Highway Safety Improvement Program

Data Driven Decisions

Virginia
Highway Safety Improvement Program
2014 Annual Report

Prepared by: VA

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

This Fiscal Year (FY) 2013-14 annual report to the Federal Highway Administration (FHWA) describes the Virginia Department of Transportation (VDOT)'s strategic use of MAP-21 funding of the Commonwealth's Highway Safety Improvement Programs (HSIP) for the period July 2013 to June 2014.

MAP-21 continues the HSIP as a core program under Sections 148 and 130 of US Code Title 23 and increased the HSIP allocations in Federal Fiscal Year (FFY) 2013 and 2014. Under Section 154, surface transportation program and national highway performance program funds are transferred to be used for HSIP eligible proposals because Virginia does not have all the required components in its Open Container legislation. As a result, VDOT's HSIP is composed of the following sub-programs utilizing the above mentioned federal funding sources (23 USC Sections):

A) Highway Safety Projects (HSP): Section 148
B) Bicycle and Pedestrian Safety Projects (BPSP): Section 148
C) Penalty Transfer-Open Container (OC) Projects: Section 154

A link to the HSIP guidelines, safety proposal submission documentation, and resource information is provided on-line at http://www.virginiadot.org/business/ted_app_pro.asp

Virginia's Strategic Highway Safety Plan

In 2013, VDOT completed a multi-agency and disciplinary, engineering, education, enforcment, and emergency response (4-E) update of the Commonwealth's Strategic Highway Safety Plan (SHSP). In 2013, FHWA's Virginia Division approved Virginia's SHSP. VDOT continues to coordinate with its safety partners and implement the SHSP engineering strategies to drive investment decisions to improve safety and reduce deaths and injuries for this FY2014 reporting period.

Many safety partners are working towards reducing the number and severity of vehicle crashes on the Commonwealth's highways. Virginia's HSIP is structured to focus on infrastructure safety emphasis areas that may be improved with low cost minimal environmental impact (no right of way) engineering countermeasures, namely:

A) Intersection geometry and traffic control
B) Roadway and roadside improvements
C) Bicycle and pedestrian risk reductions

New FY2015 Projects

The Commonwealth of Virginia is committed to developing and maintaining a safe, multimodal transportation system. For the development of Virginia's transportation FY 2015 Six-Year Improvement Program (SYIP), the HSIP project selection structure and approach was previously modified to follow the updated SHSP and the MAP-21 allowances. In 2014, HSIP staff conducted outreach to each VDOT district to explain the SHSP and the three percent reduction target for their district. Each district also received crash data for each of the SHSP emphasis areas, crash maps for each jurisdiction, detailed information on MAP-21 HSIP requirements, and instructions on how to prepare safety proposals. HSIP staff developed annual HSIP spending targets for each district based on the combined proportions of lane-miles, vehicle miles travelled and deaths plus severe injuries to consider multiple year project development. The district spending targets are based on level FHWA funding in future years. Districts considered systemic, corridor and intersection improvements for all users on priority routes and intersections identified in the crash data. Districts submitted safety proposals and these proposals included high crash locations, long roadway segments, and systemic highway and pedestrian risk locations.

Highway Safety Performance

This report provides safety performance measures for deaths and severe injuries and the associated rates per 100 million vehicle miles travelled (HMVMT). Since 2001, injury crashes have declined to about 45 thousand per year (almost a 20 percent reduction from the 1990's). Severe injuries have decreased by approximately 63 percent since 2001, some 7.8 percent per year. Injuries per capital have also continued to decline for the last 20 years.

Traffic deaths per population in Virginia remained fairly stable for about 15 years after the declines that were seen in the early 1990's. However, 2007 saw a peak in fatal crashes resulting in 1,026 deaths, the first time deaths exceeded 1,000 since the early 1990's. Since 2007, a 25 percent in reduction has been experienced, although traffic deaths increased slightly in 2011 and 2012 the year 2013 decline to 741(one more than the 2010 low of 740).

Severe traffic crash decreases indicate the effectiveness of improved driver regulations, safer cars, education, enforcement, emergency services, and engineering solutions in reducing related injuries. For VDOT's HSIP projects that were completed in 2010, we have experienced 62 and 67% reductions in the targeted total and severe injury crashes, respectively.

This report documents the following elements of the federally funded HSIP using the FHWA MAP-21

(2014) reporting guidance:

1) Program administration and methodology;
2) Progress in administrating safety projects;
3) Evaluation of effectiveness of completed projects;

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.

Virginia previously programmed SAFETEA-LU and prior HSIP funds on local roads. In recent years local roads received a disproportionate share of the available funding. Approximately a third of active projects are on local roads. However, many of these local administered projects had not advanced and obligated the major construction phase portion of the funds. Some local projects needed more funds due to increased scope and/or impacts. As such, local agency projects were provided additional HSIP allocations needed to fund the cost estimates for construction (thus

obligation). New procedures and requirements for locally administered HSIP projects are being developed for management consideration for future years.

Local roads safety proposals when submitted are required to follow the same prioritization method as VDOT proposals. The proposed project must fit into the localities strategic safety plan. It should be data driven as well as have the support of the local governing body. Localities should submit their proposals through the local VDOT District Office for inclusion in the district submittal for review. The locality maintains its own data system with regards to crash history and local support for the proposal. Local roads account for 40 percent of all crashes and 20 percent of all fatal and serious injury crashes on Virginia's highways. However, local safety projects have received up to 30 percent of Virginia's HSIP funds for implementation and completion of their safety projects. VDOT has been providing the state match to these safety projects for the past several years.

