CITY OF SAN LUIS OBISPO

2015 Annual Traffic Safety Report

Public Works and Police Department

September 2016

VISION ZERO SLO

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Executive Summary

The Public Works & Police Departments are pleased to present the 15th cycle of the City's annual traffic safety program. The Annual Traffic Safety Program began in 2002 in an attempt to identify high collision locations within the City. In addition, the program actively pursues corrective measures that may reduce collision rates and improve safety within the City. This program has had continued success with a 58% reduction in citywide collisions since the program began, despite increasing traffic volumes.

This effectiveness off the safety program has continued in 2015 and total collisions are again the lowest on record, down by 3% from 2014. While reducing overall collision rates continues to be a key goal, over time the safety program has evolved to prioritize focus on reducing the most serious collisions—those that result in severe injuries or death. Because injury collisions require a police report and investigation by a peace officer, these reports provide a clearer picture of the collision circumstances, and can establish a more reliable year-to-year trend.

There was one fatal collision in 2015 involving a motorist DUI and an elderly pedestrian crossing outside of a crosswalk at Higuera Street & Broad Street. Injury collisions increased by 9% from the previous year, but remain 29% lower than in 2002 when the safety program began. Total fatal and severe injury collisions decreased by 11% from 2014, with a 43% reduction since 2002.

The traffic safety program includes thorough evaluations of bicycle and pedestrian safety, as these road users are more vulnerable to serious injury or death from collisions with motor vehicles. Bicycle collision trends have shown a 23% decline from peak levels in 2009; however, 2015 totals show an increase of 12% (6 collisions) from 2014. Except for a significant peak in 2013, annual pedestrian collisions have been relative static since 2008. In 2015, the number of pedestrian collisions has remained consistent with the general post-2008 trend.

The following report summarizes the trends in collision history, traffic citations, and traffic safety measures and identifies high-collision rate locations in 2015. As in previous Traffic Safety Reports, staff reviewed all high-collision rate intersections and street segments and has recommended mitigation measures to increase safety at the top five locations in each category.

Our goal is that the combination of data-driven analysis, appropriate mitigation, and focused education and enforcement will continue to reduce traffic collision frequency and severity and improve the safety of our streets for all users.

Introduction

Background

Since its inception in 2002, the annual Traffic Safety Report (TSR) provides an overview of the City of San Luis Obispo's efforts to monitor and improve safety for all road users. Every year, the City prepares a TSR for the previous twelve-month period with the following specific objectives:

- Identify intersections and street segments within the City associated with the highest overall collision rates. Thoroughly analyze collision patterns in order to develop potential mitigation measures for the five highest locations that will reduce the potential for collisions—particularly those involving severe injuries and/or fatalities, and;
- Identify the predominant pedestrian and bicycle collision types and high-collision locations, and thoroughly analyze collision data and police reports so as to determine potential mitigation measures for the five highest-rate collision locations that may reduce the potential for collisions, and;
- Report on traffic enforcement efforts, traffic safety education activities, and evaluate the effectiveness of mitigation measures implemented in the previous twelve-month period.

The locations mentioned in this report should not be interpreted as a list of dangerous or "least safe" intersections or streets within the City. The specific total of collisions for any location for any year is a function of various factors such as weather patterns, construction, traffic volumes, 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 comfort, and limit impact severity.

Moving Towards Vision Zero

Vision Zero is a multi-national traffic safety movement, first initiated in Sweden, with a straightforward message: No loss of life is acceptable. At its core, Vision Zero seeks the elimination of deaths and serious injuries from our roadways. Since 1997, Sweden and other European countries practicing Vision Zero have been able to reduce their traffic fatalities by almost 50%.

In recent years, Vision Zero has gained steam throughout the United States, with cities such as San Francisco, New York, Portland, Los Angeles and Santa Barbara adopting Vision Zero Policies and action plans. According to the National Highway Traffic Safety Administration (NHTSA), motor vehicle traffic crashes are the number one leading cause of death for people ages 13 through 25 and result in over 30,000 deaths per year in the United States alone. By not only focusing on reducing overall traffic collisions, but on preventing severe collisions, particularly to vulnerable users such as pedestrians, bicyclists and people with disabilities, communities can achieve real live benefits and save lives.

While the City of San Luis Obispo has not adopted a formal Vision Zero policy, the City has demonstrated a long-standing commitment towards eliminating traffic-related fatalities and serious injuries. Through (a) the data-driven analysis performed in the annual traffic safety program, (b) regular collaboration between City Public Works and Police Departments to identify priorities for focused traffic safety enforcement, and (c) ongoing community education and outreach campaigns, the City is continually striving to improve the safety and efficiency of transportation facilities for all modes and users.

Measuring Progress

Progress towards improving traffic safety for all road users is measured in the TSR using the following metrics:

- Total collisions, fatalities and serious injuries
- Total pedestrian collisions, fatalities and serious injuries
- Total bicycle collisions, fatalities and serious injuries

The traffic safety data for these metrics is obtained from traffic collision reports provided by the San Luis Obispo Police Department. The TSR for a given year will normally be prepared after City collision statistics become available in April or May of the following year; thus, the data analyzed in this TSR is for the 2015 calendar year. Collision data is reviewed for each intersection and roadway segment within the City and entered into the City Public Works Department's traffic collision database. Auto, pedestrian and bicycle volumes are then utilized in conjunction with collision totals to calculate collision rates for all locations in the City. Considering the collision rates, as well as collision severity, locations are ranked for each type of intersection and roadway segment. The five highest-ranked collision locations for each category are then analyzed in further detail and mitigation measures are presented, where feasible.

Additional discussion regarding the technical analysis methodology applied in this TSR is provided in the **Appendix**.

How to Navigate this Report

The remainder of the 2015 TSR is organized into the following sections:

- **Citywide Collision Trends** – *Page 5*
  How safe are San Luis Obispo's streets? This section describes the state of traffic safety in the City, discussing trends in traffic collisions from 1999 to 2015.

- **Traffic Enforcement Measures** – *Page 10*
  This section describes traffic enforcement efforts of the City Police Department, discussing traffic citations, DUI arrests and hazardous driving trends.

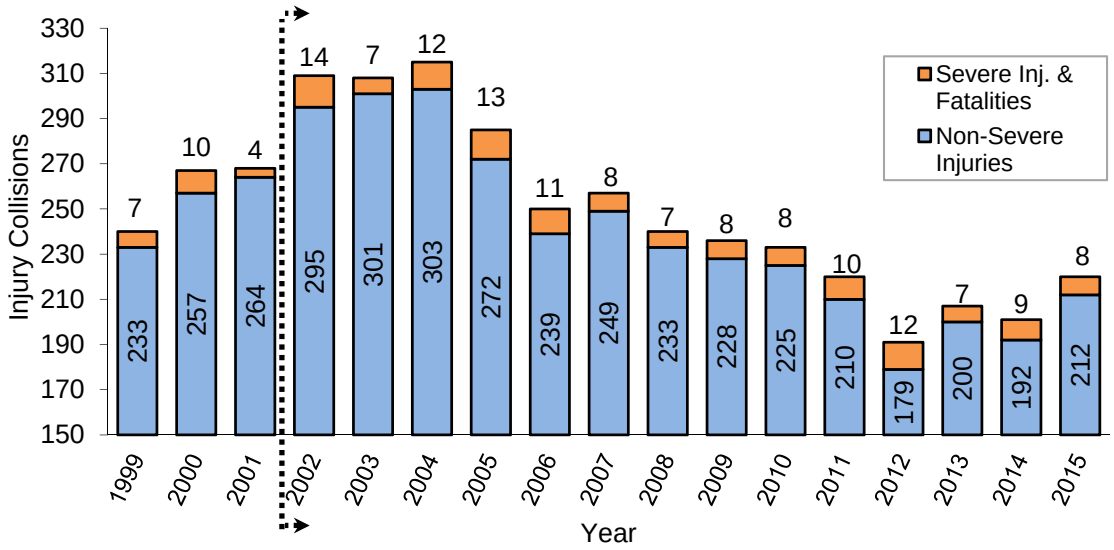
- **Ongoing Activities to Make our Streets Safer** – *Page 13*
  How are we working towards making San Luis Obispo's streets safer? This section describes the ongoing efforts to improve the safety of transportation facilities for all modes of travel within the City.

- **2015 High Collision Rate Locations & Recommendations** – *Page 17*
  What have we learned about traffic safety in 2015? This section describes the high collision rate intersections and roadway segments for 2015, and presents potential mitigation recommendations for high-priority locations.

Citywide Collision Trends

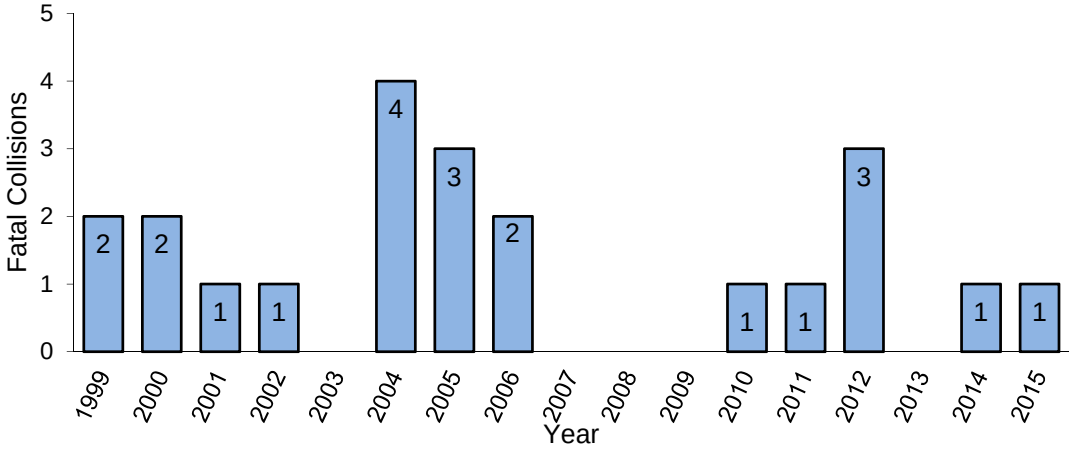
Injury collisions are the most accurate representation of City collision trends because these types of collision are most consistently reported and investigated. In 2015, injury collisions increased by 9% from 2014. Injury collisions remain down 29% from 2002 when the safety program began.

Injury Collision Trend

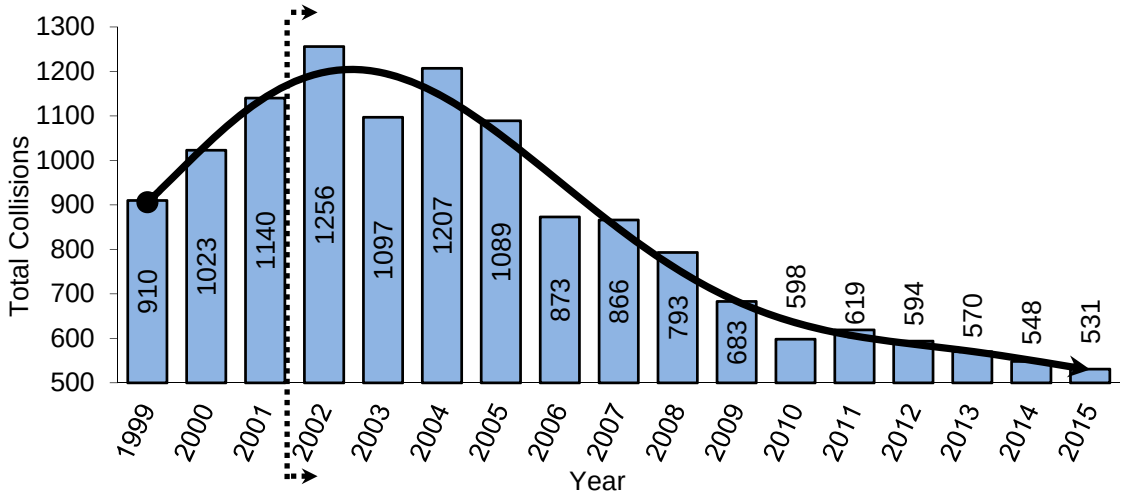


Fatal Collision Trend

It's difficult to identify a trend in fatal collisions because these types of collisions are typically sporadic, uncommon, and occur under unusual circumstances. The single fatal collision in 2015 occurred at the intersection of Higuera and Broad Streets and involved a DUI motorist and an elderly pedestrian crossing outside of the marked crosswalk. Combined, the number of fatal and severe injury collisions decreased by 11% from 2014, with a 43% reduction since 2002.



Overall Collision Trend

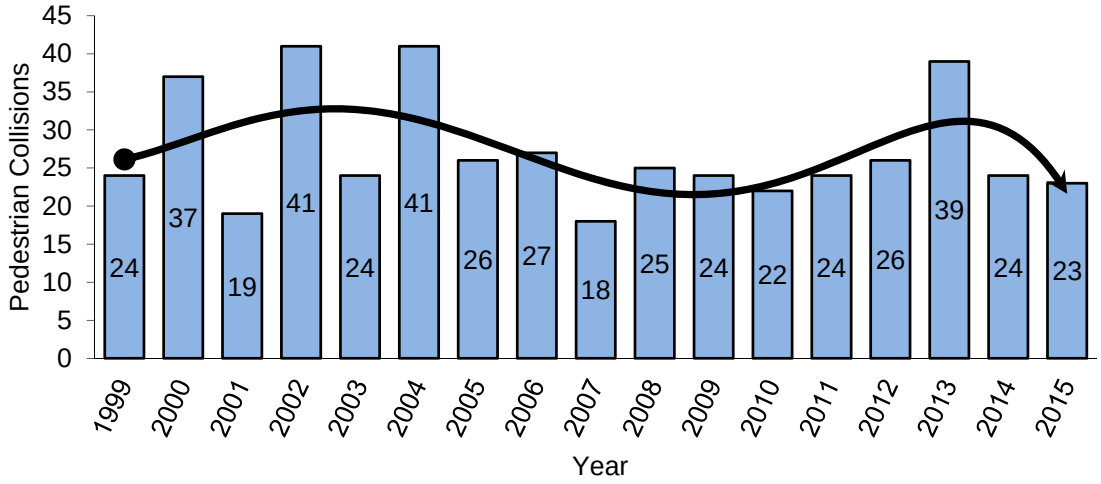


In 2015 there were 531 total reported collisions in the City—the lowest total on record, down 3% from 2014 and down 58% from the introduction of the safety program.

It should be noted that the Overall Collision chart above does not represent all collisions that occur in the City—merely all reported collisions occurring on public streets for which a report is generated. Many collisions are either unreported by the involved parties, reported by the parties without an officer investigation, or there is no response to the collision by emergency services. Therefore, the actual number of collisions may vary between years. A more accurate measure are the injury and fatal collision trends, as police always respond to collisions where the reporting party indicates there is an injury.

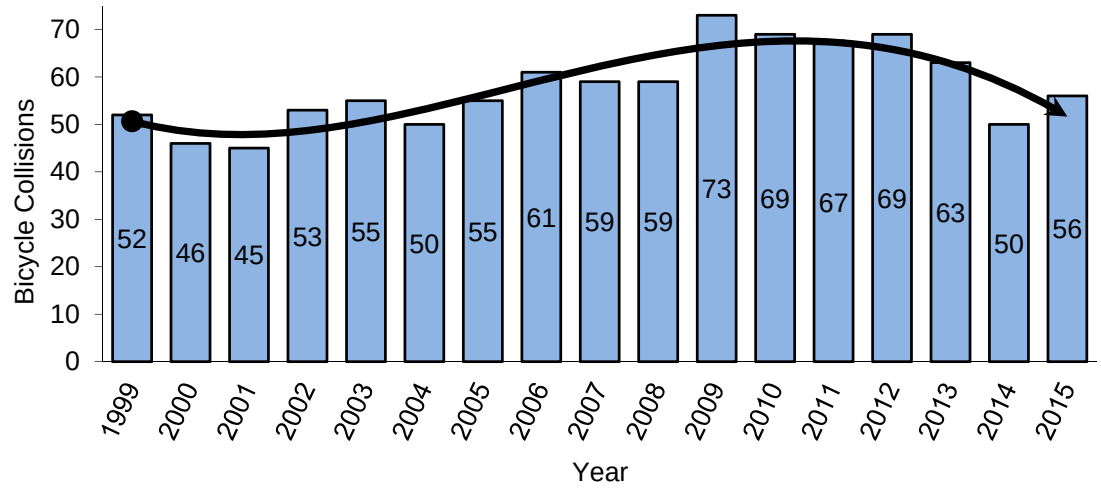
Pedestrian Collision Trend

Despite rising pedestrian volumes, pedestrian collisions have remained relatively static since 2008, with the exception of an unexplained spike in 2013. In 2015, the number of pedestrian collisions have returned that the recent trend.



Bicycle Collision Trend

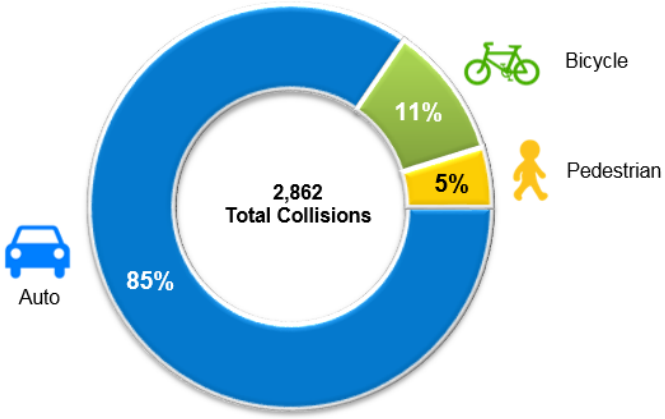
Despite rising bicycle volumes, bicycle collisions have generally been on the decline in recent years. Bicycle collision trends have shown a 23% decline from peak levels in 2009; however, in 2015, bicycle collisions totals show an increase of 12% (6 collisions) from 2014.



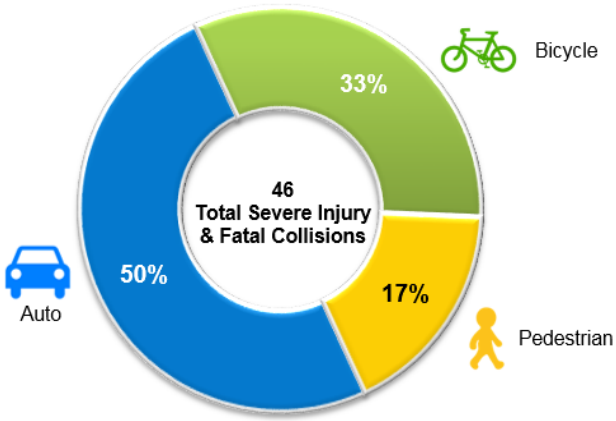
Pedestrian and Bicycle Serious Injuries and Fatalities

Over the past five years (2011-2015), 2,862 traffic collisions have been reported in the City—about 572 per year. Roughly 16% of these collisions involved a bicyclist or pedestrian. However, as illustrated in the graphic below, 50% of the collisions resulting in severe injury or death involved a bicyclist or pedestrian. These trends indicate that bicyclists and pedestrians are overrepresented in collisions that resulted in severe and life-threatening injuries and there is continued need for mitigation strategies that target bicycle and pedestrian collisions.

Total Collisions by Mode (2011-2015)



Total Severe Injury and Fatal Collisions by Mode (2011-2015)



Human and Economic Impact

Traffic collisions result in direct economic costs to those involved—wages and productivity losses, medical expenses and legal costs, and motor vehicle damages—but, this represents only a portion of total costs associated with collisions. Traffic collisions also have indirect impacts to the families of those involved, employers and society as a whole. A study by the NHTSA found that more than 75 percent of collision costs are born by society in the form of insurance premiums, taxes and congestion-related costs such as travel delay, excess fuel consumption and lost quality of life associated with deaths and injuries.

Comprehensive costs include the economic cost components associated with traffic collisions, but also the indirect societal costs. Using cost estimates by crash severity published in the American Association of State Highway Transportation Officials' (AASHTO) *Highway Safety Manual*, adjusted to reflect 2015 dollars, the comprehensive costs associated with the 531 citywide traffic collisions occurring in 2015 were calculated to be more than $25 million. Comprehensive collision costs for 2015 by collision type are summarized in the table below.

2015 City of San Luis Obispo Comprehensive Collision Costs

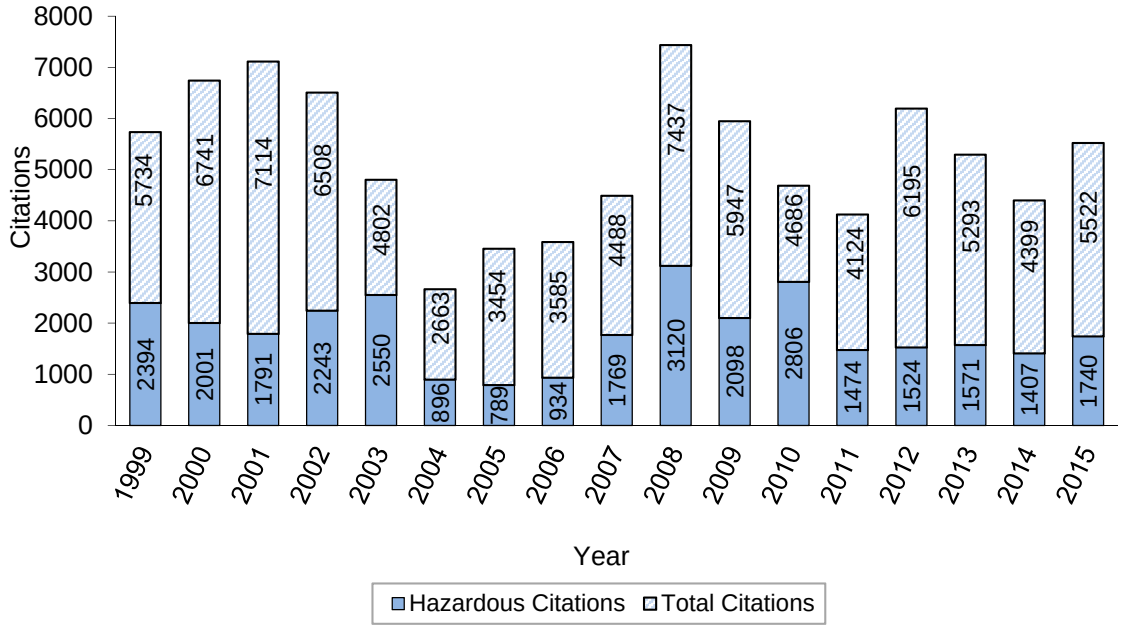
Collision Severity	Number of Collisions	Cost per Collision	Cost
Fatal	0	$5,669,881	-
Disabling Injury	8	$300,591	$2,404,731
Non-Incapacitating Injury	148	$109,811	$16,251,955
Possible Injury	64	$61,904	$3,961,833
Property Damage Only	311	$10,012	$3,113,748
Total	**531**		**$25,732,267**

Source: Crash Cost Estimates based on AASHTO's *Highway Safety Manual,* 2010. Costs adjusted to 2015 dollars based on Consumer Price Index and Employment Cost Index per *Highway Safety Manual* guidance.

