

# 2008 annual traffic safety report



**San Luis Obispo Traffic Engineering Division & Police Department  
September 2009**

# table of contents

2008 report acknowledgements .....	V
a message from the public works and police departments.....	1
executive summary .....	2
section 1 .....	3
INTRODUCTION .....	3
1.1 How to Use This Report .....	3
section 2 .....	4
BACKGROUND.....	4
2.1 Study Objectives.....	4
2.2 Study Methodology.....	4
section 3.....	6
CITY-WIDE COLLISION STATISTICS .....	6
3.1 City-wide Collision Trends.....	6
3.2 Injury and Fatal Collision Trends.....	7
3.3 Private Property Collision Trend.....	9
3.4 Comparison with National, State and County Rates .....	10
3.5 Benefit/Cost Analysis .....	11
3.6 Pedestrian Collisions .....	13
3.7 Bicycle Collisions.....	15
section 4 .....	18
ENFORCEMENT STATISTICS.....	18
4.1 Annual Traffic Citation Data .....	18
4.2 Traffic Safety Index .....	19
4.3 Driving Under the Influence .....	20
4.4 Alcohol Involved Collisions .....	21
4.5 Top Primary Collision Factors .....	21
section 5.....	23
SAFETY INVESTIGATIONS.....	23
5.1 Neighborhood Traffic Management and Calming Program .....	23
section 6 .....	26
2008 HIGH COLLISION RATE LOCATIONS .....	26
6.1 Intersections and Segments .....	26
section 7.....	52
TRAFFIC ENFORCEMENT ACTIVITIES .....	52
7.1 Enforcement at High Collision Intersections and Segments .....	52
7.2 DUI Special Enforcement .....	52
7.3 Seatbelt Enforcement .....	52
7.4 Repeat Offenders - Suspended Licenses .....	53
7.5 Grant Programs .....	53
section 8.....	54
ONGOING EDUCATION CAMPAIGNS .....	54
8.1 Child Safety Seats.....	54
8.2 Bicycle Safety.....	54
8.3 Impaired Driver Offender Classes .....	55

<b>appendix 1</b> .....	<b>56</b>
<b>ARTERIAL / ARTERIAL INTERSECTIONS</b> .....	<b>56</b>
<i>Arterial / Arterial Intersections Prioritized by Accident Rate</i> .....	<i>57</i>
<b>appendix 2</b> .....	<b>63</b>
<b>ARTERIAL / COLLECTOR INTERSECTIONS</b> .....	<b>63</b>
<i>Arterial / Collector Intersections Prioritized by Accident Rate</i> .....	<i>64</i>
<b>appendix 3</b> .....	<b>70</b>
<b>ARTERIAL / LOCAL INTERSECTIONS</b> .....	<b>70</b>
<i>Arterial / Local Intersections Prioritized by Accident Rate</i> .....	<i>71</i>
<b>appendix 4</b> .....	<b>77</b>
<b>COLLECTOR / LOCAL INTERSECTIONS</b> .....	<b>77</b>
<i>Collector / Local Intersections Prioritized by Accident Rate</i> .....	<i>78</i>
<b>appendix 5</b> .....	<b>81</b>
<b>OTHER SIGNIFICANT INTERSECTIONS</b> .....	<b>81</b>
<i>Other Significant Intersections Prioritized by Accident Rate - Left Turn Collisions at Signalized Intersections</i> .....	<i>82</i>
<i>Other Significant Intersections Prioritized by Accident Rate - Collision at Intersections without All-way Control</i> .....	<i>86</i>
<b>appendix 6</b> .....	<b>90</b>
<b>ARTERIAL SEGMENTS</b> .....	<b>90</b>
<i>Arterial Segments Prioritized by Accident Rate</i> .....	<i>91</i>
<b>appendix 7</b> .....	<b>102</b>
<b>COLLECTOR SEGMENTS</b> .....	<b>102</b>
<i>Collector Segments Prioritized by Accident Rate</i> .....	<i>103</i>

## tables and figures

TABLE 3.1.1 - CITY-WIDE ANNUAL COLLISION DATA, 1999-2008 .....	6
FIGURE 3.1.2 - NINE YEAR COLLISION TREND.....	7
TABLE 3.2.1 - CITY-WIDE ANNUAL INJURY AND FATAL COLLISIONS, 1999-2008 .....	7
FIGURE 3.2.2 - NINE YEAR INJURY COLLISION TREND .....	8
FIGURE 3.2.3 - INJURY COLLISIONS AS PERCENT OF TOTAL COLLISIONS .....	8
TABLE 3.3.1 - PRIVATE PROPERTY COLLISION TRENDS, 1999-2008 .....	9
TABLE 3.4.1 - COMPARISON OF INJURY & DEATH RATES .....	11
TABLE 3.5.1 - ECONOMIC COSTS, 2008.....	12
TABLE 3.5.2 - COMPREHENSIVE COSTS, 2008 .....	12
TABLE 3.5.3 - CITY OF SAN LUIS OBISPO ECONOMIC COSTS, 2001-2008 TRAFFIC COLLISIONS .....	13
TABLE 3.6.1 - 1999-2008 PEDESTRIAN COLLISIONS .....	13
FIGURE 3.6.2 - 1999-2008 PEDESTRIAN COLLISION TREND.....	14
TABLE 3.6.3 - 2008 PEDESTRIAN COLLISIONS BY TYPE, LOCATION, & FAULT .....	14
TABLE 3.7.1 – 1999-2008 BICYCLE COLLISIONS .....	15
FIGURE 3.7.2 – 1999-2008 BICYCLE COLLISIONS .....	16
TABLE 3.7.3 – 2008 BICYCLE COLLISION BY TYPE & FAULT.....	16
TABLE 4.1 - TRAFFIC CITATIONS ISSUED .....	18
TABLE 4.2 – TRAFFIC SAFETY INDEX.....	19
FIGURE 4.3.1 – TOTAL DUI ARRESTS 1999-2007 .....	20
FIGURE 4.3.2 – FELONY DUI ARRESTS 1999-2007 .....	20
FIGURE 4.3.3 – 2007 DUI ARRESTS BY AGE .....	20
TABLE 4.5.1 – PRIMARY COLLISION FACTORS BY COLLISION SEVERITY .....	21
TABLE 4.5.2 – CITATIONS BY COLLISION FACTOR .....	22
TABLE 5.2 - 2008 COMPLETED SAFETY PROJECTS .....	25
TABLE 6.1.1 – TOP FIVE PEDESTRIAN COLLISION LOCATIONS.....	28
TABLE 6.1.2 – TOP FIVE BICYCLE COLLISION LOCATIONS .....	31
TABLE 6.1.3 - RECOMMENDATIONS FOR INTERSECTIONS INVOLVING TWO ARTERIAL STREETS.....	34
TABLE 6.1.4 - RECOMMENDATIONS FOR INTERSECTIONS INVOLVING ARTERIAL/COLLECTOR STREETS	37
TABLE 6.1.5 - RECOMMENDATIONS FOR INTERSECTIONS INVOLVING ARTERIAL/LOCAL STREETS .....	40
TABLE 6.1.6 - RECOMMENDATIONS FOR INTERSECTIONS INVOLVING COLLECTOR/LOCAL STREETS .....	43
TABLE 6.1.7 - RECOMMENDATIONS FOR OTHER SIGNIFICANT INTERSECTIONS: 5+ LEFT TURN COLLISIONS AT SIGNALIZED INTERSECTIONS.....	44
TABLE 6.1.8 - RECOMMENDATIONS FOR OTHER SIGNIFICANT INTERSECTIONS: 5+ COLLISIONS AT INTERSECTIONS WITHOUT ALL-WAY CONTROL .....	46
TABLE 6.1.9 - RECOMMENDATIONS FOR ARTERIAL SEGMENTS .....	48
TABLE 6.1.10 - RECOMMENDATIONS FOR COLLECTOR SEGMENTS .....	51

## 2008 report acknowledgements

---

### City Council

Dave Romero, Mayor  
Allen Settle, Vice Mayor  
Andrew Carter  
Jan Howell Marx  
John Ashbaugh

### City Administration

Ken Hampian, City Manager  
Shelly Stanwyck, Assistant City Manager

### Public Works Department

Jay Walter, Public Works Director  
Timothy S. Bochum, Deputy Director of Public Works  
Jake Hudson, Senior Traffic Engineer  
Peggy Mandeville, Principal Transportation Planner  
Chris Overby, Engineer II – Traffic  
Matt Crisp, Engineer II - Traffic  
Bryan Wheeler, Transportation Intern  
Mateo Echabarne, Transportation Intern  
Jessie Holzer, Transportation Intern

### Police Department

Deborah Linden, Chief of Police  
Daniel Blanke, Operations Captain  
Ian Parkinson, Operations Captain  
Steve Tolley, Operations Lieutenant  
Kerri Rosenblum, Communications and Records Manager  
Jeff Booth, Traffic Sergeant

## a message from the public works and police departments

Welcome to the 8th edition of the City of San Luis Obispo Traffic Safety Report prepared by staff from the Public Works and Police Departments. The Annual Traffic Safety Report was first published in 2002 in an attempt to identify high collision locations within the City and actively pursue mitigation improvements that would reduce collision rates and improve safety for our citizens.

Calendar year 2008 was another watershed year for the City's traffic safety program. Total reported collisions were the lowest in the eight year history of the traffic safety program.

Collisions in 2008 were about 9% lower than recorded collisions in 2007 and approximately 37% lower than the total recorded in the first year (2002) of the traffic safety program. Injury collisions were also down by approximately 8% from 2007 and approximately 23% lower than the total recorded in the first year of the traffic safety program. These reductions are statistically significant and a very positive indication of the effectiveness of the traffic safety program. Traffic fatalities in any given year are usually random and there were no fatalities in the City in 2008. In 2009 the City received international recognition of its traffic engineering practices, including this annual safety program, from the Institute of Transportation Engineers with the Public Agency Council Achievement award.

The 2008 Traffic Safety Report again looks at bicycle and pedestrian collisions and tracks occurrences to identify potential high profile locations. Similar to fatal collisions, bicycle and pedestrian collision rates tend to occur sporadically both in location and number of occurrences. This continued to be the case in 2008, when pedestrian collisions went up by 39% from 2007. Bicycle collisions were unchanged from 2007 to 2008.

As in previous Traffic Safety Reports, staff reviewed all high collision rate intersections and segment locations, and has recommended mitigation measures to increase safety at the top five locations in each category. Our goal is that the combination of thorough analysis, appropriate mitigation, and consistent and focused education and enforcement will continue to reduce traffic collisions and injuries and improve the safety of our motoring, walking, and bicycling public.

We would like to thank and acknowledge Public Works employees Jake Hudson, Peggy Mandeville, Chris Overby, Bryan Wheeler, and Mateo Echabarne, and Police Department employees Jeff Booth, Kerri Rosenblum, and Steve Tolley for efforts work in compiling the necessary information that has gone into this report and disseminating the data to make recommendations for appropriate improvements. Staff from both departments will diligently implement the recommendations outlined in this report in order to continue to make our City streets safer.

Jay Walter  
Director of Public Works

Deborah Linden  
Chief of Police

## executive summary

---

In January 2002, the City initiated its first comprehensive Traffic Safety Program aimed at reducing collisions at the highest collision locations in the City. The program concentrates on identifying all intersections and roadway segments which have experienced three or more collisions in a one-year period and then prioritizes these locations based upon collision rates, as compared to similar locations within the City. Collision patterns at the highest collision rate locations are then analyzed using collision diagrams that are produced using state of the art computer software. Each of the locations is then reviewed by staff to determine if mitigation measures can be implemented to reduce the likelihood of occurrence for the identified collision patterns.

Mitigation measures for high collision rate locations for calendar year 2008 have been identified and are summarized in this report. The Annual Traffic Safety Report is prepared each year to review and report on City traffic safety benchmarks, improve traffic safety performance and maintain high levels of service for our City residents, business owners and visitors.

Since the City initiated the Traffic Safety report in 2002, traffic collisions have been on a downward trend, with the exception of 2004 in which the City experienced a spike in accidents due in part to an influx of construction within the City right-of-way, namely the Foothill Bridge closure, substantial new construction in the downtown, and seismic retrofits in the downtown. In 2008, the number of reported collisions dropped and was the lowest in the eight years of the safety program.

Injury collisions were down in 2008 (237), as compared to 2007 (257). The number of fatality collisions in any given year is usually very random; in 2008 there were no reported traffic fatalities.

The 2008 Traffic Safety Report again looks at bicycle and pedestrian collisions and tracks their occurrences to identify potential high profile locations. Similar to fatal collisions, bicycle and pedestrian collision rates are sporadic from a location and occurrence perspective. This continued to be the case for the City with pedestrian collisions up 39% from 2007 totals (25 from 18), while bicycle collisions remained unchanged from 2007, with 59 incidents in the 2008 calendar year.

## section 1

---

### introduction

#### 1.1 How to Use This Report

Every year the City of San Luis Obispo prepares a Traffic Safety Report for the previous twelve month period in order to: 1) determine the locations within the City that have the highest collision rates in comparison to like locations, 2) identify the predominant pedestrian and bicycle collision types and high collision locations, 3) evaluate the effectiveness of mitigation measures implemented in the previous twelve month period, 4) identify if new locations should be mitigated, and 5) determine if the types of collisions and previous collision trends have changed. This report identifies locations that may require special attention or mitigation in order to reduce the number of collisions or lessen the severity of future collisions. The report is normally prepared after City collision statistics become available in April or May of the following year.

The locations mentioned in this report should not be interpreted as a list of dangerous or “least safe” intersections within the City of San Luis Obispo. The specific total number of collisions for any location in a given year is a function of various factors such as weather patterns, construction, roadway conditions, and driver habits. Many of these factors are often difficult to identify and are most often beyond the ability of the engineer to change or control. However, the City's mitigation program attempts to identify roadway elements that can be modified in order to make the transportation infrastructure more driver friendly, reduce driver confusion, promote bicycle and pedestrian safety, and limit impact severity.

It is natural to expect that any location in the City will experience years above or below the expected value of collision rates that might be common to similar locations City-wide. Traffic volumes play an important role in determining the likelihood of collision totals (The more pedestrians and vehicles that use a location will increase the likelihood that a collision will occur). This report looks to identify locations that fall above the expected rate of similar City locations and then propose mitigation measures, if necessary, to reduce collision potential and limit collision severity.



## section 2

---

### BACKGROUND

#### 2.1 Study Objectives

The objective of the Annual Traffic Safety Report is essentially to identify the high collision locations in the City and track collision reductions through the various City safety programs and projects that the City administers each year. The specific objectives of the 2008 Traffic Safety Report are:

- Identify the intersections and segments within the City associated with the highest collision rates, and thoroughly analyze collision diagrams so as to suggest remedial mitigation measures for the five highest locations that will reduce the potential for collisions, and;
- Identify other significant signalized and non-signalized intersections which meet State warrants for traffic control upgrades, and;
- Identify the predominant pedestrian and bicycle collision types and high collision locations, and thoroughly analyze collision diagrams and police reports so as to determine remedial mitigation measures for the five highest pedestrian and bicycle collision locations that may reduce the potential for collisions and;
- Report on engineering safety analysis conducted in the previous 12-month period that the City and general public have identified as areas of concern regarding appropriate traffic control.

#### 2.2 Study Methodology

##### Collision Data

*It is important to note that the data contained within the Public Works Traffic Collision Database will vary from other sources of collision data such as the California - Statewide Integrated Traffic Records System (SWITRS) or the City's Emergency Dispatch Records System.*

While SWITRS data is similarly derived from official police collision reports, some reports are coded incorrectly due to jurisdictional boundary issues and/or agency reporting inaccuracies. An example of this might be a collision occurring on Highway 101 – because the facility is under Caltrans jurisdiction, this collision record and its potential remediation would not be included in this report. However, because the CHP report may state the collision occurred within the City of San Luis Obispo, the SWITRS database might contain this as a collision under our jurisdiction. Likewise, City emergency dispatch may receive a call regarding a traffic collision but when the dispatched officer arrives, the vehicles have been moved on or there is no evidence of occurrence. Therefore, statistics derived from this data may be inaccurate for engineering purposes because no official proof or record exists of the actual collision type.

Reported traffic collisions obtained by the City Police Department are the basis used by the City Traffic Engineering Division to determine traffic safety. Report totals were obtained for each

intersection and roadway segment within the City and entered into the City's traffic collision database. These locations were then grouped by street characteristic and collision type. Collision diagrams were then generated using this data and interpretations of collision patterns were formulated.

Based on the collision patterns for the five highest ranked collision locations for each location and roadway segment sub-category, mitigation measures are formulated where a collision pattern can be identified. Mitigation measures for these sub-categories will be implemented as projects are designed and funding becomes available.

**Traffic Volumes**

Vehicle and pedestrian volumes play an important role in establishing collision rates for selected locations within the City. Vehicle volume counts were collected in 2007/2008 as a basis to establish actual conditions in the field environment. Where volume counts were not available, volumes were estimated based on previous experience and engineering judgment. Volume counts were then used for the majority of the locations to establish isolated and average collision rates for each intersection.

**Collision Rate Calculations**

Collision rates were calculated using the following formulas:

Intersections:	Segments:
RI = $\frac{N \times 1,000,000}{V \times 365}$	RS = $\frac{N \times 1,000,000}{365 \times V \times L}$

Where:

- RI = Intersection Collision Rate = Collision frequency per million vehicles entering the intersection.
- RS = Segment Collision Rate = Collision frequency per million vehicle miles traveled along the segment.
- N = Number of collisions (collision frequency) of the location.
- V = Average daily vehicular volume using the street segment or intersection.
- L = Length of street segment (in miles) being analyzed.

Pedestrians:	Bicycles:
PREV = $\frac{5 \times N \times PHVV}{PHPV}$	BREV = $\frac{5 \times N \times PHVV}{PHBV}$

Where:

- PREV = Pedestrian relative exposure value.
- BREV = Bicycle relative exposure value.
- N = Number of collisions (collision frequency) of the location.
- PHVV = Average peak hour vehicular volume.
- PHPV = Average peak hour pedestrian volume.
- PHBV = Average peak hour bicycle volume.

These equations represent the recommended crash rate statistics used by federal, state and local jurisdictions for comparative purposes. They are based upon statistics recommended by the National Highway Traffic Safety Association (NHTSA) and the Institute of Transportation Engineers. The pedestrian and bicycle relative exposure value formula is derived from the traditional automobile collision rate calculations, however it factors the volume of either the bicycle or pedestrian and cross references them with that of vehicles at a specific location.

## section 3

### city-wide collision statistics

---

#### 3.1 City-wide Collision Trends

Reportable collision statistics for the City are included in this section. Any reported collision within the public right-of-way that involved a fatality, personal injury, or property damage was recorded as a collision. Collisions that occurred on private property, out of the public right of way, outside of City limits, on Highway 101, or that were not reported to the police department are not entered into the City's database.

While reported collisions do not represent all collisions that occur within the City, they remain the basis with which the City determines both collision trends and effectiveness of City programs. The number of reported traffic collisions varies due to many social factors. Often minor traffic collisions, non-injury collisions, and private property collisions go unreported and as such are highly unreliable in determining "high profile" collision locations for investment in infrastructure changes. Monitoring these types of collisions or dispatches is important from a Police Enforcement standpoint and resource allocation perspective. Table 3.1 shows the reported traffic collision history of the City for intersections and total collisions on all roadways. Figure 3.1 shows the reported traffic collision on all roadways over the ten year tracking period of the safety program.

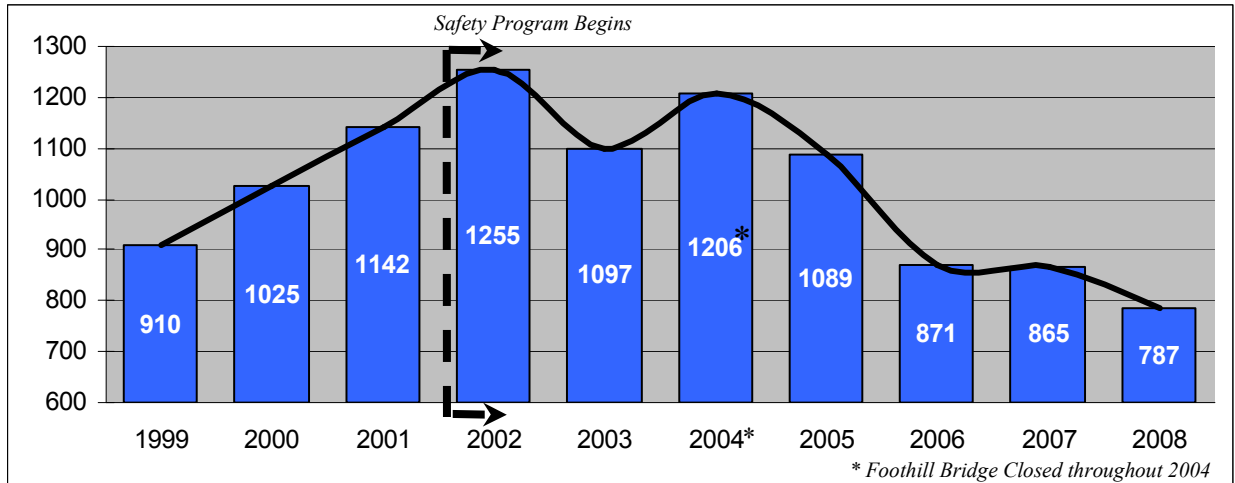
**Table 3.1.1 - City-wide Annual Collision Data, 1999-2008**

Year	Reported Collisions			
	Intersections Collisions	% Change	Total Collisions	% Change
1999	587	-	910	-
2000	646	10.05	1025	12.64
2001	768	18.89	1142	11.41
2002	751	-2.21	1255	9.89
2003	670	-10.79	1097	-12.59
2004	731	9.1	1206	9.94
2005	693	-5.2	1089	-9.7
2006	558	-19.48	871	-20.02
2007	565	1.25	865	-0.69
2008	457	-19.12	787	-9.02

*Source: City of San Luis Obispo Traffic Collision Database*

Variations in yearly collisions are to be expected. While total collisions are a good indicator of the overall performance of the City's traffic safety programs, injury collisions are better indicators of changes in collision trends and are the most reliable collision indicators when monitoring the safety of a transportation system.

**Figure 3.1.2 - Nine Year Collision Trend**



The City saw a reduction in total collisions from 2007 to 2008 by approximately 9%. Collisions in San Luis Obispo have declined continuously over the last seven years, beginning in 2002 when the safety program was started. Total collisions have dropped approximately 5% per year since the program’s inception. In 2008, total collisions were down 37% since the program began in 2002.

### 3.2 Injury and Fatal Collision Trends

The Traffic Engineering Division tracks injury and fatal collisions as an important part of the current Traffic Safety Program. Injury collisions are seldom left unreported and are more helpful in indicating locations of higher significance than are minor collisions. Table 3.2 shows the injury collision history recorded by the City’s traffic safety program.

**Table 3.2.1 - City-wide Annual Injury and Fatal Collisions, 1999-2008**

Year	Total Reported Collisions on Public Streets			
	Total Inj. Collisions	% Change	Fatal Collisions	% Change
1999	240	-	2	-
2000	269	12.08	2	0
2001	265	-1.49	1	-50
2002	309	16.6	1	0
2003	307	-0.65	0	-100
2004	315	2.61	4	400
2005	285	-9.52	3	-25
2006	250	-12.28	2	-33
2007	257	2.8	0	-100
2008	237	-7.78	0	0

Source: City of San Luis Obispo Traffic Collision Database

Injury collisions in the City were also down in 2008 by about 8% (approx. 20 collisions) from 2007 reported numbers. Total injury collisions have been steadily declining since their highest number in 2004 (see Figure 3.2.1). This past year, injury collisions were the lowest on record for the Traffic Safety Report, surpassing the previous low mark in 1999. Injury collisions as a percentage of total collisions were higher than past years at 30%, but only by a few percentage points (see Figure 3.2.2).

**Figure 3.2.2 - Nine Year Injury Collision Trend**

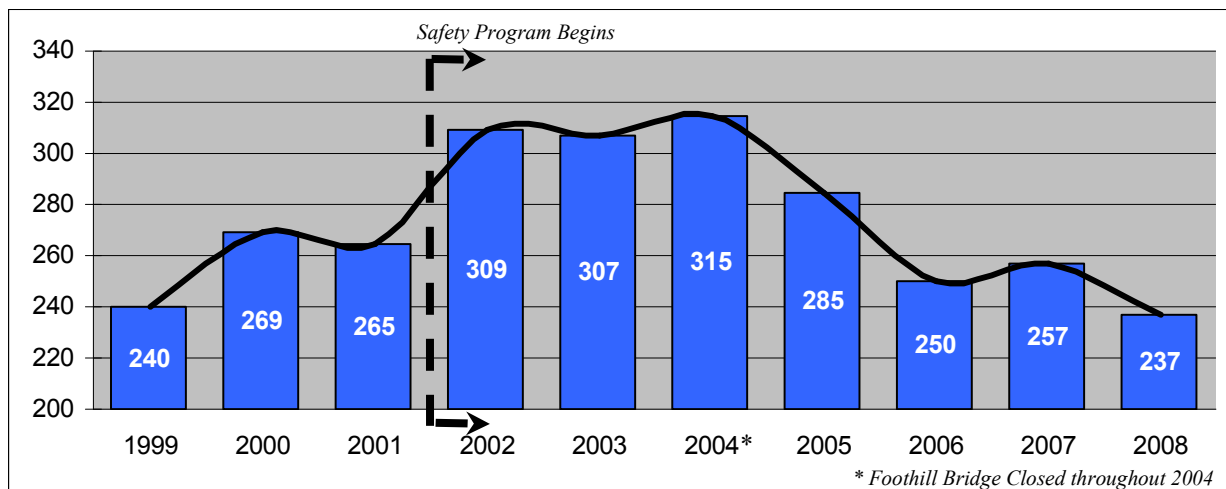
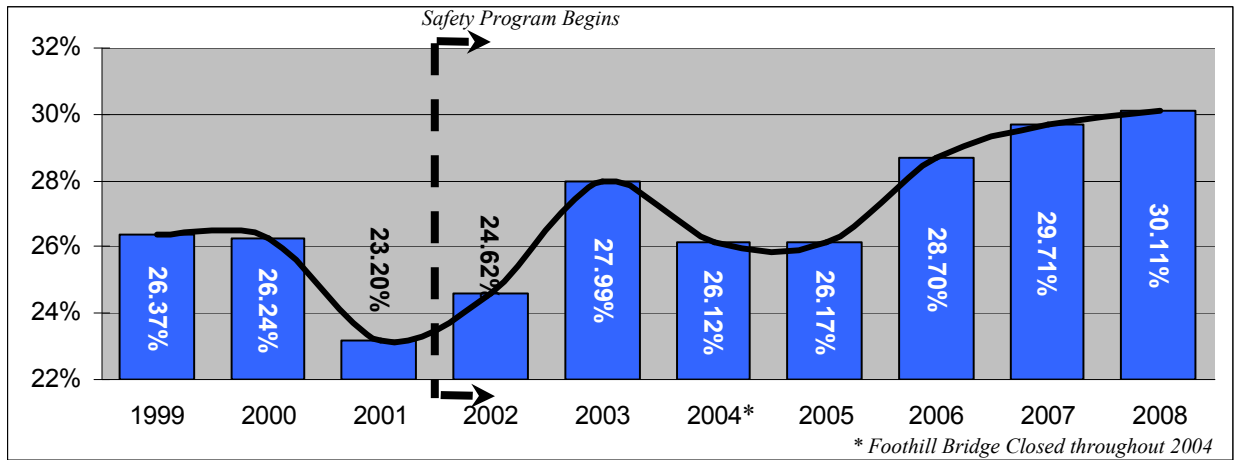


Figure 3.2.3 compare the Injury collisions as a percentage of all reported collisions that occur within the City. This factor can be used to identify the likelihood of injury when involved in a collision. The statistic will increase when total collisions drop but injury rates remain the same. Overall it merely gives an indication of the potential for injury that may occur and show the comparison to non-injury crashes.

