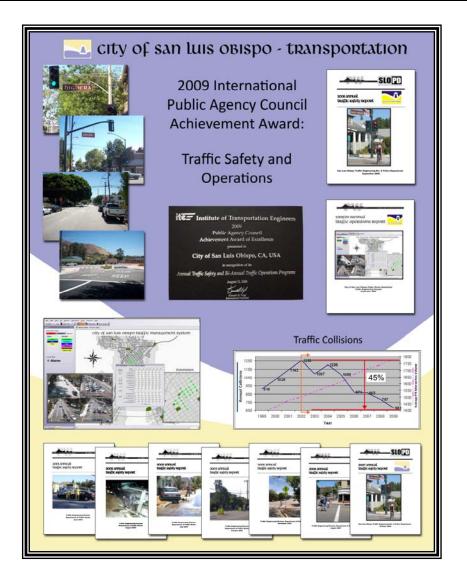


2009 annual traffic safety report





San Luis Obispo Traffic Engineering Div. & Police Department September 2010

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2009 traffic safety report

SEPTEMBER 2010

City Council

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

City Administration

Katie Lichtig, City Administrative Officer Michael Codron, Acting Assistant City Administrative Officer

Public Works Department

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

Police Department

Deborah Linden, Chief of Police 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

 ${f W}$ elcome to the 9th 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 began in 2002 in an attempt to identify high collision locations within the City and actively pursue mitigation measures that may reduce collision rates and improve safety for the citizens of San Luis Obispo.

Calendar year 2009 was yet another watershed year for the City's traffic safety program. Total reported collisions were the *lowest* in the 11 year history of the traffic safety program. Collisions in 2009 were about 13% lower than recorded collisions in 2008, and approximately 45% lower than the total recorded in the first year (2002) of the traffic safety program. Injury collisions were down in 2006 by approximately 1%. 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 traffic fatalities in the City in 2009. Also, no fatalities have been reported on City streets since 2006.

The 2009 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. The overall pedestrian collision trend is down and this continues to be the case in 2009, pedestrian collisions declined by 4% from 2008 to 2009. Bicycle collisions on the other hand have increased; from 2008 to 2009 bicycle collisions have increased by 22%. An increase in bicycle collision is somewhat explained by the volume of cyclists citywide increasing by as much as 8%-10% annually, however this increase is still cause for corrective measures. To address this increase the Public Works and Police Departments will develop a formal enforcement strategy aimed at reducing bicycle violations and subsequently bicycle collisions within the City

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 Tim Bochum, Jake Hudson, Peggy Mandeville, Chris Overby, Matt Crisp, Mateo Echabarne, and Jessie Holzer, and Police Department employees Jeff Booth, Kerri Rosenblum, and Steve Tolley for their tireless 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

Annual Traffic Safety Report - 2009

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 2009 have been identified and are summarized in this report. The Annual Traffic Safety Report will be 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 2009, the number of reported collisions dropped and was the lowest in the 11 years of the safety program.

The number of fatality collisions in any given year is usually very random; in 2009 there were no reported traffic fatalities. There has also not been a reported fatality on streets under the City's jurisdiction since 2006. Since 2004 overall traffic collisions have continued to decline as a direct result of the program.

The overall pedestrian collision trend is down and this continued to be the case in 2009, pedestrian collisions declined by 4% from 2008 to 2009. Bicycle collisions on the other hand have increased; from 2008 to 2009 bicycle collision have increased by 22%. In response to the increasing collision rate and percent at which cyclist are at fault, the Public Works and Police Departments will develop a formal enforcement strategy aimed at reducing bicycle violations and subsequently bicycle collisions within the City.

section 1

introduction

How to Use This Report

Every year, the City of San Luis Obispo will prepare 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) establish 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 efforts in order to reduce the total number of collisions and the severity of future collisions. The report will normally be 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 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 beyond the ability of the engineer to change or control. However, the City's mitigation program attempts to identify those 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, as it is more likely that a collision will occur at a location that more pedestrians and vehicles use. This report recognizes locations that fall above the expected collision rates of similar City locations and proposes 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 2009 Traffic Safety Report are:

• Identify the intersections and roadway segments in the City with the highest collision rates, and thoroughly analyze collision diagrams in order to suggest remedial mitigation measures for the five highest locations to 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 in order to determine remedial mitigation measures for the five highest pedestrian and bicycle collision locations to 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, many times the 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 that the collision occurred within the City of San Luis Obispo, the SWITRS database might contain this as a collision but when the dispatched officer arrives, the vehicles have 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 Section 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. Using this data, collision diagrams were then generated 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 were formulated where a collision pattern could 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 2007/08 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 =	<u>N X 1,000,000</u>	RS =	<u>N X 1,000,000</u>
	V X 365		365 X V X 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.

Diavalaat

L = Length of street segment (in miles) being analyzed.

Pedestrians:

euesmans.		Dicycles.	
PREV =	<u>5 X N X PHVV</u>	BREV =	<u>5 X N X PHVV</u>
	PHPV		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.

The pedestrian and bicycle relative exposure value formula is derived from the traditional collision rate calculation, however it factors the volume of either the bicycle or pedestrian with that of vehicles at a given location.

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 were not entered into the City's database.

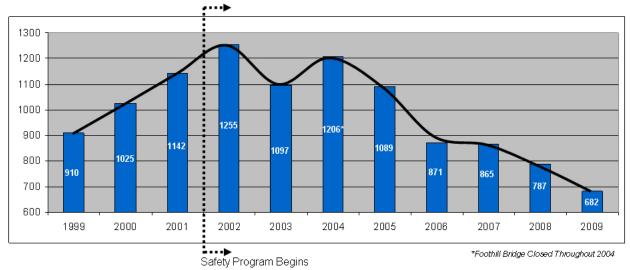
While reported collisions do not represent all collisions that occur within the City, they remain the basis with which the City determines both collision trends and effectiveness of City programs. The number of reported traffic collisions varies due to many social factors. Often minor traffic collisions, non-injury collisions, and private property collisions go unreported and, therefore, are highly unreliable in determining "high profile" collision locations or areas of concern. Table 3.1 and Figure 3.1 show the reported traffic collision history of the City.

Year	Total Reported Collisions on Public Streets			
	Intersections	% Change	Total	% 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	9.10	1206	9.94
2005	693	-5.20	1089	-9.70
2006	558	-19.48	871	-20.02
2007	565	1.25	865	-0.69
2008	457	-19.12	787	-9.02
2009	390	-14.66	682	-13.34

Table 3.1 - City-wide Annual Collision Data, 1999-2009

Source: City of San Luis Obispo Traffic Collision Database

Figure 3.1 - Eleven Year Collision Trend



Source: City of San Luis Obispo Traffic Collision Database

The City again saw a reduction in total collisions from 2008 to 2009 by approximately 13%. In general, collisions in San Luis Obispo have been declining since 2004. Total collisions have dropped approximately 6% per year since the program was started in 2002. In 2009, total collisions were down about 45% since the program was started.

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.

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 greater help to indicate locations of higher significance than do minor collisions. Table 3.2 shows the injury collision history recorded by the City's traffic safety program.

Year	Total Reported Collisions on Public Streets			
	Total Injury Collisions	% Change	Fatal Collisions	% Change
1999	240	-	2	-
2000	269	12.08	2	0
2001	265	-1.49	1	-50
2002	309	16.60	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	2.80	0	-100
2008	237	-7.78	0	0
2009	235	-0.84	0	0

Table 3.2 - City-wide Annual Injury and Fatal Collisions, 1999-2009

Injury collisions in the City were also down for 2009, with injury collisions down about 1% from 2008. 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. Injury collisions as a percentage of total collisions are higher than past years at 35.

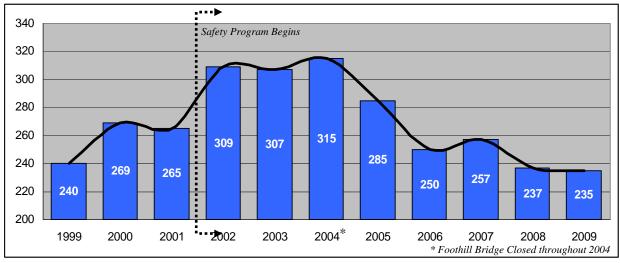


Figure 3.2.1 - Eleven Year Injury Collision Trend

Source: City of San Luis Obispo Traffic Collision Database

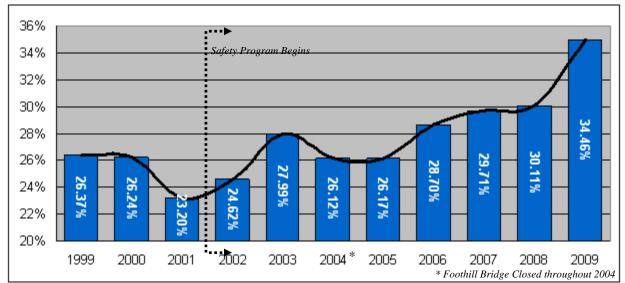


Figure 3.2.2 - Injury Collisions as Percent of Total Collisions

Fatal Collisions

Source: City of San Luis Obispo Traffic Collision Database

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 and this was the case in 2004 & 2005 when the City experienced a sharp increase in the total fatalities (4) in 2004, (3) in 2005, and (2) in 2006. There have been no traffic related fatalities on City streets since 2006.

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 that utilize enforcement and investigative resources and tracking them is helpful in considering the overall collision activity throughout the City.

Year	Total Collisions	% Change	Total Injury Collisions	% Change
2000	72	24.1%	14	-12.5%
2001	105	45.8%	12	-14.3%
2002	103	-1.9%	12	0.0%
2003	104	1.0%	12	0.0%
2004	103	-1.0%	12	0.0%
2005	100	-2.9%	12	0.0%
2006	77	-23.0%	9	-25.0%
2007	80	3.9%	17	88.9%
2008	160	100.0%	19	11.8%
2009	51	-68.1%	8	-57.9%

Table 3.3 – Private Property Collision Trends, 2000-2009

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.

	20	009 Fatalities	
	Fatalities	Population (Thousands)	Rate Per 100,000 Population
Nationally*	37,261	304,060	12.25
State Wide*	3,401	36,962	9.20
City of San Luis Obispo	0	44	0.00
	2	2009 Injuries	
	Injuries	Population (Thousands)	Rate Per 100,000 Population
Nationally*	2,346,000	304,060	771
State Wide*	241,873	36,962	654
City of San Luis Obispo	303	44	689

Source: National Highway Traffic Safety Administration (2008); California Highway Patrol (2008)

* 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. One is the economic cost framework and the other is 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. It is a measure of the productivity lost and expenses incurred because of the collisions. Economic costs, however, should not be used for cost-benefit analysis 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 adjusted to 2008 costs based on consumer price indexes.

Table 3.5.1 - Economic	Costs, 2009
------------------------	-------------

Collision Type	Dollar Loss
Death	\$1,252,000
Nonfatal disabling injury	\$56,700
Incapacitating injury	\$64,800
Non-incapacitating evident injury	\$21,000
Possible injury	\$12,000
Property damage collision (including minor injuries)	\$8,500

Source: National Highway Traffic Safety Administration (Traffic Safety Facts 2006) & Adjusted to Year 2009 \$'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, but because the lost quality of life represents only a dollar equivalence of intangible qualities, they do not represent real economic losses and should not be used to determine the economic impact of past collisions. The information below in table 3.5 shows the average comprehensive costs in 2008 on a per person basis. These cost estimates are based upon 2007 actual collision cost calculations and adjusted to 2009 dollars, which are the latest at the time of this publication.

Currently, the City's collision reports indicate injury collisions only if reported at the collision scene and 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" as shown above. Table 3.5.2 shows the 2009 economic costs in collisions for the City using annual cost estimates.

Collision Type	Dollar Loss
Death	\$4,136,600.00
Incapacitating injury (a)	\$208,400.00
Non-incapacitating evident injury (a)	\$51,800.00
Possible injury (a)	\$25,000.00
No injury	\$2,300.00

Source: National Highway Traffic Safety Administration (Traffic Safety Facts 2006), adjusted to 2009 \$'s

Table 3.5.3 - City of San Luis Obispo Economic Costs, 2001-2009 Traffic Collisions

Year Death					•	Total Dollar Loss	
Number	Cost ^(a)	Number	Cost	Number	Cost ^(a)		
1	\$1,252,000	268	\$5,628,000	866	\$7,361,000	\$14,241,000	
1	\$1,252,000	309	\$6,489,000	944	\$8,024,000	\$15,765,000	
0	\$0	308	\$6,468,000	784	\$6,664,000	\$13,132,000	
4	\$5,008,000	315	\$6,615,000	862	\$7,327,000	\$18,950,000	
3	\$3,756,000	285	\$5,985,000	803	\$6,825,500	\$16,566,500	
2	\$2,504,000	250	\$5,250,000	621	\$5,278,500	\$13,032,500	
0	\$0	257	\$5,397,000	588	\$4,998,000	\$10,395,000	
0	\$0	238	\$4,998,000	544	\$4,624,000	\$9,622,000	
0	\$0	235	\$4,935,000	439	\$3,731,500	\$8,666,500	
	Number 1 0 4 3 2 0 0	NumberCost(a)1\$1,252,0001\$1,252,0000\$04\$5,008,0003\$3,756,0002\$2,504,0000\$00\$00\$00\$0	Death Non-incaling Number Cost ^(a) Number 1 \$1,252,000 268 1 \$1,252,000 309 0 \$0 308 4 \$5,008,000 315 3 \$3,756,000 285 2 \$2,504,000 250 0 \$0 257 0 \$0 238	Number Cost ^(a) Number Cost [*] 1 \$1,252,000 268 \$5,628,000 1 \$1,252,000 309 \$6,489,000 0 \$0 308 \$6,468,000 4 \$5,008,000 315 \$6,615,000 3 \$3,756,000 285 \$5,985,000 2 \$2,504,000 250 \$5,250,000 0 \$0 257 \$5,397,000 0 \$0 238 \$4,998,000	Death Non-incapacitating Injury Property O Number Cost ^(a) Number Cost [*] Number 1 \$1,252,000 268 \$5,628,000 866 1 \$1,252,000 309 \$6,489,000 944 0 \$0 308 \$6,615,000 862 3 \$3,756,000 285 \$5,985,000 803 2 \$2,504,000 250 \$5,397,000 588 0 \$0 238 \$4,998,000 544	Death Non-incapacitating Injury Property Damage Only Number Cost ^(a) Number Cost [*] Number Cost ^(a) 1 \$1,252,000 268 \$5,628,000 866 \$7,361,000 1 \$1,252,000 309 \$6,489,000 944 \$8,024,000 0 \$0 308 \$6,615,000 862 \$7,327,000 4 \$5,008,000 315 \$6,615,000 803 \$6,825,500 2 \$2,504,000 250 \$5,250,000 621 \$5,278,500 0 \$0 238 \$4,998,000 544 \$4,624,000	

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 highly on the collision type and is proportional to the severity of each type of collision type. The dollar amounts depicted in Table 3.5.4 better represent the overall societal costs of traffic collision within the City.

			Collisio	on Type				
Year	C	Death	_	apacitating ijury	Property Damage Only		Total Dollar Loss	
	Number	Cost ^(a)	Number	Cost	Number	Cost ^(a)		
2001	1	\$4,136,600.00	268	\$17,353,000	866	\$2,017,100	\$20,010,800	
2002	1	\$4,136,600.00	309	\$20,512,800	944	\$2,175,800	\$22,314,000	
2003	0	\$0	308	\$20,720,000	784	\$1,826,200	\$17,757,600	
2004	4	\$16,546,400	315	\$19,476,800	862	\$2,040,100	\$34,846,000	
2005	3	\$12,409,800	285	\$18,751,600	803	\$1,849,200	\$29,019,700	
2006	2	\$8,273,200	250	\$15,488,200	621	\$1,428,300	\$22,651,500	
2007	0	\$0	257	\$15,954,400	588	\$1,398,400	\$14,665,000	
2008	0	\$0	238	\$13,468,000	544	\$1,048,800	\$13,579,600	
2009	0	\$0	235	\$15,695,400	439	\$1,028,100	\$13,182,700	

*Economic costs are based upon 2007 cost estimates, adjusted to 2009 dollars

3.6 Pedestrian Collisions

In general, the number of annual pedestrian collisions has fluxuated up and down over the past eleven years. The number of pedestrian collisions that occurred in 2009 remained relatively the same as the 2008 number. There were 24 total pedestrian related collisions reported, which was 4% fewer than in 2009. Table 3.6 indicates the reported pedestrian related collision history of the City.