Traffic Enforcement Measures

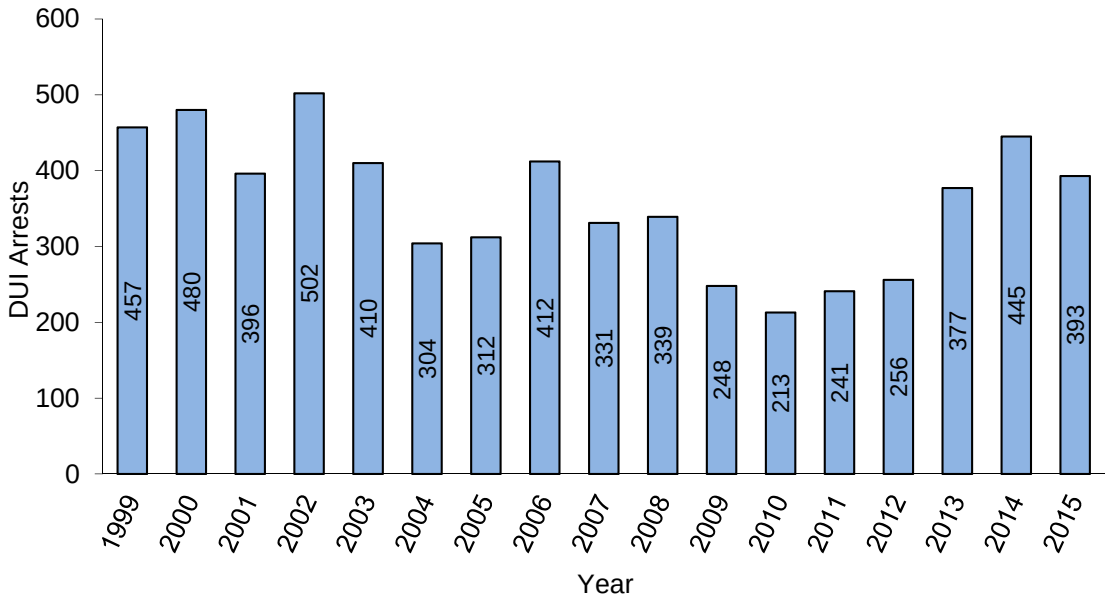
Traffic citations are one method used to promote compliance with the vehicle code and create a safer environment for road users. The vehicle code includes many sections for enforcement. Some vehicle code violations are more serious than others and are designated as “Hazardous Violations”. Vehicle Code Violations are tracked by the Department of Motor Vehicles, and hazardous violations are weighted by a point system. All hazardous vehicle code sections carry at least one point and some carry two points. The point system is used to assess the driving behavior of motorists and place restrictions on negligent drivers, which helps make roadways safer by removing drivers with hazardous driving behavior. The chart below depicts the total citations (hazardous and non-hazardous) by the Police Department since 1999.

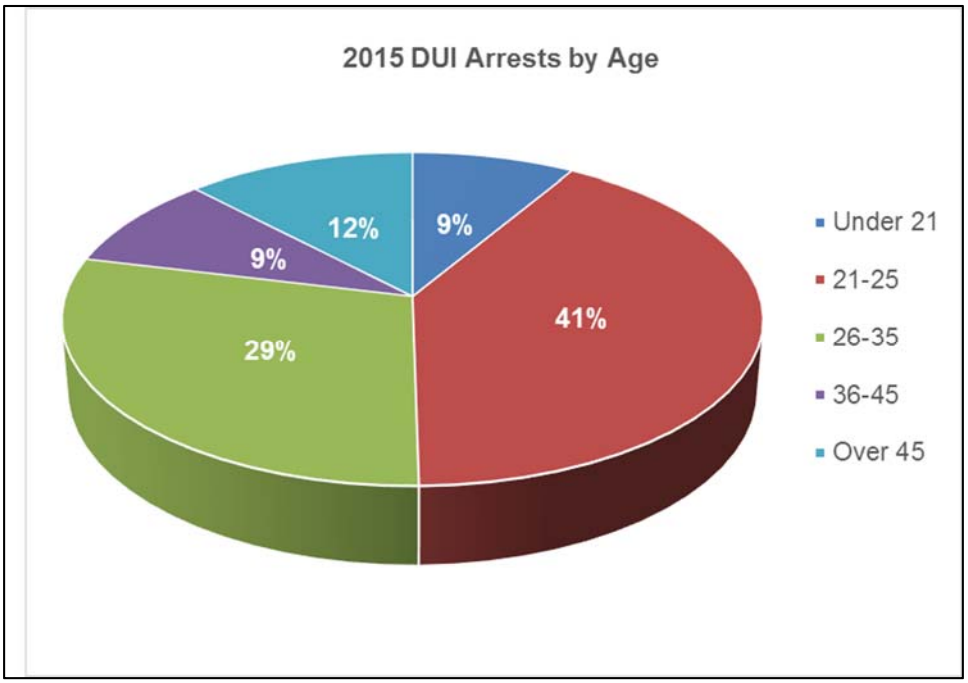
Citation Trends



As shown in the chart above, citation trends can fluctuate from year-to-year. These trends are not necessarily a direct reflection of overall driving behavior, but can coincide with the resources and staffing levels of the Police Department.

DUI Arrests

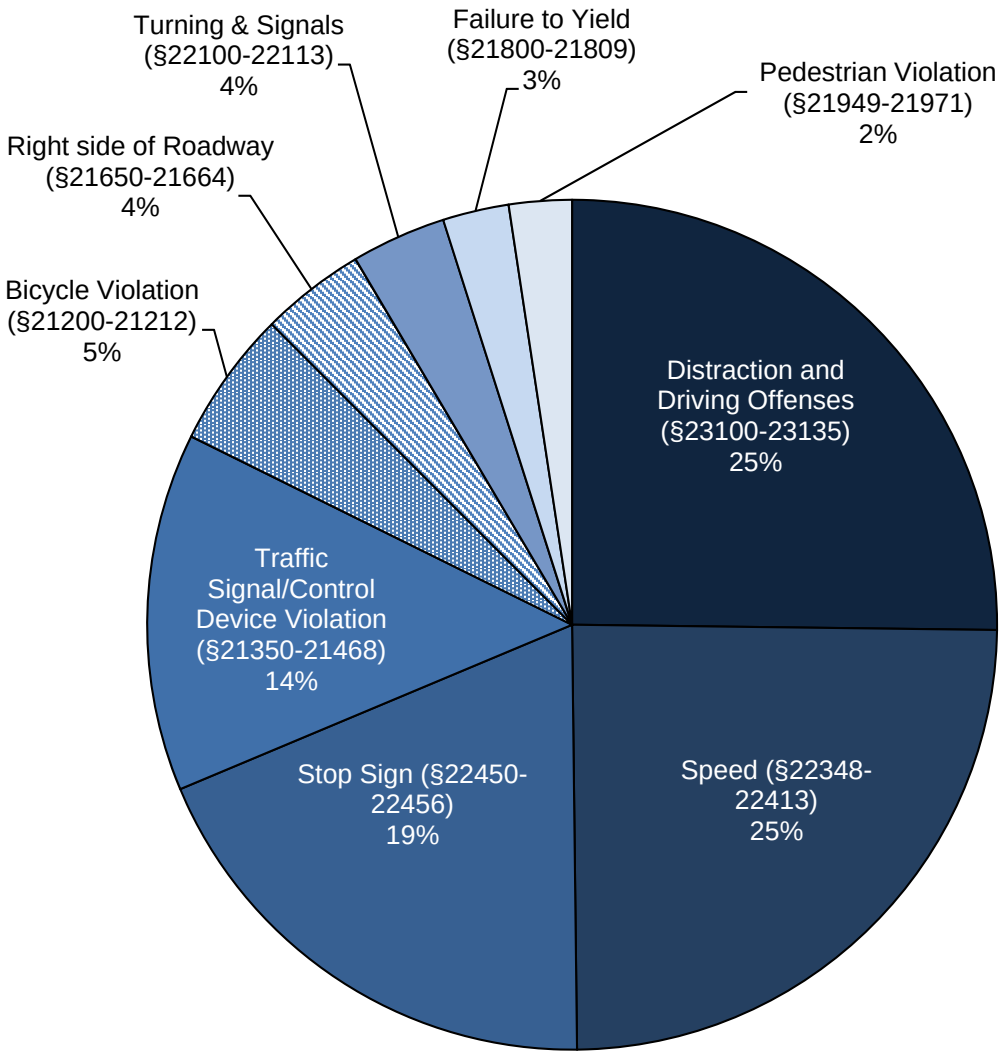




Driving under the influence (DUI) violations have been a focal point of enforcement in an effort to reduce injury traffic collisions. Since 1999, the Police Department has averaged 360 DUI arrests each year. Of those arrests, about five to ten drivers each year were arrested for felony DUI after being involved in a collision that causing injury to someone involved. In 2015 the Police Department arrested 393 people for DUI. Half (50%) of the DUI arrests involved drivers who were between 18 and 25 years old.

Citations by Vehicle Code Section 2015

The following chart depicts the distribution of vehicle code citations by type for 2015.



Note: Above chart excludes citations related to Driver's License and Insurance violations.

Ongoing Activities to Make Our Streets Safer

Completed/Planned Safety Projects & Programs

Transportation safety has always been a priority for the City. Each year the Public Works Department implements traffic safety improvement through a variety of programs and projects. These improvements are usually stand-alone projects, but are often included in other City CIP projects or as part of individual land development projects. below identifies notable traffic safety improvements that were completed recently or planned for implementation in the near future.

Completed or Planned Transportation Safety Projects

Location	Project Description
Traffic Signal Improvements	
Marsh & Santa Rosa Monterey & Grand Monterey & Santa Rosa*	Install Flashing Yellow Left-Turn Arrows. Implementation planned for fall of 2016.
Monterey & Santa Rosa*	Implemented Advanced Pedestrian Phasing.
Foothill & Broad* Santa Rosa & Mill* California & Mill*	Upgraded signal indications from 8” to 12”.
Monterey & Osos*	Designs underway for traffic signal upgrades. Construction anticipated in early 2017.
Citywide	Updated traffic signal timings to provide sufficient bicycle clearance intervals.
Pedestrian & Bicycle Improvements	
Highland & Ferrini	Install bike slot through median to allow left-turn movements for bicyclists. To be completed summer 2016.
Higuera & Marsh Lighted Crosswalks	Replace downtown lighted crosswalks on Higuera and Marsh Streets. To be completed fall of 2016.
Higuera & Marsh	Improved bike lane channelization for southbound approach on Higuera.
Santa Rosa Green Bike Lanes*	Installed green bike lanes on Santa Rosa Street between Montalbon and Walnut Streets.
Broad & Orcutt*	Installed green bike lane extension through intersection.
California & Marsh	Restriped northbound bike lane to meet current City standards.
Longview	Buffered bike lanes added between Hathway and Slack Street as part of 2016 roadway resurfacing project.
Grand & Hwy 101 On-Ramp	Green bike lane to be installed on the southbound approach of Grand Avenue across the Hwy 101 on-ramp intersection. To be completed fall of 2016.
Roadway Improvements	
Higuera Street, 500-700 Block*	Reconfigured on-street parking stalls that do not conform to current City Standards.
Median at South & Parker*	Constructed permanent median along South Street at Parker Street, replacing the temporary median installed in 2014. Completed in spring of 2016.

Location	Project Description
Broad & Upham Crosswalk	Upgrade uncontrolled crossing at Broad & Upham with enhanced flashers (rapid rectangular flashing beacons) and pavement markings.
California & Taft*	Design work for a roundabout at California & Taft intersection to start in the fall of 2016.
Signing & Striping Improvements	
Morro & Pacific	Two-way stop-control orientation reconfigured.
Broad & Orcutt*	Striping on NB approach improved.
Broad & Chorro	Reconfigured right-turn-only lane and bike channelization for northbound Broad traffic.
Chorro & Peach	Lane reconfigurations to Chorro Street implemented between Mill and Walnut. Included extending the bike lane and adding buffers to the existing bike lane.
Highland Drive	Centerline striping added as part of 2016 roadway resurfacing project.
Jennifer & Ella	Installed an all-way-stop sign.
Mill Street	Edge lines and Share the Road Markings added as part of 2016 roadway resurfacing project.
Sight Distance Improvements	
Cerro Romauldo & Ferrini	Installed parking restriction.
Cerro Romauldo & La Canada	Installed parking restriction.
Cerro Romauldo & Santa Lucia	Installed parking restriction.
Cerro Romauldo & Tassajara	Installed parking restriction.
Other Projects/Programs	
Fixilini NTM Construction	Construct permanent traffic diverter at Fixilini Street & Iris Street intersection. Completed in spring 2016.
South Chorro NTM Test Project	Installed temporary neighborhood traffic circles at Chorro & Islay, Chorro & Church and Chorro & High. Completed in winter of 2016. Permanent installation TBD.
Multi-modal Behavior Awareness Campaign*	Display ads for SLOTransit to increase driver/bicyclist/pedestrian safety.
**Project recommended in previous Traffic Safety Report*	

Additional information regarding the status of safety improvement recommendations for high-collision locations identified in the 2014 TSR is provided in the **Appendix**.

Traffic Safety Education Campaigns

Between City-led efforts and activities led by local partners, such as Bike SLO County and SLOCOG/Rideshare, there are a multitude of ongoing traffic safety education and outreach campaigns provided to the community of San Luis Obispo each year. Key education and outreach activities are summarized below:

- Partnership with the California Office of Traffic Safety

A Selective Enforcement Grant funds a full-time DUI officer position. This officer is utilized specifically for DUI enforcement in an effort to further reduce the number of alcohol and drug related driving incidents.

- Bicycle Rodeo

  The City hosts a hands-on bicycle training class targeting youth teaching bicycle skills & operations.

- Pedestrian Halloween Safety Campaign

  The City provides reflective Halloween bags with safety tips to local schools free of cost.

- Impaired Driver Offender Classes

  City officers attend and supplement DUI offender courses to provide a unique positive opportunity to discuss, face to face, the impacts of driving under the influence.

- Every Fifteen Minutes Program

  The City participates in a multi department and agency event simulating the psychological effects of student fatalities as a result of traffic collisions.

- Child Car Seat Instruction & Assistance

  The City provides child safety seat installation and inspection free of cost.

- Channel 20 Public Safety Announcements

- Bicycle Safety Posters

- City of SLO Partnerships:

  Bike SLO County

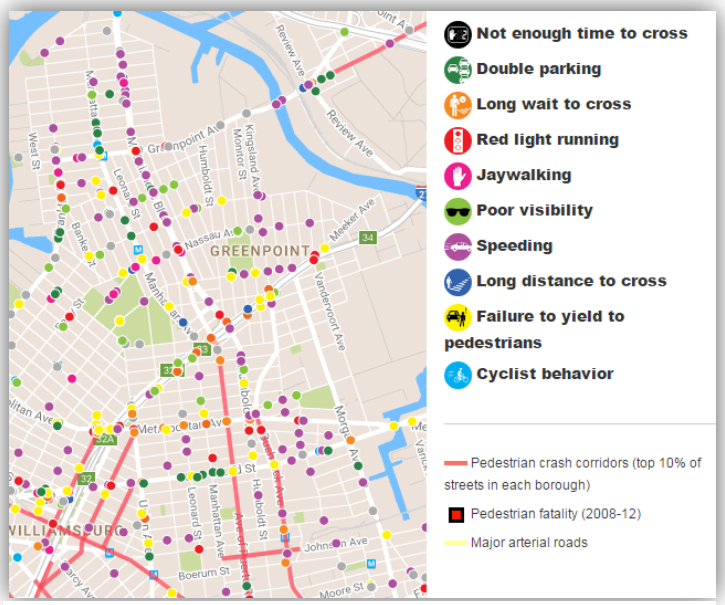
  - *Safety Education Courses*
  - *Elementary School Safety Assemblies*
  - *Safety Brown Bag Lunch at Participating Businesses*

  SLOCOG/SLO Rideshare

  - *Safe Routes to School Program*

Perception of Transportation Safety – Utilizing Public Input

While the Traffic Safety Program has proven to be a useful tool for identifying citywide collision trends and prioritizing locations for safety improvement projects, the process relies on collisions to occur and be recorded by the City Police Department. An inherent limitation with this process is that locations that may have perceived safety or comfort issues for road users are not identified by City staff unless actual incidents are shown in the collision data. For locations such as a crossing where drivers fail to yield to pedestrians, or a traffic signal where bicyclists are not given sufficient green time to comfortably pass through the intersection, these issues may not be highlighted unless residents submit a specific complaint or an actual collision occurs.



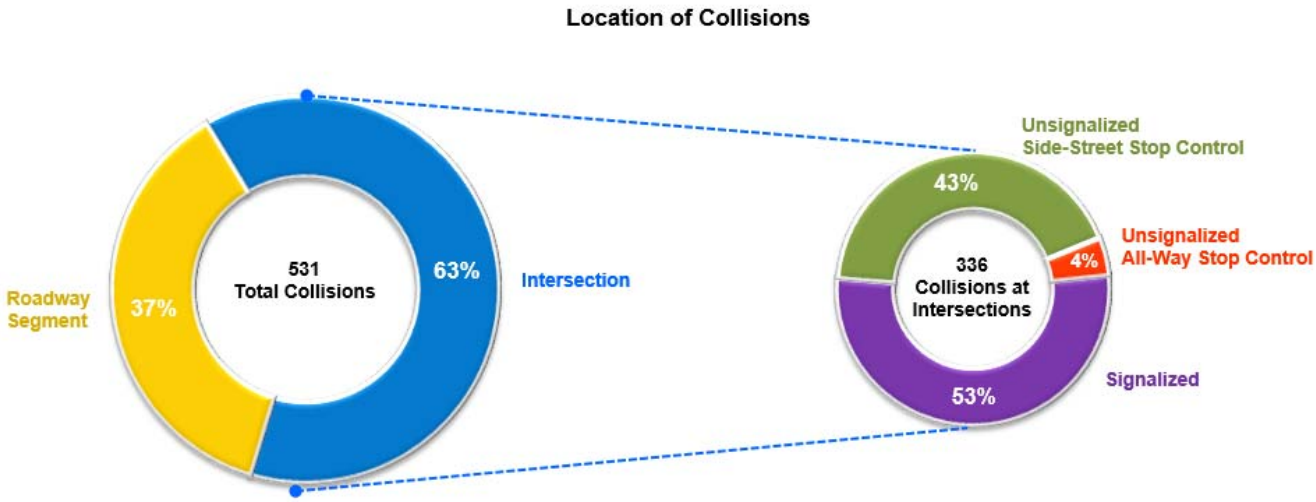
As part of their Vision Zero program, the NYCDOT uses an online transportation safety public input map to allow citizens to identify problem locations in the city.

To improve the ability of City staff to appropriately consider locations where the transportation safety concerns are perceived by the public, the City Public Works Department is in the process of developing an interactive public input map where users can pinpoint locations and provide comments describing safety concerns that they have observed. The New York City Department of Transportation developed a similar tool as part of their Vision Zero program to solicit public input on various safety concerns throughout the city. Ultimately, this perception map would be utilized by the City of San Luis Obispo to complement the existing Traffic Safety Program to develop a more complete understanding of the transportation safety and mobility needs off all our road users.

2015 High Collision Rate Locations & Recommendations

Where Collisions Are Occurring

Intersections are the most common location for collisions to occur. As shown in the figure below, 63% of 2015 collisions in the City occurred at intersections, with 53% of those occurring at signalized intersections. This highlights the importance of focusing traffic safety efforts on intersections.



All of the traffic collisions reported in 2015 are shown on the map in **Figure 1**. All pedestrian and bicycle collisions reported in 2015 are shown on the maps in **Figure 2** and **Figure 3,** respectively.

High-collision intersections are shown in **Figure 4**, while high-collision roadway segments are shown in **Figure 5**.