**Figure 3.2.3 - Injury Collisions as Percent of Total Collisions**



### **Fatal Collisions**

Annual traffic fatalities have a tendency to fluctuate from year to year. This variation is due to many factors that are often beyond the control of engineering professionals or law enforcement officers. However, the City's Traffic Safety program attempts to reduce fatal collisions by removing conflicting vehicular and pedestrian movements at appropriate locations, limiting collision severity through improvements to roadway design features, and promoting traffic safety through a community outreach program.

As mentioned above, fatality collisions in any given year is usually very random. This was the case in 2004, 2005, and 2006 when the City experienced a sharp increase in total fatalities: there were (4) in 2004, (3) in 2005, and (2) in 2006 over the 2003 total of zero (0) fatalities. In previous years there have been between one and two fatalities per year, except in 2003 when there were no fatalities. In 2007 and 2008, there were also no reported fatalities on city streets.

### **3.3 Private Property Collision Trend**

Private property collisions are not typically utilized to analyze traffic safety because these collisions occur outside the public right of way and are not subject to corrective measures by City staff. However, some collisions that occur on private property are subject to investigation and enforcement action by the Police Department, specifically collisions that result in an injury, involve a DUI driver, or in which a party flees the scene (hit and run collisions). These collisions utilize enforcement and investigative resources and tracking them is helpful in considering the overall collision activity throughout the City.

The number of reported private property collisions involving an injury, DUI driver, or hit and run doubled from 2007 to 2008 (from 80 to 160). Twenty-seven percent of the reported collisions involved hit and run collisions. Private property collisions which resulted in injuries increased 11% (from 17 to 19). Analysis of these collisions will continue in order to attempt to identify patterns or locations of frequent private property collisions and to work with property owners in preventing and reducing collisions if possible.

**Table 3.3.1 - Private Property Collision Trends, 1999-2008**

Year	Total Collisions	% Change	Total Injury	% Change
1999	58	-	16	-
2000	72	24.10%	14	-12.50%
2001	105	45.80%	12	-14.30%
2002	103	-1.90%	12	0.00%
2003	104	1.00%	12	0.00%
2004	103	-1.00%	12	0.00%
2005	100	-2.90%	12	0.00%
2006	77	-23.00%	9	-25.00%
2007	80	3.90%	17	88.90%
2008	160	100.00%	19	11.80%

Source: City of San Luis Traffic Collision Database

### 3.4 Comparison with National, State and County Rates

Author's Note: All national and state statistics and cost estimates contained in this section are the most up to date figures available at the time of this publication.

Table 3.4 demonstrates the significant difference between City death and injury rates and the National statistics. The numbers in this table represent the actual number of injuries or fatalities resulting from traffic collisions, not the number of collisions that involved injuries or fatalities.

**Table 3.4.1 - Comparison of Injury & Death Rates**

<b>2008 Fatalities</b>			
	Fatalities	Population	Rate Per 100k Population
Nationally*	41,059	301,290	13.63
State Wide*	3,967	37,559	10.58
City of San Luis Obispo	0	45	0
<b>2008 Injuries</b>			
	Injuries	Population	Rate Per 100k Population
Nationally*	2,491,000	301,290	826.75
State Wide*	266,687	37,559	711.17
City of San Luis Obispo	260	45	577.78

\* National and State Statistics are from 2007 because 2008 information was not available at the time this report was being produced.

### **3.5 Benefit/Cost Analysis**

The National Safety Council has provided the following information and estimates.

There are two methods currently used to measure the costs of motor-vehicle collisions: the economic cost framework and the comprehensive cost framework. Economic costs may be used by a community or state to estimate the economic impact of motor-vehicle collisions that occurred within its jurisdiction in a given time period. The calculation is a measure of the productivity lost and expenses incurred due to the collisions. Economic costs should not be used for cost-benefit analyses because they do not reflect what society is willing to pay to prevent a statistical fatality or injury.

There are five economic cost components: (a) wage and productivity losses, which include wages, fringe benefits, household production, and travel delay; (b) medical expenses including emergency service costs; (c) administrative expenses, which include the administrative cost of private and public insurance plus police and legal costs; (d) motor-vehicle damage including the value of damage to property; and (e) employer costs for collisions to workers.

The information in table 3.5.1 shows the average economic costs in 2008 per death (not per fatal collision), per injury (not per injury collision), and per property damage collision. These cost estimates are based upon 2007 actual collision cost calculations and are adjusted to 2008 costs based on consumer price indexes.



**Table 3.5.1 - Economic Costs, 2008**

Collision Type	Dollar Loss
Death	\$1,304,000
Nonfatal disabling injury	\$59,100
Incapacitating injury	\$67,500
Non-incapacitating evident injury	\$21,800
Possible injury	\$12,500
Property damage collision (including minor injuries)	\$8,800

*Source: National Highway Traffic Safety Administration (Traffic Safety Facts 2006) & Adjusted to Year 2008 \$'s*

Comprehensive costs include not only the economic cost components, but also a measure of the value of lost quality of life associated with the deaths and injuries, that is, what society is willing to pay to prevent them. The values of lost quality of life were obtained through empirical studies of what people actually pay to reduce their safety and health risks, such as through the purchase of smoke detectors or vehicles with air bags.

Comprehensive costs should be used for cost-benefit analysis. However, because the lost quality of life represents only a dollar equivalence of intangible qualities they do not represent real economic losses and therefore should not be used to determine the economic impact of past collisions. The information in Table 3.5.2 below shows the average comprehensive costs in 2008 on a per person basis. These cost estimates are based on 2007 actual collision cost calculations and were adjusted to 2008 dollars, the latest at the time of this publication.

Currently, the City's collision reports only indicate injury collisions reported at the collision scene. No determinations are made regarding the injury type, as shown in the above tables. Therefore, comprehensive cost estimates for this analysis will assume that all injury types fall into the category of "Non-incapacitating evident injury." Table 3.5.3 shows the 2008 comprehensive economic costs in collisions for the City using annual cost estimates.

**Table 3.5.2 - Comprehensive Costs, 2008**

Collision Type	Dollar Loss
Death	\$4,309,000.00
Incapacitating injury (a)	\$217,100.00
Non-incapacitating evident injury (a)	\$54,000.00
Possible injury (a)	\$26,000.00
No injury	\$2,400.00

*Source: National Highway Traffic Safety Administration (Traffic Safety Facts 2002), adjusted to 2007 \$'s*

**Table 3.5.3 - City of San Luis Obispo Economic Costs, 2001-2008 Traffic Collisions**

Year	Collision Type						Total Dollar Loss
	Death		Non-incapacitating		Property Damage Only		
	Number	Cost(a)	Number	Cost(a)	Number	Cost(a)	
2001	1	\$1,304,000	335	\$7,303,000	877	\$7,717,600	\$16,324,600
2002	1	\$1,304,000	396	\$8,632,800	946	\$8,324,800	\$18,261,600
2003	0	\$0	400	\$8,720,000	794	\$6,987,200	\$15,707,200
2004	4	\$5,216,000	376	\$8,196,800	887	\$7,805,600	\$21,218,400
2005	3	\$3,912,000	362	\$7,891,600	804	\$7,075,200	\$18,878,800
2006	2	\$2,608,000	299	\$6,518,200	621	\$5,464,800	\$14,591,000
2007	0	\$0	308	\$6,714,400	608	\$5,350,400	\$12,064,800
2008	0	\$0	260	\$5,668,000	456	\$4,012,800	\$9,680,800

*Note: Economic costs are based upon 2007 cost estimates, adjusted to 2008 \$'s*

While the dollar amounts depicted in Table 3.5.3 do not equate to tangible monetary costs, it is evident that the annualized costs to city motorists, insurance companies and medical providers depend on the number (and type) of traffic collisions that occur within the City. The total cost amount depends on the collision type and is proportional to the severity of each type of collision. These values represent the cost of traffic collisions to society and can be used as a comparative measure for quality of life.

### 3.6 Pedestrian Collisions

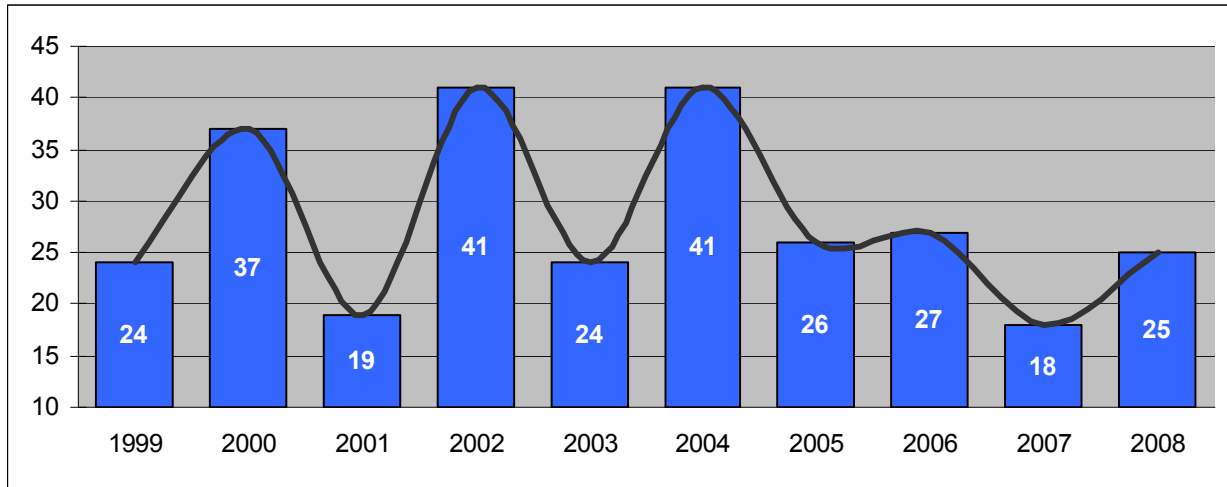
The number of annual pedestrian collisions has seen regular fluctuations over the past eight years and this pattern continued in 2008. There were 25 total pedestrian related collisions reported in 2008, which is 39% higher than in 2007. Table 3.6.1 indicates the history of reported pedestrian related collision in the city.

**Table 3.6.1 - 1999-2008 Pedestrian Collisions**

Year	Total Reported Pedestrian Collisions on Public Streets	% Change
1999	24	-
2000	37	54
2001	19	-49
2002	41	116
2003	24	-41
2004	41	71
2005	26	-37
2006	27	4
2007	18	-33
2008	25	39

*Source: City of San Luis Obispo Traffic Collision Database*

**Figure 3.6.2 - 1999-2008 Pedestrian Collision Trend**



The study's method of evaluation follows the recommendations of the U.S. Federal Highway Administration (FHWA) by which pedestrian collisions are classified according to their collision type. The primary factor contributing to pedestrian collisions in 2008 was pedestrians crossing at mid-block locations, not in a marked crosswalk. The following table lists the various types of pedestrian related collisions, the locations of pedestrians in those collisions, and the determination of fault as detailed in police reports.

**Table 3.6.3 - 2008 Pedestrian Collisions by Type, Location, & Fault**

Pedestrian Collision Type	# Cases	% of Total	Severity		
			Injury	Fatal	PDO
In Road – Crossing Midblock	6	24%	5	0	1
In X-Walk - Motorist Left Turn in Front of Pedestrian	4	16%	4	0	0
In X-Walk - Motorist Right Turn in Front of Pedestrian	4	16%	3	0	1
In X-Walk - Pedestrian Yield Violation	4	16%	3	0	1
In X-Walk - Motorist Right of Way Violation	3	12%	3	0	0
Other	3	12%	1	0	2
In X-Walk – Midblock	1	4%	1	0	0
In X-Walk - Motorist Right Turn Facing Pedestrian	0	0%	0	0	0
In Road - Not Crossing	0	0%	0	0	0
Total:	25	100%	20	0	5

Pedestrian Collision Location	2005		2006		2007		2008	
	#	%	#	%	#	%	#	%
Signal	8	31%	9	33%	8	44%	10	40%
Out of Crosswalk - Midblock	7	27%	3	11%	2	11%	6	24%
Stop - Unmarked Crosswalk	3	11%	6	22%	2	11%	4	16%
Uncontrolled - Unmarked Crosswalk Local	1	4%	0	0%	0	0%	3	12%
Uncontrolled - Unmarked Crosswalk Major/Collector	1	4%	1	4%	0	0%	1	4%
Uncontrolled - Marked	1	4%	2	7%	3	17%	1	4%
Not in Road (Sidewalk)	0	0%	0	0%	0	0%	0	0%
In Road (not crossing)	3	11%	4	16%	3	17%	0	0%
Stop - Marked Crosswalk	2	8%	2	7%	0	0%	0	0%
Total:	26	100%	27	100%	18	100%	25	100%

Party at Fault	2005		2006		2007		2008	
Driver	15	58%	21	78%	14	71%	14	56%
Pedestrian	11	42%	6	22%	4	29%	11	44%
Total:	26	100%	27	100%	18	100%	25	100%

Source: City of San Luis Obispo Traffic Collision Database

### 3.7 Bicycle Collisions

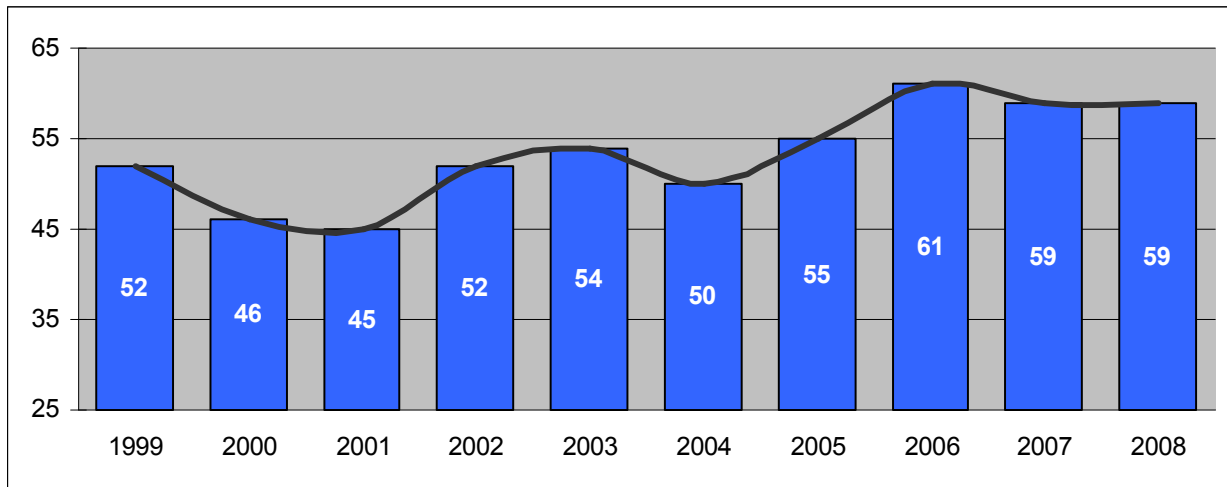
There were 59 collisions reported in 2008. This is the same number as in the 2007 report however there is an upward trend in bicycle related crashes on an annualized basis. The number of collisions in 2008 was slightly higher than the average number of collisions for the 10 years of the report, which is 53 collisions per year.

**Table 3.7.1 – 1999-2008 Bicycle Collisions**

Year	Total Reported Bicycle Collisions on Public Streets	% Change
1999	52	-
2000	46	-12
2001	45	-2
2002	52	16
2003	54	4
2004	50	-7
2005	55	10
2006	61	11
2007	59	-3
2008	59	0

Source: City of San Luis Obispo Traffic Collision Database

**Figure 3.7.2 – 1999-2008 Bicycle Collisions**



This upward trend could be occurring for a number of reasons but it primarily coincides with the increased bicycle volumes recorded by the City.

The TSR method of evaluating these types of collisions follows the recommendations of the U.S. Federal Highway Administration (FHWA) which classifies bicycle collisions according to their collision type. The FHWA’s classification system includes 38 different collision types, only 14 of which occurred on City streets in 2008. In general the majority of factors contributing to bicycle collisions in 2008 were cyclists losing control and cyclists operating their bicycles against the flow of traffic. The Party at Fault table has an area for “Other / None” parties at fault for bicycle mechanical failure or roadway surface causing a bicycle to overturn, and for cases when fault cannot be determined.

**Table 3.7.3 – 2008 Bicycle Collision by Type & Fault**

Collision Type	Number of Cases	% of Total	Cyclist's Position			Severity		
			Sidewalk	Road	X-Walk	Injury	Fatal	PDO
Cyclist Lost Control	15	25%	3	11	1	15	0	0
Wrong Way Cyclist	9	15%	2	6	1	9	0	0
Motorist Left Turn - Facing Cyclist	9	15%	0	9	0	7	0	2
Drive Out At Controlled Intersection	7	12%	0	6	1	5	0	2
Motorist Right Turn - In Front of Cyclist	5	8%	0	5	0	4	0	1
Motorist Overtaking - Misjudged Passing Space	3	5%	0	3	0	2	0	1
Motorist Open Door Into Path of Cyclist	2	3%	0	2	0	2	0	0
Bicyclist DUI	2	3%	0	2	0	2	0	0
Cyclist Left Turn In Front Of Motorist	2	3%	0	2	0	1	0	1
Motorist Left Turn - In Front of Cyclist	2	3%	0	2	0	0	0	2
Motorist Right Turn - Facing Cyclist	1	2%	0	1	0	1	0	0
Drive Out At Uncontrolled Intersection	1	2%	0	1	0	1	0	0
Ride Out From Lane or Driveway	1	2%	1	0	0	1	0	0
Other (Not classifiable)	0	0%	0	0	0	0	0	0
<b>Total</b>	<b>59</b>	<b>100%</b>	<b>6</b>	<b>50</b>	<b>3</b>	<b>50</b>	<b>0</b>	<b>9</b>

Party at Fault	2005		2006		2007		2008	
Cyclist	28	51%	30	49%	32	54%	43	73%
Driver	27	49%	31	51%	27	46%	16	27%
Total:	55	100%	61	100%	59	100%	59	100%

*Source: City of San Luis Traffic Collision Database*

## section 4

### enforcement statistics

---

#### 4.1 Annual Traffic Citation Data

Traffic citations are one of the methods used to promote compliance with the vehicle code and create a safer environment for motorists. The vehicle code includes many sections for enforcement. Some vehicle code violations are more serious than others and are designated as “Hazardous Violations”. Vehicle Code Violations are tracked by the Department of Motor Vehicles, and hazardous violations are weighted by a point system. All hazardous vehicle code sections carry at least one point and some carry two points.

The point system is used to assess the driving behavior of motorists and place restrictions on negligent drivers. The restriction or suspension of driving privileges helps make the roadways safer by removing drivers with hazardous driving habits. The Department of Motor Vehicles’ Violation Point Assessment list is posted on their website at <http://www.dmv.ca.gov/dl/vioptct.htm>.

Table 4.1.1 depicts the total number of citations issued by the Police Department each year since 1999 and the number of these citations classified as hazardous violations by the DMV. The table also lists the total number of violations, which is greater than the total number of citations because some citations include more than one violation.

The citation trend indicates a fairly significant drop off in citations issued in 2003 and 2004, before increasing steadily through 2007. This trend coincides with the loss of one police traffic officer position in 2003 and one police patrol officer position in 2005. These losses were due to necessary budget reductions and the temporary redeployment of other traffic officers to cover shift shortages. These staffing shortages impacted the ability of officers to proactively issue citations, arrest DUI drivers, and conduct specialized traffic programs. The positions were restored in July 2007 and a renewed focus on traffic safety and enforcement throughout the Police Department has improved our enforcement efforts. This can be seen by the 65% increase in the amount of citations that were issued from 2007 to 2008.

**Table 4.1.1 - Traffic Citations Issued**

Year	Total Citations	Total Violations	% Change	Hazardous Vehicle Code Citations	% Change
1999	5734	6665	-	2394	-
2000	6741	7766	17.56	2001	-16.41
2001	7114	7820	5.53	1791	-10.49
2002	6508	7547	-8.51	2243	25.23
2003	4802	5732	-26.21	2550	13.68
2004	2663	3159	-44.54	896	-64.86
2005	3484	3983	30.82	789	-11.94
2006	3585	4014	2.89	934	18.37
2007	4488	4998	25.18	1769	89.4
2008	7437	8142	65.7	3120	76.37

## 4.2 Traffic Safety Index

The Traffic Safety Index, the ratio of hazardous citations issued to the number of injury and fatal collisions, is a gauge used by the California Office of Traffic Safety (OTS) to measure cities' traffic safety and the effectiveness of their traffic enforcement programs. Hazardous citations include moving violations for traffic offenses, as opposed to non-moving and mechanical violations. Higher index numbers represent greater traffic safety and more effective traffic programs. The City of San Luis Obispo's index has been steadily increasing since 2004 after a significant drop, which coincided with staffing reductions in the traffic and patrol units in late 2003 and 2005, as described in the previous section. In 2008 the traffic safety index was 11.5.

Statistics used to calculate the City's traffic safety index are reported to OTS as part of a grant awarded to the Police Department. In preparing this report, Police Department staff discovered two significant discrepancies in prior year reporting. First, staff has previously included seat belt violations in the total count of hazardous citations in the data reported to OTS. After further researching the categories of violations that constitute a hazardous citation, staff determined that seat belt violations should not be included. Second, the City municipal code contains enforcement sections that duplicate hazardous violations found in the California Vehicle Code. It was discovered that officers were routinely issuing citations for municipal code traffic violations rather than for vehicle code violations. However, OTS and DMV do not count municipal code citations toward the traffic safety index or as violation points. The Police Department is working to reduce the number of municipal code citations and is encouraging officers to utilize the vehicle code when most appropriate.

Table 4.2.1 reflects the City's Traffic Safety Index for the past ten years. The index is calculated by dividing the number of hazardous citations issued by the number of injury collisions. The number of citations in prior years has been recalculated to remove any previously reported non-hazardous citations such as seatbelt violations. In addition, a separate column depicts the number of municipal code violations that were issued in lieu of a hazardous vehicle code violation. The Traffic Safety Index was calculated utilizing only vehicle code violations as tracked by OTS and as a total of the hazardous vehicle code and municipal code citations. The latter index number is most reflective of the City's actual level of traffic safety.

**Table 4.2.1 – Traffic Safety Index**

Year	Total Hazardous Vehicle Code Citations	Total Hazardous Municipal Code Citations	Total Injury Collisions*	Traffic Index Vehicle Code Only	Adj. Index with Vehicle and Muni.Code Citations
1999	2394	418	256	9.4	11
2000	2001	1420	283	7.1	12.1
2001	1791	2080	277	6.5	14
2002	2243	1585	321	7	11.9
2003	2550	969	219	8	11
2004	896	390	327	2.7	4
2005	789	493	297	2.7	3.9
2006	934	1123	259	3.6	7.9
2007	1769	1131	274	6.5	10.6
2008	3120	230	271	11.5	12.36

\* Includes injury collisions on both public and private property



### 4.3 Driving Under the Influence

Driving under the influence (DUI) violations have been a focal point of enforcement in an effort to reduce injury traffic collisions. Since 1999 the Police Department has averaged 465 DUI arrests each year. Of those arrests, about seven drivers each year were arrested for felony DUI after being involved in a collision causing injury to someone involved. In 2007 the Police Department arrested 331 people for DUI. Ten of those arrests were for felony DUI, which represents the highest annual total of felony DUI arrests since 1999. Over half (54%) of the DUI arrests involved drivers who were between 18 and 25 years old. In 2008 the department arrested 339 people for DUI with 2 felony DUI arrests.

