Pima County Department of Transportation
Traffic Engineering Division

SAFETY MANAGEMENT SYSTEM PROGRAM

ANNUAL UPDATE REPORT FOR

CALENDAR YEAR 2012

PIMA COUNTY

TRANSPORTATION

Publication Date April 2014

PIMA COUNTY
TRANSPORTATION

MEMORANDUM

DATE: April 29, 2014

TO: Seth W. Chalmers, PE
Division Manager

FROM: William R. Strickler, PE
Safety Management System Manager

SUBJECT: **Safety Management System Program Annual Update Report for Calendar Year 2012**

Enclosed with this memo is the SMS Annual Update Report for Calendar Year 2012 data for your use. A copy of this report and the corresponding statistical tables, charts and summary tables can also be found on the Pima County Department of Transportation, Traffic Engineering Division website (http://webcms.pima.gov/cms/one.aspx?portalId=169&pageId=63263).

An unfortunate item of note for 2012 is that fatal crashes increased to 2009 levels, with a total number of 28 fatal crashes on Pima County roadways. Specific factors showing increases in fatalities were incapacitation and lack of restraint use.

William R. Strickler

EXECUTIVE SUMMARY

The Pima County Department of Transportation (PCDOT) Traffic Engineering Division (TED) has completed the 2013 Safety Management System (SMS) Program Annual Update Report, which reviews the crashes on unincorporated Pima County roads in the calendar year 2012. This is the eleventh annual SMS report that includes a discussion of our SMS program as well as a listing of the calendar year crash statistics.

In calendar year 2012, the total number of crashes increased 3% above calendar year 2011, from 2,902 to 2,989 (see Table 3-1). Specific factors showing increases in fatalities were incapacitation and lack of restraint use.

Crashes involving a fatality increased from 16 in 2011 to 28 in 2012. The number of serious injury crashes was up slightly from 93 in 2011 to 95 in 2012. DUI fatal crashes doubled from 6 in 2011 to 12 in 2012. Fatal crashes involving lack of restraint use also doubled from 5 in 2011 to 10 in 2012. Fatal crashes involving excessive speeding (greater than 20 mph over the posted speed limit) were the same in 2012 as they were in 2011 at 3 crashes. Total motorcycle crashes decreased 18% from 106 in 2011 down to 90 in 2012. However, fatal motorcycle crashes increased from 5 in 2011 to 6 in 2012. There was a decrease in fatal crashes involving teen drivers-from 4 in 2011 to 3 in 2012.

Pedestrian-involved crashes decreased slightly in 2012. Pedestrians were involved in 23 crashes in 2012 compared to 24 in 2011. Fatal and Serious Injury bicycle crashes also decreased. There were 2 fatal or serious injury bicycle crashes in 2012, down from 3 in 2011.

The severity index for 2012 on County roadways stayed the same at 1.44.

The emphasis of TED and SMS has often been on spot treatments for specific locations. This emphasis has begun to shift to system-wide crash prevention and studies.

TED safety project accomplishments during calendar year 2012 included the following

LOCATION		SCOPE
1	Palo Verde Road Improvements	Extension of a curbed median for a left turn lane, median fencing and relocation of a bus stop between Lincoln and Columbia on Palo Verde.
2	Palo Verde at Milton Bus Stop	Relocation of NB bus stop to paved area north of Milton.
3	ITS Upgrades	Replacement of traffic signal cabinets, installation of LED lamps, and video detection
4	Sign Post Upgrades	Installation (ongoing) to replace all County sign installations with square tube breakaway posts
5	Speed Monitoring Signs	Installation of Digital Speed Monitoring signs on Campbell Avenue and on Aviation Parkway in the Richey Boulevard area.
6	Picture Rocks & Sandario Roads Road Safety Assessment (RSA)	ADOT Road Safety Assessment lead a multi-disciplinary team to review roadway safety elements and make short term, intermediate and long term recommendations for safety improvements along the roadway corridors.

TABLE OF CONTENTS

Approval Memo i

Table of Contents ii

List of Tables and Charts iii

Executive Summary iv

Introduction 1

History 1

SMS Goals 1

SMS Objectives 6

SMS Past Accomplishments and Future Focus 8

Traffic Crash Statistics for Calendar Year 2012 27

Section 1: Unsignalized Intersections

Section 2: Signalized Intersections

Section 3: Roadway Segments with <= 10,000 vpd

Section 4: Roadway Segments with > 10,000 vpd

LIST OF TABLES AND CHARTS

Table 3-1: Road Safety Data and Statistics “5-Year Rolling Averages” 3

Chart 3-1: Crashes/Capita “5-Year Rolling Average” 4

Chart 3-2: Fatal Crashes/Capita “5-Year Rolling Average” 5

Chart 5-1: SMS Funding Sources Diagram 11

Table 5-1: Crash Assessment Summary for 2012-2013 12

Table 5-2: Traffic Engineering Study Activity for 2012-2013 18

Table 5-3: List of Crash Assessment Projects Using Benefit/Cost Factors 20

Table 5-4: SMS Completed Projects for 2012 21

Table 5-5: Summary of Findings for DOT-57 Before-After Comparisons 22

Table 5-6: Proposed SMS Projects for FY13-14 24

Table 5-7: Safety Project Priority List 25

1. Introduction

Traffic crashes may indicate problems along the transportation system. The number of crashes at any particular location may indicate the intensity of a potential traffic safety issue. The same type of crash and/or the same type of road geometry at crash sites also may indicate system wide traffic safety issues. Every Pima County resident feels the impact of traffic crashes. These crashes place enormous burdens on medical facilities, police and fire departments, as well as placing severe physical/emotional stress on the families of the victims. Thus, the purpose of the Pima County Safety Management System (SMS) is to identify and prioritize improvement projects based upon the Priority Ranking System. The projects are then programmed for design and construction as funding becomes available per the priority ranking to obtain the maximum amount of benefit for the residents of Pima County for the money being spent.

2. History

The Pima County SMS has been conceived and implemented through the Traffic Engineering Division (TED) of the Pima County Department of Transportation (PCDOT). The primary mission of the program is to develop a pro-active, multidiscipline, systems approach to address traffic safety issues on roads in unincorporated Pima County. The SMS program is defined in the Safety Management System Program Documentation Report, August 2002. Each year, the TED produces a Safety Management System Program Annual Update Report (the report contained within) to briefly summarize the SMS program, to list the preceding years crashes and related statistics, to describe the SMS work performed in the preceding calendar year, and to project future SMS work. The SMS Program Annual Update Reports are designed to aid in identifying:

1. Information needed for safety analysis.
2. High-crash locations and system-wide crash types.
3. Significant crash patterns and generally related causes and countermeasures.
4. Default values for countermeasure service life, cost, and effectiveness.
5. A priority ranking for use in planning and budgeting traffic safety enhancements.

The SMS program systematically uses raw data collected by TED to prioritize safety improvements to efficiently utilize available funding.

3. SMS Goals

Five primary goals established for the Pima County SMS program are listed below:

1. To reduce the annual number of traffic crashes per capita.
2. To reduce the annual number of critical injury/fatal traffic crashes per capita.
3. To reduce the overall number of critical injury and fatal crashes each year.
4. To reduce the crash severity index annually. (See Section 6: Traffic Crash Statistics)
5. To promote community awareness and support for improving traffic safety.

A database containing all fatal and serious injury crashes is being maintained to help track these goals and help determine what systematic changes, if any, could address the crashes. A summary of that data is contained in Table 3-1, and the 5-year rolling average for crashes per capita and fatal crashes per capita can be found in Chart 3-1 and Chart 3-2, respectively. In the past, a 3-year rolling average was used. This year a 5-year rolling average was used to be in line with the new Federal Highway's Performance Measures, which require using a 5-year rolling average. Specific factors showing increases in fatalities were incapacitation and lack of restraint use.

In calendar year 2012, the total number of crashes increased 3% above calendar year 2011, from 2,902 to 2,989 (see Table 3-1). The goal of TED safety programs is to reduce the overall number of crashes and fatalities on County roads. Over the past four years, the numbers of both total crashes and crashes involving a fatality had been decreasing. This is not the case in 2012 where Pima County saw an increase in total crashes as well as in fatal crashes.

Crashes involving a fatality increased from 16 in 2011 to 28 in 2012. The number of serious injury crashes was up slightly from 93 in 2011 to 95 in 2012. DUI fatal crashes doubled from 6 in 2011 to 12 in 2012. Fatal crashes involving restraint use also doubled to 10 from 5 in 2011 to 10 in 2012. Fatal crashes involving excessive speeding (greater than 20 mph over the posted speed limit) were the same in 2012 as they were in 2011 at 3 crashes. Total motorcycle crashes decreased 18% from 106 in 2011 down to 90 in 2012. However, fatal motorcycle crashes increased from 5 in 2011 to 6 in 2012. There was a decrease in fatal crashes involving teen drivers-from 4 in 2011 to 3 in 2012.

Pedestrian-involved crashes decreased slightly in 2012. Pedestrians were involved in 23 crashes in 2012 compared to 24 in 2011. This is the third year with a decrease. Total bicycle crashes decreased from 24 in 2011 to 23 in 2012. This is the fourth year that the number of crashes has dropped since it was first tracked in 2008 with 59 bicycle involved crashes. Fatal and Serious Injury bicycle crashes also decreased. There were 2 fatal or serious injury bicycle crashes in 2012, down from 3 in 2011 and down significantly from a high of 14 in 2008. It is assumed that continuing efforts by DOT to increase the bike route network and increase awareness of both the driving and riding public have contributed to this decrease.

The severity index for 2012 on County roadways stayed the same at 1.44. The severity index is a number used in the Crash Statistics calculation of the Priority Index. It can indicate whether an intersection or segment has a low, average, or higher than average rate of injury accidents. More information on the Severity Index can be found in Section 6: Traffic Crash Statistics.

The emphasis of TED and SMS has often been on spot treatments for specific locations. This emphasis has begun to shift to system-wide crash prevention and studies. Location specific fixes will still be implemented where necessary, but the continuation of repeatedly 'fixing' spots that have capacity related issues, will be reduced. Other systematic project approaches in the coming year will include: Area-wide Durable Marking Upgrades.

ITS projects to install new controller cabinets, video detection and add battery back-up units to County signals continued and have the funding to continue this program. The ITS group has obtained funding to upgrade the communications system across the network, which will help signal communications across the region, not just at County intersections.

The Governor's Office Highway Safety (GOHS) grant program will enable the installation of 2 Digital Speed Feedback signs which will be located based on studies by TED and requests by the Pima County Sheriff's Department Traffic Squad. Procurement and installation of these signs took place in 2013.

TED hired a new SMS engineer to fill a vacancy that had been open. This new engineer has begun the process of producing applications for Federal Highway Administration (FHWA) safety funding through Arizona Department of Transportation (ADOT) administered programs. TED is still waiting for the ADOT procurement process to be completed on the pedestrian countdown signals that was initiated for FY2010 money. Since the process has begun, the County has agreed to help administer the Town of Sahuarita's portion of this signal program, which will be funded by the FY12 HSIP and will be constructed in early 2014.

Table 3-1 Road Safety Data and Statistics " 5-Year Rolling Averages "

MEASURES OF EFFECTIVENESS DATA	YEAR 2008	YEAR 2009	YEAR 2010	YEAR 2011	YEAR 2012	5 Year** Rolling Ave 2008	5 Year** Rolling Ave 2009	5 Year** Rolling Ave 2010	5 Year** Rolling Ave 2011	5 Year** Rolling Ave 2012
Number of Crashes	***3,775***	***3,210***	***3,363***	***2,902***	***2,989***	***4,020***	***3,824***	***3,673***	***3,456***	***3,248***
Population	364,107	365,950	353,387	354,957	356,881	350,241	356,929	359,183	359,753	359,056
Crashes per Capita (Crashes per 1,000 people)	10.37	8.77	9.52	8.18	8.38	11.50	10.74	10.23	9.60	9.04
Total Number of Crashes that had a Fatality (class 5)	***33***	***27***	***18***	***16***	***28***	**31**	**31**	**28**	**24**	**24**
Fatal Crashes per Capita (Fatals per 1,000 people)	0.091	0.074	0.051	0.045	0.078	0.089	0.087	0.077	0.067	0.068
Fatal and Serious Injury Crashes (classes 4/ 5)	162	141	112	109	123	212	191	165	140	129
No. of Injury Crashes (class 4, 3, 2)	1095	961	924	850	830	1,232	1,161	1,093	1,016	932
Severity Index	***1.46***	***1.47***	***1.41***	***1.44***	***1.44***	***1.51***	***1.50***	***1.47***	***1.45***	***1.45***
Fatal Crashes per 100,000 people	9.06	7.38	5.09	4.51	7.85	8.91	8.71	7.74	6.71	6.78
Fatal Crashes, Involving a Teen Driver	6	1	1	4	3	7	5	4	4	3
Fatal Crashes, Drug/Alcohol Involved	13	5	6	6	12	15	13	12	9	8
Fatal Crashes, with no belt use	10	8	9	5	10	10	11	11	9	8
Fatal Crashes, Excessive Speeding Involved	13	2	0	3	3	11	10	7	5	4
All Crashes, Drug/Alcohol Involved	259	218	212	228	221	277	261	250	243	228
All Crashes, Signal Running	109	130	119	96	105	119	120	121	117	112
All Crashes, Stop Sign running	68	62	81	79	51	86	80	81	74	68
All Crashes, Excessive Speeding Involved	122	59	55	51	51	188	159	121	84	68
All Crashes, Pedestrian Involved	33	39	28	24	23	27	30	29	31	29
Pedestrian Fatal Crashes	3	5	1	3	4	3	3	3	3	3
All Crashes, Motorcycle Involved	148	150	124	106	90			150	137	124
Motorcycle Fatal Crashes	11	9	6	5	6			8	7	7
Motorcycle Fatal Crashes, with no helmet use	6	5	3	3	1			4	4	4
All Crashes, Bicycle Involved	59	52	51	46	43			56	53	50
Bicycle Fatal and Serious Injury Crashes (classes 4/5)	14	11	7	3	2			11	9	7

Chart 3-1: Crashes/Capita 5 Year Rolling Average

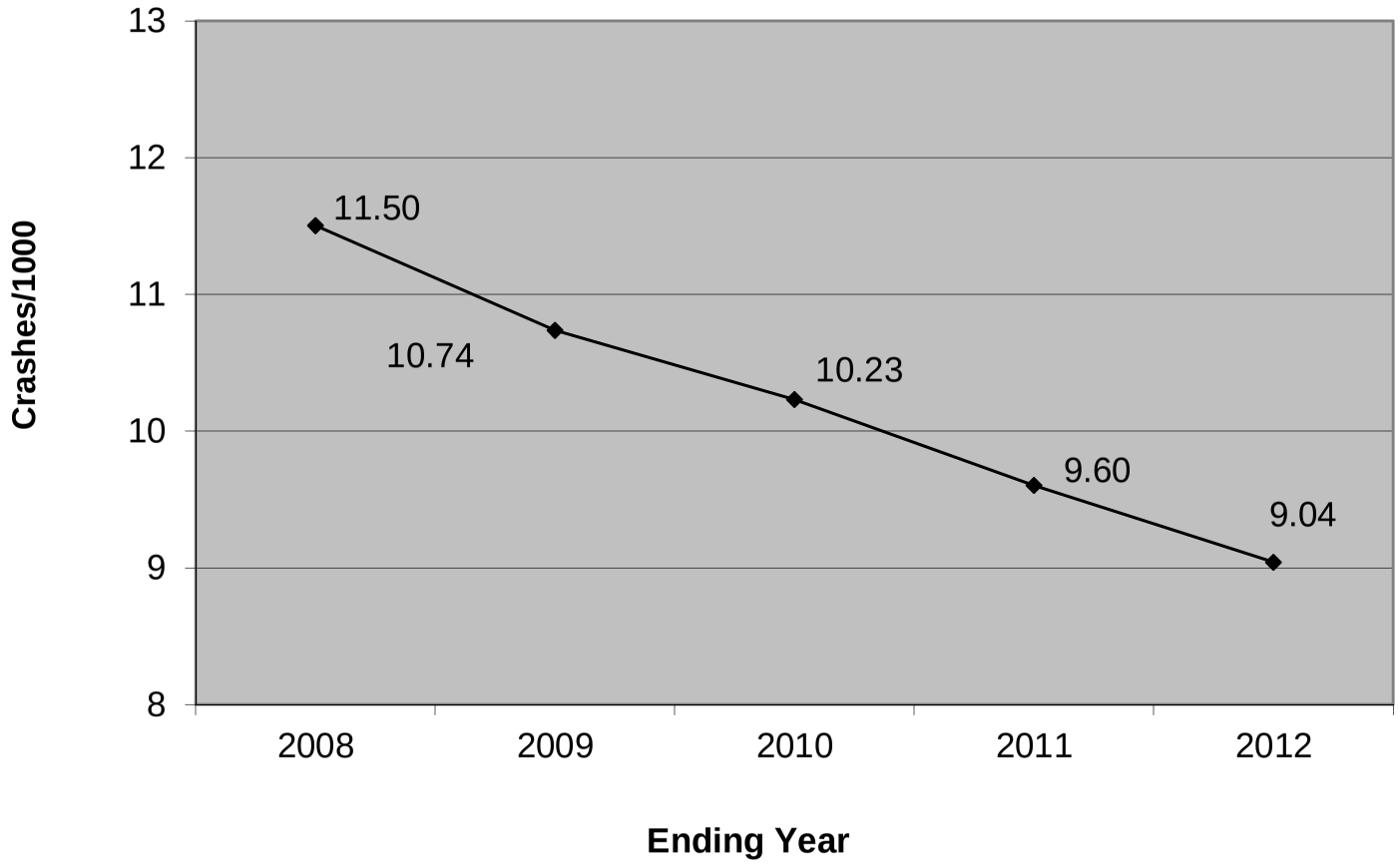
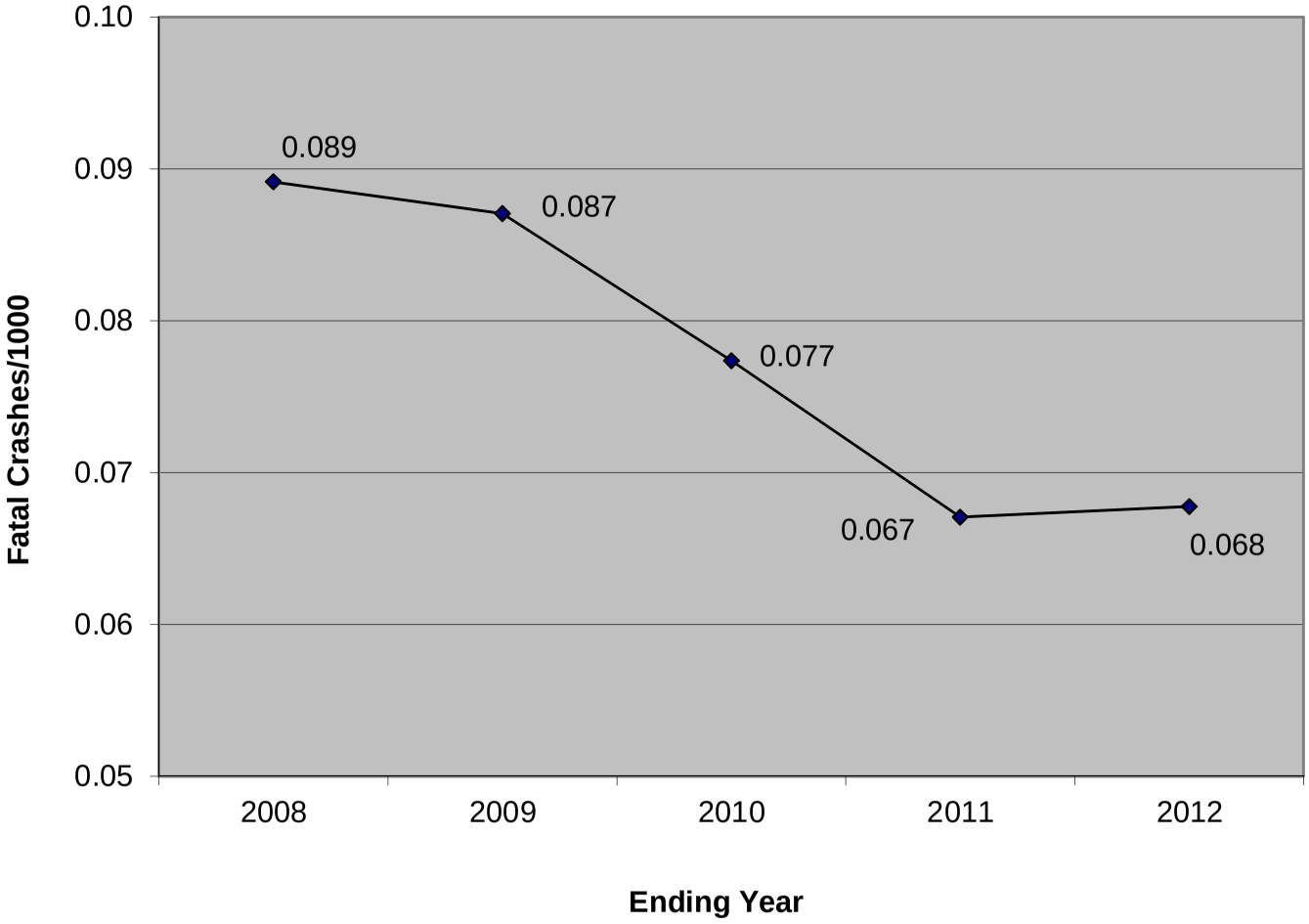


Chart 3-2: Fatal Crashes/Capita - 5 Year Rolling Average



4. SMS Objectives

Six objectives were established to accomplish the goals stated in Section 3:

a. **Enhance current prioritization process**. Better statistical techniques for analyzing traffic crashes are continually developed and improved. The near-term objective is to improve the current PCDOT/TED prioritization process to ensure that the effectiveness of projects and programs is maximized. The prioritization process is a procedure to rank all projects. The Project Priority List uses the following criteria to rank all safety projects for construction:

   1) Existing Level of Service.
   2) Existing Daily Traffic Volume.
   3) SMS Priority Index (5 years).
   4) Number of Correctable Crashes (5 Years).
   5) Speed Limit Reduction Due to Roadway Geometry or Other Condition.
   6) Flooding or Wet Pavement Condition.
   7) Pima County Cost.
   8) Conforms to Regional Plan.
   9) Adds Bicycle Lanes.
   10) Adds Pedestrian Facilities.

   In the coming years the project prioritization process will incorporate the use of Crash Reduction Factors that are provided in the Highway Safety Manual developed by the FHWA and published in 2010. The use of these statistically verified factors will improve the level of accuracy in item (4) above, the Number of Correctable Crashes. The addition of calculating the Benefit/Cost Ratio for Safety Projects is the first step in establishing this as an additional factor in the Safety Project Priority List.

b. **Establish non-engineering countermeasures**. Recognizing the importance of enforcement and education in traffic safety, the SMS program identifies and implements safety projects and programs in the areas of enforcement and education. Ex. Installation of “Don’t Drive Impaired” signs. PCDOT and PCSD determined locations based on high citation locations involving impaired drivers and high accident locations involving impaired drivers. Funding for the signs came from the operating budget and in part from a Governor’s Office of Highway Safety Grant.

c. **Establish proactive engineering countermeasures**. This objective places emphasis on consideration of safety elements during the planning and design of new and upgraded roads. The SMS program tracks road research progress and periodically incorporates research results into the County’s planning and design processes as appropriate. In addition, PCDOT/TED staff occasionally modifies design standards to enhance safety or to accommodate local conditions. Ex. PCDOT has implemented several of the FHWA’s Proven Safety Countermeasures from the FHWA Guidance Memorandum on the Consideration and Implementation of Proven Safety Measures (07/10/2008 and 01/12/2012), including countdown pedestrian signal heads, road safety assessments, “Safety Edge”, and pedestrian hybrid beacons. PCDOT has also utilized the “LOOK” pavement markings and signs at sixteen different locations between 2009 and 2011. A study was performed and a report was prepared that showed there were no statistical changes in locations where “LOOK” treatments were used. The practice has been discontinued and “LOOK” signs will not be replaced and may be removed.

d. **Enhance coordination and information flow**. Information flow is facilitated between PCDOT, the Sheriff's Department, and others. For example, from statistical analyses of traffic crashes, TED periodically forwards a list of critical speeding and DWI violation locations to the Sheriff's Department for increased enforcement. To facilitate this flow of information, TED has and will continue to have monthly meetings with the Sheriff's Department to review high crash locations for enforcement activities.

e. **Develop enhanced reporting system.** The current reporting system is periodically enhanced to provide technical and comprehensive information to TED staff and decision makers, and to provide relevant and understandable program statistics to the public.

f. **Provide an SMS program that can be extended.** A successful SMS program will require participation, coordination, and cooperation of various agencies; therefore, the TED SMS program includes coordination of efforts with other agencies to improve traffic safety throughout the region. For example: PCDOT has participated in the PAG/RTA Transportation Working Group, the PAG Pedestrian Task Force, the PAG Pedestrian and Bike Working Group, as well as supplying team members for RSAs.

