

955 MORRO ST. 93401-3208

# 2001 annual traffic safety report



Traffic Engineering Division Department of Public Works June 2002

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# 2001 traffic safety report

# JUNE 2002

# **City Council**

Allen K. Settle, Mayor Jan Howell Marx, Vice Mayor John Ewan Christine Mulholland Ken Schwartz

### **City Administration**

Ken Hampian, City Administrative Officer Wendy George, Assistant City Administrative Officer

#### **Public Works Department**

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# **Contributing Staff**

Chief Jim Gardiner, Police Department Captain Dan Blanke, Police Department Sergeant Steve Tolley, Police Department

# a message from the deputy director

Welcome to the inaugural edition of the City of San Luis Obispo, Public Works Department's first annual Traffic Safety Report. Believe me when I tell you that it's been a long time coming and I am very proud that a new age in traffic safety programs for the City has begun.

I joined the City of San Luis Obispo in August 1999 after working for the City of Ventura for five years. During those years in Ventura, I actively pursued traffic safety and operational improvements through a variety of programs and projects. One of the significant tools that was used to combat collisions was preparation of an annual traffic safety report, and corresponding mitigation program to identify, prioritize and track safety improvements that could improve the community and reduce collisions throughout the city. How effective was it?

Well, during the first ten years of that City's traffic safety program, the annual number of collisions were reduced by 30%. Ventura went from 2150 collisions per year down to 1500 per year...a net decrease of over 600 crashes per year! An impressive amount when you consider that collision rates in many other areas of the country and state were actually increasing for most of this same time period.

The intent of this annual Traffic Safety Report is to achieve similar results here in San Luis Obispo. Unfortunately, as detailed in this report, traffic collisions have been on an upward climb for the last three years within our city. We experienced over 1,100 collisions on our city streets in 2001, an increase of over 25% from recorded collisions in 1999. We have experienced 5 fatal crashes in this same three year period – a number unacceptable to us even though it is well below the national and state averages. It's through programs such as this report as well as programs like the Police Department's traffic safety enforcement program that we hope to curb these unacceptable trends and improve the safety of our motoring, walking and bicycling public.

I would like to thank Jim Hanson, Hallie Holden, Jake Hudson and members of the City Police Department for their tireless work in compiling the necessary information that has gone in to this report, the many hours disseminating that data to make recommendations for appropriate improvements and for all the future work that will be necessary to complete our tasks, meet our objectives and make our streets as safe as we can.

Sincerely

Timothy Scott Bochum, P.E. Deputy Director of Public Works

# executive summary

Annual Traffic Safety Report - 2001

In January 2001, the City initiated a comprehensive Traffic Safety Program aimed at reducing crashes at the highest crash locations in the City. This program concentrates on identifying all intersections that have experienced three or more crashes in a one-year period and then prioritizes these locations based upon crash rates as compared to similar locations within the City. Crash patterns at the highest crash rate locations are then analyzed using collision diagrams that are produced using state of the art computer software. Each of the locations are then reviewed by staff to determine if mitigation projects can be implemented to reduce the likelihood of occurrence for the identified crash patterns.

Mitigation measures for high crash rate locations for calendar year 2001 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 to maintain high levels of service for our City residents, business owners and visitors.

In general, traffic collisions have been on an upward trend in San Luis Obispo for the last three years. There were 1,139 total collisions in 2001, 11% above the previous 12 month period and 25% above collisions reported in 1999.

Injury collisions were down slightly in 2001 as compared to 2000. However, the total number of injury collisions in 2001 (264) was still 10% above the numbers recorded in 1999.

# introduction

# How to Use This Report

Every year the City of San Luis Obispo will conduct a Traffic Safety Report for the previous twelve month period in order to: 1) determine the locations within the City that appear to have the highest crash rates in comparison to like locations, 2) to determine the effectiveness of mitigation measures implemented in the previous twelve month period, 3) identify if new locations should be mitigated, and 4) determine if the types of collisions and previous collision trends have changed. This report identifies locations that may require special attention or mitigation in order to reduce crashes or severity of expected collisions. The report will normally be prepared after City crash statistics are available in April or March of the following year.

The locations mentioned in this report should not be interpreted as a list of dangerous or "least safe" intersections within the City of San Luis Obispo. The specific total of collisions for any location for any year is a function of various factors such as weather patterns, construction, roadway conditions and driver habits. Many of these factors are often difficult to identify and are most often beyond the ability of the engineer to change or control. However, the City's mitigation program attempts to identify roadway elements that can be modified so as 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 crash rates that might be common to similar locations City-wide. Traffic volumes play an important role in determining the likelihood of collision totals (The more pedestrians and vehicles that use a location...the more likely a crash will occur). This report looks to identify locations that fall above the expected rate of similar City locations and propose mitigation measures, if necessary to reduce crash potential and limit crash severity.

# section 2

# Background

# **2.1 Study Objectives**

The objective of the Annual Traffic Safety Report is essentially to identify the high crash locations in the City and track crash reductions through the various City safety programs and projects that the City administers each year. The specific objectives of the 2001 Traffic Safety Report are:

- Identify the intersections within the City associated with the highest crash rates, and thoroughly analyze collision diagrams so as to suggest remedial mitigation measures for the five highest locations that will reduce the potential for collisions, and;
- Track alternative mode transportation collisions that include bicycle and pedestrian crashes and improve warning devices at high collision locations, 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.

The Annual Traffic Safety Report will evolve as City programs and emphasis on problem solving change.

# 2.2 Study Methodology

#### Crash Data

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

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 crash record and its potential remediation would not be included in this report. However, because the CHP report may state the collision occurred within the City of San Luis Obispo, the SWITRS database might contain this as a collision under our jurisdiction. Likewise, City emergency dispatch may receive a call regarding a traffic collision but when the reporting officer arrives, the vehicles have been moved on or there is no evidence of occurrence. Therefore, statistics derived from this data is inaccurate because no official proof or record exists of the actual collision.

Reported traffic crashes 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 within the City and entered into the City's traffic collision database. These locations were then grouped by street characteristic and collision type. Collision diagrams were then generated using this data and interpretation of crash patterns were formulated. The number of collisions reported by the Police Department annually is approximately 100 to 150 higher than the number reported in this Public Works report. The reason for this discrepancy is that the Police Department report includes collisions that may have occurred on private property, such as a parking lot, while the Public Works department does not track collisions on private property because it is outside of the department's jurisdiction.

Based on the perceived crash patterns, mitigation measures are formulated for the five highest ranked crash locations for each intersection sub-category. Mitigation measures for these sub-categories will be implemented in 2002 as funding becomes available.

#### Traffic Volumes

Vehicle and pedestrian volumes play an important role in establishing crash rates for selected locations within the City. Vehicle volume counts were collected in 2001 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 crash rates for each intersection.

#### Crash Rate Calculations

Crash rates were calculated using the following formulas:

Intersections:

Where:

- RI = Intersection Crash Rate = Collision frequency per million vehicles entering the intersection.
- N = Number of crashes (collision frequency) of the location.
- V = Average daily vehicular volume using the street segment or intersection.

# section 3

# city-wide crash statistics

# 3.1 City-wide Collision Trends

Reportable crash statistics for the City are contained in Tables 3.1 and 3.2. Any reported collision within the public right-of-way that involved a fatality, personal injury or property damage was recorded as a crash. Crashes that occurred on private property, out of the public right of way, on other jurisdictions facilities, or were not reported to the police department are not entered into the City's database.

While reported crashes are not a total indicator of transportation crashes 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 crashes and private property crashes go unreported and as such are highly unreliable in determining "high profile" crash locations or areas of concern. Table 3.1 indicates the reported traffic collision history of the City.

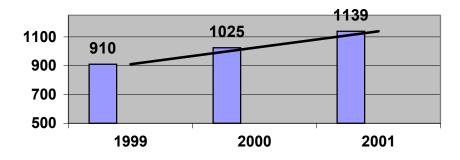
|      |               | Total R  | eported |          |
|------|---------------|----------|---------|----------|
| Year |               | Crash    | es on   |          |
|      |               | Public : | Streets |          |
|      | Intersections | % Change | Total   | % Change |
| 1999 | 587           | -        | 910     | -        |
| 2000 | 646           | +10.05   | 1,025   | +12.57   |
| 2001 | 766           | +18.58   | 1,139   | +11.12   |

#### Table 3.1 - City-wide Annual Collision Data

Source: City of San Luis Traffic Collision Database

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

#### Figure 3.1 - Three Year Collision Trend



In general collisions in San Luis Obispo have been increasing over the last few years. Total collisions have increased approximately 11.8 % per year for the three year period from 1999 to 2001.

# **3.2 Injury And Fatal Collision Trends**

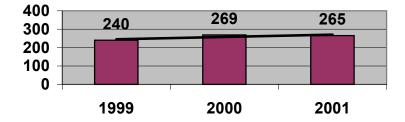
**Injury Crashes** 

The Traffic Engineering Division tracks injury and fatal crashes as part the current Traffic Safety Program. Table 3.2 depicts the injury crash information as recorded by the City.

#### Table 3.2 - City-wide Annual Injury and Fatal Crashes

| Year | Total Injury<br>Crashes | % Change | % of Total<br>Crashes | Fatal<br>Crashes | % Change |
|------|-------------------------|----------|-----------------------|------------------|----------|
| 1999 | 240                     | -        | 26.37                 | 2                | -        |
| 2000 | 269                     | +12.08   | 26.24                 | 2                | 0        |
| 2001 | 265                     | -1.5     | 23.26                 | 1                | - 50     |

#### Figure 3.2 - Three Year Injury Collision Trend



#### Fatal Crashes

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. However, the City's Traffic Safety program attempts to reduce fatal crashes by removing conflicting vehicular and pedestrian movements at appropriate locations, limit crash severity through improvements to roadway design features, and promoting traffic safety through an aggressive community outreach program.

There was one (1) traffic fatality recorded in 2001 upon City streets. Table 3.3 compares the fatal traffic crashes within the City with national averages.

### **3.3 Comparison with National, State and County Rates**

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

The table below 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.

|                           | 2001 Fatalitie | s*                        |                                |
|---------------------------|----------------|---------------------------|--------------------------------|
|                           | Fatalities     | Population<br>(Thousands) | Rate Per 100,000<br>Population |
| Nationally                | 41,821         | 274,634                   | 15.23                          |
| State Wide                | 3,753          | 32,521                    | 11.54                          |
| County of San Luis Obispo | 31             | 239                       | 12.97                          |
| City of San Luis Obispo   | 1              | 45                        | 2.24                           |
|                           | 2001 Injuries  | S*                        |                                |
|                           | Injuries       | Population<br>(Thousands) | Rate Per 100,000<br>Population |
| Nationally*               | 3,189,000      | 274,634                   | 1,161                          |
| State Wide                | 303,023        | 32,521                    | 932                            |
| County of San Luis Obispo | 1,877          | 239                       | 785                            |
| City of San Luis Obispo   | 330            | 45                        | 739                            |

#### Table 3.3 - Comparison of Injury & Death Rates

\* National, State, and County Statistics are from 2000 because 2001 information was not available at the time this report was being produced.

### **3.3 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 crashes. 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 crashes that occurred within its jurisdiction in a given time period. It is a measure of the productivity lost and expenses incurred because of the crashes. 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 crashes to workers.

The information below shows the average economic costs in 2001 per death (not per fatal crash), per injury (not per injury crash), and per property damage crash. These cost estimates are based upon 200 actual crash cost calculations.

#### Table 3.4 - Economic Costs, 2001

| Collision Type                                   | <b>Dollar Loss</b> |
|--|--------------------|
| Death  | \$1,000,000        |
| Nonfatal disabling injury                        | \$35,300           |
| Incapacitating injury                            | \$47,900           |
| Non-incapacitating evident injury                | \$16,000           |
| Possible injury                                  | \$9,700            |
| Property damage crash (including minor injuries) | \$6,500            |

Source: National Highway Traffic Safety Administration (Traffic Safety Facts 2000)

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 air bags or smoke detectors.

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 crashes. The information below shows the average comprehensive costs in 2001 on a per person basis. These cost estimates are based upon 2000 actual crash cost calculations.

Currently, City collision reports injury crashes only if reported at the crash 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 3.6 shows the 2001 economic costs in crashes to the City using annual cost estimates.

#### Table 3.5 - Comprehensive Costs, 2001

| Collision Type                        | <b>Dollar Loss</b> |  |
|---------------------------------------|--------------------|--|
| Death                                 | \$3,214,290        |  |
| Incapacitating injury (a)             | \$159,449          |  |
| Non-incapacitating evident injury (a) | \$41,027           |  |
| Possible injury (a)                   | \$19,528           |  |
| No injury                             | \$1,861            |  |

Source: National Highway Traffic Safety Administration (Traffic Safety Facts 2000)

### Table 3.6 - City of San Luis Obispo Economic Costs, 2001 Traffic Crashes

|      |   |                     | C   | rash Type              |       |                     |                      |
|------|---|---------------------|-----|------------------------|-------|---------------------|----------------------|
| Year |   | Death               |     | capacitating<br>Injury | Prope | erty Damage<br>Only | Total Dollar<br>Loss |
|      |   | Cost <sup>(a)</sup> |     | Cost <sup>(a)</sup>    |       | Cost <sup>(a)</sup> |                      |
| 2001 | 1 | \$1,000,000         | 330 | \$5,280,000            | 873   | \$5,674,500         | \$11,954,500         |

Economic costs are based upon 2000 cost estimates.

While the dollar amounts depicted in Table 3.6 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 crashes that occur within the City. The total cost amount depends highly on the crash type and is proportional to the severity of each type of crash type.

# alternative mode transportation safety

# **4.1 Pedestrian Crashes**

In January 2000 a City-wide pedestrian crossing policy was adopted by the City Council. This policy is designed to ultimately bring all of the pedestrian crossings in the City to a consistent standard. As the policy continues to be implemented over the next several years it is anticipated that pedestrian crashes will decline City-wide.

The following table lists the various types of pedestrian related crashes as detailed in the Police Reports.

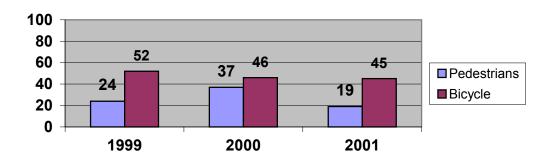
| Year | Total Reported<br>Pedestrian and Bicycle Crashes on<br>Public Streets |          |         |          |  |
|------|---|----------|---------|----------|--|
|      | Pedestrian  | % Change | Bicycle | % Change |  |
| 1999 | 24  | -        | 52      | -        |  |
| 2000 | 37  | +54%     | 46      | -12%     |  |
| 2001 | 19  | -49%     | 45      | -2%      |  |

#### Table 4.1 - Pedestrian And Bicycle Annual Collision Data

Source: City of San Luis Traffic Collision Database

Variations in yearly crashes are to be expected. While total crashes are a good indicator of the overall crash performance of the City, injury and fatality crashes are better indicators of changes in collision trends and are the most reliable crash indicators when monitoring the safety of a transportation system. Table 4.2 below lists the number and type of pedestrian collisions that occurred in 2001. The location and general description of the 2001 Bicycle collisions can be found in Appendix 7.

#### Figure 4.1 – Bicycle and Pedestrian Collision Trends



| Pedestrian Collision Type   | 2001 | %    |
|-----------------------------|------|------|
| Signal                      | 8    | 42%  |
| Out of Crosswalk - Midblock | 3    | 16%  |
| Uncontrolled - Unmarked     | N/A  | 0%   |
| Crosswalk Major/Collector   |      |      |
| Uncontrolled - Unmarked     | N/A  | 0%   |
| Crosswalk Local             |      |      |
| Uncontrolled - Marked       | 1    | 5%   |
| Not in Road (Sidewalk)      | N/A  | 0%   |
| In Road (not crossing)      | 2    | 11%  |
| Stop - Marked Crosswalk     | 1    | 5%   |
| Stop - Unmarked Crosswalk   | 4    | 21%  |
| Total:                      | 19   | 100% |

# Table 4.2 – 2001 Pedestrian Collisions by Type

# 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 measures on their streets. The policy identifies the petition process and neighborhood surveys that are used to demonstrate majority support for implementation of specific options. Table 5.1 outlines the NTM actions implemented in 2001.