Figure 4.3.1 – Total DUI Arrests 1999-2008

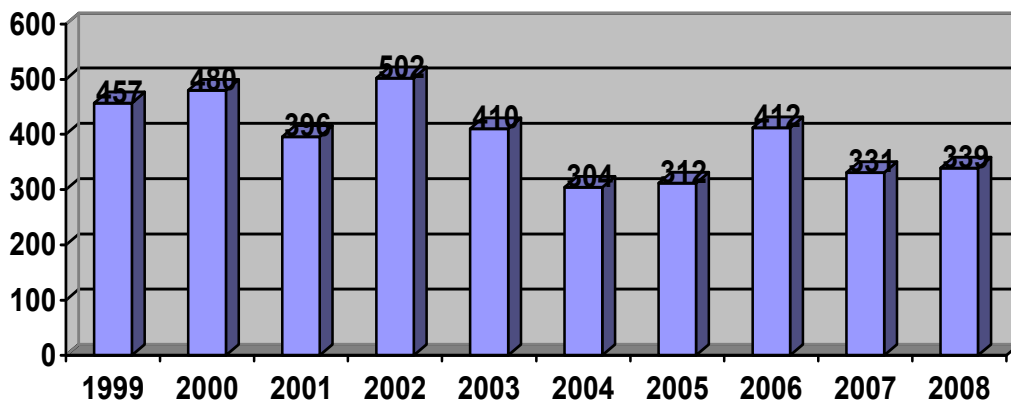


Figure 4.3.2 – Felony DUI Arrests 1999-2008

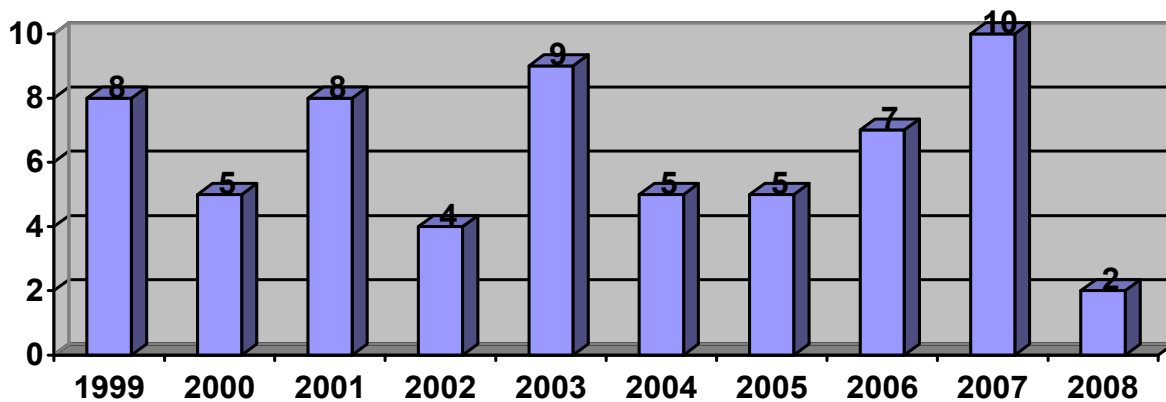
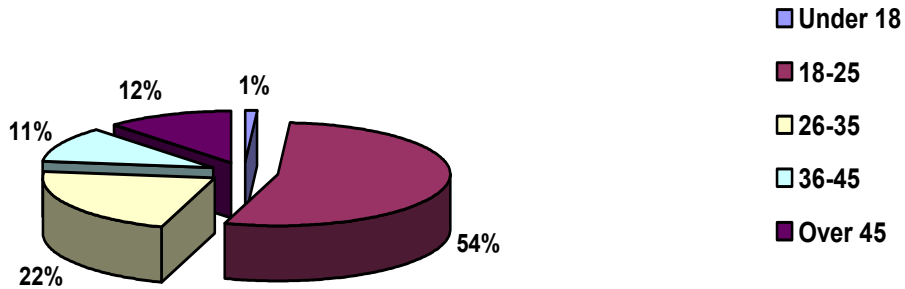


Figure 4.3.3 – 2007 DUI Arrests by Age

**2008 DUI Arrests by age:**

**Under 18 = 5**  
**18-25 = 183**  
**26-35 = 75**  
**36-45 = 36**  
**Over 45 = 40**



**4.4 Alcohol Involved Collisions**

In 2008, alcohol was determined to be a factor in 83 collisions. 23 of those collisions resulted in one or more of the parties being injured. Over the last nine years there have been 567 alcohol-related collisions. 28 percent of these collisions resulted in injury to a driver or passenger and four collisions resulted in a fatality.

**4.5 Top Primary Collision Factors**

Collisions on public and private property were analyzed to determine the top six primary factors that caused the collisions. These factors are listed in order of frequency:

**Table 4.5.1 – Primary Collision Factors by Collision Severity**

Non-Injury	Minor Injury	Major Injury
Speed	Speed	Failure to yield
Failure to yield	Failure to yield	Disregard traffic signal or DUI
Improper turns	DUI	Improper turns or Stop sign
DUI	Disregard traffic signal	
Disregard traffic signal	Improper turns	
Stop sign violation	Stop sign violations	

The following table depicts the number of vehicle code citations issued for the violations identified as the most common causes of collisions in 2008:

**Table 4.5.2 – Citations by Collision Factor**

Violation	Speeding	Traffic Signal	Stop Sign	Failure to Yield	Improper Turn	DUI
Citation	1320	256	411	184	136	332

## section 5

---

### safety investigations

#### **5.1 Neighborhood Traffic Management and Calming Program**

In June 1998, the City Council adopted a Comprehensive Neighborhood Traffic Management (NTM) Program aimed at reducing traffic volumes and speeds on residential streets. The program offers different options to citizens who want to implement traffic calming measures on their streets. It also identifies the petition process and the neighborhood surveys that are used to demonstrate a majority support for implementation of specific options. The NTM guidelines are being updated as of the time this report was written.

Approximately Eighteen (18) neighborhoods are actively pursuing the preparation of Neighborhood Traffic Management (NTM) Plans for their neighborhoods. Because so many neighborhoods are requesting NTM projects and implementation funds are limited, staff developed a method for prioritizing the projects. The criteria include traffic speeds, volumes, presence or absence of continuous sidewalks, bicycle facilities, collisions, and presence of schools or other activity centers. In 2008, neighborhoods pursuing NTM projects included Johnson (divided into 3 sections), Broad, Oceanaire, Chorro, Atascadero, Ferrini, Rockview, Royal, Flora, Augusta, Galleon, Balboa, Coral, Islay, Pismo and Buchon. The three most notable NTM projects in 2008 were the Pismo/Buchon Neighborhood, the Oceanaire Neighborhood, and the Mobile Speed Feedback Trailer Program.

##### **Pismo/Buchon NTM**

In April of 2008 City staff held a meeting with neighborhood residents to discuss issues and concerns which should be addressed as part of the NTM program and to form an action team to represent the entire neighborhood. In May of 2008 the Police Department met with the group to discuss enforcement activities in the area, and on May 28th Public Works staff met with the action team to establish project boundaries, focus issues to be addressed, and to formulate a study/survey program to evaluate the issues. As of the time this report was written, staff is finalizing the draft NTM action plan for neighborhood polling which is expected to go out in October.

##### **Oceanaire NTM**

In September of 2008 City staff met with several active residents of the Oceanaire neighborhood to discuss starting a new NTM program and overall strategy for proceeding. In March of 2009 staff circulated a ballot to the Oceanaire neighborhood for support to initiate a Neighborhood Traffic Management Program. Oceanaire residents ultimately voted not to support a neighborhood traffic calming effort with the majority of respondents indicating that issues can be managed by more police enforcement not by roadway traffic calming measures.

##### **Mobile Speed Feedback Trailer Program**

In 2007, the City purchased a solar powered, radar activated speed-feedback trailer. The trailer can be temporarily set up in many locations and can easily be moved from one location to the next as demands arise. It has the distinct advantage of possibly impacting drivers while not posing problems for compliant drivers, and has proven to be a useful supplement to enforcement

activities. In 2008 the trailer was deployed at 18 locations and has shown to reduce average speed by as much as 7 mph when deployed.

## 5.2 Traffic Safety Projects

Each year the Traffic Engineering Section implements traffic safety improvement projects through a variety of programs and projects. These improvements are usually stand-alone projects but are often times included in other City CIP projects or as part of individual land development projects. The following notable traffic safety improvements were completed in 2008:

**Table 5.2 - 2008 Completed Safety Projects**

<b><u>Traffic Signal Improvements</u></b>		<b><u>Signing &amp; Striping Improvements</u></b>	
Chorro & Higuera	Upgraded Signal Indications	North Highland	Reconfigured Street Section
Marsh & Broad	Upgraded Signal Indications	LOVR Interchange	Reconfigured Bridge Street Section
Chorro & Palm	Upgraded Signal Indications	Margarita	Installed One-Way Signing
Nipomo & Higuera	Upgraded Signal Indications	Pasatiempo & Twinridge	Installed Stop Control
Broad & Pismo	Upgraded Signal Indications	Highland & Chorro/Ferrini	Installed "No U-Turn" Signing
Marsh & Nipomo	Upgraded Signal Indications	Calle Joaquin & Hwy 101 Off	Installed Guide Signing
Marsh & Santa Rosa	Reconstructed Traffic Signal	Taft	Installed Parking Reg. Signs
Johnson & Ella	Installed New Traffic Signal	California & Foothill	Installed Lane Assignment Signs
Marsh & Johnson	Upgraded Traffic Signal	Pacific & Carmel	Installed Stop Warning Signing & Striping
Los Osos Valley & Descanso	Installed Regulatory Operations Signs		
<b><u>Pedestrian &amp; Bicycle Improvements</u></b>		<b><u>Roadway Improvements</u></b>	
Higuera & Nipomo	Installed Pedestrian Indications	Augusta Street	Installed Speed Tables
Marsh & Nipomo	Installed Pedestrian Indications	Santa Rosa	Installed Speed Radar Displays
<b><u>Sight Distance Improvements</u></b>			
Johnson & Ella	Restricted Parking		
Bishop	Restricted Parking		

**Table 5.3 - 2009 Safety Projects nearing completion**

<b><u>Traffic Signal Improvements</u></b>	
Marsh & Osos	Reconstructed Traffic Signal
<b><u>Roadway Improvements</u></b>	
Buena Vista/Garfield	Realign and Reconstruct Intersection

## SECTION 6

### 2008 high collision rate locations

---

#### 6.1 Intersections and Segments

##### Prioritization by Collision Rate

The evaluation of intersections using collision rates (number of collisions per million entering vehicles for intersections and million vehicle miles for segments) is standard practice in traffic engineering. This method of evaluation is often chosen over pure numbers because the number of collisions generally increases proportionally to increases in traffic volumes. This relationship does not mean that there is an engineering deficiency where the number of collisions is highest. Traffic engineers use collision rates to determine locations where more collisions are occurring than would be expected. These locations are then further evaluated to determine what is causing this higher than normal occurrence. In contrast, the Police Department utilizes the number of collisions to evaluate what intersections need to be patrolled. This method of evaluation puts the Police Officers at the locations where they can have the greatest effect on the largest number of road users. There may not be an engineering deficiency at a very busy intersection, however Police presence and enforcement at such locations ensures that drivers continue to drive prudently. Because of the difference in evaluation methods, the ranking of intersections in this report differs from the ranking of intersections in the Police report. Both methodologies are appropriate for their intended purposes. However, they would be likely to produce inappropriate and ineffective results if an attempt were made to use the same methodology for both the Police and Public Works reports. To address safety concerns at all types of locations, intersections and segments were broken down into the following subgroups:

<b>TYPE OF INTERSECTION OR SEGMENT</b>	<b>APPENDIX</b>
Arterial / Arterial Intersections	Appendix 1
Arterial / Collector Intersections	Appendix 2
Arterial / Local Intersections	Appendix 3
<i>No Collector / Collector intersections had more than 3 collisions in 2008</i>	
Collector / Local Intersections	Appendix 4
<i>No Local / Local intersections had more than 3 collisions in 2008</i>	
Other Significant Intersections	Appendix 5
Arterial Segments	Appendix 6
Collector Segments	Appendix 7
<i>No Local Segments had more than 3 collisions in 2008</i>	

Collision rates per million vehicles entering an intersection and million vehicle miles traveled on a segment were calculated for all locations with three or more collisions within the City. These collision rates were then used to prioritize the top five intersections and segments in each category so that locations with the highest rates were ranked at the top of the list. Mitigation measures, including potential future CIP's, were then identified based upon the perceived collision patterns for each location. The appendices of this report include calculation tables and collision diagrams for each intersection and segment studied.

## **Safety Analysis**

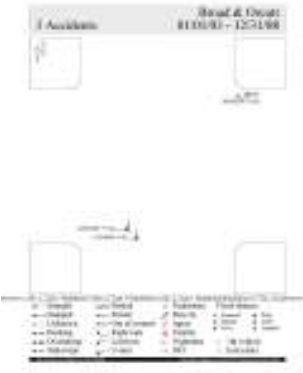
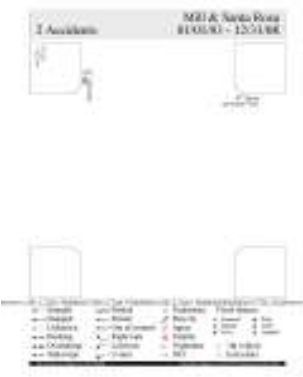
Collision diagrams were developed for the top five locations for each of the pedestrian, bicycle, intersection and segment classifications for the City. Full size exhibits of the collision diagrams are contained in the appendices. As described previously, the collision rankings were based on REV factors and collision rates as shown in Tables 6.1.1 through 6.1.10. These locations were then analyzed using collision diagram interpretation techniques and engineering principles. Based on collision patterns identified in each diagram, mitigation measures and safety improvement recommendations were proposed for each location as outlined in each intersection category. A thumbnail sketch of each intersection's collision diagram has been provided in the tables. Complete collision diagrams that include additional collision information for each of these locations are included in Appendices 1 through 10.


Variations in yearly pedestrian related collisions are to be expected. While this report is intended to evaluate and analyze collision trends in 2008, the number of annual pedestrian related collisions typically reported in the City is too few to identify collision patterns and establish mitigation measures. The method for evaluating pedestrian collision locations identifies all locations where at least one pedestrian collision has occurred in 2008 and ranks those locations based on a “relative exposure value” (REV) for the previous five year pedestrian collision history, with three or more pedestrian related collisions. The REV value is a cross product comparing the number of pedestrians, automobiles and number of accidents to better reflect the potential exposure rate of pedestrians based upon potential conflict. This REV attempts to normalize the ranking criteria for a fair comparison statistic that can be used to demonstrate higher and lower priority locations for review and mitigation.

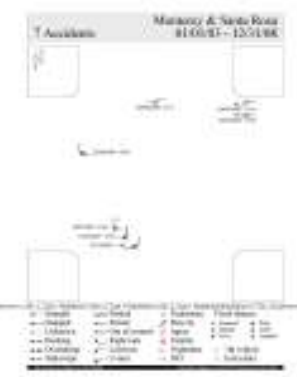
Similar to the method used for pedestrians, the method for evaluating bicycle collision locations identifies all locations where at least one bicycle collision has occurred in 2008 and ranks those locations based on its own “relative exposure value” (REV). The REV includes assessment for the previous five year bicycle collision history, with three or more bicycle related collisions having occurred at a particular location and then comparing that amount with automobile and bicycle volumes to create ranking criteria for this modal segment. This method of evaluation is preferred over the “pure” collision numbers because the number of collisions generally increases within proportion to bicycle volumes and individual bicycle collisions may not in and of themselves identify the need for review and mitigation. The REV is then used to identify locations where more collisions are occurring than would be expected.




**Table 6.1.1 – Top Five Pedestrian Collision Locations**

	<p>Location Ranking: 1</p> <p>Broad Street at Orcutt Road</p> <p>5 Year Collisions: 3 REV: 2873</p>	<p>PATTERN: No Discernable Pattern</p> <p>RECOMMENDATION: None.</p> <p>ACTION: Continue to Monitor in 2009.</p>
	<p>Location Ranking: 2</p> <p>Mill Street at Santa Rosa Street</p> <p>5 year Collisions: 2 REV: 2073</p>	<p>PATTERN: No Discernable Pattern</p> <p>RECOMMENDATION: None.</p> <p>ACTION: Continue to Monitor in 2009.</p>

	Location Ranking: 3	PATTERN: No Discernable Pattern
	Palm Street at Santa Rosa Street	RECOMMENDATION: None.
	5 Year Collisions: 2 Estimated REV: 1318	ACTION: Continue to Monitor in 2009.


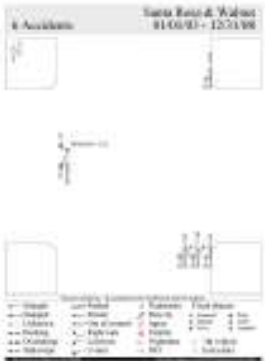
	Location Ranking: 4	PATTERN: Ped Red Light Violations & Vehicle not Yielding to Peds.
	Monterey Street at Santa Rosa Street	RECOMMENDATION: Similar pattern from 2007. Collision pattern primarily attributed to pedestrians crossing on don't walk indication and vehicles not yielding to pedestrians in crosswalk. Increase ped. crossing enforcement, improve pedestrian warning and crossing signing.
	5 Year Collisions: 7 REV: 678	ACTION: Conduct focused enforcement for illegal pedestrian crossings and install pedestrian crossing & warning signs. Continue to monitor in 2008.

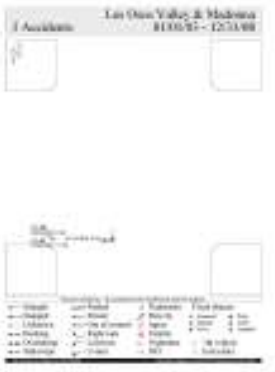
	Location Ranking: 5	PATTERN: No Discernable Pattern
	Hwy. 101 NB Off Ramp at California Boulevard	RECOMMENDATION: None.
	5 Year Collisions: 2 REV: 454	ACTION: Continue to monitor in 2009.


**Table 6.1.1a – Pedestrian Collision REV Calculations and Rankings**

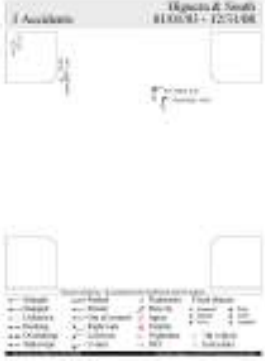
Rank	Intersection	08 Collisions	5yr Collisions	PH Ped. Volume	PH Veh. Volume	R.E.V.	Control
1	Broad & Orcutt	1	3	20	3746	2,810	SIG
2	Mill & Santa Rosa	1	2	10	2073	2,073	SIG
3	Palm & Santa Rosa	1	2	15	1977	1,318	SIG
4	Monterey & Santa Rosa	1	7	126	2442	678	SIG
5	101 N/b Off Ramp & California	1	2	39	1770	454	1-STOP
6	Garfield & Monterey	1	1	20	1200	300	1-STOP
7	Camden & Laurel	1	1	20	850	213	1-STOP
8	Fixlini & Johnson	1	1	80	2000	125	2-STOP
9	Descanso & Vista Brisa	1	1	15	300	100	NONE
10	Grand & Monterey	1	1	95	1390	73	SIG
11	Nipomo & Pacific	1	1	40	500	63	4-STOP
12	Morro & Pismo	1	1	40	500	63	2-STOP
13	Broad & Foothill	1	1	162	1920	59	SIG
14	Chorro & Marsh	1	3	473	1678	53	SIG
15	Broad & Higuera	2	3	483	1017	32	SIG
16	Higuera & Osos	1	1	208	981	24	SIG
17	Higuera & Morro	1	1	226	996	22	SIG
18	Hathway & Longview	1	2	300	500	17	2-STOP

**Table 6.1.2 – Top Five Bicycle Collision Locations**

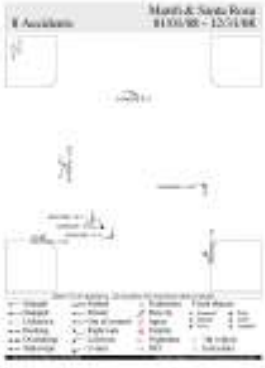
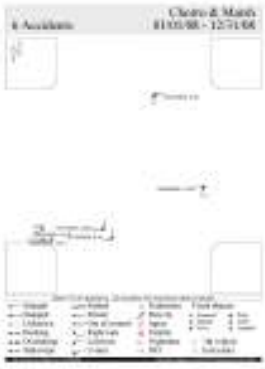
	<p>Location Ranking: 1</p> <p>Olive Street at Santa Rosa Street</p> <p>5 Year Collisions: 6 REV: 2055</p>	<p>PATTERN: Motorist Right Turn In Front of Cyclist</p> <p>RECOMMENDATION: Intersection under CalTrans jurisdiction. Collision pattern continued from 2007. Investigate improving advance warning for motorists.</p> <p>ACTION: Forward findings to State Depart. of Transportation. Investigate installation of some form of “Right Turn Yield to Bikes” signing.</p>
	<p>Location Ranking: 2</p> <p>Walnut Street at Santa Rosa Street</p> <p>5 Year Collisions: 6 REV: 1804</p>	<p>PATTERN: Motorist Right Turn In Front of Cyclist</p> <p>RECOMMENDATION: Intersection under CalTrans jurisdiction. Collision pattern continued from 2007. Investigate improving advance warning for motorists.</p> <p>ACTION: Forward findings to State Depart. of Transportation. Investigate installation of some form of “Right Turn Yield to Bikes” signing.</p>

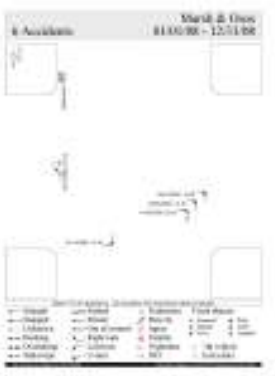
	<p>Location Ranking: 3</p> <p>Los Osos Valley Road at Madonna Road</p> <p>5 Year Collisions: 3</p> <p>REV: 1445</p>	<p>PATTERN: Cyclist Vs. Pedestrian</p> <p>RECOMMENDATION: Pattern primarily attributed to inattentive cyclist maneuvers. None.</p> <p>ACTION: Continue to monitor in 2009.</p>
---	---	--

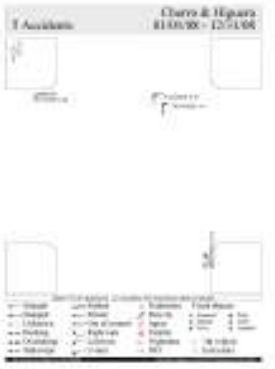
	<p>Location Ranking: 4</p> <p>Foothill at Santa Rosa</p> <p>5 Year Collisions: 11</p> <p>REV: 1129</p>	<p>PATTERN: Nighttime.</p> <p>RECOMMENDATION: Intersection under CalTrans jurisdiction. Increase nighttime police enforcement for bicycle lighting.</p> <p>ACTION: Forward findings to State Depart. of Transportation and Police Department.</p>
---	--	---

	<p>Location Ranking: 5</p> <p>Higuera Street at South Street</p> <p>5 Year Collisions: 3 REV: 1050</p>	<p>PATTERN: No Discernable Pattern</p> <hr/> <p>RECOMMENDATION: Intersection under Caltrans Jurisdiction. None.</p> <hr/> <p>ACTION: Continue to monitor in 2009.</p>
---	--	---

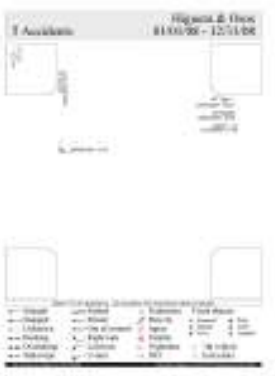
**Table 6.1.3 - Recommendations for Intersections Involving Two Arterial Streets**

 <p>Marsh &amp; Santa Rosa 11/01/08 - 12/31/08</p>	<p>Intersection Ranking: 1</p> <p>Marsh Street at Santa Rosa Street</p> <p>Rate: 1.19 / MEV</p>	<p>PATTERN: Intersection Red Light Violations</p> <p>RECOMMENDATION: Traffic signal was reconstructed in June of 2008, no related collisions have been reported since. None.</p> <p>ACTION: Continue to monitor in 2009.</p>
 <p>Chorro &amp; Marsh 11/01/08 - 12/31/08</p>	<p>Intersection Ranking: 2</p> <p>Chorro Street at Marsh Street</p> <p>Rate: 1.06 / MEV</p>	<p>PATTERN: EB Red Light Violations</p> <p>RECOMMENDATION: Improve Signal Indication Visibility</p> <p>ACTION: Replace 8" signal indications with 12" indications, install pedestrian indications, and trim trees on EB approach. Continue to monitor in 2009.</p>

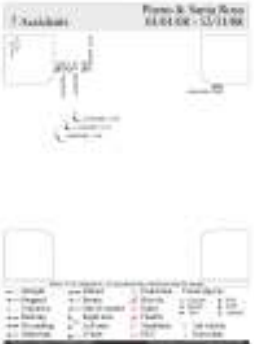
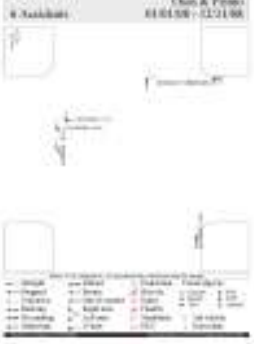
	Intersection Ranking: 3	PATTERN: Intersection Red Light Violations
	Marsh Street at Osos Street	RECOMMENDATION: Traffic Signal was reconstructed in February of 2009, no related collisions have been reported since. None.
	Rate: 0.93 / MEV	ACTION: Continue to monitor in 2009

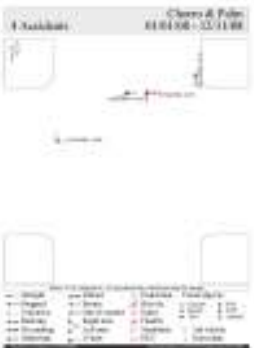
	Intersection Ranking: 4	PATTERN: NB Red Light Violations
	Chorro Street at Higuera Street	RECOMMENDATION: Signal indications were upgraded in April of 2008, only 1 related collision reported since. None.
	Rate: 0.89 / MEV	ACTION: Continue to monitor in 2009.




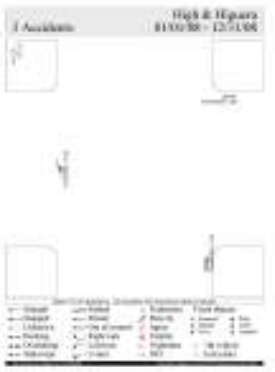
	Intersection Ranking: 5	PATTERN: No Discernable Pattern
	Higuera Street at Osos Street	RECOMMENDATION: None.
	Rate: 0.84 / MEV	ACTION: Continue to Monitor in 2009.