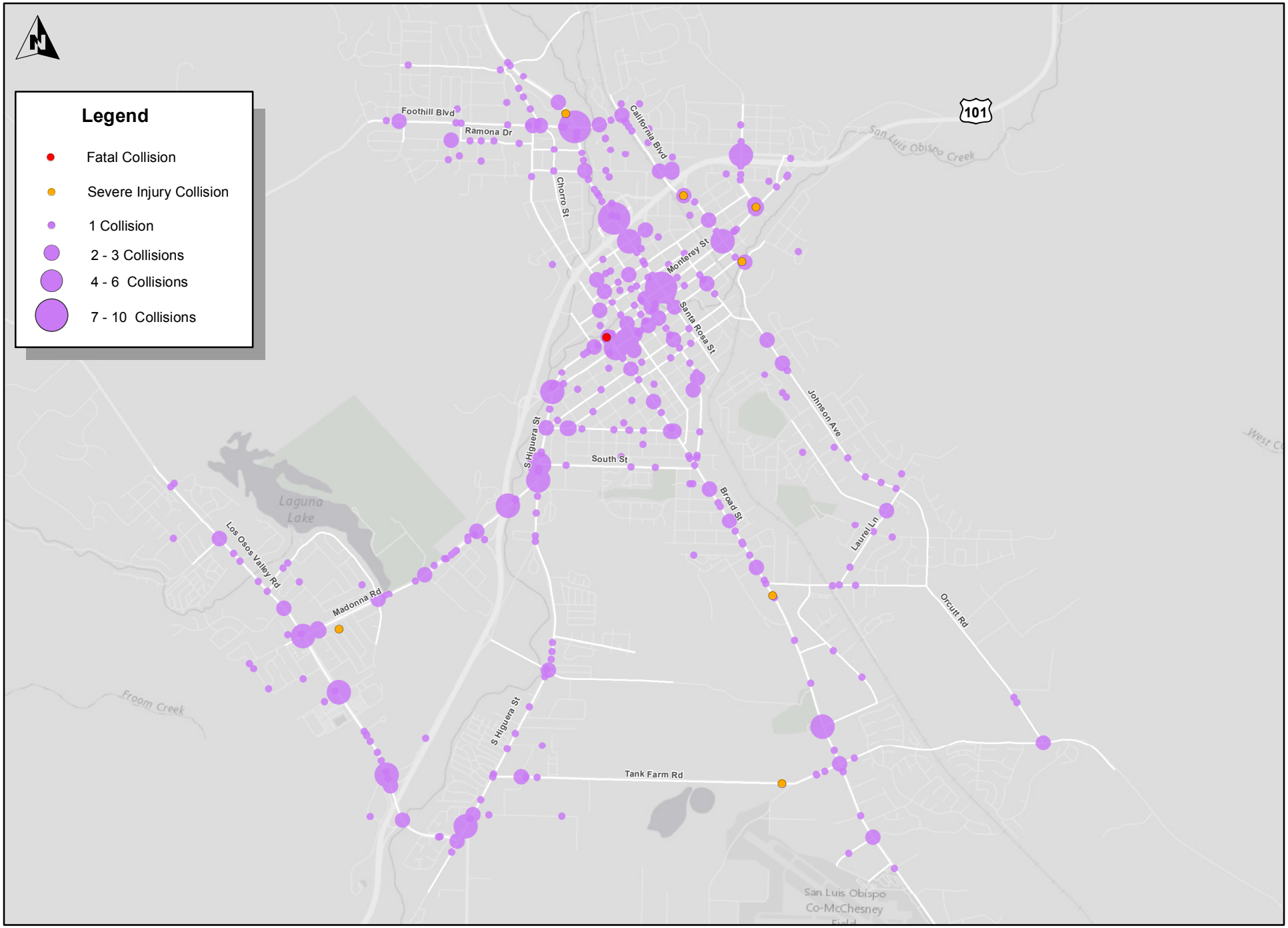


FIGURE 1
2015 CITYWIDE TRAFFIC COLLISIONS

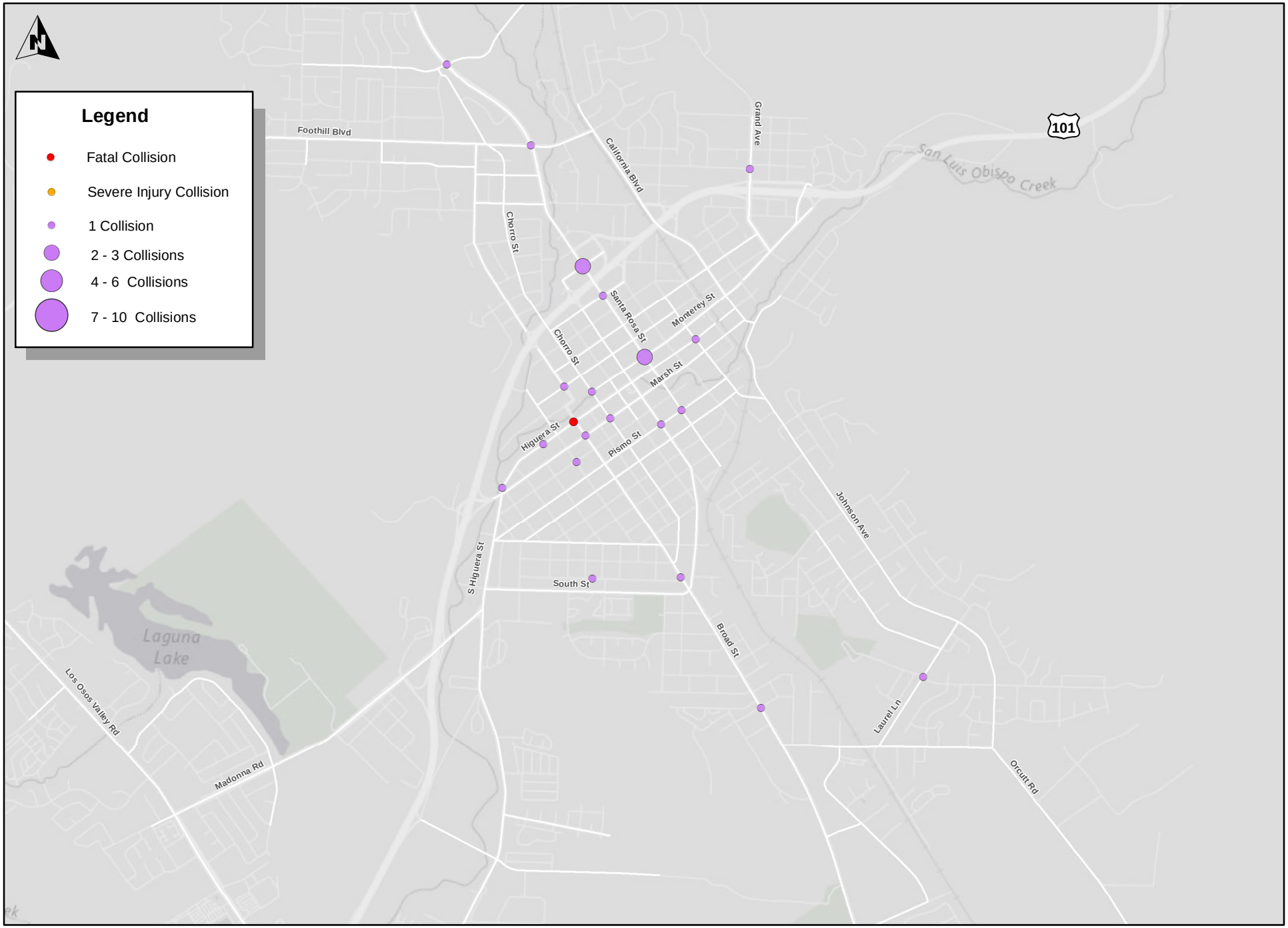


FIGURE 2

2015 CITYWIDE PEDESTRIAN COLLISIONS

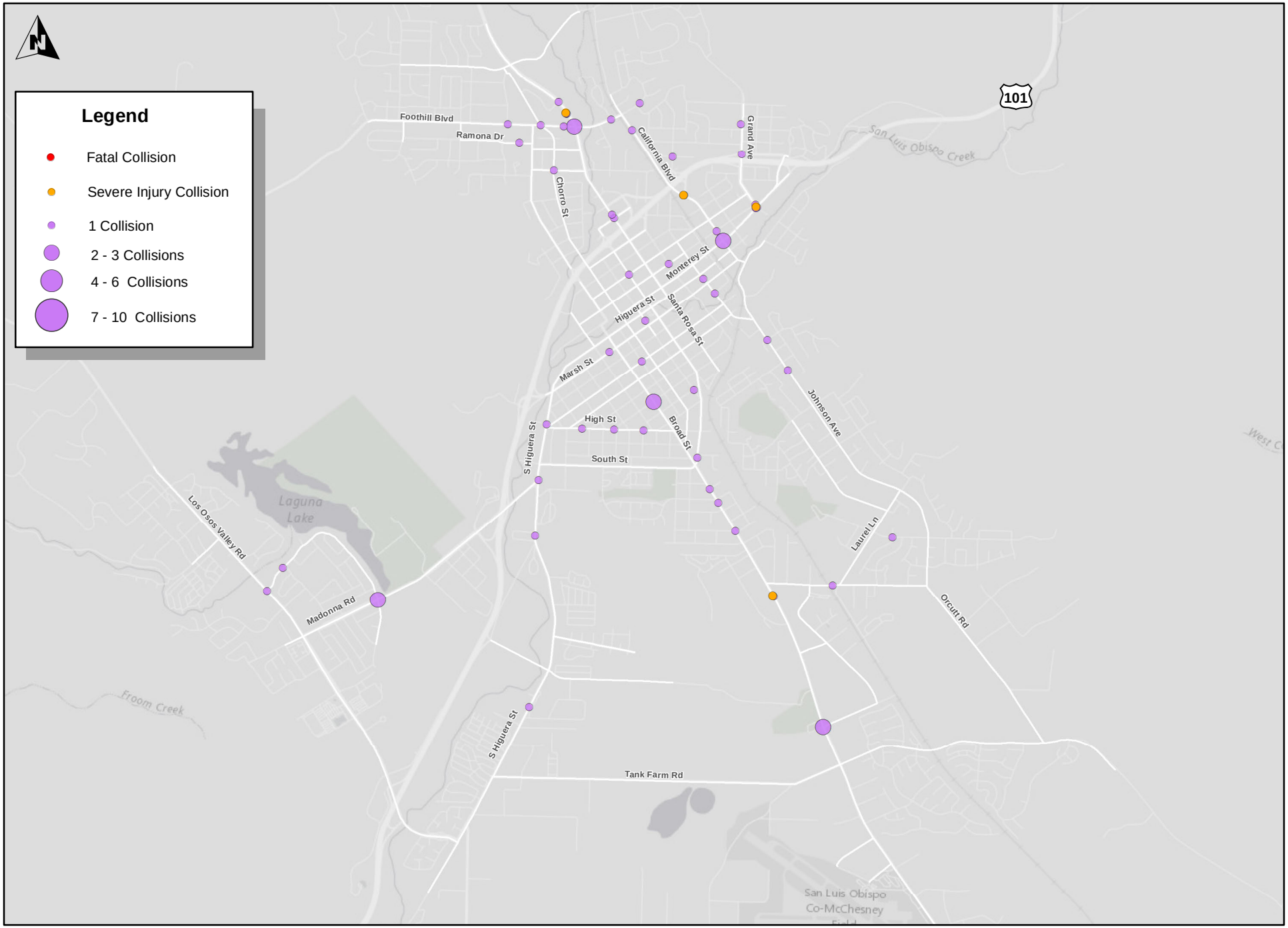
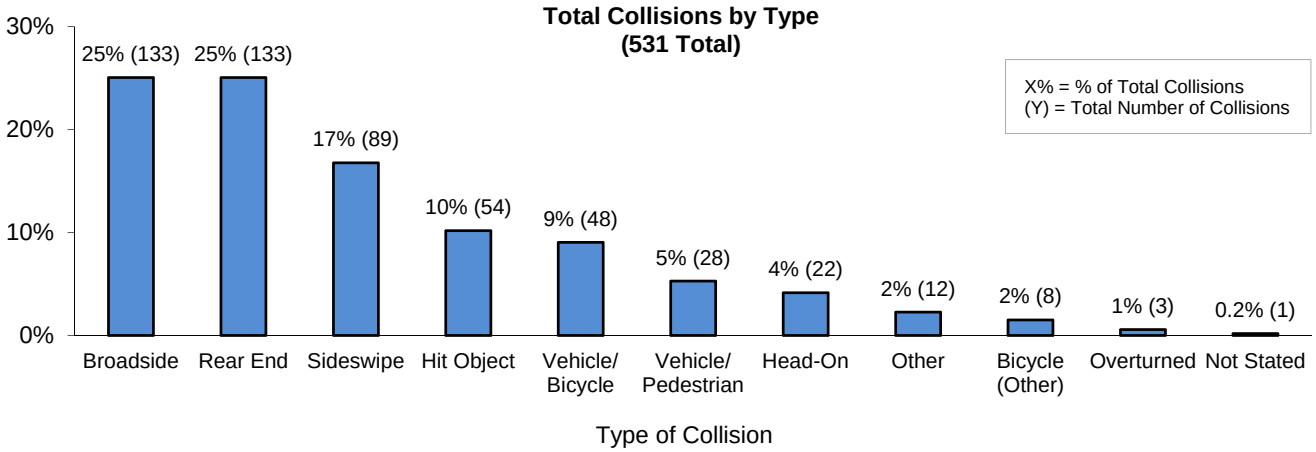


FIGURE 3

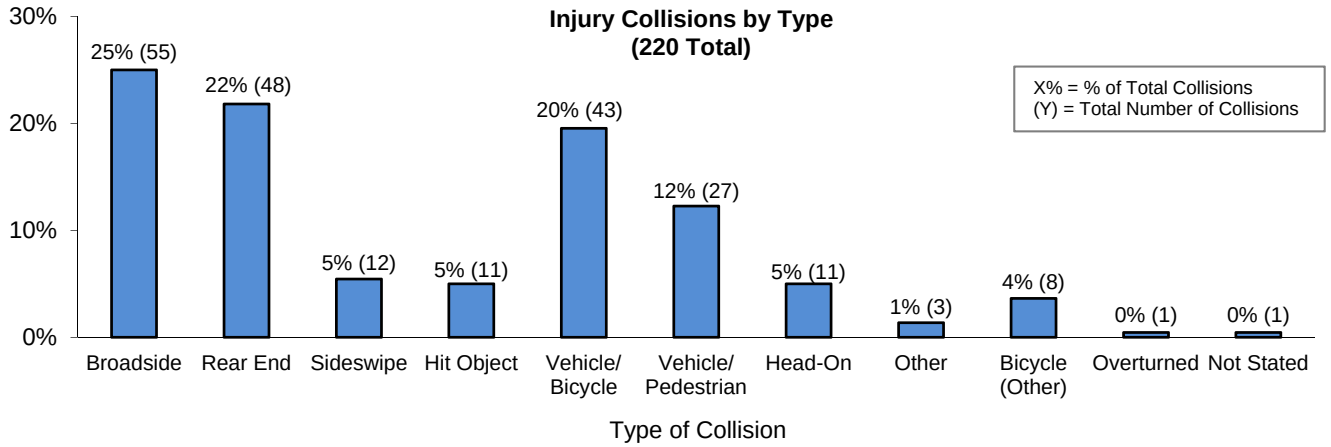
2015 CITYWIDE BICYCLE TRAFFIC COLLISIONS

Most Common Collision Types and Factors

As shown in the figure below, broadside and rear-end collisions were by far the most common type of collisions reported in 2015, with each representing 25% of the total recorded incidents.



As shown below, broadside and rear-end collisions were also the most common type of injury collision reported in 2015, representing 25% and 22% of total recorded injury collisions. While collisions involving a bicycle or pedestrian represent only 16% of total collisions in 2015, they account for 35% of injury collisions and nearly 63% of severe injury collisions. Thus, mitigating these crash types offers the greatest potential for reducing the number of serious injury and fatal incidents.



The most common factors attributed to recorded collisions in 2015 are summarized in the table below. Speeding and improper turning movements represent the most prevalent factors in overall collisions and injury collisions. DUI collisions represent less than 10% of all reported collisions, but DUI ranks as the second most prevalent factor attributed to severe injury and fatal collisions.

Primary Collision Factors

Factor	Rank	%
All Collisions		
Improper Turning	1	23%
Unsafe Speed	2	20%
Unsafe Starting or Backing	3	12%
Traffic Signal/Sign Violation	4	10%
DUI	5	9%
Injury Collisions		
Improper Turning	1	21%
Unsafe Speed	2	19%
Automobile Right-of-Way Violation	3	11%
Traffic Signal/Sign Violation	4	10%
DUI	5	6%
Severe Injury & Fatal Collisions		
Unsafe Speed	1	25%
DUI	2	25%
Improper Turning	3	13%
Unsafe Lane Change	4	13%
Other	5	13%

The table below lists the pedestrian collisions by type recorded in 2015, as well as the party at fault. As shown in the table, motorist failure to yield during left-turn movements and pedestrian jaywalking or crossing against the light were the most frequent types of reported pedestrian collisions. The majority (65%) of pedestrian collisions were the result of motorist fault.

Pedestrian Collisions by Type

Pedestrian Collision Type	No.	%	Party at Fault	%
Motorist Left-Turn	8	35%	Driver	65%
Pedestrian Violation (Jaywalking or Crossing Against Signal)	8	35%	Pedestrian	35%
Motorist Right-Turn	4	17%		
Motorist Failed to Yield	3	13%		
Total	**23**	**100%**		

The table below lists the bicycle collisions by type recorded in 2015, as well as the party at fault. Cyclists losing control/hitting fixed objects, motorist right-turn movements, and cyclists' failure to yield to motorist's right-of-way were the most common types of bicycle collisions reported. About 55% of reported bicycle collisions were the fault of the bicyclist.

Bicycle Collisions by Type

Bicycle Collision Type	No.	%	Party at Fault	%
Cyclist Lost Control	11	20%	Driver	45%
Motorist Right-Turn	9	16%	Bicyclist	55%
Cyclist Failed to Yield	9	16%		
Motorist Left-Turn	7	13%		
Wrong-Way Cyclist	5	9%		
Cyclist on Sidewalk	4	7%		
Motorist Failed to Yield	3	5%		
Motorist Overtaking or Sideswipe	3	5%		
Motorist Open Door into Path of Cyclist	2	4%		
Driveway or Alley	2	4%		
Unknown	1	2%		
Total	**56**	**100%**		

High Collision Rate Locations – Pedestrians

Rank	Prev. Year Rank	Intersection	Control	5 Yr. Collisions	PH Veh. Vol	PH Ped. Vol	REV
NA	1	Santa Rosa & Walnut	Signal	4	2,606	13	4,009
NA	NR	Santa Rosa & Olive	Signal	4	3,349	39	1,717
NA	2	Foothill & Santa Rosa	Signal	3	3,907	121	484
1	NR	Laurel & Southwood	AWSC	3	1,046	33	475
2	3	Santa Rosa & Monterey	Signal	3	2,159	128	253
3	5	Higuera & Broad	Signal	5	1,052	469	56
4	NR	Chorro & Monterey	Signal	3	642	242	40
5	NR	Marsh & Chorro	Signal	3	1,333	689	29

NA = Intersection under State jurisdiction. Forward findings to Caltrans for consideration
NR = Not Ranked
AWSC = All-way Stop-Control
PH = Peak Hour
REV = Relative Exposure Value

Pedestrian Location Recommendations

Rank	Intersection	Control	5 Yr. Collisions	PH Veh. Vol	PH Ped. Vol	REV
1	Laurel & Southwood	AWSC	3	1,046	33	475
Pattern: Turning traffic failing to yield to pedestrians and multiple-threat collisions. Recommendation: Investigate potential for a lane reduction, or "road diet" for Laurel Lane (one through lane in each direction and center turn lane) and traffic control modifications at Laurel/Southwood and Laurel/Augusta intersections. These improvements would reduce the number of conflict points and shorten crossing distances for pedestrians at intersections.						
2	Santa Rosa & Monterey	Signal	3	2,159	128	253
Pattern: Turning traffic failing to yield to pedestrians. Recommendation: Yield to Pedestrian signs installed in April of 2011. Pedestrian lead crossing interval implemented in spring of 2016. Flashing Yellow Arrows to be installed in late 2016. Continue to monitor in 2016.						
3	Higuera & Broad	Signal	5	1,052	469	56
Pattern: Peds vs. left-turns from Broad to Higuera and Higuera to Broad. Recommendation: Pedestrian warning signs upgraded in 2014, one collision since then. Explore installation of lead pedestrian crossing interval.						
4	Chorro & Monterey	Signal	3	642	242	40
Pattern: Peds vs. left-turns from Monterey to Chorro and Chorro to Monterey. Recommendation: Explore installation of lead pedestrian crossing interval.						
5	Marsh & Chorro	Signal	3	1,333	689	29
Pattern: Peds vs. left-turns from Chorro to Marsh and Marsh to Chorro. Recommendation: Install pedestrian warning signs and explore installation of lead pedestrian crossing interval.						

Pedestrian Location Recommendations – Caltrans Facilities

Rank	Intersection	Control	5 Yr. Collisions	PH Veh. Vol	PH Ped. Vol	REV
NA	**Santa Rosa & Walnut**	**Signal**	**4**	**2,606**	**13**	**4,009**
Pattern: WB right-turning traffic failing to yield to pedestrians in crosswalk. Recommendation to Caltrans: Investigate feasibility of restricting WB right-turns on red during ped crossing phase. Consider installation of high-visibility crosswalk markings and advance stop bar at WB approach. City Action: Focus speed enforcement and continue to monitor in 2016.						
NA	**Santa Rosa & Olive**	**Signal**	**4**	**3,349**	**39**	**1,717**
Pattern: Turning traffic not yielding to pedestrians and unsafe pedestrian crossings. Recommendation: Consider implementation of lead pedestrian crossing interval and installation of high-visibility crosswalk markings with advance stop bar. City Action: Focus speed enforcement and continue to monitor in 2016.						
NA	**Foothill & Santa Rosa**	**Signal**	**3**	**3,907**	**121**	**484**
Pattern: Turning traffic failing to yield to pedestrians. Recommendation: Consider implementation of lead pedestrian crossing interval and installation of high-visibility crosswalk markings with advance stop bar. City Action: Focus speed enforcement and continue to monitor in 2016.						

High Collision Rate Locations – Bicycles

Rank	Prev. Year Rank	Intersection	Control	5 Yr. Collisions	PH Veh. Vol	PH Bike. Vol	REV
1	**NR**	**Los Osos Valley & Oceanaire**	**SSSC**	**3**	**2,195**	**10**	**3,293**
NA	**NR**	**Santa Rosa & Olive**	**Signal**	**5**	**3,349**	**30**	**2,791**
2	**3**	**California & Taft**	**SSSC**	**6**	**1,746**	**19**	**2,757**
3	**5**	**California & 101 N/B Ramps**	**SSSC**	**5**	**1,548**	**17**	**2,276**
NA	**1**	**Santa Rosa & Walnut**	**Signal**	**3**	**2,601**	**18**	**2,168**
NA	**4**	**Santa Rosa & Boysen**	**SSSC**	**3**	**2,495**	**20**	**1,871**
NA	**8**	**Foothill & Santa Rosa**	**Signal**	**5**	**3,907**	**71**	**1,376**
4	**6**	**California & Monterey**	**Signal**	**5**	**1,935**	**40**	**1,209**
5	**12**	**California & Palm**	**SSSC**	**4**	**952**	**32**	**595**
6	9	California & Foothill	Signal	5	1,995	88	567
7	NR	Broad & Leff	SSSC	3	791	21	565
8	NR	Chorro & Murray	AWSC	3	606	18	505
9	11	California & Mill	Signal	3	1,031	47	329

NA = Intersection under State jurisdiction. Forward findings to Caltrans for consideration
NR = Not Ranked
AWSC = All-way Stop-Control
SSSC = Side-Street Stop-Control
PH = Peak Hour
REV = Relative Exposure Value

Bicycle Location Recommendations

Rank	Intersection	Control	5 Yr. Collisions	PH Veh. Vol	PH Bike. Vol	REV
1	**Los Osos Valley & Oceanaire**	**SSSC**	**3**	**2,195**	**10**	**3,293**
Pattern: Unsafe maneuvers by bicyclists (unsafe SB left-turn from bike lane across SB travel lanes, riding bike wrong-way in eastern crosswalk). Recommendation: Focus enforcement and continue to monitor in 2016.						
2	**California & Taft**	**SSSC**	**6**	**1,746**	**19**	**2,757**
Pattern: Cyclists vs. SB motorists left-turning onto Taft. Recommendation: Location approved for roundabout control as part of General Plan. In addition, Cal Poly Housing EIR identified this as an impacted intersection and established a fair share cost responsibility for the University. Funding has been allocated for design, which will begin in fall of 2016. Staff is actively pursuing grants and other funding sources for construction and will prepare a CIP request in the upcoming budget cycle. Design work for Railroad Safety Trail Extension through this location initiated in spring of 2016 with construction planned for fall of 2017.						
3	**California & 101 NB Ramps**	**SSSC**	**5**	**1,548**	**17**	**2,276**
Pattern: Cyclists vs. WB and SB left-turning motorists. Recommendation: Green bike lane extensions through intersection installed in summer of 2013. There have been four (4) collisions since. Evaluate feasibility of installing additional warning signage. Design work for the Railroad Safety Trail Extension through this location was initiated in spring of 2016 with construction planned for fall of 2017.						
4	**California & Monterey**	**Signal**	**5**	**1,935**	**40**	**1,209**
Pattern: Cyclists vs. SB and NB motorists turning right. Cyclists and motorists traveling at high speeds due to downgrades at NB & SB approaches. Recommendation: Green bike lane extensions through intersection installed in May of 2012. Since then five (5) collisions were reported. City to refresh green bike lanes in fall of 2016. Install radar speed feedback signs and additional warning signs at NB & SB approaches.						
5	**California & Palm**	**SSSC**	**4**	**952**	**32**	**595**
Pattern: Cyclists vs. SB motorists turning right. Cyclists and motorists traveling at high speeds due to SB downgrade on California. Recommendation: Install warning signage and green bike lanes through intersection in SB direction.						