#### Table 5.1 - 2001 NTM Requests and Status

| Street           | Action  |
|------------------|---|
| High Street      | Painted edge lines and speed markings along roadway             |
| Margarita Avenue | Installed All-Way Stop controls at three four-way intersections |

### **5.2 Completed Traffic Safety Improvements**

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 traffic safety improvements were completed in 2001:

- a. Modified Johnson Avenue between Laurel and Orcutt from a four-lane roadway to a three-lane roadway (one thru lane in each direction with a two-way-left-turn-lane).
- b. Modified San Luis Drive between California and Johnson from a four-lane roadway to a three-lane roadway (one thru lane in each direction with turn pockets).
- c. Added a left turn pocket to the eastbound approach of Mill Street at the intersection with Santa Rosa.
- d. Installed painted crosswalks at City controlled signalized intersections along Santa Rosa Street.
- e. Installed pedestrian signal heads at the Osos/Higuera intersection.

- f. Added protective-permissive left turn phase for northbound Higuera at Los Osos Valley Road and installed new NB left turn lane. Installed right-turn overlap phase and prohibited right turns on red for southbound vehicles on Higuera.
- g. Installed a southbound left turn lane on Higuera Street at the intersection with Vachell Lane
- h. Upgraded the school crosswalk to Hi-Visibilitiy and improved signage on Balboa at Lakeview.
- i. Increased intersection sight distances at the Buchon / Nipomo Intersection.
- j. Video detection was installed at the following signalized intersections to improve motor vehicle and bicycle detection, safety and timing:
  - Johnson Avenue @ San Luis Drive
  - Johnson Avenue @ Lizzie Street
  - Johnson Avenue @ Bishop Street
  - Johnson Avenue @ Laurel Lane
  - South Higuera Street @ Los Osos Valley Road
  - South Higuera Street @ Industrial Way
  - South Higuera Street @ Tank Farm Road
  - South Higuera Street @ Prado Road
  - South Higuera Street @ Margarita Avenue
  - Santa Rosa Street @ Monterey Street
  - Santa Rosa Street @ Mill Street
  - Monterey Street @ Johnson Avenue
  - Monterey Street @ California Boulevard

# 2001 high crash rate locations

#### **6.1 Intersections**

#### Prioritization by Crash Rate

The evaluation of intersections using crash rates (number of collisions per million entering vehicles) is standard practice in traffic engineering. This method of evaluation is often chosen over pure numbers because the number of collisions generally increases with in 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.

Crash rates per million vehicles entering an intersection were calculated for all intersections within the City with three or more crashes. These crash rates were then used in order to prioritize intersections so that locations with the highest rates were ranked at the top of the list. To address safety concerns at all types of locations, intersections were broken down into the following subgroups:

#### TYPE OF INTERSECTION

APPENDIX

Arterial/Arterial Intersections Arterial/Collector Intersections Arterial/Local Intersections Collector /Collector Intersections Collector /Local Intersections Local / Local Intersections Appendix 1 Appendix 2 Appendix 3 Appendix 4 Appendix 5 Appendix 6

#### Safety Analysis

Collision diagrams were developed for the top five intersections based on collision rates in Tables 6.1 through 6.6, and these intersections were then analyzed using collision diagram interpretation techniques. Based upon crash patterns as identified in each diagram, mitigation measures and safety improvement recommendations are 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 crash information for each of these locations are included in Appendices 1 through 6.

# Table 6.1 - Recommendations For Intersections Involving Two Arterial Streets

| Marsh & Osos<br>16 Accidents (rate:2.31) 01/01/01 - 12/31/01  | Intersection Ranking: 1                      |   |
|---|--|---|
| ø   | _  | PATTERN: EB thru-SB thru right angle  |
|   | Marsh Street at Osos                         | · · · · · · · · · · · · · · · · · · ·   |
|   |  |   |
|   | Street                                       |   |
| osos  |  | <b>RECOMMENDATION:</b> Signal timing should be adjusted to modify yellow and  |
| <sub>×</sub> د 'د   |  | all-red times. Improve visibility of SB Osos signal heads.  |
|   | Rate: 2.31 / MEV                             | ,   |
|   |  |   |
|   |  |   |
| MARSH<br>when 75 of instruction; (i) accords with subflower data for deploy<br>   |  | ACTION: Signal timing to be adjusted in Summer 2002 as part of downtown   |
| =Stopped arErratic ≥ Bicycle o General = Prin<br>=Unknown ar-y-Out of control ⊃ Injury = Stand = Curb<br>aBicking >Right tars ⊕ Fatalay = True = Animal |  | coordination improvements. Install mast arm and overhead signal housing for   |
|   |  | SB Osos Street. (Estimated cost: \$35,000)  |
|   |  |   |
|   |  |   |
| Johnson & Monterey  | Internetien Develviner O                     |   |
| 8 Accidents (rate:1.35)         Johnson & Monterey<br>01/01/01 - 12/31/01   | Intersection Ranking: 2                      |   |
| 8 Accidents (rate:1.35) Johnson & Monterey<br>01/01/01 - 12/31/01   | Intersection Ranking: 2                      | PATTERN: No distinct collision pattern.   |
| 8 Accidents (rate:1.35) 01/01/01 - 12/31/01   | Intersection Ranking: 2<br>Johnson Avenue at | PATTERN: No distinct collision pattern.   |
| 8 Accidents (rate:1.35) 01/01/01 - 12/31/01   | Johnson Avenue at                            | PATTERN: No distinct collision pattern.   |
| 8 Accidents (rate:1.35) 01/01/01 - 12/31/01   |  |   |
| 8 Accidents (rate:1.35) 01/01/01 - 12/31/01   | Johnson Avenue at                            | <b>RECOMMENDATION:</b> There was significant construction activity at this  |
| 8 Accidents (rate:1.35) 01/01/01 - 12/31/01   | Johnson Avenue at<br>Monterey Street         | <b>RECOMMENDATION:</b> There was significant construction activity at this intersection for several months during 2001 because of the Monterey waterline          |
| 8 Accidents (rate:1.35) 01/01/01 - 12/31/01   | Johnson Avenue at                            | <b>RECOMMENDATION:</b> There was significant construction activity at this  |
| 8 Accidents (rate:1.35) 01/01/01 - 12/31/01   | Johnson Avenue at<br>Monterey Street         | <b>RECOMMENDATION:</b> There was significant construction activity at this intersection for several months during 2001 because of the Monterey waterline          |
| 8 Accidents (rate:1.35) 01/01/01 - 12/31/01   | Johnson Avenue at<br>Monterey Street         | <b>RECOMMENDATION:</b> There was significant construction activity at this intersection for several months during 2001 because of the Monterey waterline          |
| 8 Accidents (rate:1.35) 01/01/01 - 12/31/01   | Johnson Avenue at<br>Monterey Street         | <b>RECOMMENDATION:</b> There was significant construction activity at this intersection for several months during 2001 because of the Monterey waterline project. |
| 8 Accidents (rate:1.35) 01/01/01 - 12/31/01   | Johnson Avenue at<br>Monterey Street         | <b>RECOMMENDATION:</b> There was significant construction activity at this intersection for several months during 2001 because of the Monterey waterline          |
| 8 Accidents (rate:1.35) 01/01/01 - 12/31/01   | Johnson Avenue at<br>Monterey Street         | <b>RECOMMENDATION:</b> There was significant construction activity at this intersection for several months during 2001 because of the Monterey waterline project. |

| 8 Accidents (rate:1.29) Marsh & Santa Rosa<br>01/01/01 - 12/31/01   | Intersection Ranking: 3 |   |
|---|-------------------------|---|
| ø   |                         | PATTERN: EB left turn/thru-SB thru  |
|   | Marsh Street at Santa   |   |
| ~   | Rosa Street             |   |
| ANTA ROSA   |                         | <b>RECOMMENDATION:</b> Signal timing should be adjusted to modify yellow and all-<br>red times. The visibility of the EB Marsh and the SB Santa Rosa signal heads<br>should be improved.                |
| MARSH   | Rate: 1.29 / MEV        |   |
| - Straph - Straph - Straph - Foldowski Pa<br>- Ulawa - O But of Straph - Straph - Straph<br>- Baking - Egit in S Foldowski Pa<br>- Baking - Egit in S Foldow<br>- Straph - Ender<br>- Baking - Egit in S Foldowski Pa<br>- Straph - Ender<br>- Baking - Edward - BB |                         | <b>ACTION:</b> Signal timing to be adjusted in Summer 2002 as part of downtown coordination improvements. Install mast arms and signal heads for EB Marsh and SB Santa Rosa. (Estimated cost: \$45,000) |

| Higuera & Osos<br>5 Accidents (rate:1.04) 01/01/01 - 12/31/01 | Intersection Ranking: 4 |  |
|---|-------------------------|--|
| \$  |                         | PATTERN: Rear-End  |
|   | Higuera Street at Osos  |  |
|   | Street                  |  |
|   |                         | <b>RECOMMENDATION:</b> There was significant construction activity at this intersection for several months during 2001 because of the Higuera Bridge   |
|   | Rate: 1.04 / MEV        | project.   |
| HIGUERA   |                         | <b>ACTION:</b> Signal head and pole locations improved as part of 2001 Higuera Street Bridge project. Pedestrian signal heads and textured crosswalks were also installed to improve crossings. Continue to monitor. |

| 3 Accidents (rate:0.95) Johnson & Orcutt<br>01/01/01 - 12/31/01 | Intersection Ranking: 5<br>Johnson Avenue at<br>Orcutt Road | PATTERN: No distinct collision pattern.  |
|---|---|--|
|   |   | RECOMMENDATION: None   |
|   | Rate: 0.95 / MEV  | <b>ACTION:</b> Striping on the SB approach of Johnson Avenue was revised and newly restriped as part of the 2001 overlay project. Continue to monitor. |

# Table 6.2 - Recommendations For Intersections Involving Arterial/Collector Streets

| 8 Accidents Higuera & High & Pismo<br>01/01/01 - 12/31/01  | Intersection Ranking: 1<br>Higuera Street at High<br>Street and Pismo<br>Street<br>Rate: 0.87 / MEV | PATTERN: No distinct collision pattern.         RECOMMENDATION: Change phase 7 ped to phase 1 ped to improve pedestrian crossing of Higuera Street on the north side of the intersection. Extend yellow and all-red times. Realign intersection as part of the Higuera widening project. |
|--|---|--|
| Straight unit Parlamenter, Blandmer des Valuer des Valuer     Straight unit Parlait >> Polarismer des Valuer des Valuer     Straight |   | <b>ACTION:</b> Implement changes in Summer 2002. Higuera widening project is currently under design and will be constructed in FY 2002-03.   |
| 5 Accidents (rate:0.99) 01/01/01 - 12/31/01  | Intersection Ranking: 2   |  |
| e e  | Broad Street at Pismo<br>Street   | PATTERN: No distinct collision pattern.  |
| BROAD  |   | <b>RECOMMENDATION:</b> Signal timing should be adjusted to modify yellow and all-red times.  |
|  | Rate: 0.99 / MEV  |  |
| PISMO<br>  |   | <b>ACTION:</b> Signal timing to be adjusted in Summer 2002 as part of downtown coordination improvements. SLOCOG has recommended funding for signal detection  |

| 5 Accidents (rate:0.96) Broad & Buchon<br>01/01/01 - 12/31/01 | Intersection Ranking: 3          | PATTERN: No distinct collision pattern.   |
|---|----------------------------------|---|
|   | Broad Street at<br>Buchon Street |   |
| BROAD   |                                  | <b>RECOMMENDATION:</b> Signal timing should be adjusted to modify yellow and all-red times.   |
|   | Rate: 0.96 / MEV                 |   |
| BUCHON<br>  |                                  | <b>ACTION:</b> Signal timing to be adjusted in Summer 2002 as part of downtown coordination improvements. SLOCOG has recommended funding for signal detection and surveillance improvements at this intersection in 2005. |

| El Mercado & Madonna<br>9 Accidents (rate:0.71) 01/01/01 - 12/31/01   | Intersection Ranking: 4 |  |
|---|-------------------------|--|
| ø   |                         | PATTERN: WB Left turn / EB Thru, Rear end  |
|   | Madonna Road at El      |  |
|   | Mercado Road            |  |
| LMER  |                         | <b>RECOMMENDATION:</b> Signal timing should be adjusted to extend yellow and all-red |
| ICAD  |                         | times. Signal should be coordinated with Dalidio / Madonna intersection.             |
| 0   | Rate: 0.71 / MEV        |  |
|   |                         |  |
| MADONNA<br>When TF of instruction, the activities with insufficient data for faulty   |                         | <b>ACTION:</b> Timing will be adjusted and coordination implemented in Summer 2002.  |
| =- Straight Generation Fined objects:     =- Straight Generation Fined objects:     =- Unknown e-> Entric ≥ Bitycide Generation Fined objects:     =- Unknown e-> Out of control ⊂ Bytary = Stand     =- Stand     =- Strain = Final Backing => Stand |                         |  |
| <ul> <li>         ••• Overtaking</li></ul>  |                         |  |
|   |                         |  |
|   |                         |  |

| 6 Accidents Madonna & Oceanaire<br>01/01/01-12/31/01  | Intersection Ranking: 5            | PATTERN: No distinct collision pattern.   |
|---|------------------------------------|---|
| ~   | Madonna Road at<br>Oceanaire Drive |   |
| <b>b</b> ecome  |                                    | <b>RECOMMENDATION:</b> Signal timing should be adjusted to extend yellow and all-red times.                     |
|   | Estimated Rate:<br>0.70 / MEV      |   |
| Straight the Tr of strategies (a solitest at inspace (as to four<br>Straight the Tr of strategies (a solitest at inspace (as to four<br>Straight = 0 for the X Buyels = 0 one as Pair<br>Subset = 0 for the Straight = 0 one as Pair<br>Subset = 0 for the Straight = 0 one as Pair<br>Subset = 0 for the Straight = 0 for the Straight = 0 one<br>Subset = 0 for the Straight = 0 for the Straight = 0 one<br>Subset = 0 for the Straight = 0 for the Straight = 0 one<br>Subset = 0 for the Straight = 0 |                                    | <b>ACTION:</b> Signal timing to be adjusted in Summer / Fall 2002 as part of Madonna coordination improvements. |
|   |                                    |   |

