



Highway Safety Improvement Program  
*Data Driven Decisions*

Wisconsin  
Highway Safety Improvement Program  
2015 Annual Report

Prepared by: WI

## Disclaimer

### **Protection of Data from Discovery & Admission into Evidence**

23 U.S.C. 148(h)(4) states “Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for any purpose relating to this section [HSIP], shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location identified or addressed in the reports, surveys, schedules, lists, or other data.”

23 U.S.C. 409 states “Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.”

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## Executive Summary

The following report outlines the details of projects obligated in SFY2015 for Wisconsin's Highway Safety Improvement Program (HSIP). Also included are program methodologies, historical crash data and safety trends, information on subprograms, and project evaluation data.

## Introduction

The Highway Safety Improvement Program (HSIP) is a core Federal-aid program with the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads. As per 23 U.S.C. 148(h) and 23 CFR 924.15, States are required to report annually on the progress being made to advance HSIP implementation and evaluation efforts. The format of this report is consistent with the HSIP MAP-21 Reporting Guidance dated February 13, 2013 and consists of four sections: program structure, progress in implementing HSIP projects, progress in achieving safety performance targets, and assessment of the effectiveness of the improvements.

## Program Structure

### Program Administration

**How are Highway Safety Improvement Program funds allocated in a State?**

Central

District

Other

**Describe how local roads are addressed as part of Highway Safety Improvement Program.**

HSIP applications from local governments are solicited by the WisDOT Regions as part of the regular HSIP Program. All applications derived from local governments are selected and submitted voluntarily by local governments. Projects on the local system or sponsored by local governments must meet the same requirements and follow the same process as HSIP applications submitted by WisDOT Regions for improvements on the State Trunk Network.

In addition, Wisconsin has continued moving forward in implementing a data-driven High Risk Rural Roads Program (HRRRP) despite its formal elimination in MAP-21. Wisconsin has developed a statewide

data analysis methodology which allows for the focused use of safety funding to improve eligible segments on county rural roads exhibiting particular run-off-road non-intersection crash issues. A primary goal of the HRRRP is to install low-cost safety treatments on these roadways to mitigate KA crash rates as quickly as possible. It is unlikely these county trunk highways would receive federal investments outside of the HRRRP. In SFY 2015, five projects with estimated costs totaling nearly \$2 million were approved for various years of the HSIP on county highway systems throughout the state.

**Identify which internal partners are involved with Highway Safety Improvement Program planning.**

- Design
- Planning
- Maintenance
- Operations
- Governors Highway Safety Office
- Other: Other-Division of State Patrol
- Other: Other-Division of Motor Vehicles

**Briefly describe coordination with internal partners.**

The HSIP Program is managed by WisDOT's Division of Transportation Investment Management (DTIM) and the Bureau of State of Highway Programs (BSHP). DTIM/BSHP makes all final application approvals or denials and related project change or cost increase requests. However, DTIM/BSHP coordinates its efforts with several internal partners that both directly and indirectly influence the decision making process. Below is a summary of these partners and their role in the program.

- Division of Motor Vehicles (DMV): DMV receives, edits, and maintains all law enforcement crash report files.

- Traffic Safety Council (TSC): The TSC is comprised of representatives from Division of Transportation System Development (DTSD), DTIM, DMV, Division of State Patrol (DSP), and various Executive Offices within WisDOT. Among this group's responsibilities is developing and maintaining the Wisconsin Strategic Highway Safety Plan (SHSP), which helps guide the safety efforts of the HSIP Program. During

SFY2015, the TSC successfully completed an update of the SHSP, which went into effect in September, 2014.

- Safety Engineer Executive Group (SEEG): This is a high-level group comprised of representatives from DTSD and DTIM management. Its focus is to identify safety trends and issues to develop and offer direction and initiatives to both the HSIP Program and the TSC on important safety engineering issues throughout the state.

- Traffic Safety Engineering Workgroup (TSEWG): TSEWG is comprised of the State HSIP Coordinator, State Traffic Safety Engineer, and the Regional Traffic Safety Engineers. In some cases, the Regional HSIP Coordinators also participate. This group identifies and evaluates potential safety initiatives both within and outside of the HSIP Program, provides peer support, and reviews proposed HSIP projects. After a group evaluation, a recommendation to approve or not approve is forwarded to the State HSIP Coordinator for final review.

- State Project Oversight Engineers: The State Project Oversight Engineers are a critical component of the joint process with the TSEWG for application review and approval. The DTSD State Project Oversight Engineers, Regional Traffic Safety Engineers, the State Traffic Safety Engineer, and the State HSIP Coordinator provide a consensus approval or disapproval of HSIP funding after a comprehensive in-person peer review. Each Region has one Project Oversight Engineer. State Project Oversight Engineers only review applications originating from the Region in which they are assigned. This consensus approval or disapproval is advisory to DTIM/BSHP.

**Identify which external partners are involved with Highway Safety Improvement Program planning.**

Metropolitan Planning Organizations

Governors Highway Safety Office

Local Government Association

Other: Other-University of Wisconsin-Madison's Traffic Operations and Safety Laboratory (UW TOPS Lab)

Other: Other-FHWA

Other: Other-Local municipalities and counties

**Identify any program administration practices used to implement the HSIP that have changed since the last reporting period.**

- Multi-disciplinary HSIP steering committee
- Other: Other-updated HSIP Guidelines in the Program Management Manual

**Describe any other aspects of Highway Safety Improvement Program Administration on which you would like to elaborate.**

### Program Methodology

**Select the programs that are administered under the HSIP.**

- |  |   |   |
|--|---|---|
| <input checked="" type="checkbox"/> Median Barrier | <input type="checkbox"/> Intersection               | <input type="checkbox"/> Safe Corridor                    |
| <input type="checkbox"/> Horizontal Curve          | <input type="checkbox"/> Bicycle Safety             | <input type="checkbox"/> Rural State Highways             |
| <input type="checkbox"/> Skid Hazard               | <input type="checkbox"/> Crash Data                 | <input type="checkbox"/> Red Light Running Prevention     |
| <input type="checkbox"/> Roadway Departure         | <input type="checkbox"/> Low-Cost Spot Improvements | <input type="checkbox"/> Sign Replacement And Improvement |
| <input type="checkbox"/> Local Safety              | <input type="checkbox"/> Pedestrian Safety          | <input type="checkbox"/> Right Angle Crash                |
| <input type="checkbox"/> Left Turn Crash           | <input type="checkbox"/> Shoulder Improvement       | <input type="checkbox"/> Segments                         |
| <input type="checkbox"/> Other:                    |   |   |



**Program:** Median Barrier

**Date of Program Methodology:** 1/1/2005

**What data types were used in the program methodology?**

*Crashes*

- All crashes
- Fatal crashes only
- Fatal and serious injury crashes only
- Other-All CMC

*Exposure*

- Traffic
- Volume
- Population
- Lane miles
- Other-Centerline miles

*Roadway*

- Median width
- Horizontal curvature
- Functional classification
- Roadside features
- Other

**What project identification methodology was used for this program?**

- Crash frequency
- Expected crash frequency with EB adjustment
- Equivalent property damage only (EPDO Crash frequency)
- EPDO crash frequency with EB adjustment
- Relative severity index
- Crash rate
- Critical rate
- Level of service of safety (LOSS)
- Excess expected crash frequency using SPFs
- Excess expected crash frequency with the EB adjustment
- Excess expected crash frequency using method of moments
- Probability of specific crash types

Excess proportions of specific crash types Other

**Are local roads (non-state owned and operated) included or addressed in this program?**

 Yes No

**How are highway safety improvement projects advanced for implementation?**

 Competitive application process selection committee Other-Non-competitive application process

**Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).**

 Relative Weight in Scoring Rank of Priority Consideration Ranking based on B/C Available funding                      1 Incremental B/C Ranking based on net benefit Other

**What proportion of highway safety improvement program funds address systemic improvements?**

7

**Highway safety improvement program funds are used to address which of the following systemic improvements?**

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Cable Median Barriers         | <input type="checkbox"/> Rumble Strips                                       |
| <input type="checkbox"/> Traffic Control Device Rehabilitation    | <input type="checkbox"/> Pavement/Shoulder Widening                          |
| <input type="checkbox"/> Install/Improve Signing                  | <input type="checkbox"/> Install/Improve Pavement Marking and/or Delineation |
| <input type="checkbox"/> Upgrade Guard Rails                      | <input type="checkbox"/> Clear Zone Improvements                             |
| <input type="checkbox"/> Safety Edge                              | <input type="checkbox"/> Install/Improve Lighting                            |
| <input type="checkbox"/> Add/Upgrade/Modify/Remove Traffic Signal | <input type="checkbox"/> Other   |

**What process is used to identify potential countermeasures?**

- Engineering Study
- Road Safety Assessment
- Other: Other-County Traffic Safety Commission recommendations

**Identify any program methodology practices used to implement the HSIP that have changed since the last reporting period.**

- Highway Safety Manual
- Road Safety audits
- Systemic Approach
- Other: Other-no change

**Describe any other aspects of the Highway Safety Improvement Program methodology on which you would like to elaborate.**

**Project Evaluation Factor (PEF)**

The Project Evaluation Factor (PEF) is a tool that is used to evaluate and compare proposed projects. It provides a comparison of the estimated crash reduction potential of a proposed improvement with the overall cost of the project. Although it has similarities to a benefit/cost analysis, it does not include all of the elements of a traditional benefit/cost analysis tool for ranking the relative merits of a group of projects, and should not be compared to a benefit/cost analysis.

Costs in the PEF are estimated by the Regions/Locals in current year dollars. All costs associated with the project (design, utilities, R/E, construction, etc.) must be included in the PEF calculation, regardless of whether HSIP funds are requested for all elements of the project.

Accident reduction benefits are one of the elements needed to justify infrastructure projects for the HSIP program. Establishing values associated with loss of life and quality of life is obviously very challenging. When developing values related to various types of crashes, it is necessary to consider, among other things, the available data regarding crash values, the relative causes of different types of crashes and the ability of traditional treatment options to address safety issues. Following identification of crash problems, and treatment solutions, projects are compared on a relative basis so that funding decisions can be made.

The following values per crash are to be used in the [Excel spreadsheet](#) program for estimating various types of crash reductions:

Property damage crashes	\$10,000
Possible Injury (Type C) crashes	\$50,000

Non-incapacitating injury (Type B) crashes	\$200,000
Incapacitating Injury (Type A) crashes	\$200,000
Multiple incapacitating injury (Type A) crashes	\$230,000
Each incapacitating injury (Type A) crash in combination with one or more Fatal (Type K) crashes	\$230,000
Fatal (Type K) crash	\$200,000
Multiple fatal (Type K) crashes	\$250,000

The “Multiple incapacitating injury (Type A) crashes,” “Each incapacitating injury (Type A) crash in combination with one or more Fatal crash/es,” and “Multiple fatal crashes” crash severity values are triggered if the multiple or combination scenarios occur at any point throughout the required five year analysis period.

The current values used within the PEF calculation are influenced by the Highway Safety Manual (HSM) developed by the American Association of State Highway and Transportation Officials (AASHTO). The above crash severity values are adjusted to approximate 2011 dollars using the Consumer Price Index, correlating to the most recent year of available crash data.

Although Wisconsin designs solutions to reduce all crashes, a number of targeted engineering, educational and enforcement efforts have been implemented with the defined goal of reducing crashes involving serious injuries and fatalities. Because of this focus on reducing serious injuries and fatalities, the PEF scoring mechanism assigns higher values to reoccurring Type A and Fatal crashes.

An [Excel spreadsheet](#) program is available that performs a safety project analysis and computes the PEF. It should be used for all standard HSIP projects, except for minor installations of safety hardware, such as beam guard, impact attenuators, etc. Operational costs should be included in the computations for signal projects. It is critical appropriate reduction factors are used to calculate PEFs. More information on the use of reduction factors is below.

Projects require a PEF of 1.0 or greater for approval. However, the HSIP Review Committee acknowledges the PEF contains many variables and that sometimes additional expense is needed to sufficiently address a safety issue. As such, the HSIP Review Committee can consider applications with a PEF greater than or equal to 0.9 for approval. Projects with a PEF less than 0.9 will not be approved. Projects treating LOIR locations require a PEF of 0.50 or greater for approval. LOIR locations with a PEF less than 0.5 will not be approved. After a project is approved, all [project funding cap increase requests](#) for projects over \$200,000 in total costs must include a recalculated PEF spreadsheet. The recalculated PEF must be greater than or equal to 1.0 to receive cost increase approval consideration.

All data fields should be inputted to ensure accurate and consistent PEF calculations across projects. The most recent five years of available crash data is required.

Construction, such as intersections, left turn storage lanes and geometric improvements, requires justification with a PEF. Traffic signals must meet warrants in addition to having a favorable PEF.

The following additional information and guidance is provided for the Regions and local officials on how to use the crash data.

1. Rather than use typical reduction factors for various types of improvements in the spreadsheet, the following more site-specific approach should be used:
  - α. Gather all crash reports from the most recent 5 year period for the site under consideration. Local officials are required to submit this information. Applicants may use 6<sup>th</sup> year data as Year 1 of the required consecutive 5 year data period. The Division of State Patrol Bureau of Transportation Safety does not have an established annual deadline for finalizing crash data. For example, if the current calendar year is 2015, 2009-2013 or 2010-2014 data is acceptable for required crash histories.
  - β. Plot collision diagrams (include all crashes except deer hits). Locals provide collision diagrams for their requests.
  - γ. Identify those crashes that likely would have been avoided if the proposed safety improvement had been constructed.
  - δ. Estimate what percentage of those crashes, by crash type, would be reduced by constructing the proposed improvement and enter that percentage on the spreadsheet. Several resources are available to help determine the use of appropriate crash modification and reduction factors. Contact the State Traffic Safety Engineer with any immediate questions related to CMFs and/or CRFs. The [Crash Modification Factors Clearinghouse](#) and [FHWA Crash Reduction Factors Desktop Reference](#) can be used to help determine appropriate CMFs and CRFs. In addition, historical CMFs and CRFs used in previous applications can be found in the HSIP Application Database on the DOTNET server. Please contact the Statewide HSIP Coordinator for access to the HSIP Application Database.
  - ε. The program will then compute the total crash reduction factor.
  
2. To aid Regions in identifying exceptionally hazardous locations, average crash rates for sections of various types of streets and highways, and average intersection crash rates will be provided.

## **Application Review Process**

Program approval is a joint process between the Regional Safety Engineers, the Statewide Traffic Safety Engineer, applicable Regional Project Oversight Engineers, and the Statewide HSIP Coordinator. These individuals together comprise the HSIP Review Committee and are advisory to BSHP.

Efforts will be made to streamline the approval process by gathering all members of the HSIP Review Committee at in-person HSIP Application Review Meetings after the Standard or Mid-Cycle HSIP application deadline. These meetings will serve as a comprehensive peer review and ultimately provide a consensus approval or disapproval of application submittals.

HSIP applications occasionally require a “tabling” to allow time for further review led by the application’s primary Regional Safety Engineer contact. Depending on the timeline of this work, efforts to generate a HSIP Review Committee consensus approval or disapproval on the subject application will occur over email or at the next bi-monthly TSEWG meeting.

BSHP will distribute the HSIP approval memos containing a regional HSIP project listing and FIIPS loading instructions to the Regions for implementation as soon as possible after approval.

## Progress in Implementing Projects

### Funds Programmed

Reporting period for Highway Safety Improvement Program funding.

- Calendar Year
- State Fiscal Year
- Federal Fiscal Year

Enter the programmed and obligated funding for each applicable funding category.