5. SMS Accomplishments and Future Focus

The purpose of the Traffic Engineering Division's Safety Management System (SMS) program is to implement safety measures at intersections and on roadway segments in the unincorporated Pima County roadway system. The primary source of information on the effectiveness of the SMS projects on roadway safety comes from this annual SMS update report. After traffic crash data is collected, tabulated, and prioritized each calendar year, the crashes at 8-10 locations at non-signalized intersections, at signalized intersections, and on roadway segments are analyzed. Priority is established by data, indices, relevance of previous studies, and engineering judgment.

As a result of these analyses, safety improvements are recommended. These improvements may include signing and striping changes, changes in signal timing or left-turn phasing, or major reconstruction of the location. Major reconstruction projects are prioritized by estimated crash reduction, project cost, and other variables (See Section 4.a).

These recommended improvements require funding sources so they can be implemented. There are five major funding sources that SMS can utilize each with various funding mechanisms and programs. Please refer to Chart 5-1 on the following page. Here is a list of these funding sources:

- Operational Funds: The main source of funding for TED and SMS, these funds enable this Division to fund studies, maintain signs, signals and striping.
- RTA (Regional Transportation Authority): Passed by a citizen vote in 2006, these competitively selected, project specific safety funds are available in different categories, including: Intersection, Transit Corridor Bus Pullouts, Elderly & Pedestrian, At-grade Rail/Bridge Deficiencies and Signal Technology.
- Bonds: The November 1997 Transportation Bond created 57 different projects related to major roadway, corridor and safety improvements. DOT-57 is the Safety Improvements project that has funded numerous SMS projects since its inception. Many of these bond projects have reached the end of the funding arc and are no longer available.
- HURF (Highway User Revenue Fund): This fund is generated through fuel taxes, registration fees and motor carrier fees. HURF monies are allocated through the distribution breakdown and formulas established at the time of inception. Programs funded with HURF monies have seen reductions due to State Legislative reallocations, improved fuel economy and reduced personal vehicle use during the economic downturn.
- Federal: Federal monies are distributed to the State DOT, where it is then administered through various programs which include, but are not limited to the following: Highway Safety Improvement Fund (HSIP), Transportation Alternatives Program (TAP) and the Governor's Office of Highway Safety (GOHS). The HSIP and TAP funds are allocated through a 'discretionary' State program, but a percentage is set-aside for the Pima Association of Governments' (PAG) use in regionally significant projects. The Surface Transportation Program (STP) provides federal funding for various improvement programs including the Railroad/Highway Grade Crossing (RR) program. ADOT administers this program but PCDOT is responsible for roadway approach safety improvements. The American Reinvestment and Recovery Act (ARRA) funds did provide a monetary infusion which allowed safety projects to be built, but it is no longer available; the final safety project in this group, the Intersection Control and Crosswalk Renewal was completed in 2012.

All of these funding sources require an application be filled out but some are more stringent as to the nature of the request, the back-up data required and the amount of planning level work

to enable the funds to be awarded and then released. HSIP projects are required to have a Benefit/Cost Ratio greater than 1:1 to be considered for funding. This ratio is obtained by correlating the number of correctable crashes (See Section 4a item (4)) with the construction cost, per the method lined out in the ADOT HSIP Manual. Incorporating the Benefit/Cost Ratio into all SMS projects helps determine which funding source can be easily utilized.

Follow up Traffic Crash Studies

SMS program crash assessments were conducted at a total of 39 locations in fiscal year 2012/13. As a result of these studies, safety improvements (traffic control changes, signing improvements, striping improvements, or signal changes) were completed at 2 of the locations, follow-up studies were recommended at 11 locations, SMS project initiation recommended at 1 location, no action was taken at 6 locations, Road Safety Audits were recommended for 4 locations and 15 locations still have recommendations underway. No action was taken at some locations because either no improvements were deemed necessary, or improvements will be included in upcoming major roadway projects. These studies and their status are shown in Table 5-1 of this report.

Traffic studies/analyses were conducted at 18 locations, some as follow-ups, some due to citizen requests and some as Before/After studies. These studies and their findings or recommendations are shown in Table 5-2.

Benefit/Cost Ratio Follow-Ups 2012

Traffic studies and crash assessments that were referred to SMS for project consideration were assessed using the methods outlined in the Arizona HSIP Manual. Planning level engineering work was completed to determine a construction cost. The expected benefit of reducing the crashes is calculated and compared to the construction cost. The B/C Ratio for several projects is shown in Table 5-3.

Completed Safety Projects 2012

Several safety projects were completed or started in 2012. They are described in Table 5-4

Before-After Studies List

As part of the criteria for various funding sources of safety projects, a study to determine the effectiveness of treatments is required. TED Studies and the SMS group are working through a list of approximately 150 projects and for this report all of the DOT-57 projects were reviewed. There were 67 total projects that were initiated using some portion of DOT-57 funding. Of the 67 projects, 64 projects have been constructed or are in construction. The group of DOT-57 Before-After Studies and the associated analysis is shown in Table 5-5.

An analysis of the data reveals that 19 of the projects did not have sufficient traffic volume data and/or crash data available to calculate either the change in crash rates and/or severity rates. The remaining 45 projects were analyzed and provided the following data. The crash rate increased for 11 projects, decreased for 22 projects, and did not significantly change for 12 projects. The severity rate increased for 14 projects, decreased for 17 projects, and did not significantly change for 14 projects.

People often ask why crash rates or severity rates increase after a safety project has been constructed; the short answer is that it is due to the random nature of crashes. A longer more, involved answer brings to light the fact that simple comparisons of before-after crash data do not take into account all the factors within the calculation of the crash rate or the severity rate.

These simple before-after analyses provide some level of comparison, but are generally not regarded as the final word in the worthiness or unworthiness of a safety project. There are several reasons for this, but the most apparent is that crashes are random in nature and comparing one intersection to another by using rate comparisons does not take this randomness into account.

Another chief reason is that some safety fixes, such as installing traffic signals, tend to increase the crash rate at a location, but also tend to decrease the crash severity. This is because traffic signal installation generally decreases the more severe right angle crashes, while often seeing an increase in rear-end crashes. Also, simple before-after comparisons account for all crashes, not just the type of crash that the safety project was constructed to mitigate. In the example of installing a traffic signal, if you had a crash that resulted in a fatality but was not related to the installation of a traffic signal, a simple analysis would indicate that the installation of the traffic signal caused the severity rate to increase-though it was not related at all.

After safety projects are constructed, the Studies and SMS sections continue to monitor locations to see if crash rates and severity rates increase and then perform a study to determine what might be causing the increase. Sometimes the nature of the project makes drivers feel more comfortable and they increase their speed, and a recommendation for increased enforcement may be required.

Proposed FY 13/14 Safety Projects

These projects were identified from the FY13/14 Project Priority List for funding and execution in FY13/14. A brief scope, estimated costs and anticipated schedules for these projects are shown in Table 5-6 of this report.

Safety Project Priority List

The list of safety projects and their associated priority, ranked per the criteria established in Section 4, is included as Table 5-7.

CHART 5-1: FUNDING FOR SAFETY MANAGEMENT SYSTEM PROJECTS

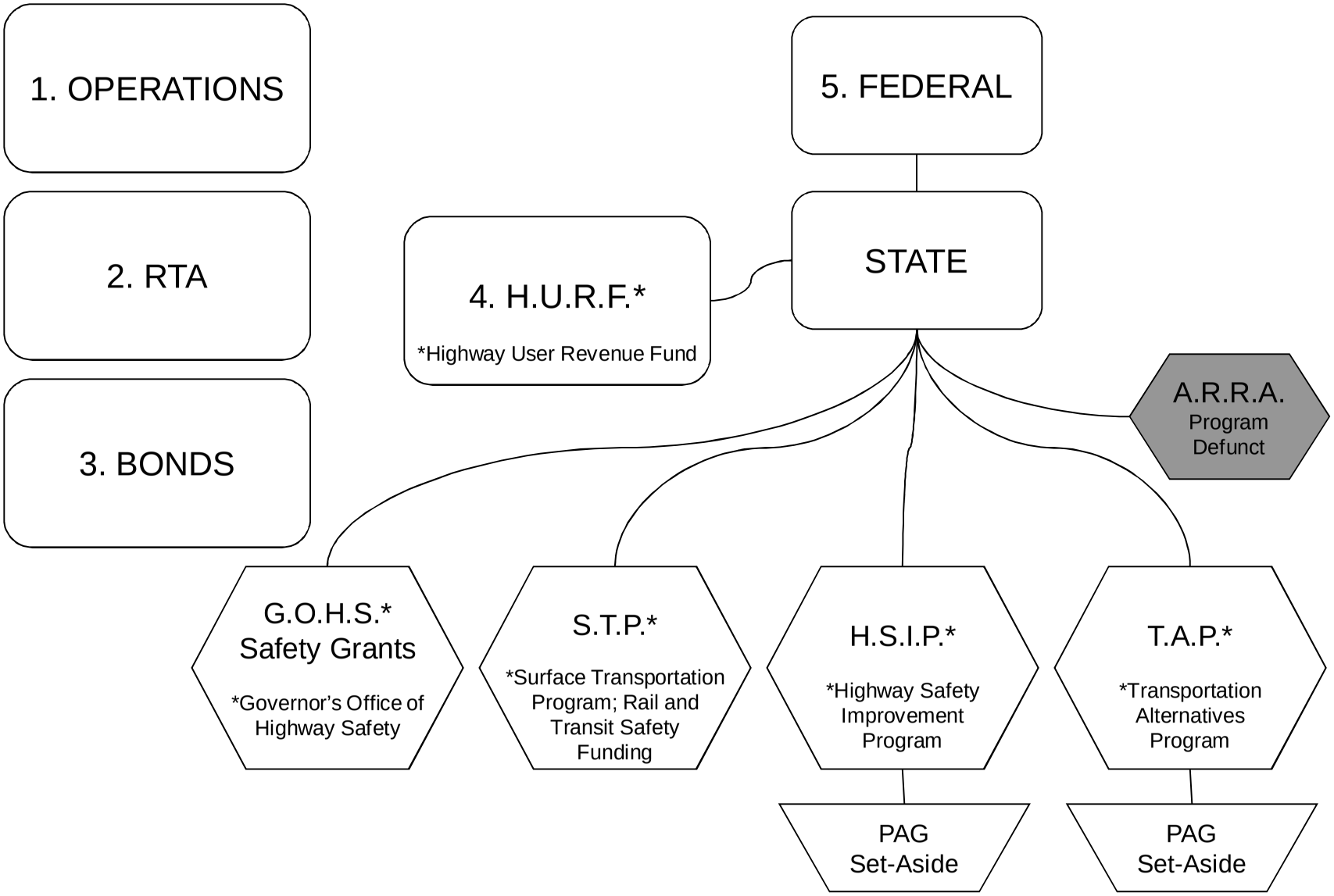


TABLE 5-1: CRASH ASSESSMENT SUMMARY FOR 2012-2013

NON-SIGNALIZED INTERSECTIONS:

PRIMARY ST	@ CROSS ST	FINDINGS	RECOMMENDATIONS	FOLLOW-UP
CALLE DE LAS CASITAS	**CONTINENTAL RD**	Daytime FTY/Angle crashes involving SB vehicle predominant. All crashes limited to property damage only. Signing and striping are satisfactory.	Recommend sight distance review, signing and access improvements.	Recommendations underway.
CAMINO DE LA TIERRA	**LOS REALES RD**	Daytime/weekday rear-end crashes predominant. EB vehicles involved at higher frequency. Signing/striping satisfactory.	Recommend review for instalaltion of EB LT lane.	Recommendations underway.
CAMINO JUAN PAISANO	**CAMPBELL AV**	Increased crash frequency in 2010. Daytime NB/SB rear-end crashes predominant. Speed-related violations cited most frequently. Rear-end crashes may be precipitated by turning vehicles and lack of dedicated turn lanes.	Recommend review for installation of NB/SB turn lanes.	Recommendations underway.
CAMINO DE OESTE	**IRONWOOD HILL DR**	Increased crash frequency in 2012. All crashes limited to property damage only. Low volume intersection/roadways. Applicable signing installed. Crashes may be result of general roadway conditions/terrain/geometry.	Striping improvements recommended for better delineation of intersection.	Recommendations completed.
CAMINO DE OESTE	**LINDA VISTA BL**	Increased crash frequency in 2011 and 2012. Daytime, rear-end crashes predominant. WB vehicles involved at higher rate that other directions of travel. Twin Peaks interchange at !-10 may have impacted the travel patterns at the intersection.	Signing improvements recommended.	Recommendations underway.
CAMINO DE OESTE	**MAGEE RD/PIMA FARMS RD**	Decrease in crash frequency. No definitive pattern to crashes.	Recommend signing/striping/pavement improvements.	Recommendations underway.
CATALINA HY	**NITTANY WY/PRINCE RD**	Angle and daytime crashes predominant. Signing and striping satisfactory.	None.	
CONTINENTAL RD/OLD NOGALES HY	**PARK CENTRE AV/WHITEHOUSE CANYON RD**	Increased crash frequency in 2012. Turning vehicles involved in high number of crashes during mid-day hours.	Recommend signing/striping review for increased visibility.	Recommendations underway.

TABLE 5-1: CRASH ASSESSMENT SUMMARY FOR 2012-2013 (CONT'D)

PRIMARY ST	@ CROSS ST	FINDINGS	RECOMMENDATIONS	FOLLOW-UP
DAWN RD	**HOUGHTON RD**	Increased crash frequency in 2012. No definitive patterns to crashes. New high school on Houghton Rd may have impacted travel in this area (2012 opening).	Signing and striping improvements recommended.	Recommendations underway.
HOUGHTON RD	**PRINCE RD**	Crash frequency decreasing. High frequency of SB vehicles that ran stop sign. Vegetation overgrowth was noted and trimmed by staff. Signing/striping satisfactory.	Vegetation overgrowth was trimmed by staff. Recommend striping conditions review of stop bars.	Recommendations underway.
INA RD	**WADE RD**	No definitive pattern to crashes. NB rear-end crashes may be impacted by right-turn island.	Recommend signing/striping improvements and review of speed limit.	Recommendations underway.
LA CHOLLA BL	**SUNSET RD**	Fluctuating crash frequency. High frequency of angle crashes. WB visibility may be impacted by vegetation. Multiple major construction projects in the area may have impacted crash history at the intersection.	Signing improvements for better intersection delineation recommended. Also, recommend additional study to evaluate WB sight distance from Stop sign and to review all installed signing.	Interim signing improvements completed. Sight distance study and signing review underway.
OLD AJO HY	**SAN JOAQUIN RD**	Fluctuating crash frequency with high noted in 2010. Angle crashes with FTY/Inattention violations predominant. Vegetation overgrowth noted and trimmed by staff.	Signing improvements recommended. Further review of vegetation overgrowth for more extensive removal when signing improvements are completed.	Recommendations underway.
SKYLINE DR	**SWAN RD**	Crashes involving EB vehicles predominant. No other patterns noted.	Recommend signing/vegetation improvements and review of EB sight lines.	Recommendations underway.

SIGNALIZED INTERSECTIONS:

PRIMARY ST	@ CROSS ST / FROM	FINDINGS	RECOMMENDATIONS	FOLLOW-UP
1st AV	**ORANGE GROVE RD**	High frequency of rear-end crashes. Significant decrease in turning crashes between 5-year and 1-year review. Slight increase in 1-year severity index.	Recommend full crash analysis due to coninuing WB rear-ends, including arterial signing review.	Recommendations underway.
36th ACCESS RD	**PALO VERDE RD**	Decreased crash frequency in 2011 and 2012. Rear-end crashes predominant, especially involving WB RT vehicles.	Recommend review of WB RT sightlines to determine if No Right Turn on Red should be implemented.	Interim recommendations underway. Future Road Safety Audit proposed for this location.
37th ST/GOLF LINKS RD	**PALO VERDE RD**	High frequency of NB/SB rear-end crashes. Horizontal/vertical profile of roadway may impact crash history.	Recommend evaluate of alternatives for added visibility of NB signal indications (e.g. "red" strobe or advance flasher).	Interim recommendations underway. Future Road Safety Audit proposed for this location.

TABLE 5-1: CRASH ASSESSMENT SUMMARY FOR 2012-2013 (CONT'D)

PRIMARY ST	@ CROSS ST	FINDINGS	RECOMMENDATIONS	FOLLOW-UP
CAMINO DE LA TIERRA	**INA RD**	Fluctuating crash frequency over study period. Predominant patterns noted as daytime, afternoon peak-hour, EB/WB rear-end crashes. WB congestion noted in afternoon peak due to adjacent Town of Marana signals. Signing/striping satisfactory. EB bike lane being utilized as a defacto RT lane. WB signal "disappears" in background traffic due to vertical geometry of Ina Rd.	Recommend signal timing review and better coordination with Town of Marana, evaluation of west leg for inclusion of EB RT lane, and evaluate alternatives (e.g. adding strobe light to "red" signal or advanced flasher) for added visibility of WB red signal indication.	Recommendations underway.
CAMINO DE LA TIERRA	**ORANGE GROVE RD**	Slight decrease in crash frequency. Predominant pattern is daytime rear-end crashes, followed by turning and angle crashes. School crosswalks (2 at intersection) may influence driver impatience and subsequent crash occurrence. Staff noted unused "green" time for NB/SB and subsequent queuing for EB/WB.	Recommend signal timing review to evaluate additional green time for major street (EB/WB).	Orange Grove Rd to the east is under reconstruction and bike lane improvements in design at intersection. Review projects for continuity through intersection.
CAMINO DE LA TIERRA	**VALENCIA RD**	Increased crash frequency in 2012. EB/WB rear-end crashes predominant. Commercial property access in SW quadrant may impact crash history.	Recommend review of signing/striping for improvement and evaluation of speed limit reduction for Valencia Rd from Camino de La Tierra to Mission Rd. Also, signal timing review for WB LT queuing.	Recommendations underway.
CRAYCROFT RD	**RIVER RD**	Crash frequency consistent through study period. Rear-end and angle crashes predominant. High crash times morning/afternoon peak hours and late night. New development to the west (commercial/school) may impact 2012 crash history.	No recommendations at this time. South and east legs have been annexed by City of Tucson.	Future Road Safety Audit proposed for this location.
INA RD	**LA CANADA DR**	Intersection was under/affected by roadway construction projects during majority of the study period, resulting in travel pattern disruptions. Signing/striping/pavement satisfactory. EB dual LT lanes with POLT phasing implemented in early 2013. Congestion noted for some hours of the day.	No recommendations at this time due to on-going construction.	

TABLE 5-1: CRASH ASSESSMENT SUMMARY FOR 2012-2013 (CONT'D)

PRIMARY ST	@ CROSS ST	FINDINGS	RECOMMENDATIONS	FOLLOW-UP
INA RD	**LA CHOLLA BL**	Slight decrease in crash frequency. Crash rate and severity have decreased since 2009. Predominant pattern is daytime rear-end crashes and majority of crashes are limited to property damage only. 70% of crashes had speed-related violations. Vehicles make U-turns in violation of posted restriction. Signing/striping satisfactory.	Based in 2009 study, recommend that intersection remain candidate for potential traffic enforcement cameras and/or other red-light running alternatives. No other recommendations at this time.	Road Safety Audit was conducted for Ina Road, including this location. Awaiting final report from safety team.
KOLB RD	**VALENCIA RD**	High frequency of rear-end crashes, especially SB travel direction. Congestion noted in afternoon peak hours. 32% of the crashes occurred under "dark" conditions.	Recommend signing/striping improvements and review of intersection signal timing.	Recommendations underway.
LA CHOLLA BL	**RUTHRAUFF RD**	Active reconstruction of the intersection completed in late 2011. However, Intersection still operating under altered travel patterns due to other area construction projects. 2012 crash patterns show higher frequency of crashes during mid-day to early evening hours and high frequency of EB and SB rear-end crashes. No operational deficiencies were noted.	No recommendations at this time due to altered travel patterns from area roadway projects.	
OVERTON RD	**SHANNON RD**	Higher frequency of crashes involving at-fault EB/WB vehicles. Signing satisfactory. Striping visible but faded. Vegetation overgrowth may restrict sight distance for right-turning vehicles for all directions. Speed may be factor in crash history.	Recommend 1) re-evaluation of 45 mph speed limit; 2) vegetation maintenance; 3) refresh existing pavement markings.	Recommendations underway.

ROADWAY SEGMENTS:

PRIMARY ST	@ CROSS ST / FROM	FINDINGS	RECOMMENDATIONS	FOLLOW-UP
AVRA VALLEY RD	**ANWAY RD TO TRICO RD**	Higher frequency of run-off the road/cross centerline crashes during early morning and mid-afternoon hours. Silverbell Mine traffic may impact roadway use. No other definitive patterns noted.	Recommend signing/striping improvements and review of mitigation alternatives for run-off-the-road crashes.	Recommendations underway.

TABLE 5-1: CRASH ASSESSMENT SUMMARY FOR 2012-2013 (CONT'D)

PRIMARY ST	@ CROSS ST	FINDINGS	RECOMMENDATIONS	FOLLOW-UP
CARDINAL AV	**VALENCIA RD TO BILBY RD**	Increasing crash frequency in 2012, which could be related to Valencia Rd construction activities. Speed-related violations predominant, followed by improper lane violations. 17 of 30 crashes occurred at intermediate intersections. Clear zone encroachment by vegetation and private property improvments (walls). High frequency of crashes at private driveway at south end of segment.	Recommendations include signing improvements, vegetation removal, and request to private property owner at south shopping center to install Stop Signs at driveway. Also, evaluate segment for widening to include TWLTL.	Recommendations underway.
CATALINA HY (GENERAL HITCHCOCK HY)	**SNYDER RD TO MT. LEMMON SHORT RD**	Majority of crashes noted as intersection-related. High frequency of speed related violations.	Recommend review for radar speed message sign for SB travel directions and stop sign beacons for NB/SB at Snyder Rd intersection.	Recommendations underway.
CURTIS RD	**SHANNON RD TO DAVIS AV**	Higher frequency of intersecton/angle crashes. Staff noted minimal EB/WB gaps and improper gap acceptance for NB/SB vehicles. Two-lane cross-section precipitated queuing behind left-turn vehicle. Reconstruction activities on La Cholla Bl may have impacted segment travel patterns.	Striping improvements recommmended. Also, recommend evaluation of segment for widening to include TWLTL and limited access to wide northside shoulder	Recommendations underway.
FLOWING WELLS RD		Increase in crash frequency in 2012. Weekday, daytime, rear-end crashes predominant. Multiple private access driveways along segment. High pedestrian traffic noted. Travel patterns may be impacted by construction of La Canada Dr to the north.	Recommend evaluation for installation of variable message "speed" sign for NB direction of travel. Also, request private property owner adjacent to Talisman Dr relocate signs and remove/trim vegetation for increased visibility.	Recommendations underway.
HOUGHTON RD	**PRINCE RD TO CATALINA HY**	Decreasing crash frequency in 2012. All crashes within segment are intersection related. High frequency of "ran stop sign" violations involving SB vehicles. Signing and striping satisfactory.	None.	
JOSEPH AV	**BILBY RD TO IRVINGTON RD**	Predominant pattern of single vehicle crashes on a Fri/Sat/Sun. High frequency of crashes in 5700-6000S reverse curve.	Recommend: 1) vegetation removal/maintenance 2) striping/signing improvments 3) further evaluation of 5700-6000S segment for improvements to mitigate crashes, including review for installation of TWLTL in this area.	Recommendations underway.