# Table 6.3 - Recommendations For Intersections Involving Arterial/Local Streets

| Monterey & Morro<br>6 Accidents (rate:2.27) 01/01/01 - 12/31/01   | Intersection Ranking: 1 |   |
|---|-------------------------|---|
| S Accidents (rate:2.27) 01/01/01 - 12/31/01   |                         | PATTERN: Vehicles colliding with parked cars on Morro.  |
|   | Monterey Street at      |   |
|   | Morro Street            |   |
| MORRO   |                         | <b>RECOMMENDATION:</b> Increase clear area at the intersection for improved vehicle maneuverability.  |
|   | Rate: 2.27 / MEV        |   |
| Bucking Characteristics of the second s |                         | <b>ACTION:</b> Remove the first parking space on each side of Morro at the intersection.  |
| Broad & Pacific   | Intersection Ranking: 2 |   |
| 11 Accidents (rate:2.23) 01/01/01 - 12/31/01  |                         | PATTERN: NB Thru - WB Thru Right Angle, SB Thru - WB Thru Right   |
|   | Broad Street at Pacific | Angle, NB Thru - EB Thru Right Angle  |
|   | Street                  |   |
| BROAD   |                         |   |
|   | Rate: 2.23 / MEV        | <b>RECOMMENDATION:</b> Reviewed intersection for signal warrants. The intersection meets the Collision Traffic Signal Warrant. It is recommended that a signal be installed at this intersection. |
| PACIFIC      White 3F of Intersection: (I) societes with resultions data for finding     Straight   |                         |   |
| — Steppel → Ernste X Bryck Stepsel A Anno Ste  |                         | <b>ACTION:</b> Design and install a traffic signal at this intersection. (Estimated cost: \$150,000)  |

| Beebee & South           10 Accidents         01/01/01 - 12/31/01   | Intersection Ranking: 3 |  |
|---|-------------------------|--|
| Ø   |                         | PATTERN: WB Left v. WB Thru Rear-End   |
|   | South Street at         |  |
| tonton<br>Sonton<br>Summer  | BeeBee Street           |  |
|   |                         | <b>RECOMMENDATION:</b> Install EB & WB left turn lanes for vehicles turning onto   |
| eventee (72)  | Fatimated Dates         | BeeBee from South Street.  |
| ¥   | Estimated Rate:         |  |
|   | 1.85 / MEV              |  |
| SOUTH     South Start Sta |                         | <b>ACTION:</b> This section of road is Caltrans jurisdiction. Caltrans is currently in   |
| = Unknown Oto of control ⊖ lipiny = Super = Con-<br>=   |                         | the process of designing left turn improvements at this location. Continue to monitor this intersection after Caltrans has installed improvements. |
|   |                         | monitor unis intersection alter Califans has installed improvements.   |
|   |                         |  |

| 8 Accidents 01/01/01 - 12/31/01  | Intersection Ranking: 4        |   |
|--|--------------------------------|---|
| ¢  | South Street at Parker         | PATTERN: WB Thru v. SB Right & SB Left Right-Angle  |
|  | Street                         | <b>RECOMMENDATION:</b> The SLO Transit Bus shelter on the northeast corner of this intersection is inhibiting sight distance. The bus shelter should be |
| Lessen<br>Server   | Estimated Rate:<br>1.533 / MEV | relocated to the east to improve sight distance.  |
| SOUTH           • Bright         → Drade           • Singht         → Drade           • Singht         → Drade           • Bocking         > Refer to the set of the s |                                | <b>ACTION:</b> Coordinate with SLO Transit and Caltrans to relocate this shelter, Summer 2002.  |

| 6 Accidents (rate:1.52) Garden & Higuera<br>01/01/01 - 12/31/01   | Intersection Ranking: 5            | PATTERN: WB Rear End  |
|---|------------------------------------|---|
|   | Higuera Street at<br>Garden Street |   |
| GARDEN  | Rate: 1.52 / MEV                   | <b>RECOMMENDATION:</b> Bring Higuera Street pedestrian crossing up to City pedestrian crossing standards by adding the appropriate signing and improving the pavement markings. |
| HIGUERA      HIGUERA      The transmiss of transmiss of transmission of transmission     Higgs and transmission of transmission     Higgs and transmission of transmission     Higgs and transmission     Hig |                                    | <b>ACTION:</b> Will implement changes in Summer 2002.   |

# Table 6.4 - Recommendations For Intersections Involving Collector/Collector Streets

| 4 Accidents Chorro & Mill         | Intersection Ranking: 1<br>Chorro Street at Mill<br>Street | PATTERN: WB Thru – NB Thru Right Angle   |
|-----------------------------------|--|--|
| Strategy - Units     Subscription | Estimated Rate:<br>1.1 / MEV                               | <b>RECOMMENDATION:</b> Conduct all-way stop control warrants analysis.<br><b>ACTION:</b> Intersection does not meet State warrants, continue to monitor. |

# Table 6.5 - Recommendations For Intersections Involving Collector/Local Streets

| 6 Accidents 01/01/01 - 12/31/01  | Intersection Ranking: 1           | PATTERN: WB Thru / NB & SB Thru right angle   |
|--|-----------------------------------|---|
|  | Pismo Street at Morro<br>Street   |   |
| PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PISMO<br>PI | Estimated Rate:<br>4.57 / MEV     | <b>RECOMMENDATION:</b> This intersection is part of the Morro Street Bike<br>Boulevard project currently under design. The Bike Boulevard design is<br>proposing to install bulb-outs on Pismo Street at this intersection. The<br>installation of bulb-outs will allow the Stop Bars on Morro Street to be moved<br>closer to Pismo Street, improving sight distance. If the bulb-outs are not<br>installed as part of the Bike Boulevard, additional parking restrictions should be<br>implemented to improve sight distance. |
|  |                                   | <b>ACTION:</b> As part of Morro Street Bike Boulevard plans include bulb-outs or additional parking restrictions along Pismo Street (Install additional 5.5m of red curb along the south curb line, install additional 6.8m of red curb along the north curb line) to improve visibility of approaching motorists. Continue to monitor.   |
| 3 Accidents 01/01/01 - 12/31/01  | Intersection Ranking: 2           | PATTERN: No distinct collision pattern.   |
|  | Buchon Street at<br>Nipomo Street |   |
| NIPOMO   |                                   | <b>RECOMMENDATION:</b> Improve approach visibility.   |
| BUCHON Straight Terminal Selection in Industry and PrintStraight Terminal Selection in Industry and PrintStraight Selection in Industry in IndustryStraight Selection in IndustryStraig  | Estimated Rate:<br>2.74 / MEV     | <b>ACTION:</b> In February 2002 City installed additional red curb at this intersection to restrict parking for improved sight distance. Continue to monitor.   |

| 3 Accidents (rate:2.71) Buchon & Morro<br>01/01/01 - 12/31/01   | Intersection Ranking: 3          |  |
|---|----------------------------------|--|
| <b>1111111111111</b>  | Buchon Street at<br>Morro Street | PATTERN: NB Thru - EB Thru Right Angle   |
| MORRO<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer<br>Stringer | Rate: 2.71 / MEV                 | <b>RECOMMENDATION:</b> This intersection is part of the Morro Street Bike<br>Boulevard project currently under design. The Bike Boulevard design is<br>proposing operational changes at this intersection. These include changing the<br>stop control from Morro Street to Buchon Street. If this switch does not occur<br>as part of the Bike Boulevard, sight distance should be improved at this<br>location. |
| - = Oversking → Lefters © Nijhtine ( 3d vakde<br>+ = Slevenge - Uters ⇒ DG = Ens de   |                                  | <b>ACTION:</b> As part of the Bike Boulevard plans install modified stop control or additional parking restrictions to improve visibility. Continue to monitor.  |

| Archer & Pismo<br>3 Accidents 01/01/01 - 12/31/01  | Intersection Ranking: 4       |   |
|--|-------------------------------|---|
| 8  |                               | PATTERN: NB Thru / WB Thru  |
|  | Pismo Street at Archer        |   |
| '  | Street                        |   |
| ARCHER   |                               | <b>RECOMMENDATION:</b> Improve sight distance for EB and WB approaches.               |
| ER   | Fatimento d Data              |   |
|  | Estimated Rate:<br>1.83 / MEV |   |
|  |                               | ACTION: Install 26.1m of red curb along the south curbline, improve sight             |
| PISMO     When 37 of transattore, 10 accident with insufficient fails for dispersive     Straight     Game Parked X Polentrian Fixed objects:     with Stopped and Entries X Disperse in General in Pole   |                               | distance across the street by installing 20.2 m of red curb along the north curbline. |
| = Unknown -e Out of control ○ Ispury is Name     = Backing → Right taus     = Right taus     = Statistical → Statistical → Statistical → Statistical     = Statistical → Statistical |                               | curbine.  |
| (b) Jos Markada, Son Ellis (1999).   |                               |   |

| 3 Accidents 01/01/01 - 12/31/01   | Intersection Ranking: 5 | PATTERN: No distinct collision pattern. |
|---|-------------------------|---|
| P   | Chorro Street at        | FATTERN. No distinct comsion patient.   |
|   | Walnut Street           |   |
| CHORRC  |                         | RECOMMENDATION: None.                   |
| RO  | Estimated Rate:         |   |
| 2   | 0.91 / MEV              |   |
| Big      WALNUT     With Ty Financia (), Research of the first of |                         | ACTION: Continue to monitor.            |
|   |                         |   |

# Table 6.6 - Recommendations For Intersections Involving Local/Local Streets

| 6 Accidents<br>6 Accidents<br>7 Accidents<br>7 Accident<br>7 | Intersection Ranking: 1<br>Carmel Street at<br>Pacific Street<br>Estimated Rate:<br>5.98 / MEV | PATTERN: Various right angle.         RECOMMENDATION: Intersection satisfies multi-way stop warrants. Parking removal for sight distance for visibility improvements is not an option because on-street parking is severely impacted in this area.         ACTION: Install multi-way stop control. (Estimated cost: \$900) |
|---|--|--|
| Accidents<br>01/01/01 - 12/31/01  | Intersection Ranking: 2<br>Casa Street at Murray<br>Street<br>Estimated Rate:<br>2.81 / MEV    | PATTERN: No distinct pattern.         RECOMMENDATION: None.         ACTION: Continue to monitor.   |

| 3 Accidents 01/01/01 - 12/31/01  | Intersection Ranking: 3        | PATTERN: No distinct pattern. |
|--|--------------------------------|-------------------------------|
| L_I  | Peach Street at Toro<br>Street |                               |
| TORO   |                                | RECOMMENDATION: None.         |
| PEACH<br>MILT of disputes and the second secon | Estimated Rate:<br>2.74 / MEV  | ACTION: Continue to monitor.  |

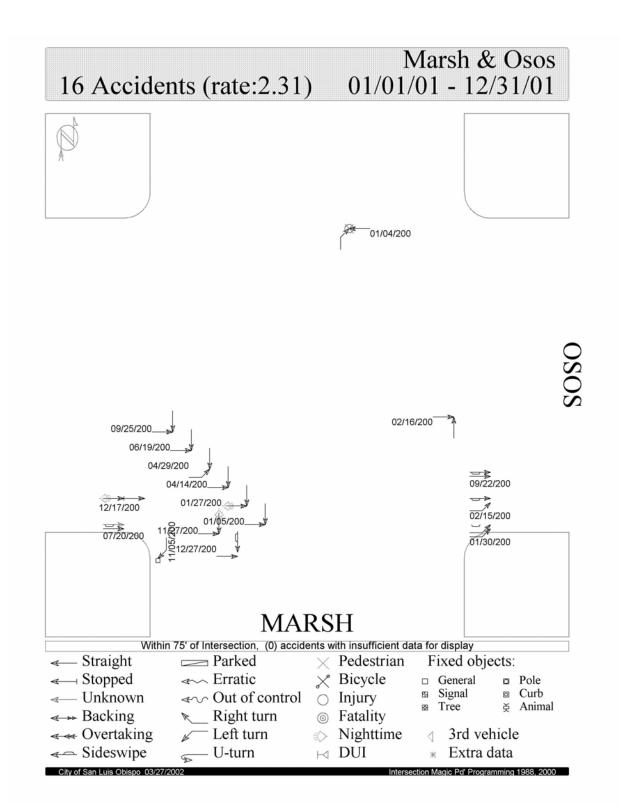
| Beach & Pacific<br>3 Accidents 01/01/01 - 12/31/01  | Intersection Ranking: 4 |                               |
|---|-------------------------|-------------------------------|
| 8   |                         | PATTERN: No distinct pattern. |
| r -   | Beach Street at Pacific |                               |
|   | Street                  |                               |
| BEACH   |                         | RECOMMENDATION: None.         |
| H   |                         |                               |
|   | Estimated Rate:         |                               |
|   | 3.29 / MEV              | ACTION: Continue to monitor.  |
| PACIFIC     Projection of the second se |                         |                               |
|   |                         |                               |
|   |                         |                               |
|   |                         |                               |

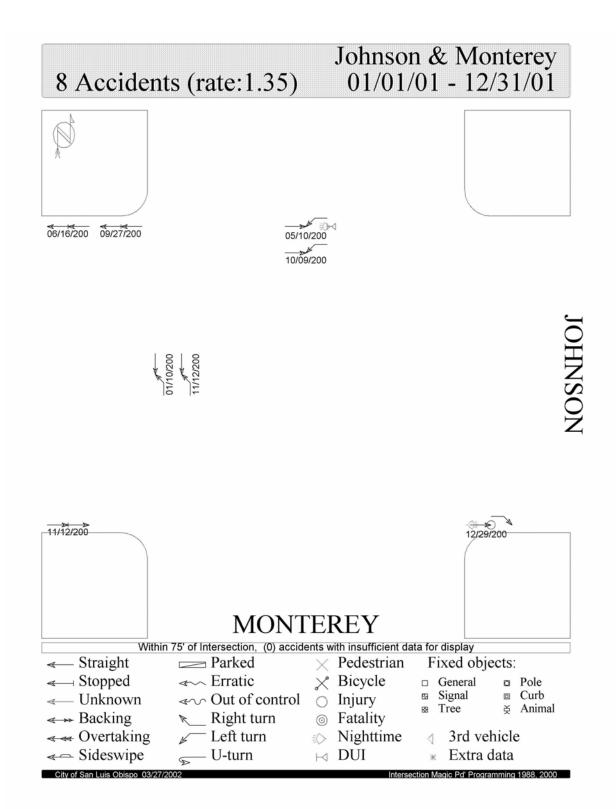
| 4 Accidents 01/01/01 - 12/31/01 | Intersection Ranking: 5 Morro Street at Pacific | PATTERN: No distinct pattern.  |
|---------------------------------|---|--|
| ~                               | Street  |  |
| 100RRO                          | Estimated Rate:<br>1.70 / MEV                   | <b>RECOMMENDATION:</b> This intersection has been under construction as part of the Marsh Street Garage expansion project for a significant portion of the year. |
| PACIFIC                         |   | ACTION: Continue to monitor.   |

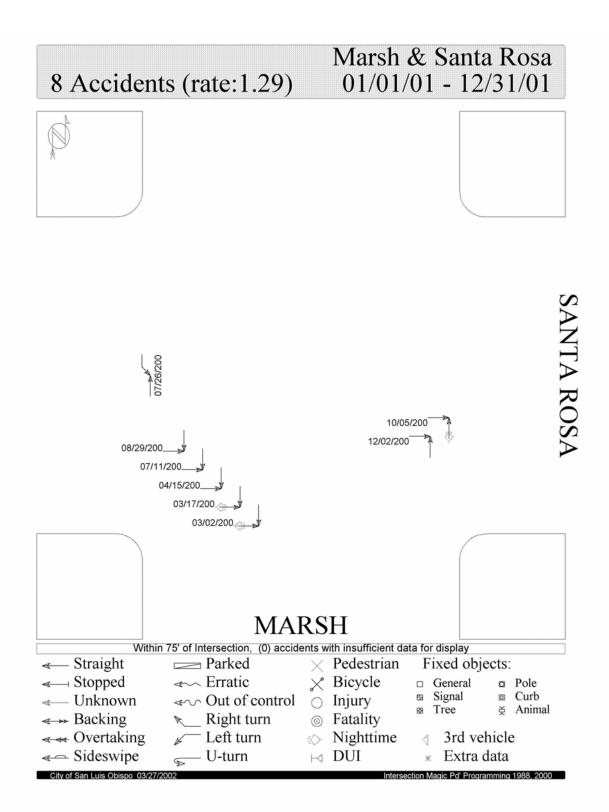
#### Appendix 1 Arterial / Arterial Intersections