Funding Category	Programmed*		Obligated	
<b>HSIP (Section 148)</b>	26185542	88 %	25819377	88 %
<b>HRRRP (SAFETEA-LU)</b>	413214	1 %	413214	1 %
<b>HRRR Special Rule</b>				
<b>Penalty Transfer - Section 154</b>				
<b>Penalty Transfer - Section 164</b>	100800	0 %	100800	0 %
<b>Incentive Grants - Section 163</b>				
<b>Incentive Grants (Section 406)</b>				
<b>Other Federal-aid Funds (i.e. STP, NHPP)</b>				
<b>State and Local Funds</b>	2966617	10 %	2925932	10 %



<b>Totals</b>	29666173	100%	29259323	100%
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**How much funding is programmed to local (non-state owned and maintained) safety projects?**

36 %

**How much funding is obligated to local safety projects?**

36 %

**How much funding is programmed to non-infrastructure safety projects?**

3 %

**How much funding is obligated to non-infrastructure safety projects?**

3 %

**How much funding was transferred in to the HSIP from other core program areas during the reporting period?**

\$0.00

**How much funding was transferred out of the HSIP to other core program areas during the reporting period?**

\$20,504,499.00

**Discuss impediments to obligating Highway Safety Improvement Program funds and plans to overcome this in the future.**

Project delays, particularly on the local system, can make it challenging to fully utilize HSIP funding. Such delays occur for a variety of reasons, including changes in project scope during the design process (which triggers a required re-evaluation of the project), changes in associated projects that are linked to the HSIP project, and local public agency unfamiliarity with HSIP and federal rules and regulations.

WisDOT undertakes periodic outreach and education efforts with local governments to improve their familiarity and knowledge of HSIP and the federal-aid process. WisDOT is also working to develop a list of HSIP projects that could be advanced from a later program year to replace projects that are delayed or fall out of the program.

**Describe any other aspects of the general Highway Safety Improvement Program implementation progress on which you would like to elaborate.**

None.

### General Listing of Projects

List each highway safety improvement project obligated during the reporting period.

Project	Improvement Category	Output	HSIP Cost	Total Cost	Funding Category	Functional Classification	AADT	Speed	Roadway Ownership	Relationship to SHSP	
										Emphasis Area	Strategy
<b>1000-08-90</b>	Roadside Barrier - cable	0 Miles	695250	772500	HSIP (Section 148)		0	0	VAR	Roadway Departure	
<b>1000-99-59</b>	Non-infrastructure Data/traffic records	0 Miles	159249.6	176944	HSIP (Section 148)		0	0	VAR	Data	
<b>1009-42-64</b>	Roadway Pavement surface - high friction surface	0 Miles	172105.5	191228.33	HSIP (Section 148)		0	0	USH	Roadway Departure	
<b>1021-00-71</b>	Roadside Barrier - cable	6.29 Miles	54000	60000	HSIP (Section 148)		0	0	IH	Roadway Departure	
<b>1058-20-01</b>	Roadside Barrier - cable	0.706 Miles	31500	35000	HSIP (Section 148)		0	0	STH	Roadway Departure	
<b>1060-</b>	Roadside Barrier - cable	8.709	333720	370800	HSIP (Section		0	0	IH	Roadway	

<b>49-00</b>		Miles			148)					Departure	
<b>1090-34-70</b>	Roadway Pavement surface - high friction surface	0 Miles	197451	219390	HSIP (Section 148)		0	0	IH	Roadway Departure	
<b>1090-38-00</b>	Roadway Pavement surface - high friction surface	0.426 Miles	93627	104030	HSIP (Section 148)		0	0	IH	Roadway Departure	
<b>1100-47-70</b>	Roadway Pavement surface - high friction surface	1.87 Miles	761938	846597.78	HSIP (Section 148)		0	0	USH	Roadway Departure	
<b>1107-00-74</b>	Roadside Barrier - cable	7.32 Miles	829867.5	922075	HSIP (Section 148)		0	0	USH	Roadway Departure	
<b>1110-10-71</b>	Intersection geometry Intersection geometrics - modify skew angle	0.465 Miles	987242.2	1096935.78	HSIP (Section 148)		0	0	STH	Intersecti ons	
<b>3/1/1176</b>	Roadside Barrier - cable	1.59 Miles	45000	50000	HSIP (Section 148)		0	0	USH	Roadway Departure	
<b>1510-00-00</b>	Roadside Barrier - cable	5.54 Miles	185400	206000	HSIP (Section 148)		0	0	USH	Roadway Departure	
<b>1510-</b>	Roadside Barrier - cable	3.59	74160	82400	HSIP (Section		0	0	USH	Roadway	

<b>00-01</b>		Miles			148)					Departure	
<b>1540-00-72</b>	Pedestrians and bicyclists Pedestrian beacons	0.033 Miles	88200	98000	HSIP (Section 148)		0	0	LOC	Pedestria ns	
<b>1590-21-01</b>	Roadway signs and traffic control Curve-related warning signs and flashers	4.49 Miles	24936.3	27707	HRRRP (SAFETE A-LU)		0	0	CTH	Roadway Departure	
<b>3/2/1610</b>	Intersection traffic control Intersection traffic control - other	0.02 Miles	67500	75000	HSIP (Section 148)		0	0	STH	Intersecti ons	
<b>1670-01-75</b>	Intersection geometry Auxiliary lanes - add left- turn lane	1.2 Miles	644400	716000	HSIP (Section 148)		0	0	USH	Intersecti ons	
<b>2070-09-70</b>	Intersection geometry Auxiliary lanes - add left- turn lane	0 Miles	572642.6	636269.5 6	HSIP (Section 148)		0	0	CTH	Intersecti ons	
<b>2155-03-71</b>	Intersection geometry Auxiliary lanes - modify left-turn lane offset	0.064 Miles	227108	252342.2 2	HSIP (Section 148)		0	0	STH	Intersecti ons	
<b>2155-03-90</b>	Intersection traffic control Modify traffic signal - modify signal mounting (spanwire to mast arm)	0 Miles	45000	50000	HSIP (Section 148)		0	0	LOC	Intersecti ons	

<b>2155-03-91</b>	Intersection geometry Auxiliary lanes - modify left-turn lane offset	0 Miles	59918	66575.56	HSIP (Section 148)		0	0	STH	Intersecti ons	
<b>1/2/2160</b>	Intersection geometry Auxiliary lanes - modify left-turn lane offset	0 Miles	94932.9	105481	HSIP (Section 148)		0	0	CTH	Intersecti ons	
<b>2160-15-00</b>	Intersection geometry Auxiliary lanes - modify left-turn lane offset	0 Miles	100800	112000	Penalty Transfer – Section 164		0	0	CTH	Intersecti ons	
<b>2240-18-00</b>	Intersection geometry Auxiliary lanes - modify left-turn lane offset	0.05 Miles	127926	142140	HSIP (Section 148)		0	0	STH	Intersecti ons	
<b>2340-00-73</b>	Intersection geometry Auxiliary lanes - modify left-turn lane offset	0.51 Miles	1530000	1700000	HSIP (Section 148)		0	0	STH	Intersecti ons	
<b>2375-07-00</b>	Shoulder treatments Widen shoulder - paved or other	0.51 Miles	49680	55200	HSIP (Section 148)		0	0	STH	Roadway Departure	
<b>2595-08-00</b>	Intersection traffic control Modify traffic signal - modify signal mounting (spanwire to mast arm)	0 Miles	234531	260590	HSIP (Section 148)		0	0	NON	Intersecti ons	

<b>2695-10-00</b>	Intersection geometry Intersection geometrics - modify skew angle	0.2 Miles	92700	103000	HSIP (Section 148)		0	0	CTH	Intersecti ons	
<b>3/1/2718</b>	Intersection geometry Through lanes - add additional through lane	0.65 Miles	83430	92700	HSIP (Section 148)		0	0	LOC	Intersecti ons	
<b>2758-01-70</b>	Intersection geometry Auxiliary lanes - add left-turn lane	0 Miles	1061078	1178975.55	HSIP (Section 148)		0	0	CTH	Intersecti ons	
<b>2762-00-00</b>	Intersection traffic control Intersection traffic control - other	0 Miles	104715	116350	HSIP (Section 148)		0	0	CTH	Intersecti ons	
<b>2967-16-70</b>	Pedestrians and bicyclists Pedestrian signal - modify existing	0 Miles	130406.9	144896.55	HSIP (Section 148)		0	0	VAR	Pedestria ns	
<b>2984-08-75</b>	Intersection traffic control Modify traffic signal - modify signal mounting (spanwire to mast arm)	0 Miles	568087.7	631208.55	HSIP (Section 148)		0	0	VAR	Intersecti ons	
<b>2984-08-95</b>	Intersection traffic control Modify traffic signal - modify signal mounting (spanwire to mast arm)	0 Miles	287100	319000	HSIP (Section 148)		0	0	OFF	Intersecti ons	
<b>3080-</b>	Intersection geometry	0.189	230130	255700	HSIP		0	0	USH	Intersecti	

<b>01-72</b>	Auxiliary lanes - modify left-turn lane offset	Miles			(Section 148)					ons	
<b>3677-00-73</b>	Intersection geometry Auxiliary lanes - add left-turn lane	0.152 Miles	255518.94	283909.93	HSIP (Section 148)		0	0	CTH	Intersecti ons	
<b>3756-01-00</b>	Roadside Removal of roadside objects (trees, poles, etc.)	9.124 Miles	18540	20600	HRRRP (SAFETE A-LU)		0	0	CTH	Roadway Departure	
<b>3854-01-00</b>	Roadway Rumble strips - center	2.56 Miles	32445	36050	HSIP (Section 148)		0	0	CTH	Lane Departure	
<b>3947-05-71</b>	Alignment Horizontal curve realignment	0.334 Miles	324000	360000	HSIP (Section 148)		0	0	CTH	Roadway Departure	
<b>4085-43-71</b>	Intersection traffic control Modify control - no control to roundabout	0.35 Miles	1485000	1650000	HSIP (Section 148)		0	0	STH	Intersecti ons	
<b>4160-05-71</b>	Intersection traffic control Modify control - traffic signal to roundabout	0.565 Miles	1530000	1700000	HSIP (Section 148)		0	0	CTH	Intersecti ons	
<b>4210-06-71</b>	Intersection geometry Intersection geometrics - modify skew angle	0.271 Miles	691117.11	767907.9	HSIP (Section 148)		0	0	CTH	Intersecti ons	



<b>4550-06-71</b>	Intersection geometry Intersection geometrics - miscellaneous/other/unspecified	0.25 Miles	453600	504000	HSIP (Section 148)		0	0	STH	Intersections	
<b>4986-11-00</b>	Intersection geometry Auxiliary lanes - add right-turn lane	0.1 Miles	30405.6	33784	HSIP (Section 148)		0	0	LOC	Intersections	
<b>4998-03-71</b>	Intersection geometry Intersection geometrics - modify skew angle	0.02 Miles	22050	24500	HSIP (Section 148)		0	0	LOC	Intersections	
<b>5301-04-74</b>	Intersection traffic control Modify traffic signal - modify signal mounting (spanwire to mast arm)	0.2 Miles	380970	423300	HSIP (Section 148)		0	0	USH	Intersections	
<b>5310-00-78</b>	Roadway Rumble strips - center	2.45 Miles	1269878	1410975.56	HSIP (Section 148)		0	0	USH	Lane Departure	
<b>5569-00-72</b>	Intersection geometry Intersection geometrics - modify skew angle	3.257 Miles	1026476	1140528.89	HSIP (Section 148)		0	0	USH	Intersections	
<b>5966-00-73</b>	Intersection geometry Auxiliary lanes - add right-turn lane	0.037 Miles	612052	680057.78	HSIP (Section 148)		0	0	CTH	Intersections	
<b>5992-</b>	Intersection geometry	0.18	1196800.	1329777.	HSIP		0	0	LOC	Intersecti	

<b>06-64</b>	Auxiliary lanes - add left-turn lane	Miles	15	95	(Section 148)					ons	
<b>6083-00-73</b>	Intersection geometry Auxiliary lanes - add left-turn lane	0.18 Miles	634707	705230	HSIP (Section 148)		0	0	STH	Intersecti ons	
<b>6207-03-73</b>	Roadway signs and traffic control Curve-related warning signs and flashers	0 Miles	351198	390220	HRRRP (SAFETE A-LU)		0	0	VAR	Roadway Departure	
<b>6243-02-70</b>	Intersection geometry Intersection geometrics - miscellaneous/other/unspecified	0.189 Miles	400539.4 8	445043.8 7	HSIP (Section 148)		0	0	CTH	Intersecti ons	
<b>6414-01-72</b>	Intersection traffic control Modify control - no control to roundabout	0.323 Miles	1049400	1166000	HSIP (Section 148)		0	0	STH	Intersecti ons	
<b>6844-00-70</b>	Intersection geometry Auxiliary lanes - add left-turn lane	0.029 Miles	14223.92	15804.36	HSIP (Section 148)		0	0	CTH	Intersecti ons	
<b>6/8/6999</b>	Intersection traffic control Modify traffic signal - modernization/replacement	0 Miles	27810	30900	HSIP (Section 148)		0	0	LOC	Intersecti ons	
<b>7/18/6999</b>	Intersection geometry Intersection geometrics -	0 Miles	49131	54590	HSIP (Section		0	0	LOC	Intersecti ons	

	miscellaneous/other/unspecified				148)						
<b>7130-00-05</b>	Roadway Pavement surface - high friction surface	0.409 Miles	18540	20600	HSIP (Section 148)		0	0	STH	Roadway Departure	
<b>7130-00-07</b>	Roadway Roadway widening - add lane(s) along segment	0 Miles	23175	25750	HSIP (Section 148)		0	0	STH	Lane Departure	
<b>1/4/7130</b>	Roadway Roadway - other	0.06 Miles	36000	40000	HSIP (Section 148)		0	0	STH	Roadway Departure	
<b>7220-01-71</b>	Roadway Roadway - other	0.82 Miles	918000	1020000	HSIP (Section 148)		0	0	STH	Lane Departure	
<b>7550-02-70</b>	Roadside Removal of roadside objects (trees, poles, etc.)	0.13 Miles	8550	9500	HSIP (Section 148)		0	0	STH	Intersections	
<b>8010-01-75</b>	Intersection traffic control Modify control - no control to roundabout	0.05 Miles	1350000	1500000	HSIP (Section 148)		0	0	STH	Intersections	
<b>8620-07-73</b>	Intersection geometry Intersection geometrics - modify skew angle	0.06 Miles	288000	320000	HSIP (Section 148)		0	0	STH	Intersections	

<b>8865-00-03</b>	Alignment Horizontal curve realignment	0.11 Miles	28644	31826.67	HSIP (Section 148)		0	0	STH	Lane Departure	
<b>8997-00-22</b>	Intersection traffic control Intersection traffic control - other	0.067 Miles	438012	486680	HSIP (Section 148)		0	0	LOC	Intersections	
<b>9286-04-00</b>	Roadway signs and traffic control Curve-related warning signs and flashers	4.02 Miles	18540	20600	HRRRP (SAFETE A-LU)		0	0	CTH	Roadway Departure	
<b>0955-00-01</b>	Non-infrastructure Educational efforts	0 Miles	175500	195000	HSIP (Section 148)		0	0	VAR	Bicyclists	
<b>0954-00-02</b>	Non-infrastructure Enforcement	0 Miles	495000	550000	HSIP (Section 148)		0	0	VAR	Enforcement	