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
2009	24	-4 ource: City of San

Table 3.6 – 1999-2009 Pedestrian Collisions

Source: City of San Luis Traffic Collision Database

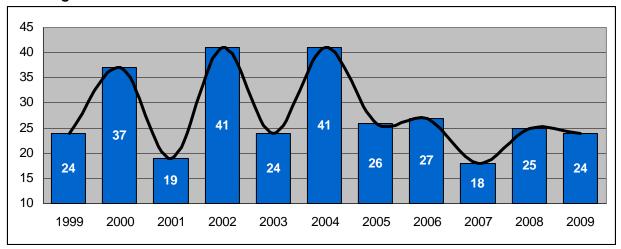


Figure 3.6 – 1999-2009 Pedestrian Collision Trend

The study's method of evaluation follows the recommendations of the U.S. Federal Highway Administration (FHWA) as pertaining to pedestrian collisions, by which pedestrian collisions are classified according to their collision type. In general, the primary factor contributing to pedestrian collisions in 2009 were motorists turning left while facing pedestrians. 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.

Source: City of San Luis Obispo Traffic Collision Database

Padastrian Callisian Truns	# 60000	% of		Severity	
Pedestrian Collision Type	# Cases	Total	Injury	Fatal	PDO
In X-Walk – Motorist Left Turn Facing Pedestrian	6	25%	6	0	0
In X-Walk – Pedestrian Yield Violation	5	21%	4	0	1
Other	3	13%	1	0	2
In X-Walk – Motorist Right Turn in Front of Pedestrian	3	13%	2	0	1
In X-Walk - Motorist Right of Way Violation	3	13%	3	0	0
In Road – Crossing Midblock	1	4%	0	0	1
In X-Walk – Motorist Left Turn in Front of Pedestrian	1	4%	1	0	0
In X-Walk – Midblock	1	4%	1	0	0
In Road – Not Crossing	1	4%	1	0	0
Total:	24	100%	19	0	5

Table 3.6.1 –2009 Pedestrian Collisions by Type, Location, & Fault

Pedestrian Collision Location	20	005	20	006	20	007	2008		2009	
recession consion Location	#	%	#	%	#	%	#	%	#	%
Signal	8	31%	9	33%	8	44%	10	40%	13	54%
Out of Crosswalk - Midblock	7	27%	3	11%	2	11%	6	24%	2	8%
Stop - Unmarked Crosswalk	3	11%	6	22%	2	11%	4	16%	1	4%
Uncontrolled - Unmarked Crosswalk Local	1	4%	0	0%	0	0%	3	12%		0%
Uncontrolled - Unmarked Crosswalk Major/Collector	1	4%	1	4%	0	0%	1	4%	1	4%
Uncontrolled - Marked	1	4%	2	7%	3	17%	1	4%	2	8%
Not in Road (Sidewalk)	0	0%	0	0%	0	0%	0	0%	3	13%
In Road (not crossing)	3	11%	4	16%	3	17%	0	0%	1	4%
Stop - Marked Crosswalk	2	8%	2	7%	0	0%	0	0%	1	4%
Total:	26	100%	27	100%	18	100%	25	100%	24	100%

Party at Fault	20	005	20	006	20	07	20	08	20	09
Driver	15	58%	21	78%	14	71%	14	56%	18	75%
Pedestrian	11	42%	6	22%	4	29%	11	44%	6	25%
Total:	26	100%	27	100%	18	100%	25	100%	24	100%

Source: City of San Luis Obispo Traffic Collision Database

3.7 Bicycle Collisions

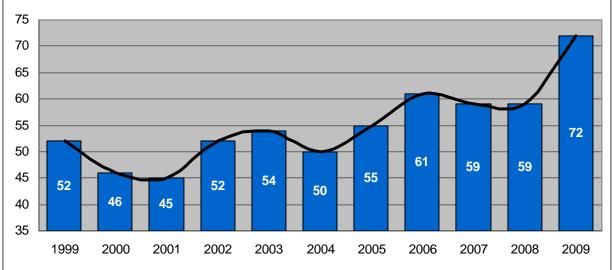
The number of bicycle collisions has also fluctuated over the past eleven years. There were 72 bicycle collisions reported in 2009, which is about 22% higher than the number of collisions in 2008. The 2009 number was slightly higher than the average number of collisions for the 11 years that the report has been published, which is 55 collisions per year.

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
2009	72	+22

Table 3.7.1 – 1999-2009 Bicycle Collisions

Source: City of San Luis Obispo Traffic Collision Database

Figure 3.7 – 1999-2009 Bicycle Collisions



Source: City of San Luis Obispo Traffic Collision Database

The study's method of evaluation follows the recommendations of the U.S. Federal Highway Administration (FHWA) by which bicycle collisions are classified according to their collision type. The FHWA's Classification system includes 38 different collision types, which only 18 of occurred on City streets in 2009. In general, the majority of factors contributing to bicycle collisions in 2009 were cyclists loosing control and motorists turning right in front of cyclists. Under *Party at Fault,* table 3.7.2 has an area for "Other / None" parties at fault, which represents bicycle mechanical failure, a roadway surface causing a bicycle to overturn, and cases where fault cannot be determined.

	Number of	% of	Cyclis	st's Posi	tion		Severity	
Collision Type	Cases	Total	Sidewalk	Road	X-Walk	Injury	Fatal	PDO
Motorist Right Turn - In Front of Cyclist	15	21%	0	15	0	11	0	4
Cyclist Lost Control	12	17%	4	8	0	11	0	1
Wrong Way Cyclist	7	10%	0	7	0	5	0	2
Other (Not classifiable)	6	8%	0	6	0	5	0	1
Bicyclist DUI	5	7%	0	5	0	5	0	0
Motorist Left Turn - Facing Cyclist	4	6%	0	4	0	3	0	1
Ride Out At Controlled Intersection	4	6%	0	3	1	4	0	0
Cyclist Left Turn In Front Of Motorist	4	6%	0	4	0	4	0	0
Bicyclist Strikes Parked Vehicle	4	6%	0	4	0	1	0	3
Motorist Overtaking - Failed to Detect	2	3%	0	2	0	1	0	1
Motorist Open Door Into Path of Cyclist	2	3%	0	2	0	2	0	0
Drive Out From Lane or Driveway	2	3%	0	1	1	1	0	1
Motorist Overtaking	2	3%	0	2	0	2	0	0
Bicyclist Overtaking	2	3%	0	2	0	2	0	0
Ride Out From Lane or Driveway	1	1%	0	1	0	1	0	0
Total	72	100%	4	66	2	58	0	14

Table 3.7.2 – 2009 Bicycle Collision by Type & Fault

Party at Fault		2005		2006		2007		2008		2009
Cyclist	28	51%	30	49%	32	54%	43	73%	52	72%
Driver	27	49%	31	51%	27	46%	16	27%	20	28%
Total:	55	100%	61	100%	59	100%	59	100%	72	100%

Source: City of San Luis Obispo Traffic Collision Database

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 2000 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 then one violation.

The citation trend indicates a fairly significant drop off in citations issued in 2003 and 2004, before increasing steadily through 2009. This trend coincides with the elimination of one traffic officer position in 2003 and one police patrol officer position in 2005 due to budget reductions and the temporary redeployment of other traffic officers to cover patrol shift shortages. These staffing reductions 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 improved our enforcement efforts.

In July 2009, budget reductions again required the elimination of one traffic officer position and three patrol officer positions and the reduction in staffing is reflected in the citations issued. The number of citations issued in 2009 was still greater than 2008 by 4%; however this increase was less than previous years. In addition, the number of hazardous citations issued decreased by 34%. A contributing factor for this decrease was the Department's focus on enforcing the new "hands free" cellular phone law, which accounted for 1487 of the 8474 violations in 2009. This violation is not classified as a hazardous citation; however emphasis was placed on enforcement due to the correlation between this violation and collision rates.

Year	Total Citations	Total Violations	% Change	Hazardous Vehicle Code Citations	% Change
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	+89.40
2008	7437	8142	+65.7	3120	+76.37
2009	5947	6573	-20.03%*	2098	-34.35

Table 4.1 - Traffic Citations Issued

Source: Spillman RMS database query

*See narrative below for explanation of decrease.

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. In 2009 the traffic safety index was 8.06. This is a 29.9% decrease from the 11.5 index in 2008; however it still represents a significant increase since 2004. The decrease in the index coincides with the elimination of a traffic officer and three patrol officer positions in July 2009. In addition, the Department's emphasis on cellular phone use violations lead to an increase in cellular phone citation from 632 in 2008 to 1487 in 2009. These violations are not classified as hazardous but do have an impact on the number of collisions that occur.

Statistics used to calculate the City's traffic safety index are reported to OTS as part of a grant awarded to the Police Department that ended in September of 2009. In preparing this report, Police Department staff discovered two significant discrepancies in prior year reporting. First, staff had 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 citations toward the traffic safety index or as violation points. The Department has worked to reduce the number of municipal code citations used for traffic issues. The use of the Municipal Code for traffic safety matters has decreased by 36% from 2008 to 2009.

The decrease in total citations for 2009 is a result of an adjusted data collection method which better represents traffic related citations. As the data was researched for 2009, staff realized that in prior years some non-traffic related cites were inadvertently included in the total. The 2009 statistics reflect the corrected error and below is a comparison between 2008 and 2009 using the same data collection method:

2008 Total Citations: 5,892 Total Violations: 6,589 2009 Total Citations: 5,947 Total Violations: 6,573 This represents an increase in citations by approximately .94% from 2008 to 2009. 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.

Year	Total Hazardous	Total Hazardous	Total Injury	Traffic Index	Adj. Index with Vehicle
	Vehicle Code Citations	Municipal Code Citations	Collisions*	Vehicle Code Only	and Muni.Code Citations
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
2009	2098	147	251	8.35	8.94

Table 4.2 – Traffic Safety Index

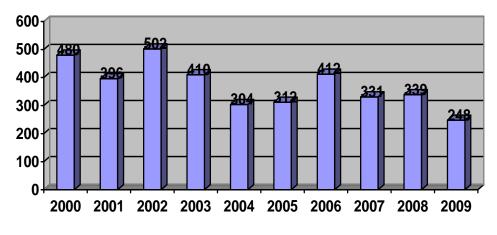
* Includes injury collisions on both public and private property Source: Spillman RMS database query

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 2000 the Police Department has averaged 373 DUI arrests each year. Enforcement is dependent on officers having available time when they are not assigned to calls for service or other duties. Arrests were on an upward trend since 2004 before dropping off to 252 arrests in 2009. Of these arrests, five individuals were arrested for felony DUI after they caused a collision in which another person was injured.

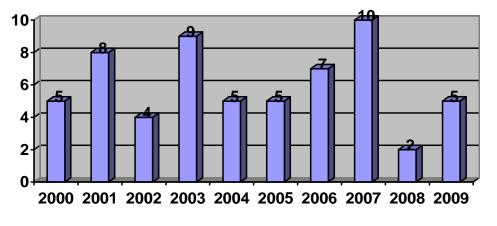
Statewide statistics show this same upward trend in DUI arrests through 2008. According to the Office of Traffic Safety, DUI arrests in California increased 5.4% from 203,866 in 2007 to 214,811 in 2008. This represents the most DUI arrests since 1993. The DUI arrest statistics for 2009 were not available at the time of this report.

Figure 4.3.1 – DUI Arrests 2000-2009



Source: Spillman RMS database query

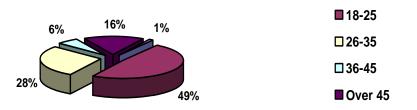
Figure 4.3.2 – Felony DUI Arrests 2000-2009



Source: Spillman RMS database query

Under 18

Figure 4.3.3 – 2009 DUI Arrests by Age



Source: Spillman RMS database query

4.4 Alcohol Involved Collisions

In 2009, alcohol was determined to be a factor in 56 collisions. Seventeen of those collisions resulted in one or more of the parties being injured. Over the last nine years there have been 607 alcohol related collisions. Thirty-two percent of these collisions resulted in injury to a driver or passenger; three collisions resulting 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	y Collision Factors b	y Collision Severity
-----------------------	-----------------------	----------------------

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

Source: Spillman RMS database query The following table depicts the number of vehicle code citations issued for the violations identified as the most common causes of collisions in 2009:

Table 4.5.2 – Citations by Collision Factor

Violation	Speeding	Traffic Signal	Stop Sign	Failure to Yield	Improper Turn	DUI
Citation	940	249	279	144	121	252

Source: Spillman RMS database query

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 wanting to implement traffic calming measures on their streets. The program identifies the petition process and neighborhood surveys that are used to demonstrate majority support for implementation of specific options.

In 2009 approximately 4 (neighborhoods) actively pursued the preparation of an (NTM) Action Plan for their neighborhoods. These neighborhoods have submitted petitions to the City and include the Pismo and Buchon neighborhood between Johnson and Osos, Fixlini Street, High Street between Broad and Higuera, Chorro between Broad and Buchon.

Pismo/Buchon Area NTM

The Pismo/Buchon is one of the largest and most complex NTM programs that the City has undertaken. In 2005 residents requested that the City address traffic issues in the neighborhood. After a vote on a neighborhood parking district and addressing parking issues at the Mitchell Park/Senior Center, the City worked with residents of the neighborhood to develop an Action Plan to address area traffic concerns. Over the course of 2008 and 2009 a number of traffic studies were performed to help identify the traffic concerns in the neighborhood. In November 2009 the neighborhood voted on a draft Action Plan. Based on the voting results the neighborhood supported several traffic calming projects including: modifying the striping on Johnson and installing speed feedback signs, installing bulbouts and a raised crosswalk at the intersection of Pismo/Toro along with a series of speed humps and a speed hump on Islay Street. Neighborhood representatives had also requested access closures along Johnson at the intersections of Pismo and Buchon, ultimately these closures were not supported by the neighborhood. At the time the report was written the City Council has approved the Action Plan and construction is anticipated in early 2011.

Fixlini Street NTM

Residents on Fixlini petitioned for Neighborhood Traffic Management in 2007 citing concerns of excessive speed, school traffic bypassing Johnson to get to San Luis Adult School and lack of contiguous sidewalks. Traffic study results the study results confirmed that approximately that the average daily traffic volumes is approximately 260 vehicles and that 1/3 of the volumes occur during the high school commute time of 7:45 am-8:00 am. Preparation of an action plan for the Fixilini Street neighborhood is currently queued behind the Pismo/Buchon neighborhood, once construction is underway for the Pismo/Buchon neighborhood staff will begin work with the Fixilini neighborhood residents.

High Street NTM

City staff conducted several pre-project and after-project traffic studies to evaluate the effects of the South Street "Road Diet" on the High Street neighborhood. The road diet project reduced the number of through lanes on South Street from two to one lane in each direction. The results of the traffic studies conducted between 10/2007 and 4/2010 indicate traffic volumes have not significantly changed due to the South Street project and are within Circulation Element desired maximums. Radar speed studies indicate that the predominant, 85th percentile speed, of 37 mph is 23% higher than the speed limit and 48% higher than the desired maximum speed as

specified in the City's Circulation Element. To address the excessive vehicle speeds, the High Street neighborhood is once again eligible for the City's Neighborhood Traffic Management Program (NTM). A 2000 NTM Action Plan was not approved by the neighborhood, a subsequent effort will require the support of at least 25 percent of the households in the area.

Johnson Avenue NTM

Though no longer active in the NTM program, Johnson Ave (between Bishop Street and Laurel Lane) continues to benefit from radar-activated speed display signs that were installed in 2007. The speed display signs were installed to display driver speed in contrast to the posted speed limit (35 mph). Four solar-powered radar signs, costing over \$4,000 each, were partially funded through a grant obtained by the Police Department from the California Office of Traffic Safety. Two signs were installed on Johnson Avenue, and two signs were installed on Santa Rosa Street. Although the radar activated signs have helped to reduce citations over 15% along this segment of Johnson, the cost of maintaining the signs continues to rise primarily due to replacing defective parts and vandalism.

Chorro Street NTM

Residents on Chorro Street between Broad and Buchon Street petitioned for NTM in June 2009 citing concerns of excessive vehicle speeds and volumes. Initial traffic studies indicate that average daily volumes exceed Circulation Element desired maximum volumes by an average of 20%. Additional traffic studies are scheduled for 2010.

