	315 0	0 0 242 0	0 0 460 0
ApproachDel:	12.8	xxxxxx	xxxxxx	xxxxxx

Approach[northbound][lanes=2][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=1.3]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=358]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=1061]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

PM Peak Hour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #13 W Sierra Ave/E School St

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Lanes:	0 0 0 0 0	0 0 1! 0 0	0 1 0 0 0	0 0 0 1 0
Final Vol.:	0 0 0 29	0 23 29 524	0 0 0 0	0 418 44
ApprAdjDel:	xxxxxx	9.3	17.7	14.1

Approach[southbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=52]

FAL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=1067]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

Approach[eastbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=2.7]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=553]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=1067]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

Approach[westbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=1.8]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=462]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=1067]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

PM Peak Hour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #15 E Cotati Ave/Charles St

Future Volume Alternative: Peak Hour Warrant Met

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
Lanes:	0 0 1! 0 0	0 0 0 0 0	0 0 0 1 0	1 0 1 0 0
Final Vol.:	5 0 274	0 0 0	0 1215 6	189 1169 0
ApproachDel:	204.3	xxxxxx	xxxxxx	xxxxxx

Approach[northbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=15.8]

SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=279]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=2858]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

PM Peak Hour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

Intersection #16 E Cotati Ave/La Salle Ave

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Lanes:	0 0 1! 0 0	0 0 0 1 0	0 1 0 1 0	1 0 1 1 0
Final Vol.:	162 1 153	10 4 16	2 1453 171	108 1139 2
ApprAdjDel:	19.6	11.6	317.2	101.7

Approach[northbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=1.7]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=316]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=3221]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=30]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=3221]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[eastbound][lanes=3][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=143.2]

SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=1626]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=3221]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=3][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=35.3]

SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=1249]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=3221]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

PM Peak Hour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

 Intersection #19 E Cotati Ave/Beverly Dr

 Future Volume Alternative: Peak Hour Warrant NOT Met

 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
 Lanes: 0 0 0 0 0 0 0 1! 0 0 1 0 2 0 0 1 0 1 1 0
 Final Vol.: 0 0 0 79 0 66 108 1548 0 2 1380 101
 ApproachDel: xxxxxx 30.9 xxxxxx xxxxxx

 Approach[southbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=1.2]
 FAIL - Vehicle-hours less than 4 for one lane approach.
 Signal Warrant Rule #2: [approach volume=145]
 SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
 Signal Warrant Rule #3: [approach count=3][total volume=3285]
 SUCCEED - Total volume greater than or equal to 650 for intersection
 with less than four approaches.

PM Peak Hour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Signal Warrant Report

 Intersection #20 E Cotati Ave/Santero Way

 Future Volume Alternative: Peak Hour Warrant Met

 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
 Lanes: 0 0 1! 0 0 0 0 0 0 0 0 0 1 1 0 1 0 2 0 0
 Final Vol.: 224 0 32 0 0 0 1483 144 25 1223 0
 ApproachDel: 522.5 xxxxxx xxxxxx xxxxxx

 Approach[northbound][lanes=1][control=Stop]
 Signal Warrant Rule #1: [vehicle-hours=37.2]
 SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
 Signal Warrant Rule #2: [approach volume=256]
 SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
 Signal Warrant Rule #3: [approach count=3][total volume=3131]
 SUCCEED - Total volume greater than or equal to 650 for intersection
 with less than four approaches.

PM Peak Hour - Buildout Conditions
Cotati Circulation Improvement Study
City of Cotati

Signal Warrant Report

Intersection #21 Old Redwood Highway/Henry-Charles St.