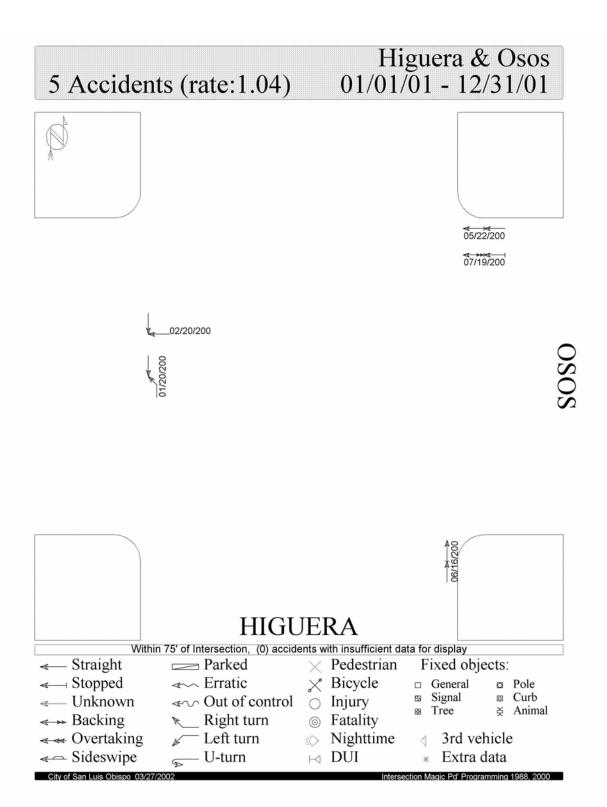
| Rank  | Intersection Total Ac               |         | Entering    | Accident Rate | Traffic |
|-------|-------------------------------------|---------|-------------|---------------|---------|
| Ralik |                                     | in 2001 | Volume      | per MEV       | Control |
| 1     | Marsh / Osos                        | 16      | 18,979      | 2.310         | SIG     |
| 2     | Johnson / Monterey                  | 8       | 16,184      | 1.354         | SIG     |
| 3     | Marsh / Santa Rosa                  | 8       | 17,033      | 1.287         | SIG     |
| 4     | Higuera / Osos                      | 5       | 13,178      | 1.040         | SIG     |
| 5     | Johnson / Orcutt                    | 3       | 8,686       | 0.946         | SIG     |
| 6     | Higuera / Nipomo                    | 5       | 14,622      | 0.937         | SIG     |
| 7     | Foothill / Santa Rosa               | 18      | 52,783      | 0.934         | SIG     |
| 8     | Higuera / Marsh                     | 9       | 28,690      | 0.859         | SIG     |
| 9     | Monterey / Santa Rosa               | 9       | 29,209      | 0.844         | SIG     |
| 10    | Broad / Higuera                     | 4       | 13,196      | 0.830         | SIG     |
| 11    | Los Osos Valley / Madonna           | 9       | 31,658      | 0.779         | SIG     |
| 12    | Laurel / Orcutt                     | 4       | 14,734      | 0.744         | 2 WAY   |
| 13    | Broad / Marsh                       | 6       | 22,907      | 0.718         | SIG     |
| 14    | California / Foothill               | 7       | 28,518      | 0.672         | SIG     |
| 15    | Higuera / Prado                     | 5       | 20,546      | 0.667         | SIG     |
| 16    | Higuera / Madonna                   | 7       | 29,375      | 0.653         | SIG     |
| 17    | Chorro / Higuera                    | 4       | 17,277      | 0.634         | SIG     |
| 18    | Marsh / Nipomo                      | 4       | 17,916      | 0.612         | SIG     |
| 19    | Los Osos Valley / Hwy 101 NB On-Off | 4       | 20,976 Est. | 0.522         | SIG     |
| 20    | Higuera / Johnson                   | 3       | 16,173      | 0.508         | 2 WAY   |
| 21    | Higuera / South                     | 5       | 27,567      | 0.497         | SIG     |
| 22    | Higuera / Los Osos Valley           | 5       | 29,680      | 0.462         | SIG     |
| 23    | Higuera / Tank Farm                 | 4       | 25,238      | 0.434         | SIG     |
| 24    | Johnson / Laurel                    | 3       | 19,017      | 0.432         | SIG     |
| 25    | Broad / South                       | 5       | 32,879 Est. | 0.417         | SIG     |
| 26    | Higuera / Santa Rosa                | 4       | 27,190      | 0.403         | SIG     |
| 27    | Monterey / Grand                    | 4       | 27,328 Est. | 0.401         | SIG     |
| 28    | Johnson / San Luis                  | 3       | 22,782      | 0.361         | SIG     |
| 29    | California / Monterey               | 3       | 33,666      | 0.244         | SIG     |
| 30    | Broad / Tank Farm                   | 3       | 35,101      | 0.234         | SIG     |

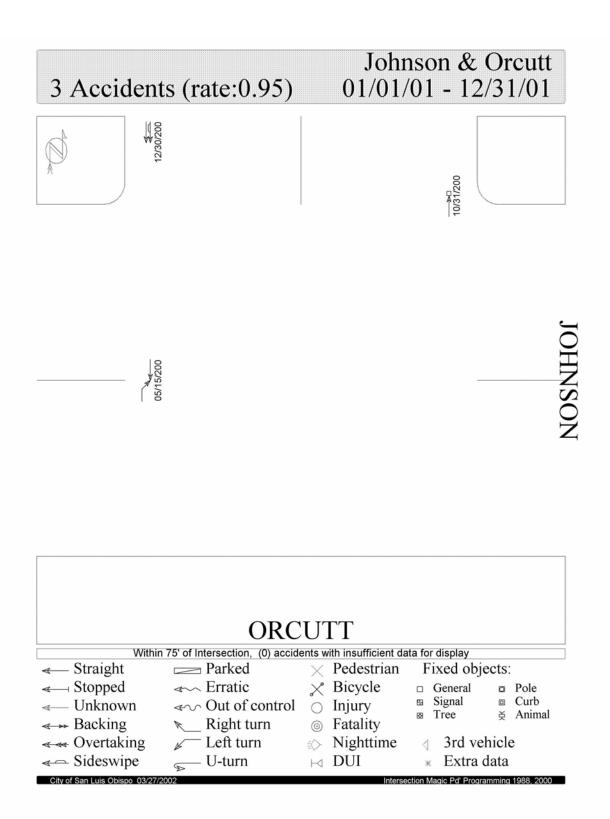
Arterial / Arterial Intersections Prioritized by Accident Rate









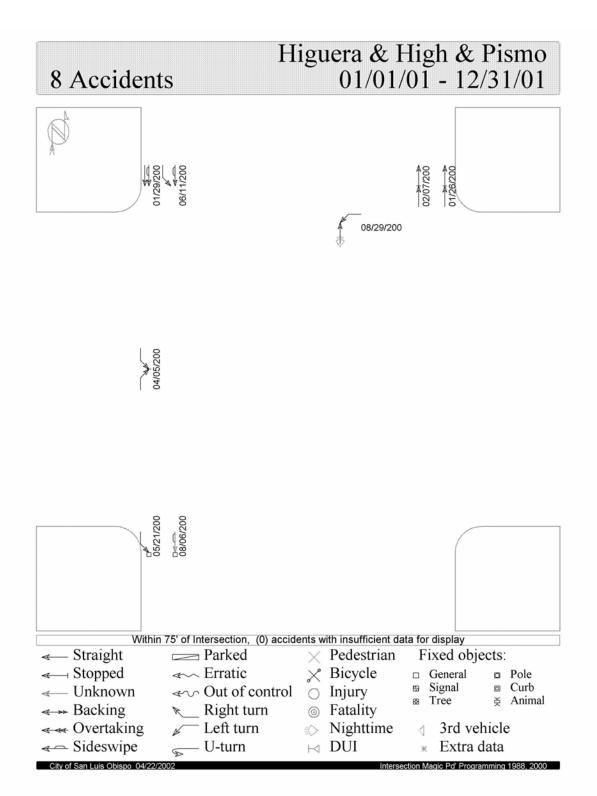


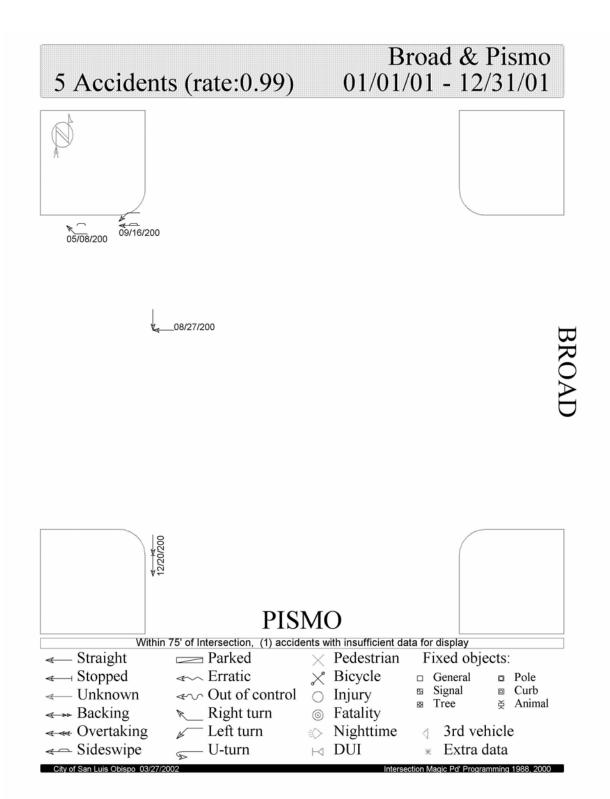
## appendix 2

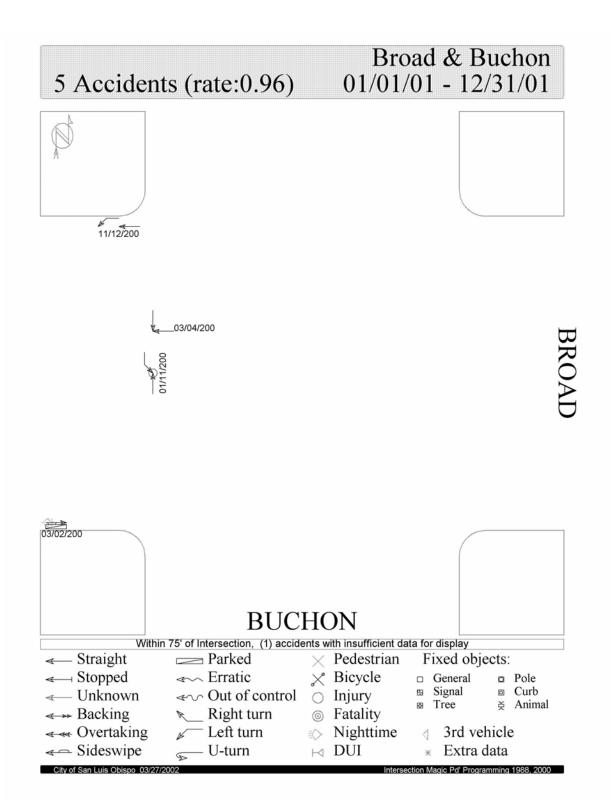
Arterial / Collector Intersections

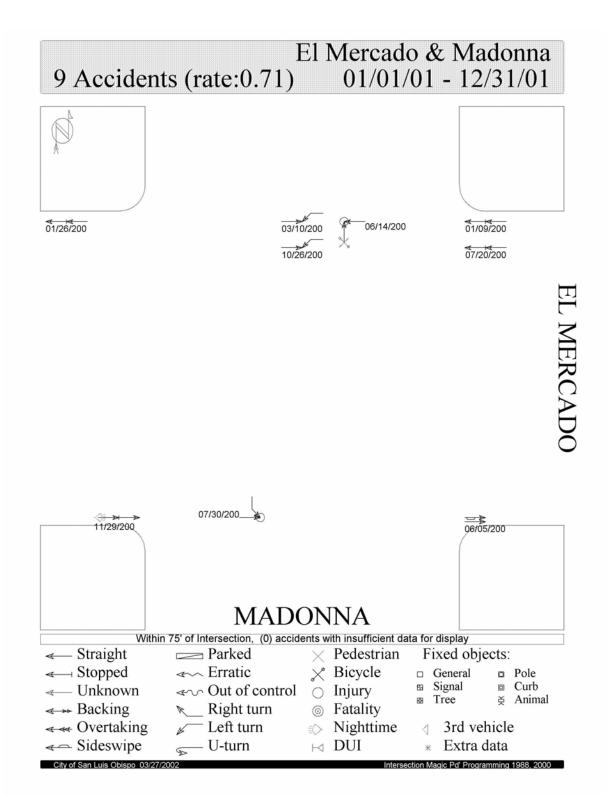
| Rank | Intersection                | Total<br>Accidents in<br>2001 | Entering<br>Volume | Accident<br>Rate per<br>MEV | Traffic<br>Control |
|------|-----------------------------|-------------------------------|--------------------|-----------------------------|--------------------|
| 1    | High / Higuera / Pismo      | 8                             | 22,039 Est.        | 0.995                       | SIG                |
| 2    | Broad / Pismo               | 5                             | 13,791             | 0.993                       | SIG                |
| 3    | Broad / Buchon              | 5                             | 14,202             | 0.965                       | SIG                |
| 4    | Madonna / El Mercado        | 9                             | 34,884             | 0.707                       | SIG                |
| 5    | Madonna / Oceanaire         | 6                             | 23,487             | 0.700                       | SIG                |
| 6    | Santa Barbara / High        | 4                             | 16,000 Est.        | 0.685                       | 2 WAY              |
| 7    | Santa Rosa / Mill           | 5                             | 23,396             | 0.586                       | SIG                |
| 8    | California / Mill           | 4                             | 19,043             | 0.575                       | SIG                |
| 9    | Osos / Buchon               | 6                             | 30,438             | 0.540                       | SIG                |
| 10   | Johnson / Buchon            | 4                             | 25,394             | 0.432                       | 2 WAY              |
| 11   | Santa Rosa / Palm           | 4                             | 26,917             | 0.407                       | SIG                |
| 12   | Broad / Industrial          | 4                             | 27,345             | 0.401                       | SIG                |
| 13   | Johnson / Pismo             | 3                             | 22,926             | 0.359                       | 2 WAY              |
| 14   | Los Osos Valley / Oceanaire | 3                             | 24,901             | 0.330                       | 2 WAY              |
| 15   | California / Hathway        | 3                             | 26,500 Est.        | 0.310                       | 2 WAY              |

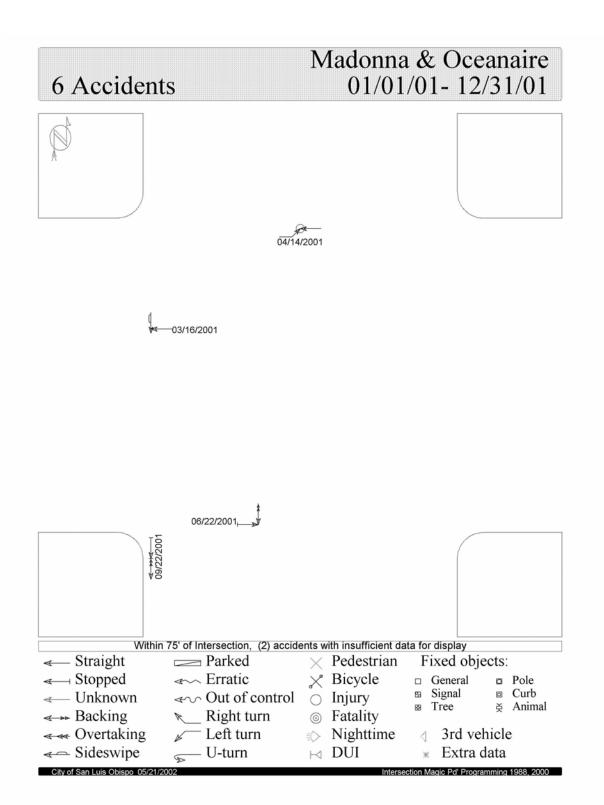
Arterial / Collector Intersections Prioritized by Accident Rate