## Progress in Achieving Safety Performance Targets

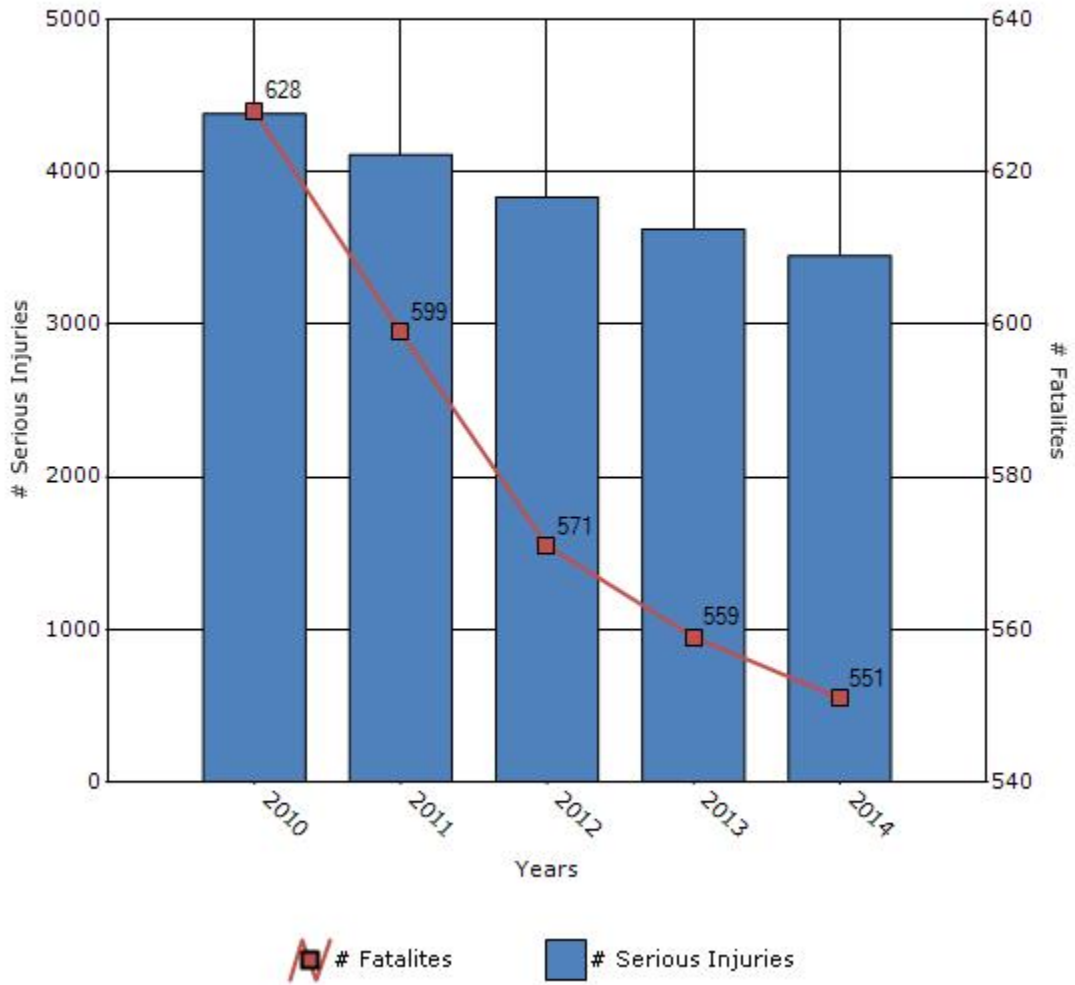
### Overview of General Safety Trends

Present data showing the general highway safety trends in the state for the past five years.

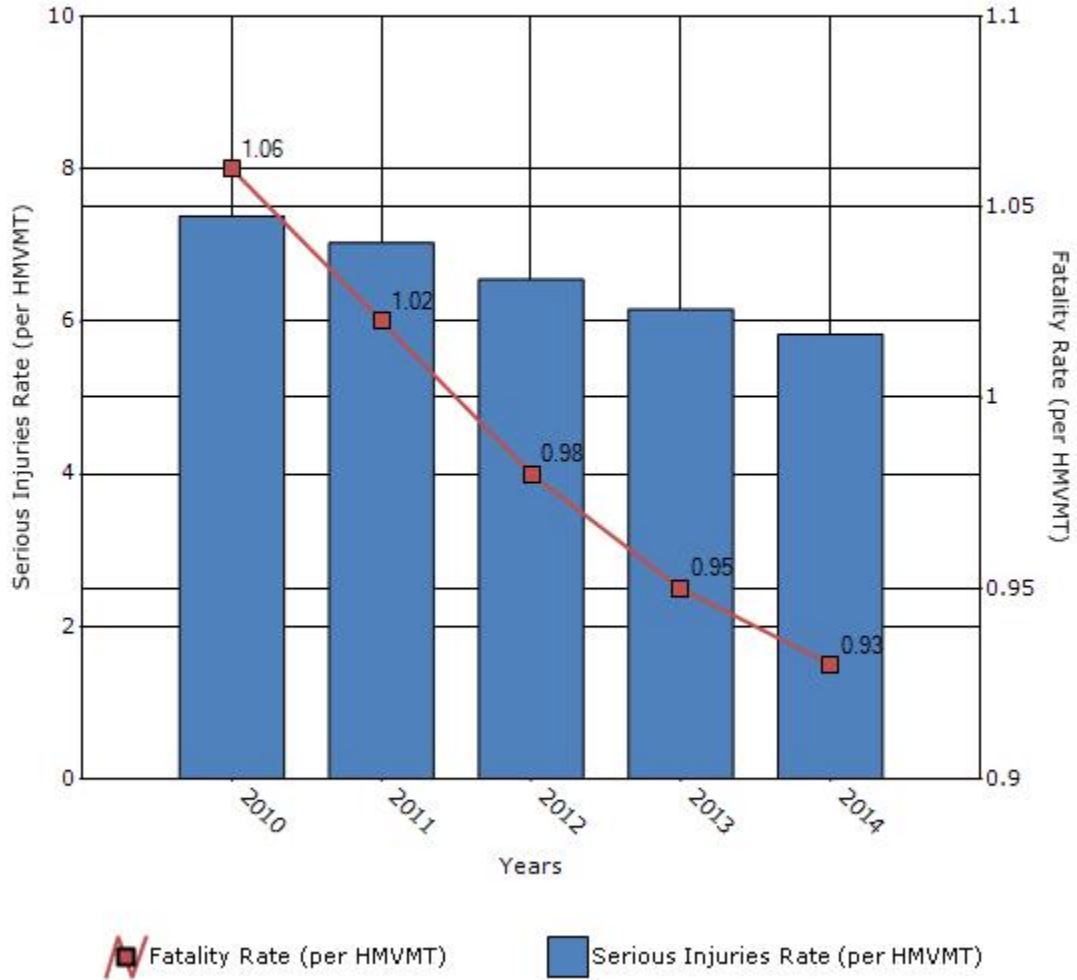
Performance Measures*	2010	2011	2012	2013	2014
<b>Number of fatalities</b>	628	599	571	559	551
<b>Number of serious injuries</b>	4382	4114	3834	3625	3451
<b>Fatality rate (per HMVMT)</b>	1.06	1.02	0.98	0.95	0.93
<b>Serious injury rate (per HMVMT)</b>	7.38	7.03	6.55	6.16	5.83

\*Performance measure data is presented using a five-year rolling average.

### Number of Fatalities and Serious injuries for the Last Five Years



### Rate of Fatalities and Serious injuries for the Last Five Years



To the maximum extent possible, present performance measure\* data by functional classification and ownership.

### Year - 2014

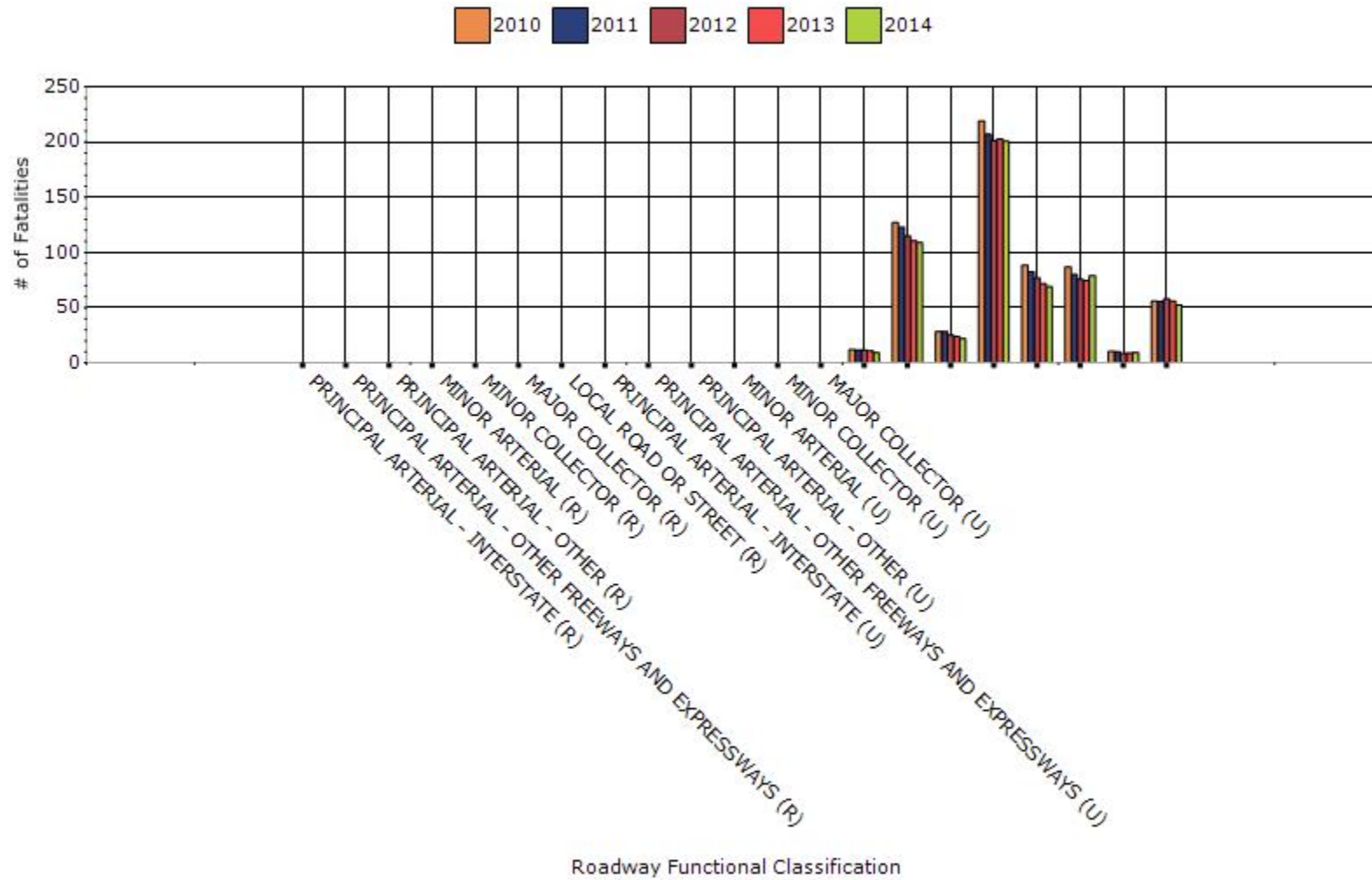
Function Classification	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
RURAL PRINCIPAL ARTERIAL - INTERSTATE	0	0	0	0
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	0	0	0	0
RURAL PRINCIPAL ARTERIAL - OTHER	0	0	0	0
RURAL MINOR ARTERIAL	0	0	0	0
RURAL MINOR COLLECTOR	0	0	0	0
RURAL MAJOR COLLECTOR	0	0	0	0
RURAL LOCAL ROAD OR STREET	0	0	0	0
URBAN PRINCIPAL	0	0	0	0



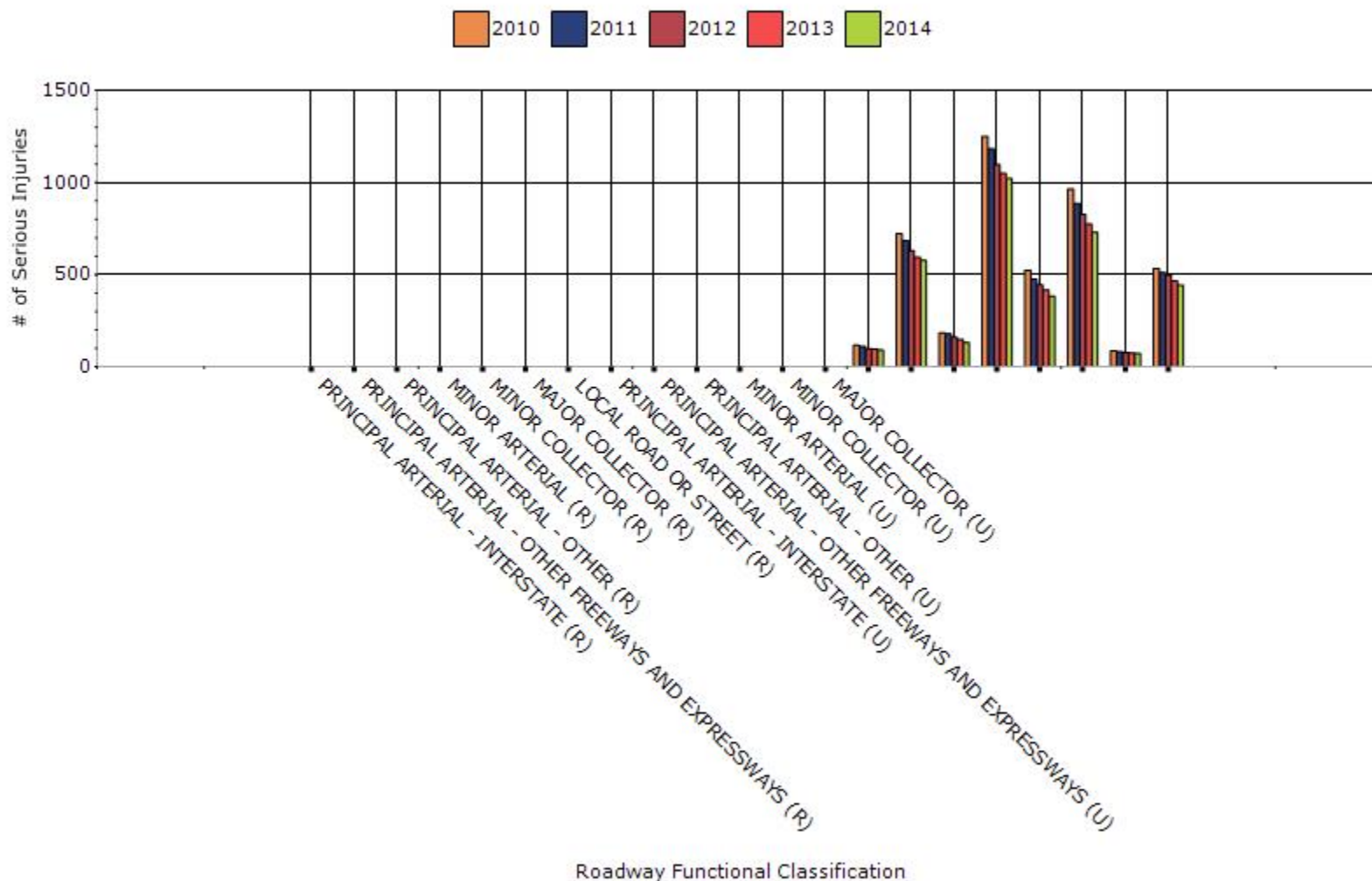
<b>ARTERIAL - INTERSTATE</b>				
<b>URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS</b>	0	0	0	0
<b>URBAN PRINCIPAL ARTERIAL - OTHER</b>	0	0	0	0
<b>URBAN MINOR ARTERIAL</b>	0	0	0	0
<b>URBAN MINOR COLLECTOR</b>	0	0	0	0
<b>URBAN MAJOR COLLECTOR</b>	0	0	0	0
<b>RURAL CITY STREET</b>	9.2	90.2	0	0
<b>RURAL COUNTY TRUNK HIGHWAY</b>	108.8	577.2	0	0
<b>RURAL INTERSTATE HIGHWAY</b>	22	132	0	0
<b>RURAL STATE TRUNK HIGHWAY</b>	200.6	1022.2	0	0
<b>RURAL TOWN ROAD</b>	69.2	383.4	0	0