TABLE 5-1: CRASH ASSESSMENT SUMMARY FOR 2012-2013 (CONT'D)

PRIMARY ST	@ CROSS ST	FINDINGS	RECOMMENDATIONS	FOLLOW-UP
KINNEY RD	**GATES PASS RD TO MILE WIDE RD**	High frequency of single vehicle and night-time crashes. Roadway serves as major scneic/access route for Tucson Mountain Park and Saguaro National Park. Impaired drivers were noted in seven crashes. Terrain has multiple horizontal/vertical curves with minimal shoulder.	None. A detailed safety study is scheduled for this roadway in conjunction with TMP officials.	
RIVER RD	**CAMPBELL AV TO HACIENDA DEL SOL RD**	Predominant pattern of daytime, rear-end, speed-related crashes. Multiple access points may impact crash history involving right-turning vehicles. Significant congestion, delay, and queuing at the Campbell Av intersection impacted the entire segment.	Evaluate River Rd for dedicated right turn lanes at intersections and access points along the segment. Also, recommend that roadway be reconstructed with medians to channelizing turning vehicles into less conflict points	Study for right-turn lanes scheduled. Median construction referred to SMS for further evaluation and prioritization.
RUTHRAUFF RD	**HIGHWAY DR TO LA CHOLLA BL**	Roadway segment operating under extremem congestion due to altered travel patterns resulting from interstate and arterial reconstruction activities in the area and pre-emption for railroad crossings. High pedestrian traffic noted at random locations. Multiple cross-streets and private access driveways along segment. Higher than typical frequency of night-time crashes.	Recommend that roadway be reconstructed with medians to channelizing turning vehicles into less conflict points and to provide refuge area for crossing pedestrians and bicyclists. Also, that arterial street lighting be included in any future project.	Referred to SMS for further evaluation and prioritization.
SIERRITA MOUNTAIN RD	**AJO HY TO DIAMOND BELL RANCH RD**	Increase in crash frequency in 2012. High frequency nighttime, animal, and older driver crashes. The entire segment is considered open range.	Recommend signing and striping upgrade reviews for new standards and to address elderly drivers and nighttime visibility.	Recommendations underway.
SILVERBELL RD	**COCIO RD TO TRICO RD**	Predominant crashes were single-vehicle involving speed-related violations within area of horizontal curves. High frequency of night-time crashes.	Recommend signing/striping improvements, vegetation removal/maintenance, and pavement edge/shoulder maintenance/review.	Recommendations underway.
THORNYDALE RD	**LINDA VISTA BL TO CAMINO DEL NORTE**	High frequency of angle and rear-end crashes with inattention, speed-related, and failure to yield violations. Crash history may have been impacted by the number of private driveways and intersecting streets (17) within this 2-mile segment. Heavy growth of roadside vegetation throughout study area. Consistent NB/SB traffic flow with limited gaps noted.	Recommend 1) full arterial signing/striping upgrade review for new standards and conditions 2) evaluation of roadway segment for installatin of TWLTL 3) vegetation removal/maintenance and 4) request for private roadway signing to address limited visibility of Stop sign for Thornydale Rd.	Recommendations underway.

TABLE 5-2: Traffic Engineering Study Activity for 2012-2013

PRIMARY ST	CROSS ST	DATE	STUDY	FINDINGS	RECOMMENDATIONS	FOLLOW-UP
1ST AV	**@ RUDASILL RD**	Jun-12	TWSA	Minor street volume relatively low. Volume and crash warrants not met. Rear-end crash predominant. Median vegetation may obstruct sight lines for NB/SB directions.	Do not install traffic signal. Signing improvements and vegetation removal recommended.	Signing installed. Vegetation removal referred to PCDOT Operations Division.
BALD EAGLE AV	**@ CAMINO DE OESTE**	Jan-12	MWSA	Minor street volumes relatively low and do not meet warrant thresholds. Angle crashes predominant but not frequency of occurrence does not meet warrants. No operational deficiencies noted.	Do not install MWSA.	
BENSON HY	**@ DREXEL RD**	Dec-12	TSWA	Volume and crash warrants not met. Angle crashes predominant but frequency does not warrant traffic signal. Minimal crossing pedestrian activitiy.	Do not install traffic signal. Signing and striping improvements recommended. Street light maintenance requested.	All recommendations completed.
BENSON HY	**@ COLUMBUS BL**	May-12	TSWA	Crash frequency meets warranting criteria but volumes do not. Geometry may be factor in crash history.	Do not install traffic signal. Review for realignment. Conduct crosswalk and HAWK pedestrian studies.	Pedestrian study underway. Review of geometric improvements forwarded to SMS.
BENSON HY/SWAN RD	**@ VALENCIA RD**	Jul-12	B/A CRASH ANALYSIS	Crash frequency has remained the same but injury severity has decreased. Rear-end crashes predominant in "after" period. Angle crashes greatly reduced.	Traffic signal installation has reduced severity of crashes at the intersection.	
BOWES RD	**@ VALLARTA DR**	Jan-12	HAWK CROSSWALK ANALYSIS	Warrants for install of HAWK are met.	Install HAWK pedestrian signal at this pedestrian crosswalk.	Forwarded to SMS for prioritization and funding.
CAMPBELL AV	**@ CAMINO LUZ**	Nov-12	B/A CRASH ANALYSIS	Significant decrease in overall crash frequency but increase in lane departure violations and severity.	Further review recommended.	
CASINO DE SOL DW	**@ VALENCIA RD**	Feb-12	TSWA	Volume warrants met for traffic signal installation. Crash frequency relatively low and does not meet warranting thresholds. Congestion on minor street (access driveway) noted on evenings and weekends.	Install traffic signal.	Referred to PCDOT Transportation Engineering for incorporation into Valencia Road CIP design project.
CATALINA HY	**@ NITTANY WY/PRINCE RD**	Jun-12	B/A CRASH ANALYSIS	Significant decrease in crash frequency and severity. Sight distance improvements resulted in reduction of angle crashes.	Improvements were effective in reducing crashes at the intersection.	
CONTINENTAL RD	**@ CAMINO DEL PORTILLO**	Jan-12	TURN LANE ANALYSIS	Turn lane not warranted due to low volume of turning vehicles and absence of left-turning crashes.	Do not install left-turn lane.	
ESPERANZA BL	**LA CANADA DR TO I-19**	Dec-12	HAWK CROSSWALK ANALYSIS	Warrants for installation of HAWK crosswalk signal are not met. Minimal pedestrian activitiy and no pedestrian crashes.	Do not install HAWK crosswalk signal.	
FLOWING WELLS RD	**@ WETMORE RD**	Feb-12	B/A CRASH ANALYSIS	Significant decrease in crash frequency and crash rate in "after" period, though severity index remained the same. Notable decrease in multi-vehicle and alcohol-related crashes.	Widening project had a positive effect on the overall crash history at the intersection. No additional recommendations at this time.	Additional SMS review pursuant to PCSD request. Recommendation to install advance signal ahead beacons and NB right-turn lane.
FOUNTAINS AV	**LA CHOLLA BL TO RUDASILL RD**	Sep-12	CROSSWALK ANALYSIS	Random pedestrian crossings by elderly pedestrians through the day.	Install pedestrian crosswalk.	Recommendations underway pending BOS ordinance approval.
KOLB RD	**@ MOUNTAIN SHADOWS PL/VENTANA CANYON DR**	Feb-13	LEFT-TURN PHASING ANALYSIS	Criteria for left-turn phasing not met. Intersection delays due to on-site capacity restrictions for adjacent elementary school.	Do not install NB/SB left-turn phasing.	
LA CHOLLA BL	**@ HOSPITAL DR**	Oct-12	B/A CRASH ANALYSIS	Signal improvements reduced overall crash frequency but injury severity increased. Red-light running crashes were reduced.	Improvements were effective in crash reduction though results are inconclusive with respect to severity due to random occurrence of 3 fatal crashes.	Monitor in the future to assess effectiveness of recent implementation of NB/SB left-turn phasing.

TABLE 5-2: Traffic Engineering Study Activity for 2012-2013 (CONT'D)

PRIMARY ST	CROSS ST	DATE	STUDY	FINDINGS	RECOMMENDATIONS	FOLLOW-UP
LOS REALES RD	**CARDINAL AV TO MISSION RD**	Feb-12	TURN LANE ANALYSIS	Turn lane not warranted due to low volume and decreasing crash for left-turning vehicles. Crash frequency mainly at one intersection. Signing and striping satisfactory for conditions.	Do not install TWLTL.	
MAGEE RD	**@ THORNYDALE RD**	Sep-12	LEFT-TURN PHASING ANALYSIS	Criteria for left-turn phasing not met. Intersection may be experiencing travel patterns anomalies due to construction in the area.	Do not install NB/SB left-turn phasing.	
MARY ANN CLEVELAND WY	**@ KUSH CANYON LN**	Mar-12	CROSSWALK ANALYSIS	Minimal gaps available for pedestrian crossings. Crossings occur within short period of time at high school arrival/dismissal time.	Install pedestrian crosswalk and associated signing/striping/street lighting improvements. Install HAWK pedestrian signal when funding available.	Crosswalk and associated signing installed. Street lighting pending contract renewal for dusk-to-dawn program. HAWK signal referred to SMS for prioritization and funding.

TABLE 5-3 LIST OF CRASH ASSESSMENT PROJECTS USING BENEFIT/COST FACTORS

Rank	Project Name	Project Scope	Construction Cost	B/C Ratio (X:1)
1	Flowing Wells @ Wetmore	Install Advanced Signal Warning Flashers	$20,000	129
2	Cardinal Avenue - Los Reales Road to Valencia Road	Pavement widening between Ebonee Marie Moody Park entrance and Christopher Drive to create a 3-lane section and to improvement road alignment.	$42,816	18
3	Camino De La Tierra - Highway Dr to Orange Grove Rd	Install 6' paved shoulders	$400,000	10
4	Curtis Rd - Shannon to Emerald & Highway Dr - Emerald to Sunset	Install paved shoulder and horizontal curve improvements	$450,000	10
5	River Road - Campbell Avenue to Hacienda Del Sol	Construct raised medians to reduce access and number of right angle crashes while improving pedestrian safety	$187,670	4.80
6	Curtis Road at Davis Avenue Intersection	Make an All Way Stop intersection, turn lanes for all legs, landscaping	$103,555	1.46
7	Ruthrauff Rd: Davis Av/Highway Dr to La Cholla Raised Medians	Construct raised medians to reduce access and number of right angle crashes while improving pedestrian safety	$279,000	1.44
8	Speedway Boulevard - Painted Hills Rd to Camino De Oeste	Adding paved shoulders.	$1,111,870	1.24
9	Shannon Road at Ina Road - Northbound Right Turn Lane	Right turn lane construction requires signal modification, curb/sidewalk modifications and stormsewer system modifications.	$140,000	0.45
10	Thornydale Road - Cortaro Farms Road to Overton Road	Widening of Thornydale from a 3-lane to a 5-lane roadway, intersection reconstruction and drainage mitigation.	$10,208,707	0.15
11	Overton Road at Thornydale Road Intersection	Widening at intersection recommended for capacity related crash reduction.	Part of Whole	

TABLE 5-4: SMS PROJECTS COMPLETED IN 2012

LOCATION		SCOPE
1	Palo Verde Road Improvements	Extension of a curbed median for a left turn lane, median fencing and relocation of a bus stop between Lincoln and Columbia on Palo Verde.
2	Palo Verde at Milton Bus Stop	Relocation of NB bus stop to paved area north of Milton.
3	ITS Upgrades	Replacement of traffic signal cabinets, installation of LED lamps, and video detection
4	Sign Post Upgrades	Installation (ongoing) to replace all County sign installations with square tube breakaway posts
5	Speed Monitoring Signs	Installation of Digital Speed Monitoring signs on Campbell Avenue and on Aviation Parkway in the Richey Boulevard area.
6	Picture Rocks & Sandario Roads Road Safety Assessment (RSA)	ADOT Road Safety Assessment lead a multi-disciplinary team to review roadway safety elements and make short term, intermediate and long term recommendations for safety improvements along the roadway corridors.

TABLE 5-5: SUMMARY OF FINDINGS FOR DOT-57 PROJECT BEFORE AND AFTER COMPARISONS

Project Number	Location	Improvements	Total DOT-57 Funding	Construction Dates		Daily Volume	Total Crashes	Crash Rate	Severity Rate	Change	
				Begin	End					CR	SR
4RVTOC	Pontatoc @ River	Traffic Signal & Turn Lanes	$852,902	Nov-04	Apr-05	17,529	4	0.21	2.20	**0.27**	**-1.20**
						15,355	8	0.48	1.00		
4AVPRT	Aviation Parkway Richey to Technical Dr	Barrier Installation	$173,876	Jun-11	Jun-12	19,195	7	1.67	1.97	**-1.44**	**-0.97**
						20,729	1	0.22	1.00		
4BLBCS	Bear Canyon Snyder to Indian Bend	Bike Lanes	$73,501	Jan-11	Jul-11	6,707	20	2.72	1.40	**-2.00**	**0.40**
						6,314	5	0.72	1.80		
4IRMSN	Irvington @ Mission	4-its on SB, 3 on NB, 3 on EB for 10 Total	$136,019	Jul-11	May-12	40,802	57	1.28	1.59	**-0.67**	**-0.15**
						30,230	20	0.60	1.44		
4PCRSB	Picture Rocks @ Sandario	Beacon	$38,231	Jan-11	May-11	9,119	9	0.90	1.22	**-0.09**	**0.42**
						10,143	9	0.81	1.64		
4RTPVL	Palo Verde @ Linclon	HAWK Signal & Crosswalk Phase 1	$206,228	Jun-11	Jan-13	30,070	1	0.03	1.00	**0.00**	**0.00**
						27,979	1	0.03	1.00		
4ABCON	Abrego DR @ Continental	Road Geometry & Traffic Signal	$1,183,004	Jul-04	Feb-05	12,757	5	0.36	1.40	**0.24**	**1.31**
						13,716	9	0.60	2.71		
4CCVLC	Camino Casa Verde @ La Canada	Traffic Signal & Turn Lanes	$878,125	Mar-06	Oct-06	17,624	6	0.31	1.33	**-0.06**	**0.83**
						18,073	5	0.25	2.16		
4FAROG	Fairview @ Roger	Geometry & Traffic Signal	$1,610	Jul-00	May-06	18,405	28	1.39	1.36	**-1.11**	**0.04**
						16,514	5	0.28	1.40		
4ICATR	Ina @ Camino de la Tierra	Additional Traffic Control Appurtenances	$1,459	Apr-03	Jul-03	42,704	61	1.30	1.60	**0.04**	**0.01**
						43,399	64	1.35	1.61		
4INAML	Ina @ Mona Lisa	Additional Traffic Control Appurtenances	$1,459	Apr-03	Jul-03	43,928	43	0.89	1.66	**0.17**	**0.05**
						41,196	48	1.06	1.71		
4INSHA	Ina @ Shannon	Geometry & Traffic Signal	$17,260	Jun-01	Nov-02	48,589	53	1.00	1.65	**1.11**	**0.01**
						46,397	107	2.11	1.66		
4LCBOM	La Cholla @ Omar	Sign Upgrades (CIP)	$1,119	Jun-09	Jun-09	32,543	7	0.20	1.29	**-0.04**	**1.41**
						23,018	4	0.16	2.70		
4LCHOS	La Cholla @ Hospital Dr	Traffic Signal	$120,747	Jun-04	May-05	19,834	11	0.51	1.36	**0.56**	**0.09**
						31,812	37	1.06	1.45		
4NOGHU	Nogales Highway @ Hughes Access Rd	Traffic Signal	$231,914	Jan-06	May-07	19,602	41	1.91	1.53	**-1.48**	**0.63**
						21,284	10	0.43	2.16		
4OGSBI	Orange Grove @ Silverbell	Intersection Improvements	$358,899	Aug-08	Nov-08	7,589	0	0.00	0.00	**0.00**	**0.00**
						5,986	0	0.00	0.00		
4CWIRX	Contractors Way @ Illinois St	Railroad Crossing	$5,718	May-07	Sep-07	7,439	0	0.00	0.00	**0.00**	**0.00**
						7,182	0	0.00	0.00		
4CWMRX	Contractors Way @ Michigan St	Railroad Crossing	$4,715	Apr-06	Dec-06	7,439	0	0.00	0.00	**0.13**	**1.00**
						7,182	1	0.13	1.00		
4SVSWT	Silverbell @ SweetWater	Traffic Signal	$229,191	Oct-04	Dec-04	13,169	12	0.83	1.65	**-0.71**	**-0.15**
						14,698	2	0.12	1.50		
4SSSRI	Sunset Rd @ Sunray Dr	Intersection Improvements	$1,337,266	Aug-08	Feb-09	1,087	1	0.84	2.00	**-0.84**	**-2.00**
						950	0	0.00	0.00		
4TVDLP	Tanque Verde Rd @ Tanque Verde Loop Rd	Left Turn Lane	$535,354	Jan-05	Jan-06	11,143	14	1.15	1.43	**-0.84**	**-0.18**
						11,996	4	0.30	1.25		
4VMTFS	Valenica @ Mission	Traffic Signal	$1,549	Jun-06	Aug-06	50,245	92	1.67	1.59	**-0.82**	**0.05**
						49,171	46	0.85	1.64		
4VDVHS	Valenica @ Desert View High School	Median & signal Improvements	$24,214	Jun-04	Nov-04	37,824	0	0.00	0.00	**0.07**	**1.50**
						27,576	2	0.07	1.50		

CONT'D TABLE 5-5: SUMMARY OF FINDINGS FOR DOT-57 PROJECT BEFORE AND AFTER COMPARISONS

Project Number	Location	Improvements	Total DOT-57 Funding	Construction Dates		Daily Volume	Total Crashes	Crash Rate	Severity Rate	Change	
				Begin	End					CR	SR
4LCHOV	La Cholla Blvd @ Overton Rd	Traffic Signal (Planning)	$198,895	Jun-03	Jun-06	17,362	18	0.95	1.64	**-0.21**	**0.58**
						18,621	15	0.74	2.23		
4PICAK	Picture Rocks @ Van Ark	Intersection Analysis	$7,820	Jun-05	Jun-05	6,944	6	0.79	1.33	**-0.14**	**0.63**
						6,987	5	0.65	1.96		
4PICSN	Picture Rocks @ Sandario	Intersection Analysis	$2,010	Jun-03	Dec-06	8,330	8	0.88	1.73	**-0.13**	**-0.60**
						9,763	8	0.75	1.13		
4LCTLN	La Canada @ Trader Lane	Installed HAWK	$35,508	Nov-98	Jan-99	18,468	6	0.30	2.30	**-0.18**	**-1.30**
						15,189	2	0.12	1.00		
4CDLTV	Camino de la Tierra @ Valenica	Installed Traffic Signal	$83,594	Dec-03	Feb-04	26,465	33	1.14	1.54	**-0.20**	**-0.30**
						32,235	33	0.93	1.24		
4CULCB	Curtis @ La Cholla	Installed Traffic Signal	$279,551	Oct-00	Feb-01	21,567	24	1.02	1.82	**0.31**	**-0.22**
						26,097	38	1.33	1.59		
4DRMIS	Drexel @ Mission	Installed Traffic Signal	$118,565	Aug-02	Feb-03	28,940	36	1.14	1.36	**0.02**	**-0.02**
						27,609	35	1.16	1.34		
4DRPVR	Drexel @ Palo Verde	Installed Traffic Signal	$177,421	Aug-02	Feb-03	22,967	25	0.99	1.70	**-0.31**	**-0.12**
						20,133	15	0.68	1.59		
4LCBRR	La Cholla @ Rudasill	Installed Traffic Signal	$117,319	Jun-01	Jul-02	23,670	3	0.12	1.00	**0.44**	**0.43**
						23,192	14	0.55	1.43		
4MRVAL	Mark @ Valenica	Installed Traffic Signal	$99,649	Sep-03	Nov-03	15,378	19	1.13	2.63	**0.76**	**-1.00**
						21,768	45	1.89	1.63		
4SUNSC	Sunrise @ Sabino Canyon	Installed Traffic Signal	$149,971	Mar-03	Jun-03	9,057	5	0.50	1.20	**-0.10**	**0.05**
						9,038	4	0.40	1.25		
4TCNGA	Conestoga Av @ Tanque Verde Rd	Added a EB LTL	$121,511	Nov-98	Jan-99	7,770	1	0.12	2.00	**-0.02**	**3.80**
						9,858	1	0.09	5.80		
4KOVAL	Kolb @ Valenica	Added a SB LTL & Modified the Traffic Signal	$560,079	Sep-01	Mar-02	47,483	111	2.13	1.43	**-0.21**	**-0.03**
						56,576	119	1.92	1.40		
4MAMLR	Magee @ Mona Lisa	Added a TWLTL on Magee	$159,759	Nov-00	Feb-01	15,761	17	0.99	1.98	**-0.50**	**-0.75**
						16,860	9	0.49	1.22		
4RISWA	River @ Swan	Added a RTL for EB & SB Traffic	$251,292	Jan-01	Feb-01	41,148	47	1.04	1.60	**0.60**	**-0.14**
						47,659	86	1.65	1.46		
-	Linda Vista	Installed HAWK	$149,000	Jun-04	Jun-05	9,010	15	3.04	1.84	**-1.02**	**-0.54**
						9,060	10	2.02	1.30		
4CADRX	Cardinal @ Drexel	Installed Traffic Signal	$696,456	Mar-05	Jul-05	11,140	6	0.49	1.17	**0.22**	**0.71**
						12,793	10	0.71	1.88		
4KNSAN	Kinney @ Sandario	Culvert and Roadway	$408,633	Oct-04	Nov-04	3,628	4	1.01	1.25	**-0.67**	**-0.25**
						2,720	1	0.34	1.00		
4GATES	Gates Pass	Widened and rock removal	$671,099	Sep-05	Oct-05	2,445	29	21.66	1.68	**-0.98**	**-0.14**
						2,737	31	20.69	1.54		
4MAGTH	Magee @ Thornydale	Installed Traffic Signal	$275,468	Jun-05	Aug-05	30,765	29	0.86	1.38	**-0.20**	**0.17**
						34,414	25	0.66	1.55		
4SHAOV	Overton @ Shannon	Installed Traffic Signal	$690,162	Nov-05	Feb-06	15,411	22	1.30	1.35	**-0.30**	**0.07**
						17,284	19	1.00	1.42		
4DMRRA	Duval Mine @ Rio Altar	LTL Added	$176,460	Sep-04	Sep-04	1,808	0	0.00	0.00	**0.00**	**0.00**
						5,354	0	0.00	0.00		