Future Volume Alternative: Peak Hour Warrant Met

	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Lanes:	0 1 0 0 1	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0
Final Vol.:	13 647 229	31 589 25	25 33 30	208 25 39
ApprAdjDel:	113.9	112.2	12.9	19.4

Approach[northbound][lanes=2][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=28.1]

SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=889]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1894]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=20.1]

SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=645]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1894]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[eastbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=0.3]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=88]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1894]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop]

Signal Warrant Rule #1: [vehicle-hours=1.5]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=272]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1894]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Appendix D
Traffic Model Network

Appendix E
Citywide Buildout Trip Generation

AM Buildout

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**AM Peakhour - Buildout Conditions
Cotati Circulation Improvement Study
City of Cotati**

Trip Generation Report

Forecast for AM

Zone	#	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1		1.00 zone trips	19.00	4.00	19	4	23	1.0		
	1	Zone 1 Subtotal					19	4	23	1.0
2		1.00 zone trips	213.00	42.00	213	42	255	10.7		
	2	Zone 2 Subtotal					213	42	255	10.7
3		1.00 zone trips	205.00	162.00	205	162	367	15.5		
	3	Zone 3 Subtotal					205	162	367	15.5
4		1.00 zone trips	141.00	78.00	141	78	219	9.2		
	4	Zone 4 Subtotal					141	78	219	9.2
5		1.00 zone trips	18.00	22.00	18	22	40	1.7		
	5	Zone 5 Subtotal					18	22	40	1.7
6		1.00 zone trips	12.00	36.00	12	36	48	2.0		
	6	Zone 6 Subtotal					12	36	48	2.0
7		1.00 zone trips	6.00	20.00	6	20	26	1.1		
	7	Zone 7 Subtotal					6	20	26	1.1
8		1.00 zone trips	14.00	15.00	14	15	29	1.2		
	8	Zone 8 Subtotal					14	15	29	1.2
9		1.00 zone trips	108.00	70.00	108	70	178	7.5		
	9	Zone 9 Subtotal					108	70	178	7.5
10		1.00 zone trips	5.00	7.00	5	7	12	0.5		
	10	Zone 10 Subtotal					5	7	12	0.5
11		1.00 zone trips	3.00	9.00	3	9	12	0.5		
	11	Zone 11 Subtotal					3	9	12	0.5
12		1.00 zone trips	11.00	33.00	11	33	44	1.9		
	12	Zone 12 Subtotal					11	33	44	1.9
13		1.00 zone trips	24.00	73.00	24	73	97	4.1		
	13	Zone 13 Subtotal					24	73	97	4.1
14		1.00 zone trips	2.00	5.00	2	5	7	0.3		
	14	Zone 14 Subtotal					2	5	7	0.3
15		1.00 zone trips	7.00	25.00	7	25	32	1.3		

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AM Buildout

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**AM Peakhour - Buildout Conditions
Cotati Circulation Improvement Study
City of Cotati**

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
	Zone 15 Subtotal					7	25	32	1.3
16	1.00 zone trips	9.00	6.00			9	6	15	0.6
	Zone 16 Subtotal					9	6	15	0.6
17	1.00 zone trips	9.00	30.00			9	30	39	1.6
	Zone 17 Subtotal					9	30	39	1.6
18	1.00 zone trips	2.00	9.00			2	9	11	0.5
	Zone 18 Subtotal					2	9	11	0.5
19	1.00 zone trips	153.00	95.00			153	95	248	10.5
	Zone 19 Subtotal					153	95	248	10.5
	TOTAL					961	741	1702	71.7

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AM Peakhour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Trip Generation Report

Forecast for AM Regional

Zone #	Subzone	Amount	Units	Rate	Rate	Trips		Total	% Of
				In	Out	In	Out	Trips	Total
20	SSU/Regional	1.00	SSU-Growth	242.00	56.00	242	56	298	12.6
	Zone 20 Subtotal					242	56	298	12.6
21	ORH Regional	1.00	ORH Regional G	24.00	50.00	24	50	74	3.1
	Zone 21 Subtotal					24	50	74	3.1
22	Gravenstein	1.00	Gravenstein Re	79.00	220.00	79	220	299	12.6
	Zone 22 Subtotal					79	220	299	12.6
TOTAL				345	326	671	28.3		