Radar Trailer Program

The SMART program or Speed Monitoring Awareness Radar Trailer Program uses a portable monitoring device that measures the travel speed of passing vehicles. The speed is displayed adjacent to a sign with the actual speed limit for that street. The radar speed trailer has proven to reduce vehicle speeds and is a useful supplement to enforcement activities. Unlike the speed control measures shown above, it has the distinct advantage of impacting the offending drivers while not posing problems for compliant drivers.

Table 5.2 - 2009 Completed 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 2009:

Traffic Signal Improvements		Sight Distance Improvements	
Marsh & Santa Rosa	Reconstructed Traffic Signal	Monterey	Installed parking restriction
Marsh & Osos	Reconstructed Traffic Signal	Calle Joaquin	Installed parking restriction
Laurel & Orcutt	Installed New Traffic Signal	Johnson	Vegetation trimming
		Норе	Vegetation trimming
Pedestrian & Bicycle Improvements		Broad & Caudill	Installed parking restriction
	Installed bulbouts, pavement marking, traffic diverters,	Broad & Upham	Installed Parking restriction
Bill Roalman Bike Blvd.	and pedestrian ramps.	Chorro at Mill	Stop Bar relocated
California & San Luis Drive	Widened sidewalk and reconfigured crosswalks	Pacific & Chorro	Trim trees for stop sign visibility
Chorro	Trimmed vegetation and installed no parking signs for bike lane clearances.	Buchon & Morro	Trim trees for stop sign visibility
Laurel & Orcutt	Installed signalized bicycle crossing.		
		1	
Roadway Improvements			
Santa Barbara Street	Widened roadway approach to South Street.	1	
South Street Road Diet (CalTrans)	Reduced lanes and installed medians	1	
Buena Vista & Garfield at Monterey	Reconfigured Intersection	1	
	J	1	
Signing & Striping Configuration			
Lizzie & Wilding	Installed centerline at curve		
Higuera at LOVR	Replaced lane line markings for left turning vehicles		
Patricia/Cuesta/Highland Area	Installed/updated school zone signing		
	Updated current signage and installed additional signs		
Prado Access Road	to restrict parking and reduce pedestrian conflicts		
Jennifer/Rachel	Installed centerline and edge lines at curve	1	
Sierra Way	Installed centerline at curve]	
		1	

2009 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 within proportion to 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 to occur. 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, but 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 & segments were broken down into the following subgroups:

TYPE OF INTERSECTION OR SEGMENT APPENDIX

Arterial/Arterial Intersections	Appendix 1
Arterial/Collector Intersections	Appendix 2
Arterial/Local Intersections	Appendix 3
Collector/Collector Intersections	Appendix 4
Collector/Local Intersections	Appendix 5
Local/Local Intersections	Appendix 6
Other Significant Intersections	Appendix 7
Arterial Segments	Appendix 8
Collector Segments	Appendix 9
Local Segments	Appendix 10

Collision rates per million vehicles entering an intersection & million vehicle miles traveled on a segment were calculated for all locations within the City with three or more collisions. These collision rates were then used to prioritize the top five intersections & 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.

Safety Analysis

Collision diagrams were developed for the top five intersections based on collision rates in Tables 6.1 through 6.10 and these intersections were then analyzed using collision diagram interpretation techniques. Collision diagrams were also developed for the three segment classifications based on collision rates and are shown in Tables 6.11 through 6.13 and these intersections were then analyzed using collision diagram interpretation techniques. Based upon collision patterns as 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 2009, 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 2009 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 method for evaluating for bicycle collision locations identifies all locations where at least one bicycle collision has occurred in 2009 and ranks those locations based on a "relative exposure value" (REV) for the previous five year bicycle collision history, with three or more bicycle related collisions. This method of evaluation is often chosen over pure numbers because the number of collisions generally increases within proportion to bicycle volumes. These values are used to identify locations where more collisions are occurring than would be expected.

Table 6.1 – Top Five Pedestrian Collision Locations

1 Accidents Los Osos Valley & Madonna 01/01/09 - 12/31/09	Location Ranking: 1	PATTERN: Pedestrian Red Light Violation.
P	Los Osos Valley	
	Road at Madonna Road	RECOMMENDATION: Pattern primarily attributed to pedestrians starting across on steady or solid don't walk indication. Pedestrian count down heads installed in spring of 2007. Improve pedestrian control awareness.
	REV: 3052	ACTION: Upgrade pedestrian activation to tactile audible push button system. Continue to monitor in 2010.

1 Accidents Meincele & Santa Rosa 01/01/09 - 12/31/09	Location Ranking: 2 Meinecke Street at Santa Rosa Street	PATTERN: No Discernable Pattern. RECOMMENDATION: None, one collision on record since 1999.
tanana na 🖤	REV: 1044	ACTION: Continue to monitor in 2010.

1 Accidents Monterey & Santa Rosa 01/01/09 - 12/31/09	Location Ranking: 3	PATTERN: Pedestrian Red Light Violations & Vehicle Not Yielding to
ß	Monterey Street at	Pedestrians.
	Santa Rosa Street	RECOMMENDATION: Collision patterns primarily attributed to
	REV: 650	pedestrian & vehicle ROW violations. Pedestrian regulatory signing to be upgraded in January 2011. Improve pedestrian control awareness.
sono have a service of the serv		ACTION: Upgrade pedestrian activation to tactile audible push button system. Continue to monitor in 2010.

1 Accidents Peach & Santa Rosa 01/01/09 - 12/31/09	Location Ranking: 4 Peach Street at Santa Rosa Street	PATTERN: No Discernable Pattern. RECOMMENDATION: None, one collision on record since 1999.
	REV: 500	ACTION: Continue to monitor in 2010.
territoria en territoria en la construcción en la construcc		

1 Accidents 01/01/09 - 12/31/09	Location Ranking: 5 Foothill Blvd. at Santa Rosa Street	PATTERN: No Discernable Pattern. RECOMMENDATION: None. Intersection under State DOT jurisdiction.
inno, Anna 20 Sector (2013-2017 (2010)) (2013-2017) (2010) → Stagilar and Parkal > Character for a sector and a → Stagilar and Parkal > Character for a sector a for a sector a sect	REV: 430	ACTION: Forward findings to State DOT for review & consideration. Continue to monitor in 2010.

Table 6.2 – Top Five Bicycle Collision Locations

5 Accidents California & Montercy 01/01/09 - 12/31/09	Location Ranking: 1 California Blvd at Monterey Street	PATTERN: Vehicle right turn over cyclist all approaches. RECOMMENDATION: Shared bicycle / vehicle lane markings installed in spring of 2009. Improve bicycle visibility and lane control.
Storight	REV: 2186	ACTION: Install bike boxes and/or street markings on all approaches. Continue to monitor in 2010.
I Accidents Boysen & Santa Rosa 01/01/09 - 12/31/09	Location Ranking: 2 Boysen Street at Santa Rosa Street	PATTERN: No Discernable Pattern. RECOMMENDATION: As part of the Highway 1 Major Investment Study a grade separated bike and pedestrian crossing was identified for this
Stolage manual and product of the first start starts from a store of the first start starts and starts an	REV: 2093	Iocation. Intersection under State DOT jurisdiction. ACTION: Work with SLOCOG and State DOT to implement recommendations of the Highway 1 Major Investment Study. Forward findings to State DOT for review & consideration. Continue to monitor in 2010.

4 Accidents Foothill & Santa Rosa 01/01/09 - 12/31/09	Location Ranking: 3 Foothill Blvd at	PATTERN: Right Turn Over Cyclist & Cyclist Failing to Clear Intersection.
	Santa Rosa Street REV: 1437	RECOMMENDATION: : As part of the Highway 1 Major Investment Study a grade separated bike and pedestrian crossing was identified for this location. Intersection under State DOT jurisdiction. Review signal clearance timing & bicycle timing, make improvements as necessary.
Standy bern many. Training out product the training of the set of the se		ACTION: Forward findings to State DOT for review & consideration. Continue to monitor in 2010. Continue to monitor in 2010.
2 Accidents Broad & Woodbridge 01/01/09 - 12/31/09	Location Ranking: 4	
2 Accidents 01/01/09 - 12/31/09		PATTERN: No Discernable Pattern.
	Broad Street at Woodbridge Street	RECOMMENDATION: None.
F	REV: 880	ACTION: Continue to monitor in 2010
Note: The set once: The set once: </td <td></td> <td></td>		

Broad & Mitchell 1 Accidents 01/01/09 - 12/31/09	Location Ranking: 5 Broad Street at Mitchell Street	PATTERN: No Discernable Pattern. RECOMMENDATION: None.
	REV: 1027	ACTION: Continue to monitor in 2010.
Statutions of parameters of Parameters in the second statution of the se		

Table 6.3 - Recommendations for Intersections Involving Two Arterial Streets

Johnson & Orcutt 01/01/09 - 12/31/09	Intersection Ranking: 1 Johnson Avenue at Orcutt Road Rate: 0.89 / MEV	PATTERN:Intersection Stop Sign ViolationsRECOMMENDATION:SLO County PW upgraded to an oversized stop sign on the NB approach in Spring of 2009. Improve stop sign visibility and lighting on City controlled approaches.ACTION:Install oversized stop signs and advance signing on EB & SB approaches. Upgrade existing 100w street light to 200w. Continue to monitor in 2010.
7 Accidents California & Monterey 01/01/09 - 12/31/09	Intersection Ranking: 2 California Boulevard at Monterey Street Rate: 0.72 / MEV	PATTERN: Auto Right Turn Over Cyclist RECOMMENDATION: Shared bicycle/auto lane markings installed in spring of 2009. Improve bicycle lane control and visibility. ACTION: Install additional bicycle lane marking and bicycle boxes. Continue to monitor in 2010

14 Accidents Foothill & Santa Rosa 01/01/09 - 12/31/09	Intersection Ranking: 3	PATTERN: Auto Right Turn Over Cyclist & NB/SB Left Vs. Thru
	Foothill Boulevard at	
5 8 5 ισσσσ 50 σασσ 70 μ	Santa Rosa Street	RECOMMENDATION: Intersection under State DOT jurisdiction. Request State review of signal clearance timing & bicycle signing with improvements as necessary.
	Rate: 0.72 / MEV	ACTION: Forward findings to State DOT for review and consideration. Continue to monitor in 2010.

Higuera & Marsh 4 Accidents 01/01/09 - 12/31/09	Intersection Ranking: 4	PATTERN: SB Red Light Violations
	Higuera Street at	
لــــــــــــــــــــــــــــــــــــ	Marsh Street	RECOMMENDATION: Drivers confusing right turn overlap arrow with thru movement signal indications. Improve signal head configuration.
* Straight av-Card Control of Architecture and Architectu	Rate: 0.70 / MEV	ACTION: As part of Mid-Higuera signal reconstruction project, upgrade 8" signal indications to 12" and reconfigure right turn overlap head configurations. Continue to monitor in 2010.

4 Accidents 01/01/09 - 12/31/09	Intersection Ranking: 5	PATTERN: No Discernable Pattern
	Marsh Street at	
a transmission and the second se	Santa Rosa Street	RECOMMENDATION: None, Signal reconstruction completed in summer of 2008. Collision rate significantly reduced and no discernable collision patterns have occurred since.
avoza sairi	Rate: 0.59 / MEV	ACTION: Continue to monitor in 2010.
Strange Minor 27 of Fernancia III antiferio en professo fanos parase Strange Minor 27 of Fernancia III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo fanos parase Strange Minor Politica III antiferio en professo Strange Minor Politica IIII antiferio en professo fanos para		

Table 6.4 - Recommendations for Intersections Involving Arterial/Collector Streets

4 Accidents Pismo & Santa Rosa 01/01/09 - 12/31/09	Intersection Ranking: 1 Pismo Street at Santa Rosa Street	PATTERN: Intersection Stop Sign Violations RECOMMENDATION: None, signing & striping upgrades completed in Summer of 2010.
5 - 13 H (COD) 12 H (C	Rate: 1.00 / MEV	
		ACTION: Continue to monitor in 2010.
Strangt = Pold > Constraints in polycon due to many Strangt = Pold > Constraints in polycon due to many Strangt = Polycon = P		
Buchon & Johnson	Intersection Ranking: 2	
5 Accidents 01/01/09 - 12/31/09		PATTERN: EB Buchon Vs. NB & SB Johnson
	Buchon Street at	
19 	Johnson Avenue	RECOMMENDATION: Improve intersection lane control and visibility.
90000 121	Rate: 0.87 / MEV	ACTION: As part of Pismo & Buchon NTM, reconfigure intersection & install permanent speed feedback devices on NB & SB approaches of Johnson. Continue to monitor in 2010.
the second		

5 Accidents 01/01/09 - 12/31/09	Intersection Ranking: 3 Mill Street at	PATTERN: NB & SB Large Vehicles Turning to Mill Vs. Stopped vehicles on Mill
ter a second sec	Santa Rosa Street	RECOMMENDATION: Improve turning radius clearance.
John wa	Rate: 0.62 / MEV	ACTION: Move EB & WB Mill approach stop bars back to accommodate larger turning radii.
the second		

3 Accidents 01/01/09 - 12/31/09	Intersection Ranking: 4	PATTERN: No Discernable Pattern
encolf list	Osos Street at Pismo Street	RECOMMENDATION: None, Signal head upgrade from 8" to 12" in Summer of 2010.
	Rate: 0.55 / MEV	ACTION: Continue to monitor in 2010.

Buchon & Osos 3 Accidents 01/01/09 - 12/31/09	Intersection Ranking: 5	PATTERN: No Discernable Pattern.
19	Buchon Street at	
Jan Alan	Osos Street	RECOMMENDATION: Intersection approach striping will be improved as part of the Traffic Operation Program to optimize intersection and corridor efficiency. None.
minum tor"	Rate: 0.53 / MEV	ACTION: Implement Traffic Operations Program improvements and Continue to monitor in 2010.

Table 6.5 - Recommendations for Intersections Involving Arterial/Local Streets

3 Accidents 01/01/09 - 12/31/09	Intersection Ranking: 1 Broad Street at Serrano Drive	PATTERN: Parked Car Sideswipes RECOMMENDATION: None, Lane widths & marking adequate. Pattern is also exclusive to 2009.
Straight and Parket At seathers in decided by Engineering Straight and Parket X for the seather in the decided by Engineering Straight and Straightand Straight and Straight and Straight and Straight and Straight a	Estimated Rate: 1.84 / MEV	ACTION: Continue to monitor in 2010.
5 Accidents 01/01/09 - 12/31/09	Intersection Ranking: 2 Osos Street at Pacific Street	PATTERN: Intersection ROW Violations RECOMMENDATION: Intersection conditions do not meet all-way stop warrant criteria. Increase enforcement.
August Hall August H	Estimated Rate: 1.36 / MEV	ACTION: Conduct focused enforcement at intersection. Continue to monitor in 2010.

Marsh & Morro 4 Accidents 01/01/09 - 12/31/09	Intersection Ranking: 3 Marsh Street at Morro Street	PATTERN: No Discernable Pattern RECOMMENDATION: None
Ender and Control of the second seco	Estimated Rate: 1.02 / MEV	ACTION: Continue to Monitor in 2010.

3 Accidents Brookpine & Tank Farm 01/01/09 - 12/31/09	Intersection Ranking: 4	
Ø	Brookpine Drive at	PATTERN: WB Left Vs. EB Thru
	Tank Farm Road	RECOMMENDATION: Improve intersection sight distance.
Stranght Stranght	Estimated Rate: 0.92 / MEV	ACTION: Trim vegetation on EB Tank Farm approach. Continue to monitor in 2010.

6 Accidents California & Taft 01/01/09 - 12/31/09	Intersection Ranking: 5	PATTERN: No Discernable Pattern.
8	California Boulevard	PATTERN. NO DISCETTADIE Pattern.
Stinger and TV config	at Taft Street	DECOMMENDATION, Intersection, sight distance improved in 2000
conditive Longenterin 1		RECOMMENDATION: Intersection sight distance improved in 2008. Intersection adjacent to State Route 101 SB Off- Ramp None.
X		
	Estimated Rate: 0.86 / MEV	ACTION: Review traffic signal warrants in 2010 and follow up control recommendations as part of the next Capital Improvement Plan if necessary. Forward findings to State DOT for review and
Straight une Polida X Poleonias Freedingsts: Straight - Dirit X Placetic Straight - Straig		consideration. Continue to monitor in 2010.

Table 6.6 - Recommendations for Intersections Involving Collector/Collector Streets

3 Accidents Brookpine & Tank Farm 01/01/09 - 12/31/09	Intersection Ranking: 1	PATTERN: No Discernable Pattern
ø	Chorro Street at	
	Palm Street	RECOMMENDATION: None
Control to Second to	Estimated Rate: 1.03 / MEV	ACTION: Continue to monitor in 2010.