<b>URBAN CITY STREET</b>	78.8	730.8	0	0
<b>URBAN INTERSTATE HIGHWAY</b>	9.4	71.8	0	0
<b>URBAN STATE TRUNK HIGHWAY</b>	52.6	443.6	0	0

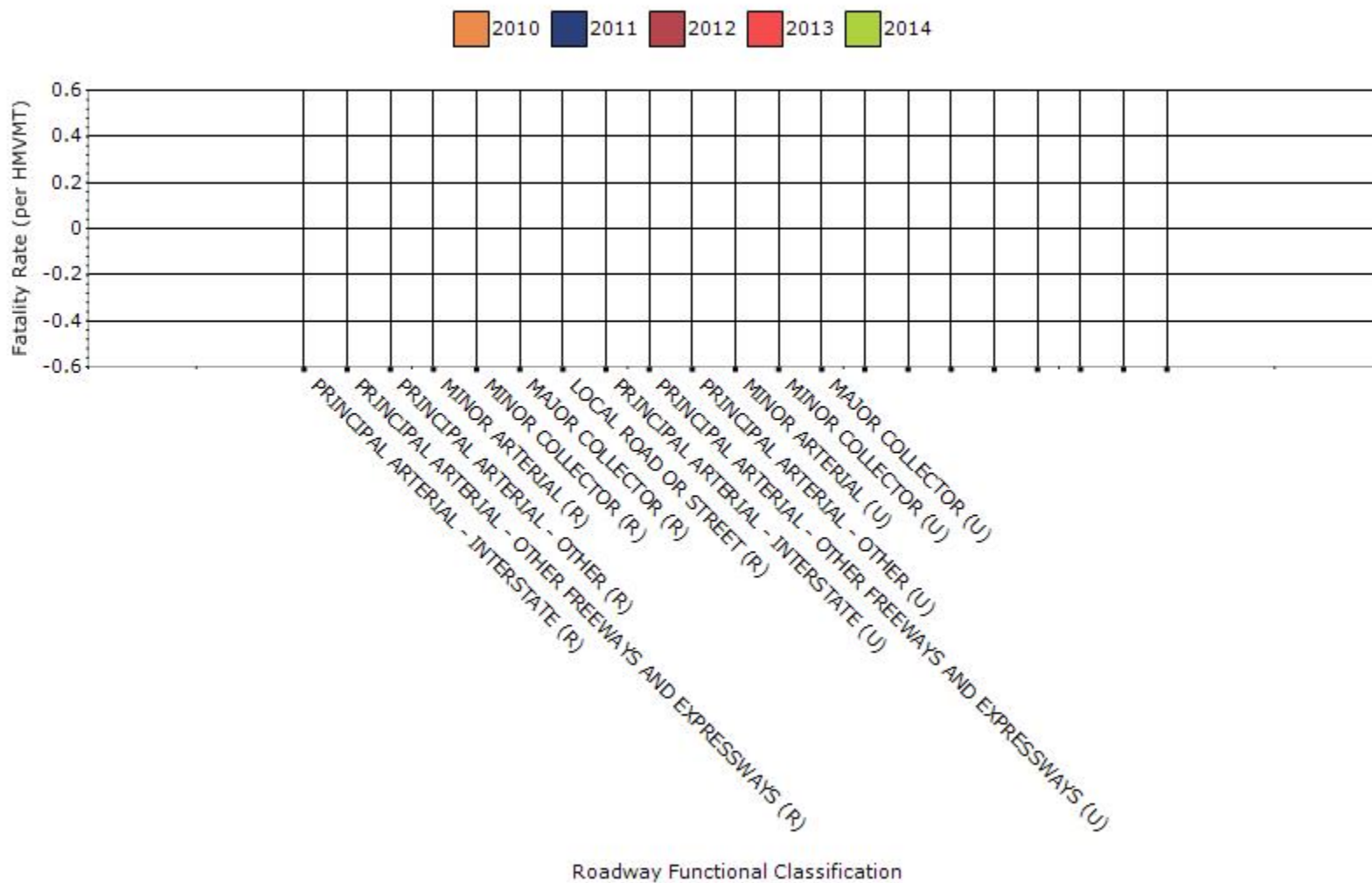
### # Fatalities by Roadway Functional Classification



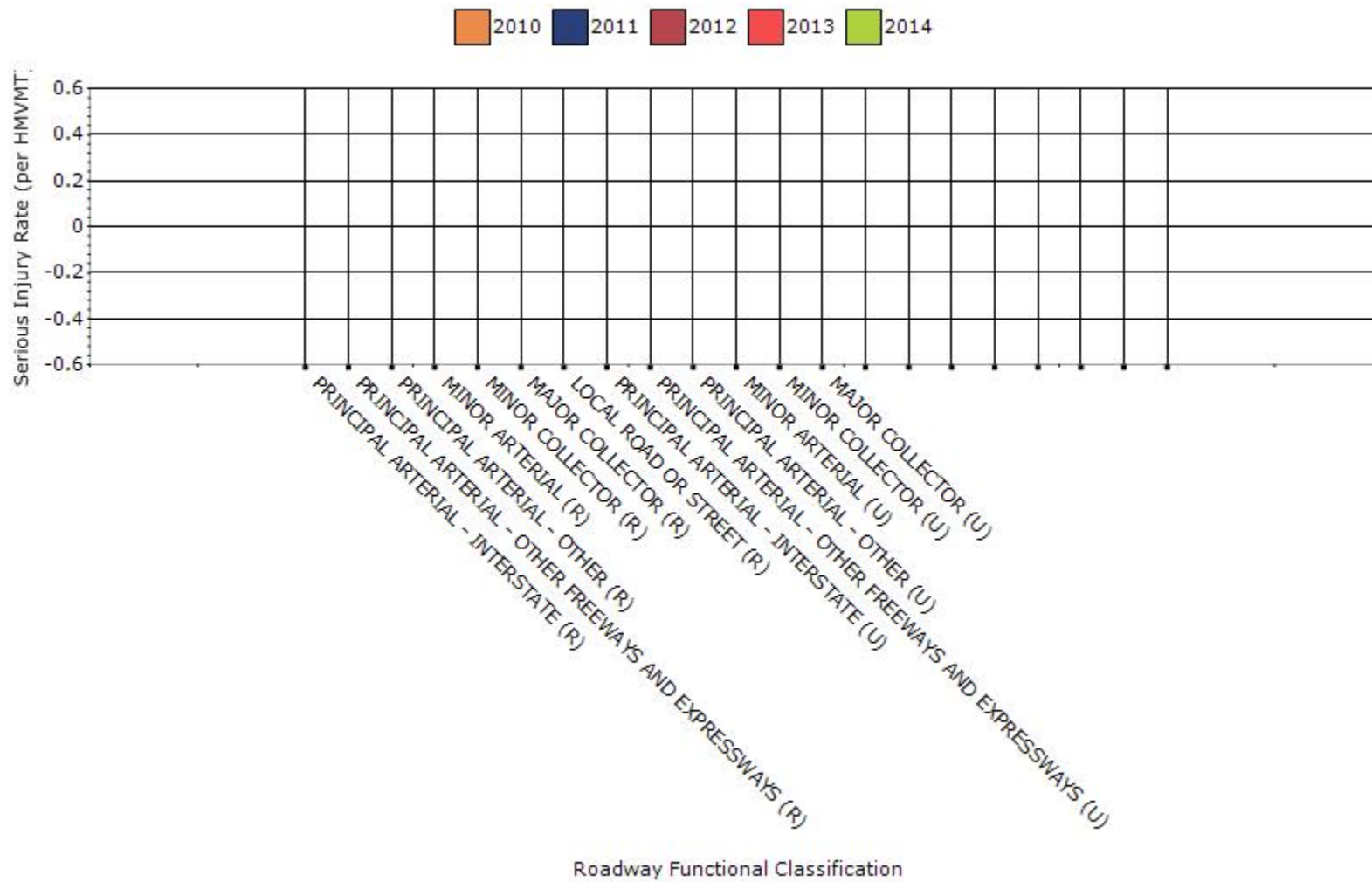
### # Serious Injuries by Roadway Functional Classification



### Fatality Rate by Roadway Functional Classification



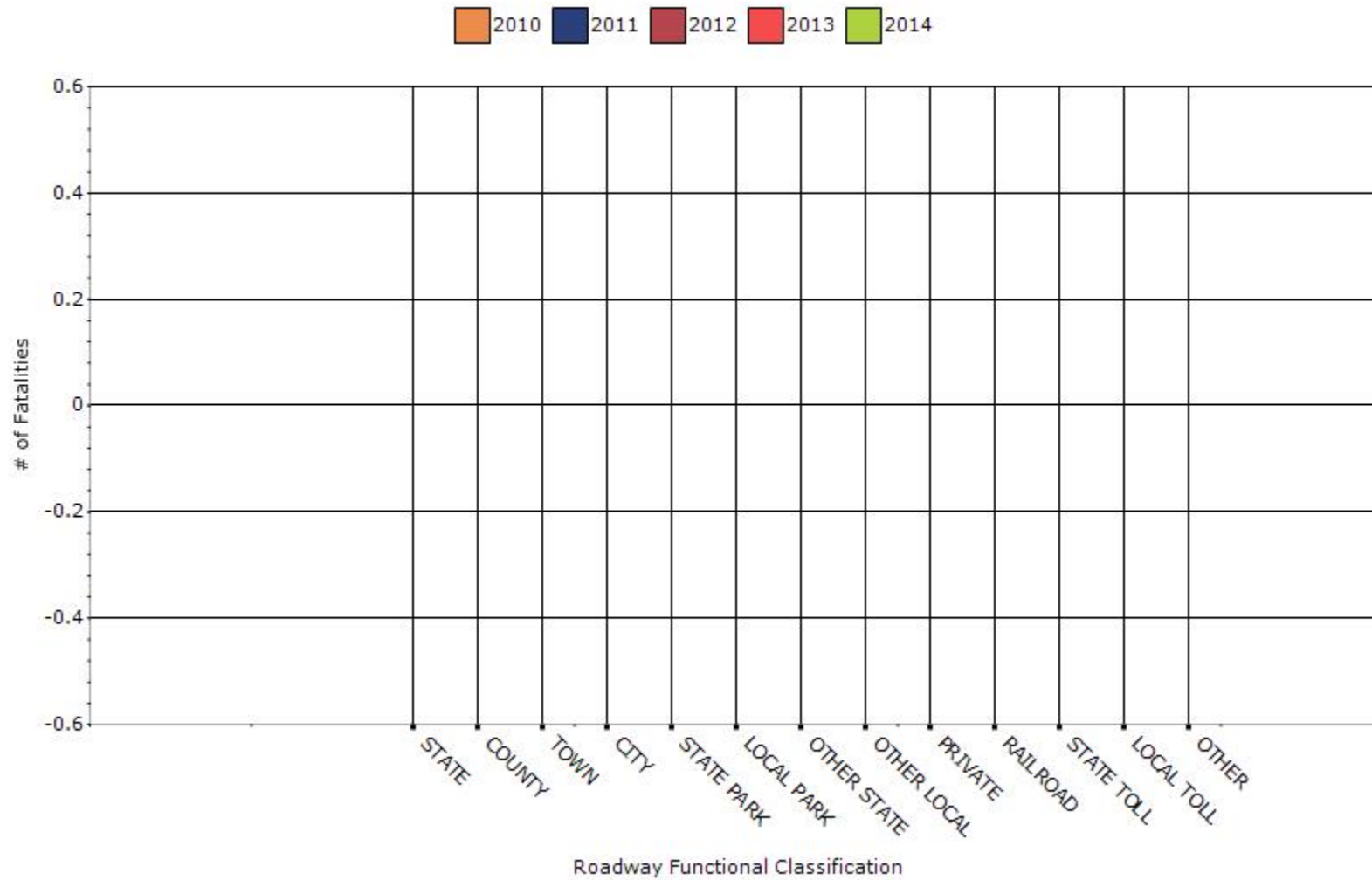
### Serious Injury Rate by Roadway Functional Classification



## Year - 2010

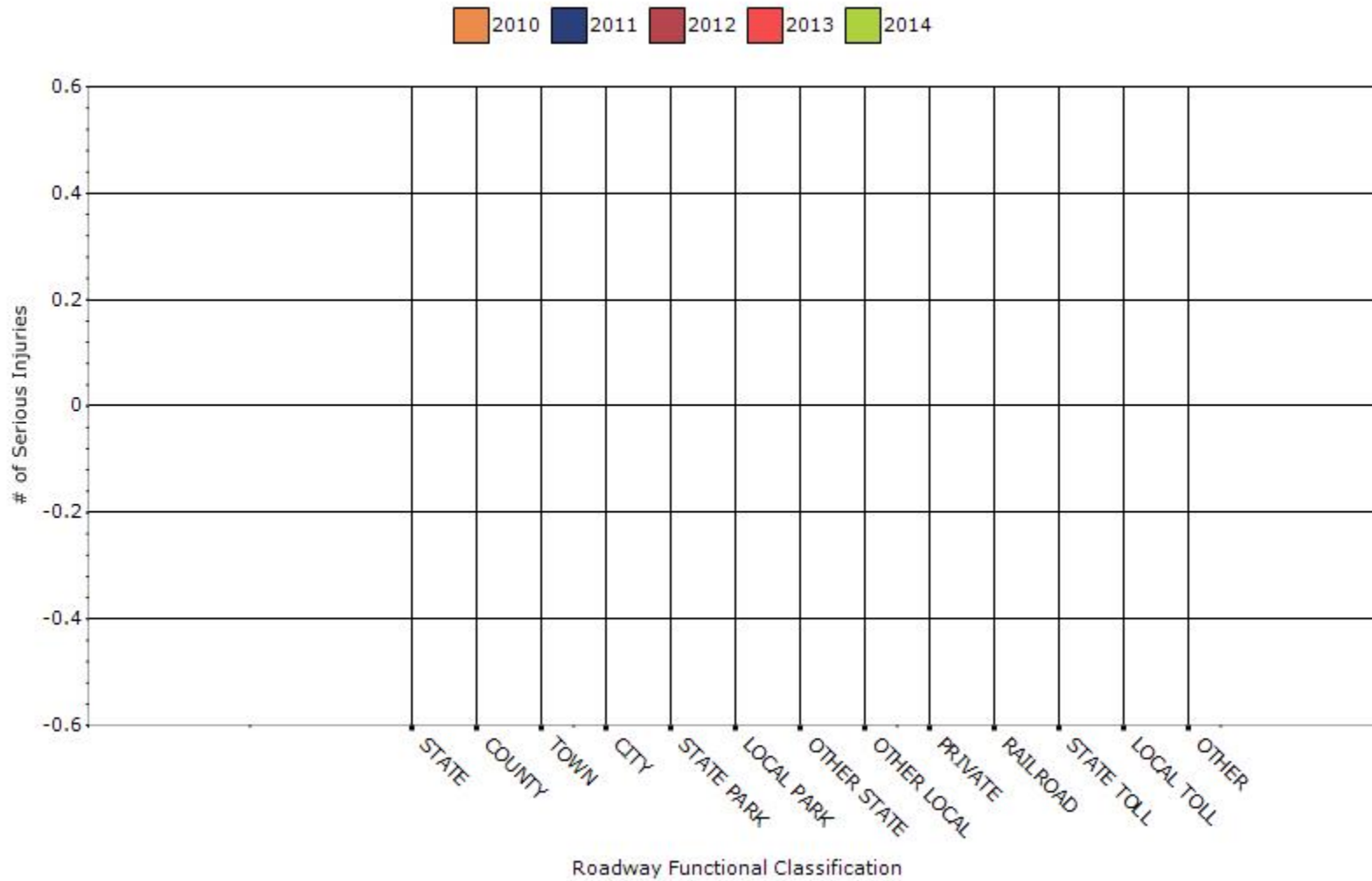
Roadway Ownership	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
STATE HIGHWAY AGENCY	0	0	0	0
COUNTY HIGHWAY AGENCY	0	0	0	0
TOWN OR TOWNSHIP HIGHWAY AGENCY	0	0	0	0
CITY OF MUNICIPAL HIGHWAY AGENCY	0	0	0	0
STATE PARK, FOREST, OR RESERVATION AGENCY	0	0	0	0
LOCAL PARK, FOREST OR RESERVATION AGENCY	0	0	0	0
OTHER STATE AGENCY	0	0	0	0
OTHER LOCAL AGENCY	0	0	0	0
PRIVATE (OTHER THAN RAILROAD)	0	0	0	0
RAILROAD	0	0	0	0
STATE TOLL AUTHORITY	0	0	0	0
LOCAL TOLL AUTHORITY	0	0	0	0
OTHER PUBLIC INSTRUMENTALITY (E.G. AIRPORT, SCHOOL, UNIVERSITY)	0	0	0	0