Bicycle Location Recommendations – Caltrans Facilities

Rank	Intersection	Control	5 Yr. Collisions	PH Veh. Vol	PH Bike. Vol	REV
NA	**Santa Rosa & Olive**	**Signal**	**5**	**3,349**	**30**	**2,791**
Pattern: NB vehicle vs. NB bicyclist right-hook collisions. Recommendation to Caltrans: None at this time. City Action: Green bike lane extensions through intersections installed along Santa Rosa from Walnut to Montalban in August of 2015. One bicyclist collision reported since addition of green bike lanes. While the green pavement markings were recently removed as part of Caltrans resurfacing project, the City plans to reinstall them in fall of 2016. Continue to monitor in 2016/17.						
NA	**Santa Rosa & Walnut**	**Signal**	**3**	**2,601**	**18**	**2,168**
Pattern: Cyclists vs. NB motorists Recommendation to Caltrans: None at this time. City Action: Green bike lane extensions through intersections installed along Santa Rosa from Walnut to Montalban in August of 2015. One bicyclist collision reported since addition of green bike lanes. While the green pavement markings were recently removed as part of Caltrans resurfacing project, the City plans to reinstall them in fall of 2016. Continue to monitor in 2016/17.						
NA	**Santa Rosa & Boysen**	**SSSC**	**3**	**2,495**	**20**	**1,871**
Pattern: Cyclists vs. NB motorists turning left onto Boysen. Recommendation to Caltrans: Investigate potential treatments to enhance visibility of bicyclists to drivers making turning movements. Potential options for consideration include additional warning signage and/or green bike lane extensions through intersection. City Action: Focused vehicle and bicycle/pedestrian enforcement at this location. Continue to monitor in 2016.						
NA	**Santa Rosa Foothill**	**Signal**	**5**	**3,907**	**71**	**1,376**
Pattern: Cyclists vs. right-turning vehicles (right-hook collisions). Recommendation to Caltrans: Investigate potential treatments to enhance visibility and/or reduce conflicts between bicyclists and drivers making turning movements. Potential options for consideration include additional warning signage, green bike lane extensions through intersection, dedicated bicycle signal phasing or intersection geometric modifications. City Action: Focused vehicle and bicycle/pedestrian enforcement at this location. Continue to monitor in 2016.						

High Collision Rate Locations – Arterial/Arterial Intersections

Rank	Prev. Year Rank	Intersection	Control	Collisions	Daily Volume	Rate
1	**8**	**Santa Rosa & Monterey**	**Signal**	**9**	**26,656**	**0.925**
2	**15**	**Higuera & Marsh**	**Signal**	**6**	**22,367**	**0.735**
3	**NR**	**Marsh & Broad**	**Signal**	**4**	**15,759**	**0.695**
4	**2**	**California & Monterey**	**Signal**	**5**	**21,052**	**0.651**
5	**NR**	**Chorro & Higuera**	**Signal**	**3**	**13,816**	**0.595**
6	6	Grand & Monterey	Signal	3	14,086	0.583
7	12	Higuera & Madonna	Signal	7	33,410	0.574
NA	5	Foothill & Santa Rosa	Signal	10	48,364	0.566
8	NR	Marsh & Johnson	Signal	3	16,250	0.506
9	NR	Marsh & Osos	Signal	3	16,663	0.493
NA	22	101 N/B On/Off Ramp & Madonna	Signal	5	32,522	0.421
10	NR	Higuera & South	Signal	4	27,504	0.398
11	4	Los Osos Valley & Madonna	Signal	4	37,183	0.295

NA = Intersection under State jurisdiction. Forward findings to Caltrans for consideration
NR = Not Ranked
Rate = Collision frequency per million vehicles entering the intersection

Arterial/Arterial Intersections Recommendations

Rank	Intersection	Control	Collisions	Volume	Rate
1	**Santa Rosa & Monterey**	**Signal**	**9**	**26,656**	**0.925**
Pattern: Left-turning traffic not yielding to opposing vehicles. Right-turning traffic not yielding to pedestrians. Recommendation: Yield to Pedestrian signs installed in April of 2011. Advanced Pedestrian Phasing implemented in spring of 2016. Flashing Yellow Arrows to be installed in late 2016. Continue to monitor in 2016.					
2	**Higuera & Marsh**	**Signal**	**6**	**22,367**	**0.735**
Pattern: SB red light violations. Recommendation: Focus speed and red light enforcement. Continue to monitor in 2016.					
3	**Marsh & Broad**	**Signal**	**4**	**15,759**	**0.695**
Pattern: NB & EB red light violations. Recommendation: Upgrade signal to add poles with mast arms for NB/SB approaches and potentially extend mast arm for NB approach to improve visibility of indications.					
4	**California & Monterey**	**Signal**	**5**	**21,052**	**0.651**
Pattern: Cyclists vs. SB and NB motorists turning right. Cyclists and motorists traveling at high speeds due to downgrades at NB & SB approaches. Recommendation: Green bike lane extensions through intersection installed in May of 2012. Since then five (5) collisions were reported. City to refresh green bike lanes in fall of 2016. Install radar speed feedback signs and additional warning signs at NB & SB approaches.					
5	**Chorro & Higuera**	**Signal**	**3**	**13,816**	**0.595**
Pattern: DUI Collisions and pedestrians vs. turning motorists. Recommendation: Relocate pedestrian signal heads at west crosswalk to adjacent signal poles to improve visibility of pedestrian indications for motorists and pedestrians. Focus enforcement and continue monitoring in 2016.					

High Collision Rate Locations – Arterial/Collector Intersections

Rank	Prev. Year Rank	Intersection	Control	Collisions	Volume	Rate
1	2	Osos & Pismo	Signal	3	12,230	0.672
2	NR	Broad & High	SSSC	3	15,394	0.534
3	4	Foothill & Broad	Signal	3	18,997	0.433
4	NR	Foothill & Chorro	Signal	3	20,455	0.402
5	NR	Broad & Industrial	Signal	4	29,832	0.367

NR = Not Ranked
SSSC = Side-Street Stop-Control
Rate = Collision frequency per million vehicles entering the intersection

Arterial/Collector Intersections Recommendations

Rank	Intersection	Control	Collisions	Volume	Rate
1	Osos & Pismo	Signal	3	12,230	0.672
Pattern: No discernible pattern. Recommendation: Continue to monitor in 2016.					
2	Broad & High	SSSC	3	15,394	0.534
Pattern: Broadside collisions due to EB thru/left vs. SB and NB right of way violations. Recommendation: Evaluate (a) potential for sight distance improvements for WB approach (could include further parking restrictions and/or curb extension on northwest corner of Broad St.), or (b) turn restrictions for EB High St. approach.					
3	Foothill & Broad	Signal	3	18,997	0.433
Pattern: No discernible pattern in 2015. Historic pattern of WB left vs. EB thru right of way violations. Recommendation: Signal heads were upgraded from 8" indications to 12" indications in April of 2016. Continue to monitor in 2016. If collision pattern continues, consider installation of Flashing Yellow Arrows.					
4	Foothill & Chorro	Signal	3	20,455	0.402
Pattern: No discernible pattern in 2015. Historic pattern of EB/WB left-turn right of way violations. Recommendation: Upgrade 8” to 12” signal indications and evaluate feasibility of Flashing Yellow Arrows.					
5	Broad & Industrial	Signal	4	29,832	0.367
Pattern: No discernible pattern. Recommendation: Continue to monitor in 2016.					

High Collision Rate Locations – Arterial/Local Intersections

Rank	Prev. Year Rank	Intersection	Control	Collisions	Volume	Rate
1	**1**	**Monterey & Osos**	**Signal**	**3**	**7,746**	**1.061**
NA	**13**	**Santa Rosa & Olive**	**Signal**	**9**	**35,364**	**0.697**
2	**8**	**Higuera & Nipomo**	**Signal**	**3**	**12,348**	**0.666**
3	**NR**	**Grand & Loomis**	**SSSC**	**3**	**12,470**	**0.659**
4	**4**	**California & Taft**	**SSSC**	**3**	**16,866**	**0.487**
5*	**NR**	**Marsh & Garden**	**SSSC**	**4**	**10,200**	*****
NA	11	Santa Rosa & Walnut	Signal	5	33,171	0.413
6	5	Los Osos Valley & Calle Joaquin	Signal	4	33,730	0.325
7	NR	Higuera & Vachell	SSSC	3	27,886	0.295
8	7	Los Osos Valley & Froom Ranch	Signal	4	38,690	0.283

NA = Intersection under State jurisdiction. Forward findings to Caltrans for consideration

NR = Not Ranked

SSSC = Side-Street Stop-Control

Rate = Collision frequency per million vehicles entering the intersection

*Detailed crash rate cannot be calculated because current traffic volumes not available for the Garden Street intersection approaches. Based on an estimate of volumes, the crash rate for this location is anticipated to rank in the top five.

Arterial/Local Intersections Recommendations

Rank	Intersection	Control	Collisions	Volume	Rate
1	**Monterey & Osos**	**Signal**	**3**	**7,746**	**1.061**
Pattern: Red light violations in all directions. Recommendation: Traffic signal improvements planned to add mast arms and enhance visibility of all indications. Construction is expected in late 2016.					
2	**Higuera & Nipomo**	**Signal**	**3**	**12,348**	**0.666**
Pattern: No discernible pattern. Recommendation: Continue to monitor in 2016.					
3	**Grand & Loomis**	**SSSC**	**3**	**12,470**	**0.659**
Pattern: WB vs. SB and NB broadside collisions. Recommendation: Traffic signal warrants are not satisfied. Evaluate additional sight distance improvements, which could include further parking restrictions along Grand Ave. and/or bulbouts at intersection corners. Focus speed enforcement and continue to monitor in 2016.					
4	**California & Taft**	**SSSC**	**3**	**16,866**	**0.487**
Pattern: WB vs. NB broadside collisions. Recommendation: Location approved for roundabout control as part of General Plan. In addition, Cal Poly Housing EIR identified this as an impacted intersection and established a fair share cost responsibility for the University. Funding has been allocated for design, which will begin in fall of 2016. Staff is actively pursuing grants and other funding sources for construction and will prepare a CIP request in the upcoming budget cycle. Design work for Railroad Safety Trail Extension through this location initiated in spring of 2016 with construction planned for fall of 2017.					
5	**Marsh & Garden**	**SSSC**	**4**	**10,200**	******
Pattern: SB wrong-way right-turns onto Marsh St. Recommendation: Garden St. will be reconfigured to one-way NB circulation as part of the Garden St. Terraces development project. Continue to monitor in 2017 once construction is completed.					

*Detailed crash rate cannot be calculated because current traffic volumes not available for the Garden Street intersection approaches. Based on an estimate of volumes, the crash rate for this location is anticipated to rank in the top five.

Arterial/Local Intersections Recommendations – Caltrans Facilities

Rank	Intersection	Control	Collisions	Volume	Rate
NA	**Santa Rosa & Olive**	**Signal**	**9**	**35,364**	**0.697**

Pattern: SB rear-end collisions and NB right-turning cars vs. NB cyclists.

Recommendation to Caltrans: None at this time.

City Action: Green bike lane extensions through intersections installed along Santa Rosa from Walnut to Montalban in August of 2015. One bicyclist collision reported since addition of green bike lanes. While the green pavement markings were recently removed as part of Caltrans resurfacing project, the City plans to reinstall them in fall of 2016. Continue to monitor in 2016/17.

High Collision Rate Locations – Collector/Collector Intersections

Rank	Prev. Year Rank	Intersection	Control	Collisions	Volume	Rate
1	**NR**	**Chorro & Mill**	**SSSC**	**3**	**7,464**	**1.101**

NR = Not Ranked
SSSC = Side-Street Stop-Control
Rate = Collision frequency per million vehicles entering the intersection

In 2015 there was only one Collector/Collector intersection that had 3+ collisions.

Collector/Collector Intersections Recommendations

Rank	Intersection	Control	Collisions	Volume	Rate
1	**Chorro & Mill**	**SSSC**	**3**	**7,464**	**1.101**

Pattern: WB vs. SB broadside collisions.

Recommendation: All-way Stop signal warrants not satisfied. Traffic circle was evaluated in 2015, but was determined to be geometrically infeasible. Striping modifications were implemented in spring of 2015. Since addition of striping modifications, one collision has been reported at this intersection. Continue to monitor in 2016.

High Collision Rate Locations – Collector/Local Intersections

Rank	Prev. Year Rank	Intersection	Control	Collisions	Volume	Rate
1	NR	Mill & Osos	SSSC	3	5,034	1.633
2	1	Chorro & Peach	SSSC	3	7,844	1.048

NR = Not Ranked
SSSC = Side-Street Stop-Control
Rate = Collision frequency per million vehicles entering the intersection

In 2015 there was only two Collector/Local intersections that had 3+ collisions.

Collector/Local Intersections Recommendations

Rank	Intersection	Control	Collisions	Volume	Rate
1	Mill & Osos	SSSC	3	5,034	1.633
Pattern: SB vs. WB. Recommendation: Refresh SB stop bar and pavement legend to improve driver compliance at stop sign.					
2	Chorro & Peach	SSSC	3	7,844	1.048
Pattern: EB and WB vs. NB/SB broadside collisions. Recommendation: Lane reconfigurations to Chorro St. near this intersection were completed in October of 2015, with one reported collision since then. Explore relocation of power pole at northwest corner of intersection, identify speed reduction treatments along Chorro Street, and investigate possible turn restrictions at EB/WB approaches. Continue to monitor in 2016.					

Local/Local Intersections

No Locations Ranked Under this Category

High Collision Rate Locations – Arterial Segments

Rank	Prev. Rank	Segment	Collisions	Ped-Bike Coll.	Vol.	Seg. Length (mi.)	Rate	Location
1	**NR**	**Monterey, 1800-2100 Block**	**3**	**0**	**8,384**	**0.23**	**4.27**	**Grand to US 101 N/B Ramps**
2	**NR**	**California, 200-500 Block**	**6**	**1**	**17,509**	**0.25**	**3.76**	**Foothill to Stafford**
3	**NR**	**Madonna, 200-300 Block**	**7**	**3**	**26,690**	**0.20**	**3.58**	**US 101 S/B Ramps to El Mercado**
4	**NR**	**Higuera, 100 Block**	**3**	**0**	**25,638**	**0.09**	**3.56**	**Madonna to South**
5	**3**	**Higuera, 500-700 Block**	**3**	**1**	**8,410**	**0.28**	**3.44**	**Nipomo to Broad**
6	NR	Foothill, 900-1000 Block	4	1	18,947	0.18	3.28	Chorro to Santa Rosa
7	NR	Johnson, 2800-3100 Block	3	0	13,607	0.22	2.71	La Cita to Laurel
8	5	Los Osos Valley, 12200-12400 Block	6	0	30,988	0.25	2.16	Auto Park to Calle Joaquin
9	NR	S Higuera, 3200-3900 Block	10	1	17,895	0.77	1.98	Margarita to Tank Farm
NA	1	Santa Rosa, 100-400 Block	7	1	37,220	0.28	1.81	Murray to Olive
10	4	Broad, 3200-3400 Block	4	2	28,334	0.23	1.69	Orcutt to Rockview
11	NR	Tank Farm, 600-700 Block	3	0	20,709	0.25	1.60	Santa Fe to Broad
12	NR	Broad, 2400-2900 Block	3	2	28,818	0.19	1.52	Woodbridge to Lawrence

NA = Segment under State jurisdiction. Forward findings to Caltrans for consideration
NR = Not Ranked
Rate = Collision frequency per million vehicle-miles traveled along segment

Arterial Segments Recommendations

Rank	Segment	Collisions	Volume	Seg. Length (mi.)	Rate	Location
1	Monterey, 1800-2100 Block	3	8,384	0.23	4.27	Grand to US 101 N/B Ramps
Pattern: No discernable pattern. Recommendation: Continue to monitor in 2016.						
2	California, 200-500 Block	6	17,509	0.25	3.76	Foothill to Stafford
Pattern: Rear-ends and turning movements from driveways on east side of California Blvd. Recommendation: Focused speed enforcement. Investigate potential parking removal on one side of California to provide width for center turn lane.						
3	Madonna, 200-300 Block	7	26,690	0.20	3.58	US 101 S/B Ramps to El Mercado
Pattern: EB rear-end collisions primarily due to congestion at Madonna/US 101 SB Ramp intersection. WB rear-end collisions with vehicles making right-turns into private driveways on north side of Madonna. Recommendation: Evaluate potential Madonna Road corridor improvements as part of proposed San Luis Ranch development project. Focused speed enforcement and continue to monitor in 2016.						
4	Higuera, 100 Block	3	25,638	0.90	3.56	Madonna to South
Pattern: NB sideswipe and NB/SB rear-end collisions due to congestion and unsafe lane changes along this short segment between Higuera/Madonna and Higuera/South intersections. Recommendation: General Plan includes capital project to explore potential realignment Madonna Road at Higuera Street as part of redevelopment of adjacent properties or as part of update to the Mid Higuera Plan.						
5	Higuera, 500-700 Block	3	8,410	0.28	3.44	Nipomo to Broad
Pattern: Parking maneuvers. Recommendation: Based on recommendations from the 2014 Traffic Safety Report, several parking stalls were reconfigured along this segment in spring of 2016 to provide consistency with City Engineering Standards. Continue to monitor in 2016.						

High Collision Rate Locations – Collector Segments

Rank	Prev. Rank	Segment	Collisions	Ped-Bike Coll.	Volume	Seg. Length (mi.)	Rate	Location
1	NR	N Chorro, 100-500 Block	3	0	3,853	0.35	6.12	Foothill to Ferrini
2	NR	Ramona, 300-600 Block	3	1	4,107	0.36	5.56	Tassajara to Broad

NR = Not Ranked
Rate = Collision frequency per million vehicle-miles traveled along segment

Collector Segments Recommendations

Rank	Segment	Collisions	Volume	Seg. Length (mi.)	Rate	Location
1	N Chorro, 100-500 Block	3	3,853	0.35	6.12	Foothill to Ferrini
Pattern: No discernable pattern. Recommendation: Continue to monitor in 2016.						
2	Ramona, 300-600 Block	3	4,107	0.36	5.56	Tassajara to Broad
Pattern: WB parking maneuvers and DUI. Recommendation: Focused enforcement and continue to monitor.						

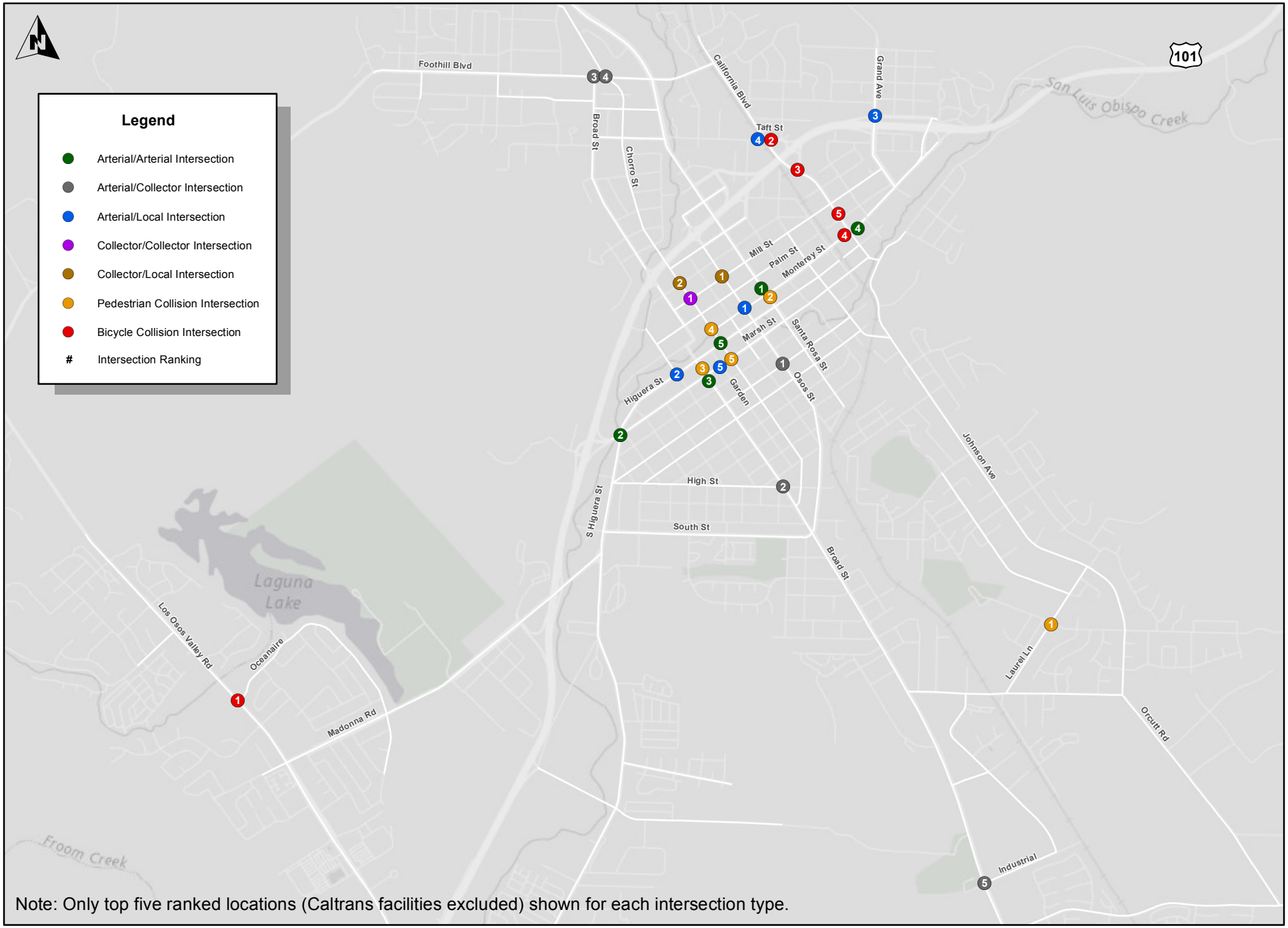
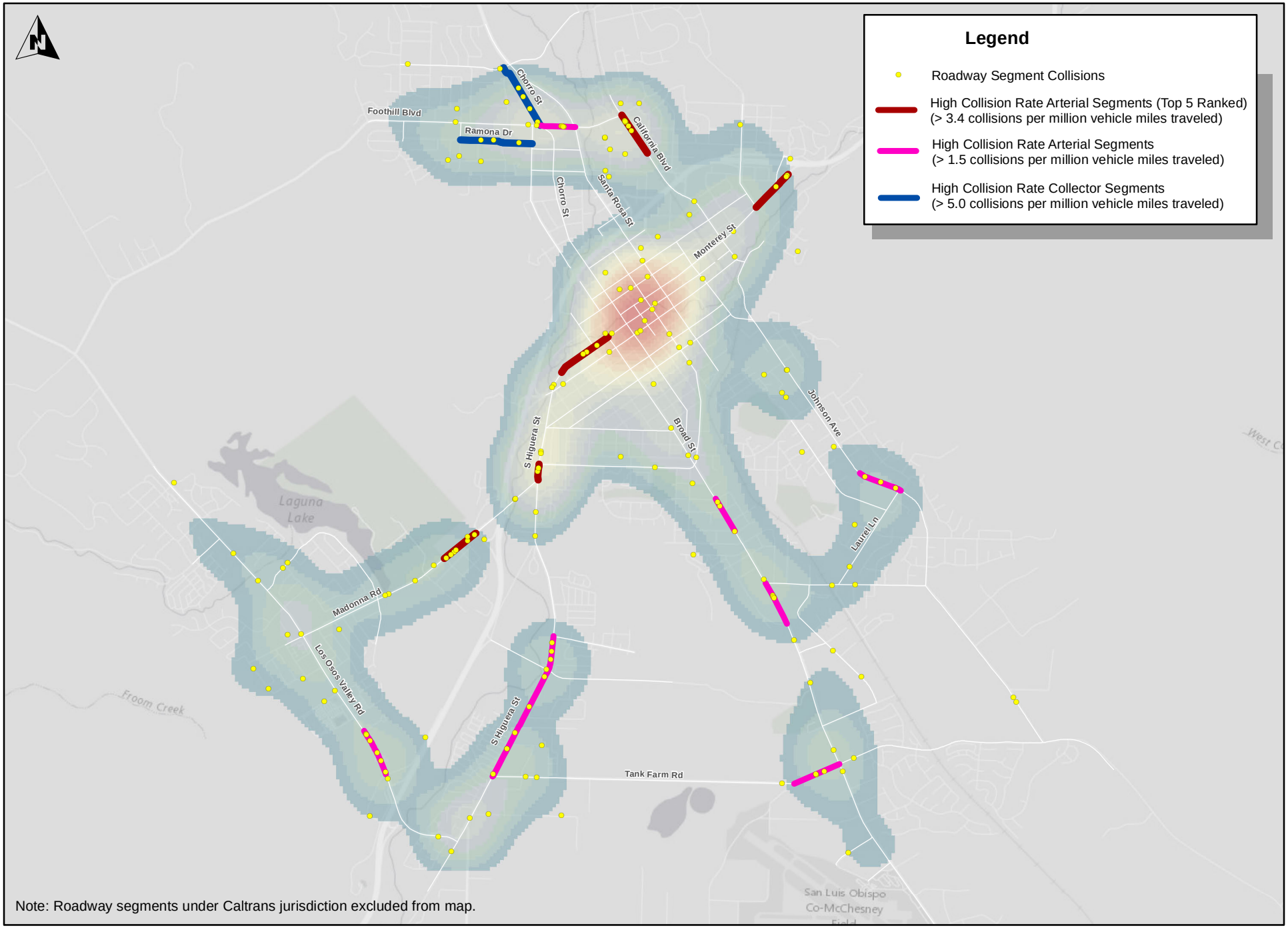


FIGURE 4

2015 HIGH COLLISION INTERSECTION LOCATIONS



Note: Roadway segments under Caltrans jurisdiction excluded from map.