Table 6.7 - Recommendations for Intersections Involving Collector/Local Streets

High & Leff 3 Accidents 01/01/09 - 12/31/09 1 1 1	Intersection Ranking: 1 High Street at Leff Street	PATTERN: EB Left Vs. WB Thru RECOMMENDATION: None. Collision pattern exclusive to 2010, no prior collisions reported at location since 2006.
State 17 of treports 20 reaction on readword and generative State 17 of treports 20 reaction on readword and generative State 20 reactions and the state of the s	Estimated Rate: 1.84 / MEV	ACTION: Continue to monitor in 2010.
3 Accidents 01/01/09 - 12/31/09	Intersection Ranking: 2	PATTERN: Intersection Rear Ends
	Chorro Street at	
17 18 19 19 19 19 19 19 19 19 19 19 19 19 19	Lincoln Street	RECOMMENDATION: None. Intersection under construction in Summer of 2009, collision pattern primarily related to construction activities.
	Estimated Rate: 0.65 / MEV	ACTION: Continue to monitor in 2010.

Table 6.8 - Recommendations for Intersections Involving Local/Local Streets

3 Accidents Hathway & Montalban 01/01/09 - 12/31/09	Intersection Ranking: 1 Hathway Avenue at Montalban Street	PATTERN: No Discernable Pattern RECOMMENDATION: None
Straight	Estimated Rate: 4.30 / MEV	ACTION: Continue to monitor in 2010.

 Table 6.9 - Recommendations for Other Significant Intersections: 5+ Left Turn Collisions at Signalized Intersections

	1	
Froom Ranch & Los Osos Valley 7 Accidents 01/01/09 - 12/31/09	Intersection Ranking: 1	
7 Accidents 01/01/09 - 12/31/09	5	PATTERN: EB Illegal Left Turn.
Ş		FATTERN. ED megai Leit Turn.
	Los Osos Valley Rd.	
antifan yan	at Froom Ranch Rd.	PECOMMENDATION: Ungrade signal and permit left turns
ಷಣೆ ಕಾರ ಹೆಸರ್ ಸಂ ಕಾರಕ್ಕೆ ನಾ ಕಾರಕ್ಕೆ ನಾ ಕಾರಕ್ ಕಾರಕ ಕಾರಕ		RECOMMENDATION: Upgrade signal and permit left turns.
B topics Set		
	Rate: 0.59 / MEV	ACTION: As part of Prefumo Creek Commons development install
urvalle (†21		
		EB left turn pocket and upgrade signal to accommodate associated
		signal phasing. Continue to monitor in 2010.
Straight part of researcher, at anisotic at surface and to none Straight part Parked > Policity Production Find objects		
 A start of the second seco		
Monterey & Osos	Intersection Ranking: 2	
3 Accidents 01/01/09 - 12/31/09	_	PATTERN: No Discernable Pattern.
P	Mantaray Ctreat at	
1	Monterey Street at	
Technology of the	Osos Street	RECOMMENDATION: None.
	Estimated Rate:	ACTION: Continue to monitor in 2010.
	0.58 / MEV	
2000 Bar 1993		
áðan va		
straight user Parked × Poleonias Fixed objects:		
Overstäng Luft turn Soldsvelge Utarn Utarn Soldsvelge Utarn Soldsvelge		

5 Accidents Laguna & Los Osos Valley 01/01/09 - 12/31/09	Intersection Ranking: 3	PATTERN: EB Left Vs. WB Thru & WB Red Light Violations
	Laguna Lane at Los Osos Valley Road Rate: 0.56 / MEV	RECOMMENDATION: EB left having difficulty judging on coming traffic or not understanding permissive movement. Convert from permissive to protected control. Improve school speed zone awareness.
Toring IT of investign and the second of the second s		ACTION: Remove protected/permissive left turn control and install protected left turn control only. As part of safe routes to school grant program install speed feedback signs and flashing beacon devices on EB & WB approaches. Continue to monitor in 2010.
3 Accidents 01/01/09 - 12/31/09	Intersection Ranking: 4	PATTERN: Intersection Red Light Violations
P	Chorro Street at Marsh Street	RECOMMENDATION: Improve Signal Head Visibility
within the second secon	Estimated Rate: 0.53 / MEV	ACTION: Remove programmable signal heads and upgrade 8" heads to 12" signal heads. Continue to monitor in 2010.

4 Accidents Palm & Santa Rosa 01/01/09 - 12/31/09	Intersection Ranking: 5	PATTERN: No Discernable Pattern.
	Palm Street at Santa Rosa Street	RECOMMENDATION: None.
	Estimated Rate: 0.52 / MEV	ACTION: Continue to Monitor in 2010.
Sought = Print =		

Table 6.10 - Recommendations for Other Significant Intersections: 5+ Collisions at Intersections Without All-way Control

3 Accidents Garden & Marsh 01/01/09 - 12/31/09	Intersection Ranking: 1 Garden Street at Marsh Street	PATTERN: No Discernable Pattern. RECOMMENDATION: None.
Toffen + n Toffen + n Toffen + n Single → n Singl	Estimated Rate: 0.64/ MEV	ACTION: Continue to monitor in 2010.
4 Accidents Peach & Santa Rosa 01/01/09 - 12/31/09	Intersection Ranking: 2 Peach Street at Santa Rosa Street	PATTERN: No Discernable Pattern. RECOMMENDATION: None.
Single and Parks Statement of Andrew Statement (Statement of Andrew Statement of	Estimated Rate: 0.54 / MEV	ACTION: Continue to monitor in 2010.

5 Accidents Boysen & Santa Rosa 01/01/09 - 12/31/09	Intersection Ranking: 3 Boysen Street at Santa Rosa Street Estimated Rate: 0.43/ MEV	PATTERN: WB Left Vs. SB & NB Thru RECOMMENDATION: As part of the Hwy 1 Major Investment Study modifications to the median and left turn provisions have been identified for this location. Intersection under State DOT jurisdiction. None.
the first former in some of excited as transformer the first former in the some of the solution of th		ACTION: Forward findings to State DOT for review and consideration. Work with SLOCOG & CalTrans to implement recommendations of the Major Investment Study. Continue to monitor in 2010.
4 Accidents Higuera & Vachell 01/01/09 - 12/31/09	Intersection Ranking: 4 Higuera Street at Vachell Street	PATTERN: WB Left Vs. NB & SB Thru. RECOMMENDATION: Improve alignment of Vachel lane to Higuera.
Thermit is at	Estimated Rate: 0.43/ MEV	ACTION: Reconfigure Vachell striping on approach to Higuera. Continue to monitor in 2010.

4 Accidents Montalban & Santa Rosa 01/01/09 - 12/31/09	Intersection Ranking: 5	
\$	Montalban Street at	PATTERN: No Discernable Pattern.
i jenne	Santa Rosa Street	RECOMMENDATION: Intersection under State DOT jurisdiction.
1. 10 oct	Estimated Rate:	Request State. None.
	0.38 / MEV	ACTION: Forward findings to State DOT for review and consideration. Continue to monitor in 2010

Table 6.11 - Recommendations for Arterial Segments

Accidents FOOTHILL 1200 BLK 01/01/09 - 12/31/09	Segment Ranking: 1 Foothill 1200 Block (California to Crandall) Rate: 10.81 / MVM	PATTERN: No Discernable Pattern. RECOMMENDATION: None. ACTION: Continue to monitor in 2010.
Subject S	Segment Ranking: 2	PATTERN: Rear Ends In Heavy Traffic.
	Higuera 200 Block (High to South)	RECOMMENDATION: Improve Corridor Operations & Relieve Congestion.
In the first interview in the second	Rate: 6.78 / MVM	ACTION: As part of the 2008/09 Traffic Operations Program and the Mid-Higuera Traffic Signal Improvements projects upgrade Higuera & High/Pismo traffic signal and reconfigure side street approaches to increase intersection capacity and reduce delay. Continue to monitor in 2010.

3 Accidents 01/01/09 - 12/31/09	Segment Ranking: 3	PATTERN: No Discernable Pattern.
Bitme a Bitme u Filme u	Higuera 500 Block (Broad to Nipomo)	RECOMMENDATION: None.
	Rate: 5.95 / MVM	ACTION: Continue to monitor in 2010.
Singhi uan Polad X Palentin Fuel district. Singhi Palentin Fuel district. Singhi Palentin Fuel district. Singhi Palentin Palentin Palentin Palentin. Singhi Palentin Palentin Palentin Palentin Singhi Palentin Palentin Palentin Palentin Singhi Palentin Palentin Palentin Singhi Palentin Palentin Palentin Singhi Palentin Palentin Singhi Palentin Palentin Singhi P		

3 Accidents (rate:0.08) BROAD 2400 BLK 01/01/09 - 12/31/09	Segment Ranking: 4	PATTERN: No Discernable Pattern.
	Broad 2400 Block (Woodbridge to	
T C OPPOSIT	Caudill)	RECOMMENDATION: None.
f ^{agt} es montrolo	Estimated Rate:	ACTION: Continue to monitor in 2010.
101-00 99711039 221	4.55 / MVM	
Straight		
← → Oversking / _ Left ann		

3 Accidents 01/01/09 - 12/31/09	Segment Ranking: 5	
	Higuera 300 Block	PATTERN: Rear Ends In Heavy Traffic.
	(Marsh to High)	RECOMMENDATION: Improve Corridor Operations & Relieve Congestion.
	Rate: 3.42 / MVM	
Singly Singly		ACTION: As part of the 2008/09 Traffic Operations Program and the Mid-Higuera Traffic Signal Improvements projects upgrades Higuera & High/Pismo traffic signal and reconfigure side street approaches to increase intersection capacity and reduce delay. Continue to monitor in 2010.

 Table 6.12 - Recommendations for Collector Segments

NO LOCATIONS UNDER THIS CATEGORY HAD MORE THAN 3 COLLISIONS IN 2009

Table 6.13 - Recommendations for Local Segments

NO LOCATIONS UNDER THIS CATEGORY HAD MORE THAN 3 COLLISIONS IN 2009

2009 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 who are concerned about receiving a citation even after a saturation effort ends and change their driving behavior as a result. In fact, often the presence of officers in a specific area results in drivers obeying the law without 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 generated each guarter and posted in different areas of the police department. The specified area is highlighted in briefings each week to mobilize officers toward a segment of roadway or specific violation to focus traffic enforcement efforts. This concentrated effort makes an impact since it is saturated by many officers during the seven day period. 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. Beginning in November 2007, the Police Department implemented DUI Saturation patrols during which officers were deployed to specifically focus on DUI enforcement utilizing grant funding for overtime. These patrols continued through September 2009.

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 two DUI checkpoints in the City in 2009 with grant funds.

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 use is measured before and after the enforcement campaign in order to gauge the level of compliance and effectiveness of enforcement.

In 2009, the Police Department issued 558 seatbelt citations. The Office of Traffic Safety modified the Click it or Ticket Campaign in 2009 to increase its effectiveness. Two mobilization periods were scheduled during the year with officers conducting specialized enforcement during these times using grant funds. Surveys conducted before and after the enforcement periods indicated that compliance with seatbelt laws remained consistent at 98% which represents a high level of seatbelt use.

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 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. In 2009, the Police Department took a pro-active enforcement posture against these offenders by conducting Court Sting Operations funded through an Office of Traffic Safety grant. Individuals with suspended driver's licenses seen driving away from court were issued citations and their vehicles impounded according to law.

7.5 Grant Programs

In 2009, the Police Department received grant funding from the Office of Traffic Safety (OTS) to conduct enforcement and education programs focused on reducing deaths, injuries and economic loss resulting from traffic collisions. The following is a summary of the grant programs:

• OTS Selective Traffic Enforcement Grant Grant Period: 10/1/07 - 9/30/09 This enforcement grant 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 were focused on red light violations, violations at or near intersections with a disproportionate number of traffic collisions, and drivers exhibiting excessive speed.

• Avoid the 14 DUI Campaign

Grant Period: 10/1/07 - 9/30/12

The Avoid the 14 grant is a multi-agency effort involving 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 funded overtime for DUI checkpoints, saturation patrols, and DUI warrant sweeps throughout the County.

Click It or Ticket Project

Grant Period: 10/1/07 - 9/08/10

The goal of the California Click It or Ticket project is to increase seat belt use statewide to 96% in 2009. A coordinated, statewide seatbelt education and enforcement campaign was conducted for a fourteen day period in May and June 2009 and a second fourteen day period in November. Funds provided by the grant were utilized to increase the level of seatbelt enforcement hours. As a result, the Office of Traffic Safety reported that seatbelt use in 2009 increased to 95.3% statewide.

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 several 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. Two Police employees are certified as child seat inspectors (one officer and one field service 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

Each year, the Police and Parks and Recreation Departments cohost 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 messaging promoting a healthy lifestyle free of drugs and alcohol.



The week concludes with a free Bicycle Rodeo featuring a "Safety Town" that includes signaled intersections, stop signs, a railroad crossing, pedestrian traffic, 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 checked and if they are determined to be unsafe a new one is provided free. The annual attendance ranges from 200 to 300 children.

8.3 Impaired Driver Offender Classes

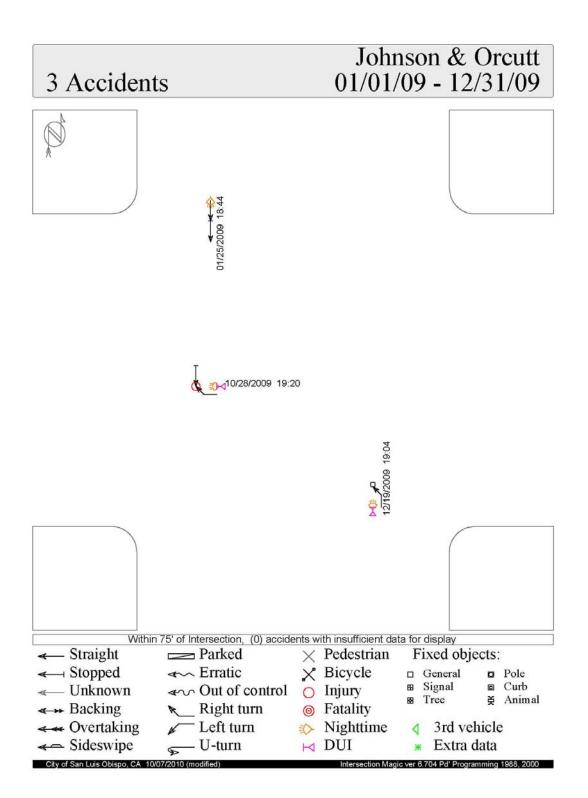
When a driver is convicted of DUI, they are normally required to attend a DUI offender class as part of their sentence. The goal of the class is to provide education and dialog about DUI offenses in order to increase the chances an individual will not re-offend. The classes are offered by the County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

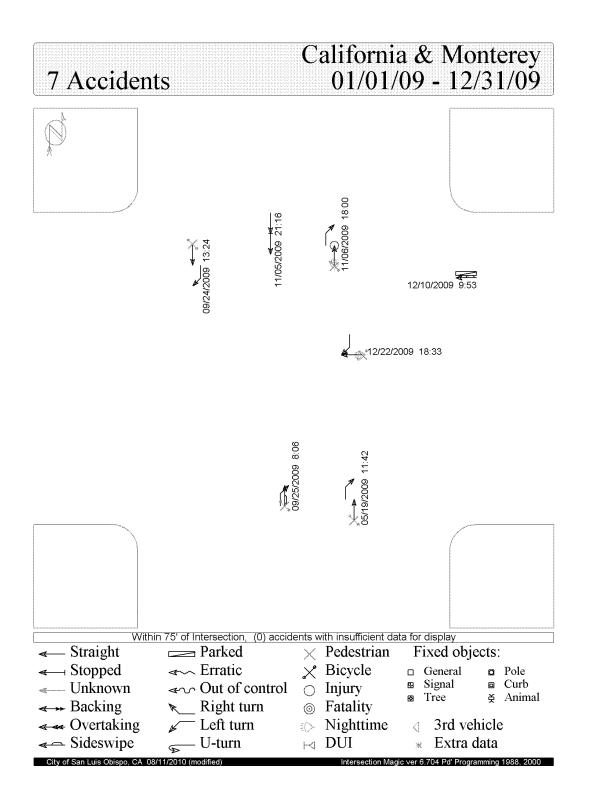
The Police Department participates in the program by providing a traffic officer to make a presentation at the DUI offender classes to discuss the impacts of DUI on traffic safety and collisions. The class offers a unique opportunity for officers to interact with DUI offenders in a positive and educational 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.