### Number of Fatalities by Roadway Ownership

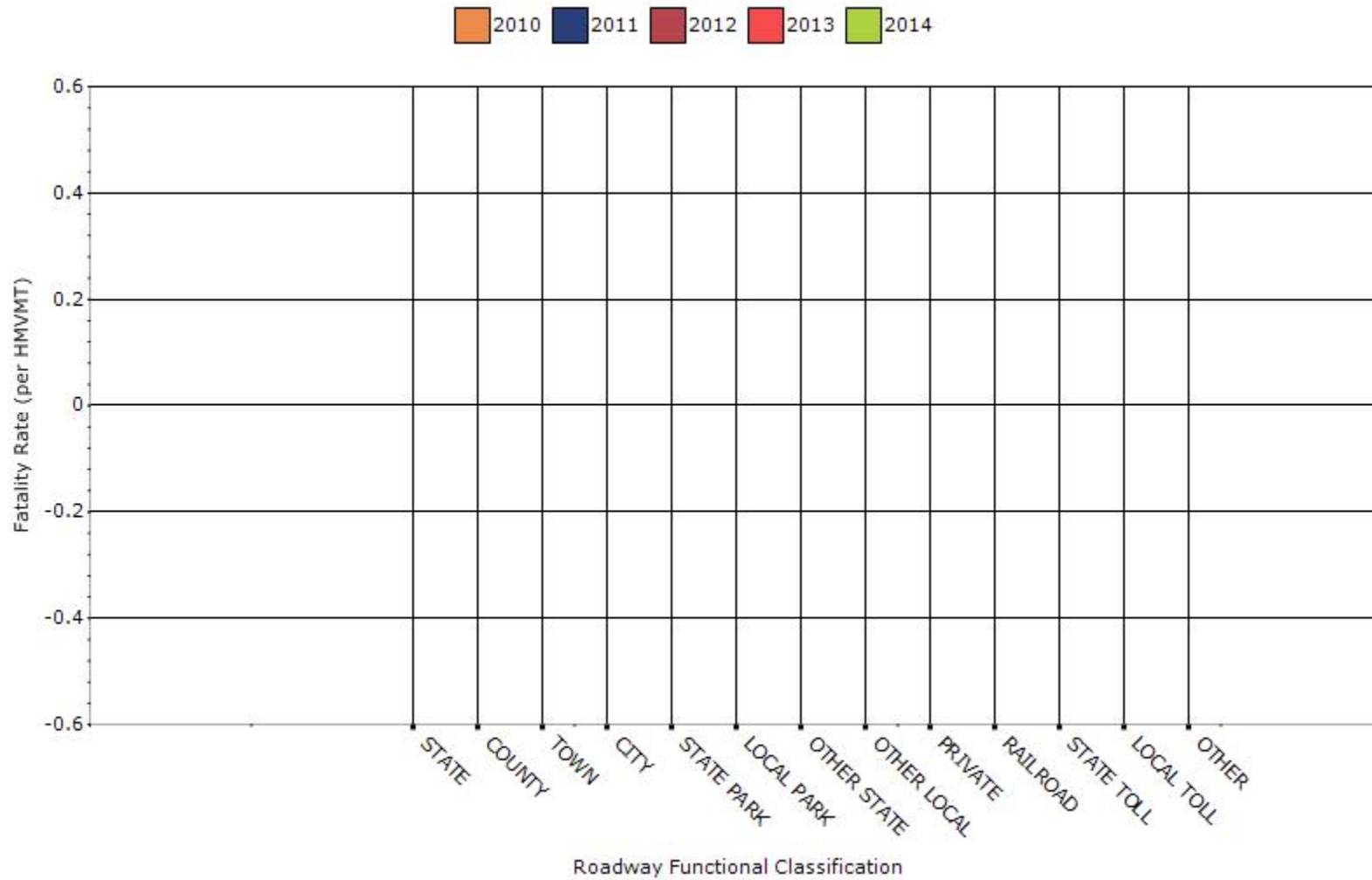




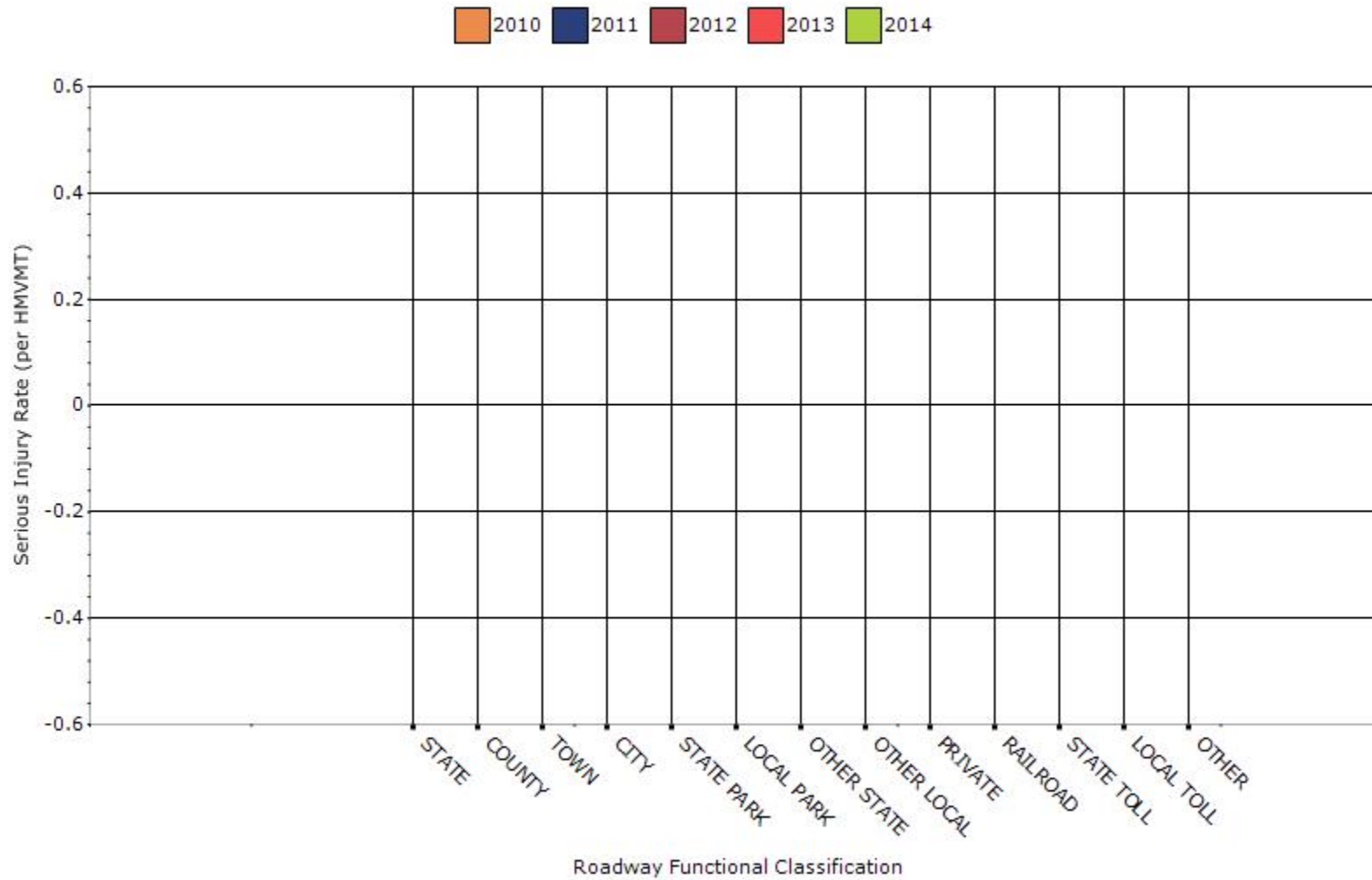
### Number of Serious Injuries by Roadway Ownership



### Fatality Rate by Roadway Ownership



### Serious Injury Rate by Roadway Ownership



Describe any other aspects of the general highway safety trends on which you would like to elaborate.

None.

### Application of Special Rules

Present the rate of traffic fatalities and serious injuries per capita for drivers and pedestrians over the age of 65.

Older Driver Performance Measures	2009	2010	2011	2012	2013
Fatality rate (per capita)	0.592	0.558	0.556	0.546	0.536
Serious injury rate (per capita)	2.008	1.914	1.904	1.818	1.776
Fatality and serious injury rate (per capita)	2.598	2.468	2.456	2.36	2.306

\*Performance measure data is presented using a five-year rolling average.

$((F+SI \text{ 2013 Drivers and Pedestrians 65 years of age and older}/2013 \text{ Population Figure})+$

$(F+SI \text{ 2012 Drivers and Pedestrians 65 years of age and older}/2012 \text{ Population Figure})+$

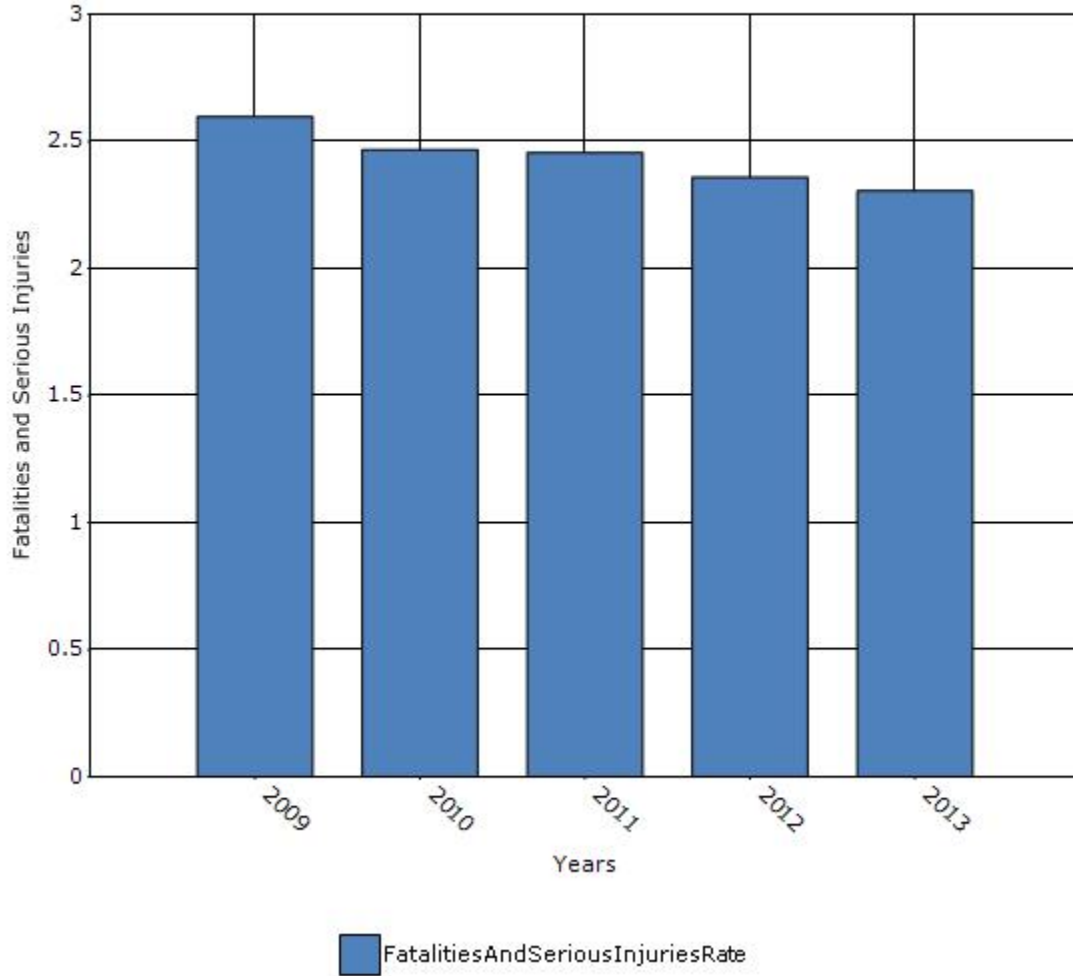
$(F+SI \text{ 2011 Drivers and Pedestrians 65 years of age and older}/2011 \text{ Population Figure})+$

$(F+SI \text{ 2010 Drivers and Pedestrians 65 years of age and older}/2010 \text{ Population Figure})+$

$(F+SI \text{ 2009 Drivers and Pedestrians 65 years of age and older}/2009 \text{ Population Figure}))/5$

$((323/148) + (338/144) + (337/139) + (310/137) + (311/134))/5$

### Rate of Fatalities and Serious injuries for the Last Five Years



**Does the older driver special rule apply to your state?**

No

## Assessment of the Effectiveness of the Improvements (Program Evaluation)

**What indicators of success can you use to demonstrate effectiveness and success in the Highway Safety Improvement Program?**

- None
- Benefit/cost
- Policy change
- Other: Other-Reduction in number of fatalities and serious injuries over past five years.

**What significant programmatic changes have occurred since the last reporting period?**

- Shift Focus to Fatalities and Serious Injuries
- Include Local Roads in Highway Safety Improvement Program
- Organizational Changes
- None
- Other:

**Briefly describe significant program changes that have occurred since the last reporting period.**

None.