TABLE 5-6: PROPOSED SMS PROJECTS FOR FY12/13

Project	Proposed Action	Funding	Anticipated Cost	Anticipated Year
Palo Verde @ Milton HAWK Palo Verde @ Alvord HAWK	Install a Pedestrian Hybrid Beacon (HAWK) at this existing crosswalk, and install pedestrian railing Install a Pedestrian Hybrid Beacon (HAWK) at this existing school crosswalk	HURF-ADA & RTA-37	$454,000	2013/2014
Camino De La Tierra - Highway Dr to Orange Grove Rd	Add 6' paved shoulders	RTA/HURF	$400,000	2013/2014
Curtis Rd - Shannon to Emerald & Highway Dr - Emerald to Sunset	Shoulder and Curve Improvements	HSIP	$650,000	2014-/2015
Areawide Striping Upgrade (Thermoplastic)	Create a prioritization program and then systematically install thermoplastic striping on County roadways	AZ-HSIP	$5,300,000	TBD
Areawide Flood Crossing Warning Flashers	Create a prioritization program, systematically install Warning Flashers on all critical County roadways	AZ-HSIP	$385,000	2014/2015
Linda Vista @ Mtn Vista HS	Porkchop Island/Access Modification	DOT-57	$8,000	2014/2015
DON'T DRIVE IMPAIRED (DDI) Signs	Grant through Governor's Office to systematically install DDI signs on roadways with alcohol related incidents	GOHS Grant	$7,000	2012/2013
Flowing Wells @ Wetmore	Advance Signal Warning Flashers	DOT-57	$20,000	2013/2014
Tanque Verde @ Emily Gray JHS HAWK	Install a Pedestrian Hybrid Beacon (HAWK) at this existing school crosswalk	PAG-TAP & TED OPER	$171,000	2013/2014
Bowes Road @ Sabino HS HAWK	Install a Pedestrian Hybrid Beacon (HAWK) at this existing school crosswalk	PAG-TAP & TED OPER	$166,000	2013/2014
Mary Ann Cleaveland Way @ Cienega HS HAWK	Install a Pedestrian Hybrid Beacon (HAWK) at this existing school crosswalk (Design)	PAG-TAP	$25,000	2013/2014
Lambert Lane & Pecos @ Camino De La Tierra	Eliminate Pecos Way, replace with improvements at Lambert/Thornydale (Design)	RTA & HSIP	$1,600,000	2015/2016
Shannon Road - Club to Hardy	Install TWLTL and paved shoulders	TBD	$500,000	TBD
Benson @ Columbus	Install HAWK and median improvements	HSIP	$250,000	TBD
Orange Grove Road - La Canada to Oracle TWLTL	Install TWLTL and paved shoulders	TBD	$360,000	TBD
Catalina HWY at MP 1.40	Install guardrail	DOT-57	$50,000	TBD
Battery Back-Up Units	Installation at Traffic Signals and HAWK Beacons	DOT-57	$30,000	Ongoing
Battery Replacement	Ongoing safety program to replace aging batteries	DOT-57	$10,000	Ongoing
Enhancement of Wireless Comm.System	Systematic upgrades	RTA/FHWA w/ COT	$120,000	Ongoing
Tetakusim School Crosswalk Street Light	Installation of street lighting at existing school crosswalk	DOT-57	$20,000	TBD
Median Street Lights on Esperanza Blvd	Installation of street lighting for Ezperanza Blvd	DOT-57	$20,000	TBD
Crosswalk Lighting on Esperanza Blvd	Installation of street lights at crosswalks	DOT-57	$20,000	TBD
Square Tube Breakaway Post Upgrade	Ongoing safety program to reinstall all County sign installations with square tube breakaway posts	DOT-57	$125,000	Ongoing

Table 5-7 Safety Project Priority List

	Congestion				Safety										Cost				Other									
Project	Existing LOS	Score	Existing ADT	Score	SMS Priority Index	HAWK Signal (P/S/N)	Score	No. of Correct. Crashes	Crash Attibutable to Limited Sight Distance (Y/N)	Score	Speed Limit Reduction	Score	Flooding/ Wet Pavement (Y/N)	Score	Total Project Cost $	Cost Sharing $	Pima County Cost $	Score	Conforms to RTA (Y/N)	Score	Adds Bike Lanes (Y/N)	Score	Adds Ped Facilities (Y/N)	Score	Total Score	Comments	Project Source	Rank
River Road - Campbell Ave to Hacienda Del Sol - Raised medians	D	20	38214	16	14	N	39	17	N	34	0	0	N	0	$187,670	$174,882	$12,788	50	N	0	N	0	N	0	**160**	B/C=4.8:1	Study	1
Orange Grove Rd - La Cholla to La Canada; guardrail installation	D	20	22141	9	12	N	40	49	N	40	0	0	N	0	$1,029,875	$971,172	$58,703	50	N	0	N	0	N	0	**159**	Potential Safety Project 14/15, B/C=4.6:1	B/C & Study	2
Flowing Wells @ Wetmore; Advanced Signal Warning Beacon	D	20	41617	18	1	N	40	14	N	28	0	0	N	0	$20,000	$0	$20,000	50	N	0	N	0	N	0	**156**	DOT-57, B/C Ratio=129:1	B/C & Crash Analysis	3
Benson Hwy @ Columbus intersection improvements ad HAWK	C	15	9972	4	22	S	60	2	Y	20	0	0	N	0	$446,000	$415,578	$30,422	50	N	0	N	0	Y	5	**154**	B/C=1.13:1, Meets HSIP Reqmts	B/C & Study	4
Install HAWK for existing pedestrian crosswalk at Milton and Palo Verde	A	5	12363	5	7	P	40	20	N	40	0	0	N	0	$240,000	$226,320	$13,680	50	N	0	N	0	Y	5	**145**	RTA funded, currently in design process	Study	5
Speedway Blvd - Painted Hills to Camino De Oeste; paved shldrs	A	5	2629	1	8	N	40	38	N	40	0	0	N	0	$1,111,870	$1,048,493	$63,377	50	N	0	Y	5	N	0	**141**	B/C=1.00:1, Meets HSIP Reqmts	B/C & Crash Analysis	6
Install HAWK for existing school crosswalk at Alvord and Palo Verde	A	5	12363	5	1000	S	60	5	N	10	0	0	N	0	$200,000	$0	$200,000	45	Y	5	N	0	Y	5	**135**	RTA funded, currently in design process	Study	7
Cortaro Farms; Star Grass Dr to Thornydale Rd, add TWLTL	D	20	18794	8	24	N	39	13	N	26	0	0	N	0	$750,000	$0	$750,000	35	N	0	Y	5	N	0	**133**	Future CIP Project	Study	8
Install HAWK: Bowes Rd/Vallarta Dr, Sabino High School	A	5	1736	1	1000	S	60	5	N	10	0	0	N	0	$165,000	$150,880	$14,120	50	N	0	N	0	Y	5	**131**	TAP funded, currently in design process	Study	9
Shannon Rd: Install TWLTL and Paved Shoulder between Club Dr and Hardy Rd	C	15	10013	4	10	N	40	10	N	20	0	0	N	0	$500,000	$0	$500,000	40	N	0	Y	5	Y	5	**129**	Funding not identified	Study	10
Shannon Rd @ Ina Rd; NB RT Lane	C	15	47208	20	13	N	40	2	N	4	0	0	N	0	$140,000	$0	$140,000	45	N	0	Y	5	N	0	**129**	In-House, B/C=0.45:1	B/C & Crash Analysis	11
Install HAWK: Mary Ann Cleveland at Kush Canyon/Cienega HS	B	10	7891	3	1000	S	60	0	N	0	0	0	N	0	$243,000	$229,149	$13,851	50	N	0	N	0	Y	5	**128**	TAP funded, currently in design process	Study	12
Catalina Highway MP 14 (Windy Point) ped flasher	C	15	1756	1	1	N	40	0	Y	20	0	0	N	0	$160,000	$0	$160,000	45	N	0	N	0	Y	5	**126**	DOT -57 required	Study	13
Install HAWK at Emily Gray School on Tanque Verde	A	5	9280	4	1000	S	60	0	N	0	0	0	N	0	$171,000	$156,640	$14,360	50	N	0	N	0	Y	5	**124**	TAP funded, currently in design process	Study	14
Curtis Road @ Davis Ave; Make All Way Stop & Channelization	B	10	8463	4	24	N	39	8	N	16	0	0	N	0	$103,555	$97,650	$5,905	50	N	0	Y	5	N	0	**124**	B/C=1.46:1, Meets HSIP Reqmts	B/C & Crash Analysis	15
Cardinal Avenue - Los Reales to Valencia; portion of TWLTL	C	15	9134	4	20	N	39	4	N	8	0	0	N	0	$42,500	$0	$42,500	50	N	0	Y	5	N	0	**121**	B/C=18:1, This is an interim fix.	B/C & Crash Analysis	16
River Road East of Swan; Improve Drainage, Widen Shoulder, Geo Imp	C	15	14510	6	15	N	39	16	Y	20	0	0	Y	5	$1,500,000	$0	$1,500,000	25	N	0	Y	5	Y	5	**121**	Funding not identified	Crash Analysis	17
Thornydale Rd - Cortaro Farms to Overton; widening 3- to a 5-lane.	D	20	24161	10	15	N	39	63	N	40	0	0	N	0	$10,208,707	$0	$10,208,707	5	N	0	Y	5	N	0	**120**	Future CIP Project, B/C=0.15:1 (No HSIP)	B/C & Crash Analysis	18
Drexel Rd from Cardinal Ave to Mission Rd, Install (TWLTL) and 6' paved shoulder	D	20	13613	6	43	N	38	5	N	10	0	0	N	0	$750,000	$0	$750,000	35	N	0	Y	5	Y	5	**119**	Funding not identified	Study	19
Lambert Lane & Pecos @ Camino De La Tierra	C	15	14546	6	35	N	39	3	N	6	0	0	N	0	$1,600,000	$1,508,800	$91,200	50	N	0	N	0	N	0	**116**	TE Budget or Apply for DOT-57 11/12	Study	20
Curtis Rd - Shannon to Emerald & Highway Dr - Emerald to Sunset	A	5	5764	2	27	N	39	4	N	8	0	0	Y	5	$450,000	$424,350	$25,650	50	N	0	Y	5	N	0	**114**	B/C=16.8:1, PAG HSIP for Design	B/C & Crash Analysis	21
Camino De La Tierra - Highway Dr to Orange Grove Rd	A	5	7894	3	33	N	39	3	N	6	0	0	N	0	$400,000	$377,200	$22,800	50	Y	5	Y	5	N	0	**113**	RTA/HURF, B/C Ratio=10:1	B/C & Crash Analysis	22
Cortaro /Ina; add LT lane from EB Ina to Cortaro	C	15	9478	4	32	N	39	5	N	10	0	0	N	0	$150,000	$0	$150,000	45	N	0	N	0	N	0	**113**		Study	23
Linda Vista @ Mtn Vista HS; Install porkchop island	B	10	10574	4	58	N	38	2	N	4	0	0	N	0	$3,000	$0	$3,000	50	N	0	N	0	Y	5	**111**	DOT-57, B/C Ratio=16:1	B/C & Study	24
Davis AV, Ruthrauff to Curtis; Add street lights	C	15	5547	2	259	N	30	4	N	8	0	0	N	0	$75,000	$0	$75,000	50	N	0	N	0	Y	5	**110**	HOLD until after ADOT TI completed	Study	25
Catalina Highway at M.P. 1.4; Install Guardrail	A	5	1200	1	4	N	40	6	N	12	0	0	N	0	$50,000	$0	$50,000	50	N	0	N	0	N	0	**107**	Funding not identified	Study	26
Golder Ranch Rd east of Oracle Rd; lower hill, improve sight dist	B	10	6733	3	142	N	34	2	Y	20	0	0	N	0	$1,000,000	$0	$1,000,000	30	N	0	Y	5	Y	5	**107**	ADOT CIP Project Const: 2014	Study	27
Ina Road-West of Wade Rd; New Drain Structure, Imp Vert Geo.	C	15	379	0	105	N	36	1	N	2	0	0	Y	5	$170,000	$0	$170,000	45	N	0	N	0	N	0	**103**		Study	28
Arivaca Road at various locations; Install guardrail	A	5	673	0	6	N	40	6	N	12	0	0	N	0	$250,000	$0	$250,000	45	N	0	N	0	N	0	**102**	Funding not identified	Study	29
Twin Lakes Dr at Mainsail Blvd; Lighting, Intersection Improv.	C	15	1281	1	1000	N	0	14	N	28	10	10	N	0	$100,000	$0	$100,000	45	N	0	N	0	N	0	**99**			30

Table 5-7 Safety Project Priority List (Cont'd)

	Congestion				Safety										Cost				Other									
Project	Existing LOS	Score	Existing ADT	Score	SMS Priority Index	HAWK Signal (P/S/N)	Score	No. of Correct. Crashes	Crash Attibutable to Limited Sight Distance (Y/N)	Score	Speed Limit Reduction	Score	Flooding/ Wet Pavement (Y/N)	Score	Total Project Cost $	Cost Sharing $	Pima County Cost $	Score	Conforms to RTA (Y/N)	Score	Adds Bike Lanes (Y/N)	Score	Adds Ped Facilities (Y/N)	Score	Total Score	Comments	Project Source	Rank
Golder Ranch Rd/Valero Market driveway; install "porkchop" island to eliminate left turns	B	10	6733	3	142	N	34	0	N	0	0	0	N	0	$5,000	$0	$5,000	50	N	0	N	0	N	0	**97**	ADOT CIP Project Const: 2014	Study	31
Bear Cnyn; Indian Cyn-Collier Sch Install continuous turn lane	C	15	7268	3	180	N	33	0	N	0	0	0	N	0	$300,000	$0	$300,000	40	N	0	Y	5	N	0	**96**		Study	32
Sandario Rd, Ina to Emigh, Add TWLTL	A	5	4168	2	126	N	35	7	N	14	0	0	N	0	$800,000	$0	$800,000	30	N	0	Y	5	Y	5	**96**		Study	33
Bopp Rd, Kinney to San Joaquin; Widen, Drain Imp, Shoulders	A	5	6761	3	12	N	40	5	N	10	0	0	Y	5	$3,000,000	$0	$3,000,000	20	N	0	Y	5	Y	5	**92**		Crash Analysis	34
Los Reales, Cardinal-Sorrel; Install TWLTL	B	10	6926	3	36	N	39	2	N	4	0	0	N	0	$730,000	$0	$730,000	35	N	0	N	0	N	0	**91**		Crash Analysis	35
Overton Rd at Rancho Feliz Dr; Widen, overlay, int. re-alignment	B	10	5622	2	142	N	34	1	N	2	0	0	N	0	$700,000	$0	$700,000	35	N	0	Y	5	N	0	**89**		Crash Analysis	36
Picture Rocks Rd at 7200 West; Drain Str, Geo Improvements	C	15	8267	4	278	N	29	1	N	2	0	0	Y	5	$1,250,000	$0	$1,250,000	25	N	0	N	0	N	0	**79**			37
Pontatoc Rd-2500' S of Skyline; Install guardrail, signing	B	10	1358	1	547	N	18	0	N	0	0	0	N	0	$40,000	$0	$40,000	50	N	0	N	0	N	0	**79**			38
Bilby Road at Palomino Rd; Sh Widening, Retain Wall, Geo Imp	A	5	664	0	118	N	35	1	N	2	0	0	N	0	$800,000	$0	$800,000	30	N	0	Y	5	N	0	**78**			39
Rudasill Road at Tula Lane; Drain Str, Sh Widening, Geo Imp	C	15	1222	1	1000	N	0	1	N	2	10	10	Y	5	$300,000	$0	$300,000	40	N	0	Y	5	N	0	**78**			40
Roller Coaster @ Lulu Walker School, add turn lane	A	5	2018	1	460	N	22	0	N	0	0	0	N	0	$60,000	$0	$60,000	50	N	0	N	0	N	0	**77**			41
Tanque Verde Rd at Wentworth Rd; Imp Vert Align, Sh Widening	B	10	6080	3	650	N	14	1	N	2	0	0	N	0	$350,000	$0	$350,000	40	N	0	Y	5	N	0	**74**			42
Cmo de Oeste N. of Speedway; Drain Str, Sh Widenig, Geo Imp	C	15	2711	1	645	N	14	3	N	6	0	0	Y	5	$1,100,000	$0	$1,100,000	25	N	0	Y	5	N	0	**71**			43
Silverbell Rd at Aguirre Rd; Geo Improvement, Signage	A	5	434	0	1000	N	0	2	N	4	15	20	N	0	$400,000	$0	$400,000	40	N	0	N	0	N	0	**69**			44
Swan Road at Cindrich Street; Street Lighting, Sh Widening	A	5	3000	1	1000	N	0	1	N	2	10	10	N	0	$300,000	$0	$300,000	40	N	0	Y	5	Y	5	**68**			45
Ruthrauff Rd: Davis Av/Highway Dr to La Cholla Raised Medians	C	15	28217	12	1	N	40		N		0	0	N	0					N	0	N	0	N	0	**67**		Crash Analysis	46
La Cholla at Moore Sight Distance Improvements	A	5	3877	2	1000	N	0	0	Y	20	0	0	N	0	$412,000	$0	$412,000	40	N	0	N	0	N	0	**67**			47
Andrada Rd at Wentworth Rd; Drain Str, Sh Widening, Geo Imp	A	5	2585	1	1000	N	0	49	Y	20	0	0	Y	5	$900,000	$0	$900,000	30	N	0	Y	5	N	0	**66**			48
Acacia Bluffs at Camino del Sol; Median opening, turn lane	A	5	6813	3	1000	N	0	4	N	8	0	0	N	0	$75,000	$0	$75,000	50	N	0	N	0	N	0	**66**		Study	49
Irvington,Caballo Rd-Soledad Av; Sh. Widening,Vert Align. Imp. - Reduce hill	B	10	6600	3		N	0	0	N	0	0	0	Y	5	$500,000	$0	$500,000	40	N	0	Y	5	N	0	**63**		Crash Analysis	50
Wentworth Rd at Wetstones Rd; Drain Str, Sh Widening, Geo Imp	A	5	3746	2	1000	N	0	0	Y	20	0	0	Y	5	$2,700,000	$0	$2,700,000	20	N	0	Y	5	Y	5	**62**			51
Cmo de Oeste at Ironwood Hills; Drain Str, Shoulder widening	A	5	2167	1	1000	N	0	0	N	0	0	0	Y	5	$200,000	$0	$200,000	45	N	0	N	0	Y	5	**61**			52
Escalante, Houghton-Old Sp Trail; Drain Str, Pvmt Widening	C	15	2994	1	627	N	15	2	N	4	0	0	Y	5	$3,400,000	$0	$3,400,000	15	N	0	Y	5	N	0	**60**			53
Cmo del Sol/Placita Canoa Azul; Med Opening, Turn bay mods	A	5	1578	1	1000	N	0	0	N	0	0	0	N	0	$60,000	$0	$60,000	50	N	0	N	0	N	0	**56**		Study	54
Silverbell Rd / Jackson Flats Rd; re-align roadway	A	5	1179	0	1000	N	0	0	N	0	0	0	N	0	$250,000	$0	$250,000	45	N	0	N	0	N	0	**51**		Study	55
Camino De Oeste at Hardy Rd_ Guardrail at Wash crossing	B	10	7264	3	1000	N	0	2	N	4	0	0	N	0				0		0		0		0				56

6. Traffic Crash Statistics Report

Introduction

The Traffic Crash Statistics Report is published once a year by the Pima County Department of Transportation (PCDOT), Traffic Engineering Division (TED). Section C of the report provides crash statistics for intersections and routinely monitored roadway segments within unincorporated Pima County that are the responsibility of PCDOT. The crash information is obtained from traffic crash reports submitted to PCDOT/TED by the Pima County Sheriff's Department (PCSD).

Regarding record availability and inclusion in this report, some intersections are the joint responsibility of Pima County and other local jurisdictions, including the City of Tucson, Town of Marana, Town of Oro Valley, and Town of Sahuarita. For those roadways bordering these jurisdictions or for those roadways that border or lie within the Tohono O'odham Nation, the Pascua Yaqui Nation, the Coronado National Forest, or the Saguaro National Parks (East and West), the crashes may have been investigated by that jurisdiction's law enforcement agency and not reported to the PCSD. Though PCDOT/TED has made a concerted effort to compile a complete database, some crash data may have inadvertently been overlooked due to these jurisdictional boundaries, roadway naming conventions, or differences in crash reporting methods. For the purposes of this report, statistical crash data is not included for any signalized intersection that is maintained by another jurisdiction.

As a point of clarification, the statistic labeled "system crash rate" is calculated for each applicable report section or subsection by adding the number of crashes of the individual intersections or roadway segments and dividing by the sum of the entering traffic volumes, converted to million vehicles entering (for intersections) or million vehicle miles traveled (for roadway segments). This statistic is considered to be a more reliable measure of the crash rate of the system than the statistic labeled "average crash rate." The average crash rate for each applicable report section or subsection is calculated by adding the crash rates of all individual intersections or roadway segments and dividing by the total number of intersections or roadway segments.

General Information

Basic information was compiled for all intersection and roadway segment locations for both the past one-year period (Calendar Year 2012) and five-year periods (Calendar Years 2008 through 2012). This information includes:

1. **Volume**: The average daily entering volume (ADEV) for intersections or the two-way average daily traffic volume (ADT) for roadway segments.

2. **Crashes**: The number of crashes that occurred at the intersection or within the boundaries of the roadway segment during the analysis period. For roadway segments, the number of crashes includes crashes that occurred at the intermediate intersections that involved any vehicle/pedestrian traveling on the defined segment. In addition, the crash frequency included in the roadway segment tabulations is the number of crashes per mile.

3. **Roadway segment length**: The length of the roadway segment in miles.

4. **Severity of Crashes**: The severity of each crash is based on the severity of the most seriously injured person involved in the crash. Additional information on this topic is provided in the discussion of Severity Index on the following page.

The statistics cited in this report were calculated using the above information. Statistics were compiled separately for intersections and for roadway segments. From this point forward, the term "location" will be used when referring to either an intersection or a roadway segment. The calculated statistics are based on accepted independent traffic engineering variables and are described as follows. For the separate statistic groups, each location is assigned a rank that represents the relative position of the location based upon decreasing values for the respective statistic group. More than one location may have the same rank within each statistic group. For this year's calculations, volume has been eliminated as a separately ranked variable since it is incorporated into the calculation of the crash rate variable.

1. **Crash Frequency**: The number of crashes occurring at the intersection during the given time period or the number of crashes per mile occurring within the roadway segment during the given time period.

2. **Crash Rate**: Expressed as crashes per million entering vehicles (c/mev) for intersections and as crashes per million vehicle miles (c/mvm) for roadway segments, the crash rate is calculated utilizing the traffic crash and volume information for both the one-year and three-year periods. The use of three-year data tends to de-emphasize unusually high or low annual crash rates caused by unique circumstances such as abnormally severe weather or modified travel patterns caused by roadway/intersection related construction projects.

3. **Severity Index (SI)**: Developed by the National Safety Council, the severity index is calculated using the following formula:

$$SI = \frac{5.8\,(Nk + Na) + 2\,(Nb + Nc) + Npd}{T}$$

where
SI = Severity index.
Nk = Number of fatal crashes.
Na = Number of crashes at which the most severe injury was a Class 4 (incapacitating) injury.
Nb = Number of crashes at which the most severe injury was a Class 3 (non-incapacitating) injury.
Nc= Number of crashes at which the most severe injury was a Class 2 (possible injury/no visible sign of injury, but complaint of pain or momentary unconsciousness) injury.
Npd = Number of property damage only crashes.
T = Total number of crashes.

4. **Priority Index (PI):** The priority index for each location is calculated by adding the rank of the three statistic groups (crash frequency, crash rate, and severity index) for each location. It should be noted that the three crash statistics are treated equally in importance. As a result, no one statistic is given extra weight prior to the summation of the three.

5. **Priority Index Rank (PI Rank)**: Numerical ranking of the PI for each location, with "1" being the highest priority index rank. The lower the priority index, the higher the priority index rank and the more critical the need for corrective action.

Crash Statistics Tables

Section 1: Unsignalized Intersections with Four or More Crashes in 5 Years

This is an alphabetically arranged list of all unsignalized intersections at which four or more traffic crashes occurred during the period January 1, 2008 through December 31, 2012. Both one-year and three-year information is provided for each intersection regarding the intersection ADEV, crash frequency, crash rate, severity index, priority index, and the priority index rank. As previously noted, the lower the priority index, the higher the priority index rank and the more critical the need for corrective action.

Section 2: Signalized Intersections

This alphabetically arranged list provides traffic crash information for the period January 1, 2008 through December 31, 2012 for 103 Pima County maintained signalized intersections, operational as of December 31, 2012. As noted in the introduction, records may be incomplete for those intersections bordering another jurisdiction. Statistical information is given for both the past one-year and three-year periods. If the intersection has been signalized for less than five years, crash statistics may have been developed using crash data collected both before and after signalization. As previously noted, the lower the priority index, the higher the priority index rank and the more critical the need for corrective action.

Section 3: Roadway Segments with less than or equal to 10,000 vpd

This alphabetically arranged list provides traffic crash information for the period January 1, 2008 through December 31, 2012 for the roadway segments routinely monitored by PCDOT/TED that have traffic volumes less than or equal to 10,000 vpd. Currently, there are approximately 396 roadway segments that are routinely monitored, two-thirds of which fall within this lower volume classification. Information is provided for each location regarding the roadway segment length, ADT, crash frequency per mile, crash rate per mile, severity index, priority index, and priority index rank. As previously noted, the lower the priority index, the higher the priority index rank and the more critical the need for corrective action.