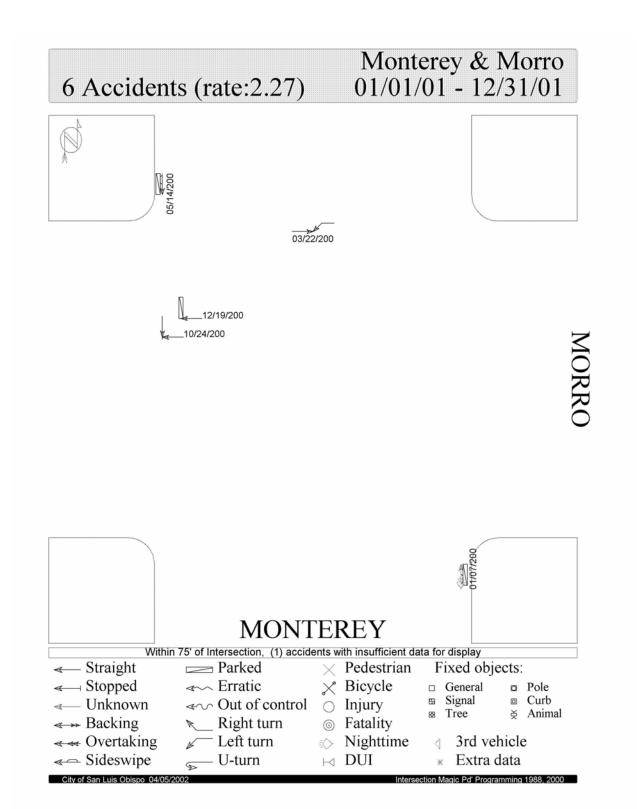


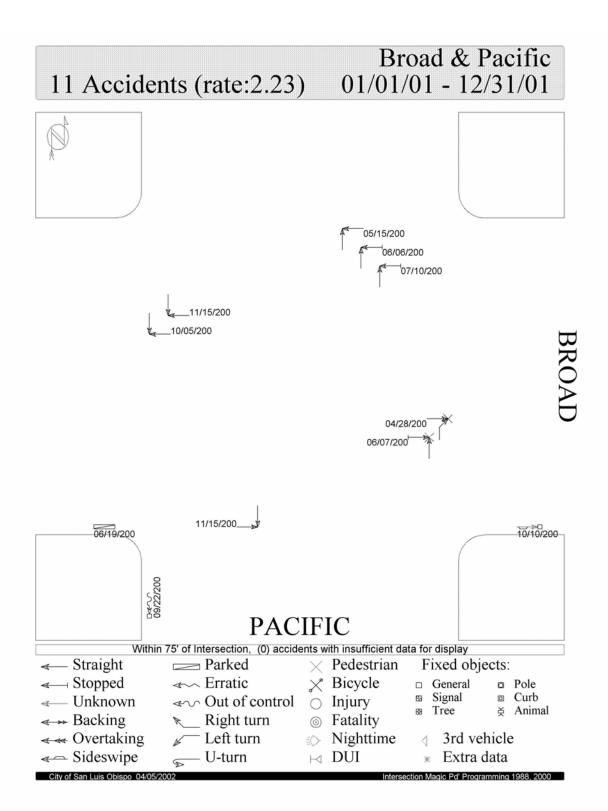
## appendix 3

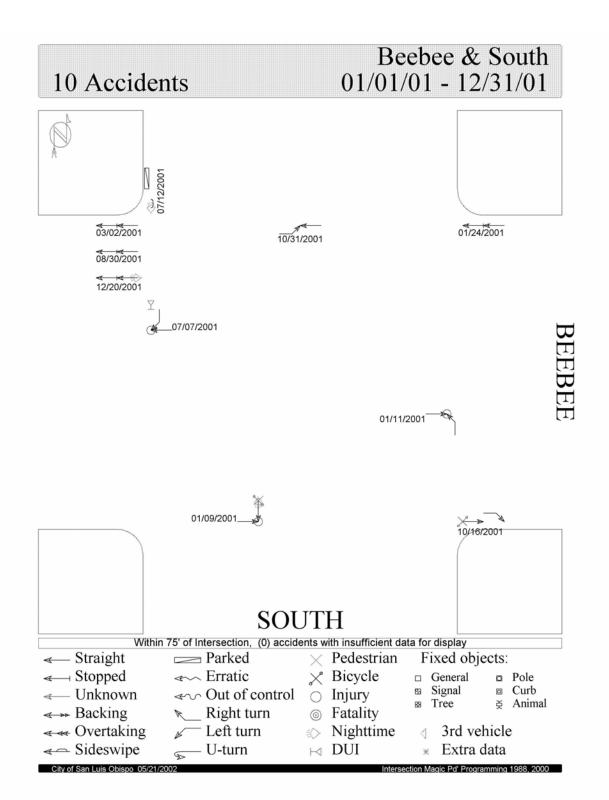
Arterial / Local Intersections

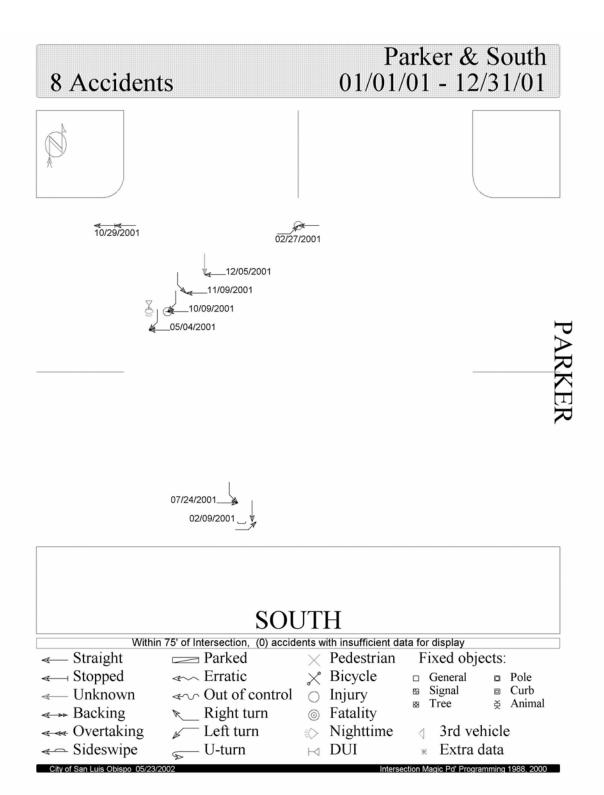
| Rank | Intersection                    | Total<br>Accidents<br>in 2001 | Entering<br>Volume | Accident<br>Rate per<br>MEV | Traffic<br>Control |
|------|---------------------------------|-------------------------------|--------------------|-----------------------------|--------------------|
| 1    | Monterey / Morro                | 6                             | 7,204              | 2.270                       | SIG                |
| 2    | Broad / Pacific                 | 11                            | 13,489             | 2.234                       | 2 WAY              |
| 3    | South / BeeBee                  | 10                            | 14,800 Est.        | 1.850                       | 2 WAY              |
| 4    | South / Parker                  | 8                             | 14,300 Est.        | 1.533                       | 2 WAY              |
| 5    | Higuera / Garden                | 6                             | 10,850             | 1.515                       | 2 WAY              |
| 6    | Marsh / Morro                   | 9                             | 16,435             | 1.500                       | SIG                |
| 7    | South / Lawton                  | 5                             | 14,146             | 0.968                       | 2 WAY              |
| 8    | Marsh / Carmel                  | 5                             | 14,305 Est.        | 0.958                       | 2 WAY              |
| 9    | Broad / Branch                  | 3                             | 8,700 Est.         | 0.945                       | 2 WAY              |
| 10   | Higuera / Morro                 | 4                             | 12,352             | 0.887                       | SIG                |
| 11   | Higuera / Granada               | 5                             | 16,701 Est.        | 0.820                       | 2 WAY              |
| 12   | Santa Rosa / Walnut             | 9                             | 30,389             | 0.811                       | SIG                |
| 13   | Santa Rosa / Oak                | 10                            | 34,200 Est.        | 0.801                       | 2 WAY              |
| 14   | Foothill / Ferrini              | 5                             | 17,959 Est.        | 0.763                       | 2 WAY              |
| 15   | Santa Rosa / Murray             | 10                            | 37,844             | 0.724                       | SIG                |
| 16   | Santa Rosa / Boysen             | 8                             | 31,000 Est.        | 0.707                       | 2 WAY              |
| 17   | Osos / Pacific                  | 4                             | 15,714 Est.        | 0.697                       | 2 WAY              |
| 18   | Santa Rosa / Montalban          | 9                             | 35,593 Est.        | 0.693                       | 2 WAY              |
| 19   | Foothill / Casa                 | 5                             | 20,783 Est.        | 0.659                       | 2 WAY              |
| 20   | Johnson / Iris                  | 5                             | 21,000 Est.        | 0.652                       | 2 WAY              |
| 21   | Johnson / Lizzie                | 5                             | 21,768             | 0.629                       | SIG                |
| 22   | Santa Rosa / Meinecke           | 8                             | 35,077 Est.        | 0.625                       | 2 WAY              |
| 23   | Madonna / Pereira               | 4                             | 17,905             | 0.612                       | 2 WAY              |
| 24   | Marsh / Garden                  | 3                             | 14,133 Est.        | 0.582                       | 2 WAY              |
| 25   | Higuera / Vachell               | 4                             | 19,043             | 0.575                       | 2 WAY              |
| 26   | Los Osos Valley / Garcia        | 4                             | 20,154             | 0.544                       | 2 WAY              |
| 27   | Santa Rosa / Peach              | 4                             | 21,098 Est.        | 0.519                       | 2 WAY              |
| 28   | Higuera / Bridge                | 3                             | 16,104 Est.        | 0.51                        | 2 WAY              |
| 29   | Los Osos Valley / Royal         | 5                             | 27,314             | 0.502                       | SIG                |
| 30   | Higuera / Suburban              | 4                             | 22,482             | 0.487                       | SIG                |
| 31   | Los Osos Valley / Descanso      | 4                             | 22,897             | 0.479                       | SIG                |
| 32   | Santa Barbara / Upham           | 3                             | 17,430 Est.        | 0.472                       | 2 WAY              |
| 33   | Foothill / Cuesta               | 3                             | 17,459 Est.        | 0.471                       | 2 WAY              |
| 34   | Santa Rosa / Olive              | 6                             | 36,786 Est.        | 0.447                       | 2 WAY              |
| 35   | California / Higuera            | 3                             | 20,154 Est.        | 0.408                       | 2 WAY              |
| 36   | Los Osos Valley / Calle Joaquin | 3                             | 20,916 Est.        | 0.393                       | SIG / 2 WAY        |
| 37   | Johnson / Ella                  | 3                             | 20,983 Est.        | 0.392                       | 2 WAY              |
| 38   | Higuera / Pacific               | 3                             | 24,422 Est.        | 0.337                       | 2 WAY              |
| 39   | Osos / Leff                     | 3                             | 24,803 Est.        | 0.331                       | 2 WAY              |
| 40   | Grand / Loomis                  | 3                             | 25,913 Est.        | 0.317                       | 2 WAY              |
| 41   | Grand / Abbott                  | 3                             | 27,513 Est.        | 0.299                       | 2 WAY              |
| 42   | Broad / Francis                 | 3                             | 30500 Est.         | 0.269                       | 2 WAY              |

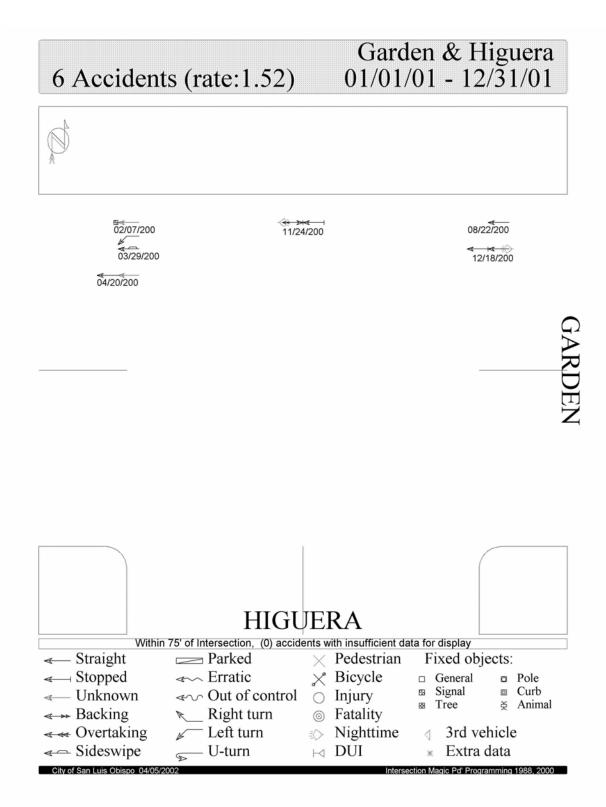
Arterial / Local Intersections Prioritized by Accident Rate







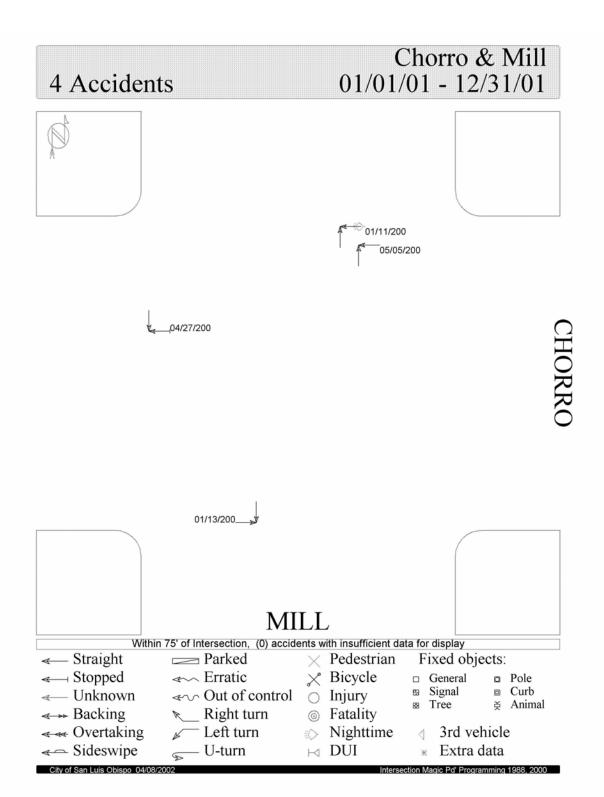




### appendix 4 Collector / Collector Intersections

Collector / Collector Intersections Prioritized by Accident Rate

| Rank | Intersection  | Total<br>Accidents<br>in 2001 | Entering<br>Volume | Accident<br>Rate per<br>MEV | Traffic<br>Control |
|------|---------------|-------------------------------|--------------------|-----------------------------|--------------------|
| 1    | Chorro / Mill | 4                             | 9,963 Est.         | 1.100                       | 2 WAY              |