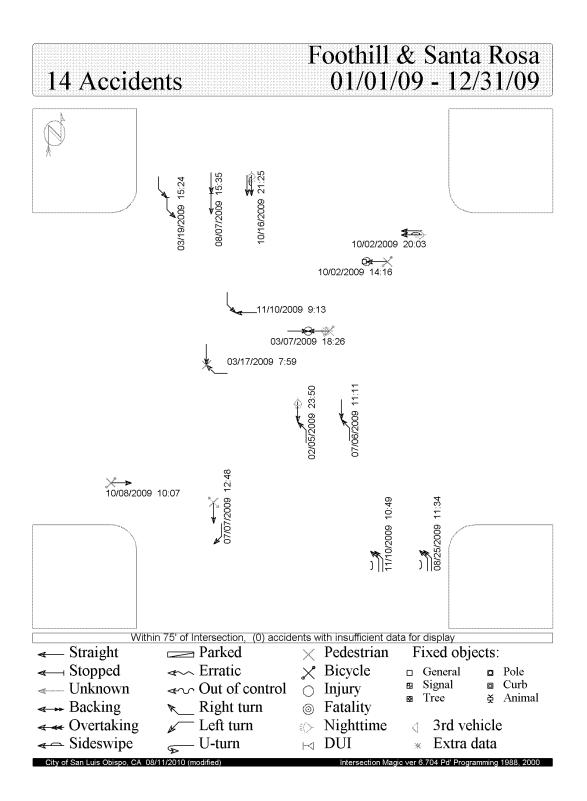
Appendix 1 Arterial / Arterial Intersections

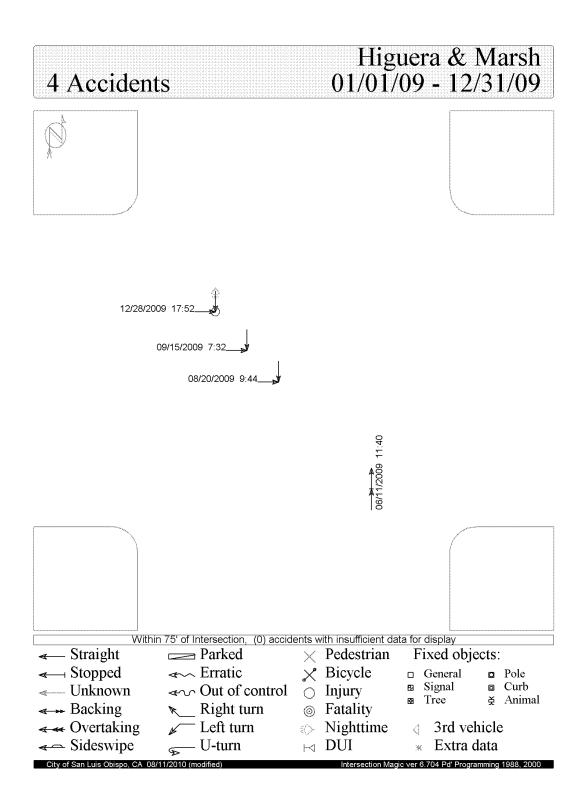
Rank	Prev. Rank	Intersection	Collisions	Volume	Rate	Control	EB	WB	NB	SB
1	Not Ranked	Johnson & Orcutt	3	9,257	0.89	3-STOP	1,440	NA	2,814	5,003
2	10	California & Monterey	7	26,553	0.72	SIG	6,538	7,312	7,188	5,515
3	12	Foothill & Santa Rosa	14	53,248	0.72	SIG	10,123	10,256	16,789	16,080
4	Not Ranked	Higuera & Marsh	4	15,624	0.70	SIG	<u>6,147</u>	9,477	NA	NA
5	1	Marsh & Santa Rosa	4	18,461	0.59	SIG	10,528	NA	2,290	5,643
7	2	Chorro & Marsh	3	15,490	0.53	SIG	10,827	NA	1,664	2,999
8	7	Broad & Orcutt	6	35,109	0.47	SIG	NA	7,147	14,309	13,653
9	15	Los Osos Valley & Madonna	6	36,003	0.46	SIG	<u>3,000</u>	10,073	11,825	11,105
10	Not Ranked	Broad & Marsh	3	18,310	0.45	SIG	<u>10,475</u>	NA	4,532	3,303
11	17	Higuera & South	4	31,796	0.34	SIG	<u>200</u>	7,899	15,261	8,436
12	11	Higuera & Madonna	4	33,480	0.33	SIG	13,771	NA	6,217	13,492
13	16	Broad & Tank Farm	4	38,035	0.29	SIG	9,810	4,215	11,184	12,826
14	Not Ranked	Higuera & Tank Farm	3	28,813	0.29	SIG		9,580	10,467	8,766
15	6	California & Foothill	3	28,936	0.28	SIG	<u>4,000</u>	9,787	9,401	5,748
16	18	101 S/b On/off Ramp & Madonna	3	42,668	0.19	SIG	18,762	13,006	10,700	<u>200</u>

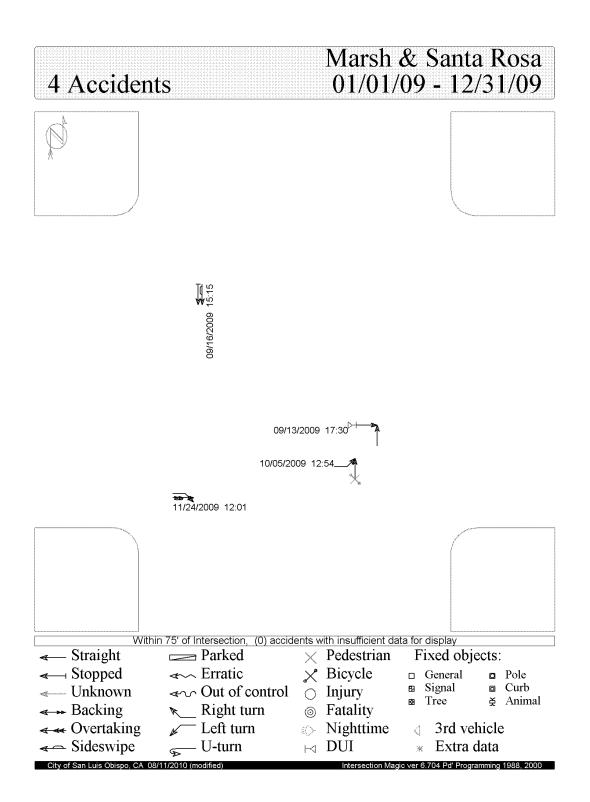
Arterial / Arterial Intersections Prioritized by Accident Rate









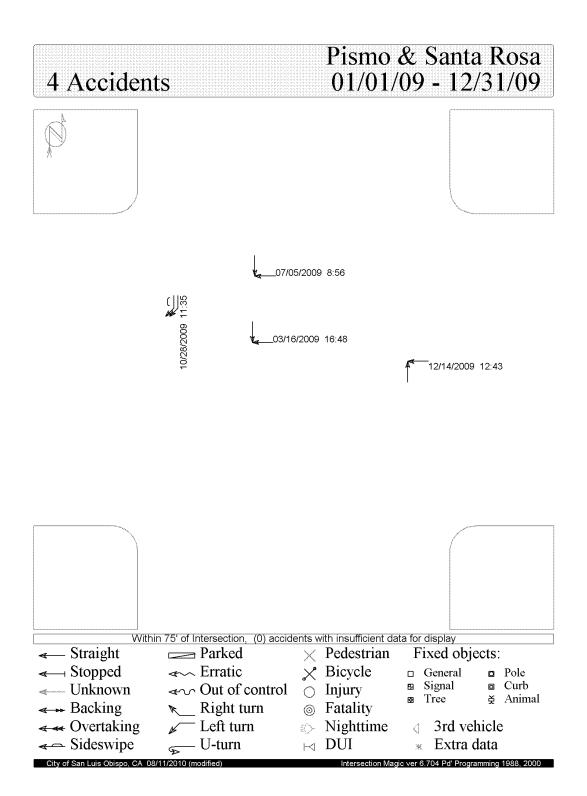


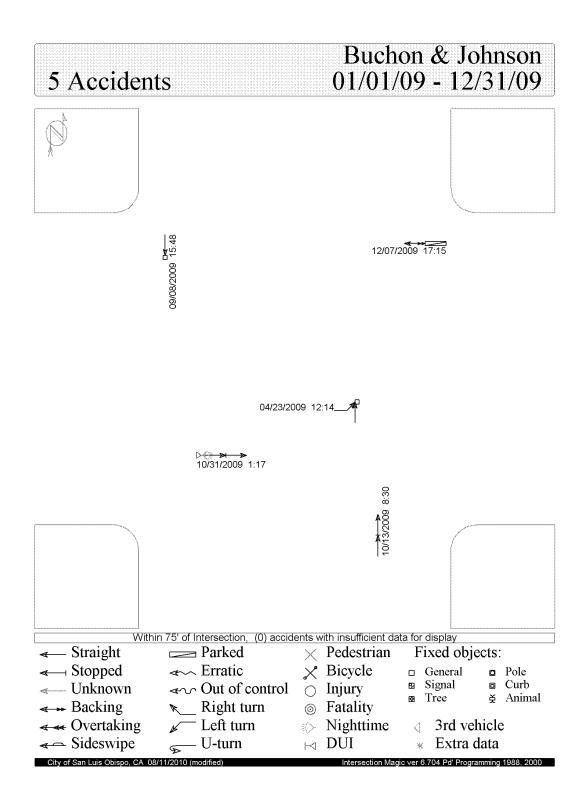
appendix 2

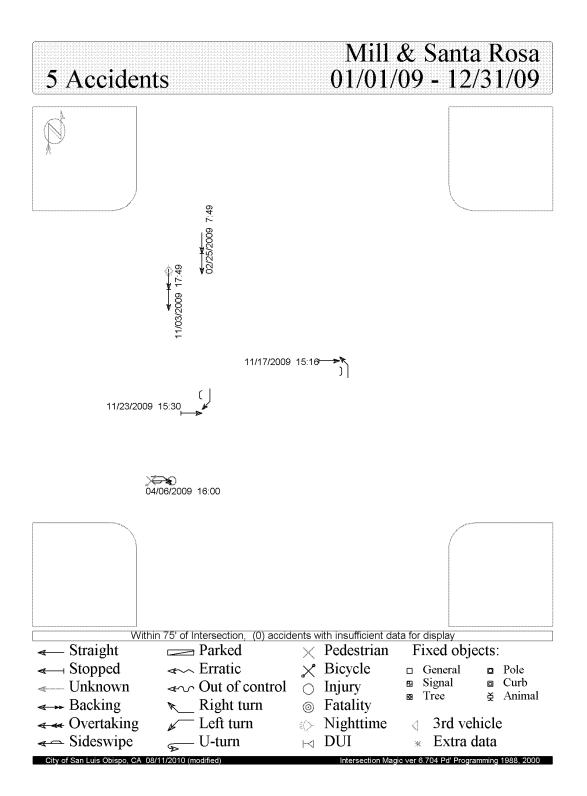
Arterial / Collector Intersections

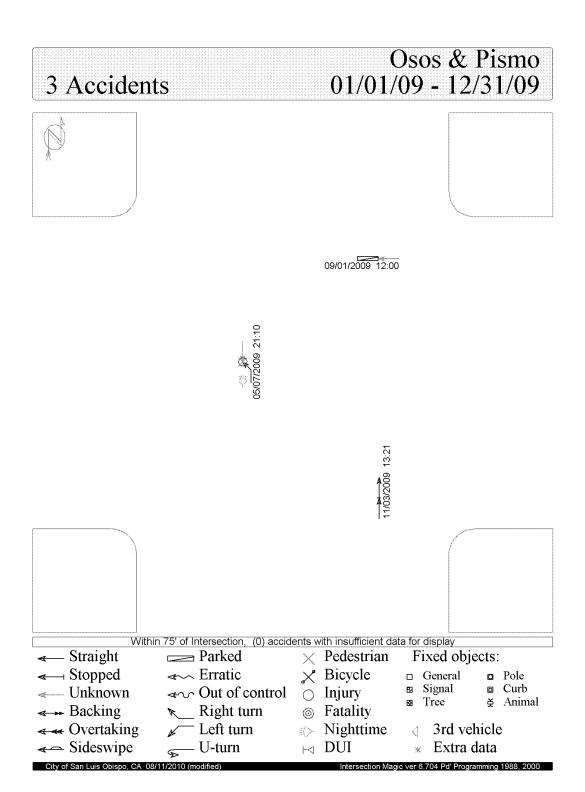
Rank	Prev. Rank	Intersection	Collisions	Volume	Rate	Control	EB	WB	NB	SB
1	1	Pismo & Santa Rosa	4	10,942	1.00	3-STOP	NA	4,185	2,071	4,686
2	Not Ranked	Buchon & Johnson	5	15,819	0.87	2-STOP	<u>2,670</u>	50	7,313	5,786
3	Not Ranked	Mill & Santa Rosa	5	22,046	0.62	SIG	<u>1,120</u>	1,710	9,737	9,479
4	2	Osos & Pismo	3	15,032	0.55	SIG	NA	6,269	5,667	3,096
5	6	Buchon & Osos	3	15,373	0.53	SIG	1459	1771	<u>5,667</u>	<u>6,476</u>
6	4	Palm & Santa Rosa	4	21,003	0.52	SIG	1,732	778	9,479	9,014
7	Not Ranked	Chorro & Foothill	4	25,459	0.43	SIG	<u>10,357</u>	10,062	3,988	1,052
8	Not Ranked	Broad & Industrial	3	26,410	0.31	SIG	<u>150</u>	2,209	10,753	13,298

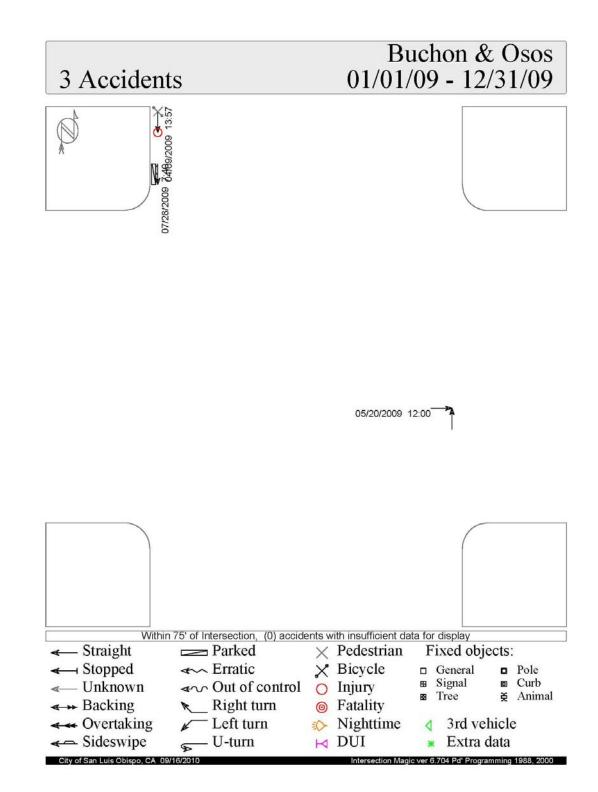
Arterial / Collector Intersections Prioritized by Accident Rate