Section 4: Roadway Segments with greater than 10,000 vpd

This alphabetically arranged list provides traffic crash information for the period January 1, 2008 through December 31, 2012 for the roadway segments routinely monitored by PCDOT/TED and with traffic volumes greater than 10,000 vpd. Currently, there are approximately 396 roadway segments that are routinely monitored, one-third of which fall within this higher volume classification. Information is provided for each location regarding the roadway segment length, ADT, crash frequency per mile, crash rate per mile, severity index, priority index, and priority index rank. As previously noted, the lower the priority index, the higher the priority index rank and the more critical the need for corrective action.

Summary

The crash statistics compiled in this report will be utilized in preparing the annual PCDOT Safety Management System (SMS) Report. The SMS program will use these statistics to help identify and prioritize traffic safety projects within unincorporated Pima County, to evaluate the safety impact of recent improvements, and to assess the current effectiveness of the SMS program.

UNSIGNALIZED INTERSECTIONS

PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

UNSIGNALIZED INTERSECTIONS WITH FOUR OR MORE CRASHES IN 3 YEARS
ORDERED ALPHABETICALLY

Intersection		Volume	3 Year Period: January 2010- December 2012					1 Year Period: January 2012 - December 2012				
			Crash Freq	Rate	SI	PI	PI Rank	Crash Freq	Rate	SI	PI	PI Rank
1ST AV	RUDASILL RD	26819	12	0.41	1.97	73	16	4	0.41	2.20	58	8
ALVERNON WY	CORONA RD	13846	4	0.26	1.25	198	88	1	0.20	1.00	180	81
ALVERNON WY	SAHUARITA RD	6500	4	0.56	1.00	195	83	1	0.42	1.00	146	62
ALVERNON WY	SKYLINE DR	6800	4	0.54	1.25	169	64	1	0.40	2.00	112	48
AVENIDA DEL CAZADOR	RIVER RD	12116	5	0.38	1.00	196	84	1	0.23	1.00	175	79
AVIATION PW	DODGE BL	21170	7	0.30	1.00	180	70	2	0.26	1.00	147	63
AVIATION PW	RICHEY BL	22733	16	0.64	1.44	62	10	3	0.36	1.33	103	42
BALD EAGLE AV	CAMINO DE OESTE	8197	6	0.67	2.13	72	15	2	0.67	1.50	88	32
BENSON HY	COLUMBUS BL	9972	12	1.10	1.17	88	22	5	1.37	1.00	56	7
BENSON HY	DREXEL RD	9312	22	2.16	1.58	24	2	8	2.35	1.98	22	1
BOPP RD	DONALD AV	7269	5	0.63	1.40	116	32	2	0.75	1.00	106	46
BOPP RD	SHIELA AV	6198	4	0.59	1.00	191	78	2	0.88	1.00	101	39
BREKKE RD	HOUGHTON RD	9654	4	0.38	1.50	156	57	1	0.28	2.00	127	56
BUSH HILL PL/HARRISON RD	CATALINA HY	13825	16	1.06	1.93	23	1	3	0.59	1.67	73	22
CALLE DE LAS CASITAS	CONTINENTAL RD	13839	9	0.59	1.00	138	48	5	0.99	1.00	65	13
CALLE DE LAS TIENDAS	LA CANADA DR	15084	4	0.24	1.00	233	98	1	0.18	1.00	182	83
CALLE KINO/PANORAMA RD	LA CANADA DR	14442	6	0.38	2.77	98	24	2	0.38	3.40	87	31
CAMINO CARDENAL	RIVER RD	15024	4	0.24	1.00	232	96	2	0.36	1.00	133	58
CAMINO DE LA TIERRA	LOS REALES RD	10191	6	0.54	1.17	156	57	4	1.08	1.25	59	9
CAMINO DE OESTE	EL CAMINO DEL CERRO	6446	4	0.57	1.00	194	82	1	0.43	1.00	145	60
CAMINO DE OESTE	IRONWOOD HILL DR	1920	4	1.90	1.00	159	59	3	4.28	1.00	67	17
CAMINO DE OESTE	LINDA VISTA BL	12036	10	0.76	1.20	100	25	5	1.14	1.00	59	9
CAMINO DE OESTE	MAGEE RD/PIMA FARMS RD	5301	7	1.21	1.29	77	19	2	1.03	1.00	96	37

* No crashes in 1 year period

PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

UNSIGNALIZED INTERSECTIONS WITH FOUR OR MORE CRASHES IN 3 YEARS
ORDERED ALPHABETICALLY

Intersection		Volume	3 Year Period: January 2010- December 2012					1 Year Period: January 2012 - December 2012				
			Crash Freq	Rate	SI	PI	PI Rank	Crash Freq	Rate	SI	PI	PI Rank
CAMINO DE OESTE	MASSINGALE RD	4604	5	0.99	2.56	63	12	2	1.19	1.50	66	16
CAMINO ESPLENDORA	SUNRISE DR	31414	5	0.15	1.40	179	69	2	0.17	1.00	160	72
CAMINO JUAN PAISANO	CAMPBELL AV	11988	8	0.61	1.98	62	10	1	0.23	2.00	133	58
CANADA ST	MISSION RD	20407	4	0.18	2.20	168	63	2	0.27	1.00	145	60
CARDINAL AV	IRVINGTON RD	11189	7	0.57	1.29	109	28	3	0.73	1.00	93	35
CARDINAL AV	LOS REALES RD	13457	6	0.41	1.00	178	68	3	0.61	1.00	98	38
CARDINAL AV	NEBRASKA ST	8889	4	0.41	1.25	177	67	1	0.31	1.00	165	76
CASAS MEDIA/JENSEN DR	MAGEE RD	22874	6	0.24	1.17	191	78	*				
CATALINA HY	HOUGHTON RD	8320	4	0.44	1.25	172	65	1	0.33	1.00	160	72
CATALINA HY	NITTANY WY/PRINCE RD	10358	8	0.71	1.50	69	13	3	0.79	1.67	62	11
CATALINA HY	SNYDER RD	3500	4	1.04	1.25	133	45	2	1.57	1.00	85	28
CLUB DR	SHANNON RD	13779	12	0.80	1.65	42	5	4	0.80	1.50	53	4
COACH DR/MICHIGAN ST	PALO VERDE RD	33699	5	0.14	1.00	232	96	1	0.08	1.00	192	88
COLUMBIA ST/TV SWAP MEET SOUTH DW	PALO VERDE RD	26107	6	0.21	1.17	197	86	*				
CONTINENTAL RD/OLD NOGALES HY	PARK CENTRE AV/WHITEHOUSE CANYON	11848	10	0.77	1.10	116	32	6	1.39	1.17	53	4
CORONA RD	ORANGE GROVE RD	24662	7	0.26	1.43	132	43	2	0.22	2.00	113	49
CORTARO RD	INA RD	9478	6	0.58	1.33	118	36	1	0.29	2.00	126	55
COUNTRY CLUB RD	DREXEL RD	12753	4	0.29	1.25	197	86	1	0.21	1.00	179	80
CURTIS RD	DAVIS AV (EAST)	8463	10	1.08	1.68	38	3	3	0.97	1.00	82	24
CURTIS RD	SHANNON RD	8164	5	0.56	1.60	110	29	1	0.34	2.00	118	52
DAVIS AV	DIAMOND ST	6641	7	0.96	1.14	116	32	1	0.41	1.00	150	66
DAWN RD	HOUGHTON RD	9600	4	0.38	1.25	182	71	4	1.14	1.25	55	6
DODGE BL	RIVER RD	14376	5	0.32	1.40	152	56	3	0.57	1.00	102	40

* No crashes in 1 year period

PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

UNSIGNALIZED INTERSECTIONS WITH FOUR OR MORE CRASHES IN 3 YEARS
ORDERED ALPHABETICALLY

Intersection		Volume	3 Year Period: January 2010- December 2012					1 Year Period: January 2012 - December 2012				
			Crash Freq	Rate	SI	PI	PI Rank	Crash Freq	Rate	SI	PI	PI Rank
DREXEL RD	FORREST AV	14000	5	0.33	1.20	182	71	1	0.20	1.00	181	82
DREXEL RD	WESTOVER AV	13210	10	0.69	1.40	73	16	2	0.41	1.50	102	40
DRISCOLL MOUNTAIN DR	MARY ANN CLEVELAND WY	8270	5	0.55	1.60	111	30	1	0.33	1.00	159	71
ESCALANTE RD	OLD SPANISH TR	7395	7	0.86	1.14	119	37	2	0.74	1.50	85	28
FAIRVIEW AV	ROGER RD	16731	7	0.38	1.29	128	40	1	0.16	1.00	184	84
FLOWING WELLS RD	RILLITO ST	25244	6	0.22	1.17	193	80	*				
FORT LOWELL RD	SOLDIER TR	3931	4	0.93	1.25	138	48	*				
FOUNTAINS AV/ORACLE JAYNES STATION	LA CHOLLA BL	24131	5	0.19	2.16	145	52	2	0.23	1.50	128	57
GARDNER LN	ROMERO RD	13321	5	0.34	1.40	149	54	3	0.62	1.33	82	24
GLENN ST	HOUGHTON RD	6831	4	0.53	1.50	142	50	1	0.40	1.00	153	68
HACIENDA DEL SOL RD	SUNRISE DR	39596	13	0.30	1.37	121	38	2	0.14	1.00	165	76
HILDRETH AV/WESTOVER AV	VALENCIA RD	42449	17	0.37	1.35	107	27	4	0.26	1.75	94	36
HOUGHTON RD	PRINCE RD	5836	6	0.94	2.30	55	9	1	0.47	2.00	104	45
IBERIA AV	VALENCIA RD	8829	5	0.52	1.40	132	43	1	0.31	1.00	164	75
INA RD	SHAMA WING	37592	4	0.10	1.00	256	99	1	0.07	1.00	195	90
INA RD	VIA PONTE	37042	22	0.54	1.18	116	32	11	0.81	1.18	65	13
INA RD	WADE RD	9476	8	0.77	1.73	53	8	2	0.58	3.40	71	20
INA RD	YUCCA VIA	37400	7	0.17	1.14	196	84	1	0.07	1.00	194	89
IRVINGTON PL	MISSION RD	26552	7	0.24	1.29	150	55	4	0.41	1.25	91	34
IRVINGTON RD	JAMAICA WY	10536	4	0.35	2.70	136	47	1	0.26	1.00	169	78
IRVINGTON RD	OLYMPIA SV	19435	4	0.19	1.25	213	93	*				
KAIN AV	RUTHRAUFF RD	21063	5	0.22	1.80	146	53	1	0.13	2.00	150	66
KOLB RD	TERRITORY DR	17500	4	0.21	1.25	210	91	1	0.16	1.00	186	86

* No crashes in 1 year period

PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

UNSIGNALIZED INTERSECTIONS WITH FOUR OR MORE CRASHES IN 3 YEARS
ORDERED ALPHABETICALLY

Intersection		Volume	3 Year Period: January 2010- December 2012					1 Year Period: January 2012 - December 2012				
			Crash Freq	Rate	SI	PI	PI Rank	Crash Freq	Rate	SI	PI	PI Rank
KUSH CANYON LN	MARY ANN CLEVELAND WY	8700	4	0.42	1.25	174	66	1	0.31	1.00	162	74
LA CANADA DR	ROLLER COASTER RD	17322	6	0.32	1.50	131	42	1	0.16	1.00	185	85
LA CHOLLA BL	MCCARTY RD	10634	5	0.43	1.00	184	75	*				
LA CHOLLA BL	SUNSET RD	26478	12	0.41	1.42	94	23	5	0.52	1.60	64	12
LA CHOLLA BL	WALMART DW/ZARRAGOZA DR	35174	16	0.42	1.44	85	21	1	0.08	2.00	153	68
LA CHOLLA BL	WETMORE RD	11813	4	0.31	1.25	193	80	3	0.70	1.33	79	23
LAMBERT LN	THORNYDALE RD	10528	7	0.61	1.69	73	16	4	1.04	2.20	25	3
LITTLETOWN RD	VALENCIA RD	28575	5	0.16	1.20	210	91	*				
LOS REALES RD	SWAN RD	6515	4	0.56	1.25	164	61	1	0.42	1.00	147	63
LOS REALES RD	WESTOVER AV	8547	7	0.75	2.26	50	7	2	0.64	1.50	89	33
MAGEE RD	MONA LISA RD	21241	5	0.21	1.20	201	89	3	0.39	1.00	115	50
MAGEE RD	OLDFATHER DR	10079	7	0.63	1.14	133	45	4	1.09	1.00	65	13
MAGEE RD	ZARRAGOZA DR	11973	5	0.38	1.60	126	39	*				
MISSION RD	NEBRASKA ST	20142	4	0.18	1.50	186	77	1	0.14	2.00	149	65
MONA LISA RD	ORANGE GROVE RD	25417	9	0.32	1.33	129	41	2	0.22	2.00	115	50
NOGALES HY	OLD NOGALES HY	18961	14	0.67	1.29	79	20	4	0.58	1.25	82	24
OLD AJO HY	SAN JOAQUIN RD	3945	7	1.62	1.97	38	3	2	1.39	1.00	86	30
ORANGE GROVE RD	SAN JOAQUIN AV	25260	6	0.22	1.33	164	61	2	0.22	1.00	154	70
PECOS WY	THORNYDALE RD	14546	12	0.75	1.17	102	26	4	0.75	1.25	72	21
PICTURE ROCKS RD	SANDARIO RD	10143	11	0.99	1.53	48	6	4	1.08	2.20	23	2
RIVER FRINGE DR	RIVER RD	33251	5	0.14	1.00	231	95	1	0.08	1.00	191	87
RIVER RD	TANURI DR	18414	4	0.20	1.50	183	73	*				
RUDOLF DR	THORNYDALE RD	33900	5	0.13	1.40	183	73	3	0.24	1.33	118	52

* No crashes in 1 year period

PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

UNSIGNALIZED INTERSECTIONS WITH FOUR OR MORE CRASHES IN 3 YEARS
ORDERED ALPHABETICALLY

Intersection		Volume	3 Year Period: January 2010- December 2012					1 Year Period: January 2012 - December 2012				
			Crash Freq	Rate	SI	PI	PI Rank	Crash Freq	Rate	SI	PI	PI Rank
RUTHRAUFF RD	SULLINGER AV	26253	4	0.14	1.25	219	94	3	0.31	1.33	109	47
SHANNON RD (EAST)	VIA DEL SANTO	6928	5	0.66	1.20	144	51	2	0.79	1.50	82	24
SKYLINE DR	SKYLINE DR/SUNRISE DR	37000	4	0.10	1.75	184	75	2	0.15	2.00	124	54
SKYLINE DR	SWAN RD	8662	7	0.74	1.57	69	13	3	0.95	1.33	69	19
SOLDIER TR	TANQUE VERDE RD	8647	6	0.63	1.33	112	31	3	0.95	1.33	68	18
VALENCIA RD	WADE RD	15013	5	0.30	1.00	205	90	3	0.55	1.00	103	42
VALENCIA RD	WESTOVER AV (EAST)	41822	10	0.22	1.20	161	60	5	0.33	1.20	103	42

* No crashes in 1 year period

PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

UNSIGNALIZED INTERSECTIONS WITH FOUR OR MORE CRASHES IN 3 YEARS
ORDERED ALPHABETICALLY

Intersection	Volume	3 Year Period: January 2010- December 2012					1 Year Period: January 2012 - December 2012				
		Crash Freq	Rate	SI	PI	PI Rank	Crash Freq	Rate	SI	PI	PI Rank

SYSTEM STATISTICS

		3-Year	1-Year
Total Intersections:		99	99
Total Crashes:		686	220
	PDO Crashes:	476	159
	Injury Crashes:	206	59
	Fatal Crashes:	3	1

	CRASH RATE		SEVERITY RATE	
	3-Year	1-Year	3-Year	1-Year
High	2.16	4.28	2.77	3.40
Low	0.10	0.07	1.00	1.00
Average	0.52	0.58	1.41	1.36
Standard Deviation	0.36	0.57	0.38	0.50
Variance	0.13	0.32	0.14	0.25
System Rate	**0.39**	**0.38**	**1.42**	**1.37**

* No crashes in 1 year period

SIGNALIZED INTERSECTIONS

PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

SIGNALIZED INTERSECTIONS
ORDERED ALPHABETICALLY

Intersection		Volume	3 Year Period: January 2010- December 2012					1 Year Period: January 2012 - December 2012				
			Crash Freq	Rate	SI	PI	PI Rank	Crash Freq	Rate	SI	PI	PI Rank
1ST AV	ORANGE GROVE RD	36901	42	1.04	1.26	98	29	15	1.11	1.40	63	8
1ST AV/CHRISTIE DR	INA RD	37166	28	0.69	1.32	122	38	7	0.52	1.43	108	36
36TH ST ACCESS RD	PALO VERDE RD	35067	34	0.89	1.46	81	15	9	0.70	1.53	75	17
37TH ST/GOLF LINKS RD	PALO VERDE RD	35591	36	0.92	1.76	55	5	11	0.85	2.40	49	3
ABREGO DR	CONTINENTAL RD	15664	8	0.47	2.10	135	40	3	0.52	2.93	107	35
ABREGO DR	ESPERANZA BL	6536	3	0.42	1.33	200	76	3	1.26	1.33	104	33
AERO PARK BL/VAMORI ST	NOGALES HY	22876	8	0.32	1.85	153	55	2	0.24	3.40	139	50
AJO WY	ALVERNON WY	60918	45	0.67	1.26	116	35	18	0.81	1.22	90	28
AJO WY	DODGE BL	25900	6	0.21	1.50	195	72	2	0.21	1.50	163	63
AJO WY	PALO VERDE RD	55081	39	0.65	1.43	96	27	6	0.30	1.50	121	44
ALVERNON WY	DODGE BL	25166	8	0.29	1.25	218	83	1	0.11	1.00	240	91
ALVERNON WY	IRVINGTON RD	48144	48	0.91	1.35	82	16	11	0.63	1.53	75	17
ALVERNON WY	LOS REALES RD	16488	11	0.61	1.71	121	37	3	0.50	1.67	122	45
ALVERNON WY	VALENCIA RD	44071	30	0.62	1.37	111	33	6	0.37	1.50	114	40
ALVERNON WY/RIVER RD	BRANDI FENTON PARK DW/RIVER RD	35317	15	0.39	1.20	197	73	4	0.31	1.00	186	75
BENSON HY	PALO VERDE RD	26481	13	0.45	1.23	189	68	5	0.52	1.20	147	55
BENSON HY/SWAN RD	VALENCIA RD	34908	45	1.18	1.33	77	13	23	1.81	1.17	71	16
BROADMONT DR	PALO VERDE RD	29797	10	0.31	1.68	157	57	2	0.18	3.40	152	56
CALLE BOSQUE/TERRITORY DR	CRAYCROFT RD	18142	4	0.20	1.25	245	93	1	0.15	1.00	234	88
CALLE DEL MARQUES	SUNRISE DR	36828	10	0.25	1.10	248	95	3	0.22	1.33	170	70
CAMINO CASA VERDE/PASEO DEL CHINO	LA CANADA DR	14280	5	0.32	1.20	238	91	3	0.58	1.33	135	48
CAMINO DE LA TIERRA	INA RD	35364	43	1.11	1.30	87	23	15	1.16	1.33	62	6
CAMINO DE LA TIERRA	ORANGE GROVE RD	31742	30	0.86	1.47	84	19	8	0.69	1.50	80	23
CAMINO DE LA TIERRA	VALENCIA RD	36712	47	1.17	1.26	90	25	20	1.49	1.25	65	9
CAMINO DE OESTE	VALENCIA RD	26148	19	0.66	1.31	137	43	4	0.42	1.00	180	74
CAMINO DEL SOL	CAMINO ENCANTO	8318	***					*				

*** Not ranked. No crashes during 3 year period. * No crashes in analysis period

PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

SIGNALIZED INTERSECTIONS
ORDERED ALPHABETICALLY

Intersection		Volume	3 Year Period: January 2010- December 2012					1 Year Period: January 2012 - December 2012				
			Crash Freq	Rate	SI	PI	PI Rank	Crash Freq	Rate	SI	PI	PI Rank
CAMINO VERDE	VALENCIA RD	17536	14	0.73	1.63	106	32	1	0.16	1.00	233	87
CAMPBELL AV	SKYLINE DR	47395	36	0.69	1.30	118	36	14	0.81	1.14	110	38
CAMPO ABIERTO	SUNRISE DR	35620	12	0.31	1.25	197	73	6	0.46	1.00	160	61
CAMPUS PARK WY	SHANNON RD	15191	2	0.12	1.00	290	99	*				
CARDINAL AV	DREXEL RD	13253	6	0.41	1.50	164	58	1	0.21	2.00	164	65
CARDINAL AV	VALENCIA RD	45795	79	1.58	1.36	41	3	21	1.26	1.29	67	13
CLOUD RD	SABINO CANYON RD	37750	25	0.60	1.24	154	56	4	0.29	1.50	138	49
COLOSSAL CAVE RD	MARY ANN CLEVELAND WY	13698	11	0.73	1.80	104	30	4	0.80	1.75	89	27
CONTINENTAL PLAZA DR/I19 SB FRONTAGE RD	CONTINENTAL RD	27464	8	0.27	1.25	222	84	2	0.20	1.00	218	82
CONTINENTAL RD	LA CANADA DR	15538	7	0.41	1.14	229	87	1	0.18	1.00	231	85
CORTARO FARMS RD	MAGEE RD/SHANNON RD	25740	38	1.35	1.42	61	8	10	1.06	1.20	102	32
CORTARO FARMS RD	OLDFATHER DR	23641	21	0.81	1.24	146	49	5	0.58	1.20	141	51
CORTARO FARMS RD	THORNYDALE RD	42969	49	1.04	1.54	49	4	11	0.70	1.71	66	10
CRAYCROFT RD	RIVER RD	37570	40	0.97	1.40	75	12	15	1.09	1.45	62	6
CRAYCROFT RD	SUNRISE DR	34784	25	0.66	1.28	137	43	6	0.47	1.17	154	59
CURTIS RD	LA CHOLLA BL	22912	6	0.24	1.50	192	69	2	0.24	1.50	157	60
DAVIS AV/HIGHWAY DR	RUTHRAUFF RD	30866	41	1.21	1.29	87	23	13	1.15	1.31	79	21
DESERT BELL DR/LA CANOA	LA CANADA DR	13062	12	0.84	1.25	151	54	1	0.21	1.00	225	83
DESERT VIEW HIGH SCHOOL MAIN DW	VALENCIA RD	25576	***					*				
DREXEL RD	MISSION RD	25699	16	0.57	1.38	135	40	6	0.64	1.33	108	36
DREXEL RD	PALO VERDE RD	21237	13	0.56	1.23	184	65	6	0.77	1.50	82	24
ESPERANZA BL	LA CANADA DR	22282	10	0.41	1.00	226	86	*				
FLOWING WELLS RD	WETMORE RD	41617	60	1.32	1.75	26	1	20	1.32	1.59	31	1
FOOTHILLS MALL/WALMART DW	LA CHOLLA BL	40418	18	0.41	1.22	186	67	5	0.34	1.40	141	51
HACIENDA DEL SOL RD	RIVER RD	48274	16	0.30	1.61	144	48	4	0.23	1.00	195	79
HARDY RD	THORNYDALE RD	25527	22	0.79	1.14	164	58	3	0.32	1.00	192	78