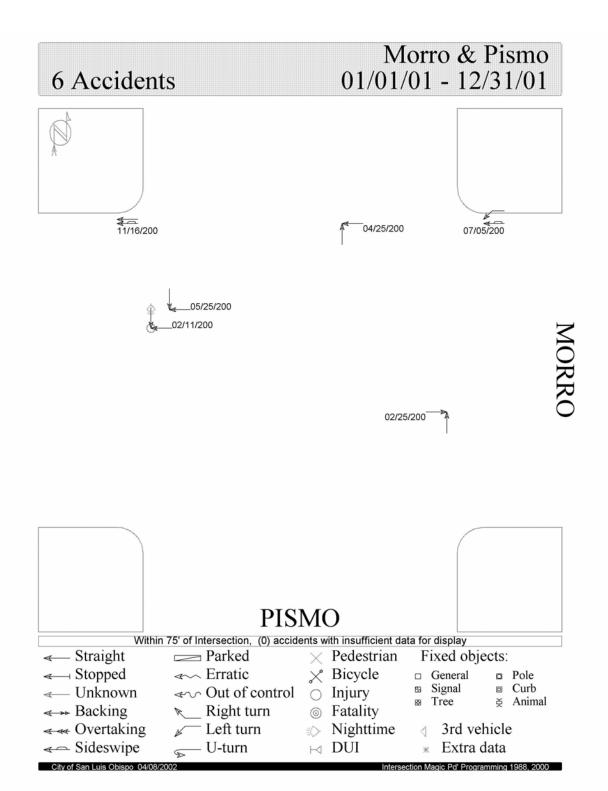


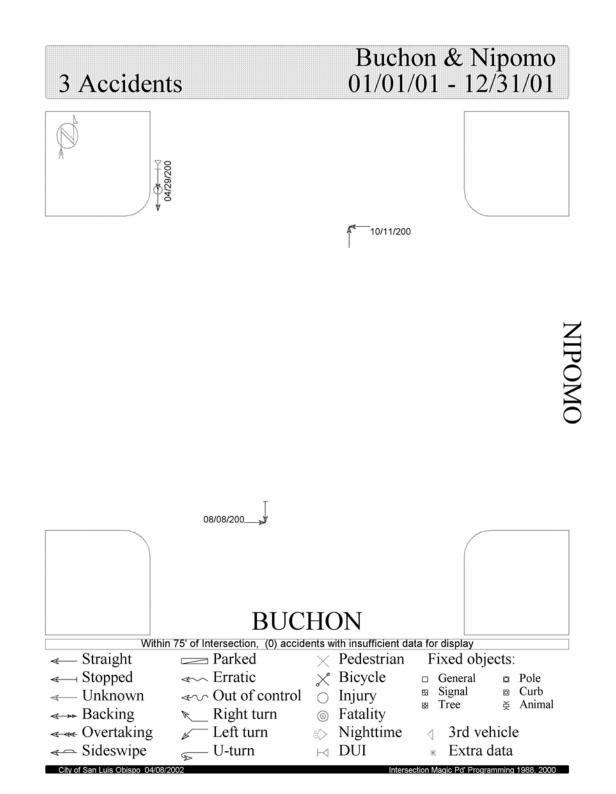
# appendix 5

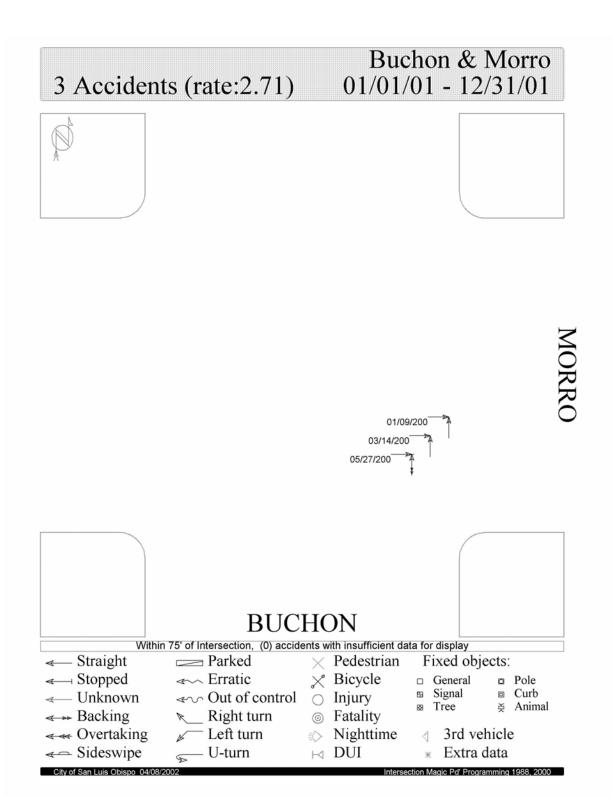
Collector / Local Intersections

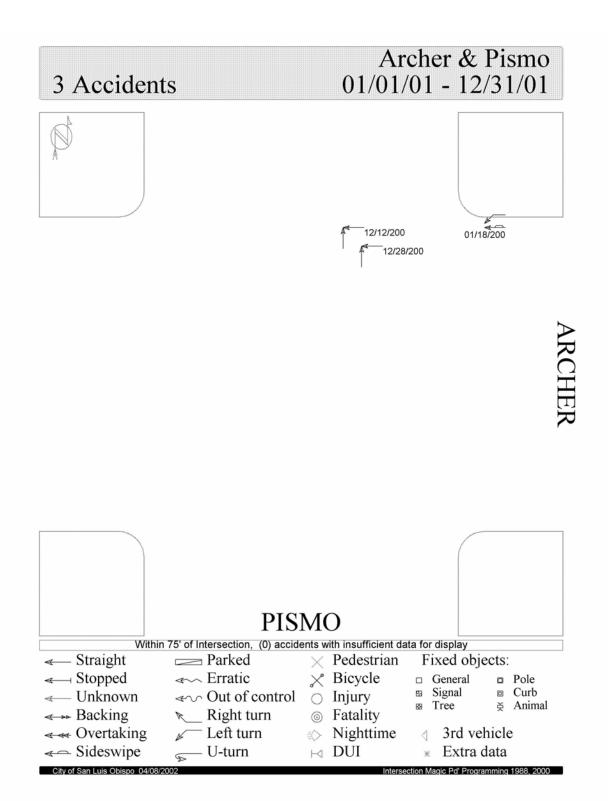
| Rank | Intersection        | Total<br>Accidents<br>in 2001 | Entering<br>Volume | Accident<br>Rate per<br>MEV | Traffic<br>Control |
|------|---------------------|-------------------------------|--------------------|-----------------------------|--------------------|
| 1    | Pismo / Morro       | 6                             | 3,597 Est.         | 4.570                       | 2 WAY              |
| 2    | Buchon / Nipomo     | 3                             | 3,000 Est.         | 2.740                       | 2 WAY              |
| 3    | Buchon / Morro      | 3                             | 3,033              | 2.710                       | 2 WAY              |
| 4    | Pismo / Archer      | 3                             | 4,491 Est.         | 1.830                       | 2 WAY              |
| 5    | Chorro / Walnut     | 3                             | 9,000 Est.         | 0.913                       | 2 WAY              |
| 6    | Buchon / Santa Rosa | 4                             | 12,848             | 0.853                       | 4 WAY              |

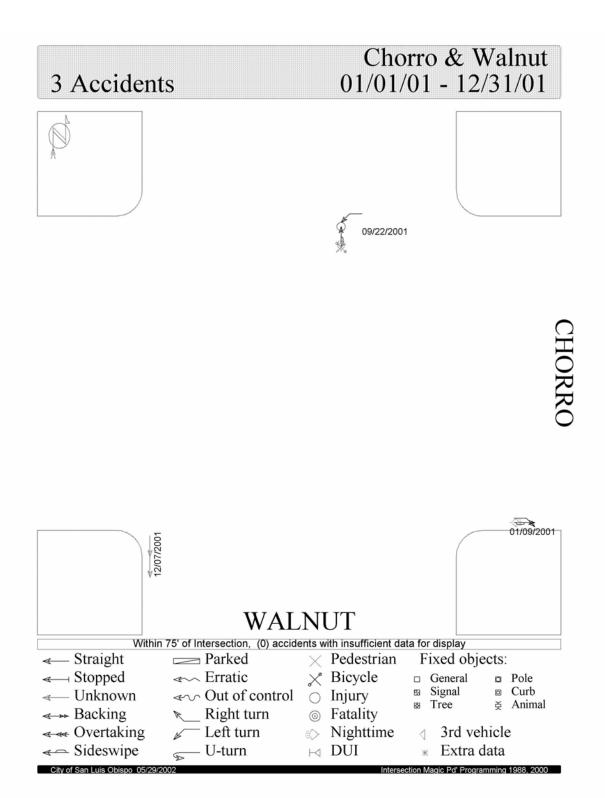
Collector / Local Intersections Prioritized by Accident Rate







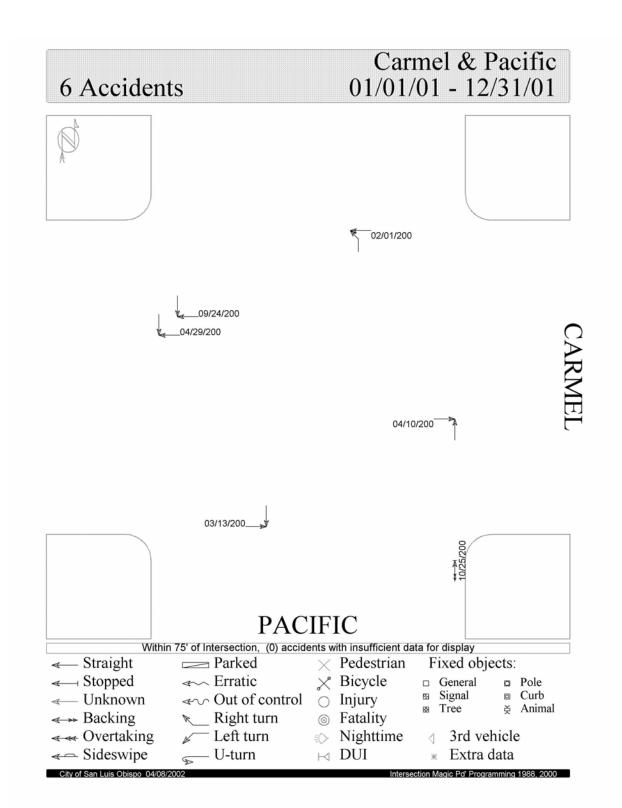


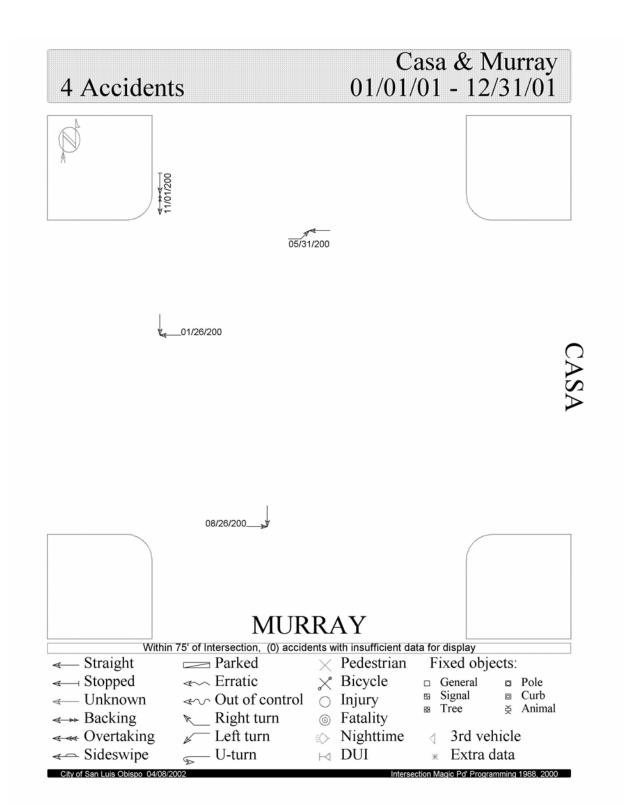


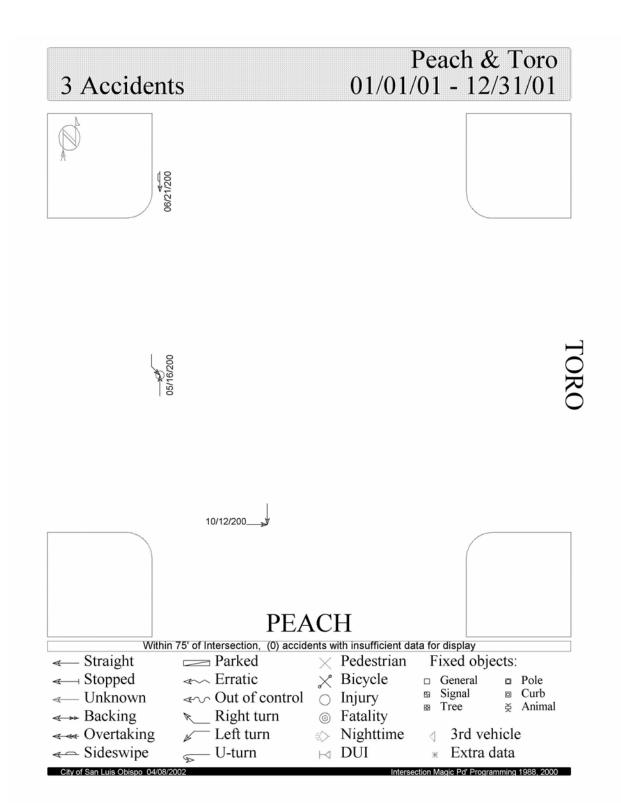
### appendix 6 Local / Local Intersections

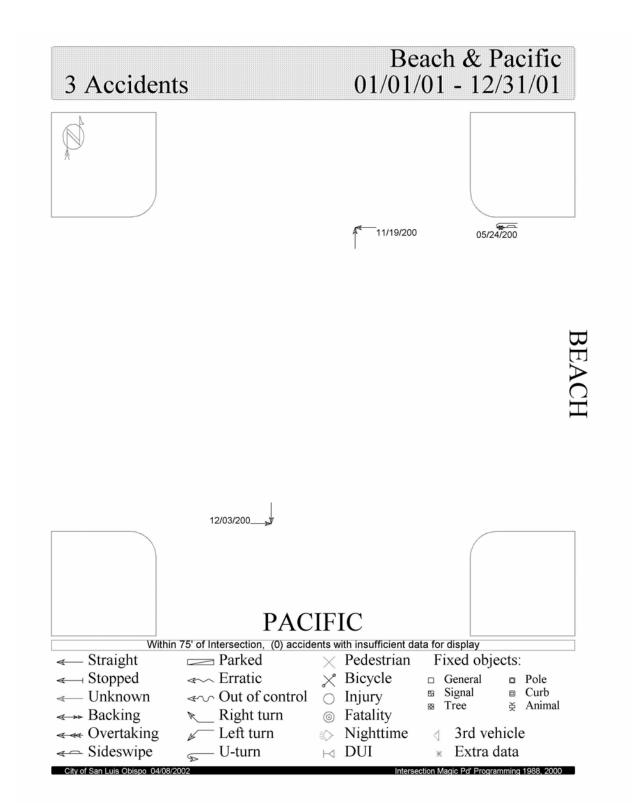
| Rank | Intersection     | Total<br>Accidents<br>in 2001 | Entering<br>Volume | Accident<br>Rate per<br>MEV | Traffic<br>Control |
|------|------------------|-------------------------------|--------------------|-----------------------------|--------------------|
| 1    | Carmel / Pacific | 6                             | 2,749 Est.         | 5.980                       | 2 WAY              |
| 2    | Casa / Murray    | 4                             | 3,900 Est.         | 2.810                       | 2 WAY              |
| 3    | Peach / Toro     | 3                             | 3,000 Est.         | 2.740                       | 2 WAY              |
| 4    | Beach / Pacific  | 3                             | 2,498 Est.         | 3.290                       | 2 WAY              |
| 5    | Morro / Pacific  | 4                             | 6,446 Est.         | 1.700                       | 2 WAY              |

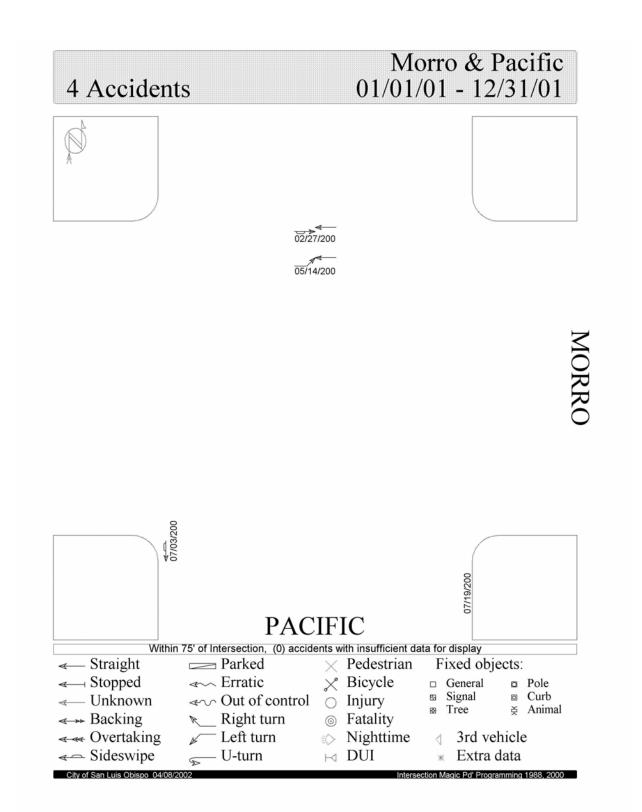
Local / Local Intersections Prioritized by Accident Rate