## SHSP Emphasis Areas

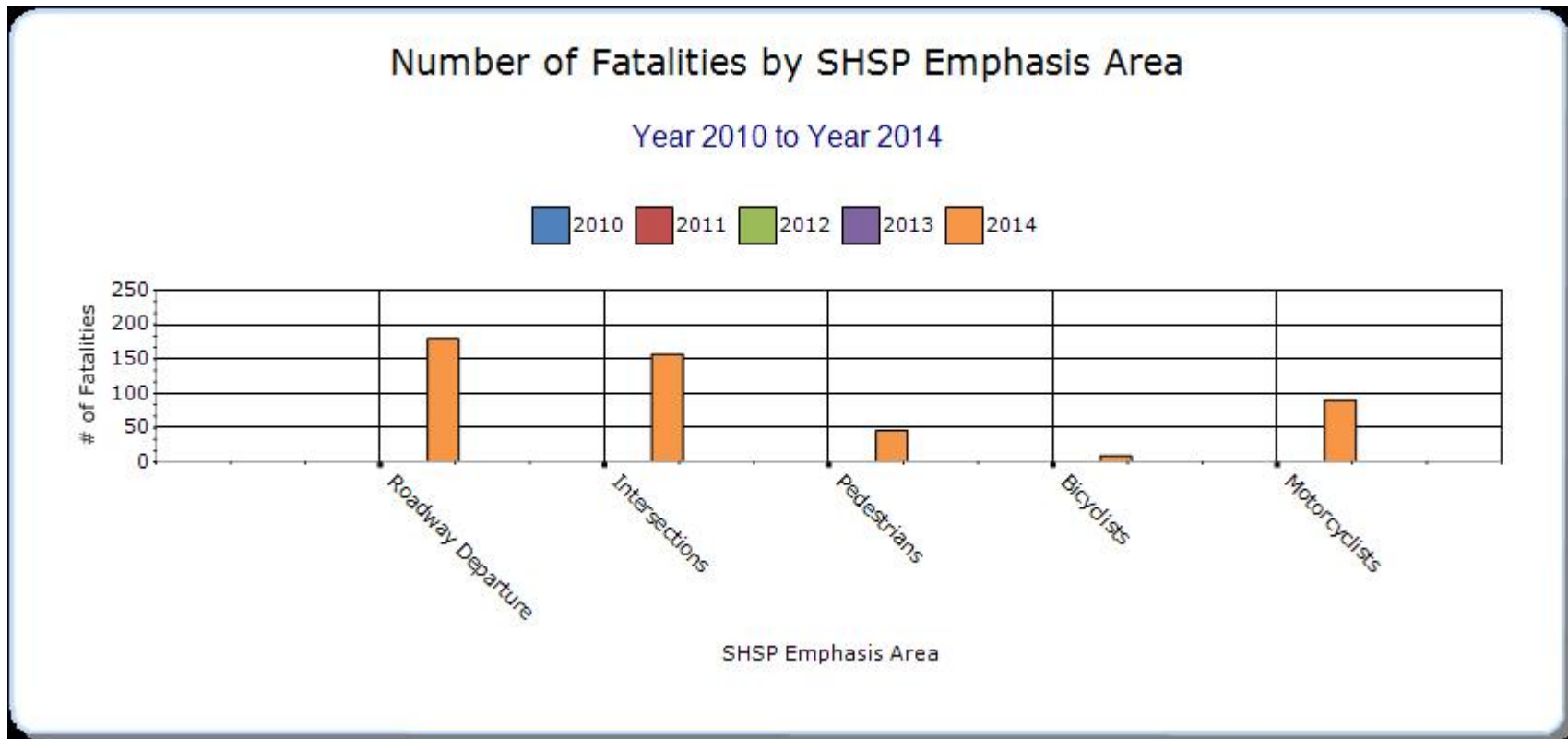
For each SHSP emphasis area that relates to the HSIP, present trends in emphasis area performance measures.

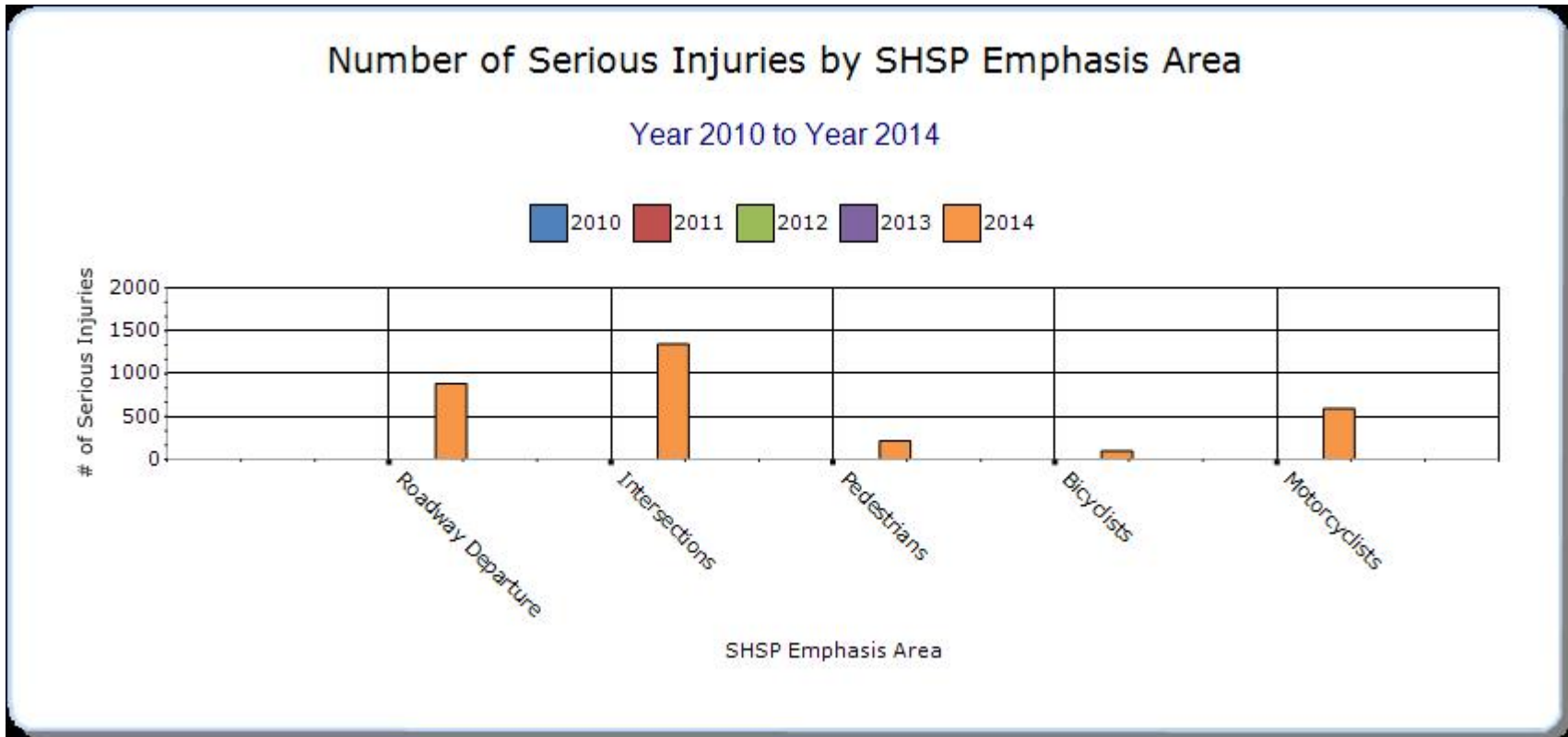
### Year - 2014

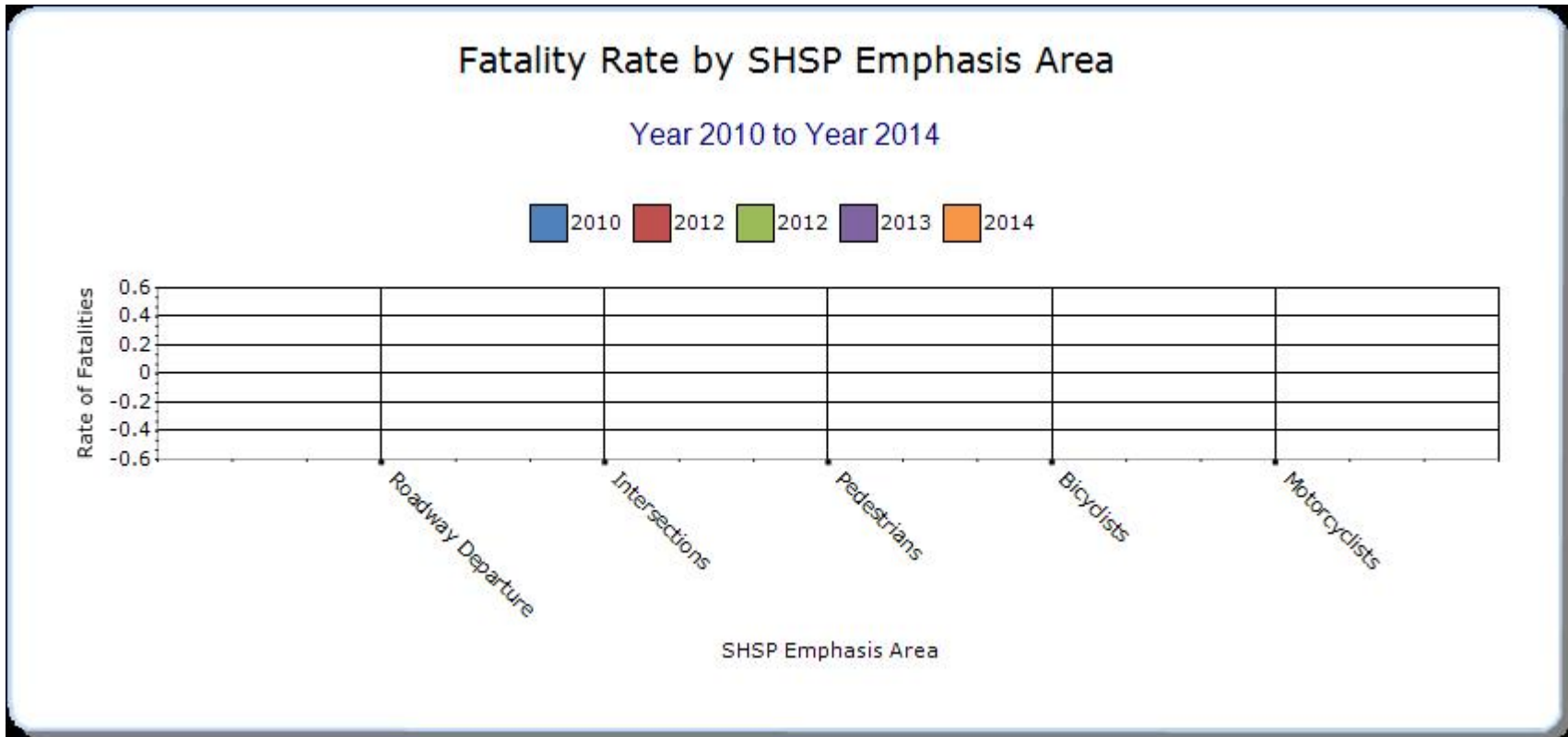
HSIP-related SHSP Emphasis Areas	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3
Roadway Departure		180	884	0	0	19137	6680	0
Intersections		157	1345	0	0	42520	20124	0
Pedestrians		46	216	0	0	1238	1188	0
Bicyclists		9	97	0	0	1034	951	0
Motorcyclists		90	592	0	0	2328	2206	0
Reduce Speed-related Crashes		163	861	0	0	18682	7725	0
Prevent/Mitigate Roadway Departure Crashes		180	884	0	0	19137	6680	0
Reduce Alcohol/Drug-impaired Driving		203	520	0	0	5192	2951	0
Improve Driver Alertness/Reduce Driver Distraction		116	822	0	0	21278	9351	0

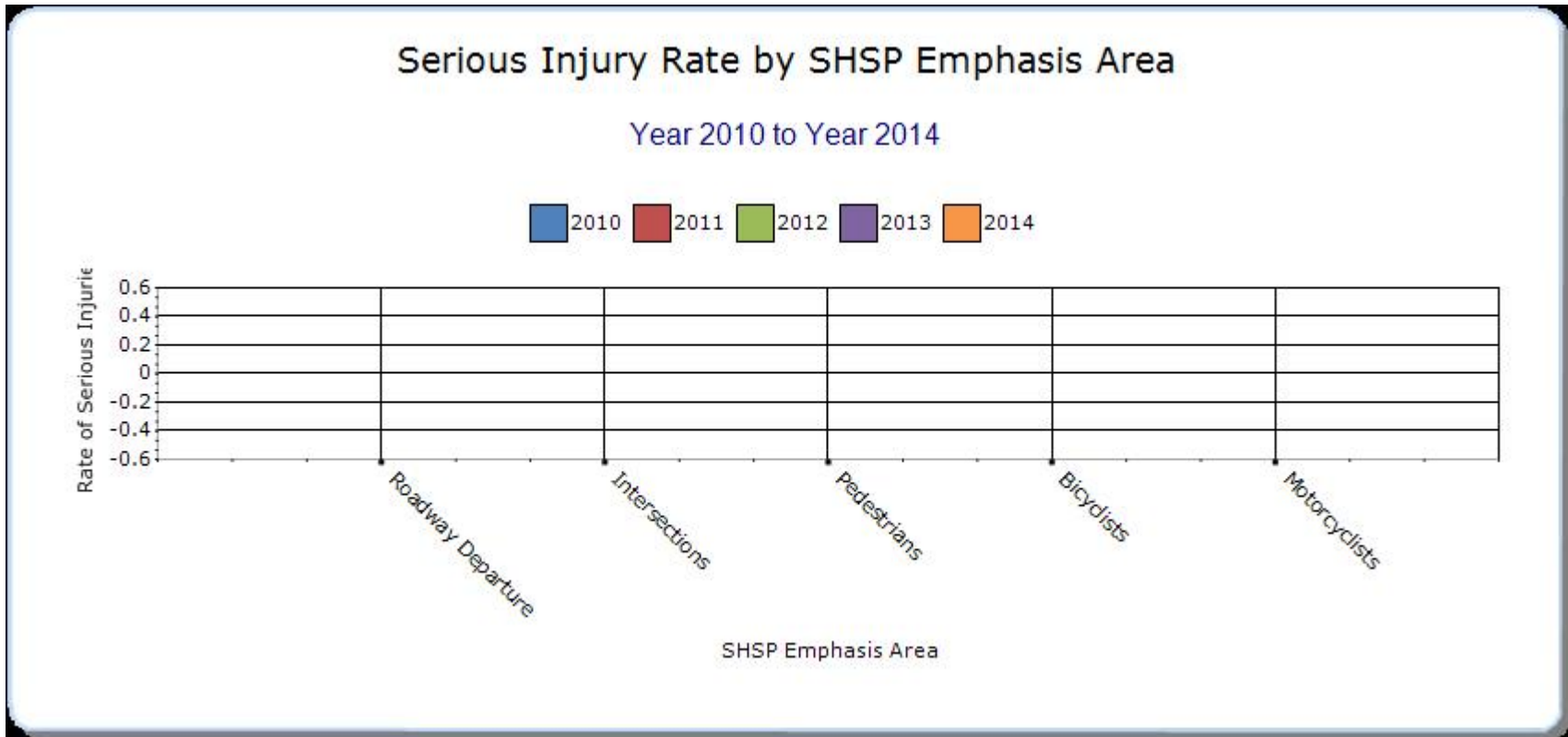
<b>Improve Occupant Protection</b>		165	526	0	0	0	0	0
<b>Reduce Head-on Crashes</b>		64	258	0	0	1452	1360	0
<b>Improve Safe Travel in Bad Weather</b>		111	742	0	0	31934	10422	0
<b>Reduce Cross Median Crashes</b>		0	0	0	0	0	0	0