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

SIGNALIZED INTERSECTIONS
ORDERED ALPHABETICALLY

Intersection		Volume	3 Year Period: January 2010- December 2012					1 Year Period: January 2012 - December 2012				
			Crash Freq	Rate	SI	PI	PI Rank	Crash Freq	Rate	SI	PI	PI Rank
HARDY RD/OVERTON RD	LA CANADA DR	24006	9	0.34	1.00	239	92	3	0.34	1.00	190	77
HERMANS RD	NOGALES HY	18896	7	0.34	1.29	209	78	*				
HOSPITAL DR	LA CHOLLA BL	25949	10	0.35	2.36	138	46	1	0.11	1.00	242	93
HOUGHTON RD	SAHUARITA RD	13194	4	0.28	1.75	183	64	1	0.21	2.00	163	63
HUGHES ACCESS RD	NOGALES HY	19117	12	0.57	1.17	192	69	5	0.72	0.80	169	68
INA RD	LA CANADA DR	52672	56	0.97	1.30	85	21	22	1.14	1.32	66	10
INA RD	LA CHOLLA BL	55732	76	1.25	1.20	94	26	23	1.13	1.22	75	17
INA RD	MONA LISA RD	44899	41	0.83	1.46	78	14	13	0.79	1.46	75	17
INA RD	PASEO DEL NORTE/VIA ASSISI	35747	18	0.46	1.39	137	43	7	0.54	1.57	88	26
INA RD	SHANNON RD	47208	78	1.51	1.22	83	18	27	1.57	1.19	69	15
INA RD	WESTWARD LOOK DR	36389	4	0.10	1.50	209	78	2	0.15	1.50	174	72
INA RD/SKYLINE DR	PIMA CANYON DR	28547	8	0.26	1.13	252	97	2	0.19	1.50	168	67
KINNEY RD	WESTERN WAY CI/WESTERN WY	6295	***					*				
KNOLLWOOD DR/RIVER RD	SABINO CANYON RD	35042	11	0.29	1.36	184	65	3	0.23	1.00	201	80
KOLB RD	MOUNTAIN SHADOWS PL/VENTANA CANYON	6209	1	0.15	1.00	291	100	1	0.44	1.00	204	81
KOLB RD	SNYDER RD	19414	4	0.19	1.25	247	94	*				
KOLB RD	SUNRISE DR	28021	18	0.59	1.33	139	47	5	0.49	1.20	153	57
KOLB RD	VALENCIA RD	54986	72	1.20	1.36	56	7	25	1.25	1.24	66	10
KOLB RD/SABINO CANYON RD	SABINO CANYON RD	25570	7	0.25	1.43	197	73	1	0.11	1.00	241	92
LA CANADA DR	MAGEE RD	33821	21	0.57	1.14	181	62	6	0.49	1.17	153	57
LA CANADA DR	ORANGE GROVE RD	37025	54	1.33	1.64	32	2	15	1.11	1.79	41	2
LA CANADA DR	RIVER RD	58372	73	1.14	1.33	68	10	23	1.08	1.22	79	21
LA CHOLLA BL	MAGEE RD (NORTH)	31139	25	0.73	1.35	114	34	6	0.53	1.33	115	41
LA CHOLLA BL	MAGEE RD (SOUTH)	39815	26	0.60	1.15	168	61	10	0.69	1.20	116	42
LA CHOLLA BL	OMAR DR	23018	5	0.20	2.36	182	63	2	0.24	3.40	141	51
LA CHOLLA BL	ORANGE GROVE RD	46337	62	1.22	1.34	62	9	20	1.18	1.30	68	14

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TRAFFIC ENGINEERING DIVISION

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			Crash Freq	Rate	SI	PI	PI Rank	Crash Freq	Rate	SI	PI	PI Rank
LA CHOLLA BL	OVERTON RD	23619	24	0.93	1.25	123	39	4	0.46	1.50	124	46
LA CHOLLA BL	RIVER RD	49618	69	1.27	1.36	55	5	28	1.55	1.31	51	4
LA CHOLLA BL	RUDASILL RD	24456	4	0.15	1.25	248	95	1	0.11	1.00	238	90
LA CHOLLA BL	RUTHRAUFF RD	35816	65	1.66	1.23	82	16	30	2.29	1.23	55	5
LINDA VISTA BL	THORNYDALE RD	27002	11	0.37	1.09	225	85	5	0.51	1.00	162	62
MAGEE RD	SHANNON RD/TUSCANY DR	29222	18	0.56	1.06	192	69	1	0.09	1.00	243	94
MAGEE RD	THORNYDALE RD	34530	27	0.71	1.66	84	19	3	0.24	1.33	167	66
MARK RD	VALENCIA RD	24890	14	0.51	1.36	149	52	1	0.11	2.00	176	73
MISSION RD	VALENCIA RD	46688	15	0.29	1.20	210	80	2	0.12	1.00	226	84
ORANGE GROVE RD	SHANNON RD	31318	26	0.76	1.45	96	27	10	0.87	1.30	93	29
ORANGE GROVE RD	SKYLINE DR	37764	36	0.87	1.17	136	42	8	0.58	1.25	116	42
OVERTON RD	SHANNON RD	14227	14	0.90	1.77	86	22	7	1.35	1.14	105	34
OVERTON RD	THORNYDALE RD	26889	32	1.09	1.49	70	11	7	0.71	1.43	93	29
PONTATOC RD	RIVER RD	15840	2	0.12	1.50	215	81	*				
PONTATOC RD	SUNRISE DR	37414	16	0.39	1.43	146	49	7	0.51	1.97	87	25
REMOUNT PL/SUNRISE DR	SABINO CANYON RD	10161	1	0.09	5.80	200	76	*				
RIVER RD	SWAN RD	43714	23	0.48	1.30	148	51	8	0.50	1.38	112	39
RIVER RD	VIA ENTRADA	47502	12	0.23	1.57	166	60	6	0.35	1.33	133	47
ROMERO RD	RUTHRAUFF RD	23627	9	0.35	1.76	150	53	1	0.12	1.00	237	89
ROMERO RD	WETMORE RD	12699	3	0.22	1.33	231	89	2	0.43	1.50	144	54
SABINO CANYON RD	SNYDER RD	15634	7	0.41	1.14	231	89	1	0.18	1.00	232	86
SUNCREST PL	SUNRISE DR	32467	10	0.28	1.20	229	87	5	0.42	1.00	172	71
SUNRISE DR	SWAN RD	55482	56	0.92	1.25	104	30	15	0.74	1.20	99	31
SUNRISE DR	VIA PALOMITA	35322	12	0.31	1.17	217	82	4	0.31	1.00	187	76
VALENCIA RD	WADE RD	15013	5	0.30	1.00	260	98	3	0.55	1.00	169	68

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION
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ORDERED ALPHABETICALLY

Intersection	Volume	3 Year Period: January 2010- December 2012					1 Year Period: January 2012 - December 2012				
		Crash Freq	Rate	SI	PI	PI Rank	Crash Freq	Rate	SI	PI	PI Rank

SYSTEM STATISTICS

		3-Year	1-Year
Total Intersections:		103	103
Total Crashes:		2387	728
	PDO Crashes:	1720	528
	Injury Crashes:	660	198
	Fatal Crashes:	6	1

	CRASH RATE		SEVERITY RATE	
	3-Year	1-Year	3-Year	1-Year
High	1.66	2.29	5.80	3.40
Low	0.09	0.09	1.00	0.80
Average	0.63	0.61	1.42	1.38
Standard Deviation	0.38	0.44	0.51	0.49
Variance	0.14	0.20	0.26	0.24
System Rate	**0.69**	**0.63**	**1.36**	**1.35**

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ROADWAY SEGMENTS WITH <= 10,000 VPD

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

ROADWAY SEGMENTS <=10000VPD
ORDERED ALPHABETICALLY

					3 Year Period January 2010 - December 2012					1 Year Period January 2012 - December 2012				
Roadway Segment	**From**	**To**	**Len**	**Vol**	**Crash Freq # / mile**	**Rate**	**SI**	**PI**	**PI Rank**	**Crash Freq # / mile**	**Rate**	**SI**	**PI**	**PI Rank**
ABREGO DR	CONTINENTAL RD	ESPERANZA BL	1.4	4886	2.86	0.53	1.00	609	240	*				
ABREGO DR	ESPERANZA BL	PASEO DE GOLF	1.1	4927	3.64	0.67	2.70	387	147	0.91	0.51	2.00	356	160
ABREGO DR	PASEO DE GOLF	DUVAL RD	1.1	3693	4.55	1.12	2.36	317	95	0.91	0.67	1.00	432	185
AJO WY	PALO VERDE RD	ALVERNON WY	0.4	2270	12.50	5.03	1.00	378	136	5.00	6.03	1.00	228	75
ALVERNON WY	LOS REALES RD	VALENCIA RD	1.0	7786	14.00	1.64	1.29	309	86	3.00	1.06	1.33	278	114
ALVERNON WY	SKYLINE DR	SKYLINE DR (1 N)	1.0	1166	4.00	3.13	1.25	379	138	1.00	2.35	2.00	232	79
ANKLAM RD	SPEEDWAY BL	ALTA VISTA RD	1.3	1343	2.31	1.57	2.00	340	109	*				
ANWAY RD	MANVILLE RD	AVRA VALLEY RD	6.0	1129	0.50	0.40	2.60	444	181	0.17	0.40	1.00	458	192
ANWAY RD	AVRA VALLEY RD	EL TIRO RD	3.5	2057	1.71	0.76	2.13	341	111	0.57	0.76	3.40	255	98
ARIVACA RD	RUBY RD	MP-04	4.4	961	1.14	1.08	2.36	321	97	0.45	1.30	3.90	218	70
ARIVACA RD	MP-04	MP-17	13.0	673	2.08	2.82	1.59	140	11	0.85	3.44	1.71	85	8
ARIVACA RD	MP-17	I19	4.7	823	1.91	2.12	1.11	370	131	0.43	1.42	1.00	328	146
AVRA VALLEY RD	PUMP STATION RD	ANWAY RD	3.0	1693	1.33	0.72	3.40	377	135	0.33	0.54	5.80	323	144
AVRA VALLEY RD	ANWAY RD	TRICO RD	1.5	4187	8.00	1.74	2.13	173	22	3.33	2.18	2.16	119	16
AVRA VALLEY RD	TRICO RD	EL PASO GAS RD (.2 W)	1.6	5576	6.88	1.13	1.36	352	119	3.13	1.54	1.40	219	71
AVRA VALLEY RD	CLAYTON RD	SANDERS RD (.5 W)	0.8	5454	6.25	1.05	1.40	426	171	2.50	1.26	1.00	337	148
AVRA VALLEY RD	AIRLINE RD	I10	2.2	6416	5.45	0.78	2.05	281	68	1.36	0.58	2.60	249	96
BALD EAGLE AV	CAMINO DE OESTE	LINDA VISTA BL	0.8	4192	7.50	1.63	1.80	277	64	3.75	2.45	1.00	231	78
BEAR CANYON RD	TANQUE VERDE RD (.25 N)	KAYENTA DR	1.4	6160	5.00	0.74	1.29	470	195	*				
BEAR CANYON RD	KAYENTA DR	SNYDER RD	0.9	3700	6.67	1.65	1.50	311	87	3.33	2.47	1.67	158	30
BENSON HY	COUNTRY CLUB RD	ALVERNON WY	1.2	8080	11.67	1.32	1.77	226	39	7.50	2.54	1.98	102	10
BENSON HY	ALVERNON WY	VALENCIA RD	1.3	9122	15.38	1.54	1.39	259	52	3.85	1.16	1.00	277	113
BILBY RD	PINTO RD (.1 W)	WESTOVER AV	2.1	2259	3.33	1.35	1.43	342	113	0.48	0.58	2.00	347	154

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

ROADWAY SEGMENTS <=10000VPD
ORDERED ALPHABETICALLY

					3 Year Period January 2010 - December 2012					1 Year Period January 2012 - December 2012				
Roadway Segment	**From**	**To**	**Len**	**Vol**	**Crash Freq # / mile**	**Rate**	**SI**	**PI**	**PI Rank**	**Crash Freq # / mile**	**Rate**	**SI**	**PI**	**PI Rank**
BOPP RD	JEROME AV	PALANT DR	2.9	3502	4.83	1.26	1.14	385	143	2.41	1.89	1.00	213	68
BOPP RD	PALANT DR	TUCSON ESTATES PKWY	1.1	5745	14.55	2.31	1.38	225	38	4.55	2.17	1.20	204	62
BOPP RD	TUCSON ESTATES PW	KINNEY RD	1.0	5414	6.00	1.01	2.13	312	89	1.00	0.51	1.00	448	189
BOWES RD	SNYDER RD	SNYDER RD (.7 N)	0.7	2890	7.14	2.26	1.96	261	53	1.43	1.35	1.00	385	172
BROADWAY BL	TANQUE VERDE LOOP RD	FREEMAN RD	1.0	2082	3.00	1.32	1.33	462	189	2.00	2.63	1.50	200	59
BROADWAY BL	FREEMAN RD	FREEMAN RD (1 E)	1.0	642	2.00	2.84	1.00	486	203	*				
CAMINO DE LA TIERRA	LOS REALES RD	VALENCIA RD	1.0	6730	12.00	1.63	1.08	373	133	6.00	2.44	1.00	195	55
CAMINO DE LA TIERRA	HIGHWAY DR	ORANGE GROVE RD	1.2	7894	10.83	1.25	1.38	315	94	5.83	2.02	1.43	171	36
CAMINO DE LA TIERRA	ORANGE GROVE RD	INA RD	1.0	5997	9.00	1.37	1.11	422	165	2.00	0.91	1.00	359	162
CAMINO DE LA TIERRA	INA RD	SHANNON RD	0.6	989	5.00	4.62	1.00	429	175	1.67	4.62	1.00	290	121
CAMINO DE OESTE	TETAKUSIM RD	VALENCIA RD	1.3	7786	7.69	0.90	1.68	325	100	2.31	0.81	1.33	301	132
CAMINO DE OESTE	DAKOTA ST	IRVINGTON RD	0.6	1185	1.67	1.28	1.00	595	236	*				
CAMINO DE OESTE	IRVINGTON RD	TUCSON-AJO HY	0.8	4456	3.75	0.77	1.33	527	219	*				
CAMINO DE OESTE	GATES PASS RD	SWEETWATER DR	2.8	1975	3.93	1.82	1.18	349	116	2.14	2.97	1.17	176	43
CAMINO DE OESTE	EL CAMINO DEL CERRO	SUNSET RD	1.5	464	3.33	6.56	1.20	341	111	0.67	3.94	1.00	294	126
CAMINO DE OESTE	INA RD (.1 N)	PIMA FARMS RD	0.9	3440	7.78	2.06	1.57	262	57	2.22	1.77	1.50	241	87
CAMINO DE OESTE	CORTARO FARMS RD (.3 N)	LINDA VISTA BL	1.4	3840	13.57	3.23	1.57	142	12	2.14	1.53	1.67	210	63
CAMINO DE OESTE	LINDA VISTA BL	TURKEY LN	1.8	2092	1.67	0.73	1.33	537	223	0.56	0.73	1.00	425	182
CAMINO DEL SOL	CALLE TRES	CAMINO ENCANTO	2.0	7013	2.50	0.33	1.20	576	234	1.00	0.39	1.00	406	175
CAMINO DEL SOL	CAMINO ENCANTO	MISSION-TWIN BUTTES RD	1.5	7013	2.67	0.35	1.50	502	209	1.33	0.52	1.50	334	147
CAMINO DEL SOL	MISSION-TWIN BUTTES RD	CONTINENTAL RD	0.8	5905	3.75	0.58	1.33	550	228	*				
CAMINO ENCANTO	CAMINO DEL SOL	I19	0.6	4741	3.33	0.64	1.00	655	246	3.33	1.93	1.00	290	121
CAMINO LOMA ALTA	COLOSSAL CAVE RD	OLD SPANISH TR	3.0	6034	5.33	0.81	1.38	353	120	1.33	0.61	1.25	314	137

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CAMINO VERDE	VALENCIA RD	DREXEL RD	1.0	7741	17.00	2.01	1.41	227	40	5.00	1.77	1.20	225	73
CAMINO VERDE	DREXEL RD	TUCSON-AJO HY	0.8	7741	6.25	0.74	1.60	424	168	2.50	0.88	1.50	303	134
CAMPBELL AV	SKYLINE DR	MANZANITA AV	0.5	3743	4.00	0.98	1.00	613	242	4.00	2.93	1.00	255	98
CAMPBELL AV	MANZANITA AV	INA RD	0.5	3047	4.00	1.20	1.00	586	235	*				
CARDINAL AV	HERMANS RD	LOS REALES RD	1.0	1259	4.00	2.90	1.25	384	141	2.00	4.35	1.00	238	83
CARDINAL AV	LOS REALES RD	VALENCIA RD	1.0	9134	25.00	2.50	1.59	154	16	5.00	1.50	1.60	189	52
CARDINAL AV	DREXEL RD	IRVINGTON RD	0.8	7690	7.50	0.89	1.17	503	210	2.50	0.89	1.00	362	164
CATALINA HY	PRINCE RD	HOUGHTON RD	0.7	6391	12.86	1.84	1.44	281	68	2.86	1.22	1.50	278	114
CATALINA HY	HOUGHTON RD	SNYDER RD	1.5	3817	4.67	1.12	1.83	313	92	*				
CATALINA HY	SNYDER RD	MOUNT LEMMON SHORT RD (.4 N)	1.2	1861	6.67	3.27	2.70	134	8	1.67	2.45	3.40	152	28
CATALINA HY	MOUNT LEMMON SHORT RD (.4	MP-05	5.0	2140	6.20	2.65	1.73	124	7	2.40	3.07	1.33	133	19
CATALINA HY	MP-05	MP-08	3.0	744	6.67	8.18	2.12	55	2	2.67	9.82	2.70	35	2
CATALINA HY	MP-08	MP-16	8.0	653	4.88	6.82	1.98	57	3	1.88	7.87	1.92	57	3
CATALINA HY	MP-16	MP-20	4.0	511	5.00	8.94	2.55	39	1	2.50	13.40	3.02	28	1
CATALINA HY	MP-20	MP-24	4.0	473	3.50	6.76	2.11	80	4	1.25	7.24	2.56	61	4
CATALINA HY	MP-24	ROAD END	1.0	390	*					*				
CLOUD RD	CALLE DE AMIGOS	SABINO CANYON RD	0.9	1628	1.11	0.62	1.00	673	247	*				
CLOUD RD	SABINO CANYON RD	PANTANO RD	1.0	7564	5.00	0.60	1.20	548	227	1.00	0.36	1.00	463	195
CLOUD RD	PANTANO RD	LARREA LN (.2 E)	0.7	3273	1.43	0.40	1.00	698	251	1.43	1.20	1.00	393	174
COCIO RD	EL TIRO RD	SILVERBELL RD	2.5	685	0.80	1.07	3.40	389	148	0.40	1.60	5.80	242	89
COLOSSAL CAVE RD	CAMINO LOMA ALTA	ROAD END (CAVE)	4.1	1399	0.49	0.32	2.00	507	211	0.24	0.48	2.00	358	161
COLUMBUS BL	HAWSER ST	ROAD END (CL)	1.5	1443	0.67	0.42	5.80	474	197	*				
CONTINENTAL RD	DUVAL MINE RD	CAMINO DEL SOL	2.6	977	0.38	0.36	1.00	701	252	*				

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CONTINENTAL RD	CAMINO DEL SOL (.1 W)	LA CANADA DR	0.5	6639	12.00	1.65	1.17	418	164	*				
CONTINENTAL RD	ABREGO DR	OLD TUCSON NOGALES HY	0.8	9792	2.50	0.23	1.50	569	233	1.25	0.35	1.00	465	197
CONTRACTORS WY	IRVINGTON RD	AJO WY	0.8	6578	8.75	1.21	1.00	462	189	3.75	1.56	1.00	278	114
CORONADO FOREST DR	GOLDER RANCH DR	HAWSER ST	0.5	863	*					*				
CRAYCROFT RD	REX SV (.05 S)	LITTLETOWN RD	1.0	6750	4.00	0.54	1.50	482	201	1.00	0.41	2.00	363	165
CRAYCROFT RD	VALENCIA RD	DREXEL RD	0.5	1577	*					*				
CRAYCROFT RD	SUNRISE DR	VENTANA HEIGHTS PL	2.2	4201	6.36	1.38	1.29	330	102	0.45	0.30	1.00	467	198
CURTIS RD	HIGHWAY DR	SHANNON RD	0.3	5764	20.00	3.17	1.33	292	75	*				
CURTIS RD	SHANNON RD	DAVIS AV	0.1	7014	100.00	13.02	1.78	134	8	40.00	15.62	1.25	148	27
CURTIS RD	DAVIS AV	LA CHOLLA BL	0.9	6304	6.67	0.97	2.77	299	80	*				
DIAMOND BELL RANCH RD	SASABE RD	STAGECOACH RD	3.7	274	0.54	1.80	2.00	353	120	*				
DIAMOND BELL RANCH RD	STAGECOACH RD	SIERRITA MOUNTAIN RD	2.0	428	1.50	3.20	1.67	299	80	1.00	6.40	2.00	134	21
DODGE BL	AJO WY	36TH ST	1.0	3219	5.00	1.42	1.00	482	201	*				
DODGE BL	FORT LOWELL RD	RIVER RD	0.7	6117	11.43	1.71	1.63	267	61	4.29	1.92	1.33	226	74
DREXEL RD	CARDINAL AV	WESTOVER AV	0.5	7035	20.00	2.60	1.40	245	46	4.00	1.56	1.50	255	98
DREXEL RD	COUNTRY CLUB RD	PALO VERDE RD	0.5	4823	20.00	3.79	1.30	265	60	6.00	3.41	1.00	210	63
DREXEL RD	PALO VERDE RD	ALVERNON WY	0.5	3088	40.00	11.83	1.30	184	28	8.00	7.10	1.50	116	15
DREXEL RD	ALVERNON WY	I10	0.8	4083	7.50	1.68	1.33	357	126	2.50	1.68	1.50	247	94
DREXEL RD	ARCADIA AV	CRAYCROFT RD	0.7	1621	2.86	1.61	1.50	424	168	*				
DUVAL MINE RD	MISSION RD (2.3 W)	RIO LA JUNTA (.02 E)	6.1	3039	1.15	0.34	1.29	513	215	0.49	0.44	1.00	364	166
EL CAMINO DEL CERRO	GERHART RD (.7 W)	CAMINO DE OESTE	2.1	4817	5.71	1.08	1.50	302	83	0.95	0.54	2.00	298	130
EL CAMINO DEL CERRO	CAMINO DE OESTE	SILVERBELL RD	1.2	6292	4.17	0.60	1.40	479	199	0.83	0.36	1.00	462	194
EL MORAGA DR	GORET RD	SWEETWATER DR	1.0	1356	3.00	2.02	1.33	411	157	1.00	2.02	1.00	339	151

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

ROADWAY SEGMENTS <=10000VPD
ORDERED ALPHABETICALLY

					3 Year Period January 2010 - December 2012					1 Year Period January 2012 - December 2012				
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EL TIRO RD	COCIO RD	ANWAY RD	1.5	2426	3.33	1.25	1.60	361	127	0.67	0.75	1.00	423	180
EL TIRO RD	ANWAY RD	TRICO RD	1.0	2892	3.00	0.95	1.33	507	211	*				
ESCALANTE RD	HOUGHTON RD	MELPOMENE WY	1.0	4160	2.00	0.44	5.80	455	185	*				
ESCALANTE RD	MELPOMENE WY	OLD SPANISH TR	1.0	3040	6.00	1.80	1.00	426	171	*				
ESPERANZA BL	PASEO SECO	LA CANADA DR	0.3	4543	*					*				
ESPERANZA BL	I19	ABREGO DR	0.1	7792	10.00	1.17	1.00	607	239	*				
FORT LOWELL RD	HOUGHTON RD	MELPOMENE WY	1.0	2411	1.00	0.38	2.00	518	217	*				
FORT LOWELL RD	MELPOMENE WY	SOLDIER TR	1.0	1276	4.00	2.86	1.25	386	145	*				
FREEMAN RD	OLD SPANISH TR	BROADWAY BL	2.6	1859	1.54	0.76	1.50	458	187	*				
FREEMAN RD	BROADWAY BL	SPEEDWAY BL	1.0	1140	4.00	3.20	1.50	292	75	2.00	4.81	1.50	175	41
GATES PASS RD	KINNEY RD	KINNEY RD (2.4 E)	2.4	2217	15.00	6.18	1.31	178	24	4.58	5.66	1.09	142	24
GATES PASS RD	KINNEY RD (2.4 E)	CAMINO DE OESTE	2.4	2237	7.08	2.89	1.41	189	30	3.33	4.08	1.50	96	9
GOLDER RANCH DR	ORACLE RD	LAGO DEL ORO PW	1.2	6733	7.50	1.02	2.07	283	71	3.33	1.36	3.40	167	32
GORET RD	EL MORAGA DR	SHANNON RD	1.1	2576	3.64	1.29	1.50	394	150	1.82	1.93	1.50	229	77
HACIENDA DEL SOL RD	RIVER RD	SUNRISE DR	2.3	5028	7.83	1.42	1.38	277	64	2.61	1.42	1.80	180	45
HARDY RD	THORNYDALE RD (.5 W)	THORNYDALE RD	0.5	1453	4.00	2.51	1.00	497	208	*				
HARRISON RD	CATALINA HY	PROSPECT LN	1.1	4908	2.73	0.51	1.33	559	231	1.82	1.01	1.50	287	118
HARRISON RD	PROSPECT LN	SNYDER RD	0.8	3175	8.75	2.52	1.97	202	32	2.50	2.16	3.40	169	34
HAWSER ST	ORACLE RD	COLUMBUS BL	1.4	2133	7.86	3.36	1.53	181	27	2.86	3.67	1.25	173	38
HELMET PEAK RD	MISSION RD	AVENIDA CINCO	2.7	1850	4.44	2.19	1.33	261	53	2.22	3.29	1.17	170	35
HELMET PEAK RD	AVENIDA CINCO	LA CANADA DR	2.0	2255	4.50	1.82	1.22	356	125	1.50	1.82	1.00	261	103
HIGHWAY DR	WETMORE RD	RUTHRAUFF RD	0.6	5039	11.67	2.11	1.14	384	141	1.67	0.91	1.00	413	177
HIGHWAY DR	CURTIS RD	CAMINO DE LA TIERRA	0.3	4661	20.00	3.92	1.97	193	31	6.67	3.92	3.40	128	18