FIGURE 5

2015 HIGH COLLISION RATE ROADWAY SEGMENTS

APPENDIX A

Collision Analysis Methodology

Study Methodology

Collision Data

Reported traffic collisions obtained by the City of San Luis Obispo Police Department are the basis used by the City Traffic Engineering group to evaluate traffic safety[1]. Collisions totals are obtained for each intersection and roadway segment within the City and entered into the City's traffic collision database. Collisions occurring on private property or outside of the City Limits are not included in the dataset. Collision locations are then grouped by intersection type (i.e. arterial-arterial, arterial-collector, collector-collector, etc.) and street segment. For locations with at least three (3) total collisions in the past year or at least three (3) bicycle or pedestrian collisions in the previous five-year period, collision rates are calculated and collision diagrams are generated.

Based on the collision patterns for the five (5) highest ranked City intersections and roadway segments, as ranked based on collision rate, mitigation measures are formulated where a collision pattern can be identified. Mitigation measures for these sub-categories will be implemented in as projects are designed and funding becomes available. Intersections and street segments under State (Caltrans) jurisdiction are included for reference, but are not included in the ranking and mitigation recommendations for the top five locations by facility type.

Traffic Volumes

Vehicle and pedestrian volumes play an important role in calculating collision rates for selected locations within the City. Vehicle volume counts were collected in 2014 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.

Collision Rate Calculations

Collision rates were calculated using the following formulas:

Intersections:

$$RI = \frac{N \times 1{,}000{,}000}{V \times 365}$$

Segments:

$$RS = \frac{N \times 1{,}000{,}000}{365 \times V \times L}$$

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[1] Note that the data contained within the Public Works Traffic Collision Database may vary from other sources of collision data such as the California - Statewide Integrated Traffic Records System (SWITRS) or the City's Emergency Dispatch Records System. While SWITRS data is similarly derived from official police collision reports, many times the reports are coded incorrectly due to jurisdictional boundary issues and/or agency reporting inaccuracies. Likewise, City emergency dispatch may receive a call regarding a traffic collision but when the dispatched officer arrives, the vehicles have been moved on or there is no evidence of occurrence. Therefore, statistics derived from this data may be inaccurate for engineering purposes because no official proof or record exists of the actual collision type.

Where:

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

For high-rate bicycle and pedestrian collision locations, collision rates were calculated as follows:

Pedestrians:

$$PREV = \frac{5 \times N \times PHVV}{PHPV}$$

Bicycles:

$$BEV = \frac{5 \times N \times PHVV}{PHBV}$$

Where:

PREV = Pedestrian relative exposure value.
PREV = Bicycle relative exposure value.
N = Number of collisions (5-year collision frequency) of the location.
PHVV = Average peak hour vehicular volume.
PHPV = Average peak hour pedestrian volume.
PHBV = Average peak hour bicycle volume.

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

APPENDIX B

2014 High Collision Locations – Status Update

2014 High Collision Locations - Status Update

Location	2014		2015			2014 TSR Recommendation	Status
	Rank	Collisions	Rank	Collisions	Increase/ Decrease		
Pedestrian Intersections*							
Santa Rosa & Walnut	1	3	NA	4	↑	Intersection under State Jurisdiction. Forward to Caltrans for study & continue to monitor in 2015.	Collision frequency increased in 2015. 2014 TSR recommendation remains relevant.
Foothill & Santa Rosa	2	3	NA	3	-	Intersection under State Jurisdiction. Forward to Caltrans for study. Continue to monitor in 2015.	Collision frequency same in 2015. 2014 TSR recommendation remains relevant.
Monterey & Santa Rosa	3	3	2	3	↓	Yield to Pedestrian signs installed in April of 2011. Investigate Flashing Yellow Arrow and Advanced Pedestrian Phasing options as part of minor signal upgrade. Continue to monitor in 2015.	Collision frequency same in 2015. Advanced Pedestrian Phasing implemented in spring of 2016. Flashing Yellow Arrows to be installed in late 2016.
Higuera & Nipomo	4	3	NR	2	↓	Conduct focused DUI enforcement downtown and continue to monitor in 2015.	Collision frequency decreased; no pedestrian collisions in 2015.
Broad & Higuera	5	5	3	5	-	Pedestrian warning signs upgraded in 2014, one collision since. Continue to monitor in 2015.	One fatal pedestrian collision in 2015 (DUI driver w/ pedestrian crossing outside of crosswalk). Explore installation of lead pedestrian crossing interval.
Bicycle Intersections*							
Santa Rosa & Walnut	1	6	NA	3	↓	Intersection under state jurisdiction. Green bike lane extensions thru intersection were installed in July of 2015, monitor as part of 2015 Traffic Safety Report.	Collision frequency decreased in 2015, with no bike collisions since installation of green bike lanes in July of 2015.
Broad & Orcutt	2	4	NR	2	↓	Green bike lane extensions thru intersection were installed in August of 2015. Monitor as part of 2015 Traffic Safety Report.	Collision frequency decreased; no bike collisions in 2015.
California & Taft	3	6	2	6	-	Location approved for roundabout control as part of General Plan. Staff is actively pursuing grant funding and will prepare a CIP request in the upcoming budget. Also, grant funding for Railroad Safety Trail Extension thru this location approved, work expected to begin in Spring of 2016.	No bike collisions in 2015, but five-year total remains unchanged from 2014 TSR. Design for new roundabout to begin in 2016, but funding for construction has yet to be secured. Railroad Safety Trail Extension through this location in design phase with construction planned for fall of 2017.
Santa Rosa & Boysen	4	3	NA	3	-	Intersection under State Jurisdiction. Forward to Caltrans for study. Continue to monitor in 2015.	One bike collision in 2015; five-year total remains same as 2014. 2014 TSR recommendation remains relevant.
101 N/B On/Off Ramp & California	5	4	3	4	↓	Intersection under state jurisdiction. Green bike lane extensions thru intersection were installed in Summer of 2014, monitor as part of 2015 Traffic Safety Report.	One bike collision in 2015; five-year total remains same as 2014. Evaluate feasibility of installling additional warning signage. Railroad Safety Trail Extension through this location in design phase with construction planned for fall of 2017.
Arterial/Arterial Intersections							
California & Foothill	1	9	NR	2	↓	Focus speed enforcement and continue to monitor in 2015.	Collision frequency decreased in 2015.
California & Monterey	2	7	4	5	↓	Continue to monitor in 2015.	Collision frequency decreased in 2015. Reinstall green bike lanes and explore installation of radar speed feedback signs and additional warning signs at NB & SB approaches.
Broad & Orcutt	3	10	NR	2	↓	Striping on NB approach improved in August 2015. Focus speed enforcement and continue to monitor in 2015.	Collision frequency significantly decreased in 2015.

2014 High Collision Locations - Status Update

Location	2014		2015			2014 TSR Recommendation	Status
	Rank	Collisions	Rank	Collisions	Increase/ Decrease		
Los Osos Valley & Madonna	4	10	11	4	⇩	Continue to monitor in 2015.	Collision frequency significantly decreased in 2015.
Foothill & Santa Rosa	5	13	NA	10	⇩	Provide Caltrans with collision data and recommend the State implement advance "signal ahead" flashing warning beacons.	Collision frequency decreased in 2015. Recommendation from 2014 TSR recommendation remains relevant.
Arterial/Collector Intersections							
California & Mill	1	3	NR	2	⇩	Upgrade 8" signal indications to 12" and continue to monitor in 2015.	Collision frequency decreased in 2015. Signal indications upgraded to 12" in 2016.
Osos & Pismo	2	3	1	3	-	Continue to monitor in 2015.	Collision frequency remains consistent. No discernible pattern. Continue to monitor in 2016.
Madonna & Oceanaire	3	5	NR	2	⇩	Continue to monitor in 2015.	Collision frequency decreased in 2015.
Broad & Foothill	4	3	3	3	-	Upgrade 8" signal indications to 12" and continue to monitor in 2015.	Collision frequency remains consistent. Signal indications upgraded to 12" in April of 2016. If pattern continues, consider installation of Flashing Yellow Arrows.
Mill & Santa Rosa	5	3	NR	1	⇩	Upgrade 8" signal indications to 12" and continue to monitor in 2015.	Collision frequency decreased in 2015. Signal indications upgraded to 12" in 2016.
Arterial/Local Intersections							
Monterey & Osos	1	5	1	3	⇩	Reconstruct signal with mast arms to increase visibility of indications. Project is funded as part of current CIP, construction is expected in 2016.	Collision frequency decreased in 2015. Signal improvements planned to add mast arms and enhance visibility of all indications. Construction expected in late 2016.
Monterey & Morro	2	3	NR	1	⇩	Continue to monitor in 2015.	Collision frequency decreased in 2015.
Marsh & Morro	3	4	NR	2	⇩	Continue to monitor in 2015.	Collision frequency decreased in 2015.
California & Taft	4	6	4	3	⇩	Location approved for roundabout control as part of General Plan. Staff is actively pursuing grant funding and will prepare a CIP request in the upcoming budget. Also, grant funding for Railroad Safety Trail Extension thru this location approved, work expected to begin in Spring of 2016.	Collision frequency decreased in 2015. Design for new roundabout to begin in 2016, but funding for construction has yet to be secured. Railroad Safety Trail Extension through this location in design phase with construction planned for fall of 2017.
Calle Joaquin & Los Osos Valley	5	10	6	4	⇩	Intersection being reconfigured as part of the LOVR Interchange Project. Continue to monitor after construction is complete.	Collision frequency decreased in 2015. LOVR Interchange Project completed in 2016. Continue to monitor.
Collector/Collector Intersections							
No Locations Ranked Under this Category in 2014.							

2014 High Collision Locations - Status Update

Location	2014		2015			2014 TSR Recommendation	Status
	Rank	Collisions	Rank	Collisions	Increase/ Decrease		
Collector/Local Intersections							
Chorro & Peach	1	4	2	3	⇩	Lane reconfigurations to Chorro Street near this intersection were completed in 2015. Continue to monitor.	Collision frequency decreased slightly in 2015. Continue to explore relocation of power pole at northwest corner of intersection, identity speed reduction treatments along Chorro Street, and investigate possible turn restrictions at EB/WB approaches. Continue to monitor in 2016.
Local/Local Intersections							
No Locations Ranked Under this Category in 2014.							
Arterial Segments							
Santa Rosa, 200-600 Block (Oak to Walnut)	1	8	NA	7	⇩	Rear-end collision pattern. Interchange planned for upgrade to address congestion as part of City General Plan and Regional Transportation Plan. Intersections under state jurisdiction. Forward findings to Caltrans and continue to monitor.	Collision frequency generally consistent along this segment. 2014 TSR recommendation remains relevant.
Foothill, 1000-1200 Block (Santa Rosa to California)	2	12	NR	-	⇩	Driveway maneuvers primary collision pattern. Work with property management companies to distribute safety flyers for residents of housing complexes along corridor.	Collision frequency decreased in 2015.
Higuera, 500-700 Block (Nipomo to Broad)	3	6	5	3	⇩	Parking maneuvers primary collision pattern. Update any parking stalls that do not conform to current City Standards.	Collision frequency decreased in 2015. Parking stalls reconfigured on 500 Block of Higuera in spring of 2016.
Broad, 2900-3200 Block (Sweeny to Rockview)	4	7	10	5	⇩	Rear-end collision pattern. Pursue funding for and implementation of Broad St. Median, signalized Intersections, and Victoria Ave. Extension as adopted under the South Broad Street Area Plan. Apply access management practices for new development projects along corridor.	Collision frequency decreased in 2015. 2014 TSR recommendation remains relevant.
LOVR, 12000 Block (NB 101 Ramps to Froom)	5	13	8	7	⇩	Rear-end collisions primary pattern. No recommendation due to construction activities. Continue to monitor in 2015.	Collision frequency decreased on 2015.
Collector Segments							
No Locations Ranked Under this Category in 2014.							

NA = Location under State jurisdiction. Not assigned a ranking in 2015 TSR, but included for reference purposes.
NR = Not Ranked
*For Pedestrian and Bicycle Intersections, five-year collision total listed.

APPENDIX C

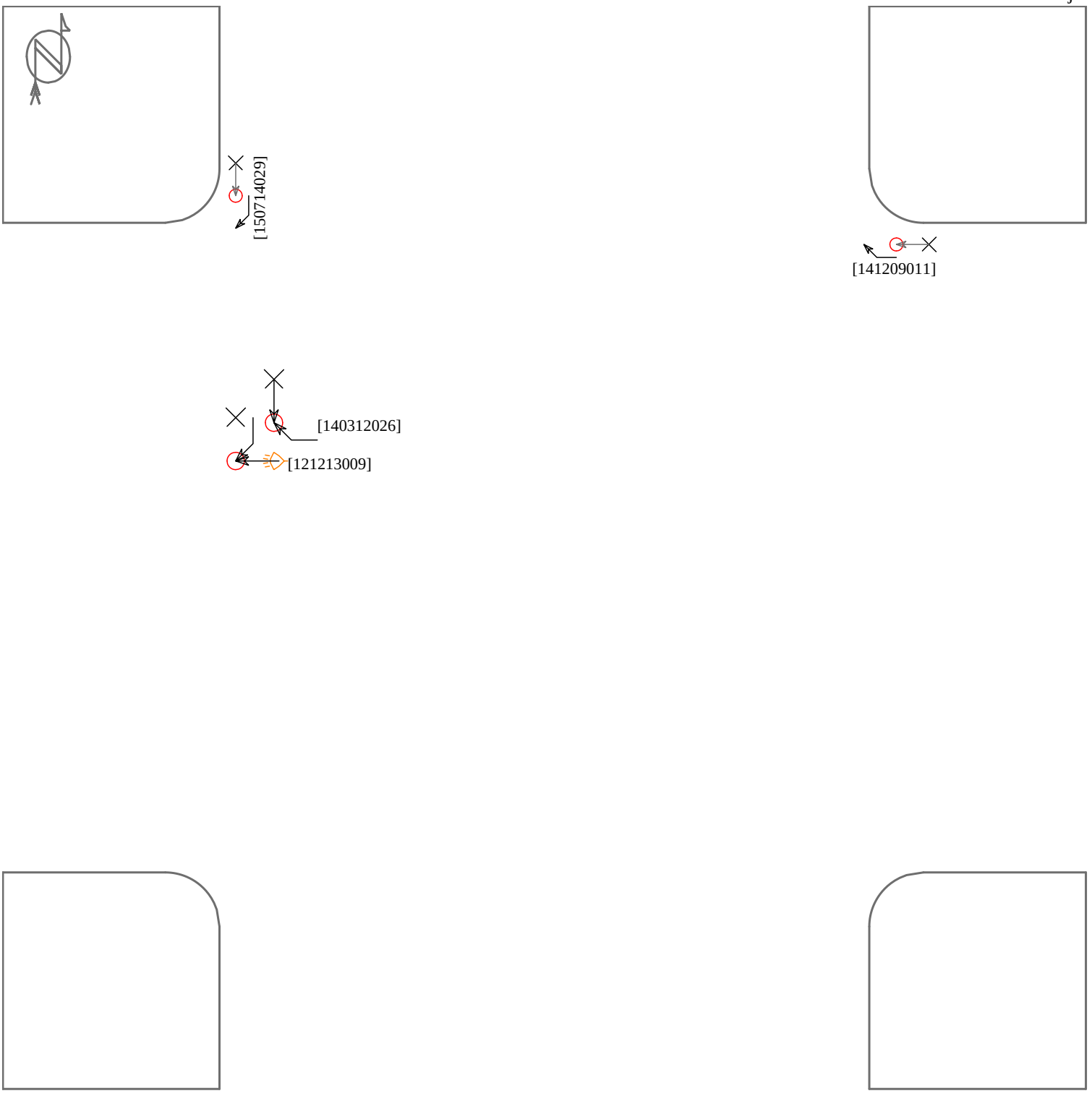
2015 Collision Diagrams

Pedestrian Intersections

SANTA ROSA & WALNUT
2011 - 2015

4 Crashes

Pedestrian Injured



(0) crashes could not be placed in this schematic

- Straight
- Stopped
- Unknown
- Backing
- Overtaking
- Sideswipe
- Parked
- Erratic
- Out of control
- Right turn
- Left turn
- U-turn
- Pedestrian
- Bicycle
- Injury
- Fatality
- Nighttime
- DUI

Fixed objects:

- General
- Signal
- Tree
- Pole
- Curb
- Animal

- 3rd vehicle
- Extra data

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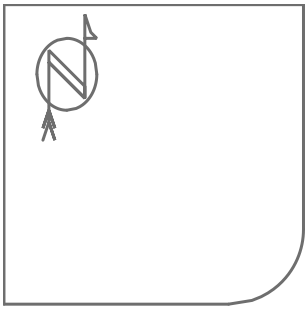
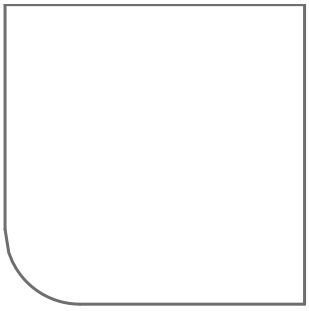
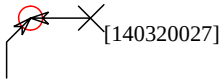
SANTA ROSA & OLIVE (1)
2011 - 2015

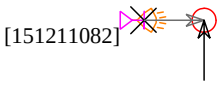
3 Crashes

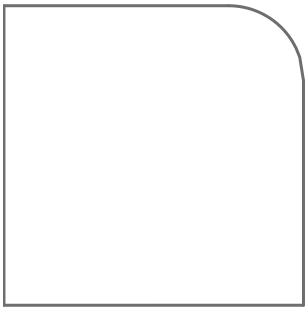
Pedestrian Intersection

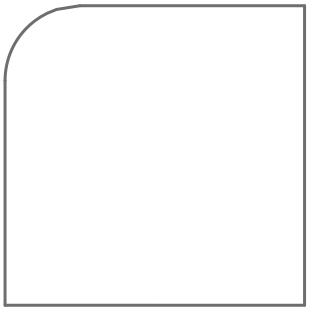












(0) crashes could not be placed in this schematic

- Straight
- Stopped
- Unknown
- Backing
- Overtaking
- Sideswipe
- Parked
- Erratic
- Out of control
- Right turn
- Left turn
- U-turn
- Pedestrian
- Bicycle
- Injury
- Fatality
- Nighttime
- DUI

Fixed objects:

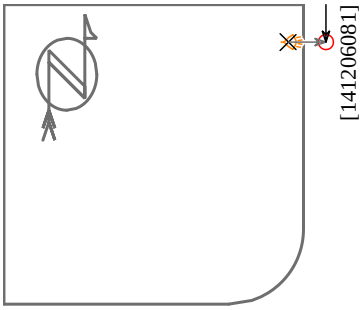
- General
- Signal
- Tree
- Pole
- Curb
- Animal

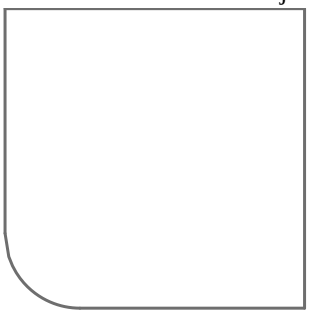
- 3rd vehicle
- Extra data

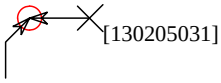
SANTA ROSA & FOOTHILL
2011 - 2015

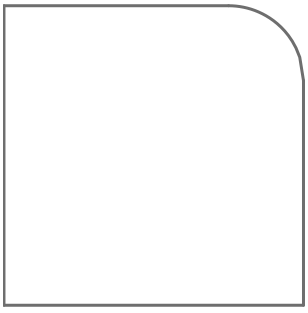
3 Crashes

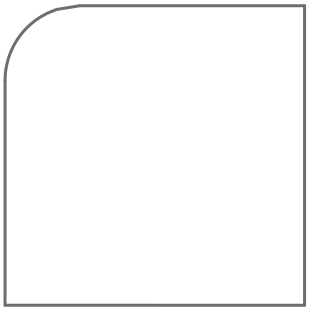
Pedestrian Injured











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- Straight
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- Unknown
- Backing
- Overtaking
- Sideswipe
- Parked
- Erratic
- Out of control
- Right turn
- Left turn
- U-turn
- Pedestrian
- Bicycle
- Injury
- Fatality
- Nighttime
- DUI

Fixed objects:

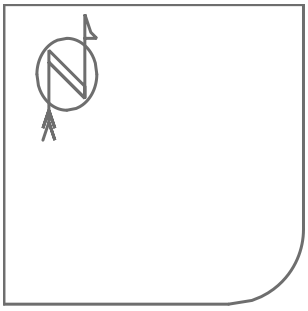
- General
- Signal
- Tree
- Pole
- Curb
- Animal

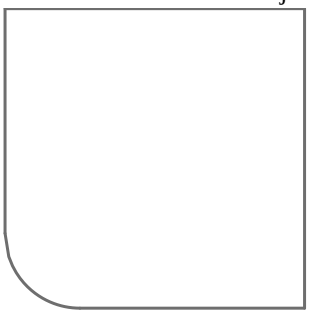
- 3rd vehicle
- Extra data

LAUREL & SOUTHWOOD
2011 - 2015

3 Crashes

Pedestrian Injured





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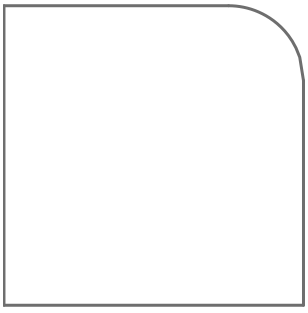

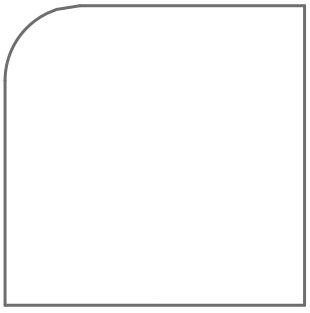

(1) crashes could not be placed in this schematic

- Straight
- Stopped
- Unknown
- Backing
- Overtaking
- Sideswipe
- Parked
- Erratic
- Out of control
- Right turn
- Left turn
- U-turn
- Pedestrian
- Bicycle
- Injury
- Fatality
- Nighttime
- DUI