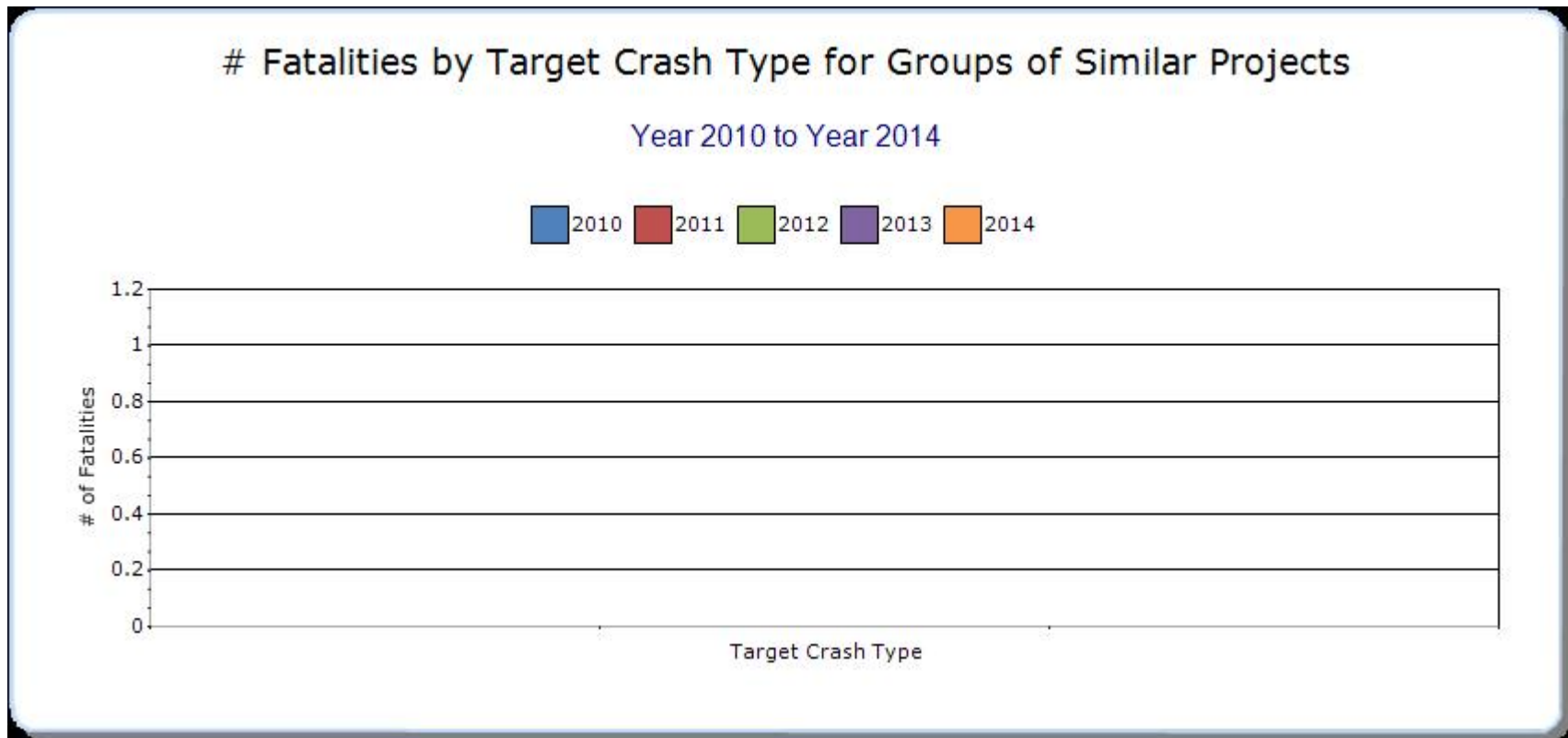


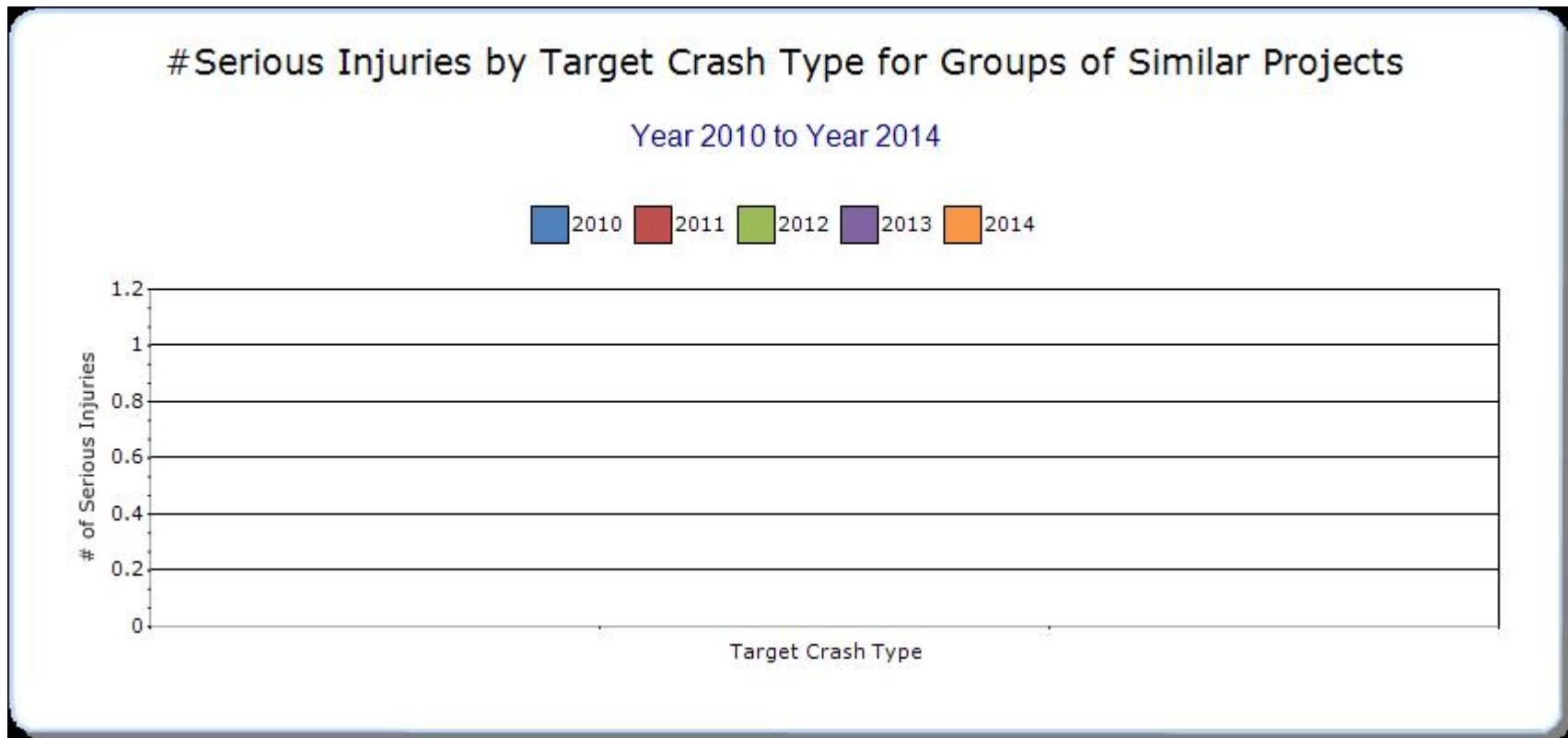


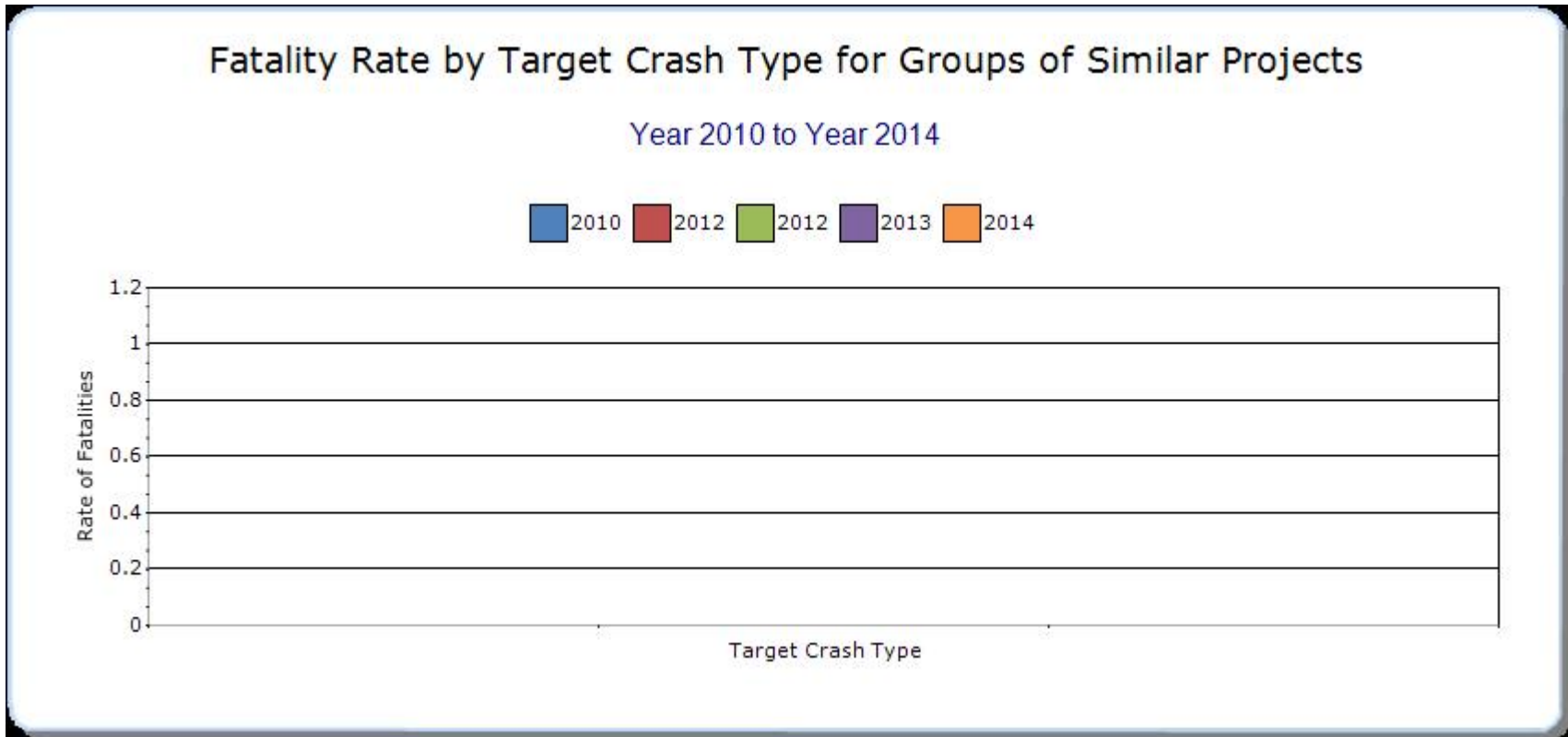
### Groups of similar project types

Present the overall effectiveness of groups of similar types of projects.

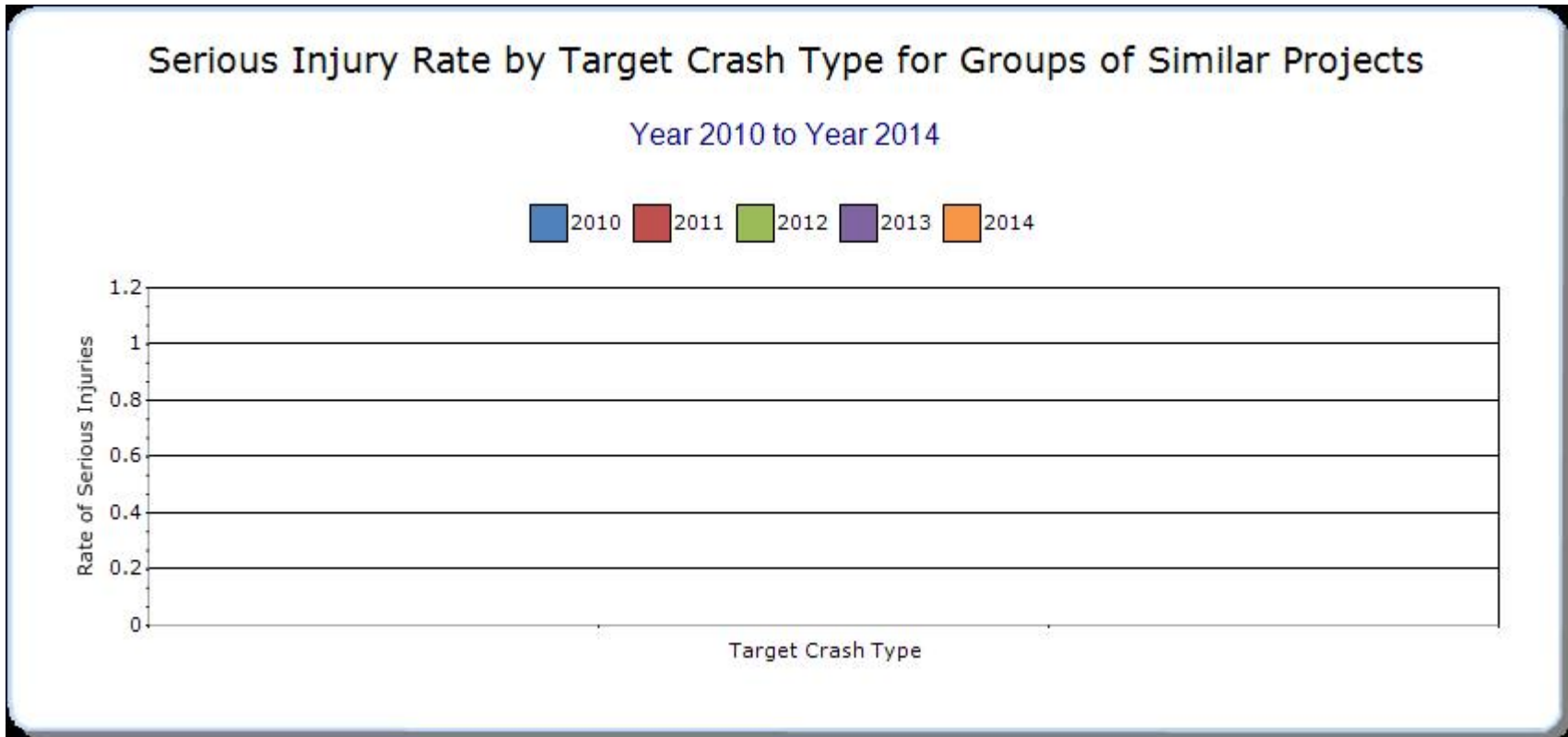
HSIP Sub-program Types	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3