**Table 6.1.4 - Recommendations for Intersections Involving Arterial/Collector Streets**

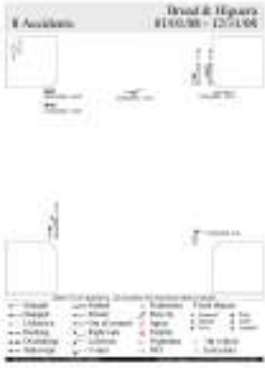
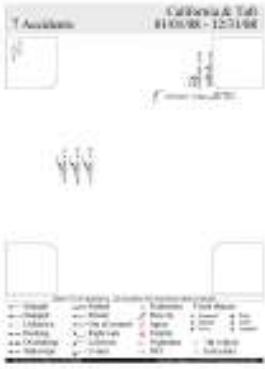
	<p>Intersection Ranking: 1</p>	<p>PATTERN: SB Right Sideswipe &amp; SB Stop Sign Violations</p>
	<p>Pismo Street at Santa Rosa Street</p>	<p>RECOMMENDATION: Improve signing &amp; striping. If pattern persists remove right turn lane.</p>
	<p>Rate: 1.75 / MEV</p>	<p>ACTION: Upgrade lane assignment signs, upgrade to larger stop signs, and install additional pavement markings. Continue to monitor in 2009.</p>
	<p>Intersection Ranking: 2</p>	<p>PATTERN: Intersection Red Light Violations</p>
	<p>Osos Street at Pismo Street</p>	<p>RECOMMENDATION: Improve signal head visibility.</p>
	<p>Rate: 1.09 / MEV</p>	<p>ACTION: Replace 8" signal indications with 12" indications.</p>

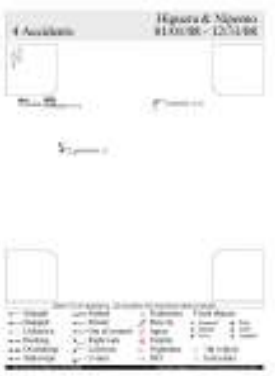
	<p>Intersection Ranking: 3</p>	<p>PATTERN: No Discernable Pattern</p>
	<p>Chorro Street at Palm Street</p>	<p>RECOMMENDATION: None.</p>
	<p>Rate: 1.03 / MEV</p>	<p>ACTION: Continue to monitor in 2009.</p>

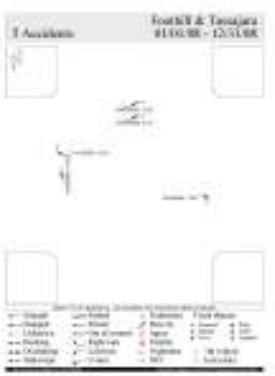
	<p>Intersection Ranking: 4</p>	<p>PATTERN: No Discernable Pattern</p>
	<p>Palm Street at Santa Rosa Street</p>	<p>RECOMMENDATION: None.</p>
	<p>Rate: 0.65 / MEV</p>	<p>ACTION: Continue to monitor in 2009.</p>

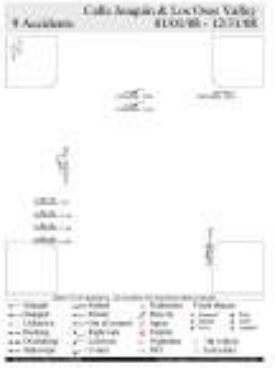
	<p>Intersection Ranking: 5</p> <p>High / Pismo Streets at Higuera Street</p> <p>Rate: 0.55 / MEV</p>	<p>PATTERN: No Discernable Pattern</p>
<p>RECOMMENDATION: None.</p>		
		<p>ACTION: Continue to monitor in 2009</p>

**Table 6.1.5 - Recommendations for Intersections Involving Arterial/Local Streets**


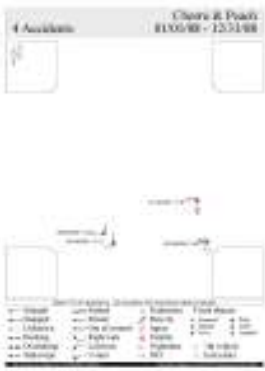
	<p>Intersection Ranking: 1</p> <p>Broad Street at Higuera Street</p> <p>Estimated Rate: 1.53 / MEV</p>	<p>PATTERN: Permissive Left Into Pedestrian</p> <p>RECOMMENDATION: Improve Pedestrian Visibility.</p> <p>ACTION: Install Pedestrian Indications. Continue to monitor in 2009.</p>
	<p>Intersection Ranking: 2</p> <p>California Boulevard at Taft Street</p> <p>Estimated Rate: 1.00 / MEV</p>	<p>PATTERN: SB Left Vs. NB Thru</p> <p>RECOMMENDATION: Pattern may be exclusive to 2008. None. If pattern persists evaluate more restrictive traffic control.</p> <p>ACTION: Continue to monitor in 2009.</p>

	Intersection Ranking: 3	PATTERN: No Discernable Pattern
	Higuera Street at Nipomo Street	RECOMMENDATION: None.
	Estimated Rate: 0.84 / MEV	ACTION: Continue to monitor in 2009.

	Intersection Ranking: 4	PATTERN: WB Left Vs. EB Thru
	Foothill Boulevard at Tassajara Drive	RECOMMENDATION: Improve access for WB left movements.
	Estimated Rate: 0.82 / MEV	ACTION: As part of public improvements for 399 Foothill, relocate Foothill WB 2/1 lane reduction to before Cuesta Dr. and install left turn pocket for EB left at Tassajara. Continue to monitor in 2009.

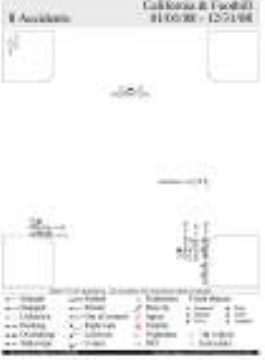
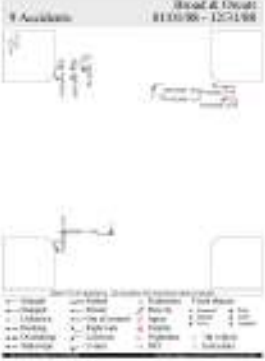
	<p>Intersection Ranking: 5</p> <p>Calle Joaquin at Los Osos Valley Road</p> <p>Estimated Rate: 0.77 / MEV</p>	<p>PATTERN: EB Rearends</p> <p>RECOMMENDATION: Improve signal indication visibility for EB traffic and relieve corridor congestion.</p> <p>ACTION: Install near side signal indication for EB traffic. As part of Calle Joaquin / Hwy 101 interchange widening project, install additional EB travel lane.</p>
---	---	--

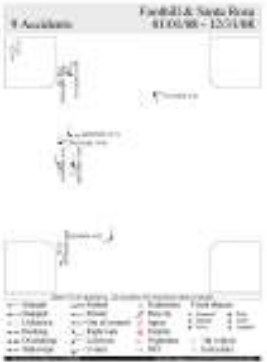
**Table 6.1.6 - Recommendations for Intersections Involving Collector/Local Streets**

	<p>Intersection Ranking: 1</p> <p>Mill Street at Osos Street</p> <p>Estimated Rate: 1.24 / MEV</p>	<p>PATTERN: SB Thru Vs. EB Thru</p> <p>RECOMMENDATION: Improve intersection sight distance.</p> <p>ACTION: Restrict parking on EB &amp; WB approaches.</p>
	<p>Intersection Ranking: 2</p> <p>Chorro Street at Peach Street</p> <p>Estimated Rate: 1.20 / MEV</p>	<p>PATTERN: EB Peach Vs. NB &amp; SB Chorro</p> <p>RECOMMENDATION: PG&amp;E power on NW corner limits sight distance. Improve sight distance.</p> <p>ACTION: Work with PG&amp;E to relocate power pole. Continue to monitor in 2009.</p>

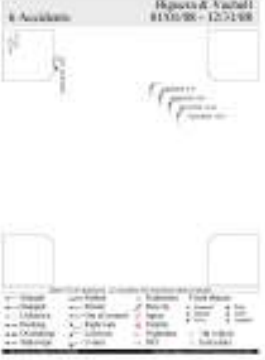



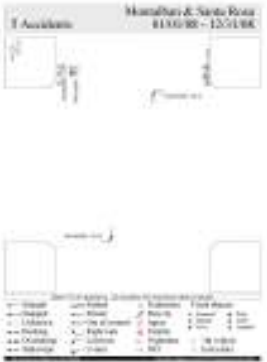
**Table 6.1.7 - Recommendations for Other Significant Intersections: 5+ Left Turn Collisions at Signalized Intersections**

	<p>Intersection Ranking: 1</p> <p>California Boulevard at Foothill Boulevard</p> <p>Estimated Rate: 0.76 / MEV</p>	<p>PATTERN: Intersection Rearends &amp; Vehicle Vs. Bicycle</p> <p>RECOMMENDATION: Collision pattern primarily attributed to congestion and inattentive cyclist maneuvers. Improve intersection capacity to reduce congestion and provide signalized bicycle crossing.</p> <p>ACTION: As part of RR Safety Trail 4a project widen intersection and reconstruct signal with bicycle phasing.</p>
	<p>Intersection Ranking: 2</p> <p>Broad Street at Orcutt Road</p> <p>Rate: 0.70 / MEV</p>	<p>PATTERN: NB Red Light Violation</p> <p>RECOMMENDATION: Intersection under CalTrans jurisdiction. Collision pattern primarily attributed to driver inattention / negligence. Increase traffic enforcement within vicinity.</p> <p>ACTION: Forward findings to State Department of Transportation. Conduct focused enforcement in vicinity. Continue to monitor in 2009.</p>

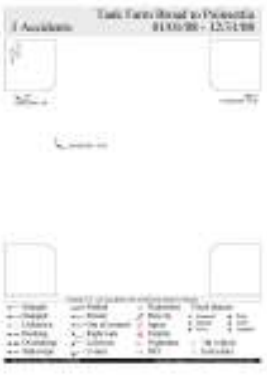

	<p>Intersection Ranking: 3</p> <p>Foothill Boulevard at Santa Rosa Street</p> <p>Rate: 0.46 / MEV</p>	<p>PATTERN: Intersection Red Light Violations</p> <hr/> <p>RECOMMENDATION: Intersection under CalTrans jurisdiction. Investigate improvements to signal head visibility and clearance timing</p> <hr/> <p>ACTION: Forward findings to State Department of Transportation. Investigate upgrading signal indications from 8" to 12" and extending signal yellow and all-red intervals.</p>
---	---	--


**Table 6.1.8 - Recommendations for Other Significant Intersections: 5+ Collisions at Intersections without All-way Control**

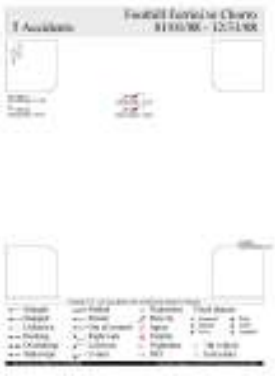
	<p>Intersection Ranking: 1</p> <p>Higuera Street &amp; Vachell Lane</p> <p>Estimated Rate: 0.65 / MEV</p>	<p>PATTERN: WB Left Vs. NB Thru</p> <hr/> <p>RECOMMENDATION: Collision pattern primarily attributed to angle of Vachell approach limiting intersection sight distance. Reconfigure Vachell approach.</p> <hr/> <p>ACTION: Reconfigure Vachell approach striping such that left turning traffic is positioned at a right angle prior to movement.</p>
	<p>Intersection Ranking: 2</p> <p>Madonna Road at Pereira Drive</p> <p>Estimated Rate: 0.55/ MEV</p>	<p>PATTERN: No Discernable Pattern</p> <hr/> <p>RECOMMENDATION: NB left turns were restricted on September 12<sup>th</sup>, 2007 resulting in a 60% collision reduction. Periodic construction on LOVR throughout 2008 created higher levels of intersection congestion. Reduce overall congestion at Madonna &amp; LOVR to reduce queuing back to Madonna &amp; Pereira intersection. Evaluate long term widening potential along Madonna Road as part of Circulation Element Update. Continue to pursue long term connection of Froom Ranch road from Los Osos Valley to Prado. Provide staff level assistance to Laguna Village Shopping Center for the widening and relocation of their driveways.</p> <hr/> <p>ACTION: As part of Prefumo Creek Commons project mitigation widen/reconfigure EB &amp; WB Los Osos Valley in order to reallocate additional signal green time to Madonna approach. Facilitate an accelerated encroachment permitting of the Laguna Village Shopping Center Driveway widening work when submitted and participate in construction of relocated driveway.</p>

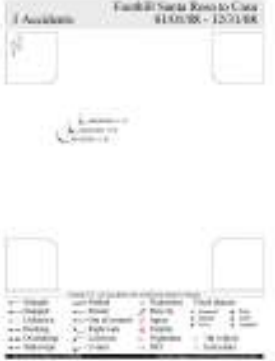
	<p>Intersection Ranking: 3</p> <p>Montalban Street at Santa Rosa Street</p> <p>Estimated Rate: 0.38 / MEV</p>	<p>PATTERN: Intersection Rearends &amp; WB/EB Vs. SB Thru</p> <hr/> <p>RECOMMENDATION: Intersection under CalTrans Jurisdiction. Collision pattern primarily attributed to congestion. Study capacity &amp; operational improvements to alleviate congestion.</p> <hr/> <p>ACTION: Forward findings to California Dept. of Transportation. Conduct capacity and operational assessments as part of Highway 1 Major Investment Study.</p>
---	---	--

**Table 6.1.9 - Recommendations for Arterial Segments**

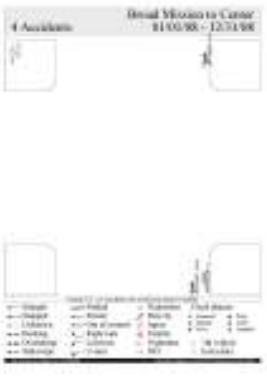

	<p>Segment Ranking: 1</p> <p>Tank Farm 700 Block (Broad to Poinsettia)</p> <p>Rate: 5.84 / MVM</p>	<p>PATTERN: No Discernable Pattern</p> <hr/> <p>RECOMMENDATION: None</p> <hr/> <p>ACTION: Continue to monitor in 2009.</p>
	<p>Segment Ranking: 2</p> <p>Foothill 800-900 Block (Chorro to Santa Rosa)</p> <p>Rate: 5.59 / MVM</p>	<p>PATTERN: No Discernable Pattern</p> <hr/> <p>RECOMMENDATION: None</p> <hr/> <p>ACTION: Continue to monitor in 2009.</p>

	<p>Segment Ranking: 3</p> <p>Higuera 10 Block (Madonna to Elks)</p> <p>Rate: 4.66 / MVM</p>	<p>PATTERN: SB Rearends</p>
		<p>RECOMMENDATION: Collision pattern primarily attributed to vehicles stopping in thru lane waiting for gaps in NB oncoming traffic in order to negotiate left turn. Investigate widening along property frontage of 50 Higuera (CalTrans Administration Offices) in order to accommodate two way left turn lane.</p>
		<p>ACTION: Begin assessment of widening along property frontage of 50 Higuera, if feasible begin negotiations with CalTrans for R/W acquisition and pursue 2009/2010 FFY Highway Safety Improvement Program (HSIP) grant funding for design and construction.</p>

	<p>Segment Ranking: 4</p> <p>Foothill 700 Block (Madonna to Elks)</p> <p>Rate: 4.14 / MVM</p>	<p>PATTERN: No Discernable Pattern</p>
		<p>RECOMMENDATION: None</p>
		<p>ACTION: Continue to Monitor in 2009.</p>

	<p>Segment Ranking: 5</p> <p>Foothill 1000 Block (Santa Rosa to Casa)</p> <p>Rate: 3.42 / MVM</p>	<p>PATTERN: Left Turns from 1050 Foothill Blvd.</p> <p>RECOMMENDATION: Continued pattern from 2007. Collisions primarily attributed to sight distance restrictions from sign and overgrown vegetation on private property. Request sent to property management company in 2008 to trim vegetation and relocate sign; however property management company took no action. Continue to seek cooperation from property management company. If collision pattern persists and property management company continues to take no action, investigate left turn restrictions at driveway.</p> <p>ACTION: Issue second vegetation trimming and sign relocation request to property management company and property owner. Continue to monitor in 2009.</p>
---	---	--

**Table 6.1.10 - Recommendations for Collector Segments**

	<p>Segment Ranking: 1</p> <p>Broad 200 Block (Mission to Center)</p> <p>Rate: 18.27 / MVM</p>	<p>PATTERN: NB Sideswipe Parked Vehicles</p> <p>RECOMMENDATION: Collision pattern maybe exclusive to 2008. Street width is wide enough to accommodate parking on both sides. If pattern persists install edge lines for travel lanes.</p> <p>ACTION: Continue to monitor in 2009.</p>
	<p>Segment Ranking: 2</p> <p>Pismo 1100 Block (Santa Rosa to Toro)</p> <p>Rate: 17.87 / MVM</p>	<p>PATTERN: WB Sideswipe Parked Vehicles</p> <p>RECOMMENDATION: Collision pattern primarily attributed to configuration of 2 narrow SB lanes adjacent to parking. Reconfigure roadway section to single SB lane with two parking lanes and bicycle lane.</p> <p>ACTION: As part of Pismo/Buchon Neighborhood Traffic Management program reduce number of lanes on Pismo street to one and add bicycle lane.</p>



## section 7

---

### traffic enforcement activities

#### **7.1 Enforcement at High Collision Intersections and Segments**

Traffic enforcement at intersections and street segments with high collision rates is a high priority for the Police Department. Officers conduct enforcement activities, high visibility patrols, and saturation deployment in areas identified as having the highest concentration of collisions, or which present special risks such as school zones. These enforcement efforts result in citations and have a lasting impact on drivers. Some become concerned about receiving a citation even after a saturation effort ends and change their driving behavior as a result. In fact, the presence of officers in a specific area often results in drivers obeying the law, diminishing the need to issue large numbers of citations.

The Police Department attempts to correlate these focused enforcement efforts with locations that have been identified as having high collision rates. A traffic enforcement calendar is posted in three different locations at the police department highlighting problem areas. This focuses department-wide efforts at these locations each week.

In addition to enforcement in high collision areas, the Traffic Safety Unit frequently adjusts its enforcement activities based on citizen complaints and observations of violations.

#### **7.2 DUI Special Enforcement**

The enforcement of Driving Under the Influence (DUI) laws continues to be a high priority for the Police Department, particularly for officers working night shifts. The Police Department implemented DUI Saturation patrols during which officers were deployed to specifically focus on DUI enforcement. These saturation patrols were achieved by schedule modifications by members of the Traffic Safety Unit to work from 5:00 PM to 3:00 AM from their normal daytime hours. These patrols were conducted throughout 2008.

The Police Department participated in the county-wide “Avoid the 14” DUI education and enforcement campaign. Officers conducted coordinated efforts with other law enforcement agencies for DUI enforcement during peak periods, such as holiday weekends, and participated in DUI media campaigns. The Police Department conducted three DUI checkpoints in the City in 2008.

#### **7.3 Seatbelt Enforcement**

According to the National Highway Traffic Safety Administration (NHTSA), research has shown that the use of a lap/shoulder seatbelt can reduce the risk of a fatal injury by 45 percent and the risk of a moderate injury by 50 percent. In order to encourage seatbelt use to increase safety, the Police Department strictly enforces seatbelt violations and conducts special education and enforcement campaigns under the annual statewide “Click It or Ticket” program. During “Click It or Ticket” enforcement periods, seatbelt enforcement was highlighted on the Traffic Enforcement Calendar.

In 2008, the Police Department issued 527 seatbelt citations. The last two seatbelt surveys have revealed 98 percent compliance.

#### **7.4 Repeat Offenders - Suspended Licenses**

The Department of Motor Vehicles suspends the privilege to drive based upon driving behavior, utilizing the Violation Point Assessment tool as a gauge to identify negligent and dangerous drivers. Individuals who continue to drive once their license has been suspended or revoked pose an increased risk to the public over licensed drivers. The Police Department has taken a pro-active enforcement posture against these offenders by creating a monthly “hot-sheet” that identifies chronic offenders who repeatedly drive without a valid license. These offenders not only receive a citation, but their vehicle is subject to impound for up to 30 days. In 2008 the Police Department impounded 149 vehicles from individuals driving with a suspended license or had no license at all.

The hot-sheet program, which began in December 2007, highlights offenders who have prior arrests for DUI and usually more than one license suspension. It is common for these offenders to have other criminal convictions and many have outstanding warrants.

#### **7.5 Grant Programs**

The Police Department received funding from two separate traffic and alcohol-related grants during 2008 from the Office of Traffic Safety (OTS) in order to assist the City in reducing deaths, injuries and economic losses resulting from traffic related collisions. The following is a summary of the grant programs:

##### **Avoid the 14 DUI Campaign**

Grant Period: 10/1/06 - 1/31/10

The Avoid the 14 grant is a joint participation program involving all of the local law enforcement agencies in the County. The goal of the program is to reduce alcohol involved fatalities and injuries, and to raise public awareness about the risks associated with impaired driving. The grant funds DUI checkpoints, saturation patrols, and DUI warrant sweeps throughout the County.

##### **Selective Traffic Enforcement Program #2**

Grant Period: 10/1/07 - 9/30/09

This enforcement grant (which is still underway) focused on reducing the number of people injured and killed in collisions by increasing DUI and selective traffic enforcement. The grant funded one traffic officer position for 18 months; a traffic motorcycle; radar/LIDAR speed detecting devices for traffic and patrol officers; eight DUI/Driver’s License checkpoints; and several saturation patrols. Enforcement operations are focused on red light violations; violations at or near intersections with a disproportionate number of traffic collisions; and drivers exhibiting excessive speed.

## section 8

### ONGOING EDUCATION CAMPAIGNS

#### 8.1 Child Safety Seats

In order to reduce the likelihood that an infant or child is injured in a traffic collision, the Police Department offers child safety seat inspection and installation at no cost to members of the public. The Department is part of a county-wide Car Seat Safety Coalition which organizes six to eight Child Seat Check-up events each year to make sure child seats are properly installed in vehicles and to answer questions about the laws regulating the transportation of children. When a child seat is identified as being unsafe or subject to recall, a new seat is provided to the parent or caregiver at no cost. Three Police employees are certified as child seat inspectors (two officers and one field services technician). They participate in check-up events throughout the County, and provide inspections and installations at the Police Department by appointment.



#### 8.2 Bicycle Safety

Every year, the Police and Parks and Recreation Departments co-host a “Bicycle Rodeo” for children in order to promote safe and responsible bicycle skills and operation. During the five days leading up to the Rodeo, a professional BMX stunt team travels to several elementary schools and puts on an exciting bicycle safety demonstration that includes stunt riding, messaging promoting a healthy lifestyle free of drugs and alcohol, and a five point bicycle safety check.



The week concludes with a free Bicycle Rodeo featuring a “Safety Town” that includes signaled intersections, stop signs, a railroad crossing, pedestrian traffic, and car doors opening into the roadway, as well as specialized cone courses to develop riding skills. Community members volunteer their time to staff the course, and local professional bicycle mechanics check and adjust

children's bicycles prior to entry on the course. Helmets are also checked and if they are determined to be unsafe a new one is provided free. Annual attendance ranges from 200 to 300 children.

### **8.3 Impaired Driver Offender Classes**

When a driver is convicted of DUI, he or she is normally required to attend a DUI offender class as part of the sentence. The goal of the class is to provide education and dialog about DUI offenses in order to increase the chances an individual will not re-offend. The classes are offered by the County Behavioral Health Department and Drug and Alcohol Services, and serve approximately 50 people per class.