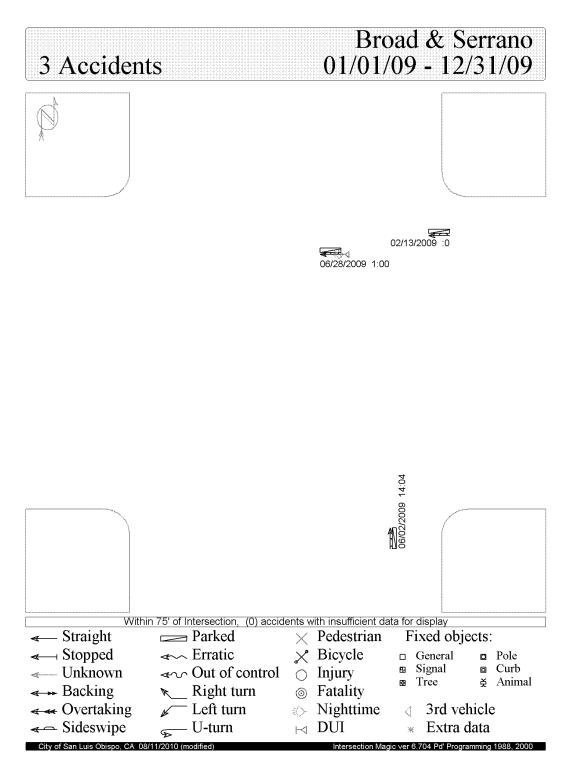


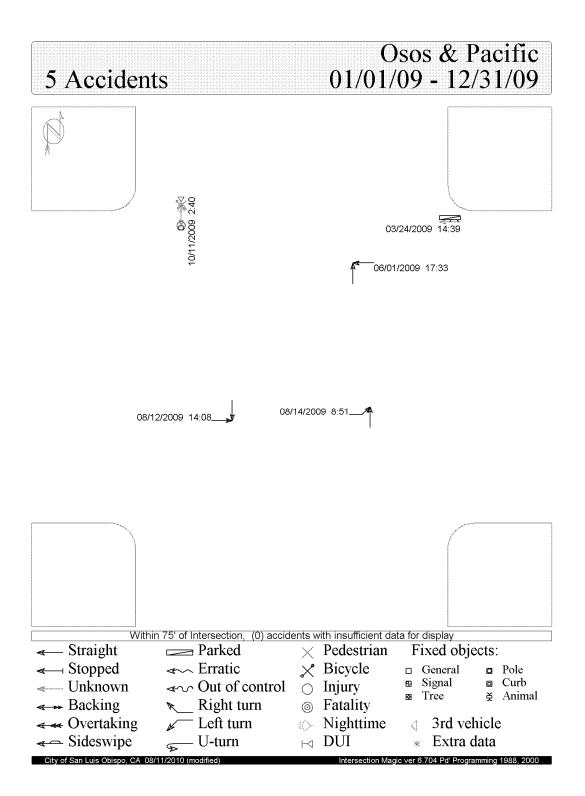


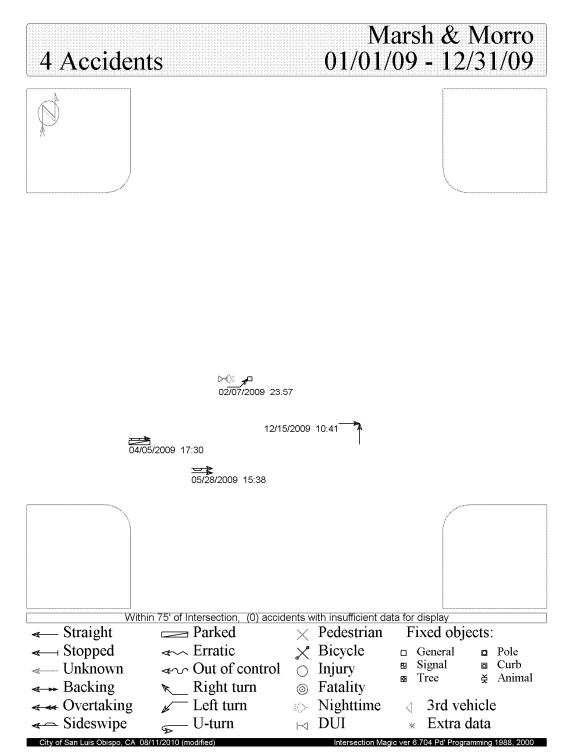
Appendix 3 Arterial / Local Intersections

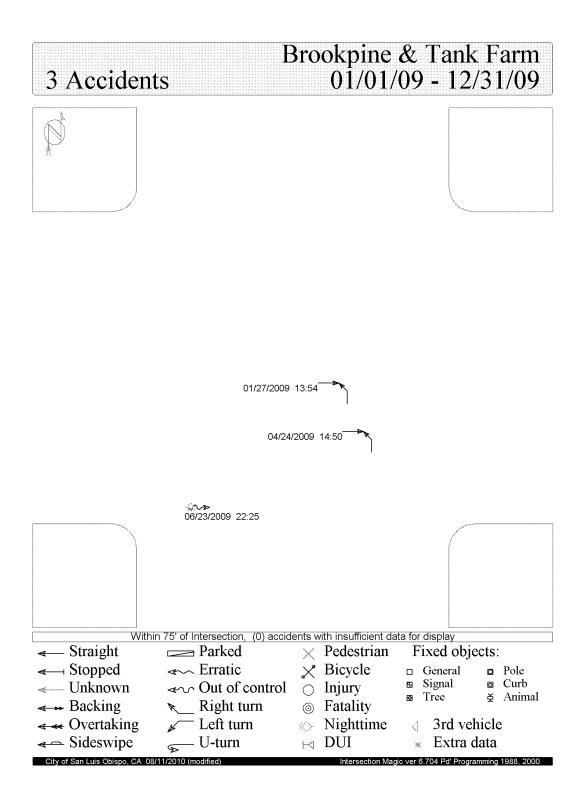
Rank	Prev. Rank	Intersection	Collisions	Volume	Rate	Control	EB	WB	NB	SB
1	Not Ranked	Broad & Serrano	3	4,459	1.84	1-STOP	<u>500</u>	NA	1,500	2,459
2	Not Ranked	Osos & Pacific	5	10,042	1.36	SIG	<u>1,000</u>	<u>1,000</u>	4,946	3,096
3	Not Ranked	Marsh & Morro	4	10,726	1.02	SIG	<u>9,056</u>	NA	790	880
4	Not Ranked	Brookpine & Tank Farm	3	8,952	0.92	1-STOP	3,804	4,148	<u>1,000</u>	NA
5	2	California & Taft	6	19,147	0.86	1-STOP	NA	<u>3,000</u>	7,345	8,802
6	Not Ranked	Higuera & Morro	3	10,057	0.82	SIG	NA	7,907	<u>1200</u>	<u>950</u>
7	Not Ranked	Carmel & Marsh	3	10,775	0.76	2-STOP	10,475	NA	<u>150</u>	<u>150</u>
8	Not Ranked	Garden & Marsh	3	12,872	0.64	1-STOP	<u>10,872</u>	NA	<u>2,000</u>	NA
9	15	Froom Ranch & Los Osos Valley	7	32,366	0.59	SIG	13,541	11,825	<u>500</u>	<u>6,500</u>
10	Not Ranked	Monterey & Osos	3	14,222	0.58	SIG	1,589	3,959	5,570	3,104
11	Not Ranked	Grand & Loomis	3	14,386	0.57	1-STOP	NA	<u>2,500</u>	5,730	6,156
12	Not Ranked	Laguna & Los Osos Valley	5	24,485	0.56	SIG	<u>140</u>	730	11,510	12,105
13	12	Peach & Santa Rosa	4	20,200	0.54	2-STOP	<u>600</u>	<u>400</u>	<u>9,700</u>	<u>9,500</u>
14	5	Calle Joaquin & Los Osos Valley	6	31,942	0.51	SIG	13,541	14,401	<u>2,000</u>	<u>2,000</u>
15	7	Santa Rosa & Walnut	4	21,573	0.51	SIG	<u>1,200</u>	<u>1,600</u>	9,737	9,036
16	4	Foothill & Tassajara	3	16,696	0.49	SIG	6,868	7,724	1,104	<u>1,000</u>
17	Not Ranked	Boysen & Santa Rosa	5	31,648	0.43	1-STOP	NA	<u>1,500</u>	14,068	16,080
18	6	Higuera & Vachell	4	25,340	0.43	1-STOP	NA	<u>2,000</u>	11,282	12,058
19	10	Madonna & Pereira	3	24,906	0.33	1-STOP	<u>1,000</u>	<u>3,000</u>	9,692	11,214
20	13	Montalban & Santa Rosa	4	35,600	0.31	2-STOP	<u>100</u>	<u>500</u>	<u>16,700</u>	18,300
21	Not Ranked	Oak & Santa Rosa	4	35,689	0.31	2-STOP	<u>100</u>	<u>500</u>	16,789	18,300

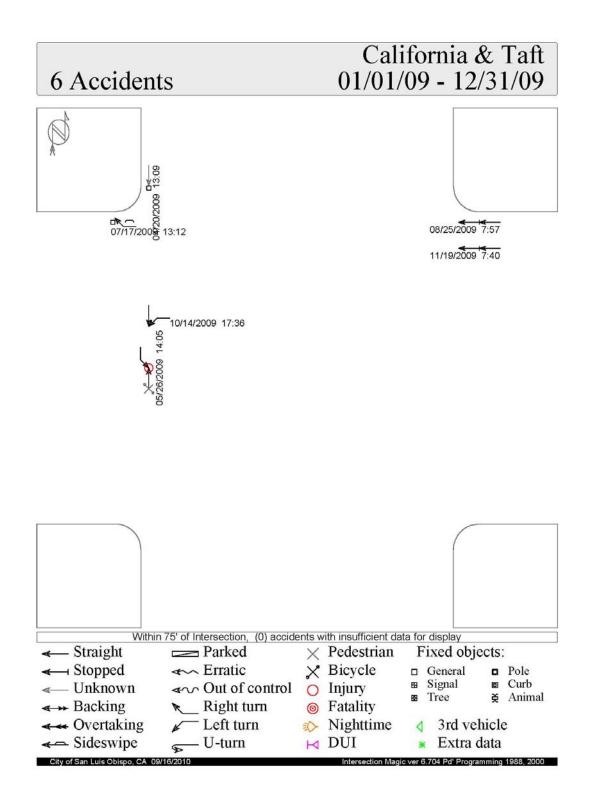
Arterial / Local Intersections Prioritized by Accident Rate







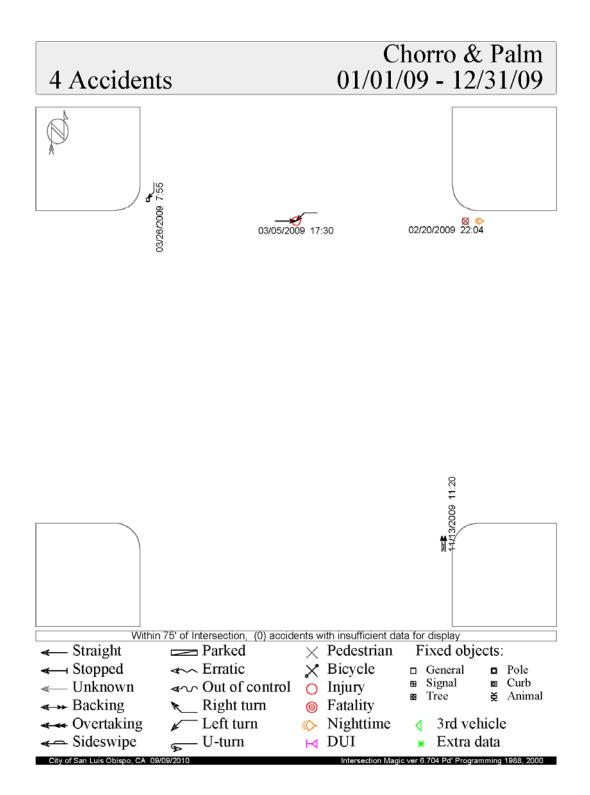




Appendix 4 Collector / Collector Intersections

Collector / Collector Intersection Prioritized b	y Accident Rate
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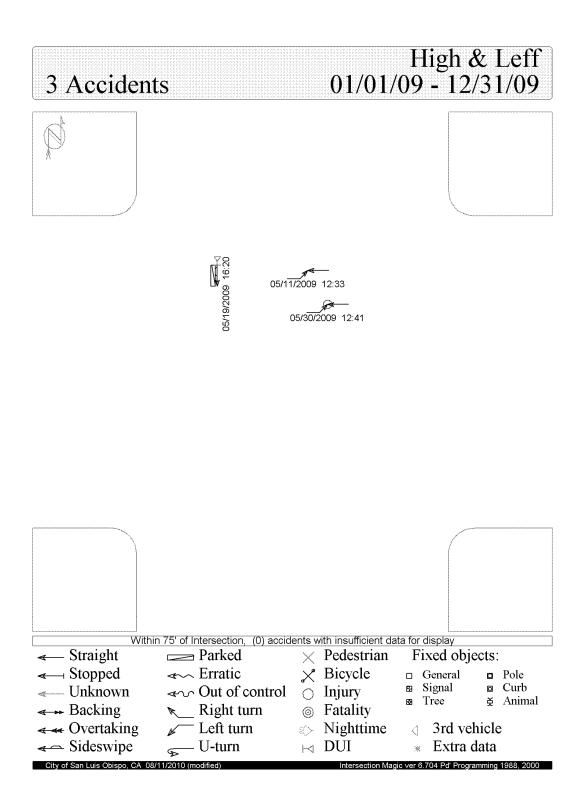
Rank	Prev. Rank	Intersection	Collisions	Volume	Rate	Control	EB	WB	NB	SB
1	Not Ranked	Chorro & Palm	4	10,628	1.03	SIG	<u>987</u>	2,626	3,167	3,848

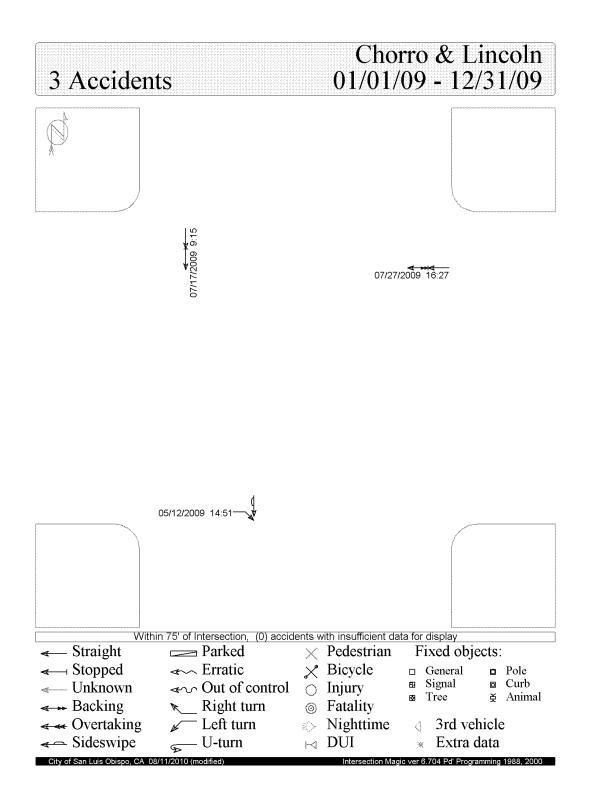


appendix 5 Collector / Local Intersections

Rank	Prev. Rank	Intersection	Collisions	Volume	Rate	Control	EB	WB	NB	SB
1	Not Ranked	High & Leff	3	4,474	1.84	1-STOP	1,813	1,661	NA	<u>1,000</u>
2	Not Ranked	Chorro & Lincoln	3	12,720	0.65	4-STOP	<u>100</u>	5,000	3,887	3,733