Fixed objects:

- General
- Signal
- Tree
- Pole
- Curb
- Animal

- 3rd vehicle
- Extra data

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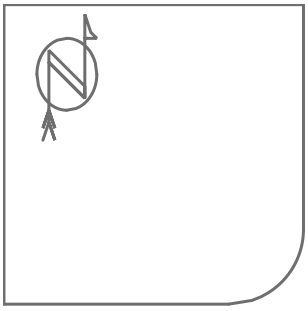
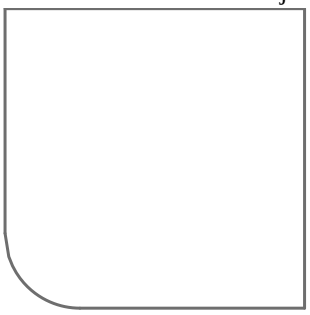
SANTA ROSA & MONTEREY
2011 - 2015

3 Crashes

Pedestrian Injured





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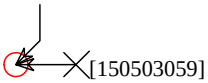

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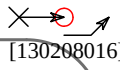

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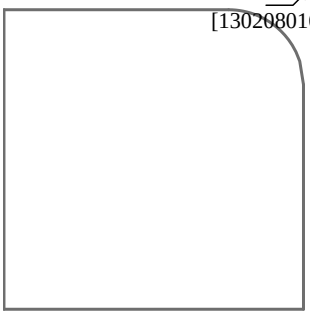

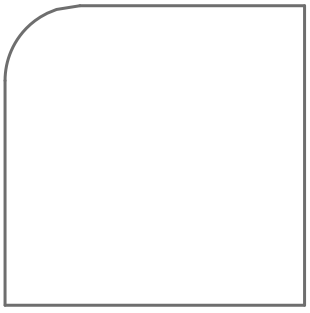

(0) crashes could not be placed in this schematic

- Straight
- Stopped
- Unknown
- Backing
- Overtaking
- Sideswipe
- Parked
- Erratic
- Out of control
- Right turn
- Left turn
- U-turn
- Pedestrian
- Bicycle
- Injury
- Fatality
- Nighttime
- DUI

Fixed objects:

- General
- Signal
- Tree
- Pole
- Curb
- Animal

- 3rd vehicle
- Extra data

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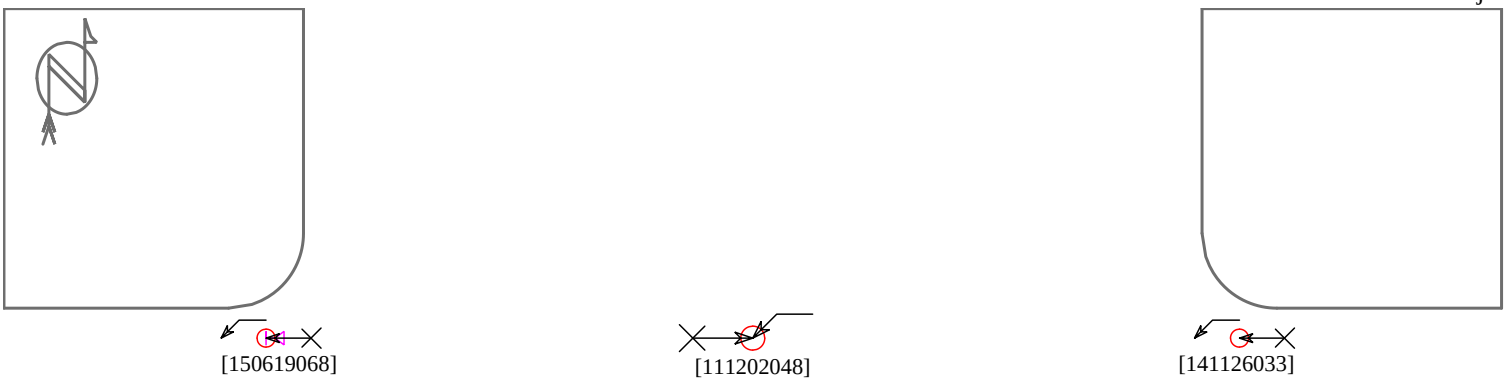
BROAD & HIGUERA
2011 - 2015

5 Crashes

Pedestrian Injured



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- Bicycle
- Injury
- Fatality
- Nighttime
- DUI

Fixed objects:

- General
- Signal
- Tree
- Pole
- Curb
- Animal

- 3rd vehicle
- Extra data

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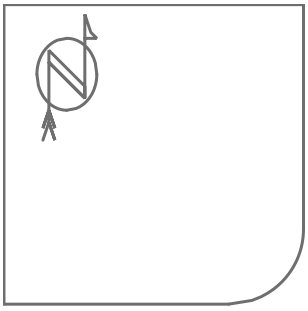
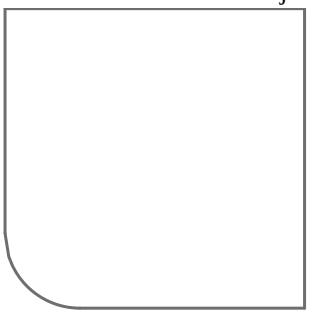
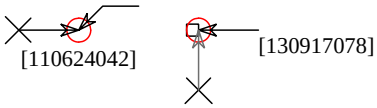
CHORRO & MONTEREY
2011 - 2015

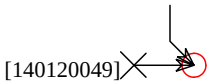
3 Crashes

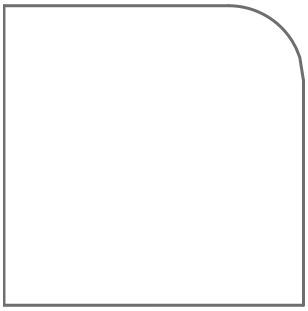
Pedestrian Injured

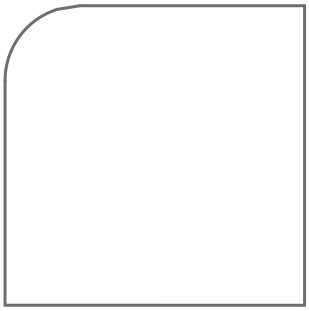












(0) crashes could not be placed in this schematic

- Straight
- Stopped
- Unknown
- Backing
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- Out of control
- Right turn
- Left turn
- U-turn
- Pedestrian
- Bicycle
- Injury
- Fatality
- Nighttime
- DUI

Fixed objects:

- General
- Signal
- Tree
- Pole
- Curb
- Animal

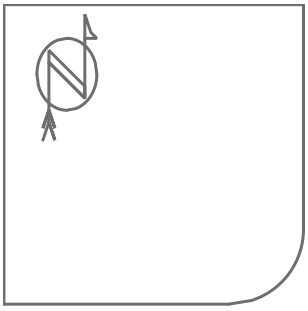
- 3rd vehicle
- Extra data

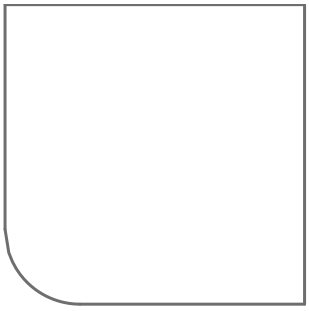
Pd' Programming, Inc. 8/2/2016

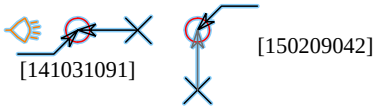
marsh & CHORRO
2011 - 2015

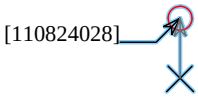
3 Crashes

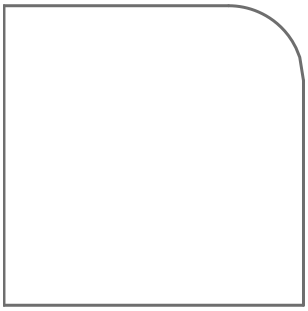
Pedestrian-Total

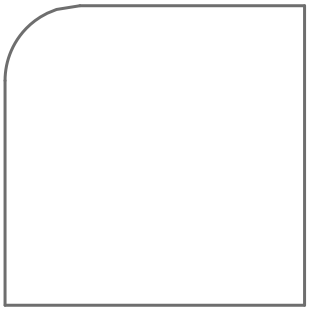












(0) crashes could not be placed in this schematic

- Straight
- Stopped
- Unknown
- Backing
- Overtaking
- Sideswipe
- Parked
- Erratic
- Out of control
- Right turn
- Left turn
- U-turn
- Pedestrian
- Bicycle
- Injury
- Fatality
- Nighttime
- DUI

Fixed objects:

- General
- Signal
- Tree
- Pole
- Curb
- Animal

- 3rd vehicle
- Extra data

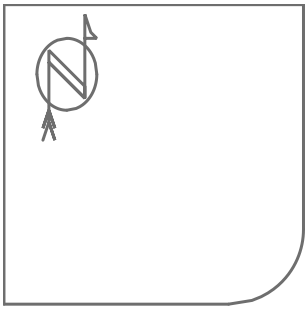
Pd' Programming, Inc. 8/22/2016

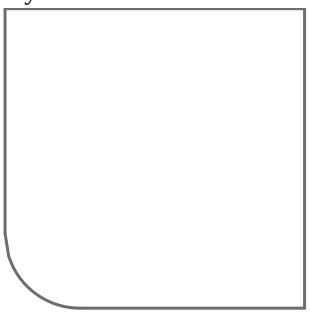
Bicycle Intersections

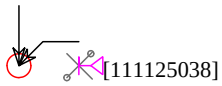
LOS OSOS VALLEY & OCEANAIRE
2011 - 2015

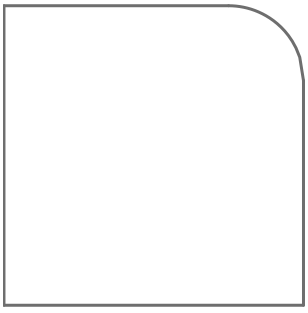
3 Crashes

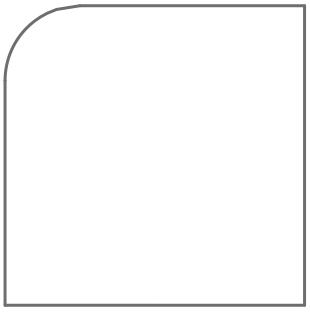
Bicyclist involved with Motorist











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- DUI

Fixed objects:

- General
- Signal
- Tree
- Pole
- Curb
- Animal

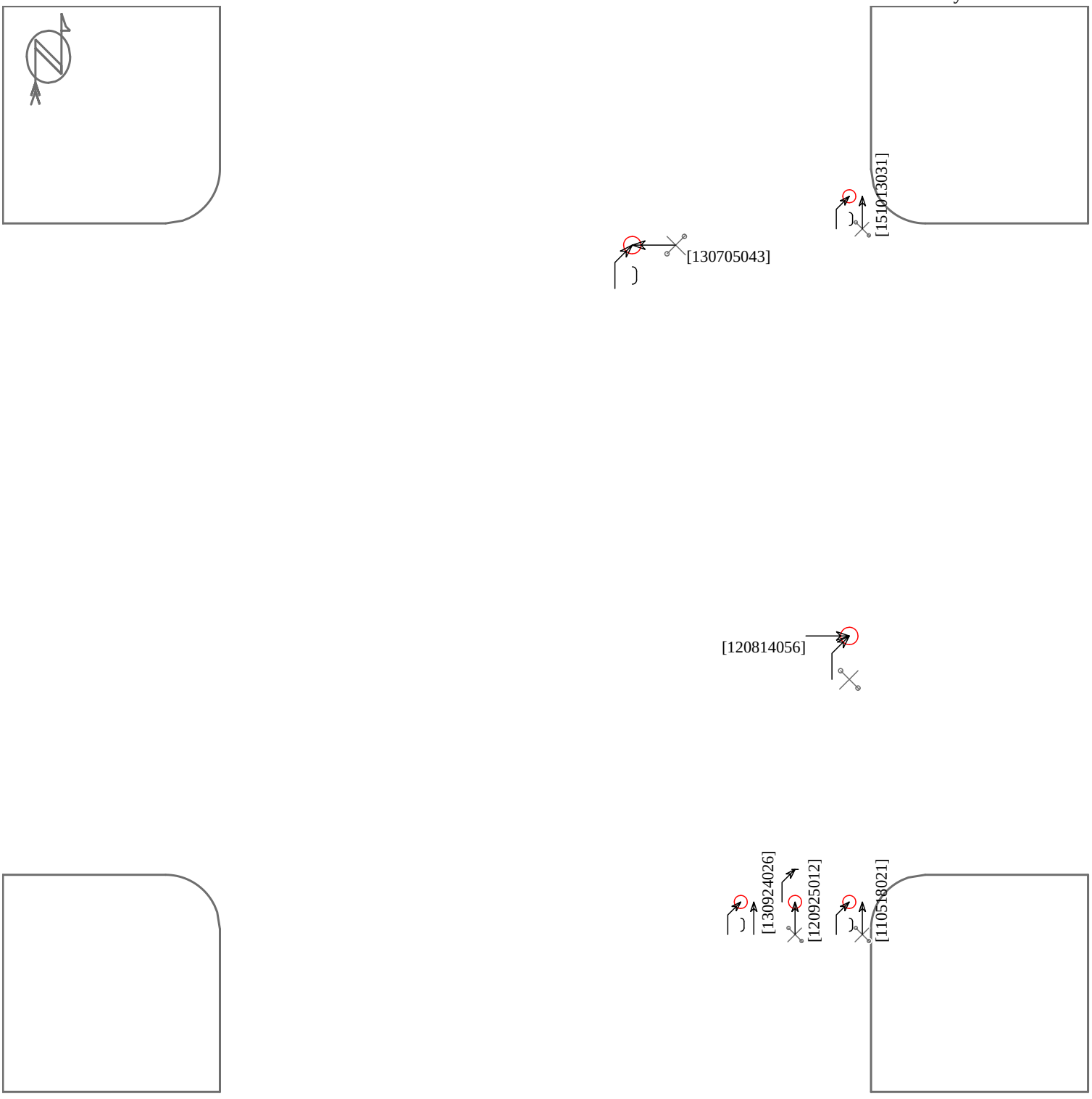
- 3rd vehicle
- Extra data

Pd' Programming, Inc. 8/2/2016

SANTA ROSA & OLIVE (1)
2011 - 2015

6 Crashes

Bicyclist at Intersection



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- Bicycle
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- DUI

Fixed objects:

- General
- Signal
- Tree
- Pole
- Curb
- Animal

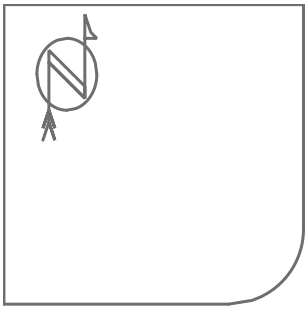
- 3rd vehicle
- Extra data

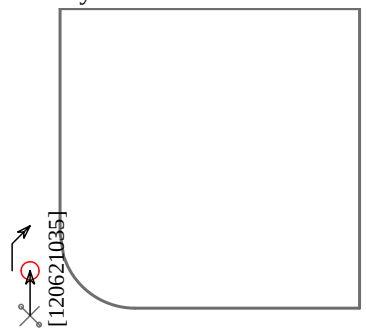
Pd' Programming, Inc. 8/2/2016

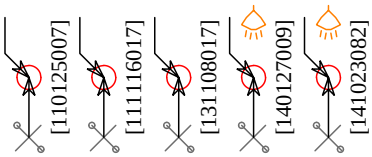
CALIFORNIA & TAFT
2011 - 2015

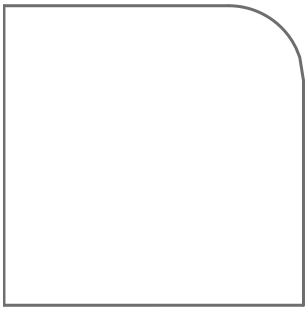
6 Crashes

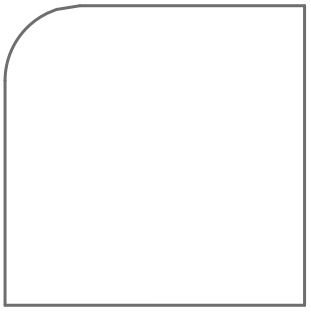
Bicyclist involved with Motorist











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- Bicycle
- Injury
- Fatality
- Nighttime
- DUI

Fixed objects:

- General
- Signal
- Tree
- Pole
- Curb
- Animal

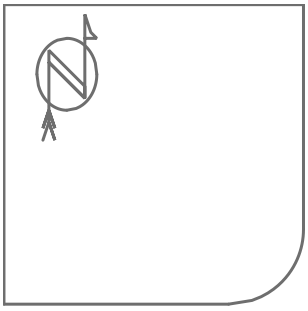
- 3rd vehicle
- Extra data

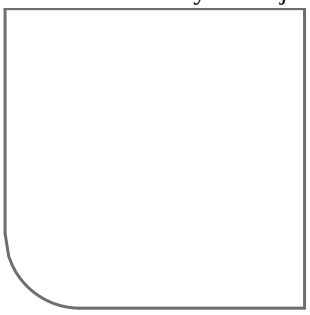
Pd' Programming, Inc. 8/2/2016

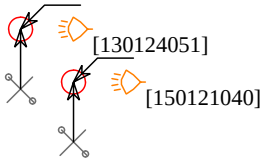
CALIFORNIA & 101 N/B ON/OFF RAMP
2011 - 2015

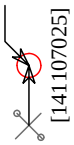
5 Crashes

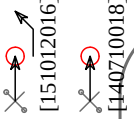
Bicyclist Injured

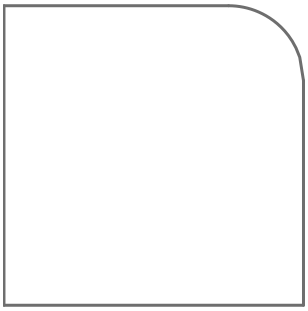


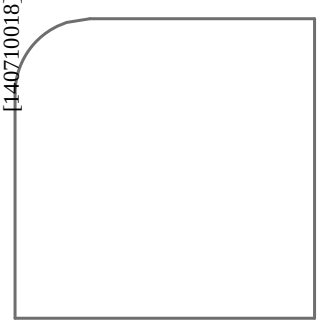












(0) crashes could not be placed in this schematic

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- Stopped
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- Backing
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- Bicycle
- Injury
- Fatality
- Nighttime
- DUI

Fixed objects:

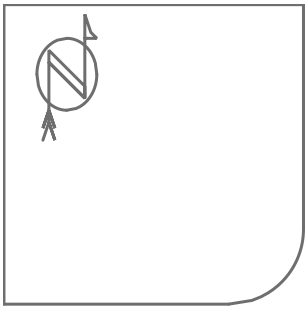
- General
- Signal
- Tree
- Pole
- Curb
- Animal

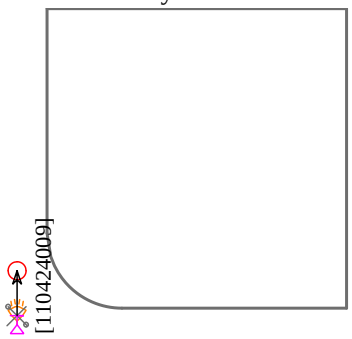
- 3rd vehicle
- Extra data

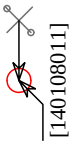
SANTA ROSA & WALNUT
2011 - 2015

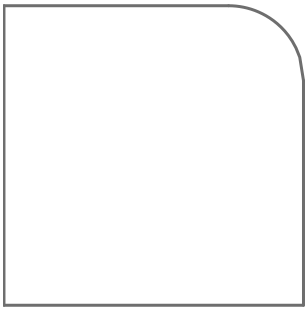
3 Crashes

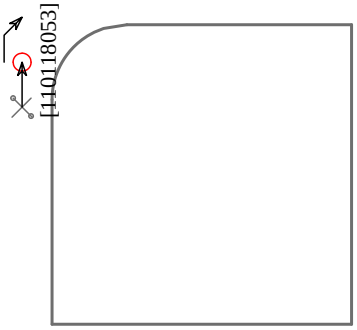
Bicyclist at Intersection











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Fixed objects:

- General
- Signal
- Tree
- Pole
- Curb
- Animal

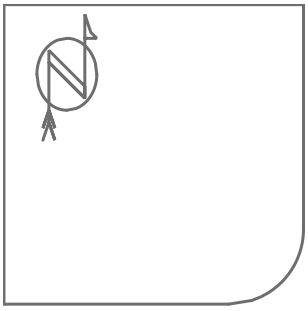
- 3rd vehicle
- Extra data

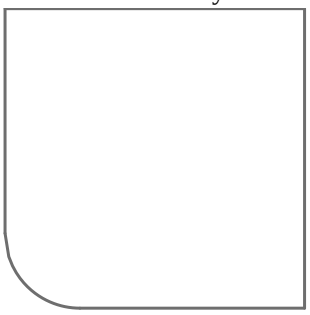
Pd' Programming, Inc. 8/2/2016

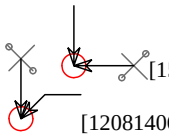
SANTA ROSA & BOYSEN
2011 - 2015

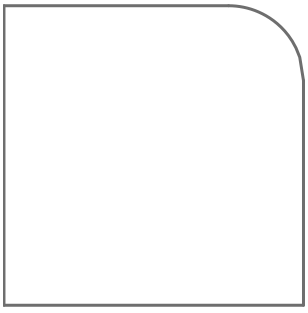
5 Crashes

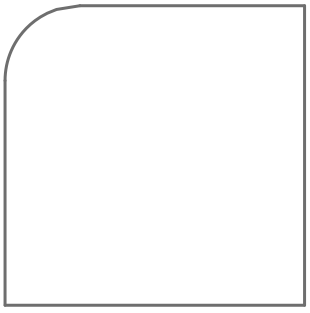
Bicyclist-Total











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Fixed objects:

- General
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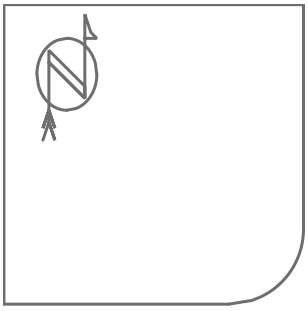
- Tree
- Pole
- Curb
- Animal

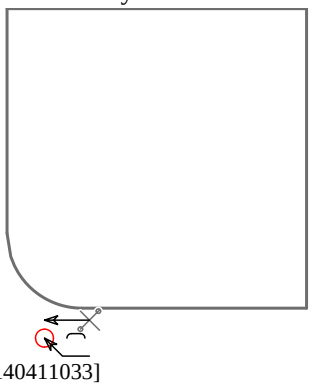
- 3rd vehicle
- Extra data

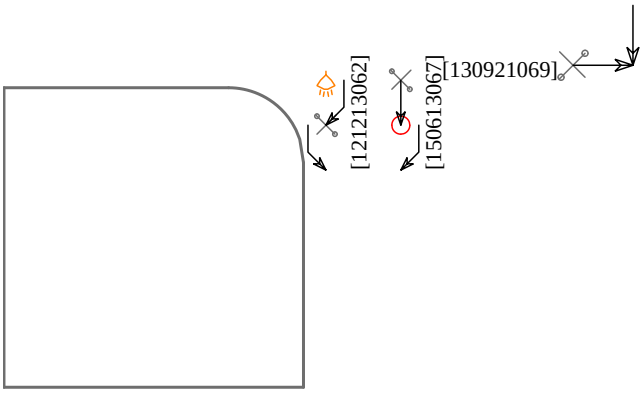
FOOTHILL & SANTA ROSA
2011 - 2015

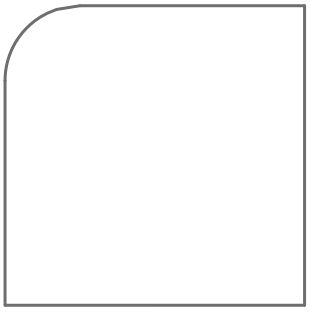
4 Crashes

Bicyclist at Intersection









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Fixed objects:

- General
- Signal
- Tree
- Pole
- Curb
- Animal

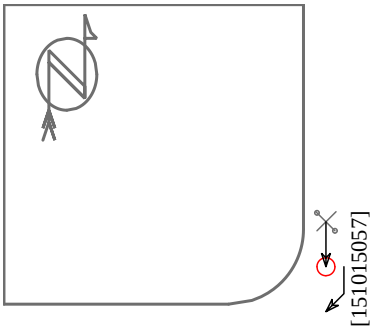
- 3rd vehicle
- Extra data

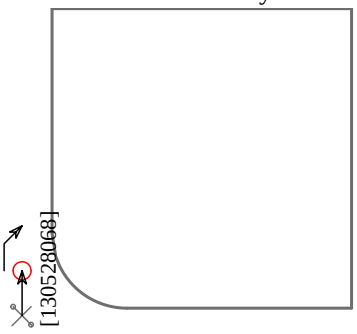
Pd' Programming, Inc. 9/13/2016

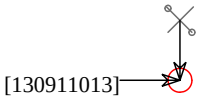
CALIFORNIA & MONTEREY
2011 - 2015

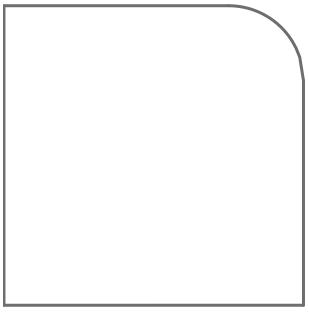
5 Crashes

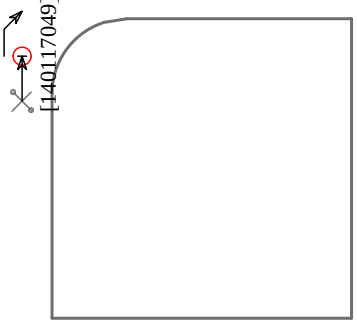
Bicyclist-Total











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Fixed objects:

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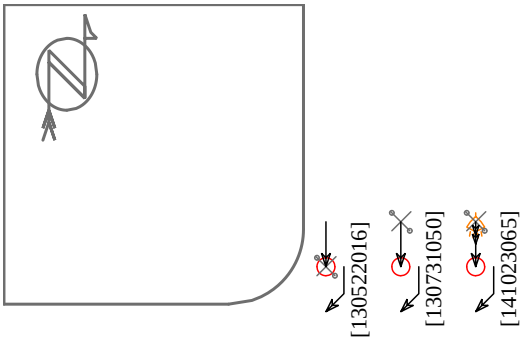
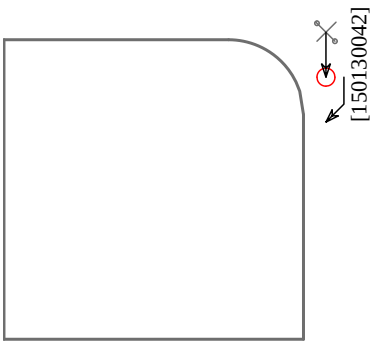
- 3rd vehicle
- Extra data

PALM & CALIFORNIA
2011 - 2015

4 Crashes

Bicyclist-Total





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Fixed objects:

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- Signal
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- Pole
- Curb
- Animal

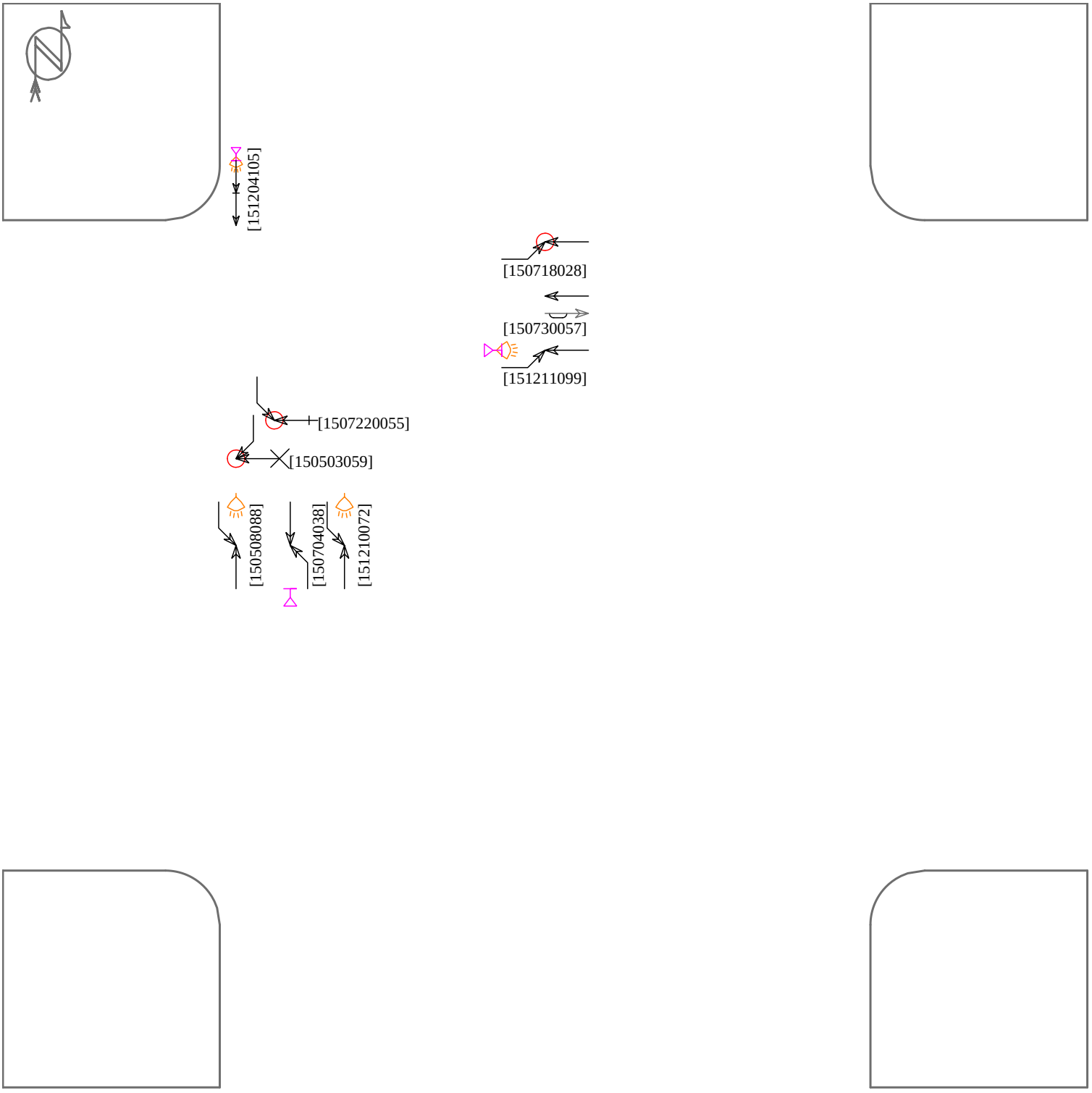
- 3rd vehicle
- Extra data

Arterial/Arterial Intersections

SANTA ROSA & MONTEREY
2015

9 Crashes

Within 75 ft from Intersection



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Fixed objects:

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- 3rd vehicle
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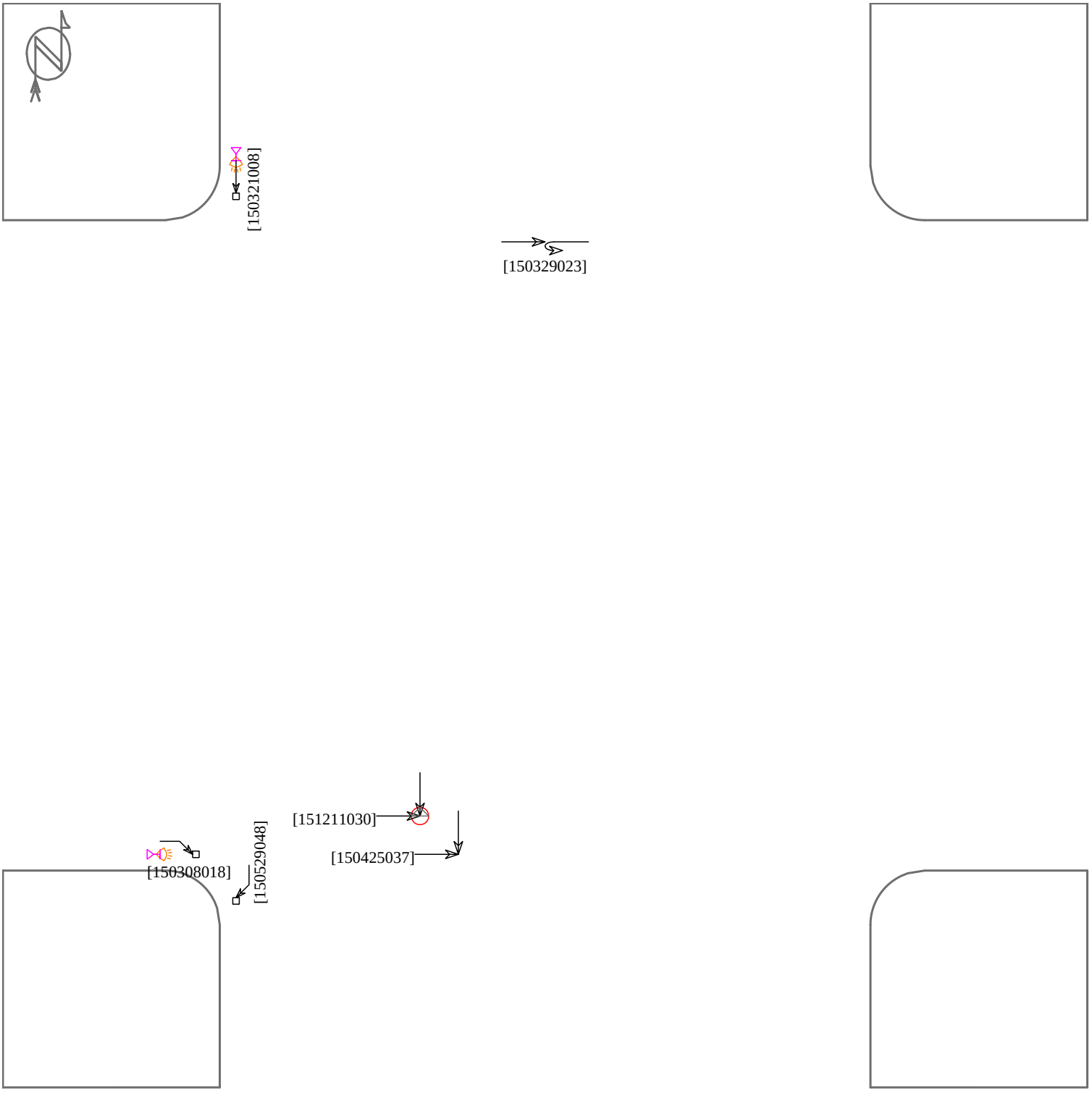
6 Crashes

Within 75 ft from Intersection



(0) crashes could not be placed in this schematic

- Straight
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- Unknown
- Backing
- Overtaking
- Sideswipe
- Parked
- Erratic
- Out of control
- Right turn
- Left turn
- U-turn
- Pedestrian
- Bicycle
- Injury
- Fatality
- Nighttime
- DUI

Fixed objects:

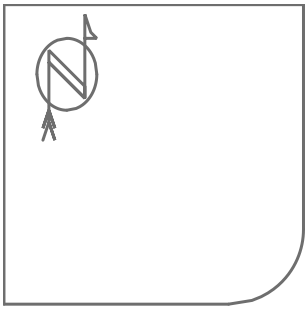
- General
- Signal
- Tree
- Pole
- Curb
- Animal

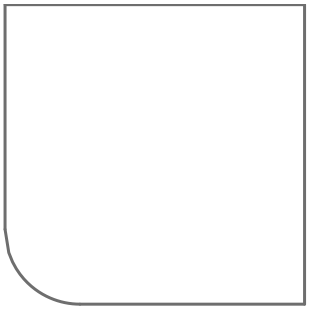
- 3rd vehicle
- Extra data

MARSH & BROAD
2015

4 Crashes

Within 75 ft from Intersection





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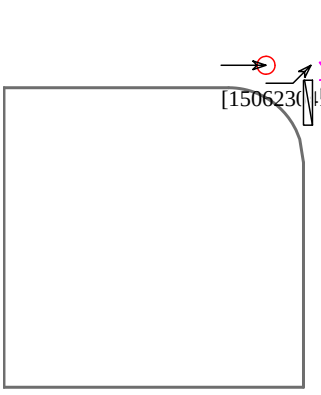

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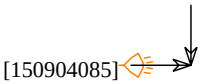

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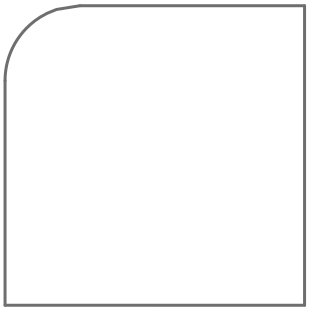


(0) crashes could not be placed in this schematic

- Straight
- Stopped
- Unknown
- Backing
- Overtaking
- Sideswipe
- Parked
- Erratic
- Out of control
- Right turn
- Left turn
- U-turn
- Pedestrian
- Bicycle
- Injury
- Fatality
- Nighttime
- DUI

Fixed objects:

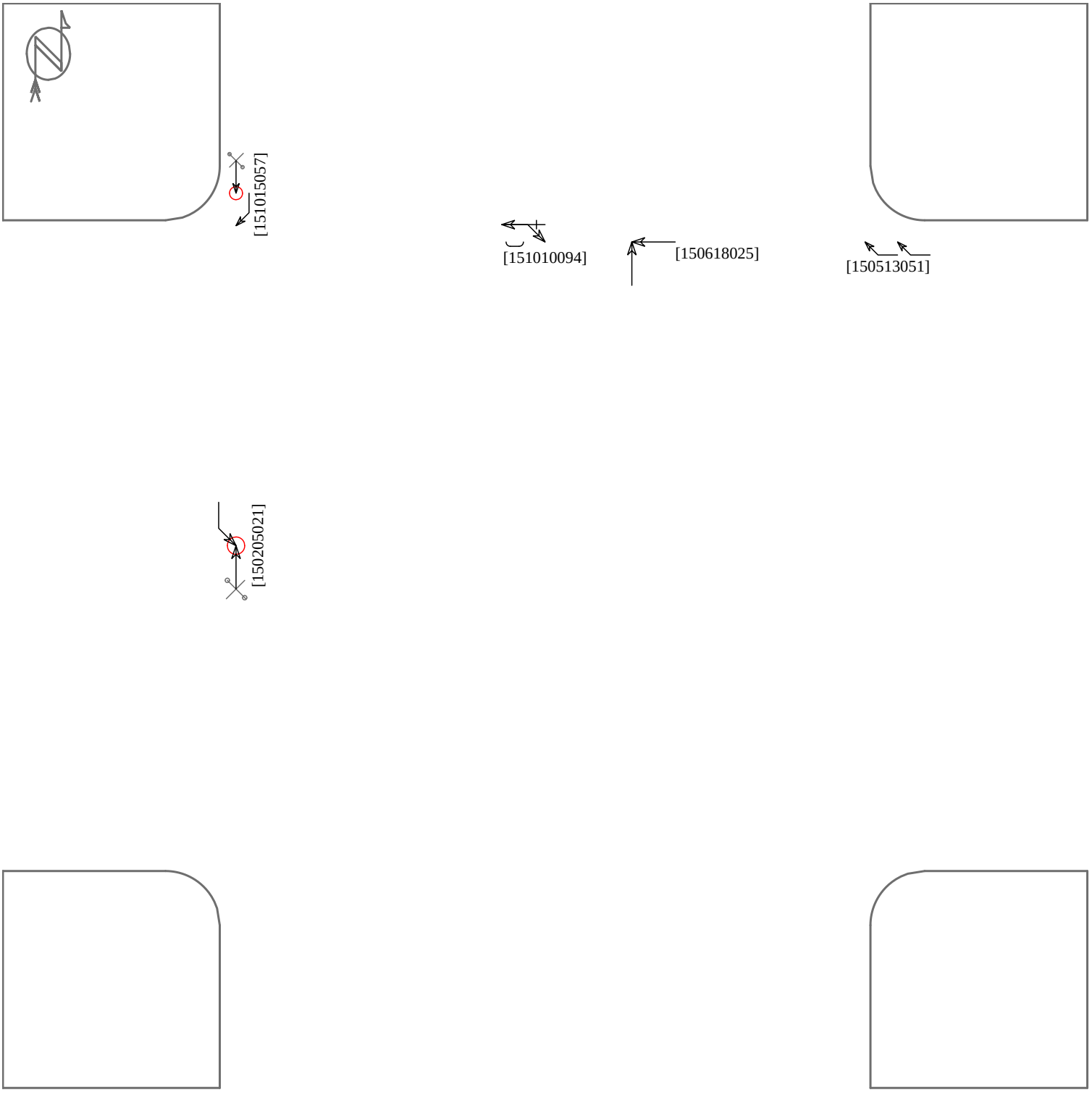
- General
- Signal
- Tree
- Pole
- Curb
- Animal

- 3rd vehicle
- Extra data

MONTEREY & CALIFORNIA
2015

5 Crashes

Within 75 ft from Intersection



(0) crashes could not be placed in this schematic

- Straight
- Stopped
- Unknown
- Backing
- Overtaking
- Sideswipe
- Parked
- Erratic
- Out of control
- Right turn
- Left turn
- U-turn
- Pedestrian
- Bicycle
- Injury
- Fatality
- Nighttime
- DUI

Fixed objects:

- General
- Signal
- Tree
- Pole
- Curb
- Animal

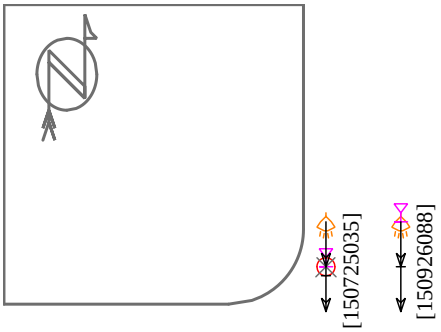
- 3rd vehicle
- Extra data

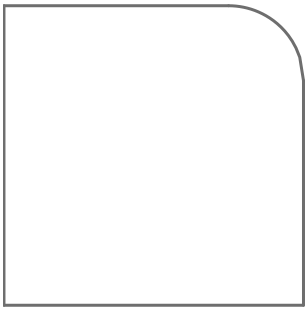
Pd' Programming, Inc. 8/1/2016

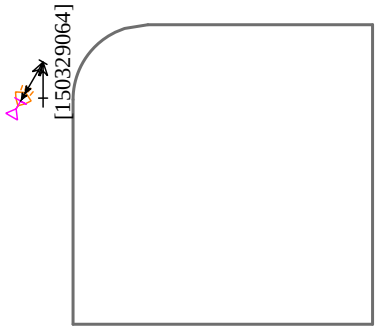
HIGUERA & CHORRO
2015

3 Crashes

Within 75 ft from Intersection







(0) crashes could not be placed in this schematic

- Straight
- Stopped
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- Backing
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- Right turn
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- Bicycle
- Injury
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- Nighttime
- DUI

Fixed objects:

- General
- Signal
- Tree
- Pole
- Curb
- Animal

- 3rd vehicle
- Extra data

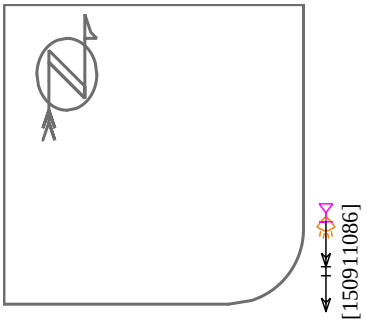
Pd' Programming, Inc. 8/1/2016

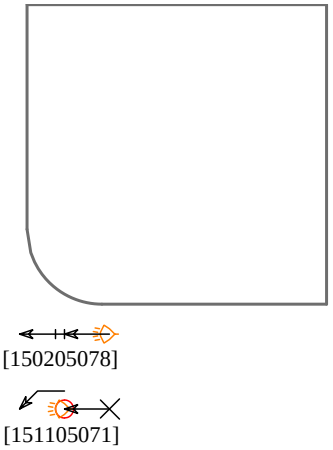
Arterial/Collector Intersections

PISMO & OSOS
2015

3 Crashes

Within 75 ft from Intersection





(0) crashes could not be placed in this schematic

- Straight
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- Injury
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- Nighttime
- DUI

Fixed objects:

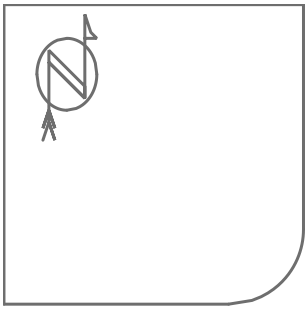
- General
- Signal
- Tree
- Pole
- Curb
- Animal

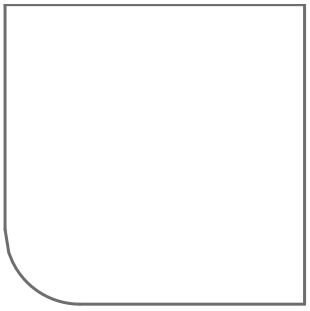
- 3rd vehicle
- Extra data

BROAD & HIGH
2015

3 Crashes

Within 75 ft from Intersection





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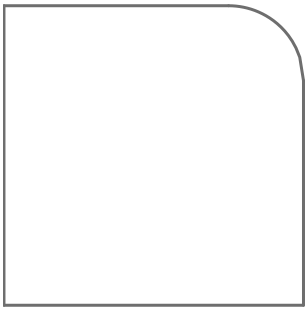

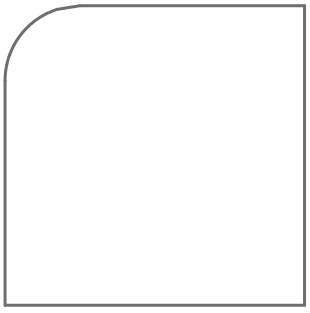

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- DUI

Fixed objects:

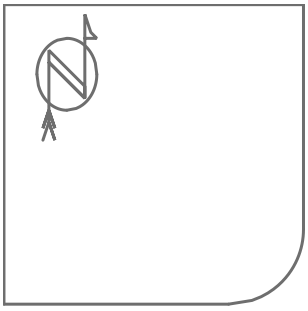
- General
- Signal
- Tree
- Pole
- Curb
- Animal