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

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HOUGHTON RD	CAMINO DEL TORO	SAHUARITA RD	1.0	5227	8.00	1.40	1.13	427	173	3.00	1.57	1.00	276	111
HOUGHTON RD	CAMINO DEL EMPERADOR	BREKKE RD (.5 N)	5.2	9662	5.00	0.47	1.35	383	140	2.69	0.76	1.43	244	92
HOUGHTON RD	TANQUE VERDE RD	FORT LOWELL RD	1.0	6112	6.00	0.90	1.33	439	179	3.00	1.34	1.00	297	129
HOUGHTON RD	FORT LOWELL RD	PRINCE RD	0.5	6112	6.00	0.90	1.33	514	216	6.00	2.69	1.33	193	53
HOUGHTON RD	PRINCE RD	CATALINA HY	0.4	2983	15.00	4.59	2.30	159	17	2.50	2.30	2.00	235	80
HOUGHTON RD	CATALINA HY	SNYDER RD	1.1	2892	4.55	1.44	1.40	381	139	1.82	1.72	1.00	306	136
INA RD	ARTESIANO RD (.2 W)	WADE RD	0.7	182	7.14	35.84	1.20	333	106	*				
INA RD	WADE RD	SILVERBELL RD (.1W)	1.4	9025	9.29	0.94	1.68	294	78	2.14	0.65	2.93	241	87
INA RD	SKYLINE DR	CAMPBELL AV	1.4	2067	3.57	1.58	2.16	277	64	0.71	0.95	5.80	287	118
IRONWOOD HILL DR	CAMINO DE OESTE	SHANNON RD	2.0	5038	6.00	1.09	1.33	349	116	3.00	1.63	1.50	175	41
IRVINGTON RD	SUNSET BL	JOSEPH AV	0.9	3147	4.44	1.29	2.45	319	96	*				
IRVINGTON RD	JOSEPH AV	CAMINO DE OESTE	0.4	5804	5.00	0.79	1.50	509	214	2.50	1.18	2.00	301	132
IRVINGTON RD	CAMINO DE OESTE	CARDINAL AV	2.0	6127	7.00	1.04	1.36	340	109	0.50	0.22	2.00	375	169
IRVINGTON RD	CARDINAL AV	MISSION RD	1.3	9074	9.23	0.93	2.13	256	50	3.85	1.16	2.16	181	46
JOSEPH AV	BILBY RD	IRVINGTON RD	1.5	4297	10.00	2.13	1.71	177	23	4.00	2.55	1.97	112	11
KINNEY RD	BOPP RD	TUCSON ESTATES PKWY	1.2	5500	13.33	2.21	1.44	214	36	5.83	2.91	1.43	143	26
KINNEY RD	TUCSON ESTATES PW	GATES PASS RD	3.3	1725	5.76	3.05	1.52	153	15	1.21	1.93	1.50	181	46
KINNEY RD	GATES PASS RD	MILE WIDE RD	3.6	1700	4.72	2.54	1.74	147	14	1.11	1.79	1.25	228	75
KOLB RD	SUNRISE DR	VENTANA HEIGHTS PL	1.6	8300	6.88	0.76	1.00	478	198	1.88	0.62	1.00	347	154
LA CANADA DR	MISSION-TWIN BUTTES RD	CONTINENTAL RD	0.8	867	1.25	1.32	2.00	407	154	*				
LA CANADA DR	CONTINENTAL RD	ESPERANZA BL	1.3	8819	4.62	0.48	1.17	546	226	2.31	0.72	1.00	337	148
LA CHOLLA BL	GARDNER LN	RUTHRAUFF RD	0.9	4702	15.56	3.02	1.21	264	58	5.56	3.24	1.00	183	48
LAGO DEL ORO PW	GOLDER RANCH DR	ROAD END (CL)	3.3	4373	2.73	0.57	1.76	363	129	0.91	0.57	1.00	353	158

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

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LAMBERT LN	CAMINO DE OESTE	THORNYDALE RD	1.0	1081	5.00	4.22	1.20	354	122	3.00	7.60	1.00	188	50
LAMBERT LN	THORNYDALE RD	SHANNON RD	1.0	5610	5.00	0.81	1.20	519	218	1.00	0.49	1.00	450	190
LAMBERT LN	SHANNON RD	LA CHOLLA BL (.5W)	0.5	7216	2.00	0.25	1.00	710	254	*				
LINDA VISTA BL	HARTMAN LN (.75W)	HARTMAN LN	0.8	4609	6.25	1.24	3.12	293	77	3.75	2.23	1.33	211	65
LINDA VISTA BL	HARTMAN LN	CAMINO DE OESTE	1.0	6273	16.00	2.33	1.55	180	26	5.00	2.18	1.20	202	61
LOS REALES RD	SORREL LN	CARDINAL AV	1.0	8231	27.00	3.00	1.44	165	19	17.00	5.66	1.52	78	5
LOS REALES RD	CARDINAL AV	MISSION RD	0.6	7322	15.00	1.87	1.67	242	45	5.00	1.87	1.67	188	50
LOS REALES RD	ALVERNON WY	CRAYCROFT RD	2.0	4387	3.50	0.73	1.29	473	196	1.00	0.62	1.50	322	143
MAGEE RD	CAMINO DE OESTE	THORNYDALE RD	0.9	5488	7.78	1.29	1.69	304	84	3.33	1.66	1.00	272	109
MAGEE RD	THORNYDALE RD	CORTARO FARMS RD	0.9	6257	8.89	1.30	1.38	355	123	2.22	0.97	1.50	293	125
MANVILLE RD	ANWAY RD	RESERVATION RD	2.5	966	2.00	1.89	1.00	445	182	0.80	2.27	1.00	276	111
MANVILLE RD	RESERVATION RD	SANDARIO RD	3.5	1608	1.14	0.65	2.20	401	152	0.57	0.97	3.40	238	83
MARK RD	LOS REALES RD	VALENCIA RD	1.0	2333	4.00	1.57	1.25	455	185	2.00	2.35	1.00	273	110
MARK RD	VALENCIA RD	BILBY RD	0.5	4548	*					*				
MARY ANN CLEVELAND WY	RED IRON TR (.1W)	COLOSSAL CAVE RD	1.6	8417	20.63	2.24	1.36	209	34	2.50	0.81	1.00	316	139
MELPOMENE WY	FORT LOWELL RD	PRINCE RD	0.5	1903	*					*				
MELPOMENE WY	PRINCE RD	CATALINA HY	1.5	2122	5.33	2.30	1.38	288	73	*				
MEREDITH BL	INA RD (.1 N)	HANCOCK AV (.1 N)	0.9	2701	12.22	4.13	1.27	261	53	3.33	3.38	1.00	211	65
MILE WIDE RD	RESERVATION RD (.5 E)	SANDARIO RD	3.0	716	1.33	1.70	2.20	288	73	0.33	1.28	1.00	389	173
MILE WIDE RD	SANDARIO RD	KINNEY RD	2.0	1574	0.50	0.29	2.00	528	220	*				
MISSION RD	DUVAL MINE RD	MCGEE RANCH RD	2.8	440	2.50	5.19	1.14	327	101	*				
MISSION RD	MCGEE RANCH RD	HELMET PEAK RD	4.7	381	0.85	2.04	1.75	308	85	*				
MISSION RD	HELMET PEAK RD	PIMA MINE RD	2.8	642	2.14	3.05	1.80	210	35	0.36	1.52	1.00	372	167

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

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					3 Year Period January 2010 - December 2012					1 Year Period January 2012 - December 2012				
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MISSION RD	PIMA MINE RD	SAN XAVIER RD	8.5	1185	0.12	0.09	2.00	533	222	*				
MISSION RD	SAN XAVIER RD	LOS REALES RD	0.9	3738	*					*				
MISSION RD	LOS REALES RD	VALENCIA RD	1.0	7774	2.00	0.23	3.40	480	200	*				
MISSION RD	VALENCIA RD	DREXEL RD	1.0	8795	3.00	0.31	3.27	446	183	*				
MONA LISA RD	ORANGE GROVE RD	INA RD	1.0	2253	10.00	4.05	1.30	261	53	3.00	3.65	1.67	137	23
MONA LISA RD	INA RD	CROWN KING DR	0.3	4996	13.33	2.44	1.25	401	152	3.33	1.83	1.00	349	157
MONA LISA RD	CROWN KING DR	MAGEE RD	0.4	3401	10.00	2.69	1.25	391	149	5.00	4.03	1.00	240	85
OLD NOGALES HY	LUMBER ST	NOGALES HY	2.8	4817	9.29	1.76	1.31	268	62	1.79	1.02	1.20	269	106
OLD SPANISH TR	COLOSSAL CAVE RD	CAMINO LOMA ALTA	3.8	1415	1.84	1.19	1.43	363	129	0.79	1.53	1.33	252	97
OLD SPANISH TR	CAMINO LOMA ALTA	IRVINGTON RD	5.9	4843	4.92	0.93	1.48	296	79	0.68	0.38	1.25	337	148
OLD SPANISH TR	IRVINGTON RD	FREEMAN RD	1.4	4015	5.00	1.14	1.29	422	165	1.43	0.97	1.50	291	123
OLD SPANISH TR	FREEMAN RD	MELPOMENE WY	1.5	3428	2.00	0.53	1.00	635	245	0.67	0.53	1.00	446	188
OLDFATHER DR	INA RD (.1 N)	MAGEE RD	0.9	6117	3.33	0.50	2.60	435	177	2.22	1.00	1.00	348	156
OLDFATHER DR	MAGEE RD	CORTARO FARMS RD	0.5	5783	10.00	1.58	1.40	372	132	2.00	0.95	1.00	408	176
ORACLE JAYNES STATION RD	SHANNON RD	LA CHOLLA BL	1.3	2875	2.31	0.73	1.00	613	242	0.77	0.73	1.00	424	181
ORACLE JAYNES STATION RD	LA CHOLLA BL	ROLLER COASTER RD	0.9	1774	3.33	1.72	1.33	428	174	*				
OVERTON RD	THORNYDALE RD	SHANNON RD	1.0	7957	10.00	1.15	1.40	346	115	2.00	0.69	1.50	317	140
OVERTON RD	SHANNON RD	LA CHOLLA BL	1.0	9194	8.00	0.79	1.13	496	207	3.00	0.89	1.33	295	128
OVERTON RD	LA CHOLLA BL	LA CANADA DR	1.2	7387	5.00	0.62	1.17	532	221	2.50	0.93	1.00	321	142
PASEO DEL NORTE	INA RD	CHAPALA DR	0.5	4501	2.00	0.41	1.00	695	250	*				
PICTURE ROCKS RD	SANDARIO RD	MONUMENT BOUNDARY (WEST)	3.0	5969	14.67	2.24	1.42	188	29	5.33	2.45	1.55	114	14
PICTURE ROCKS RD	MONUMENT BOUNDARY (EAST)	WADE RD	0.6	7800	48.33	5.66	1.61	102	5	16.67	5.85	1.20	133	19
PISTOL HILL RD	COLOSSAL CAVE RD	OLD SPANISH TR	2.2	577	0.91	1.44	5.80	339	108	0.45	2.16	5.80	213	68

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

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PONTATOC RD	RIVER RD	VALLEY VIEW RD	1.2	2688	5.00	1.70	1.17	416	161	0.83	0.85	1.00	417	178
PONTATOC RD	VALLEY VIEW RD	SUNRISE DR	0.9	3410	4.44	1.19	1.25	489	204	2.22	1.79	1.50	240	85
PONTATOC RD	SUNRISE DR	SKYLINE DR	1.0	941	6.00	5.82	1.17	330	102	3.00	8.73	1.00	185	49
PRINCE RD	CATALINA HY	MELPOMENE WY	1.5	2631	2.00	0.69	1.33	540	224	0.67	0.69	1.00	429	184
REDINGTON RD	WENTWORTH RD	REDINGTON VIEW RD (.5 E)	3.4	1292	3.82	2.70	1.15	301	82	1.18	2.49	1.25	194	54
ROLLER COASTER RD	ORACLE JAYNES STATION RD	LA CANADA DR	0.5	2133	14.00	5.99	1.97	160	18	4.00	5.14	3.40	120	17
ROLLER COASTER RD	LA CANADA DR	ORACLE RD	1.3	1402	8.46	5.51	1.55	166	21	3.08	6.01	1.25	159	31
ROMERO RD	ROGER RD	WETMORE RD	0.5	9008	20.00	2.03	1.30	314	93	10.00	3.04	1.20	176	43
RUDASILL RD	ORACLE RD	FIRST AV	0.9	2534	15.56	5.61	1.21	240	44	2.22	2.40	1.00	270	107
SABINO CANYON RD	SUNRISE DR	SUNRISE DR (.5 N)	0.5	3729	8.00	1.96	1.00	468	192	*				
SAHUARITA RD	SANTA RITA RD (.75E)	ALVERNON WY	1.3	5873	4.62	0.72	1.50	416	161	0.77	0.36	1.00	464	196
SAHUARITA RD	ALVERNON WY	HOUGHTON RD	8.1	6363	2.96	0.43	1.33	410	156	0.99	0.43	1.25	298	130
SAHUARITA RD	HOUGHTON RD	MELPOMENE WY	1.0	4753	3.00	0.58	1.00	629	244	1.00	0.58	1.00	441	186
SAHUARITA RD	MELPOMENE WY	MOUNTAIN VIEW-SONOITA HY	4.9	3242	1.43	0.40	1.29	507	211	0.20	0.17	1.00	469	199
SAN JOAQUIN RD	AJO WY	BOPP RD	2.3	3870	3.91	0.92	1.44	373	133	1.30	0.92	1.33	292	124
SAN JOAQUIN RD	BOPP RD	CALLE ANASAZI (.9 N)	2.9	2080	0.69	0.30	1.50	564	232	*				
SANDARIO RD	AJO WY	SAN JOAQUIN RD	8.3	1684	1.81	0.98	1.77	264	58	0.36	0.59	2.60	248	95
SANDARIO RD	SAN JOAQUIN RD	MILE WIDE RD	1.1	1257	2.73	1.98	3.27	281	68	*				
SANDARIO RD	MILE WIDE RD	MANVILLE RD	3.0	2284	2.00	0.80	3.57	311	87	1.00	1.20	2.93	199	58
SANDARIO RD	MANVILLE RD	RUDASILL RD	1.5	2765	1.33	0.44	3.90	458	187	*				
SANDARIO RD	RUDASILL RD	PICTURE ROCKS RD	1.0	6128	6.00	0.89	1.97	350	118	4.00	1.79	2.45	153	29
SANDARIO RD	PICTURE ROCKS RD	INA RD	0.5	5209	22.00	3.86	1.53	179	25	6.00	3.16	2.60	113	12
SANDARIO RD	INA RD	EMIGH RD	1.9	4228	5.79	1.25	1.18	400	151	1.05	0.68	1.50	318	141

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Roadway Segment	**From**	**To**	**Len**	**Vol**	**Crash Freq # / mile**	**Rate**	**SI**	**PI**	**PI Rank**	**Crash Freq # / mile**	**Rate**	**SI**	**PI**	**PI Rank**
SHANNON RD	RIVER RD (.01 N)	ORANGE GROVE RD	0.9	6524	6.67	0.93	1.17	494	205	*				
SHANNON RD	ORANGE GROVE RD	INA RD	1.0	8914	11.00	1.13	2.05	251	47	*				
SHANNON RD	MAGEE RD	OVERTON RD	1.3	5075	25.38	4.57	1.47	136	10	5.38	2.91	1.57	113	12
SHANNON RD	OVERTON RD	LAMBERT LN	1.5	6382	13.33	1.91	1.35	239	43	3.33	1.43	1.00	258	101
SIERRITA MOUNTAIN RD	DIAMOND BELL RANCH RD	HILLTOP RD	4.1	1662	2.68	1.47	2.15	203	33	1.71	2.81	2.51	81	6
SIERRITA MOUNTAIN RD	HILLTOP RD	AJO WY	3.5	3191	3.71	1.06	1.75	271	63	1.71	1.47	1.97	172	37
SILVERBELL RD	COCIO RD	TRICO RD	3.0	351	2.67	6.94	1.98	145	13	1.00	7.81	3.27	81	6
SILVERBELL RD	TRICO RD	LUCKETT RD (.6E)	2.8	944	2.14	2.07	2.13	219	37	0.71	2.07	3.90	167	32
SILVERBELL RD	SUNSET RD (.4 S)	SUNSET RD (.1 N)	0.5	6309	8.00	1.16	1.50	408	155	4.00	1.74	1.50	245	93
SILVERBELL RD	SUNSET RD (.6 N)	ABINGTON RD	1.4	5986	8.57	1.31	1.90	236	42	2.14	0.98	1.67	243	90
SKYLINE DR	SUNRISE DR	ALVERNON WY	0.7	5645	7.14	1.16	1.40	413	158	2.86	1.39	2.00	237	82
SKYLINE DR	ALVERNON WY	SWAN RD	1.0	5556	13.00	2.14	1.46	227	40	2.00	0.99	1.50	289	120
SNYDER RD	KOLB RD	SABINO CANYON RD	0.9	4379	7.78	1.62	1.43	323	98	1.11	0.70	1.00	428	183
SNYDER RD	BEAR CANYON RD	HARRISON RD	0.6	2557	5.00	1.79	1.33	425	170	*				
SNYDER RD	HARRISON RD	HOUGHTON RD	1.0	2925	8.00	2.50	1.13	361	127	2.00	1.87	1.00	294	126
SNYDER RD	HOUGHTON RD	CATALINA HY	1.0	1141	3.00	2.40	1.00	469	194	1.00	2.40	1.00	324	145
SNYDER RD	CATALINA HY	SOLDIER TR	1.0	1157	5.00	3.95	1.00	386	145	2.00	4.74	1.00	236	81
SOLDIER TR	TANQUE VERDE RD	SNYDER RD	3.0	2882	3.00	0.95	1.22	441	180	0.33	0.32	0.00	543	200
SORREL LN	TETAKUSIM RD	LOS REALES RD	0.3	5732	3.33	0.53	1.00	685	249	*				
SPEEDWAY BL	CAMINO DE OESTE	PAINTED HILLS RD	1.6	2629	7.50	2.61	2.62	115	6	1.88	1.95	4.53	134	21
SPEEDWAY BL	HOUGHTON RD	TANQUE VERDE LOOP RD	1.0	4888	2.00	0.37	1.50	557	230	1.00	0.56	1.00	443	187
SPEEDWAY BL	TANQUE VERDE LOOP RD	FREEMAN RD	1.0	3038	1.00	0.30	1.00	708	253	*				
SPEEDWAY BL	FREEMAN RD	WENTWORTH RD	1.0	1375	3.00	1.99	1.33	413	158	1.00	1.99	1.00	340	152

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

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SPEEDWAY BL	WENTWORTH RD	WENTWORTH RD (2.0 E)	2.0	839	0.50	0.54	1.00	681	248	*				
SUNRISE DR	KOLB RD	SABINO CANYON RD	1.2	9350	16.67	1.63	1.20	312	89	5.00	1.47	1.33	219	71
SUNSET RD	BLUE BONNET RD	CAMINO DE OESTE	1.0	950	1.00	0.96	2.00	451	184	*				
SUNSET RD	CAMINO DE OESTE	SILVERBELL RD	0.6	2860	*					*				
SWAN RD	OLD VAIL CONNECTION RD	LOS REALES RD	3.0	1457	3.67	2.30	1.18	323	98	1.67	3.13	1.20	174	40
SWAN RD	VALENCIA RD	VALENCIA RD	1.0	3173	4.00	1.15	1.25	494	205	*				
SWAN RD	SUNRISE DR	SKYLINE DR	1.0	8737	18.00	1.88	1.17	312	89	7.00	2.20	1.14	196	56
SWEETWATER DR	SIX BAR SPUR (.2 W)	CAMINO DE OESTE	1.0	482	*					*				
SWEETWATER DR	CAMINO DE OESTE	EL MORAGA DR	1.2	4824	2.50	0.47	4.53	423	167	0.83	0.47	2.00	359	162
SWEETWATER DR	EL MORAGA DR	SILVERBELL RD	0.7	5515	*					*				
TANQUE VERDE LOOP RD	SPEEDWAY BL	TANQUE VERDE RD	1.0	3261	3.00	0.84	1.00	597	237	1.00	0.84	1.00	418	179
TANQUE VERDE RD	HOUGHTON RD	TANQUE VERDE LOOP RD	1.0	7647	10.00	1.19	1.00	436	178	2.00	0.72	1.00	374	168
TANQUE VERDE RD	TANQUE VERDE LOOP RD	CONESTOGA AV	0.4	8995	12.50	1.27	1.20	468	192	5.00	1.52	1.50	260	102
TANQUE VERDE RD	CONESTOGA AV	SOLDIER TR	0.5	7381	6.00	0.74	1.00	610	241	*				
TANQUE VERDE RD	SOLDIER TR	WENTWORTH RD	1.0	5915	10.00	1.54	1.50	278	67	5.00	2.32	1.60	142	24
TERRITORY DR	CRAYCROFT RD	VIA VELAZQUEZ	1.3	3130	2.31	0.67	1.33	542	225	*				
TERRITORY DR	VIA VELAZQUEZ	KOLB RD	1.2	1605	2.50	1.42	1.67	385	143	0.83	1.42	2.00	286	117
TETAKUSIM RD	CAMINO DE OESTE	SORREL LN	1.0	5686	4.00	0.64	1.25	555	229	2.00	0.96	1.00	354	159
TRAILS END RD	PLACITA TUBERIA (1.2 W)	CAMINO DE OESTE	2.1	1273	1.43	1.02	1.67	431	176	0.48	1.02	2.00	305	135
TRICO MARANA RD	TRICO RD	TRICO RD (1.5 E)	1.5	2394	2.00	0.76	1.00	606	238	*				
TRICO RD	AVRA VALLEY RD	EL TIRO RD	2.7	2500	2.22	0.81	1.97	355	123	0.37	0.41	1.00	456	191
TRICO RD	EL TIRO RD	TRICO MARANA RD	1.5	2725	2.67	0.89	1.75	416	161	0.67	0.67	2.00	340	152
VALENCIA RD	AJO WY	CAMINO VERDE	3.9	8582	5.13	0.55	1.50	330	102	1.28	0.41	1.60	270	107