Collector / Local Intersection Prioritized by Accident Rate

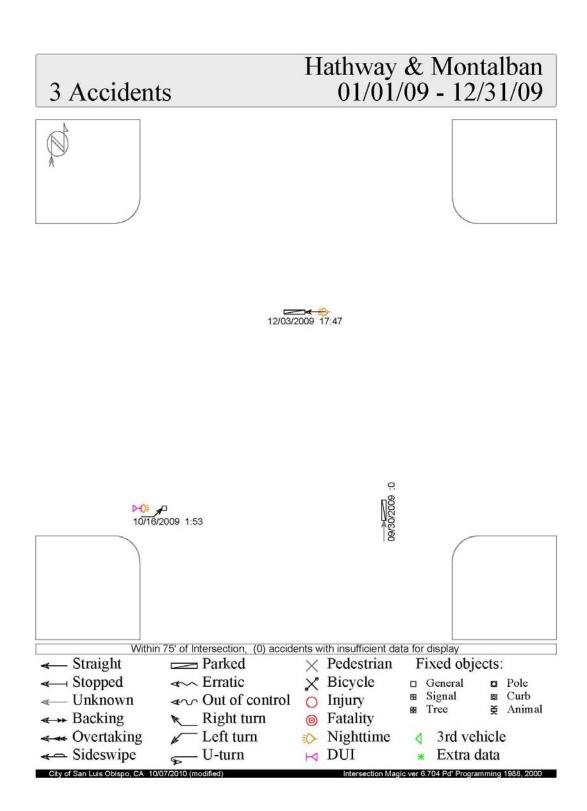




appendix 6 Local / Local Intersections

Local / Local Intersections Prioritized by Accident Rate

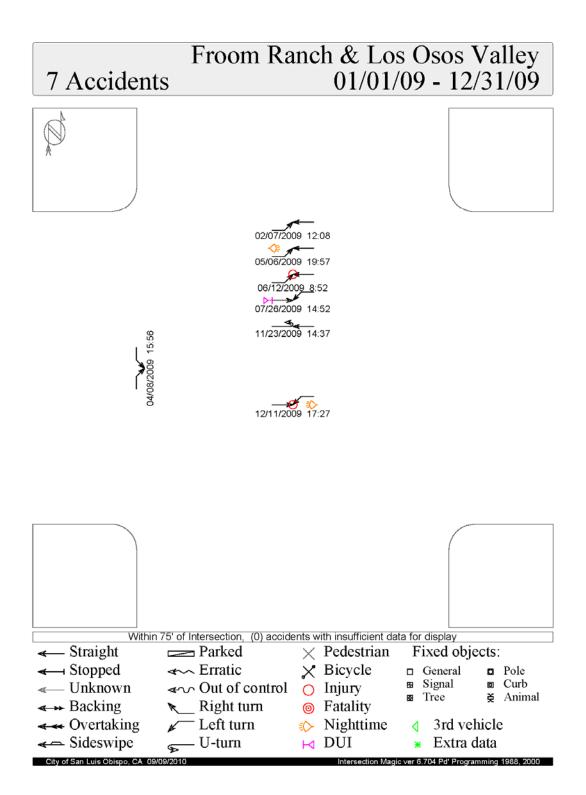
Rank	Prev. Rank	Intersection	Collisions	Volume	Rate	Control	EB	WB	NB	SB
1	Not Ranked	Hathway & Montalban	3	1,910	4.30	2-STOP	NA	1,750	<u>10</u>	<u>150</u>

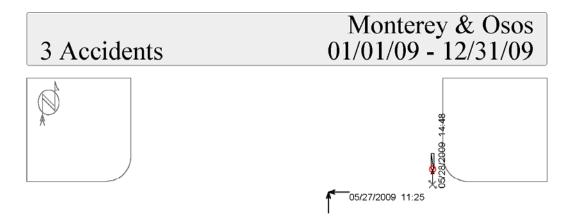


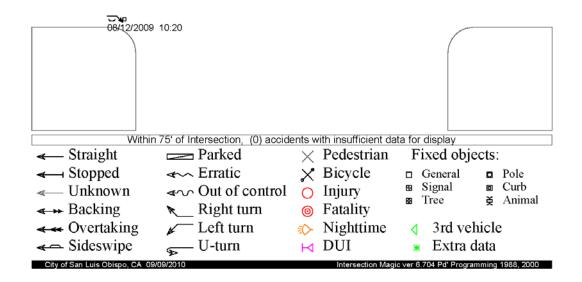
Appendix 7 Other Significant Intersections

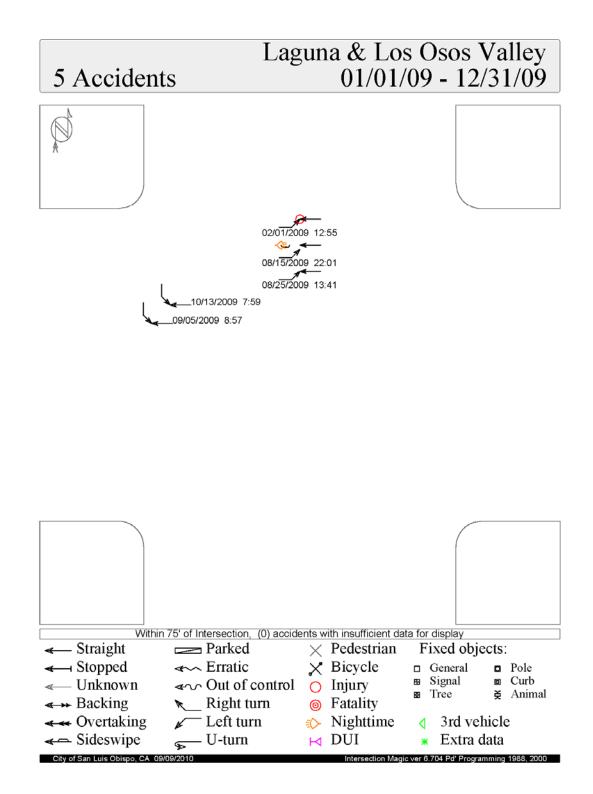
Rank	Prev. Rank	Intersection	Collisions	Volume	Rate	Control	EB	WB	NB	SB
1	18	Froom Ranch & Los Osos Valley	7	32,366	0.59	SIG	13,541	11,825	<u>500</u>	<u>6,500</u>
2	Not Ranked	Monterey & Osos	3	14,222	0.58	SIG	<u>1,589</u>	3,959	5,570	3,104
3	Not Ranked	Laguna & Los Osos Valley	5	24,485	0.56	SIG	<u>140</u>	730	11,510	12,105
4	Not Ranked	Chorro & Marsh	3	15,535	0.53	SIG	<u>10,872</u>	NA	1,664	2,999
5	Not Ranked	Palm & Santa Rosa	4	21,003	0.52	SIG	1,732	778	9,479	9,014
6	Not Ranked	Calle Joaquin & Los Osos Valley	6	31,942	0.51	SIG	13,541	14,401	<u>2,000</u>	<u>2,000</u>
7	4	Santa Rosa & Walnut	4	21,573	0.51	SIG	<u>1,200</u>	<u>1,600</u>	9,737	9,036
8	Not Ranked	Foothill & Tassajara	3	16,696	0.49	SIG	6,868	7,724	1,104	<u>1,000</u>
9	16	Los Osos Valley & Madonna	6	36,003	0.46	SIG	<u>3,000</u>	10,073	11,825	11,105
10	Not Ranked	Broad & Marsh	3	18,310	0.45	SIG	<u>10,475</u>	NA	4,532	3,303
11	Not Ranked	Chorro & Foothill	4	25,459	0.43	SIG	<u>10,357</u>	10,062	3,988	1,052
12	21	Higuera & South	4	31,796	0.34	SIG	<u>200</u>	7,899	15,261	8,436
13	9	Higuera & Madonna	4	33,480	0.33	SIG	13,771	NA	6,217	13,492
14	Not Ranked	Broad & Industrial	3	26,410	0.31	SIG	<u>150</u>	2,209	10,753	13,298
15	Not Ranked	Montalban & Santa Rosa	4	35,600	0.31	2-STOP	<u>100</u>	<u>500</u>	<u>16,700</u>	<u>18,300</u>
16	20	Broad & Tank Farm	4	38,035	0.29	SIG	9,810	4,215	11,184	12,826
17	Not Ranked	Higuera & Tank Farm	3	28,963	0.28	SIG	<u>150</u>	9,580	10,467	8,766
18	5	California & Foothill	3	28,936	0.28	SIG	<u>4,000</u>	9,787	9,401	5,748
19	22	101 S/b On/off Ramp & Madonna	3	42,668	0.19	SIG	18,762	13,006	10,700	<u>200</u>

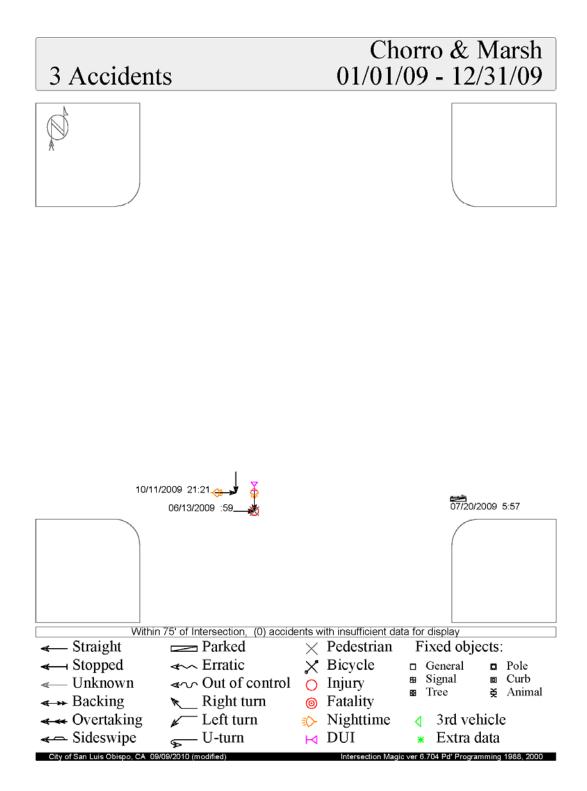
Other Significant Intersections Prioritized by Accident Rate Left turn collisions at signalized intersections

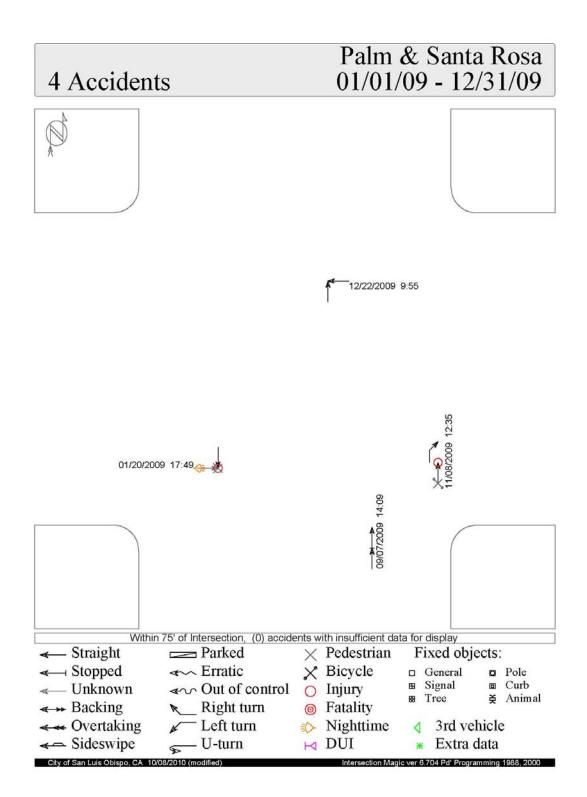






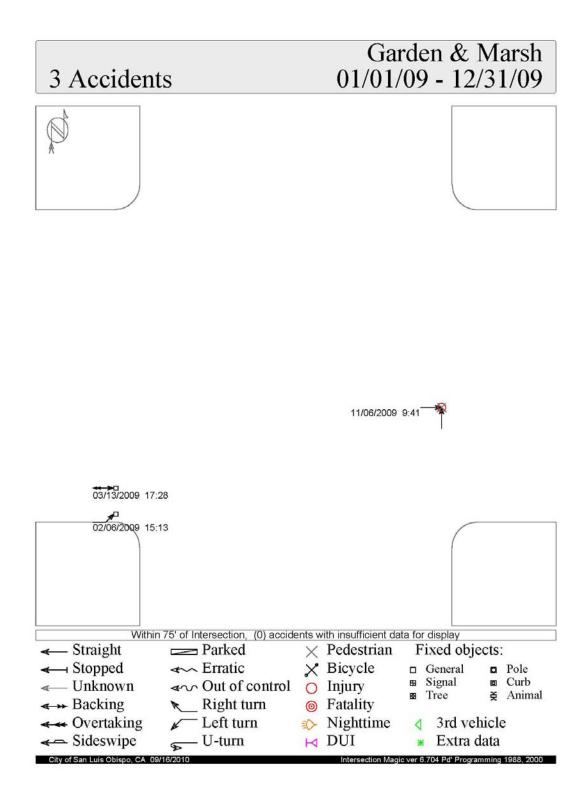


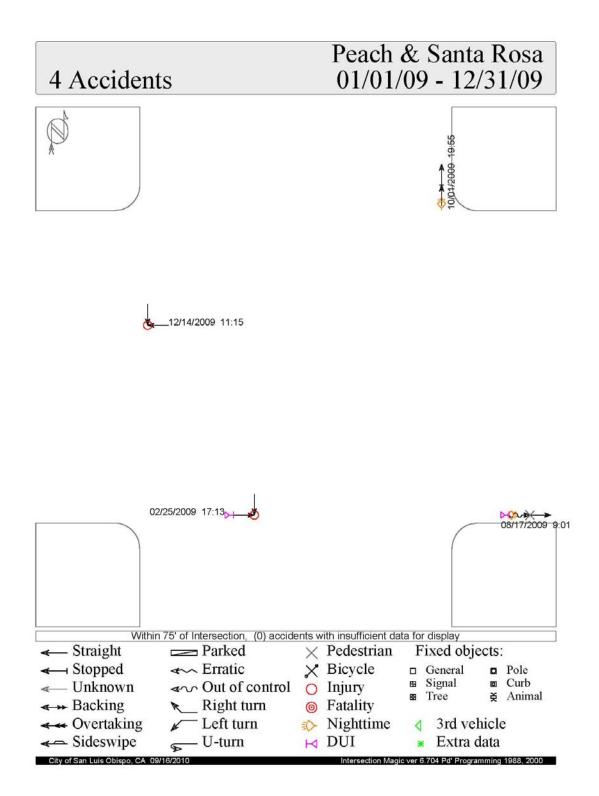


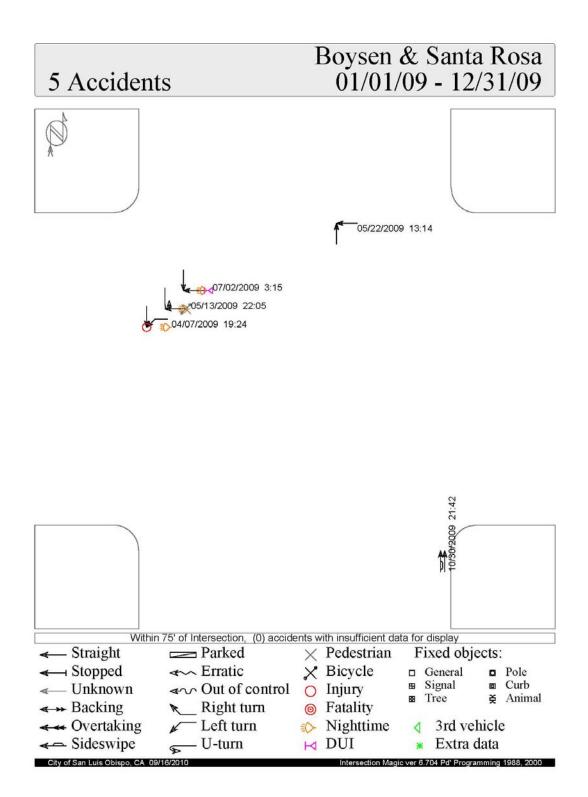


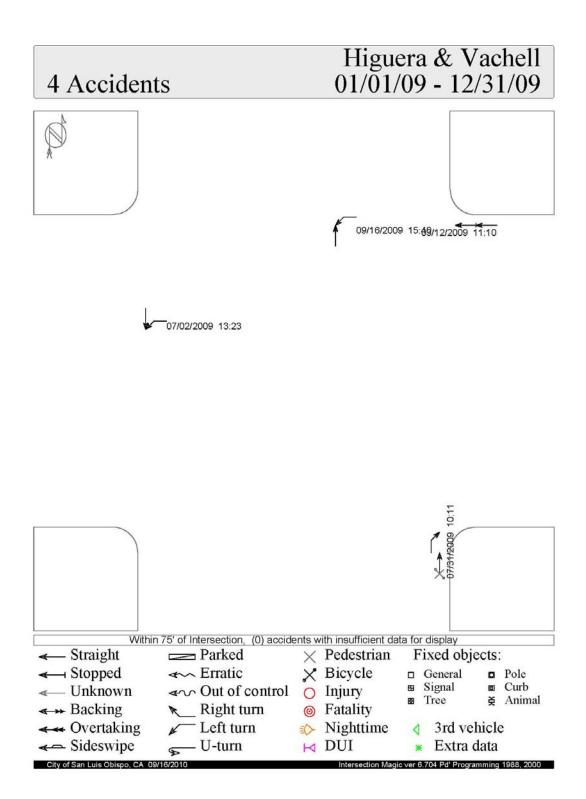
Other Significant Intersections Prioritized by Accident Rate
Collision at intersections without all-way control