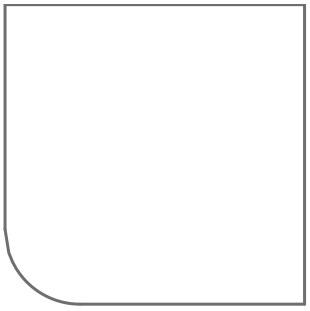
- 3rd vehicle
- Extra data

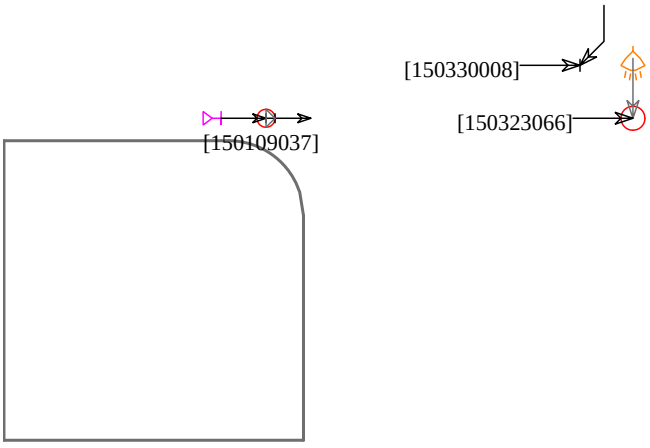
FOOTHILL & BROAD
2015

3 Crashes

Within 75 ft from Intersection







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Fixed objects:

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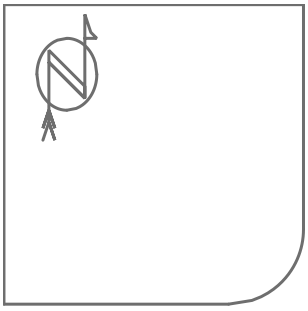
- Tree
- Pole
- Curb
- Animal

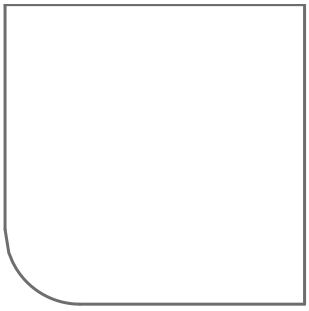
- 3rd vehicle
- Extra data

FOOTHILL & CHORRO
2015

3 Crashes

Within 75 ft from Intersection





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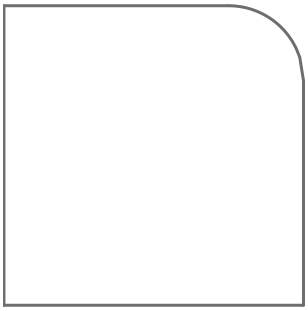

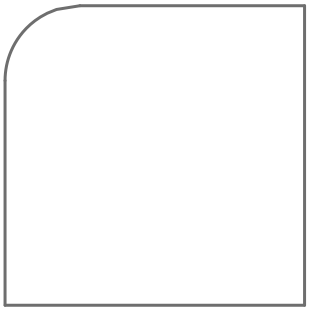

(0) crashes could not be placed in this schematic

- Straight
- Stopped
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- Parked
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- Bicycle
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- Fatality
- Nighttime
- DUI

Fixed objects:

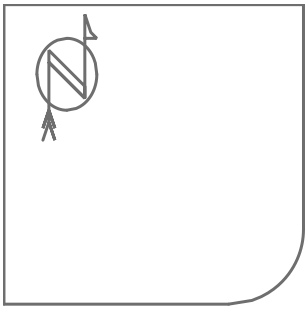
- General
- Signal
- Tree
- Pole
- Curb
- Animal

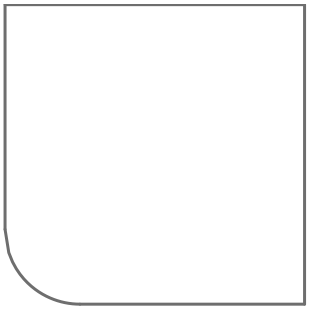
- 3rd vehicle
- Extra data

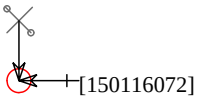
BROAD & INDUSTRIAL (1)
2015

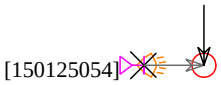
4 Crashes

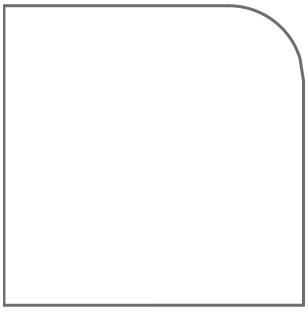
Within 75 ft from Intersection

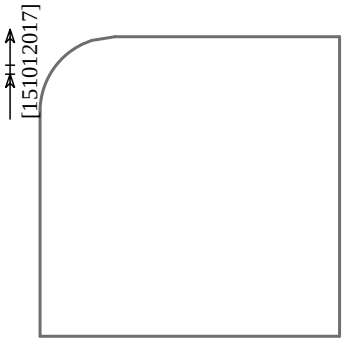












(1) crashes could not be placed in this schematic

- Straight
- Stopped
- Unknown
- Backing
- Overtaking
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- Out of control
- Right turn
- Left turn
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- Bicycle
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- Fatality
- Nighttime
- DUI

Fixed objects:

- General
- Signal
- Tree
- Pole
- Curb
- Animal

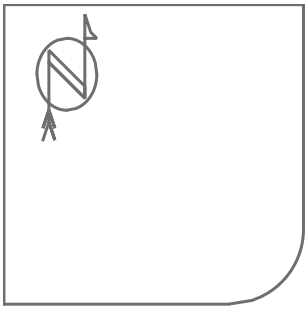
- 3rd vehicle
- Extra data

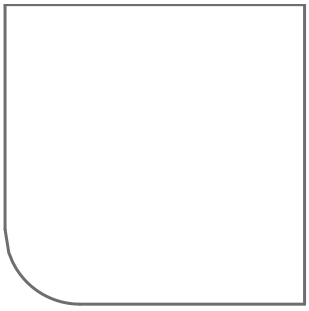
Arterial/Local Intersections

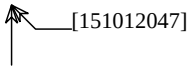
MONTEREY & OSOS
2015

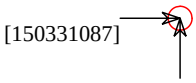
3 Crashes

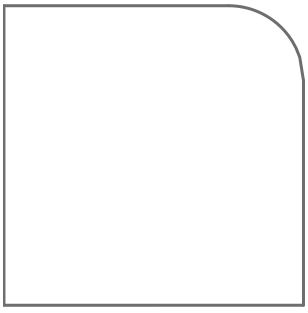
Within 75 ft from Intersection

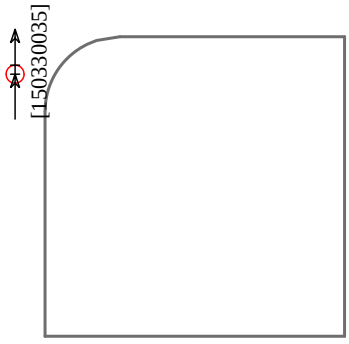












(0) crashes could not be placed in this schematic

- Straight
- Stopped
- Unknown
- Backing
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- DUI

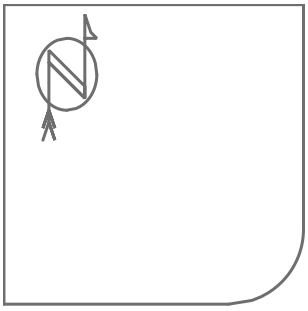
Fixed objects:

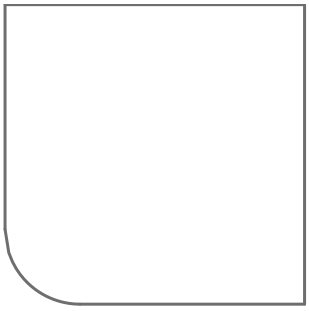
- General
- Signal
- Tree
- Pole
- Curb
- Animal

- 3rd vehicle
- Extra data

4 Crashes

Within 75 ft from Intersection





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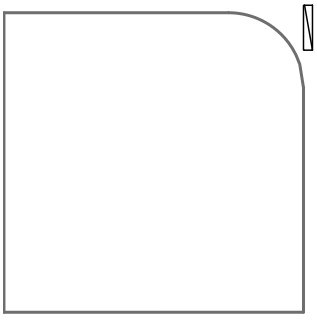

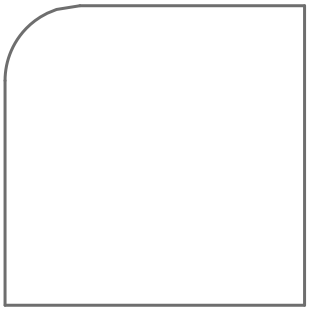

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Fixed objects:

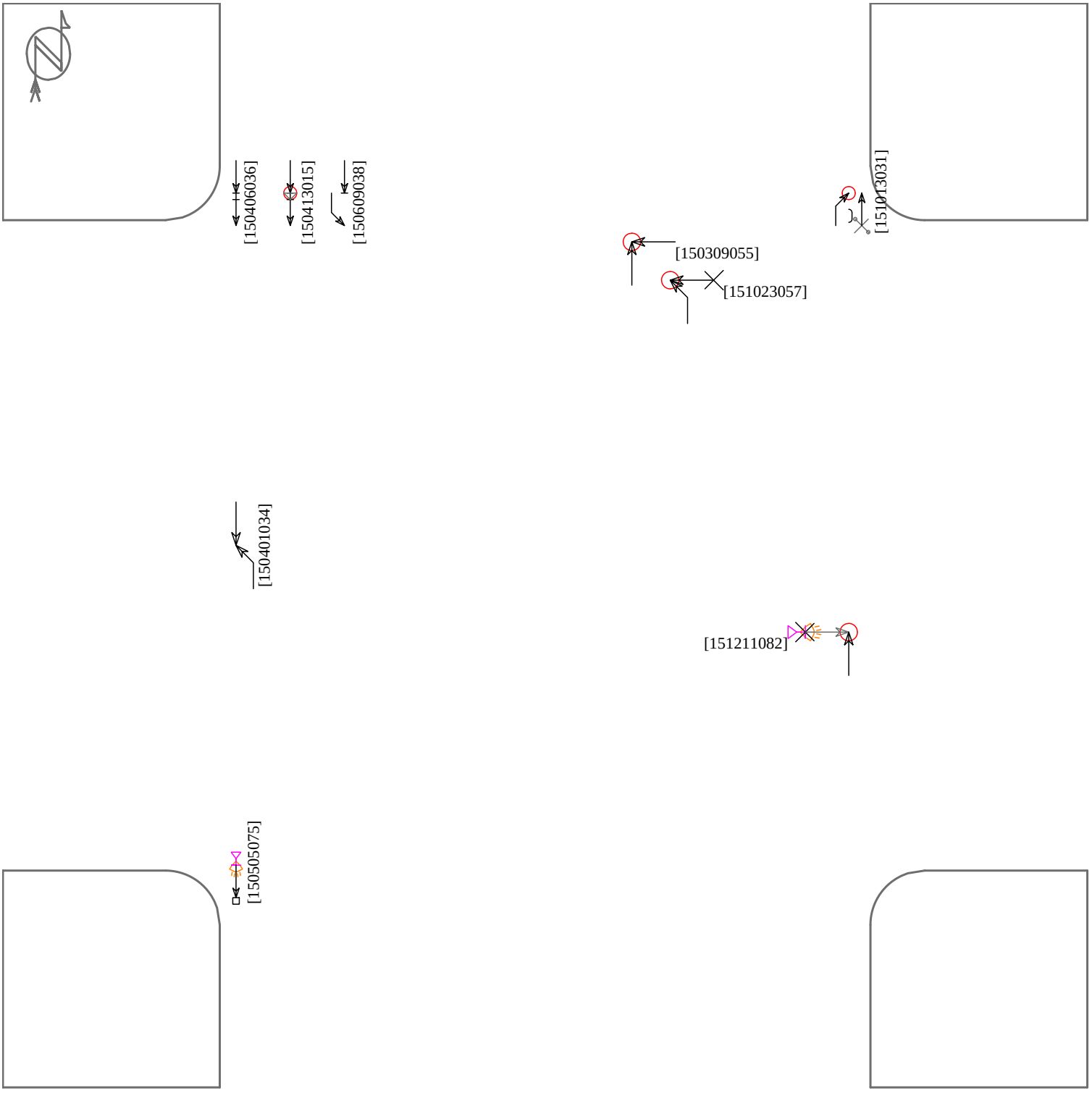
- General
- Signal
- Tree
- Pole
- Curb
- Animal

- 3rd vehicle
- Extra data

SANTA ROSA & OLIVE (1)
2015

9 Crashes

Within 75 ft from Intersection



(0) crashes could not be placed in this schematic

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- Bicycle
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- Fatality
- Nighttime
- DUI

Fixed objects:

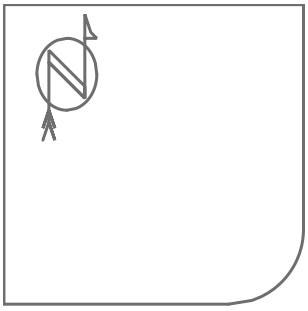
- General
- Signal
- Tree
- Pole
- Curb
- Animal

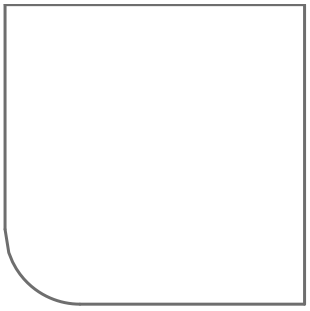
- 3rd vehicle
- Extra data

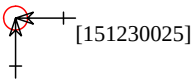
GRAND & LOOMIS
2015

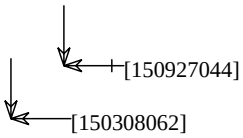
3 Crashes

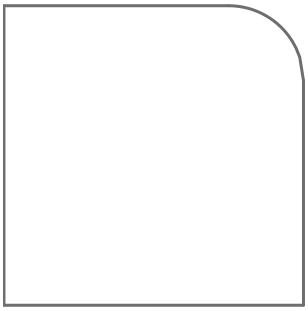
Within 75 ft from Intersection

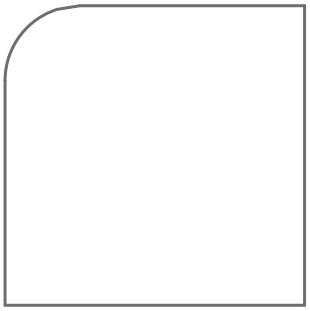












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Fixed objects:

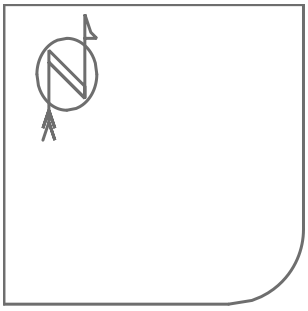
- General
- Signal
- Tree
- Pole
- Curb
- Animal

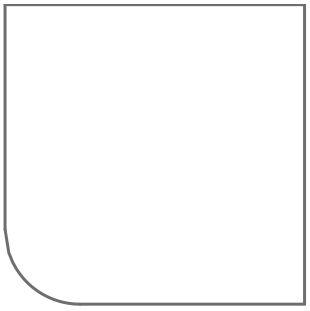
- 3rd vehicle
- Extra data

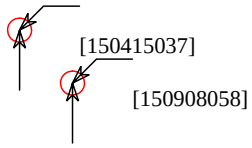
CALIFORNIA & TAFT
2015

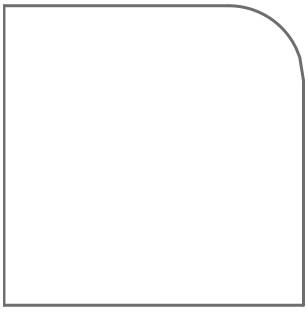
3 Crashes

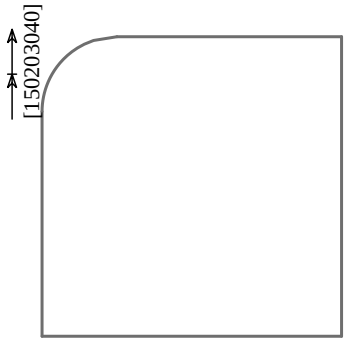
Within 75 ft from Intersection











(0) crashes could not be placed in this schematic

- Straight
- Stopped
- Unknown
- Backing
- Overtaking
- Sideswipe
- Parked
- Erratic
- Out of control
- Right turn
- Left turn
- U-turn
- Pedestrian
- Bicycle
- Injury
- Fatality
- Nighttime
- DUI

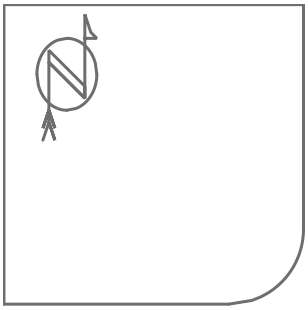
Fixed objects:

- General
- Signal
- Tree
- Pole
- Curb
- Animal

- 3rd vehicle
- Extra data

4 Crashes

Within 75 ft from Intersection



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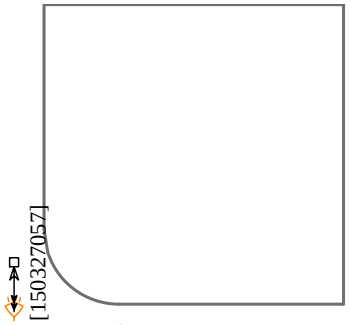

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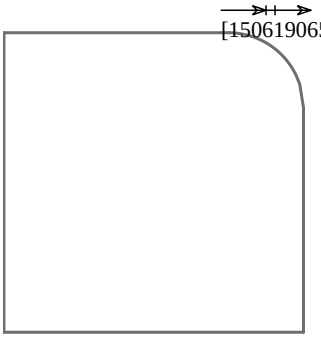

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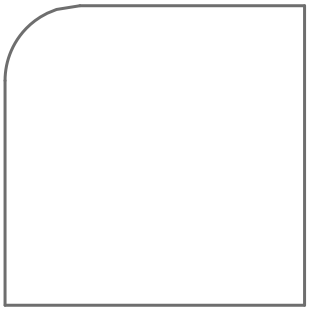


(0) crashes could not be placed in this schematic

- Straight
- Stopped
- Unknown
- Backing
- Overtaking
- Sideswipe
- Parked
- Erratic
- Out of control
- Right turn
- Left turn
- U-turn
- Pedestrian
- Bicycle
- Injury
- Fatality
- Nighttime
- DUI

Fixed objects:

- General
- Signal
- Tree
- Pole
- Curb
- Animal

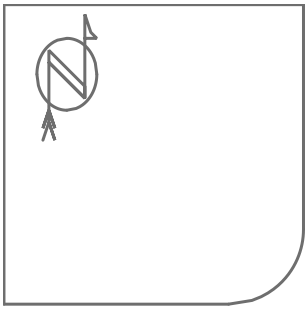
- 3rd vehicle
- Extra data

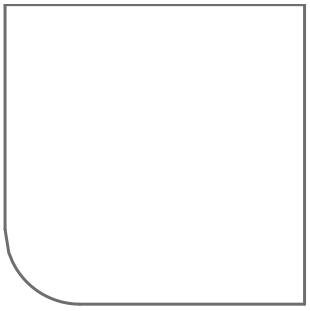
Collector/Collector Intersections

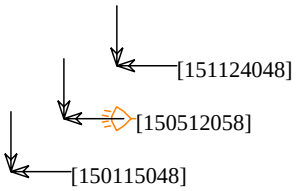
CHORRO & MILL
2015

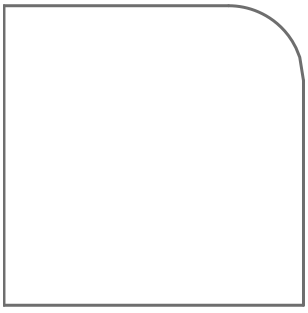
3 Crashes

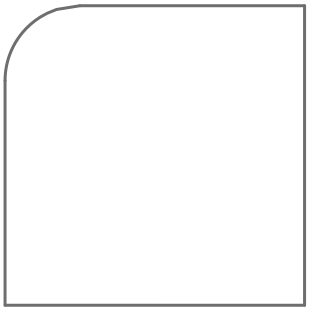
Within 75 ft from Intersection











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- Left turn
- U-turn
- Pedestrian
- Bicycle
- Injury
- Fatality
- Nighttime
- DUI

Fixed objects:

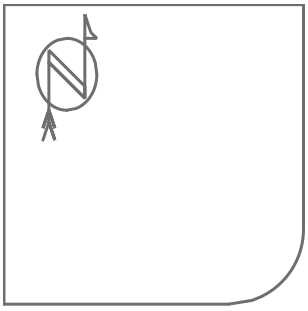
- General
- Signal
- Tree
- Pole
- Curb
- Animal

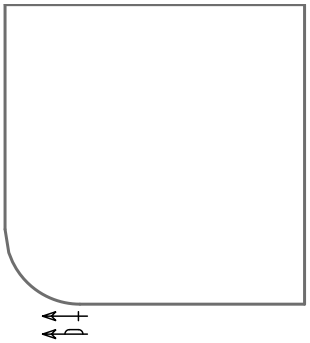
- 3rd vehicle
- Extra data

Collector/Local Intersections

3 Crashes

Within 75 ft from Intersection





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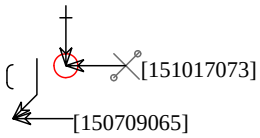

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- Nighttime
- DUI

Fixed objects:

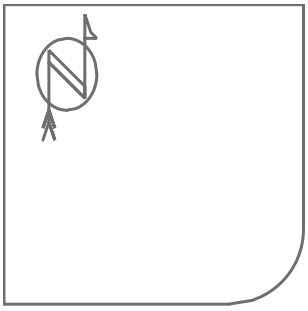
- General
- Signal
- Tree
- Pole
- Curb
- Animal

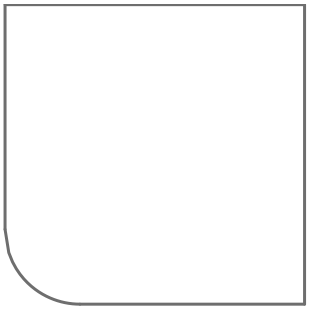
- 3rd vehicle
- Extra data

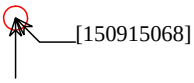
CHORRO & PEACH
2015

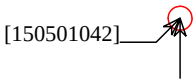
3 Crashes

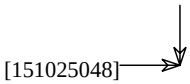
Within 75 ft from Intersection

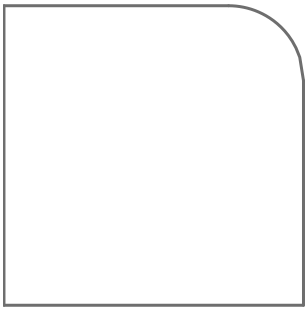


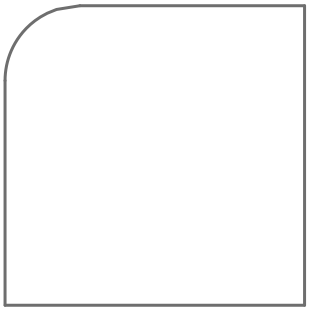












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Fixed objects:

- General
- Signal
- Tree
- Pole
- Curb
- Animal

- 3rd vehicle
- Extra data

Pd' Programming, Inc. 8/1/2016