Appendix 7 Bicycle Crashes

## **Bicycle Collisions**

| STREET 1      | STREET 2   | DATE     | TIME  | DISTANCE (ft) | DISTANCE (m) | DAY       | DIRECTION                               | INJURY | COLL TYPE  |
|---------------|------------|----------|-------|---------------|--------------|-----------|---|--------|------------|
| BEEBEE        | SOUTH      | 1/9/01   | 19:14 |               |              | Tuesday   |   | Injury | Broadside  |
| FOOTHILL      | CASA       | 2/5/01   | 17:00 |               |              | Monday    |   | Injury | Rear end   |
| SANTA ROSA    | OLIVE      | 2/24/01  | 21:30 | 7             | 2.1336       | Saturday  | SOUTH                                   | Injury | Side swipe |
| TANK FARM     | LONG       | 3/7/01   | 9:21  | 352           | 107.2896     | Wednesday | WEST                                    | Injury | Over-turne |
| SANTA ROSA    | FOOTHILL   | 3/15/01  | 23:00 |               |              | Thursday  |   | None   | Broadside  |
| ORCUTT        | GARIBALDI  | 3/26/01  | 16:41 | 59            | 17.9832      | Monday    | WEST                                    | Injury | Over-turne |
| HIGHLAND      | CUESTA     | 4/23/01  | 17:45 |               |              | Monday    |   | Injury | Other Coll |
| SANTA ROSA    | PALM       | 4/27/01  | 15:30 |               |              | Friday    |   | Injury | Broadside  |
| SANTA ROSA    | MONTALBAN  | 4/30/01  | 16:43 |               |              | Monday    |   | Injury | Broadside  |
| SANTA ROSA    | MONTALBAN  | 4/30/01  | 17:09 | 150           | 45.72        | Monday    | NORTH                                   | Injury | Broadside  |
| MURRAY        | CHORRO     | 5/12/01  | 16:01 | 110           | 33.528       | Saturday  | WEST                                    | None   | Side swipe |
| CHORRO        | MONTEREY   | 5/14/01  | 13:25 | 150           | 45.72        | Monday    | NORTH                                   | Injury | Not stated |
| SANTA ROSA    | WALNUT     | 5/15/01  | 17:10 |               |              | Tuesday   |   | Injury | Broadside  |
| NIPOMO        | PISMO      | 5/23/01  | 17:35 | 20            | 6.096        | Wednesday | SOUTH                                   | Injury | Side swipe |
| CRANDALL      | FOOTHILL   | 6/12/01  | 16:29 |               |              | Tuesday   |   | Injury | Side swipe |
| SAN LUIS      | CALIFORNIA | 6/14/01  | 12:00 | 363           | 110.6424     | Thursday  | WEST                                    | Injury | Broadside  |
| EL MERCADO    | MADONNA    | 6/14/01  | 15:14 |               |              | Thursday  |   | Injury | Broadside  |
| SANTA ROSA    | OLIVE      | 6/22/01  | 16:03 | 115           | 35.052       | Friday    | NORTH                                   | Injury | Broadside  |
| SANTA ROSA    | WALNUT     | 7/9/01   | 16:45 |               |              | Monday    |   | Injury | Side swipe |
| CENTER        | CHORRO     | 7/13/01  | 16:00 | 118           | 35.9664      | Friday    | EAST                                    | Injury | Broadside  |
| HIGUERA       | ZACA       | 7/14/01  | 10:15 | 71            |              | Saturday  | WEST                                    | Injury | Broadside  |
| HIGUERA       | HIND       | 7/20/01  | 12:50 | 237           | 72.2376      | Friday    | WEST                                    | Injury | Other Coll |
| MORRO         | MARSH      | 7/20/01  | 18:10 | 141           | 42.9768      | Friday    | NORTH                                   | Injury | Side swipe |
| HIGUERA       | HIND       | 7/23/01  | 12:44 | 178           |              | Monday    | NORTH                                   | Injury | Hit object |
| HIGUERA       | FONTANA    | 7/26/01  | 14:06 | 283           | 86.2584      | Thursday  | SOUTH                                   | Injury | Side swipe |
| HIGUERA       | MADONNA    | 7/27/01  | 13:05 | 30            |              | Friday    | SOUTH                                   | Injury | Other Coll |
| HIGUERA       | HIGH       | 7/31/01  | 11:50 | 300           | 91.44        | Tuesday   | SOUTH                                   | Injury | Hit object |
| SANTA BARBARA | ROUNDHOUSE | 8/13/01  | 9:08  | 185           | 56.388       | Monday    | EAST                                    | Injury | Broadside  |
| MONTEREY      | PEPPER     | 8/24/01  | 12:45 | 226           | 68.8848      | Friday    | WEST                                    | Injury | Other Coll |
| SANTA ROSA    | MURRAY     | 8/28/01  | 14:05 |               |              | Tuesday   |   | None   | Broadside  |
| MONTEREY      | MORRO      | 8/31/01  | 11:48 | 90            | 27.432       | Friday    | WEST                                    | Injury | Side swipe |
| ORCUTT        | MCMILLAN   | 9/5/01   | 16:05 | 124           | 37.7952      | Wednesday | EAST                                    | Injury | Other Coll |
| PISMO         | BUCHON     | 9/5/01   | 16:37 |               |              | Wednesday |   | Injury | Side swipe |
| BROAD         | AERO       | 9/16/01  | 10:21 | 190           | 57.912       | Sunday    | SOUTH                                   | Injury | Side swipe |
| GRAND         | WILSON     | 9/21/01  | 21:06 | 192           |              |           | SOUTH                                   | Injury | Hit object |
| RAMONA        | PALOMAR    | 9/22/01  | 18:06 |               |              | Saturday  |   | Injury | Broadside  |
| CHORRO        | WALNUT     | 9/22/01  | 19:53 |               |              | Saturday  |   | Injury | Side swipe |
| HIGHLAND      | FEL MAR    | 9/30/01  | 19:42 | 160           | 48.768       | Sunday    | SOUTH                                   | Injury | Other Coll |
| HIGHLAND      | PRINCETON  | 10/3/01  | 10:45 | 128           | 39.0144      | Wednesday | WEST                                    | None   | Over-turne |
| SOUTH         | BEEBEE     | 10/16/01 | 12:00 | 46            | 14.0208      | Tuesday   | EAST                                    | Injury | Broadside  |
| BROAD         | CAPITOLIO  | 10/17/01 | 13:00 | 137           |              | Wednesday | SOUTH                                   | Injury | Head on    |
| SANTA ROSA    | MEINECKE   | 11/5/01  | 16:09 |               |              | Monday    | t – – – – – – – – – – – – – – – – – – – | Injury | Broadside  |
| ORCUTT        | FERNWOOD   | 11/14/01 | 16:25 |               |              | Wednesday | 1                                       | Injury | Broadside  |
| BROAD         | BRANCH     | 11/18/01 | 9:10  | 40            | 12.192       | ,         | SOUTH                                   | Injury | Hit object |
| HIGUERA       | MADONNA    | 12/22/01 |       |               |              | Saturday  | t i i i i i i i i i i i i i i i i i i i | Injury | Side swipe |

## appendix s

2001 Police Department Traffic Safety Unit Operations Report



# 2001 Operations Report – Traffic Safety Unit

City of San Luis Obispo Police Department 1042 Walnut SLO, CA 93401 (805) 781-7317

"Service, Pride, Integrity"

| TO:   | Chief James Gardiner  |
|-------|-----------------------|
| VIA:  | Captain Dan Blanke    |
| FROM: | Sergeant Rocky Miller |

DATE: January 8, 2002

#### 2001 SUMMARY

The Traffic Safety Unit had an exciting and difficult year. The Traffic Safety Unit remains committed to reducing fatal and injury traffic collisions. Activities designed to meet the goals and objectives of the traffic safety grant received in 2000 were implemented as listed in this report.

The City of San Luis Obispo continued to annex property at a rapid pace. Annexation of additional property along the southern extension of Broad St. to the airport and in the Froom Ranch area along Los Osos Valley Rd. was completed. The Los Osos Valley Rd. widening project is still in progress along with repairs to the Foothill Blvd Bridge across Stenner Creek.

Special Events, Educational and Safety Programs were a large portion of the unit's activities in 2001. The most significant events continued to be Mardi gras, the Christmas Parade, First Night, Wheels of SLO Car Show, the Bicycle Safety Rodeo, and School Bicycle Safety Presentations.

Selective enforcement activities were a daily focus as collision rates remained at high levels. Traffic officers and the Patrol Division have identified and committed to achieving specific traffic goals.

### **TRAFFIC UNIT PERSONNEL**

Traffic Unit personnel consist of Officers Craig Dye, John Mullin, Tom Owen, Keith Storton, and Mark Williams. Sergeant Rocky Miller continued to supervise the unit. Officer Williams joined the team in April as Officer Jim Leong rotated back to the Patrol Division.

Officer Williams was seriously injured in an on-duty motorcycle collision on July 11, 2001. As a result of his injuries he is rehabilitating at home and will not return to motorcycle duty. In August, Officer's Mullin and Dye went on injured-on-duty status as a result of job related

injuries. Mullin was injured in a training accident in September 2000. Officer Dye was injured in August while making an enforcement stop.

The OTS traffic safety grant paid one hundred percent of two motor officers salaries during the first year of the grant. Second year funding from OTS that began in October will pay fifty percent of officer salaries for the 2001-2002-grant year.

Officer John Bledsoe and Sgt. Steve Tolley replaced Officer Storton and Sgt. Miller at the end of December as part of the normal duty rotation cycle. Officer Gary Nemeth will replace Officer Williams upon completion of motorcycle update training. Both Officer Nemeth and Sgt. Tolley have previous experience in the Traffic Safety Unit.

### PROGRAMS

#### **OTS Grant**

The Traffic Safety Unit is operating in the second year of its Traffic Safety Grant that was originally approved in June 1999. The grant, totaling \$383,000, funded two motorcycle officers, two motorcycles, new speed detection equipment, collision investigation equipment, a DUI trailer, a new radar trailer, computers, video and audio equipment, educational materials, and promotional items. The grant will expire on September 30, 2002. The overall grant goals are to reduce fatal and injury collisions and improve department enforcement efforts and education programs.

In December, the police department, Sgt. Rocky Miller, and Management Assistant Kathe Bishop were recognized by the California Office of Traffic Safety for their work in preparing, administering, and reporting the progress of the traffic safety grant.

#### San Luis Obispo Traffic Committee

An alliance of public works and public safety personnel to more effectively deal with the traffic safety issues facing the city. The Traffic Committee meets on a monthly basis. Specific issues addressed this year include: construction along Los Osos Valley Rd., right-of-way and left turn problems along Santa Rosa, the Stenner Creek culvert and heavy vehicle problem, speed surveys and speed enforcement issues, high collision locations, and re-paving projects.

#### **Safe Communities Coalition**

A countywide coalition of public safety, health professionals, an insurance representative, and a member from the Latino community was organized during 2000. The coalition disbanded in June 2001 when further grant funding was not awarded. The mission of the coalition was to identify safety issues that the coalition could improve upon for the betterment of the entire county. The coalition was sponsored through a grant from the California Office of Traffic Safety.

In early 2001, the coalition submitted a grant application to OTS requesting funding for a DUI Checkpoint Taskforce that would be staffed by representatives of all local law enforcement organizations.

The coalition also requested funding to expand the countywide Child Safety Seat Inspection program. Requested funding would have covered training costs for additional inspection technicians. Unfortunately, the grant was not accepted for funding.

#### **DUI Enforcement and Education**

A major objective of the Traffic Safety grant is the increase in DUI enforcement. Officers arrested 392 drunk drivers during the year. This total was a decrease of 20% from last year's total of 487 drunk drivers arrested. Members of the Traffic Safety Unit continue to speak to groups including drunk drivers attending the court ordered "First Offender" program.

#### **SLOCOPS – Avoid the 13**

The Traffic Safety Unit participated in the annual holiday season drunk driver reduction program known as "SLOCOPS. This program is designed to place extra, uniformed officers working DUI on the road during peak hours on weekend evenings when the casual drinker may have attended holiday parties and subsequently consumed too much alcohol to safely drive home. Normal funding from an OTS grant was not received this year. The department participated by paying overtime for one officer to work DUI enforcement on the busy weekend nights. Local officers arrested 33 drunk drivers between November 29 and December 31. This arrest total was a decrease of 51% over the 2000 total of 68 DUI drivers when we placed 4 officers on DUI patrol over the same time period.

#### **DUI Task Force**

The Traffic Safety Unit is a member of the countywide DUI Task Force. The task force sponsors programs throughout the county to educate people about DUI. Membership includes all law enforcement agencies, County Drug and Alcohol Services, and Mothers Against Drunk Drivers.

#### **DUI Checkpoints**

The Traffic Safety Unit conducted 5 DUI Checkpoints during the past year resulting in 35 DUI arrests. These checkpoints were funded by the OTS Traffic Safety grant. The grant included money for overtime, equipment, and promotional materials. Officer Dye prepared a DUI Checkpoint pamphlet detailing current DUI and seatbelt laws. While the purpose of the random checkpoints is deterrence through education there has been an unexpected level of enforcement success. To date, more than 4,700 motorists have passed through the checkpoints.

#### **Vehicle Impound Program**

As a requirement of the OTS Traffic Safety grant the department initiated a program targeting drivers that have never been licensed or drivers with suspended licenses. Drivers operating their vehicles illegally will have their vehicles impounded for 30 days per authority of the vehicle code. The release of the vehicle occurs after the owner pays a "vehicle release fee" that is deposited into the "Traffic Offender Fund", a revenue account required by the OTS grant. This

fund is for the express use of the Traffic Safety Unit and its efforts at reducing fatal and injury collisions.

The program provides funds for such traffic enforcement items as radar and laser speed detection equipment, DUI/DL checkpoints, and overtime. None of the revenue has been spent to date. The total revenue generated through this program since the beginning of the grant exceeds \$26,000. Officers impounded 117 vehicles during 2001.

#### **Bicycle Safety Rodeo**

The Bicycle Safety Rodeo was presented for the fourth year as a collaborative effort between city staff including police, parks and recreation personnel, and the SLO Bike Club. Officer Keith Storton continued to organize the event that included safety inspections, a rider awareness course, promotional materials, and a skills demonstration at Madonna Plaza. More than 160 juvenile bicyclists attended the event.

#### **Bicycle Safety – Elementary School Program**

Bicycle safety is an important focus of Traffic Team educational efforts as the unit redesigned and presented a safety presentation to the elementary schools in the city. This year's presentation consisted of a stunt team presentation by the "Wheels of Freestyle" demonstration team from San Diego along with a helmet and safety discussion by members of the traffic unit. More than 2,800 elementary school children viewed the training.

School administrators and teachers were very excited over the presentations and the student's response. This program took innovative steps to attract and keep the attention of the young audience. This year we were very fortunate to be able to present the bicycle demonstration to several large crowds at Farmer's Market on October 4 as well.

#### **Bicycle Safety – Junior High School Program**

Older students attending the junior high school are an important focus of traffic safety efforts. These students will soon be obtaining drivers permits. They are ready to learn the rules of the road and the Traffic Safety Unit presented a special bicycle safety program with the "Wheels of Freestyle" demonstration team. Eight hundred and forty students listened as the bicyclists demonstrated their skills while mixing in the important message of safe riding and following the rules.