The Police Department participates in the program by providing a traffic officer to make a presentation at the DUI offender classes to discuss the impacts of DUI on traffic safety and collisions. The class offers a unique opportunity for officers to interact with DUI offenders in a positive and educational way, rather than during an enforcement action. Class attendees are provided an opportunity to ask questions of the officer and to discuss the impact of DUI driving on them and others.

appendix 1

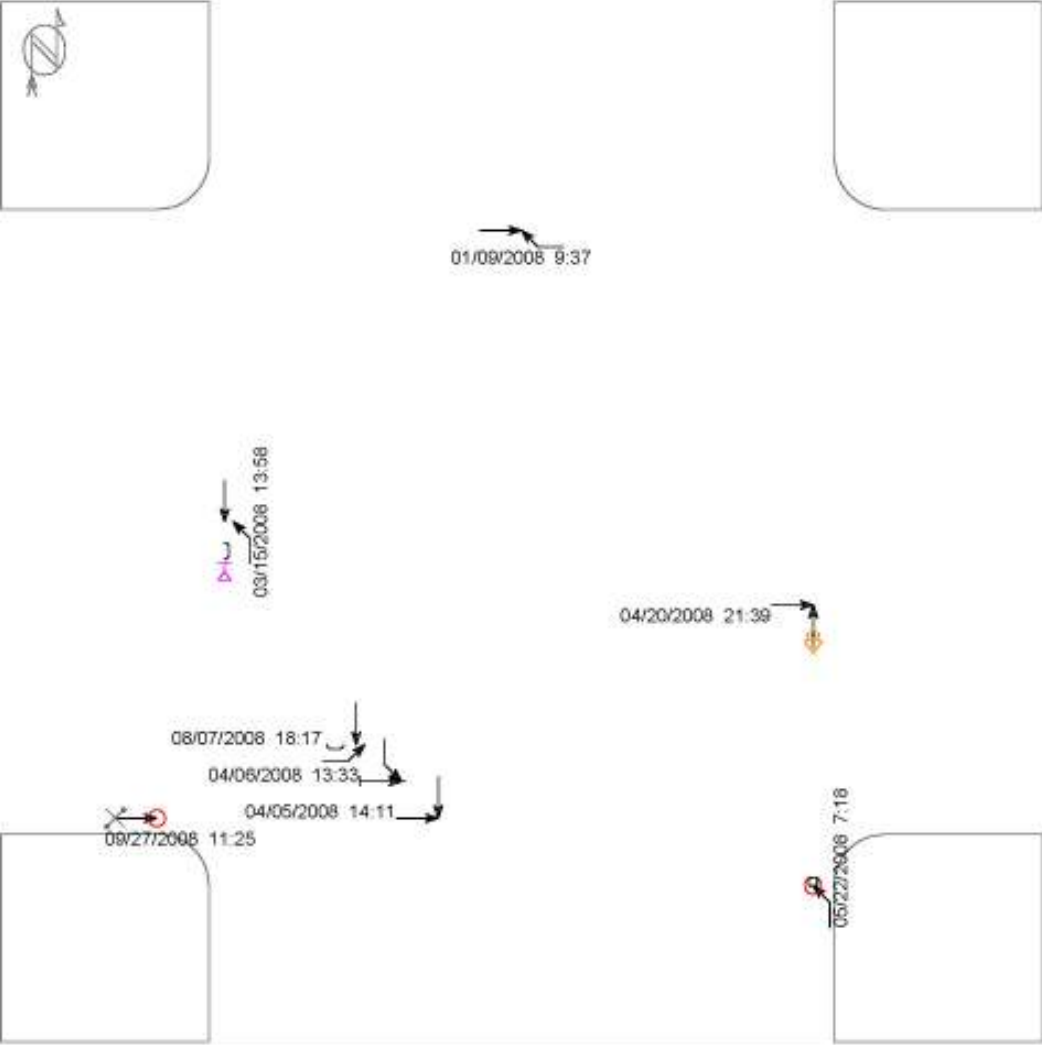
---

arterial / arterial intersections

## Arterial / Arterial Intersections Prioritized by Collision Rate

Rank	Prev. Rank	Intersection	Collisions	Volume	Rate	Control	EB	WB	NB	SB
1	9	Marsh & Santa Rosa	8	18,461	1.19	SIG	10,528	NA	2,290	5,643
2	6	Chorro & Marsh	6	15,490	1.06	SIG	10,827	NA	1,664	2,999
3	1	Marsh & Osos	6	17,741	0.93	SIG	9,056	NA	4,946	3,739
4	14	Chorro & Higuera	5	15,409	0.89	SIG	NA	7,907	3,099	4,403
5	Not Ranked	Higuera & Osos	5	16,297	0.84	SIG	NA	7,760	6,325	2,212
6	Not Ranked	California & Foothill	8	28,936	0.76	SIG	4,000	9,787	9,401	5,748
7	12	Broad & Orcutt	9	35,109	0.70	SIG	NA	7,147	14,309	13,653
8	Not Ranked	Johnson & Marsh	4	15,617	0.70	SIG	5,786	1,053	4,580	4,198
9	2	Monterey & Santa Rosa	7	28,193	0.68	SIG	2,606	7,300	8,912	9,375
10	4	California & Monterey	5	26,553	0.52	SIG	6,538	7,312	7,188	5,515
11	10	Higuera & Madonna	6	33,480	0.49	SIG	13,771	NA	6,217	13,492
12	3	Foothill & Santa Rosa	9	53,248	0.46	SIG	10,123	10,256	16,789	16,080
13	Not Ranked	Johnson & Monterey	3	20,874	0.39	SIG	5,603	7,554	6,271	1,446
14	17	Broad & South	5	34,948	0.39	SIG	6,096	7,064	14,995	6,793
15	11	Los Osos Valley & Madonna	5	36,003	0.38	SIG	3,000	10,073	11,825	11,105
16	7	Broad & Tank Farm	4	38,035	0.29	SIG	9,810	4,215	11,184	12,826
17	20	Higuera & South	3	31,796	0.26	SIG	200	7,899	15,261	8,436
18	Not Ranked	101 S/b On/off Ramp & Madonna	4	42,668	0.26	SIG	18,762	13,006	10,700	200

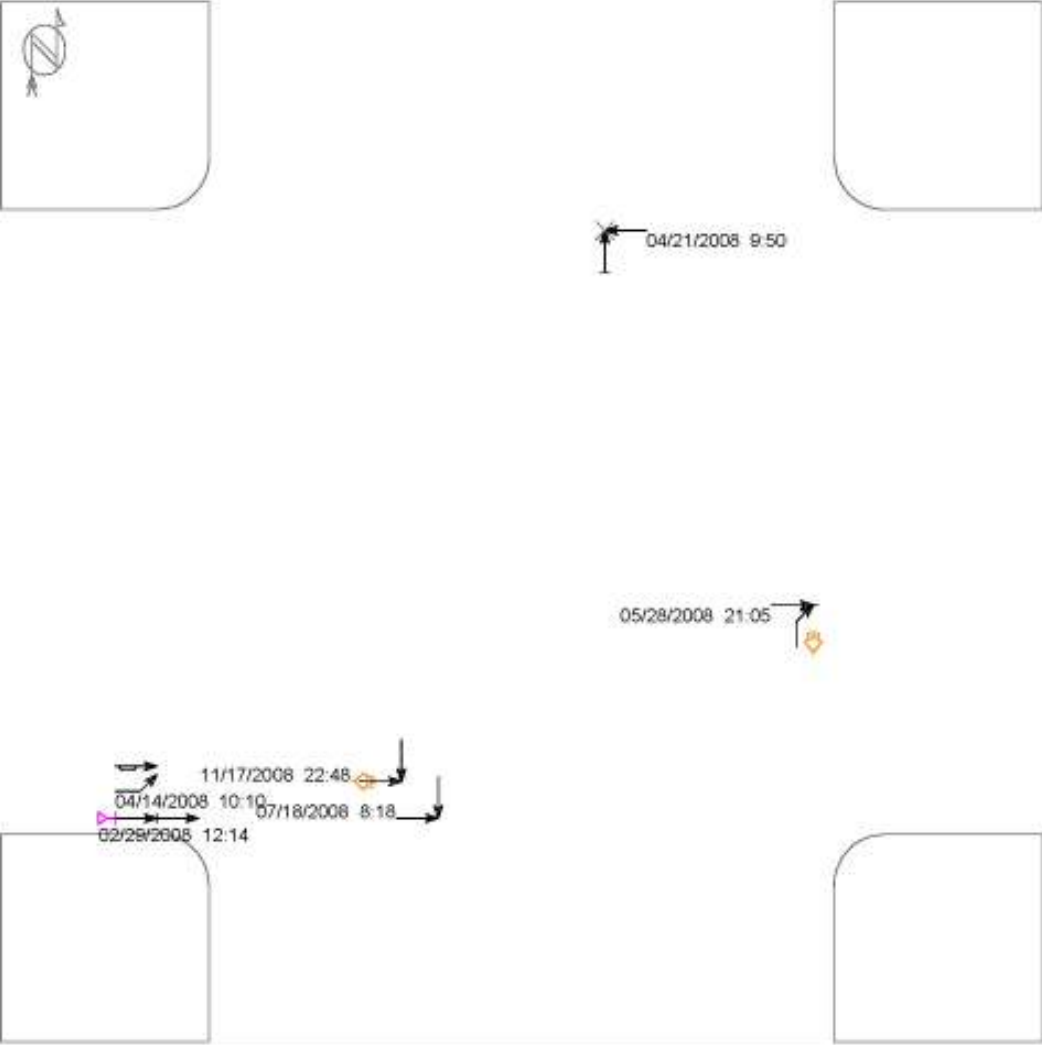
# 8 Accidents Marsh & Santa Rosa 01/01/08 - 12/31/08



Within 75' of intersection, (0) accidents with insufficient data for display

- |              |                  |              |                |          |
|--------------|------------------|--------------|----------------|----------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |          |
| ← Stopped    | ↪ Erratic        | × Bicycle    | □ General      | ▣ Pole   |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       | ▣ Curb   |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree         | ⊗ Animal |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle  |          |
| ↔ Sideswipe  | ↪ U-turn         | 🚗 DUI        | ✱ Extra data   |          |

**6 Accidents** **Chorro & Marsh**  
**01/01/08 - 12/31/08**



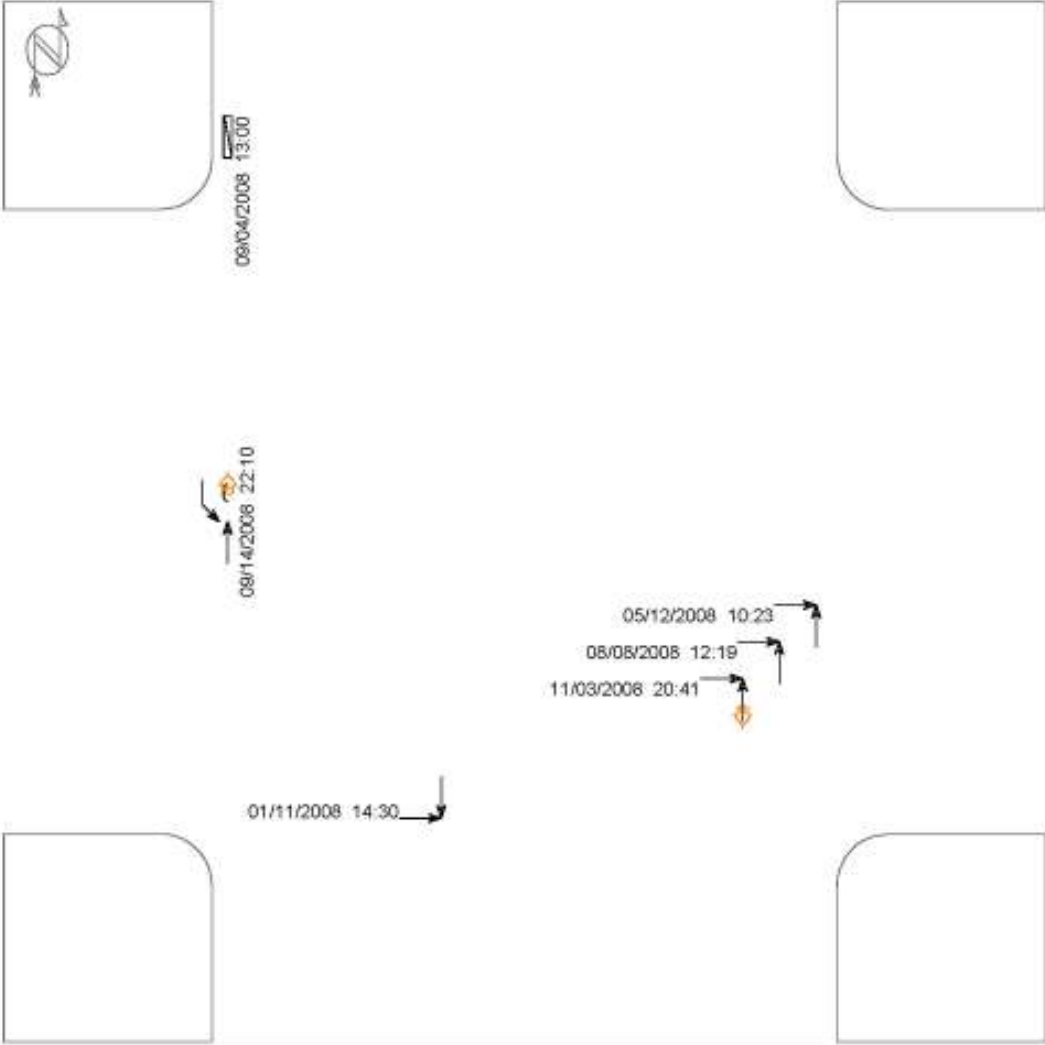
Within 75' of intersection, (0) accidents with insufficient data for display

← Straight	▭ Parked	× Pedestrian	Fixed objects:	
← Stopped	↪ Erratic	× Bicycle	□ General	▣ Pole
← Unknown	↪ Out of control	○ Injury	▣ Signal	▣ Curb
↔ Backing	↪ Right turn	⊙ Fatality	▣ Tree	⊙ Animal
↔ Overtaking	↪ Left turn	👤 Nighttime	◀ 3rd vehicle	
↔ Sideswipe	↪ U-turn	🚔 DUI	✱ Extra data	



**Marsh & Osos**  
**01/01/08 - 12/31/08**

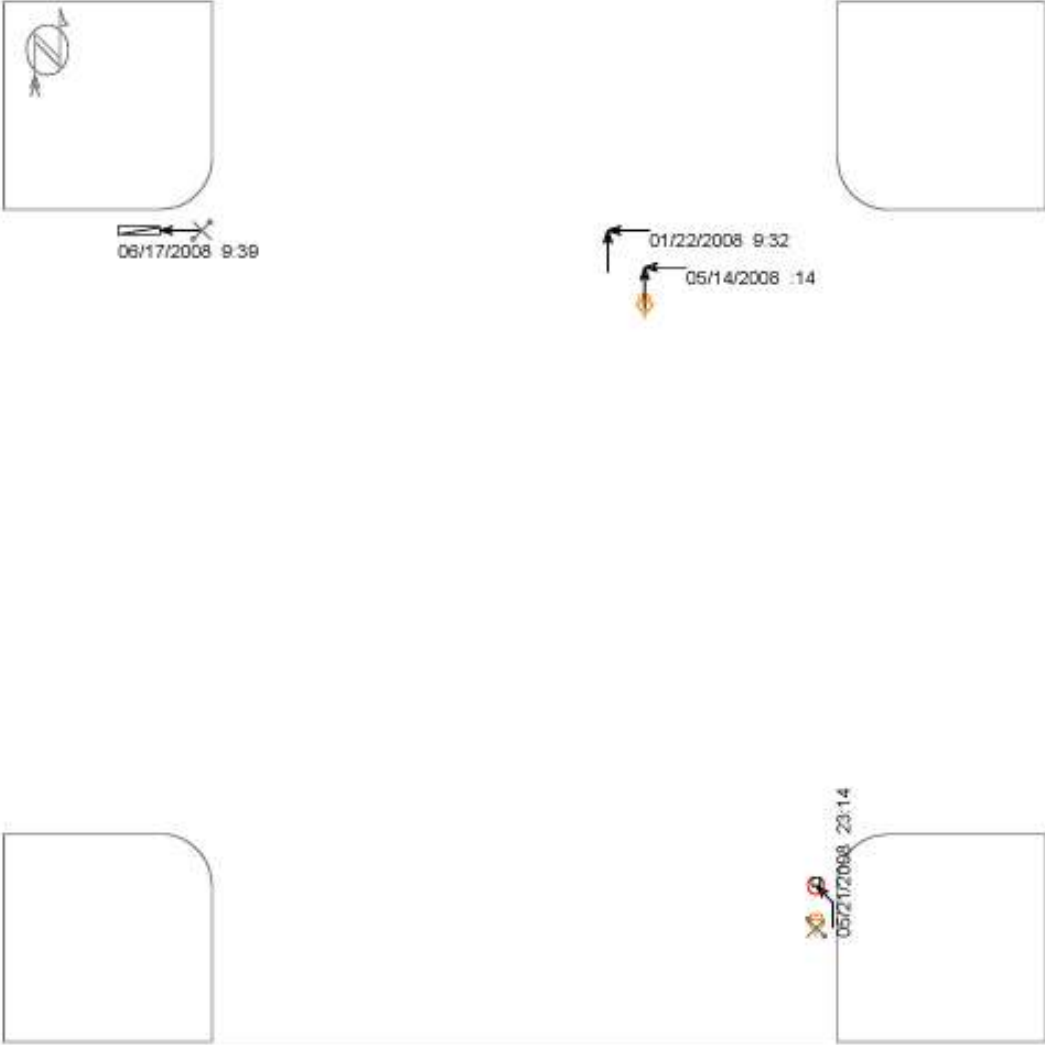
**6 Accidents**



Within 75' of intersection, (0) accidents with insufficient data for display

- |              |                  |              |                |
|--------------|------------------|--------------|----------------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |
| ← Stopped    | ↪ Erratic        | × Bicycle    | □ General      |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree         |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ▣ Pole         |
| ↔ Sideswipe  | ↪ U-turn         | 🚔 DUI        | ▣ Curb         |
|              |                  |              | ▣ Animal       |
|              |                  |              | ◀ 3rd vehicle  |
|              |                  |              | ✱ Extra data   |

**5 Accidents** **Chorro & Higuera**  
**01/01/08 - 12/31/08**



Within 75' of intersection, (1) accidents with insufficient data for display

- |              |                  |              |                |          |
|--------------|------------------|--------------|----------------|----------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |          |
| ← Stopped    | ↪ Erratic        | × Bicycle    | □ General      | ▣ Pole   |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       | ▣ Curb   |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree         | ⊗ Animal |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle  |          |
| ↔ Sideswipe  | ↪ U-turn         | 🚔 DUI        | ✱ Extra data   |          |

# 5 Accidents

## Higuera & Osos 01/01/08 - 12/31/08



Within 75' of intersection, (0) accidents with insufficient data for display

- |              |                  |              |                |          |
|--------------|------------------|--------------|----------------|----------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |          |
| ← Stopped    | ↪ Erratic        | × Bicycle    | □ General      | ▣ Pole   |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       | ▣ Curb   |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree         | ⊗ Animal |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle  |          |
| ↔ Sideswipe  | ↪ U-turn         | 🚔 DUI        | ✱ Extra data   |          |

appendix 2

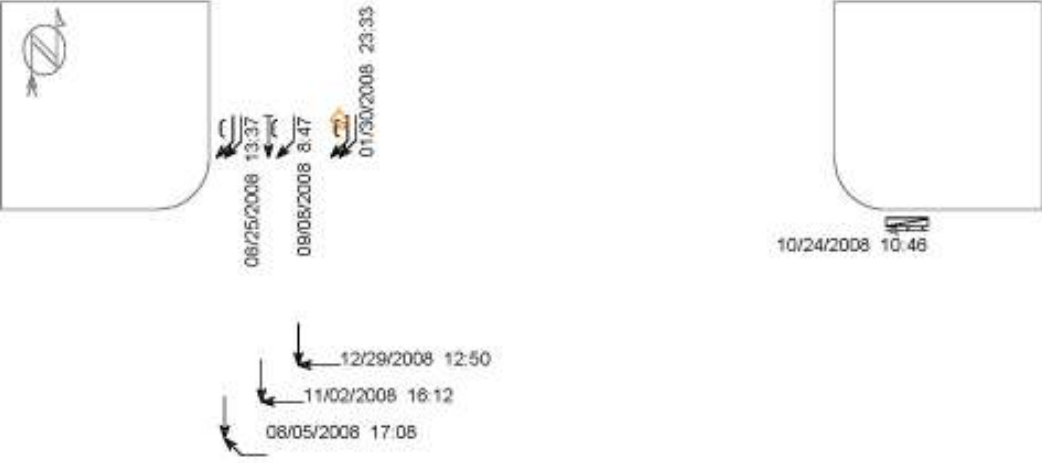
---

arterial / collector intersections

### Arterial / Collector Intersections Prioritized by Collision Rate

Rank	Prev. Rank	Intersection	Collisions	Volume	Rate	Control	EB	WB	NB	SB
1	Not Ranked	Pismo & Santa Rosa	7	10,942	1.75	4-STOP	NA	4,185	2,071	4,686
2	Not Ranked	Osos & Pismo	6	15,032	1.09	SIG	NA	6,269	5,667	3,096
3	1	Chorro & Palm	4	10,628	1.03	SIG	987	2,626	3,167	3,848
4	Not Ranked	Palm & Santa Rosa	5	21,003	0.65	SIG	1,732	778	9,479	9,014
5	4	High / Pismo & Higuera	3	14,970	0.55	SIG	NA	2,362	6,461	6,147
6	6	Buchon & Osos	3	15,373	0.53	SIG	1459	1771	5,667	6,476
7	8	Broad & Foothill	4	22,365	0.49	SIG	9,158	11,055	2,152	NA
8	Not Ranked	Broad & High	3	16,923	0.49	2-STOP	1,813	1,600	6,717	6,793
9	Not Ranked	Los Osos Valley & Oceanaire	4	24,665	0.44	SIG	747	NA	12,105	11,813
10	10	El Mercado & Madonna	4	32,069	0.34	SIG	13,270	17,799	1,000	NA

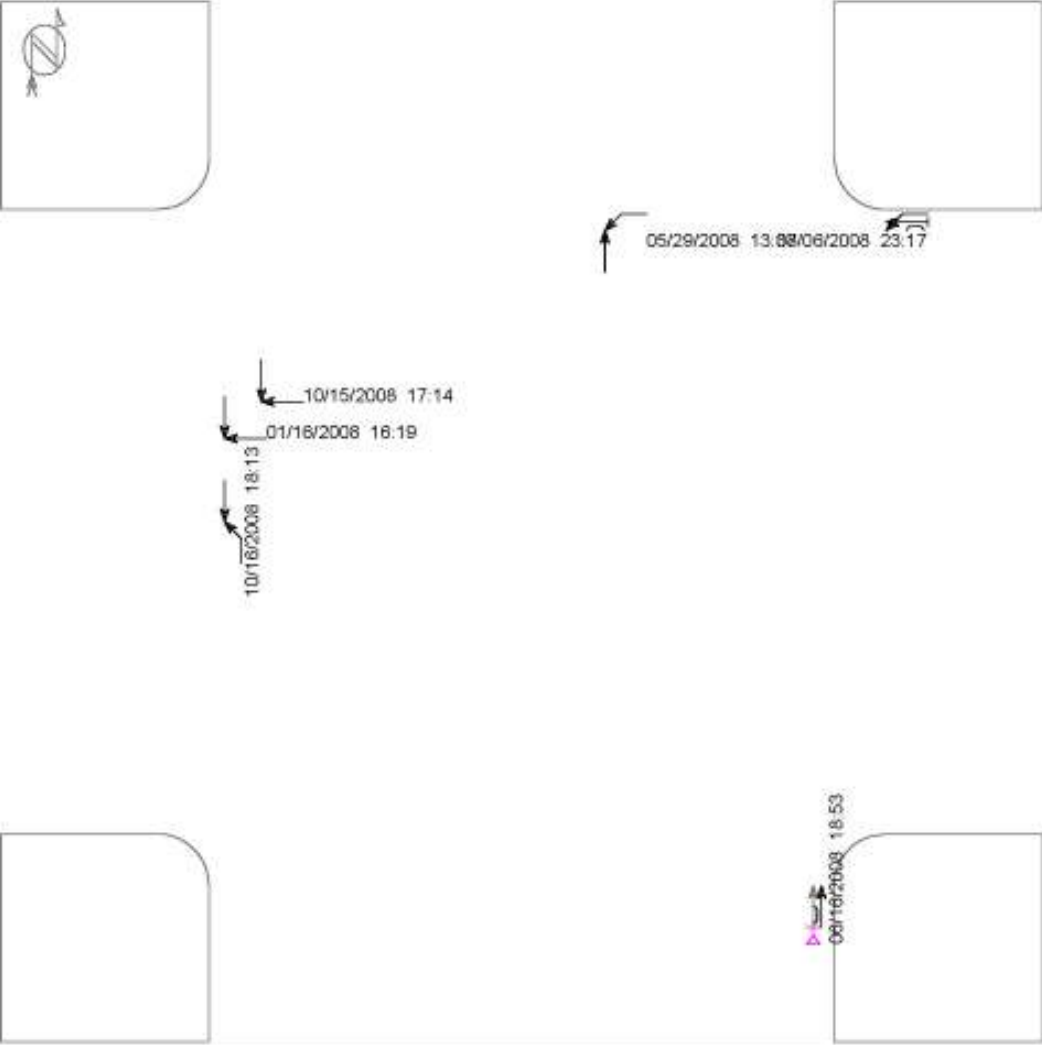
# 7 Accidents Pismo & Santa Rosa 01/01/08 - 12/31/08



Within 75' of intersection, (0) accidents with insufficient data for display

- |  |  |   |   |
|--|--|---|---|
| <ul style="list-style-type: none"> <li>← Straight</li> <li>⇄ Stopped</li> <li>← Unknown</li> <li>↔ Backing</li> <li>↔ Overtaking</li> <li>↔ Sideswipe</li> </ul> | <ul style="list-style-type: none"> <li>▭ Parked</li> <li>↪ Erratic</li> <li>↪ Out of control</li> <li>↪ Right turn</li> <li>↪ Left turn</li> <li>↪ U-turn</li> </ul> | <ul style="list-style-type: none"> <li>× Pedestrian</li> <li>× Bicycle</li> <li>○ Injury</li> <li>⊙ Fatality</li> <li>👤 Nighttime</li> <li>🚔 DUI</li> </ul> | <p><b>Fixed objects:</b></p> <ul style="list-style-type: none"> <li style="margin-right: 10px;">□ General</li> <li style="margin-right: 10px;">▣ Pole</li> <li style="margin-right: 10px;">▣ Signal</li> <li style="margin-right: 10px;">▣ Curb</li> <li style="margin-right: 10px;">▣ Tree</li> <li style="margin-right: 10px;">▣ Animal</li> <li style="margin-right: 10px;">◀ 3rd vehicle</li> <li style="margin-right: 10px;">✖ Extra data</li> </ul> |
|--|--|---|---|

**6 Accidents** **Osos & Pismo**  
**01/01/08 - 12/31/08**

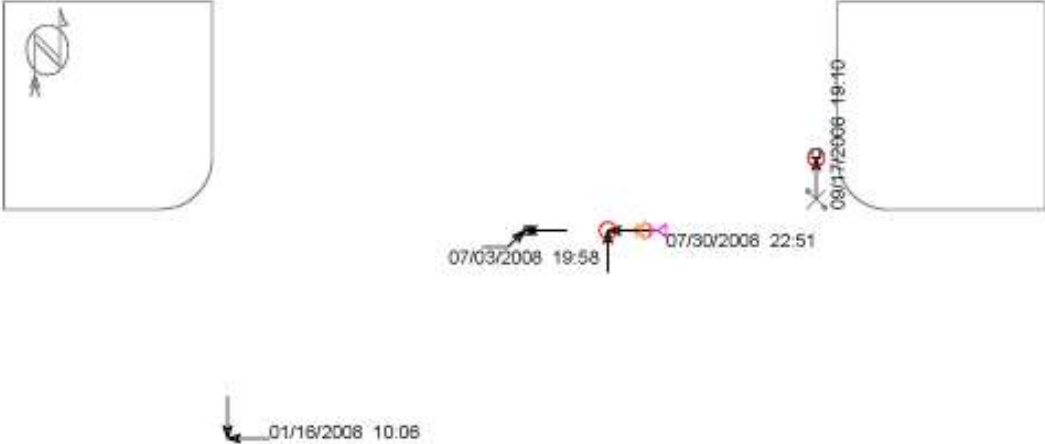


Within 75' of intersection, (0) accidents with insufficient data for display

- |              |                  |              |                |
|--------------|------------------|--------------|----------------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |
| ⇐ Stopped    | ↪ Erratic        | ⊗ Bicycle    | □ General      |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree         |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle  |
| ↔ Sideswipe  | ↪ U-turn         | 🚔 DUI        | ✱ Extra data   |
|              |                  |              | ▣ Pole         |
|              |                  |              | ▣ Curb         |
|              |                  |              | ▣ Animal       |