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VALLEY VIEW RD	PONTATOC RD	SUNRISE DR	1.1	921	2.73	2.70	1.33	378	136	1.82	5.41	1.50	173	38
WADE RD	CAMINO VERDE	VALENCIA RD	1.3	6319	9.23	1.33	1.65	255	49	3.08	1.33	1.25	264	104
WADE RD	PICTURE ROCKS RD	INA RD	0.6	7807	20.00	2.34	1.33	251	47	5.00	1.75	1.00	268	105
WENTWORTH RD	SAHUARITA RD	ANDRADA RD	2.0	1750	2.00	1.04	2.70	342	113	1.00	1.57	3.90	196	56
WENTWORTH RD	ANDRADA RD	I10	2.5	2700	6.80	2.30	1.29	258	51	1.60	1.62	1.50	200	59
WESTOVER AV	PARTRIDGE ST	VALENCIA RD	1.6	4674	5.00	0.98	1.73	330	102	0.63	0.37	1.00	461	193
WESTOVER AV	VALENCIA RD	DREXEL RD	1.0	1938	9.00	4.24	1.76	165	19	1.00	1.41	1.00	382	171
WETMORE RD	HIGHWAY DR	LA CHOLLA BL	0.5	6235	10.00	1.46	1.60	338	107	4.00	1.76	1.50	243	90
WETMORE RD	LA CHOLLA BL	ROMERO RD	0.5	7703	12.00	1.42	1.97	285	72	4.00	1.42	3.40	211	65
WHITEHOUSE CANYON RD	NOGALES HY	MADERA CANYON RD	6.8	3524	0.74	0.19	2.36	415	160	0.15	0.11	2.00	377	170
WILDS RD	ORACLE RD	LAGO DEL ORO PW	1.1	963	2.73	2.59	1.00	462	189	0.91	2.59	1.00	314	137

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					Crash Freq # / mile	Rate	SI	PI	PI Rank	Crash Freq # / mile	Rate	SI	PI	PI Rank

SYSTEM STATISTICS

		3-Year	1-Year
Total Segments:		264	264
Total Crashes:		2120	643
	PDO Crashes:	1384	422
	Injury Crashes:	708	207
	Fatal Crashes:	25	11

	CRASH RATE		SEVERITY RATE	
	3-Year	1-Year	3-Year	1-Year
High	35.84	15.62	5.80	5.80
Low	0.09	0.11	1.00	0.00
Average	1.99	2.10	1.61	1.61
Standard Deviation	2.76	2.14	0.72	0.94
Variance	7.62	4.58	0.52	0.88
System Rate	**1.32**	**1.20**	**1.55**	**1.59**

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ROADWAY SEGMENTS WITH > 10,000 VPD

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1ST AV	RIVER RD	RUDASILL RD	1.4	24500	10.00	0.37	1.14	302	117	1.43	0.16	1.00	320	120
1ST AV	RUDASILL RD	ORANGE GROVE RD	0.5	23061	16.00	0.63	2.20	203	75	6.00	0.71	2.60	169	56
1ST AV	ORANGE GROVE RD	INA RD	1.0	12212	6.00	0.45	1.67	247	93	2.00	0.45	1.50	237	99
AJO WY	COUNTRY CLUB RD	PALO VERDE RD	0.5	27675	20.00	0.66	1.48	238	90	6.00	0.59	1.00	273	113
ALVERNON WY	HUGHES ACCESS RD	LOS REALES RD	2.0	14345	2.50	0.16	1.00	369	127	1.00	0.19	1.00	319	119
ALVERNON WY	DREXEL RD (.5 S)	IRVINGTON RD	1.5	19500	4.00	0.19	1.17	348	125	0.67	0.09	1.00	342	124
ALVERNON WY	IRVINGTON RD	AJO WY (.24 N)	1.0	26038	35.00	1.23	1.14	188	69	7.00	0.74	1.14	202	81
AVIATION PW	GOLF LINKS RD	ALVERNON WY	0.6	20400	38.33	1.72	1.35	141	41	10.00	1.34	1.17	170	58
CAMPBELL AV	RIVER RD	CAMINO LUZ	0.8	12013	25.00	1.90	1.49	121	25	10.00	2.28	1.25	112	26
CAMPBELL AV	CAMINO LUZ	CAMINO MIRAVAL	0.8	12319	17.50	1.30	1.14	236	89	5.00	1.11	1.25	196	75
CAMPBELL AV	CAMINO MIRAVAL	SKYLINE DR	1.3	12175	21.54	1.62	1.87	73	4	5.38	1.21	2.51	78	10
CARDINAL AV	VALENCIA RD	BILBY RD	0.5	10464	42.00	3.67	1.38	114	22	18.00	4.71	1.22	107	24
CARDINAL AV	BILBY RD	DREXEL RD	0.5	10447	26.00	2.27	1.15	209	76	8.00	2.10	1.25	162	54
CATALINA HY	TANQUE VERDE RD (.3 N)	HARRISON RD	0.7	13537	17.14	1.16	2.07	146	46	1.43	0.29	2.00	246	105
CATALINA HY	HARRISON RD	PRINCE RD	0.4	10427	12.50	1.09	1.60	212	77	5.00	1.31	2.00	148	44
COLOSSAL CAVE RD	I10	OLD VAIL RD	1.3	10463	20.00	1.75	1.23	158	51	5.38	1.41	1.14	154	46
COLOSSAL CAVE RD	OLD VAIL RD	CAMINO LOMA ALTA	1.6	10675	12.50	1.07	1.40	176	60	4.38	1.12	1.29	145	39
CONTINENTAL RD	LA CANADA DR	I19	0.3	12622	26.67	1.93	1.00	250	95	20.00	4.34	1.00	150	45
CONTINENTAL RD	I19	ABREGO DR	0.3	11855	13.33	1.03	1.25	284	111	3.33	0.77	2.00	207	83
CORTARO FARMS RD	STAR GRASS DR	THORNYDALE RD	1.3	18794	30.77	1.50	1.51	94	13	7.69	1.12	1.78	89	13
CORTARO FARMS RD	THORNYDALE RD	SHANNON RD	0.9	15977	23.33	1.33	1.51	133	34	6.67	1.14	1.33	146	42
CRAYCROFT RD	RIVER RD (.32)	RIVER RD	0.3	24592	*					*				
CRAYCROFT RD	RIVER RD	HEATHERWOOD WY	1.0	17283	11.00	0.58	1.09	311	118	5.00	0.79	1.00	236	97

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CRAYCROFT RD	HEATHERWOOD WY	SUNRISE DR	1.4	16921	5.71	0.31	1.00	348	125	1.43	0.23	1.00	317	118
DREXEL RD	WESTOVER AV	MISSION RD	0.5	13937	24.00	1.57	1.73	137	39	6.00	1.18	1.33	182	64
ESPERANZA BL	LA CANADA DR	I19	0.3	10762	20.00	1.70	1.17	253	98	6.67	1.70	1.00	219	90
FLOWING WELLS RD	ROGER RD	WETMORE RD	0.5	21977	32.00	1.33	1.73	129	32	14.00	1.75	2.51	56	5
FLOWING WELLS RD	WETMORE RD	EDGEWATER DR (.06 S)	0.5	25241	46.00	1.66	1.13	189	70	12.00	1.30	1.17	173	61
HOUGHTON RD	SAHUARITA RD	CAMINO DEL EMPERADOR	1.1	10419	6.36	0.56	1.43	269	109	4.55	1.20	1.40	159	52
HOUGHTON RD	S.P.R.R. (.5 S)	S.P.R.R. (.1 N)	0.6	14899	1.67	0.10	2.00	263	104	*				
HOUGHTON RD	ESCALANTE RD	GOLF LINKS RD (.1 S)	0.9	24480	6.67	0.25	1.17	345	124	2.22	0.25	1.50	250	107
HOUGHTON RD	SPEEDWAY BL	TANQUE VERDE RD	1.0	11882	5.00	0.38	1.60	260	102	2.00	0.46	1.50	236	97
INA RD	THORNYDALE RD (.3 E)	SHANNON RD	0.7	35122	94.29	2.45	1.37	78	5	47.14	3.68	1.45	53	3
INA RD	SHANNON RD	LA CHOLLA BL	1.0	35416	72.00	1.86	1.21	127	30	21.00	1.62	1.29	93	16
INA RD	LA CHOLLA BL	LA CANADA DR	1.0	33385	37.00	1.01	1.58	123	29	17.00	1.40	1.41	90	15
INA RD	LA CANADA DR	ORACLE RD	1.0	35949	119.00	3.02	1.28	93	11	55.00	4.19	1.32	71	9
INA RD	ORACLE RD	FIRST AV	1.0	36951	43.00	1.06	1.43	136	38	13.00	0.96	1.60	98	19
INA RD	1ST AV	SKYLINE DR	0.8	26500	25.00	0.86	1.20	232	87	10.00	1.03	1.25	154	46
IRVINGTON RD	COUNTRY CLUB RD	ALVERNON WY	0.9	14321	14.44	0.92	1.23	251	97	3.33	0.64	1.67	196	75
KINNEY RD	IRVINGTON RD	BOPP RD	1.2	13340	10.00	0.68	2.05	183	65	2.50	0.51	2.60	185	66
KOLB RD	CENTURY PARK DR (.5S)	VALENCIA RD	1.4	12107	6.43	0.48	1.76	226	83	2.14	0.48	2.60	188	70
KOLB RD	VALENCIA RD	VALENCIA RD (.3 N)	0.4	48000	37.50	0.71	1.20	260	102	12.50	0.71	1.20	228	91
KOLB RD	SABINO CANYON RD	SNYDER RD	1.0	12111	18.00	1.36	1.06	228	86	6.00	1.36	1.17	169	56
KOLB RD	SNYDER RD	SUNRISE DR	1.0	13726	14.00	0.93	1.14	263	104	4.00	0.80	1.00	244	102
LA CANADA DR	ESPERANZA BL	DUVAL MINE RD (.1 S)	2.0	10900	7.50	0.63	1.77	184	67	3.50	0.88	1.14	189	71
LA CANADA DR	EDGEWATER DR (.06 S)	ROLLER COASTER RD	0.5	16035	40.00	2.28	1.10	186	68	12.00	2.05	1.00	162	54

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LA CANADA DR	ROLLER COASTER RD	ORANGE GROVE RD	1.5	14631	22.67	1.41	1.55	100	17	13.33	2.50	1.49	60	7
LA CANADA DR	ORANGE GROVE RD	INA RD	1.0	11066	14.00	1.16	1.21	233	88	6.00	1.49	1.50	110	25
LA CANADA DR	INA RD	MAGEE RD	1.0	14145	14.00	0.90	1.21	250	95	3.00	0.58	1.33	233	95
LA CANADA DR	MAGEE RD	HARDY RD	1.0	17695	8.00	0.41	1.00	340	123	*				
LA CANADA DR	HARDY RD	RANCHO FELIZ DR	0.9	18047	2.22	0.11	1.00	376	128	*				
LA CHOLLA BL	RUTHRAUFF RD	RIVER RD	0.8	19578	20.00	0.93	1.61	165	55	2.50	0.35	1.50	245	104
LA CHOLLA BL	RIVER RD	RUDASILL RD	0.8	25626	26.25	0.94	1.79	134	37	8.75	0.94	1.57	122	33
LA CHOLLA BL	RUDASILL RD	ORANGE GROVE RD	0.5	21405	26.00	1.11	1.31	223	82	4.00	0.51	1.00	298	115
LA CHOLLA BL	ORANGE GROVE RD	INA RD	1.0	24952	10.00	0.37	1.30	292	112	*				
LA CHOLLA BL	INA RD	MAGEE RD (SOUTH)	0.7	29464	74.29	2.30	1.31	99	14	8.57	0.80	1.33	172	60
LA CHOLLA BL	MAGEE RD (SOUTH)	MAGEE RD (NORTH)	0.3	29862	86.67	2.65	1.38	107	20	10.00	0.92	1.67	170	58
LA CHOLLA BL	MAGEE RD (NORTH)	OVERTON RD	1.5	11905	19.33	1.48	1.64	88	8	1.33	0.31	1.00	312	117
LA CHOLLA BL	OVERTON RD	LAMBERT LN (.5S)	1.0	14240	10.00	0.64	1.40	249	94	2.00	0.38	1.50	242	101
LINDA VISTA BL	CAMINO DE OESTE	THORNYDALE RD	1.0	10574	15.00	1.30	1.72	139	40	6.00	1.55	2.13	84	12
MAGEE RD	CORTARO FARMS RD	LA CHOLLA BL	1.4	19850	27.86	1.28	1.63	93	11	7.86	1.08	1.44	115	29
MAGEE RD	LA CHOLLA BL	LA CANADA DR	1.0	12697	27.00	1.94	1.26	145	44	2.00	0.43	1.50	239	100
MAGEE RD	LA CANADA DR	NORTHERN AV	1.0	10650	27.00	2.32	1.33	122	27	7.00	1.80	1.83	68	8
MISSION RD	DREXEL RD	IRVINGTON RD	1.1	18466	10.91	0.54	1.17	299	116	6.36	0.94	1.29	158	51
MISSION RD	IRVINGTON RD	AJO WY (.5 S)	0.8	22657	18.75	0.76	1.20	257	99	7.50	0.91	1.17	198	78
NOGALES HY	PIMA MINE RD	LUMBER ST	2.5	12112	4.40	0.33	1.89	217	79	2.40	0.54	2.13	155	50
NOGALES HY	LUMBER ST	OLD NOGALES HY	2.7	10227	19.26	1.72	1.57	69	2	5.93	1.59	1.61	59	6
NOGALES HY	OLD NOGALES HY	HUGHES ACCESS RD	1.0	17713	11.00	0.57	1.71	213	78	7.00	1.08	1.97	99	20
NOGALES HY	HUGHES ACCESS RD	HERMANS RD	1.0	11650	6.00	0.47	1.33	296	113	2.00	0.47	1.50	235	96

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION
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NOGALES HY	HERMANS RD	AERO PARK BL/VAMORI ST	0.4	17196	*					*				
NOGALES HY	AERO PARK BL/VAMORI ST	LOS REALES RD	0.6	21301	18.33	0.79	2.15	176	60	10.00	1.29	1.97	104	23
ORANGE GROVE RD	THORNYDALE RD (.2 E)	SHANNON RD	0.8	24108	52.50	1.99	1.47	84	7	7.50	0.85	1.00	213	87
ORANGE GROVE RD	SHANNON RD	LA CHOLLA BL	1.0	23283	28.00	1.10	1.39	155	49	5.00	0.59	1.60	185	66
ORANGE GROVE RD	LA CHOLLA BL	LA CANADA DR	1.0	22441	61.00	2.48	1.35	81	6	13.00	1.59	1.38	89	13
ORANGE GROVE RD	LA CANADA DR	ORACLE RD	1.2	21195	48.33	2.08	1.38	89	9	7.50	0.97	1.33	134	36
ORANGE GROVE RD	ORACLE RD	FIRST AV	0.8	17490	21.25	1.11	1.41	181	64	5.00	0.78	1.50	182	64
ORANGE GROVE RD	1ST AV	SKYLINE DR	1.3	13830	16.15	1.07	1.37	183	65	6.92	1.37	1.11	154	46
PALO VERDE RD	DREXEL RD (.5 S)	DREXEL RD	0.5	12363	24.00	1.77	1.97	118	24	4.00	0.89	1.00	263	112
PALO VERDE RD	DREXEL RD	IRVINGTON RD (.3S)	0.7	17811	24.29	1.25	1.91	122	27	8.57	1.32	1.80	103	22
PALO VERDE RD	IRVINGTON RD (.2N)	AJO WY	0.8	18858	48.75	2.36	1.33	101	18	15.00	2.18	1.33	83	11
PALO VERDE RD	AJO WY	44TH ST	0.5	28380	36.00	1.16	1.33	190	71	6.00	0.58	1.67	204	82
PALO VERDE RD	44TH ST	33RD ST	1.0	33189	8.00	0.22	1.25	319	120	5.00	0.41	1.20	255	108
RIVER RD	SHANNON RD	LA CHOLLA BL	1.2	24868	19.17	0.70	1.51	170	59	5.83	0.64	1.00	216	89
RIVER RD	LA CHOLLA BL	LA CANADA DR	1.4	35703	40.00	1.02	1.44	131	33	9.29	0.71	1.45	143	38
RIVER RD	LA CANADA DR	ORACLE RD (.1 W)	0.9	33414	25.56	0.70	1.59	161	54	8.89	0.73	2.45	114	28
RIVER RD	1ST AV (.3 E)	CAMINO LUZ	0.6	41941	3.33	0.07	1.00	380	129	1.67	0.11	1.00	341	123
RIVER RD	CAMPBELL AV	HACIENDA DEL SOL	0.7	35000	61.43	1.60	1.44	99	14	22.86	1.79	1.19	115	29
RIVER RD	HACIENDA DEL SOL RD	ALVERNON WY/RIVER RD	1.2	29629	22.50	0.69	1.47	177	62	10.00	0.92	1.08	175	63
RIVER RD	ALVERNON WY/RIVER RD	PONTATOC RD	0.8	14083	25.00	1.62	1.54	121	25	6.25	1.22	1.20	187	69
RIVER RD	PONTATOC RD	SWAN RD	0.9	12045	28.89	2.19	1.49	99	14	6.67	1.52	1.33	130	35
RIVER RD	SWAN RD	CRAYCROFT RD	1.3	14358	24.62	1.57	1.30	141	41	5.38	1.03	1.54	118	31
RIVER RD	CRAYCROFT RD	TANURI DR	1.0	17052	16.00	0.86	1.06	265	107	4.00	0.64	1.00	259	109

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RIVER RD	TANURI DR	SABINO CANYON RD	1.1	15613	18.18	1.06	1.20	222	81	3.64	0.64	1.00	261	110
RUTHRAUFF RD	I10	HIGHWAY DR	0.1	25871	310.00	10.94	1.38	91	10	100.00	10.59	1.58	53	3
RUTHRAUFF RD	HIGHWAY DR	LA CHOLLA BL	0.9	21777	58.89	2.47	1.50	56	1	23.33	2.94	1.74	35	2
RUTHRAUFF RD	LA CHOLLA BL	OBETKA AV	1.0	22013	28.00	1.16	1.39	148	48	3.00	0.37	2.93	196	75
SABINO CANYON RD	TANQUE VERDE RD (.4 N)	CLOUD RD	0.9	35272	22.22	0.58	1.49	199	73	3.33	0.26	1.00	300	116
SABINO CANYON RD	CLOUD RD	RIVER RD	0.3	30974	43.33	1.28	1.23	226	83	6.67	0.59	1.00	289	114
SABINO CANYON RD	RIVER RD	KOLB RD	0.6	23400	13.33	0.52	1.13	330	122	5.00	0.59	1.33	231	93
SABINO CANYON RD	KOLB RD	SNYDER RD	1.3	13462	7.69	0.52	1.30	283	110	3.85	0.78	1.40	191	72
SABINO CANYON RD	SNYDER RD	SUNRISE DR	1.0	10428	14.00	1.23	2.04	133	34	3.00	0.79	1.33	211	84
SHANNON RD	INA RD	MAGEE RD	0.8	11515	28.75	2.28	1.17	160	53	8.75	2.08	1.14	138	37
SILVERBELL RD	SWEETWATER DR	EL CAMINO DEL CERRO	1.1	10147	0.91	0.08	1.00	382	130	*				
SKYLINE DR	INA RD	ORANGE GROVE RD	1.0	24590	7.00	0.26	1.29	319	120	1.00	0.11	1.00	340	122
SKYLINE DR	ORANGE GROVE RD	CAMPBELL AV	0.5	34748	56.00	1.47	1.32	147	47	20.00	1.58	1.30	113	27
SKYLINE DR	CAMPBELL AV	SUNRISE DR	0.4	36810	55.00	1.36	1.50	133	34	10.00	0.74	1.50	186	68
SUNRISE DR	SKYLINE DR	PONTATOC DR	1.7	39582	23.53	0.54	1.47	169	57	8.82	0.61	1.47	145	39
SUNRISE DR	PONTATOC DR	SWAN RD	0.5	38777	58.00	1.37	1.17	178	63	22.00	1.55	1.00	145	39
SUNRISE DR	SWAN RD	CRAYCROFT RD	1.0	31200	29.00	0.85	1.24	200	74	11.00	0.97	1.27	147	43
SUNRISE DR	CRAYCROFT RD	KOLB RD	1.9	17269	21.58	1.14	1.36	145	44	3.68	0.58	1.29	193	73
SWAN RD	CALLE CHUECA (.23 S)	RIVER RD	0.7	27058	10.00	0.34	1.83	238	90	4.29	0.43	1.33	244	102
SWAN RD	RIVER RD	SUNRISE DR	2.0	22892	8.00	0.32	1.55	217	79	2.50	0.30	1.20	261	110
TANQUE VERDE RD	TANQUE VERDE ACRES RD	HOUGHTON RD	1.3	13000	1.54	0.11	1.50	296	113	*				
THORNYDALE RD	INA RD (.1 N)	MASSINGALE RD	0.4	32265	22.50	0.64	1.22	296	113	12.50	1.06	1.20	198	78
THORNYDALE RD	MASSINGALE RD	MAGEE RD	0.5	31144	28.00	0.82	1.36	226	83	12.00	1.06	1.33	154	46

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THORNYDALE RD	MAGEE RD	CORTARO FARMS RD	0.5	24712	20.00	0.74	1.30	263	104	8.00	0.89	1.25	212	85
THORNYDALE RD	CORTARO FARMS RD	OVERTON RD	1.0	24161	52.00	1.97	1.30	109	21	21.00	2.38	1.19	100	21
THORNYDALE RD	OVERTON RD	LINDA VISTA BL	0.5	21345	44.00	1.88	1.22	168	56	26.00	3.34	1.00	119	32
THORNYDALE RD	LINDA VISTA BL	LAMBERT LN	1.0	19850	16.00	0.74	1.19	257	99	6.00	0.83	1.00	215	88
THORNYDALE RD	LAMBERT LN	CAMINO DEL NORTE	1.0	12641	16.00	1.16	1.73	141	41	5.00	1.08	2.16	124	34
VALENCIA RD	CAMINO VERDE	MARK RD	2.0	12388	16.00	1.18	1.52	116	23	3.50	0.77	1.14	199	80
VALENCIA RD	MARK RD	CAMINO DE OESTE	0.5	22182	20.00	0.82	1.30	258	101	4.00	0.49	2.00	212	85
VALENCIA RD	CAMINO DE OESTE	CABALLO RD	0.6	21587	16.67	0.71	1.78	198	72	10.00	1.27	2.30	95	17
VALENCIA RD	CABALLO RD	CAMINO DE LA TIERRA	0.9	28615	25.56	0.82	1.55	158	51	8.89	0.85	1.00	194	74
VALENCIA RD	CAMINO DE LA TIERRA	CARDINAL AV	0.5	33699	88.00	2.38	1.47	70	3	44.00	3.58	1.75	31	1
VALENCIA RD	CARDINAL AV	MISSION RD	0.7	41324	101.43	2.24	1.29	105	19	28.57	1.89	1.25	96	18
VALENCIA RD	MISSION RD	MISSION RD (.2E)	0.2	38275	15.00	0.36	1.33	313	119	5.00	0.36	1.00	329	121
VALENCIA RD	ALVERNON WY	BENSON HY	1.0	19187	30.00	1.43	1.39	127	30	3.00	0.43	1.33	246	105
VALENCIA RD	WILMOT RD	KOLB RD	1.0	27623	7.00	0.23	1.57	265	107	2.00	0.20	2.00	231	93
VALENCIA RD	KOLB RD	KOLB RD (1.4 E)	1.4	18922	14.29	0.69	1.64	169	57	5.00	0.72	1.43	161	53
WETMORE RD	OBETKA AV	FLOWING WELLS RD	0.3	23383	36.67	1.43	1.62	156	50	13.33	1.56	1.25	174	62
WETMORE RD	FLOWING WELLS RD	AUTO MALL DR/FAIRVIEW AV	0.5	20028	10.00	0.46	1.80	241	92	4.00	0.55	1.50	229	92

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SYSTEM STATISTICS

		3-Year	1-Year
Total Segments:		132	132
Total Crashes:		2818	870
	PDO Crashes:	2023	623
	Injury Crashes:	775	237
	Fatal Crashes:	17	7

	CRASH RATE		SEVERITY RATE	
	3-Year	1-Year	3-Year	1-Year
High	10.94	10.59	2.20	2.93
Low	0.07	0.09	1.00	1.00
Average	1.22	1.19	1.42	1.43
Standard Deviation	1.11	1.21	0.26	0.42
Variance	1.23	1.46	0.07	0.18
System Rate	**1.07**	**0.99**	**1.41**	**1.42**

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