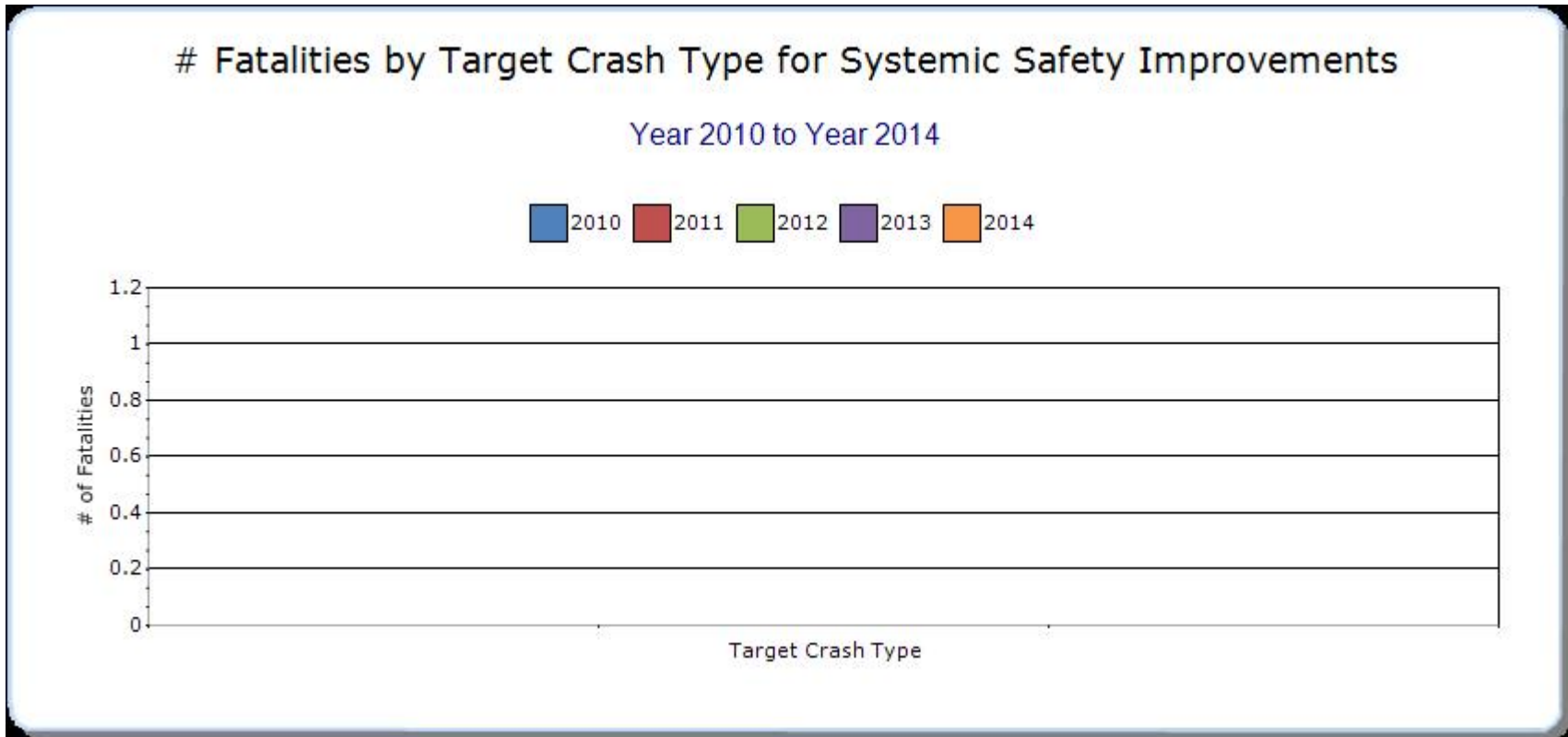


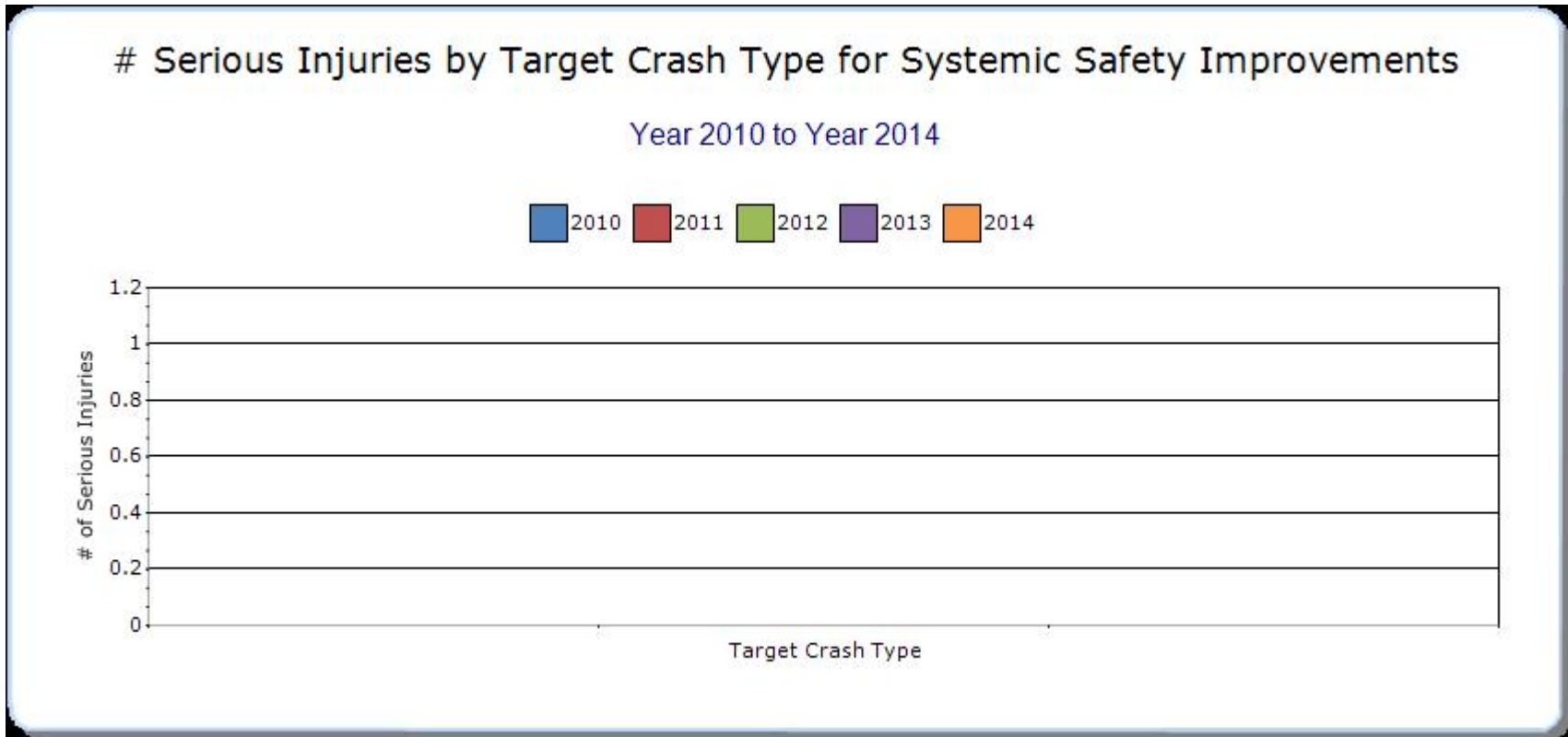


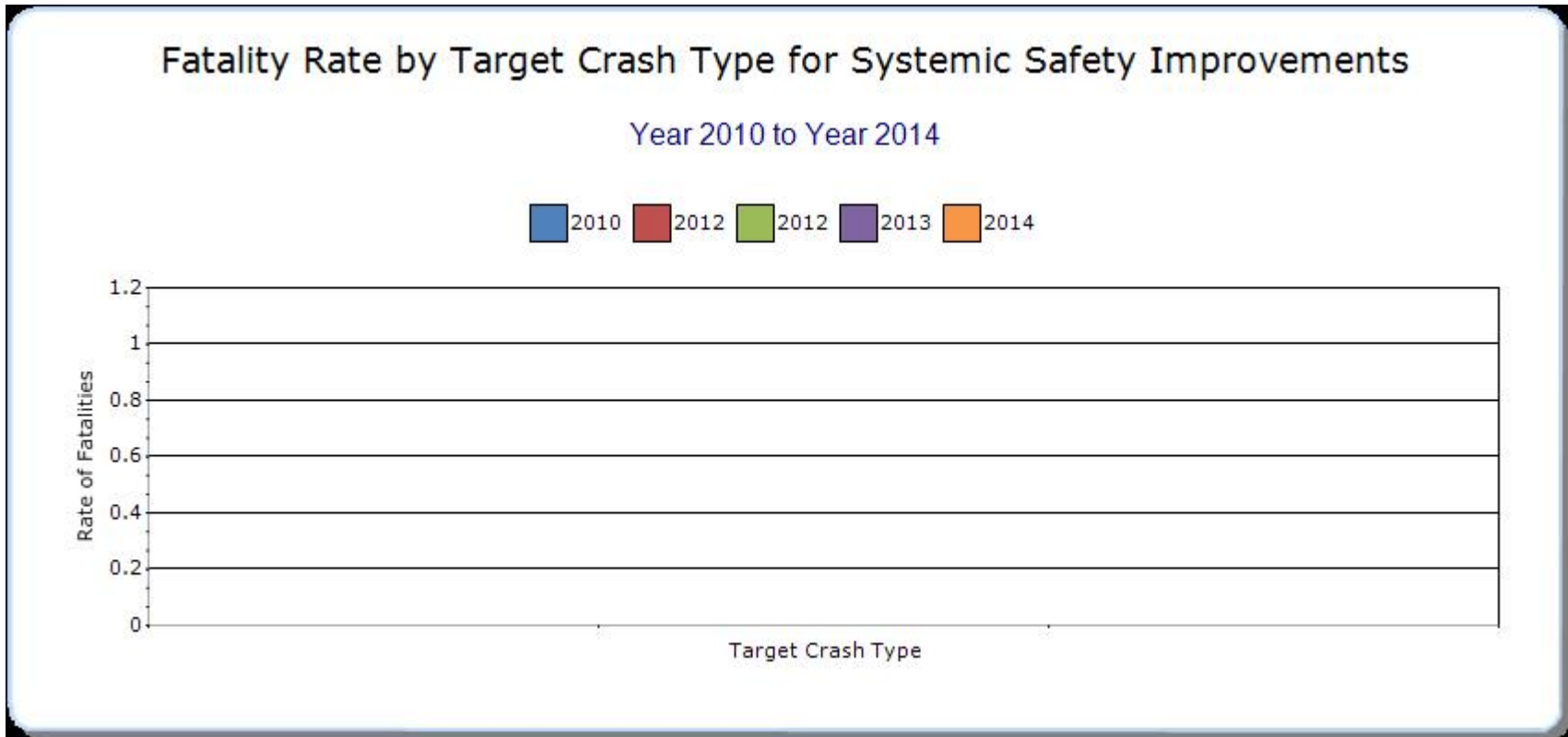
### Systemic Treatments

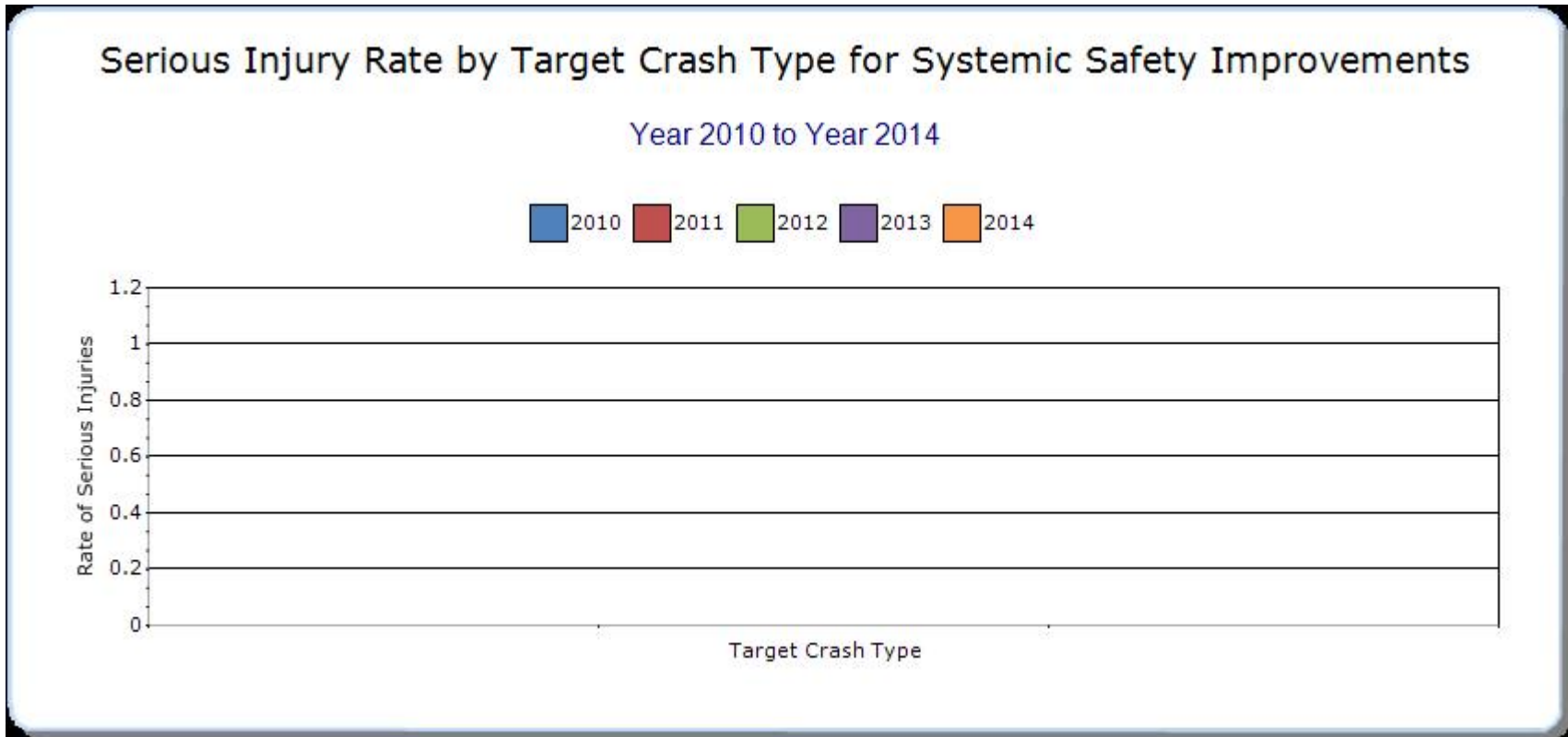
Present the overall effectiveness of systemic treatments.

Systemic improvement	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3









**Describe any other aspects of the overall Highway Safety Improvement Program effectiveness on which you would like to elaborate.**

None

### Project Evaluation

Provide project evaluation data for completed projects (optional).

Location	Functional Class	Improvement Category	Improvement Type	Bef-Fatal	Bef-Serious Injury	Bef-All Injuries	Bef-PDO	Bef-Total	Aft-Fatal	Aft-Serious Injury	Aft-All Injuries	Aft-PDO	Aft-Total	Evaluation Results (Benefit/Cost Ratio)
			PROJECT EVALUATION DATA NOT AVAILABLE AT THIS TIME											



## **Optional Attachments**

**Sections**

**Files Attached**

## Glossary

**5 year rolling average** means the average of five individual, consecutive annual points of data (e.g. annual fatality rate).

**Emphasis area** means a highway safety priority in a State's SHSP, identified through a data-driven, collaborative process.

**Highway safety improvement project** means strategies, activities and projects on a public road that are consistent with a State strategic highway safety plan and corrects or improves a hazardous road location or feature or addresses a highway safety problem.

**HMVMT** means hundred million vehicle miles traveled.

**Non-infrastructure projects** are projects that do not result in construction. Examples of non-infrastructure projects include road safety audits, transportation safety planning activities, improvements in the collection and analysis of data, education and outreach, and enforcement activities.

**Older driver special rule** applies if traffic fatalities and serious injuries per capita for drivers and pedestrians over the age of 65 in a State increases during the most recent 2-year period for which data are available, as defined in the Older Driver and Pedestrian Special Rule Interim Guidance dated February 13, 2013.

**Performance measure** means indicators that enable decision-makers and other stakeholders to monitor changes in system condition and performance against established visions, goals, and objectives.

**Programmed funds** mean those funds that have been programmed in the Statewide Transportation Improvement Program (STIP) to be expended on highway safety improvement projects.

**Roadway Functional Classification** means the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide.

**Strategic Highway Safety Plan (SHSP)** means a comprehensive, multi-disciplinary plan, based on safety data developed by a State Department of Transportation in accordance with 23 U.S.C. 148.

**Systemic safety improvement** means an improvement that is widely implemented based on high risk roadway features that are correlated with specific severe crash types.

**Transfer** means, in accordance with provisions of 23 U.S.C. 126, a State may transfer from an apportionment under section 104(b) not to exceed 50 percent of the amount apportioned for the fiscal year to any other apportionment of the State under that section.