**Chorro & Palm**  
**01/01/08 - 12/31/08**

**4 Accidents**

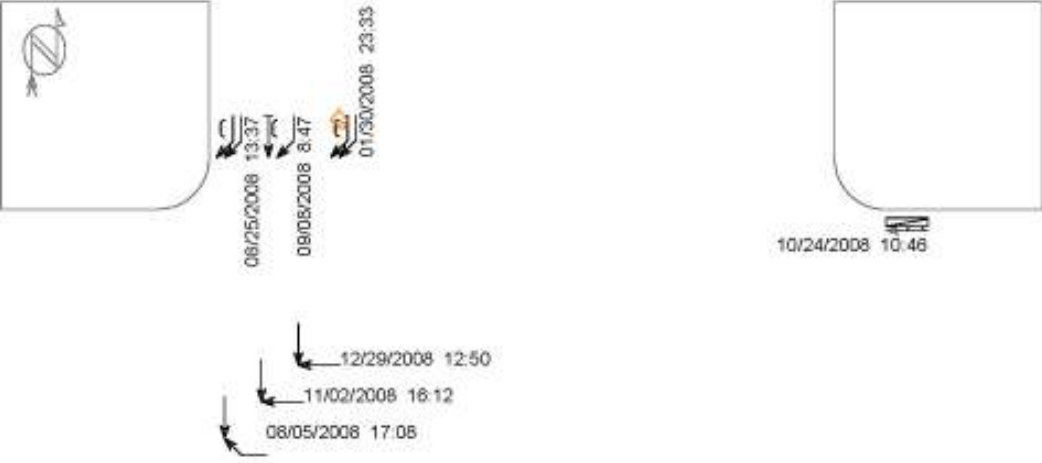


Within 75' of intersection, (0) accidents with insufficient data for display

- |              |                  |              |                |
|--------------|------------------|--------------|----------------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |
| ← Stopped    | ↪ Erratic        | × Bicycle    | □ General      |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree         |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle  |
| ↔ Sideswipe  | ↪ U-turn         | 🚔 DUI        | ✱ Extra data   |
|              |                  |              | ▣ Pole         |
|              |                  |              | ▣ Curb         |
|              |                  |              | ⊗ Animal       |



# 7 Accidents Pismo & Santa Rosa 01/01/08 - 12/31/08

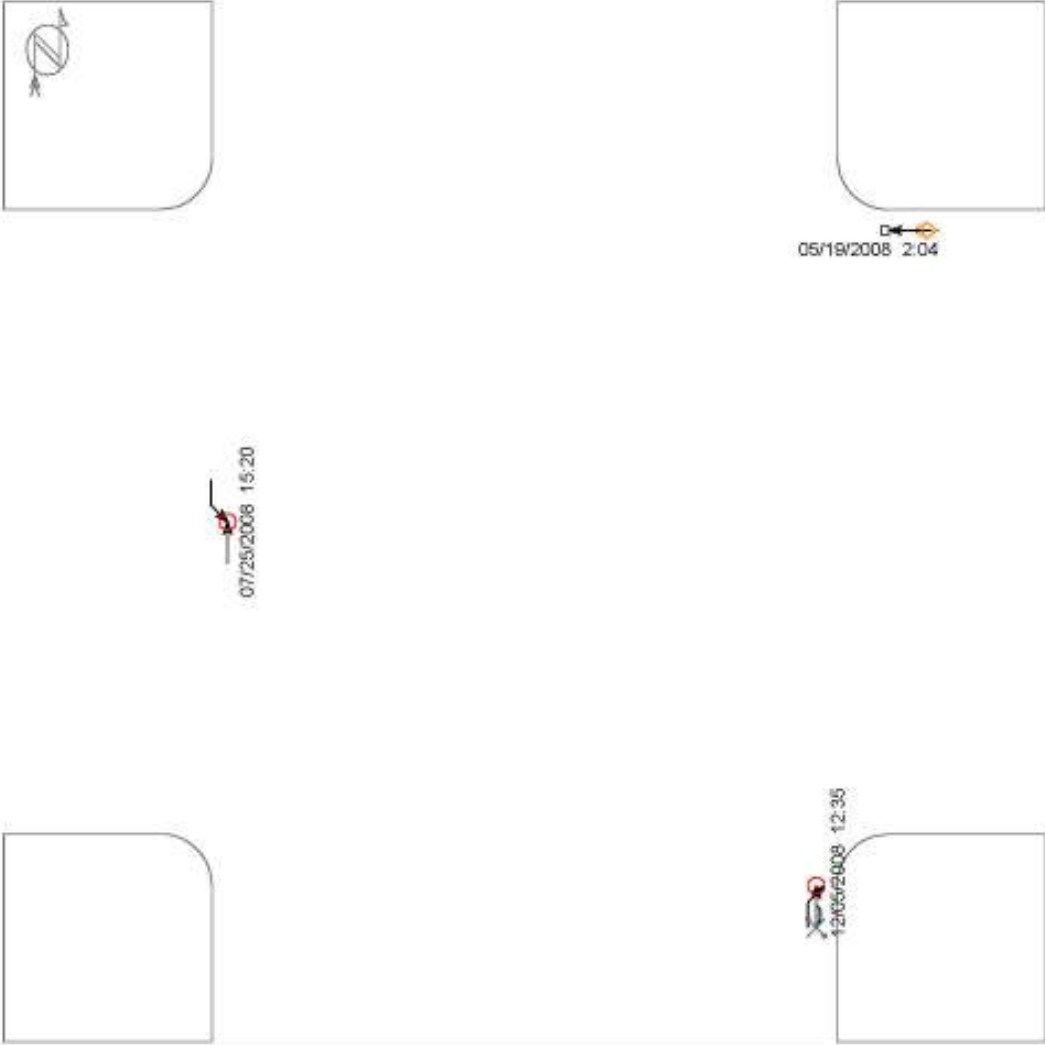


Within 75' of intersection, (0) accidents with insufficient data for display

- |  |  |   |   |
|--|--|---|---|
| <ul style="list-style-type: none"> <li>← Straight</li> <li>⇐ Stopped</li> <li>← Unknown</li> <li>↔ Backing</li> <li>↔ Overtaking</li> <li>↔ Sideswipe</li> </ul> | <ul style="list-style-type: none"> <li>▭ Parked</li> <li>↔ Erratic</li> <li>↔ Out of control</li> <li>↗ Right turn</li> <li>↖ Left turn</li> <li>↻ U-turn</li> </ul> | <ul style="list-style-type: none"> <li>× Pedestrian</li> <li>✕ Bicycle</li> <li>○ Injury</li> <li>⊙ Fatality</li> <li>👤 Nighttime</li> <li>🚔 DUI</li> </ul> | <p><b>Fixed objects:</b></p> <ul style="list-style-type: none"> <li style="margin-right: 10px;">□ General</li> <li style="margin-right: 10px;">▣ Pole</li> <li style="margin-right: 10px;">▣ Signal</li> <li style="margin-right: 10px;">▣ Curb</li> <li style="margin-right: 10px;">▣ Tree</li> <li style="margin-right: 10px;">▣ Animal</li> <li style="margin-right: 10px;">◀ 3rd vehicle</li> <li style="margin-right: 10px;">✱ Extra data</li> </ul> |
|--|--|---|---|

**High & Higuera**  
**01/01/08 - 12/31/08**

**3 Accidents**



Within 75' of intersection, (0) accidents with insufficient data for display

- |              |                  |              |                     |
|--------------|------------------|--------------|---------------------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects:      |
| ← Stopped    | ↪ Erratic        | × Bicycle    | □ General    ▣ Pole |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal    ▣ Curb  |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree    ⊗ Animal  |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle       |
| ↔ Sideswipe  | ↪ U-turn         | 🚔 DUI        | ✱ Extra data        |

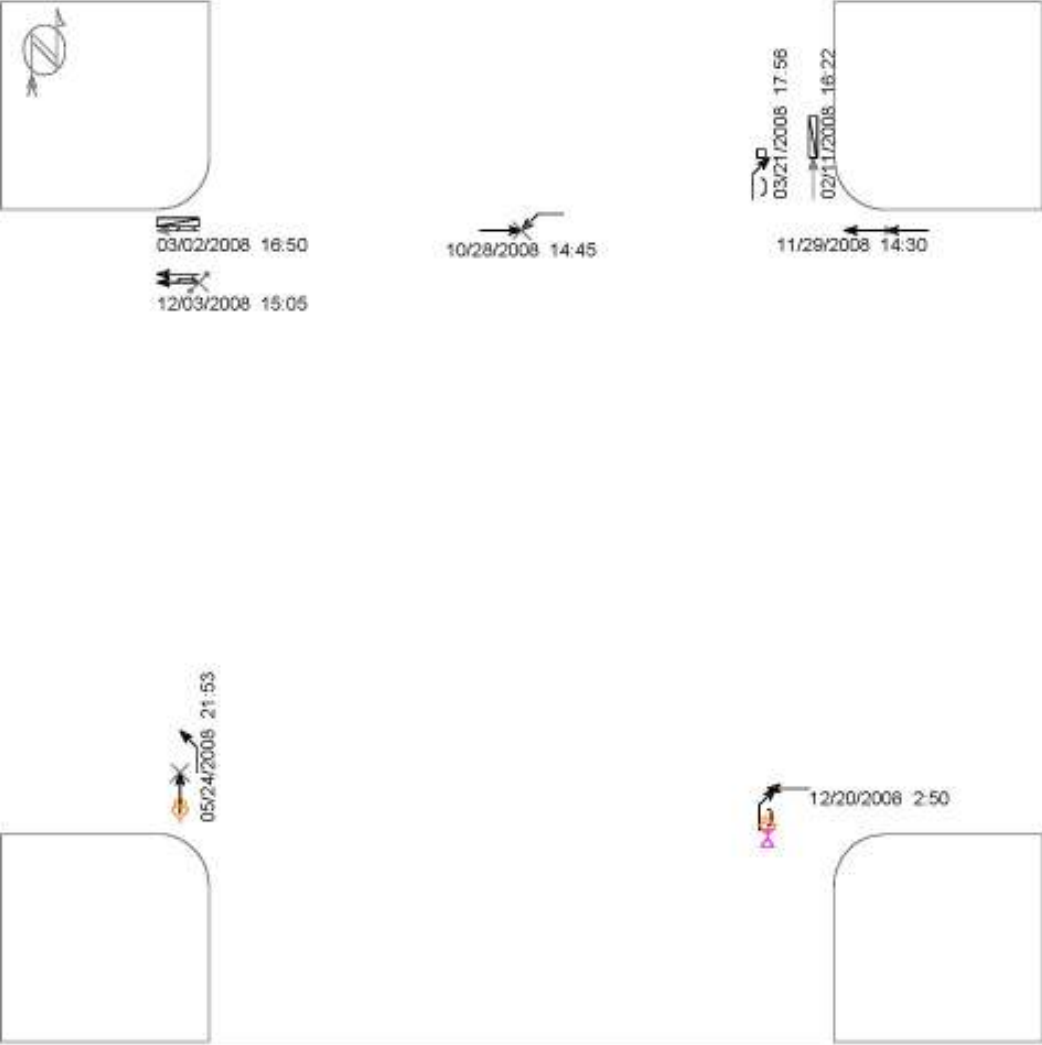
appendix 3  
arterial / local intersections

---

## Arterial / Local Intersections Prioritized by Collision Rate

Rank	Prev. Rank	Intersection	Collisions	Volume	Rate	Control	EB	WB	NB	SB
1	14	Broad & Higuera	8	14,290	1.53	SIG	NA	8,755	2,535	<u>3,000</u>
2	3	California & Taft	7	19,147	1.00	1-STOP	NA	<u>3,000</u>	7,345	8,802
3	7	Higuera & Nipomo	4	13,003	0.84	SIG	NA	7,930	<u>2,000</u>	3,073
4	5	Foothill & Tassajara	5	16,696	0.82	SIG	6,868	7,724	1,104	<u>1,000</u>
5	1	Calle Joaquin & Los Osos Valley	9	31,942	0.77	SIG	13,541	14,401	<u>2,000</u>	<u>2,000</u>
6	Not Ranked	Higuera & Vachell	6	25,340	0.65	1-STOP	NA	<u>2,000</u>	11,282	12,058
7	2	Santa Rosa & Walnut	5	21,573	0.63	SIG	<u>1,200</u>	<u>1,600</u>	9,737	9,036
8	Not Ranked	Broad & Upham	3	13,900	0.59	2-STOP	<u>200</u>	<u>200</u>	<u>6,700</u>	<u>6,800</u>
9	Not Ranked	Los Osos Valley & Royal	5	24,171	0.57	SIG	11,426	11,745	<u>500</u>	<u>500</u>
10	10	Madonna & Pereira	5	24,906	0.55	1-STOP	<u>1,000</u>	<u>3,000</u>	9,692	11,214
11	Not Ranked	Long & Tank Farm	3	19,767	0.42	2-STOP	9,580	9,187	<u>500</u>	<u>500</u>
12	Not Ranked	Peach & Santa Rosa	3	20,200	0.41	2-STOP	<u>600</u>	<u>400</u>	<u>9,700</u>	<u>9,500</u>
13	23	Montalban & Santa Rosa	5	35,600	0.38	2-STOP	<u>100</u>	<u>500</u>	<u>16,700</u>	<u>18,300</u>
14	16	Ella & Johnson	3	21,565	0.38	SIG	<u>1,300</u>	<u>1,300</u>	9,386	9,579
15	12	Froom Ranch & Los Osos Valley	4	32,366	0.34	SIG	13,541	11,825	<u>500</u>	<u>6,500</u>
16	17	Murray & Santa Rosa	4	37,099	0.30	SIG	899	<u>1,200</u>	<u>16,700</u>	<u>18,300</u>
17	Not Ranked	Broad & Francis	3	30,200	0.27	1-STOP	NA	<u>200</u>	<u>15,000</u>	<u>15,000</u>
18	Not Ranked	Meinecke & Santa Rosa	3	35,500	0.23	1-STOP	<u>500</u>	NA	<u>16,700</u>	<u>18,300</u>
19	20	Olive & Santa Rosa	3	37,500	0.22	SIG	<u>2,000</u>	<u>500</u>	<u>17,000</u>	<u>18,000</u>

# Broad & Higuera 01/01/08 - 12/31/08



Within 75' of intersection, (0) accidents with insufficient data for display

- |              |                  |              |                |
|--------------|------------------|--------------|----------------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |
| ← Stopped    | ↪ Erratic        | ⊗ Bicycle    | □ General      |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree         |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle  |
| ↔ Sideswipe  | ↪ U-turn         | 🚗 DUI        | ✖ Extra data   |
|              |                  |              | ▣ Pole         |
|              |                  |              | ▣ Curb         |
|              |                  |              | ⊗ Animal       |

# California & Taft 01/01/08 - 12/31/08



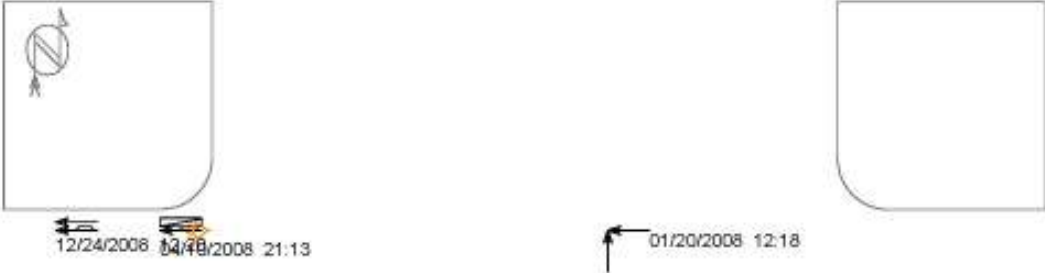
01/23/2008 8:12  
 04/15/2008 18:10  
 11/11/2008 17:18



Within 75' of intersection, (0) accidents with insufficient data for display

- |              |                  |              |                |
|--------------|------------------|--------------|----------------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |
| ← Stopped    | ↪ Erratic        | × Bicycle    | □ General      |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree         |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle  |
| ↔ Sideswipe  | ↪ U-turn         | 🚔 DUI        | ✱ Extra data   |
|              |                  |              | ▣ Pole         |
|              |                  |              | ▣ Curb         |
|              |                  |              | ▣ Animal       |

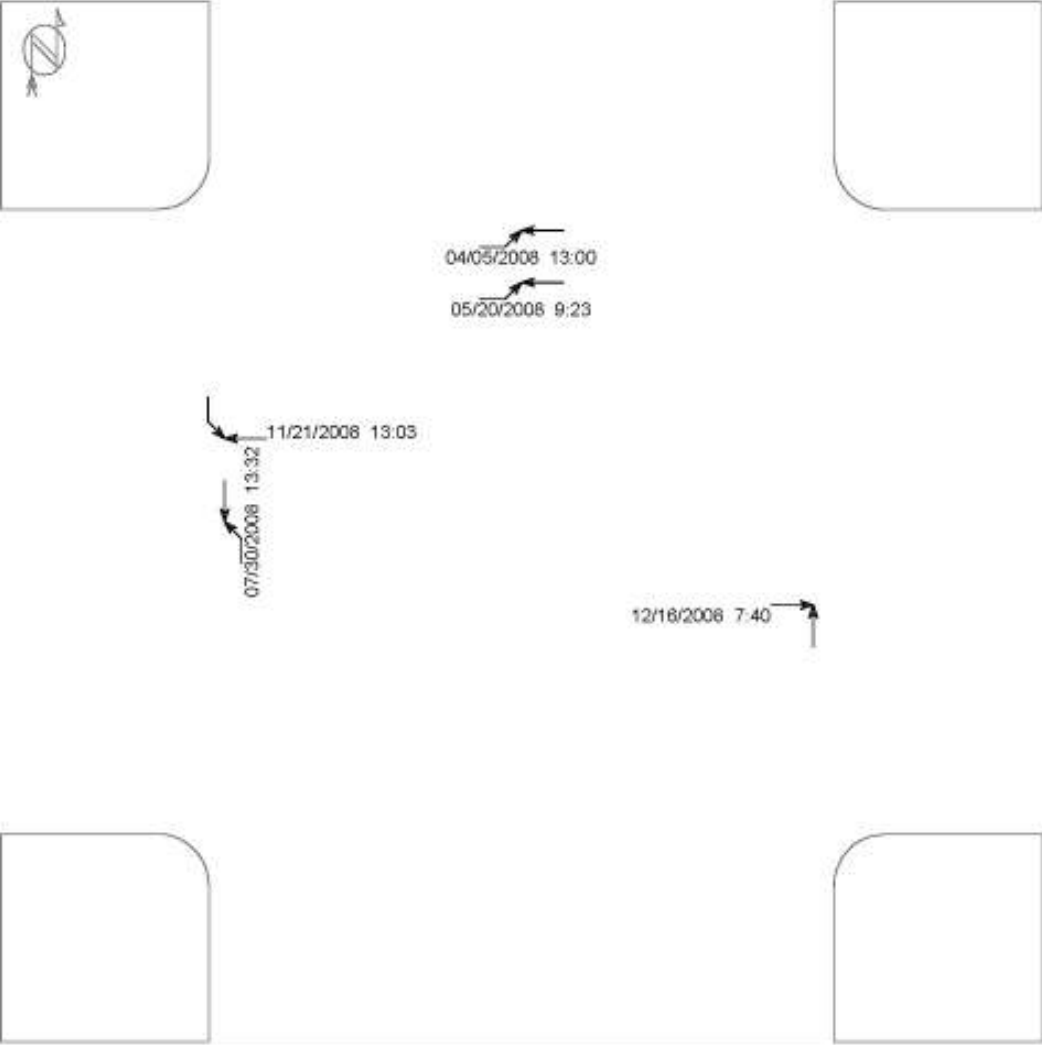
**4 Accidents** **Higuera & Nipomo**  
**01/01/08 - 12/31/08**



Within 75' of intersection, (0) accidents with insufficient data for display

- |              |                  |              |                |          |
|--------------|------------------|--------------|----------------|----------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |          |
| ← Stopped    | ↪ Erratic        | × Bicycle    | □ General      | ▣ Pole   |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       | ▣ Curb   |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree         | ⊙ Animal |
| ↔ Overtaking | ↪ Left turn      | ⚡ Nighttime  | ◀ 3rd vehicle  |          |
| ↔ Sideswipe  | ↪ U-turn         | ⚡ DUI        | ✱ Extra data   |          |

<b>5 Accidents</b>	<b>Foothill &amp; Tassajara</b> <b>01/01/08 - 12/31/08</b>
--------------------	---



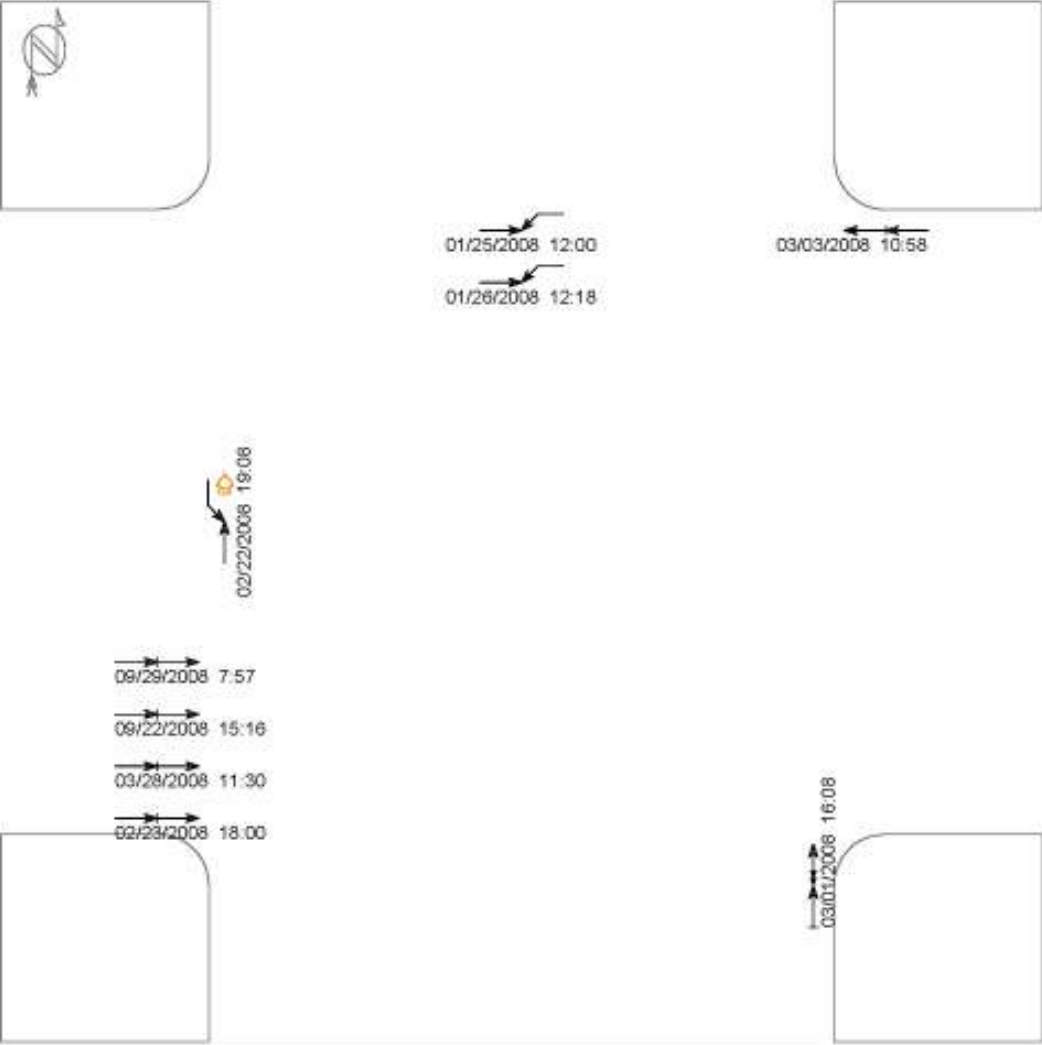
Within 75' of intersection, (0) accidents with insufficient data for display

← Straight	▭ Parked	× Pedestrian	Fixed objects:
← Stopped	↪ Erratic	× Bicycle	□ General
← Unknown	↪ Out of control	○ Injury	▣ Signal
↔ Backing	↪ Right turn	⊙ Fatality	▣ Tree
↔ Overtaking	↪ Left turn	👤 Nighttime	◀ 3rd vehicle
↔ Sideswipe	↪ U-turn	🚔 DUI	✱ Extra data
			▣ Pole
			▣ Curb
			▣ Animal