#### **Bicycle Helmet Protection and Distribution**

The police department purchased 200 bicycle helmets with OTS grant funds in September. Many of these helmets were distributed during December through collaborative efforts involving community-based organizations such as KSBY Television, San Luis Obispo County Sheriff's Department Christmas Bicycle Giveaway, the Salvation Army, the Housing Authority of the City of San Luis Obispo (countywide distribution), Grass Roots of SLO, Head Start of Paso Robles and Sunnyside, Boys and Girls Clubs of Oceano and Paso Robles, and service organizations including Atascadero Moose, Bay-Osos Kiwanis, and the Santa Margarita Lions club.

The police department issued 48 bicycle helmet citations to children under the age of 18 years. This was a 109% increase over last year's 23 helmet citations. The court generally dismisses

these citations after the youth appears in court with a helmet and agrees to wear it. The enforcement effort seems to be very effective as few children are found operating their bicycles without helmets and almost all bicycle collisions involve people over the age of 18.

#### **Occupant Protection – Seat Belt Enforcement**

The Traffic Safety unit encourages vigorous enforcement of seat belt violations. The department participated in the nationwide seatbelt campaign "Operation ABC – America Buckles Up Children" during the Memorial Day and Thanksgiving holidays. News articles were presented on local television stations and in the newspaper. In addition, the department promoted the "Click It – Or Ticket" enforcement campaign to get people to buckle up throughout the month of November by handing out promotional pens with the department logo and campaign slogan as a reminder. Total seatbelt citations issued this year were 1,134 (21%) of 5,404 total hazardous citations.

#### **Occupant Protection – Child Safety Seat Inspections**

Officers Gary Nemeth, Tom Owen, and Field Service Technician John Caudill attended the 32hour Child Passenger Safety Seat Inspection technician training in October. They join Officer Jim Leong as certified child safety seat inspection technicians. This training will allow the police department to become an inspection site. The new officers completed two inspection days in San Luis Obispo and Atascadero to inspect a total of 100 child safety seats in October and November. These inspections are collaborative inspection efforts sponsored by the San Luis Obispo County Public Health Department, Stanley Motors, the California Highway Patrol, and French Hospital among others.

#### **Media Relations**

The Traffic Safety Unit provides news releases and interviews to the media concerning upcoming traffic related events and campaigns. Safety messages are also contained within the Neighborhood Services Media campaign. KSBY television broadcasts the early morning PSA "KSBY On Patrol" that keeps citizens aware of the selective enforcement locations officers will concentrate their efforts during the day and what specific driving violations officers will be watching for.

KSBY television combined with the Traffic Safety Unit to produce a public service announcement about bicycle helmet use. The PSA featured Jana Black, a junior high student who was cited for not wearing a bicycle helmet. Within two months she was riding her bike when she ran into a car. Fortunately she was wearing her helmet. This PSA has been replayed on KSBY for months since its original broadcast in April.

#### American Association of Retired Persons (AARP) - "55 Alive"

Officer Storton continued to speak before the senior citizen segment of the community during the "55 Alive"-driver education/improvement program.

### SPECIAL EVENTS

#### Mardi Gras

Mardi Gras was the biggest event of the year. The Traffic Unit spent many hours assisting the patrol division in planning and training for the event. The event included a festival in Mission Plaza, the Mardi Gras Ball at the Vet's Hall, and the Mardi gras parade along Marsh Street that was attended by an estimated 18,000 people. The parade was held on Fat Tuesday in an attempt to safely control the event with less out-of-county visitors in attendance. Event attendance was more than ever with rowdy crowds overflowing into the streets. There was one pedestrian related collision that occurred after the event as a result of intoxication and overcrowding.

#### Wheels of SLO Car Show

This event occurs each August. Sponsored by the Downtown Association, the downtown merchants invited car show enthusiasts to present the "Wheels Of SLO" car show. This event attracted 10,000 people. It showcased some 250 cars, trucks, and motorcycles. The event is planned again for summer, 2002.

#### **City to Sea Half Marathon**

The ultimate running event presented by a private organization; the "City To Sea" Half Marathon benefits Cuesta College athletics. The event begins at the intersection of Higuera and Morro Streets and finishes at Avila Beach. Due to the popularity of this event lane closures are required as runners proceed along Higuera St. past the Los Osos Valley Rd. intersection.

#### **Annual Christmas Parade**

The Downtown Association presented the Annual Christmas Parade on December 7th. Christine Bragg coordinated the event with help from a handful of well-known associates including Mardi gras parade organizer, Pete Dorn. It had the best attendance of any event besides Mardi gras. The Traffic Safety Unit coordinates street closures and traffic control for the event.

#### "First Night" New Year's Eve Celebration

The First Night Celebration successfully returned for its fourth year. The event is presented as an alcohol free event with a variety of fine arts venues for families. Attendance was very good as event coordinators estimated the crowd exceeded 10,000.

#### **Other Events**

The Traffic Unit continued to assist in other events such as the city sponsored triathlon, Cal Poly Week of Welcome, summertime "Concerts in the Plaza", the Cal Poly Homecoming parade, the San Luis Obispo High School Homecoming parade, Dare's Red Ribbon Week ceremonies, and the Hospice Fun Run.

## 2001 STATISTICS

## COLLISIONS

| <b>Collision</b> Type                     | 1994     | 1995     | 1996     | 1997     | 1998     | 1999     | 2000     | 2001     | %Change      |
|---|----------|----------|----------|----------|----------|----------|----------|----------|--------------|
| Fatal                                     | 0        | 0        | 2        | 3        | 1        | 2        | 2        | 1        | -50%         |
| Injury                                    | 275      | 265      | 273      | 285      | 192      | 195      | 280      | 278      | -1%          |
| Non-Injury                                | 1,038    | 1,055    | 1,094    | 1,163    | 981      | 990      | 925      | 981      | +6%          |
| Total                                     | 1,313    | 1,320    | 1,369    | 1,451    | 1,174    | 1,187    | 1,207    | 1,260    | +4%          |
| Bicycle collisions<br>Pedestrian Involved | 68<br>34 | 48<br>30 | 41<br>24 | 59<br>26 | 43<br>18 | 36<br>28 | 36<br>29 | 42<br>25 | +17%<br>-14% |

## TRAFFIC ENFORCEMENT

| <b>Citation</b> Type | 1994  | 1995  | 1996  | 1997  | 1998  | 1999  | 2000  | 2001  | % Change |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| Non-Hazardous        | 2,021 | 2,718 | 2,590 | 4,002 | 2,335 | 2,635 | 2,335 | 2,049 | -12%     |
| Hazardous            | 3,175 | 2,917 | 3,116 | 3,081 | 3,153 | 3,480 | 4,526 | 5,191 | +15%     |
| Total                | 5,196 | 5,730 | 5,706 | 7,083 | 5,478 | 6,115 | 6,861 | 7,240 | +6%      |

## DUI ENFORCEMENT

| DUI                   | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | % Change |
|-----------------------|------|------|------|------|------|------|------|------|----------|
| Enforcement           |      |      |      |      |      |      |      |      |          |
| DUI Arrests           | 450  | 431  | 406  | 367  | 393  | 450  | 487  | 392  | -20%     |
| SLOCops               | 61   | 46   | 50   | 43   | 56   | 43   | 68   | 33   | -51%     |
| <b>DUI</b> Collisions | 34   | 51   | 36   | 37   | 38   | 31   | 47   | 49   | +4%      |

| COST RECOVERY     |           |           |             |
|-------------------|-----------|-----------|-------------|
| DUI Cost Recovery | Billed    | Received  | % Recovered |
| 2001              | \$18,761. | \$5,667.* |             |
| 2000              | \$17,374. | \$5,640.  | 32%         |
| 1999              | \$7,448.  | \$3,226.  | 43%         |
| 1998              | \$12,295. | \$4,751.  | 39%         |

## TOP 10 COLLISION LOCATIONS

#### 2001

| RANK | LOCATION               | Number of Collisions |
|------|------------------------|----------------------|
| 1    | Santa Rosa at Foothill | 32                   |
| 2    | Los Osos Valley at Mac | donna 22             |
| 3    | Foothill at California | 17                   |
| 4    | Santa Rosa at Oak      | 15                   |
| 5    | Santa Rosa at Montalba | n 14                 |
| 6    | Santa Rosa at Monterey | 13                   |
| 7    | Marsh at Osos          | 13                   |
| 8    | Marsh at Higuera       | 13                   |
| 9    | South at Beebee        | 13                   |
| 10   | El Mercado at Madonna  | a 13                 |

#### 2000

| RANK | LOCATION               | Number of Collisions |
|------|------------------------|----------------------|
| 1    | Santa Rosa at Foothill | 34                   |
| 2    | Foothill at California | 21                   |
| 3    | Santa Rosa at Murray   | 17                   |
| 4    | Higuera at Nipomo      | 17                   |
| 5    | Santa Rosa at Marsh    | 16                   |
| 6    | Broad at Tank Farm     | 16                   |
| 7    | Santa Rosa at Olive St | 15                   |
| 8    | Santa Rosa at Monterey | / 12                 |
| 9    | Broad at Orcutt        | 12                   |
| 10   | Los Osos Valley at Ma  | donna 11             |

## Injury Collisions 2001

| Number of Collisions | Cause                   | % of total |
|----------------------|-------------------------|------------|
| 73                   | Failure to Yield        | 26         |
| 70                   | Unsafe Speed            | 25         |
| 26                   | Other Improper Driving* | 9          |
| 23                   | Improper Turns          | 8          |
| 17                   | Following too close     | 5          |
| 15                   | Stop Signs/Lights       | 5          |
| 12                   | DUI                     | 4          |

\* Includes unsafe backing, starting, lane changes, entering traffic.

## Injury Collisions 2000

| Number of Collisions | Cause               | % of total |
|----------------------|---------------------|------------|
| 72                   | Failure to Yield    | 26         |
| 59                   | Unsafe Speed        | 21         |
| 22                   | Stop Signs/Lights   | 8          |
| 21                   | Improper Turns      | 7          |
| 16                   | DUI                 | 6          |
| 14                   | Following too close | 5          |

#### COLLISIONS IN COMMUTER CORRIDORS

#### 2001

| RANK | LOCATION                            | Number of Collisions |
|------|-------------------------------------|----------------------|
| 1    | Santa Rosa (Foothill - Olive)       | 132                  |
| 2    | S. Higuera (City limits – Marsh)    | 87                   |
| 3    | Madonna (LOVR - Higuera)            | 57                   |
| 4    | California (Foothill - Hwy 101) 35  | T/C's 51             |
|      | (Hwy 101 - San Luis Dr.) 16         | T/C's                |
| 5    | Foothill (Santa Rosa - City Limits) | 45                   |
| 6    | LOVR (City Limits - Higuera)        | 43                   |
| 7    | Johnson (Orcutt - Marsh)            | 38                   |
| 8    | Broad (City Limits - South St.)     | 31                   |
| 9    | Monterey (California - Hwy 101)     | 21                   |
| 10   | Foothill (Santa Rosa - California)  | 9*                   |

\* Does not include intersection of Foothill @ Santa Rosa

#### **TRAFFIC INDEX – 19.6**

The traffic index, the ratio of hazardous citations issued divided by the number of injury & fatal collisions, is a gauge of how effective a traffic safety program is. OTS considers an enforcement index of 25 to be the minimum effective rate. In cities where there is high tourism the rate is expected to be between 25-35 as tourists are not aware of traffic issues and problem areas and are therefore more likely to commit violations. The current traffic index for the city of San Luis Obispo is 19.6 - Computed by dividing the 5,404 hazardous citations issued by 276 injury & fatal collisions that occurred in 2001.

An increase in education and enforcement efforts are necessary to reduce collisions. These efforts are hampered by the manpower shortage caused by injuries and job openings or new personnel in training. Last year enforcement efforts were very strong through the first nine months. Injuries after July 1<sup>st</sup> led to a significant reduction in enforcement efforts. Fewer available officers were required to handle a larger share of the workload. The result: less time for random enforcement activities.

#### **REVIEW OF GOALS FOR 2001**

Goals and objectives were a focal point for much of the year. Injuries to Patrol and Traffic Unit personnel mounted as the year progressed causing significant manpower shortages. These shortages resulted in an overall drop in productivity. The manpower shortage in the Traffic Unit resulted in a 22% drop in manpower hours.

- 1. Goal Reduce collisions at the top 10 collision locations and commuter corridors by 10 %. Results were mixed. Refer to the chart.
- 2. Goal Reduce fatal and injury collisions from 282 to the 1999 total of 197 or less. Fatal and injury collisions totaled 279 in 2001, a 1% decrease. The 1999 base year total of 197 was an unusual year. The average number of fatal and injury collisions from 1994 through 1997 was 275 per year. Our total in 2001 is holding steady with our collision history.
- 3. Increase DUI enforcement by 10% from 487 to 535 DUI arrests. DUI arrests totaled 392, a decrease of 20%. Decreased available manpower led to less time available to patrol for DUI's. There was no SLOCOPS funding this year for saturation patrols from the Thanksgiving weekend through New Year's Day. There was only a single officer assigned to DUI patrol on an department overtime basis during the holiday season.
- 4. Increase hazardous violation enforcement efforts by 10% to 4,978 citations. Hazardous citations totaled 5,191, an increase of 15%. The increase was a result of early year activity before losing many of the officers to injury.
- 5. Increase the Traffic Index from 16. to 25. The Traffic Index was 18.6.
- 6. Increase bicycle safety presentations to 15 per year. The Traffic Team conducted 21 bicycle safety presentations.
- 7. Increase bicycle helmet enforcement by 100% from 23 citations to 46 citations minimum. Bicycle helmet citations totaled 48.
- 8. Coordinate the implementation and meet the goals set forth in the Traffic Safety Grant. Performance objectives including the number of DUI Checkpoints, radar trailer deployments, child passenger safety seat checkpoints, bicycle safety rodeos and presentations were met. Significant reduction of fatal and injury collisions, DUI collisions, and speed related fatal and injury collisions were not met.
- 9. Continue the DUI Checkpoint program with 6 checkpoints per year minimum. Five DUI Checkpoints were conducted during the 2001 calendar year.
- 10. Initiate the program "Teaching Your Teen to Drive" at the high school to improve the quality of parental instruction to teenagers learning to drive. Not yet initiated.
- 11. Apply for a CHP grant to produce the DUI program "Every 15 Minutes" to the high school. Goal to be addressed in 2002.
- 12. Maintain and build upon the alliance with the Traffic Engineering Department to maximize the efforts to make traffic safety and collision reduction a top priority in San Luis Obispo. Exchange of information and input was improved in comparison to pre-alliance conditions. Meetings were not held on a monthly basis.
- 13. Increase news media releases to announce traffic enforcement activities & programs. News media coverage of programs and events has been very good.

### **GOALS FOR 2002**

- 1. Reduce collisions at the top 10 collision locations and commuter corridors by 10 %.
- 2. Reduce fatal and injury collisions from 279 to the 1999 total of 197 or less.
- **3.** Increase DUI enforcement by 10% from 487 to 535 DUI arrests.
- 4. Increase hazardous violation enforcement efforts by 10% to 5,700 citations.
- 5. Increase the Traffic Index from 18. to 25.
- 6. Increase bicycle safety presentations to 25 per year.
- 7. Increase bicycle helmet enforcement by 50% from 48 citations to 72 citations minimum.
- 8. Coordinate the implementation and meet the goals set forth in the Traffic Safety Grant.
- 9. Continue the DUI Checkpoint program with 6 checkpoints per year minimum.
- 10. Initiate the program "Teaching Your Teen to Drive" at the high school to improve the quality of parental instruction to teenagers learning to drive.
- 11. Apply for a CHP grant to produce the DUI program "Every 15 Minutes" to the high school.
- 12. Maintain and build upon the alliance with the Traffic Engineering Department to maximize the efforts to make traffic safety and collision reduction a top priority in San Luis Obispo.
- 13. Increase news media releases to announce traffic enforcement activities & programs.