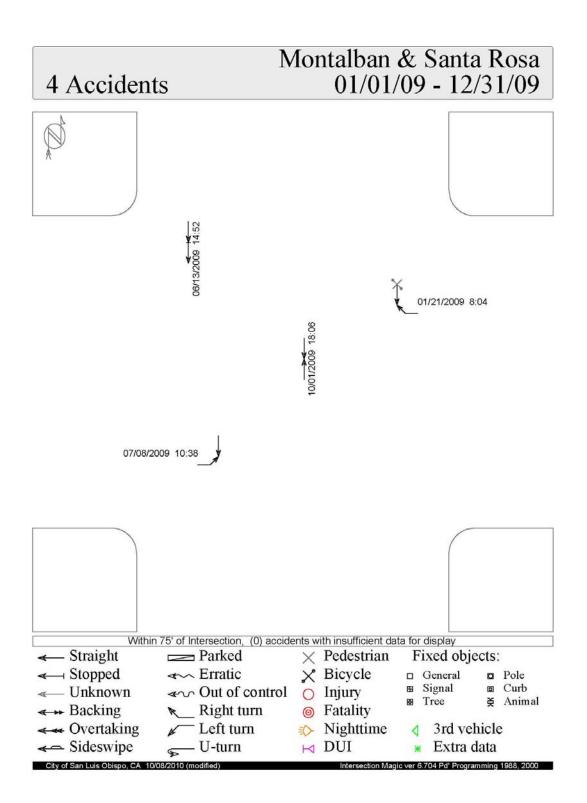
Rank	Prev. Rank	Intersection	Collisions	Volume	Rate	Control	EB	WB	NB	SB
1	Not Ranked	Garden & Marsh	3	12,872	0.64	2-STOP	<u>10,872</u>	NA	<u>2,000</u>	NA
2	Not Ranked	Peach & Santa Rosa	4	20,200	0.54	2-STOP	<u>600</u>	<u>400</u>	<u>9,700</u>	<u>9,500</u>
3	Not Ranked	Boysen & Santa Rosa	5	31,648	0.43	1-STOP	NA	<u>1,500</u>	14,068	16,080
4	Not Ranked	Higuera & Vachell	4	25,340	0.43	1-STOP	NA	<u>2,000</u>	11,282	12,058
5	3	Montalban & Santa Rosa	4	28,720	0.38	2-STOP	<u>80</u>	<u>2,000</u>	14,240	12,400
6	2	Madonna & Pereira	3	22,160	0.37	1-STOP	250	1,840	8,790	11,280







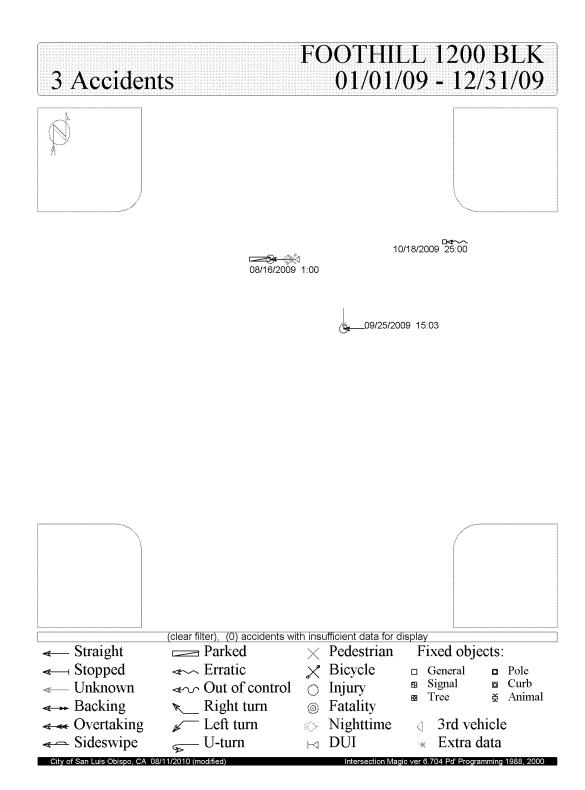


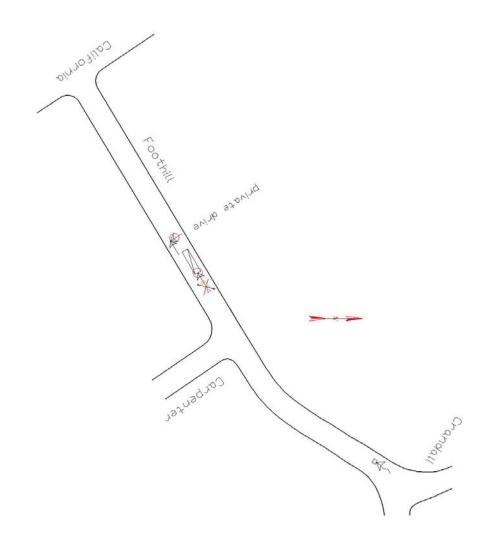


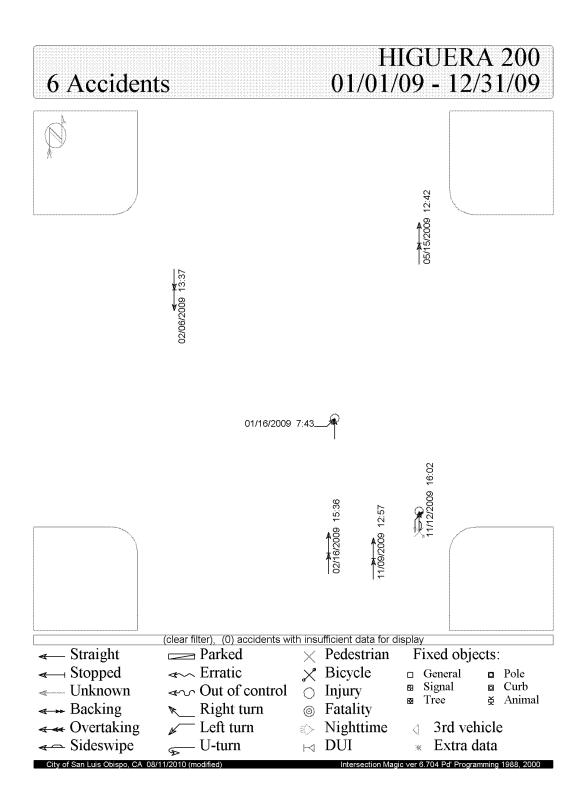
Appendix 8 Arterial Segments

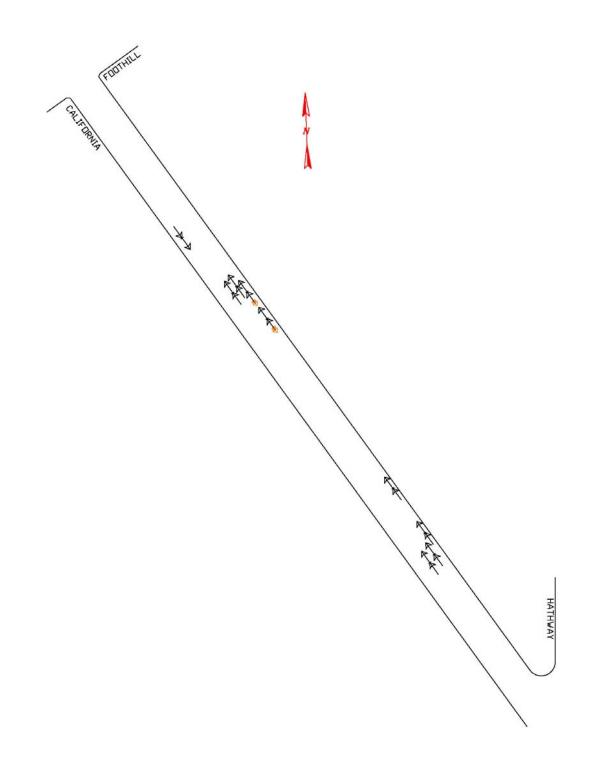
Rank	Prev. Rank	Segment	Collisions	Volume	Seg. Len.	Rate	Туре	Location
1	Not Ranked	Foothill, 1200 Block	3	4,750	0.16	10.81	Arterial	California to Crandall
3	6	Higuera, 200 Block	7	14,897	0.19	6.78	Arterial	High to South
2	Not Ranked	Higuera, 500 Block	3	7,270	0.19	5.95	Arterial	Broad to Nipomo
4	Not Ranked	Broad, 2400 Block	3	30,079	0.06	4.55	Arterial	Woodbridge to Caudill
6	Not Ranked	Higuera, 300 Block	3	13,321	0.19	3.25	Arterial	Pismo to Marsh
7	4	Foothill, 700 Block	3	19,470	0.17	2.48	Res. Arterial	Chorro to Ferrini
8	Not Ranked	Foothill, 1100 Block	3	20,120	0.17	2.40	Res. Arterial	Casa to California
9	2	Foothill, 800-900 Block	3	20,185	0.17	2.40	Arterial	Chorro to Santa Rosa
10	13	Broad, 3200-3400 Block	4	29,091	0.20	1.88	State Hwy.	Orcutt to Rockview
11	Not Ranked	Los Osos Valley, 11200 Block	3	23,615	0.19	1.83	Arterial	Royal to Prefumo Canyon
12	Not Ranked	Broad, 3800-3900 Block	3	23,579	0.21	1.66	Arterial	Industrial to Tank Farm
13	Not Ranked	Madonna, 1300-1100 Block	5	22,848	0.42	1.43	Arterial	Los Osos Valley to Oceanaire
14	Not Ranked	Broad, 3500-3700 Block	5	26,580	0.38	1.36	Arterial	Capitolio to Industrial
15	12	Madonna, 400-100 Block	4	31,673	0.32	1.08	Arterial	Dalidio to 101 Freeway

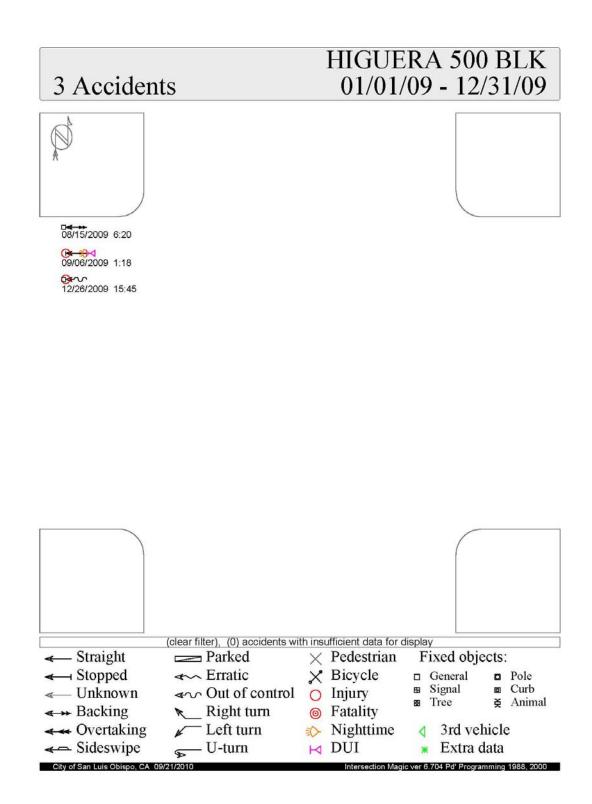
Arterial Segments Prioritized by Accident Rate

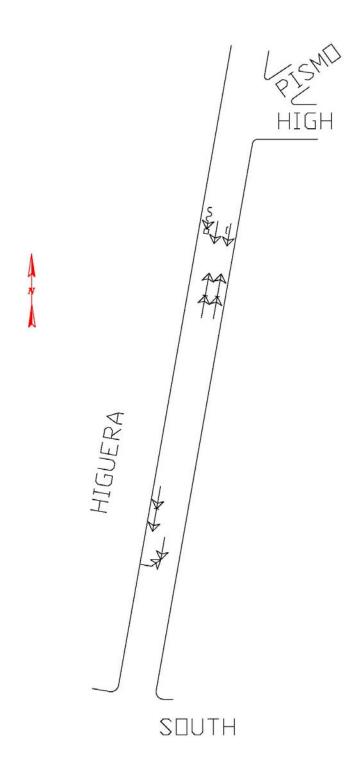


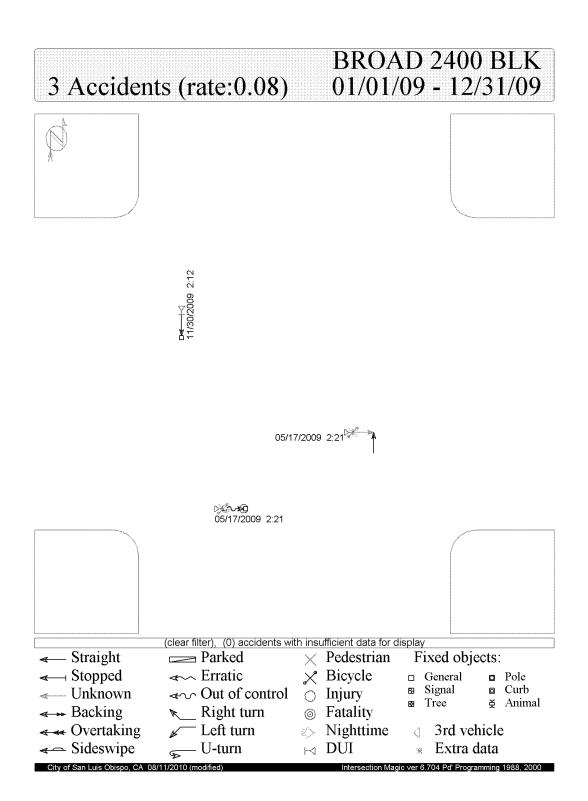


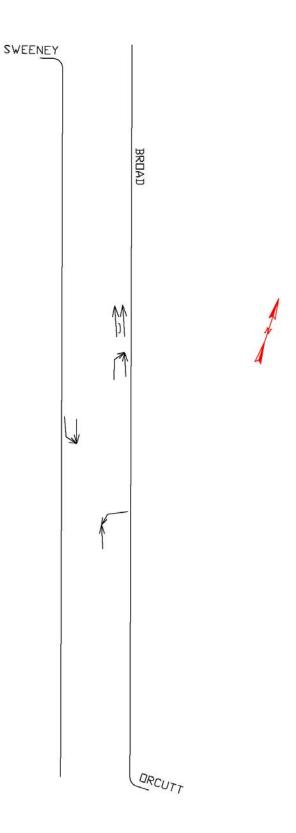


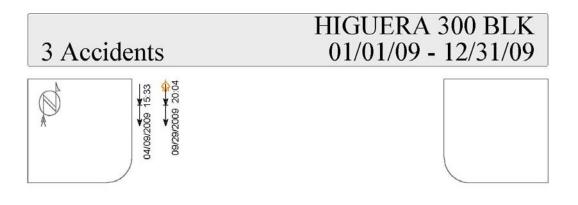


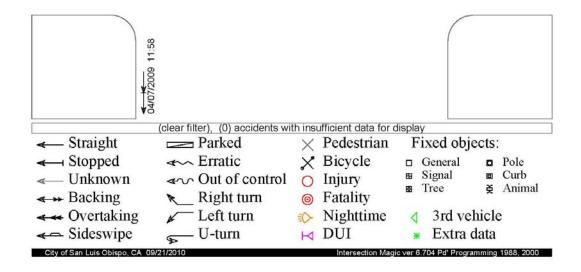


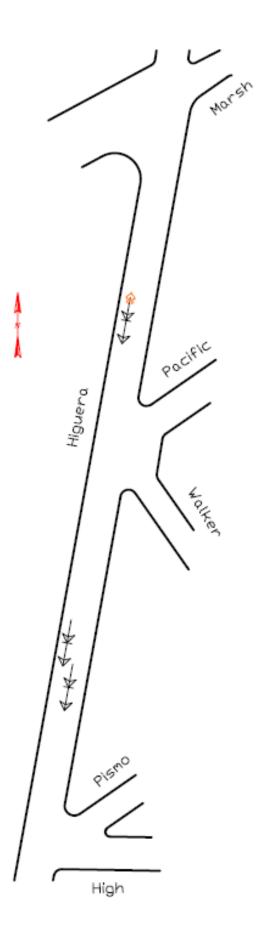












Appendix 9 Collector Segments Collector Segments Prioritized by Accident Rate

NO LOCATIONS UNDER THIS CATEGORY HAD MORE THAN 3 COLLISIONS IN 2009

Appendix 10 Local Segments Local Segments Prioritized by Accident Rate

NO LOCATIONS UNDER THIS CATEGORY HAD MORE THAN 3 COLLISIONS IN 2009