# Calle Joaquin & Los Osos Valley

## 9 Accidents 01/01/08 - 12/31/08



Within 75' of intersection, (0) accidents with insufficient data for display

- |              |                  |              |                |          |
|--------------|------------------|--------------|----------------|----------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |          |
| ← Stopped    | ↪ Erratic        | × Bicycle    | □ General      | ▣ Pole   |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       | ▣ Curb   |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree         | ⊙ Animal |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle  |          |
| ↔ Sideswipe  | ↪ U-turn         | 🚔 DUI        | ✱ Extra data   |          |

appendix 4  
collector / local intersections

---

### Collector / Local Intersections Prioritized by Collision Rate

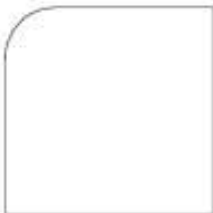
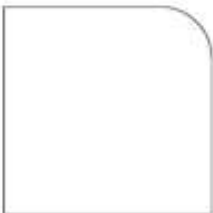
Rank	Prev. Rank	Intersection	Collisions	Volume	Rate	Control	EB	WB	NB	SB
1	Not Ranked	Mill & Osos	3	6,620	1.24	2-STOP	1,205	1,415	2,500	1,500
2	Not Ranked	Chorro & Peach	4	9,100	1.20	2-STOP	1,000	500	3,800	3,800

**Mill & Osos**  
**01/01/08 - 12/31/08**

**3 Accidents**



10/30/2008 15:38  
02/26/2008 7:39  
02/12/2008 15:19

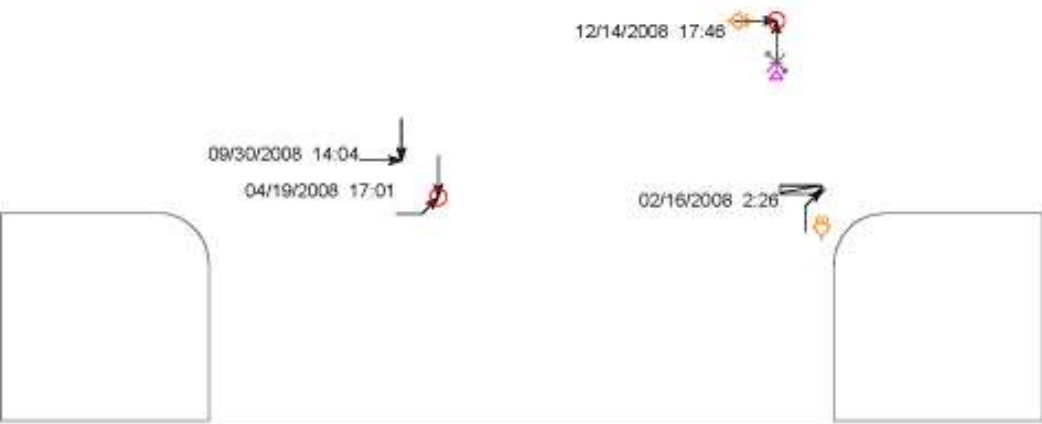


Within 75' of intersection, (0) accidents with insufficient data for display

- |              |                  |              |                |          |
|--------------|------------------|--------------|----------------|----------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |          |
| ← Stopped    | ↪ Erratic        | × Bicycle    | □ General      | ▣ Pole   |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       | ▣ Curb   |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree         | ⊙ Animal |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle  |          |
| ↔ Sideswipe  | ↪ U-turn         | 🚔 DUI        | ✱ Extra data   |          |

**Chorro & Peach**  
**01/01/08 - 12/31/08**

**4 Accidents**



Within 75' of intersection, (0) accidents with insufficient data for display

- |              |                  |              |                |
|--------------|------------------|--------------|----------------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |
| ← Stopped    | ↪ Erratic        | × Bicycle    | □ General      |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree         |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle  |
| ↔ Sideswipe  | ↪ U-turn         | 🚔 DUI        | ✖ Extra data   |
|              |                  |              | ▣ Pole         |
|              |                  |              | ▣ Curb         |
|              |                  |              | ▣ Animal       |

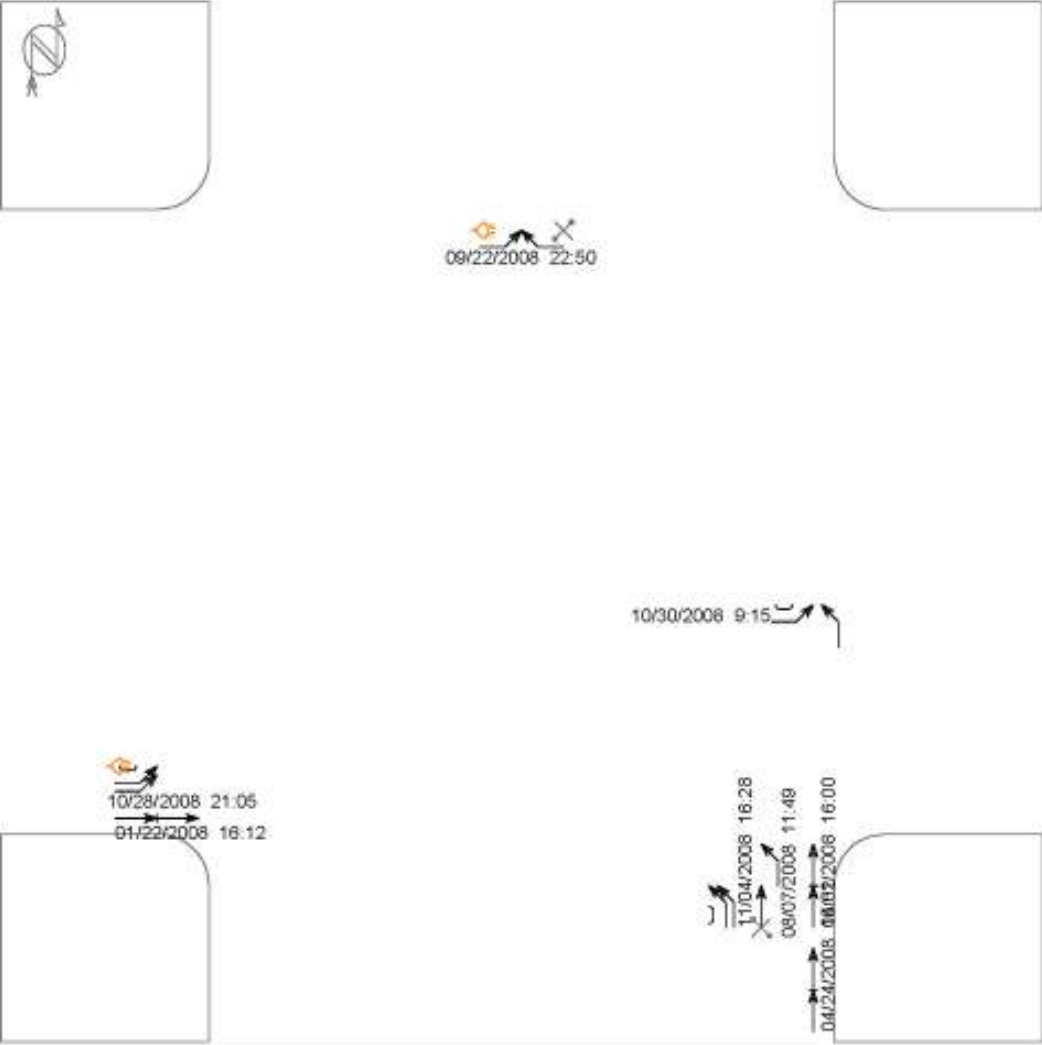
appendix 5  
other significant intersections

---

**Other Significant Intersections Prioritized by Collision Rate - Left Turn Collisions at Signalized Intersections**

Rank	Prev. Rank	Intersection	Collisions	Volume	Rate	Control	EB	WB	NB	SB
1	Not Ranked	California & Foothill	8	28,936	0.76	SIG	<u>4,000</u>	9,787	9,401	5,748
2	Not Ranked	Broad & Orcutt	9	35,109	0.70	SIG	NA	7,147	14,309	13,653
3	Not Ranked	Foothill & Santa Rosa	9	53,248	0.46	SIG	10,123	10,256	16,789	16,080

**8 Accidents** **California & Foothill**  
**01/01/08 - 12/31/08**



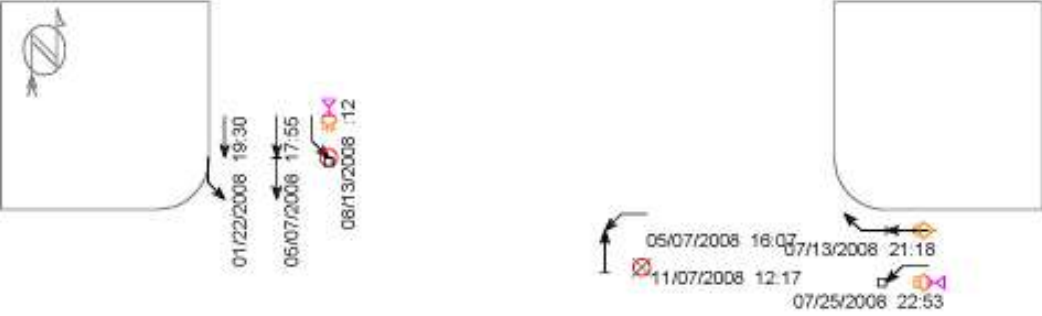
Within 75' of intersection, (0) accidents with insufficient data for display

- |              |                  |              |                |          |
|--------------|------------------|--------------|----------------|----------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |          |
| ← Stopped    | ↪ Erratic        | ⊗ Bicycle    | □ General      | ▣ Pole   |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       | ▣ Curb   |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree         | ⊗ Animal |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle  |          |
| ↔ Sideswipe  | ↪ U-turn         | 🚗 DUI        | ✱ Extra data   |          |



# Broad & Orcutt

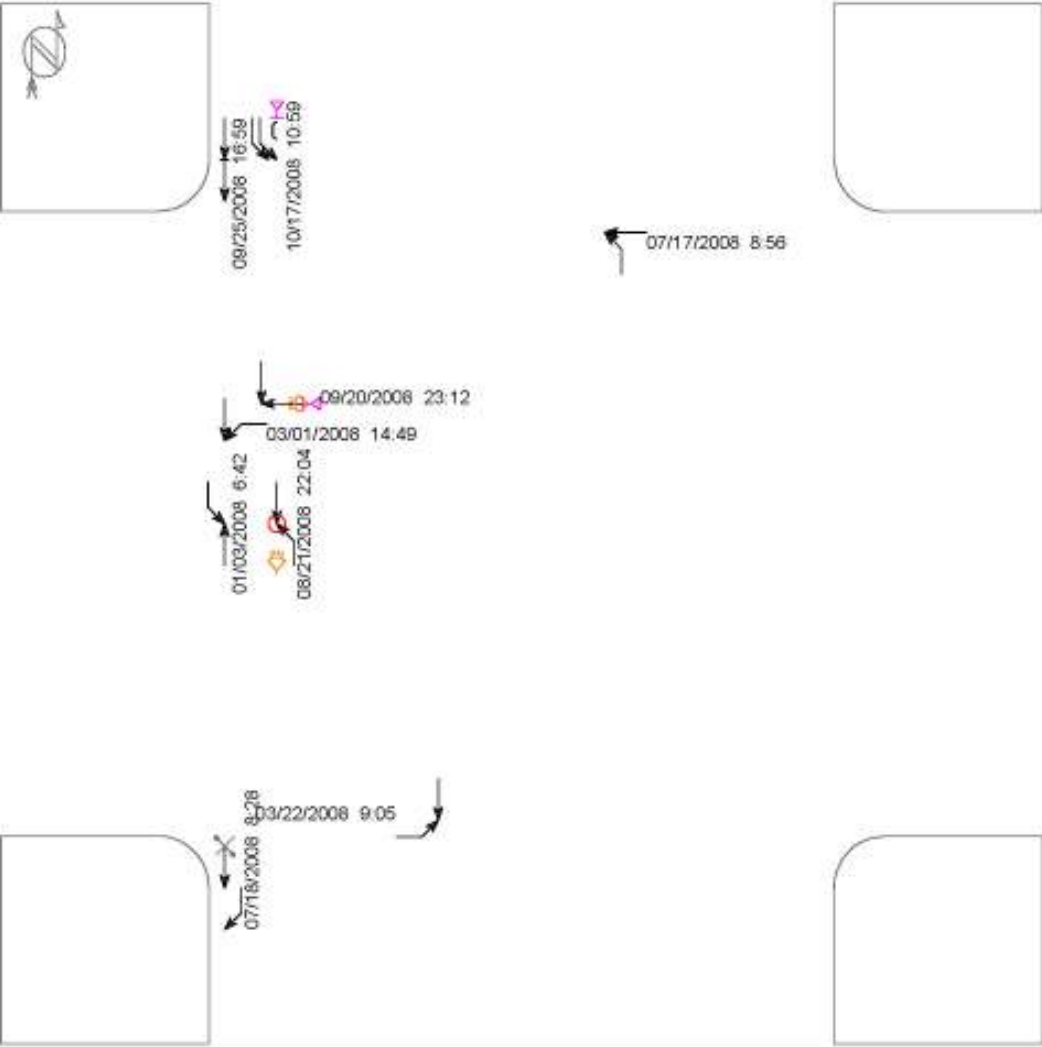
## 9 Accidents 01/01/08 - 12/31/08



Within 75' of intersection, (0) accidents with insufficient data for display

- |              |                  |              |                |          |
|--------------|------------------|--------------|----------------|----------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |          |
| ⇄ Stopped    | ⤴ Erratic        | ⊗ Bicycle    | □ General      | ▣ Pole   |
| ← Unknown    | ⤴ Out of control | ○ Injury     | ▣ Signal       | ▣ Curb   |
| ⇄ Backing    | ↗ Right turn     | ⊙ Fatality   | ▣ Tree         | ⊗ Animal |
| ⇄ Overtaking | ↙ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle  |          |
| ⇄ Sideswipe  | ↘ U-turn         | 🚔 DUI        | ✱ Extra data   |          |

# Foothill & Santa Rosa 01/01/08 - 12/31/08



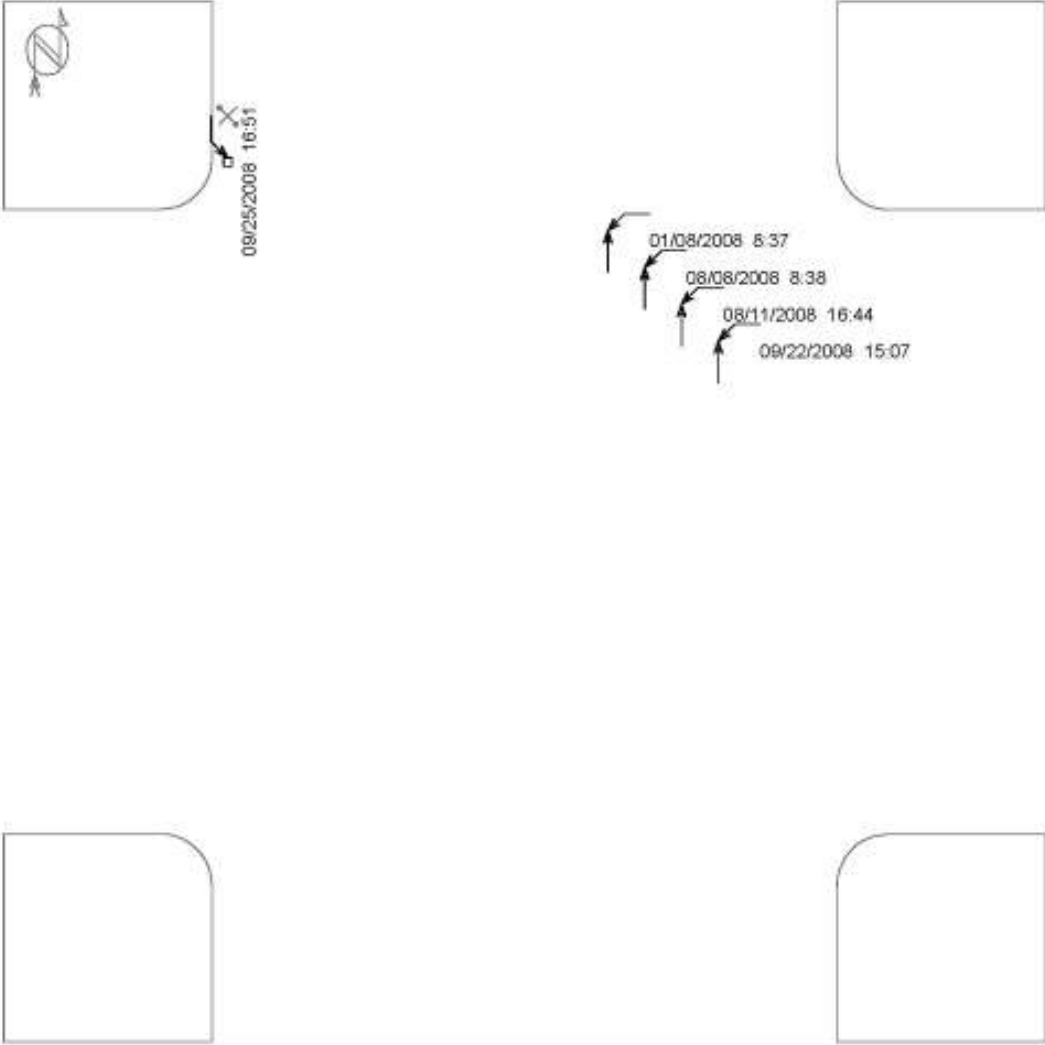
Within 75' of intersection, (0) accidents with insufficient data for display

← Straight	▭ Parked	× Pedestrian	Fixed objects:
⇄ Stopped	⇄ Erratic	× Bicycle	□ General    ▣ Pole
← Unknown	⇄ Out of control	○ Injury	▣ Signal    ▣ Curb
⇄ Backing	↗ Right turn	⊙ Fatality	▣ Tree    ⊗ Animal
⇄ Overtaking	↖ Left turn	👤 Nighttime	◀ 3rd vehicle
⇄ Sideswipe	↵ U-turn	🚔 DUI	✱ Extra data

**Other Significant Intersections Prioritized by Collision Rate - Collision at Intersections without All-way Control**

Rank	Prev. Rank	Intersection	Collisions	Volume	Rate	Control	EB	WB	NB	SB
1	8	Higuera & Vachell	6	25,340	0.65	1-STOP	NA	<u>2,000</u>	11,282	12,058
2	4	Madonna & Pereira	5	24,906	0.55	1-STOP	<u>1,000</u>	<u>3,000</u>	9,692	11,214
3	11	Montalban & Santa Rosa	5	35,600	0.38	2-STOP	<u>100</u>	<u>500</u>	<u>16,700</u>	<u>18,300</u>

# 6 Accidents Higuera & Vachell 01/01/08 - 12/31/08

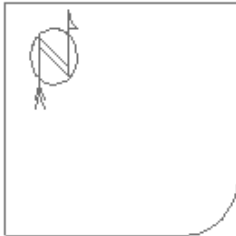


Within 75' of intersection, (1) accidents with insufficient data for display

- |              |                  |              |                |          |
|--------------|------------------|--------------|----------------|----------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |          |
| ← Stopped    | ↪ Erratic        | ⊗ Bicycle    | □ General      | ▣ Pole   |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       | ▣ Curb   |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree         | ⊗ Animal |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle  |          |
| ↔ Sideswipe  | ↪ U-turn         | 🚔 DUI        | ✱ Extra data   |          |

5 Accidents

Madonna & Pereira  
01/01/08 - 12/31/08



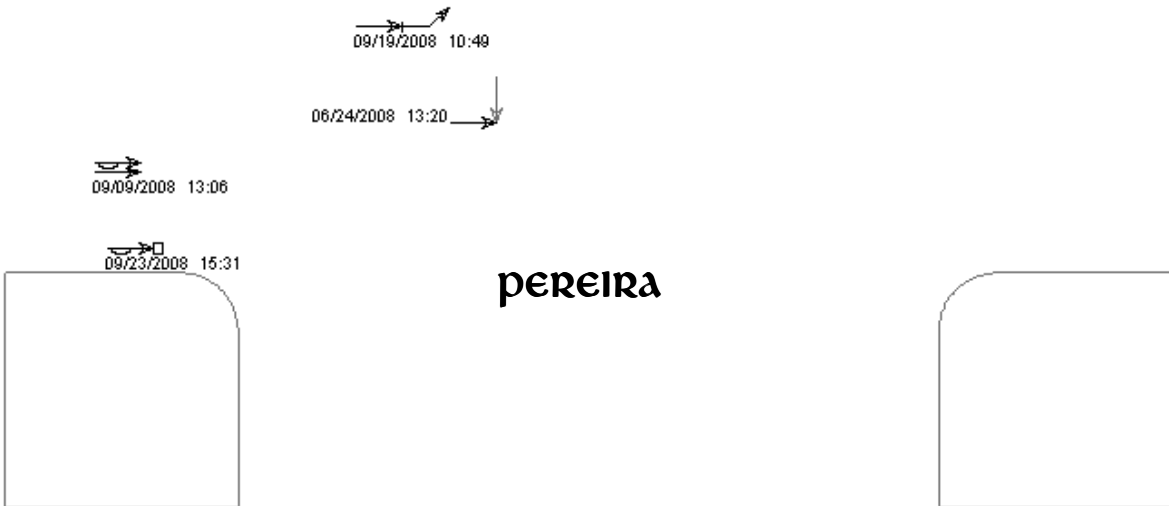
laguna village shopping  
center driveway



04/07/2008 13:30

madonna

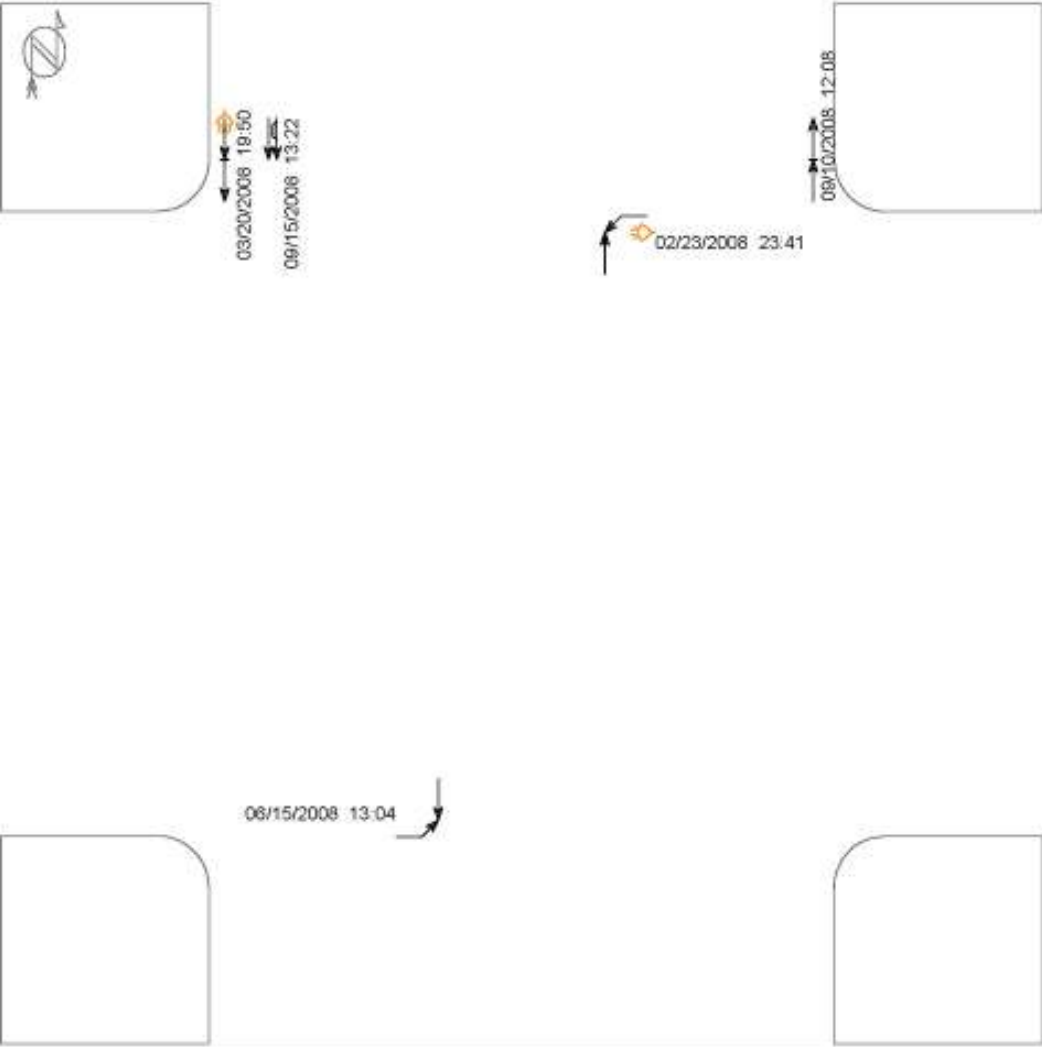
madonna



Within 75' of Intersection, (0) accidents with insufficient data for display

- |              |                  |              |                |
|--------------|------------------|--------------|----------------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |
| ← Stopped    | ⚡ Erratic        | ⚙ Bicycle    | □ General      |
| ← Unknown    | ⚡ Out of control | ○ Injury     | ▣ Signal       |
| ↔ Backing    | ↗ Right turn     | ⊙ Fatality   | ▣ Tree         |
| ↔ Overtaking | ↖ Left turn      | 🌙 Nighttime  | ◁ 3rd vehicle  |
| ↔ Sideswipe  | ↺ U-turn         | 🚔 DUI        | * Extra data   |
|              |                  |              | ▣ Pole         |
|              |                  |              | ▣ Curb         |
|              |                  |              | 🐾 Animal       |

# Montalban & Santa Rosa 01/01/08 - 12/31/08



Within 75' of intersection, (0) accidents with insufficient data for display

- |              |                  |              |                |
|--------------|------------------|--------------|----------------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |
| ← Stopped    | ↪ Erratic        | × Bicycle    | □ General      |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       |
| ↔ Backing    | ↪ Right turn     | ● Fatality   | ▣ Tree         |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle  |
| ↔ Sideswipe  | ↪ U-turn         | 🚔 DUI        | ✱ Extra data   |
|              |                  |              | ▣ Pole         |
|              |                  |              | ▣ Curb         |
|              |                  |              | ▣ Animal       |

appendix 6  
arterial segments

---

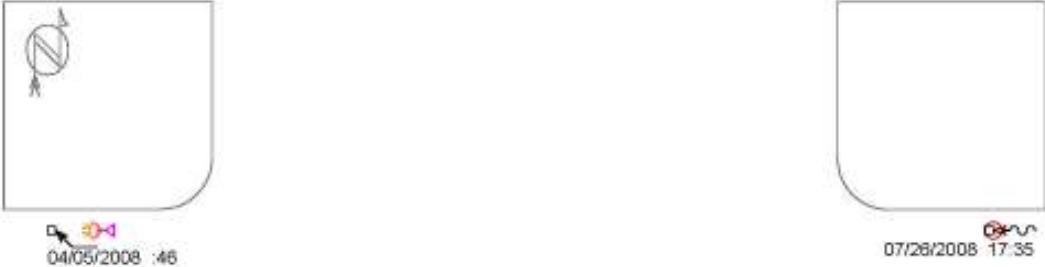
## Arterial Segments Prioritized by Collision Rate