AM Buildout

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AM Peakhour - Buildout Conditions
 Cotati Circulation Improvement Study
 City of Cotati

Trip Distribution Report

Percent Of Trips Default

Zone	To Gates										
	1	2	3	4	5	6	7	8	9	10	11
1	25.0	41.0	8.0	6.0	2.0	1.0	2.0	5.0	2.0	6.0	1.0
2	25.0	41.0	8.0	6.0	2.0	1.0	2.0	5.0	2.0	6.0	1.0
3	30.0	25.0	10.0	5.0	7.0	1.0	4.0	5.0	2.0	8.0	1.0
4	28.0	23.0	10.0	5.0	7.0	4.0	4.0	5.0	2.0	8.0	1.0
5	28.0	23.0	10.0	5.0	7.0	4.0	4.0	5.0	2.0	8.0	1.0
6	20.0	25.0	15.0	15.0	12.0	0.0	0.0	0.0	5.0	5.0	1.0
7	18.0	19.0	15.0	15.0	12.0	1.0	15.0	0.0	0.0	2.0	1.0
8	18.0	19.0	15.0	15.0	12.0	1.0	15.0	0.0	0.0	2.0	1.0
9	15.0	15.0	13.0	10.0	9.0	3.0	8.0	7.0	1.0	2.0	5.0
10	18.0	18.0	15.0	15.0	12.0	1.0	7.0	6.0	3.0	2.0	1.0
11	18.0	18.0	17.0	15.0	13.0	0.0	7.0	6.0	1.0	2.0	1.0
12	18.0	18.0	17.0	15.0	13.0	0.0	7.0	6.0	1.0	2.0	1.0
13	18.0	18.0	17.0	15.0	12.0	1.0	7.0	6.0	1.0	2.0	1.0
14	18.0	18.0	17.0	15.0	12.0	1.0	7.0	6.0	0.0	2.0	1.0
15	18.0	20.0	13.0	15.0	10.0	0.0	8.0	7.0	3.0	1.0	2.0
16	18.0	20.0	13.0	15.0	10.0	0.0	8.0	6.0	3.0	1.0	2.0
17	18.0	20.0	13.0	15.0	11.0	0.0	8.0	6.0	3.0	1.0	2.0
18	18.0	20.0	13.0	15.0	11.0	0.0	8.0	6.0	3.0	1.0	2.0
19	18.0	19.0	14.0	15.0	11.0	0.0	8.0	6.0	3.0	1.0	2.0
20	15.0	0.0	15.0	5.0	0.0	5.0	0.0	5.0	0.0	10.0	10.0
21	75.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0
22	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Zone	To Gates				
	12	13	14	15	16
1	0.0	0.0	1.0	0.0	0.0
2	0.0	0.0	1.0	0.0	0.0
3	0.0	1.0	1.0	0.0	0.0
4	1.0	1.0	1.0	0.0	0.0
5	1.0	1.0	1.0	0.0	0.0
6	1.0	0.0	0.0	1.0	0.0
7	1.0	0.0	0.0	1.0	0.0
8	1.0	0.0	0.0	1.0	0.0
9	5.0	2.0	4.0	1.0	0.0
10	1.0	0.0	0.0	1.0	0.0
11	1.0	0.0	0.0	1.0	0.0
12	1.0	0.0	0.0	1.0	0.0
13	0.0	0.0	1.0	1.0	0.0
14	0.0	1.0	1.0	1.0	0.0
15	2.0	0.0	0.0	1.0	0.0
16	2.0	1.0	0.0	1.0	0.0
17	2.0	1.0	0.0	0.0	0.0

AM Buildout

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AM Peakhour - Buildout Conditions
Cotati Circulation Improvement Study
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Zone	To Gates				
	12	13	14	15	16
18	2.0	1.0	0.0	0.0	0.0
19	2.0	1.0	0.0	0.0	0.0
20	20.0	5.0	0.0	0.0	10.0
21	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0