Rank	Prev. Rank	Segment	Collisions	Volume	Seg. Len.	Rate	Type	Location
1	Not Ranked	Tank Farm, 700 Block	3	8,803	0.16	5.84	Pkwy. Arterial	Broad to Poinsettia
2	4	Foothill, 800-900 Block	7	20,185	0.17	5.59	Arterial	Chorro to Santa Rosa
3	8	Higuera, 10 Block	8	15,182	0.31	4.66	Arterial	Madonna to Elks
4	Not Ranked	Foothill, 700 Block	5	19,470	0.17	4.14	Res. Arterial	Chorro to Ferrini
5	1	Foothill, 1000 Block	3	20,043	0.12	3.42	Arterial	Santa Rosa to Casa
6	2	Higuera, 200 Block	3	14,897	0.19	2.90	Arterial	High to South
7	3	California, 200-400 Block	5	19,121	0.25	2.87	Res. Arterial	Foothill to Stafford
8	Not Ranked	LOVR 11400-11500 Block	4	22,850	0.17	2.82	Arterial	Royal to Madonna
9	Not Ranked	Johnson, 2800-3000 Block	3	14,393	0.22	2.60	Res. Arterial	La Cita to Laurel
10	Not Ranked	Johnson, 2200-2400 Block	3	15,694	0.23	2.28	Res. Arterial	Bishop to Sydney
11	Not Ranked	Higuera, 3900 Block	3	20,531	0.21	1.91	Arterial	Tank Farm to Suburban
12	11	Madonna, 400-100 Block	7	31,673	0.32	1.89	Arterial	Dalidio to 101 Freeway
13	9	Broad, 3200-3400 Block	4	29,091	0.20	1.88	State Hwy.	Orcutt to Rockview



# Tank Farm Broad to Poinsettia

3 Accidents 01/01/08 - 12/31/08

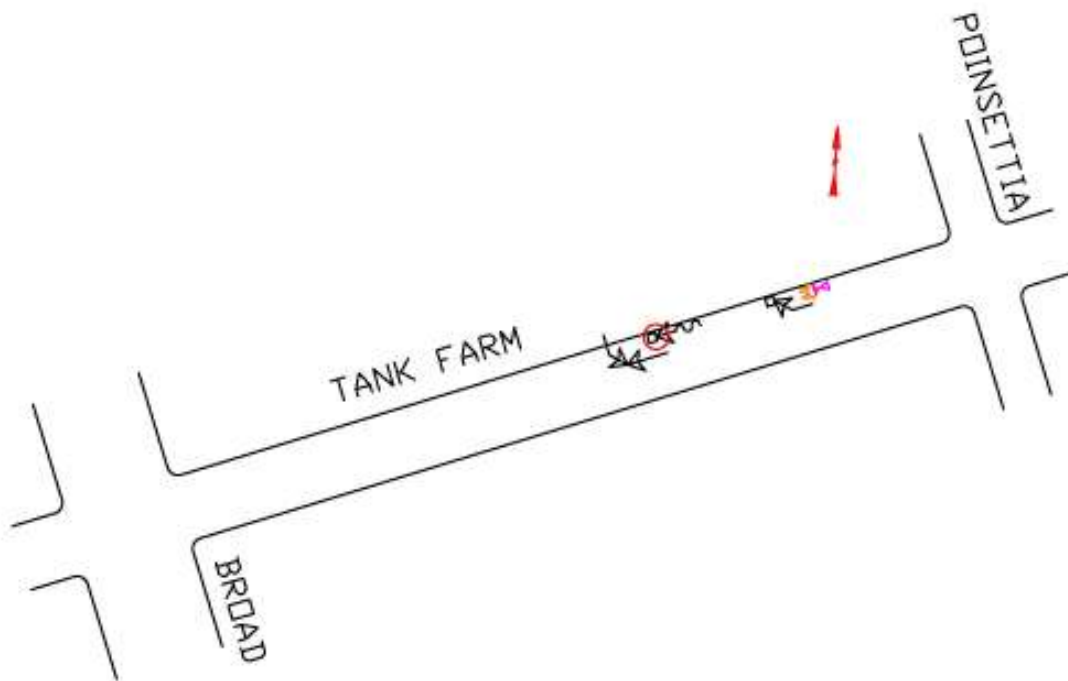


04/28/2008 16:59



Outside 75', (0) accidents with insufficient data for display

- |  |  |   |   |
|--|--|---|---|
| <ul style="list-style-type: none"> <li>← Straight</li> <li>← Stopped</li> <li>← Unknown</li> <li>↔ Backing</li> <li>↔ Overtaking</li> <li>↔ Sideswipe</li> </ul> | <ul style="list-style-type: none"> <li>▭ Parked</li> <li>↪ Erratic</li> <li>↪ Out of control</li> <li>↪ Right turn</li> <li>↪ Left turn</li> <li>↪ U-turn</li> </ul> | <ul style="list-style-type: none"> <li>× Pedestrian</li> <li>× Bicycle</li> <li>○ Injury</li> <li>⊙ Fatality</li> <li>👤 Nighttime</li> <li>🚔 DUI</li> </ul> | <p><b>Fixed objects:</b></p> <ul style="list-style-type: none"> <li>□ General</li> <li>▣ Signal</li> <li>▣ Tree</li> <li>▣ Pole</li> <li>▣ Curb</li> <li>▣ Animal</li> <li>◀ 3rd vehicle</li> <li>✱ Extra data</li> </ul> |
|--|--|---|---|



# Foothill Chorro to Santa Rosa

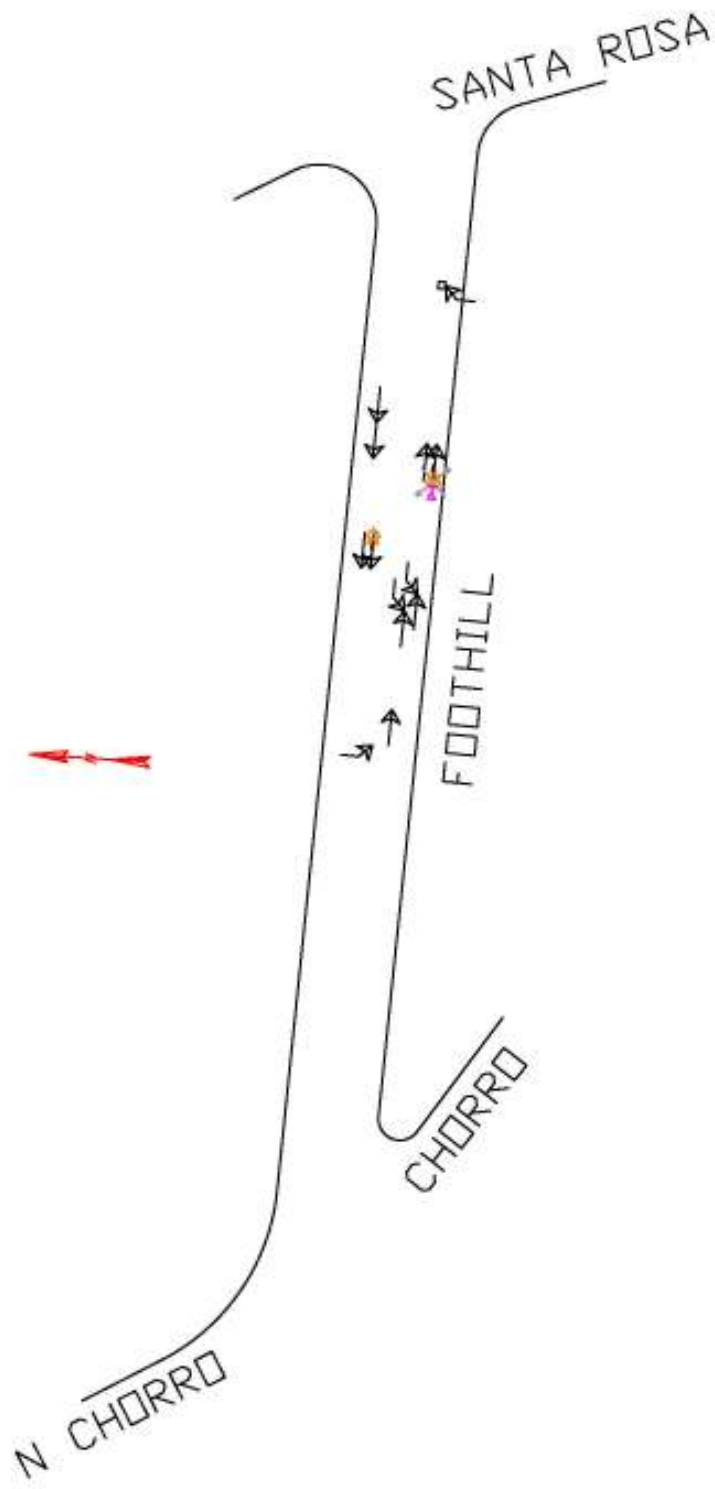
## 7 Accidents

### 01/01/08 - 12/31/08

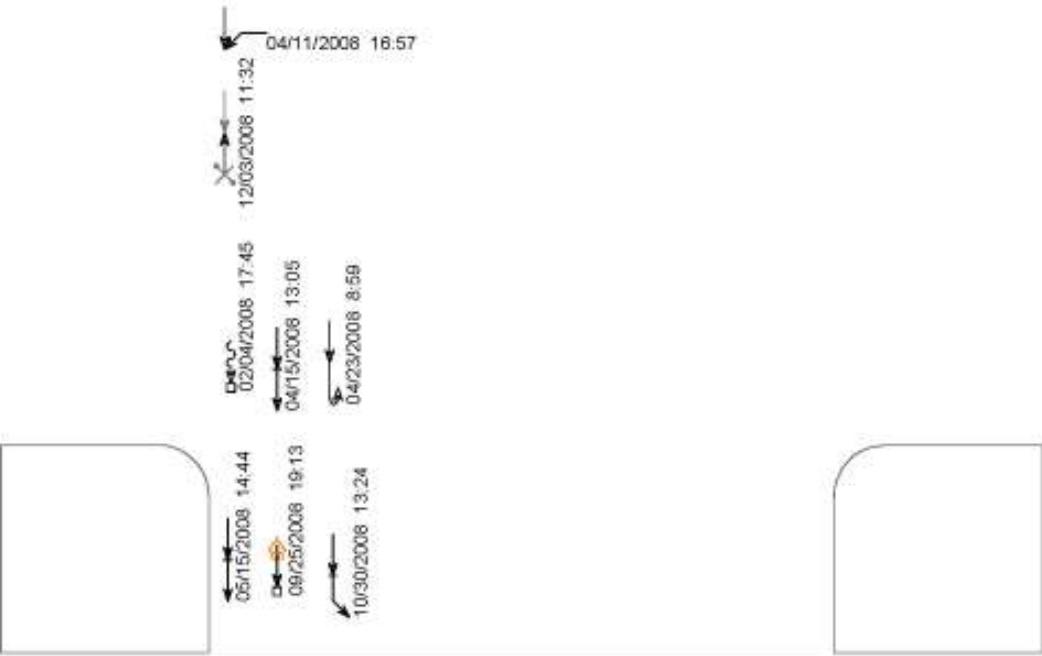


Outside 75', (0) accidents with insufficient data for display

- |              |                  |              |                |          |
|--------------|------------------|--------------|----------------|----------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |          |
| ← Stopped    | ↪ Erratic        | × Bicycle    | □ General      | ▣ Pole   |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       | ▣ Curb   |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree         | ⊗ Animal |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle  |          |
| ↔ Sideswipe  | ↪ U-turn         | 🚔 DUI        | ✱ Extra data   |          |

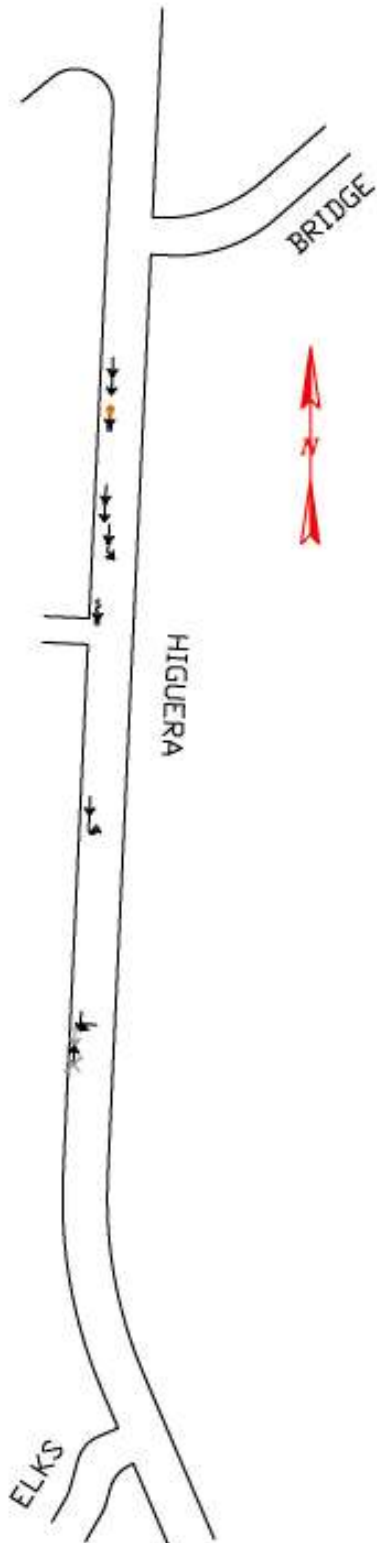


# 8 Accidents Higuera Madonna to Elks 01/01/08 - 12/31/08



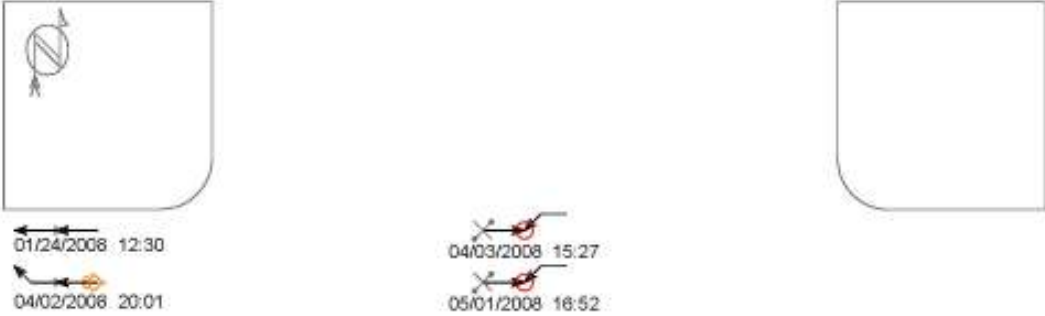
Outside 75', (0) accidents with insufficient data for display

- |              |                  |              |                     |
|--------------|------------------|--------------|---------------------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects:      |
| ↔ Stopped    | ↪ Erratic        | ⊗ Bicycle    | □ General    ▣ Pole |
| ↖ Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal    ▣ Curb  |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree    ⊗ Animal  |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle       |
| ↔ Sideswipe  | ↪ U-turn         | 🚗 DUI        | ✱ Extra data        |



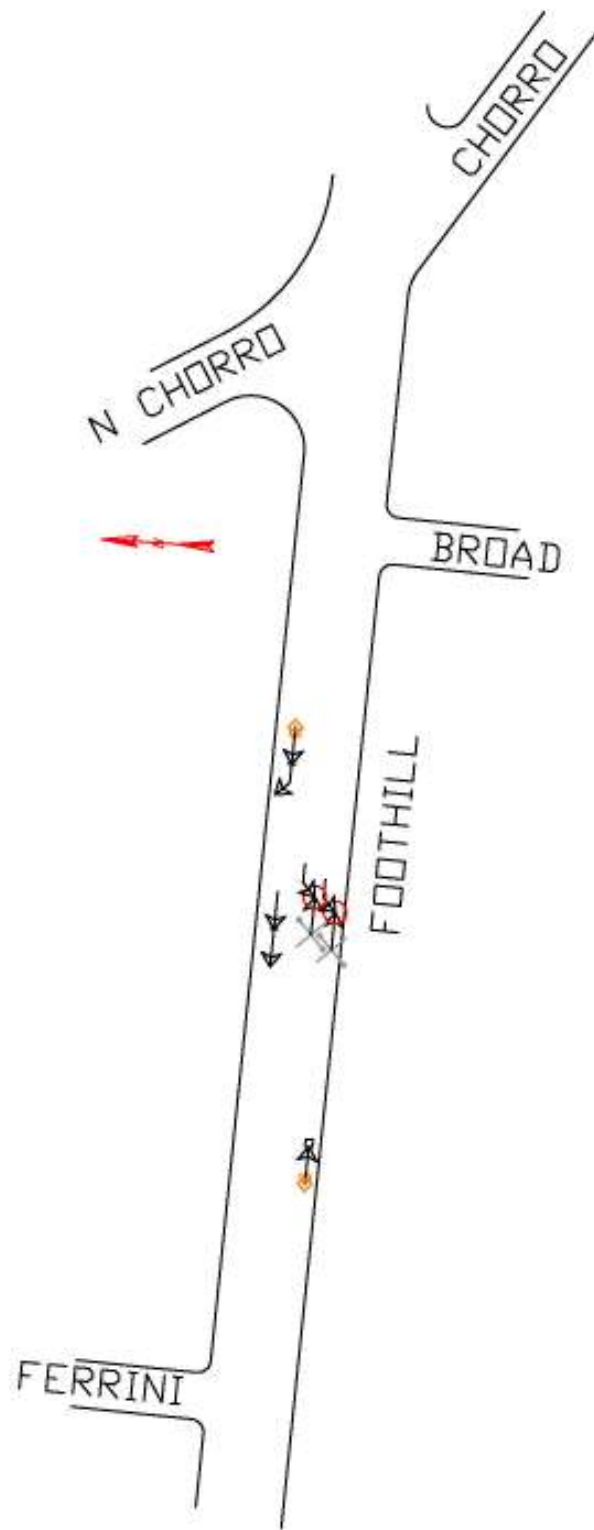
# Foothill Ferrini to Chorro

## 01/01/08 - 12/31/08



Outside 75', (0) accidents with insufficient data for display

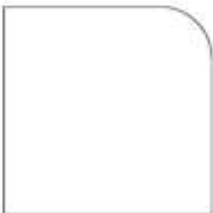
- |              |                  |              |                |
|--------------|------------------|--------------|----------------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |
| ← Stopped    | ↪ Erratic        | × Bicycle    | □ General      |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree         |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ▣ Pole         |
| ↔ Sideswipe  | ↪ U-turn         | 🚔 DUI        | ▣ Curb         |
|              |                  |              | ▣ Animal       |
|              |                  |              | ◀ 3rd vehicle  |
|              |                  |              | ✱ Extra data   |





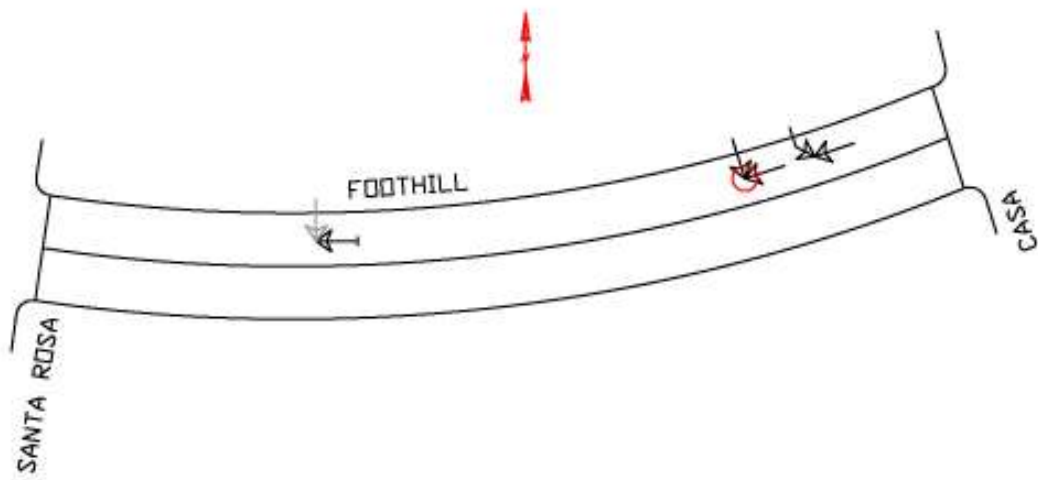
**Foothill Santa Rosa to Casa**  
**01/01/08 - 12/31/08**

**3 Accidents**



Outside 75', (0) accidents with insufficient data for display

- |              |                  |              |                |          |
|--------------|------------------|--------------|----------------|----------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |          |
| ← Stopped    | ↪ Erratic        | × Bicycle    | □ General      | ▣ Pole   |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       | ▣ Curb   |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree         | ⊙ Animal |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle  |          |
| ↔ Sideswipe  | ↪ U-turn         | 🚔 DUI        | ✱ Extra data   |          |



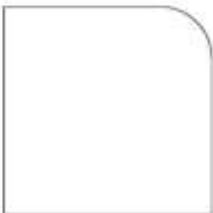
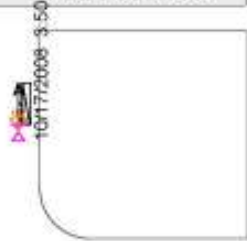
appendix 7  
collector segments

---

### Collector Segments Prioritized by Collision Rate

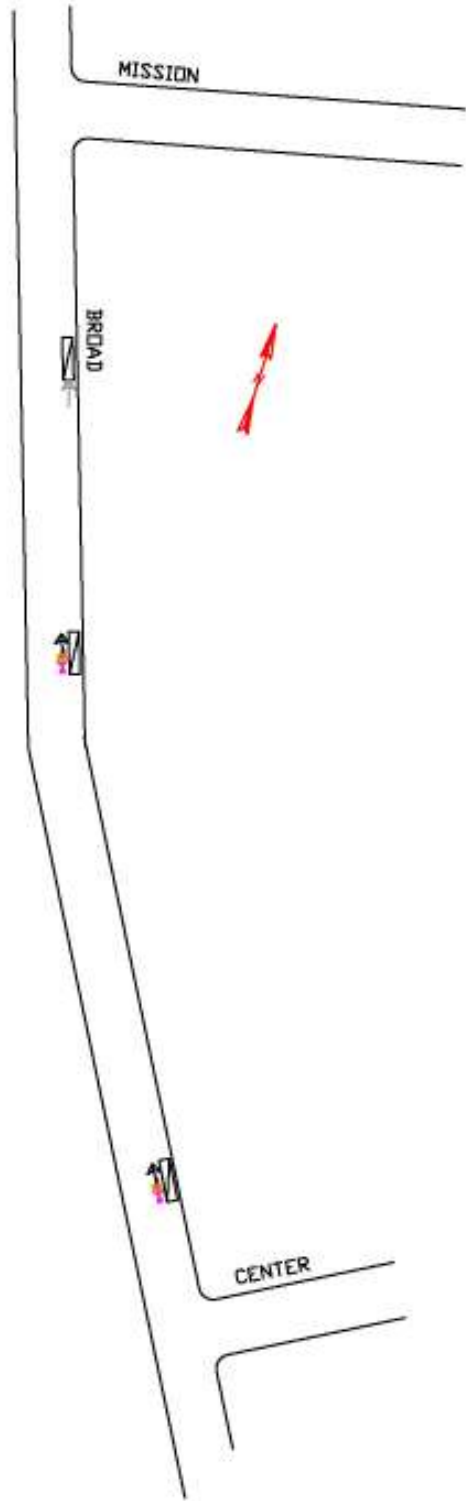
Rank	Prev. Rank	Segment	Collisions	Volume	Seg. Len.	Rate	Type	Location
1	Not Ranked	Broad, 200 Block	4	3,529	0.17	18.27	Res. Collector	Mission to Center
2	Not Ranked	Pismo, 1100 Block	3	3,833	0.12	17.87	Res. Collector	Santa Rosa to Toro

**4 Accidents** **Broad Mission to Center**  
**01/01/08 - 12/31/08**



Outside 75', (1) accidents with insufficient data for display

- |              |                  |              |                |          |
|--------------|------------------|--------------|----------------|----------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |          |
| ← Stopped    | ↪ Erratic        | × Bicycle    | □ General      | ▣ Pole   |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       | ▣ Curb   |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree         | ⊗ Animal |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle  |          |
| ↔ Sideswipe  | ↪ U-turn         | 🚗 DUI        | ✱ Extra data   |          |



**Pismo Santa Rosa to Toro**  
**01/01/08 - 12/31/08**



Outside 75', (0) accidents with insufficient data for display

- |              |                  |              |                |          |
|--------------|------------------|--------------|----------------|----------|
| ← Straight   | ▭ Parked         | × Pedestrian | Fixed objects: |          |
| ← Stopped    | ↪ Erratic        | × Bicycle    | □ General      | ▣ Pole   |
| ← Unknown    | ↪ Out of control | ○ Injury     | ▣ Signal       | ▣ Curb   |
| ↔ Backing    | ↪ Right turn     | ⊙ Fatality   | ▣ Tree         | ⊙ Animal |
| ↔ Overtaking | ↪ Left turn      | 👤 Nighttime  | ◀ 3rd vehicle  |          |
| ↔ Sideswipe  | ↪ U-turn         | 🚔 DUI        | ✱ Extra data   |          |