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

☒ Design

☒ Planning

☒ Maintenance

☒ Operations

☐ Governors Highway Safety Office

☐ Other:

Briefly describe coordination with internal partners.

To facilitate and expedite the scoping of HSIP projects, HSIP staff visited each District and trained regarding MAP-21 requirements, the updated SHSP Emphasis Areas, related safety data available, and the multi-disciplinary team needed to provide sound scope, cost, and schedule information. Traffic, planning, design and programming and sometimes VDOT Residency (county) liaison staff attended the briefings. The SHSP three percent reduction targets by Emphasis Areas were also

presented. Finally, the briefing provided information on Systemic Treatment eligibility in MAP-21 and related information available from the FHWA in December 2013.

As in the past, HSIP staff presented the target of allocating ten percent to bike and pedestrian safety projects was presented. At least ninety percent of HSIP Section 148 of the previously unallocated future funds would be programmed on existing and new highway safety projects.

District staff submitted safety proposal funding requests with the following set of priorities for managing the target annual HSIP obligation from FY2015 to 20:

1. Additional funding needs to complete existing HSIP projects or those ongoing projects with a specific safety benefit needing additional funds.
2. New safety projects that could be designed and advertised within FY2015
3. New safety projects that could be potentially started in FY2015 and 16 but would need additional time and funding to be designed and awarded for construction in future years.

Projects were programmed with the appropriate FY allocations needed for a specific phase to be delivered from FY 2015 to 2020.

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

☒ Metropolitan Planning Organizations

☐ Governors Highway Safety Office

☐ Local Government Association

☒ Other: Other-District/Design/Pe and Planning Staff

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-District/Design/PE and Planning Staff

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

FHWA reviewed and commented on the final draft of Virginia's HSIP Guidelines and Policy. Virginia anticipates having these new guidelines in place before the next reporting period.The focus of the new HSIP guidance will be on the implementation and delivery of both benefit-cost economic evaluation of higher cost highway spot and corridor projects and more risk reduction driven systemic safety improvement projects.

Program Methodology

Select the programs that are administered under the HSIP.

☐Median Barrier	☒Intersection	☐Safe Corridor
☐Horizontal Curve	☒Bicycle Safety	☐Rural State Highways
☐Skid Hazard	☒Crash Data	☐Red Light Running Prevention
☒Roadway Departure	☐Low-Cost Spot Improvements	☐Sign Replacement And Improvement
☐Local Safety	☒Pedestrian Safety	☐Right Angle Crash
☐Left Turn Crash	☐Shoulder Improvement	☐Segments
☐Other:		

Program: **Intersection**

Date of Program Methodology: **7/1/2013**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
☒ All crashes	☒ Traffic	☐ Median width
☐ Fatal crashes only	☒ Volume	☐ Horizontal curvature
☒ Fatal and serious injury crashes only	☐ Population	☐ Functional classification
☐ Other	☐ Lane miles	☐ Roadside features
	☐ Other	☐ 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

If yes, are local road projects identified using the same methodology as state roads?

☒ Yes

☐ No

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☐ Selection committee

☐ Other

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	1
☒ Available funding	3
☐ Incremental B/C	
☐ Ranking based on net benefit	

☐ Other

☒ Targeted K+A crashes/people 2

Program: **Bicycle Safety**

Date of Program Methodology: **7/1/2013**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
☒ All crashes	☒ Traffic	☐ Median width
☐ Fatal crashes only	☒ Volume	☐ Horizontal curvature
☐ Fatal and serious injury crashes only	☐ Population	☒ Functional classification
☒ Other-Risk Reduction	☐ Lane miles	☒ Roadside features
	☐ Other	☐ 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-Available facilities

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

☒ Yes

☐ No

If yes, are local road projects identified using the same methodology as state roads?

☒ Yes

☐ No

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☐ Selection committee

☐ Other

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

☐ Incremental B/C

☐ Ranking based on net benefit

☒ Cost Effectiveness 10

☒ Community Support and comprehensive network plan 15

☒ Problem identification inc crashes and risk 30

☒ Solution study and selection to mitigate risk 45

Program: **Crash Data**

Date of Program Methodology: **7/1/2013**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
☒ All crashes	☒ Traffic	☐ Median width
☐ Fatal crashes only	☒ Volume	☐ Horizontal curvature
☒ Fatal and serious injury crashes only	☐ Population	☐ Functional classification
☐ Other	☐ Lane miles	☐ Roadside features
	☐ Other	☐ 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

If yes, are local road projects identified using the same methodology as state roads?

☒ Yes

☐ No

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☐ Selection committee

☐ Other

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	1
☒ Available funding	3
☐ Incremental B/C	
☐ Ranking based on net benefit	
☐ Other	
☒ Targeted K+A crashes/people	2

Program: **Roadway Departure**

Date of Program Methodology: **7/1/2013**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
☒ All crashes	☒ Traffic	☒ Median width
☐ Fatal crashes only	☒ Volume	☒ Horizontal curvature
☒ Fatal and serious injury	☐ Population	☒ Functional classification

crashes only

☐ Other

☐ Lane miles

☒ Roadside features

☐ Other

☐ 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

If yes, are local road projects identified using the same methodology as state roads?

☒ Yes

☐ No

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☐ Selection committee

☐ Other

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	1
☒ Available funding	3
☐ Incremental B/C	
☐ Ranking based on net benefit	
☐ Other	
☒ Targeted K+A crashes and people	2

Program: **Pedestrian Safety**

Date of Program Methodology: **7/1/2013**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
☒ All crashes	☒ Traffic	☒ Median width
☐ Fatal crashes only	☒ Volume	☐ Horizontal curvature
☐ Fatal and serious injury crashes only	☒ Population	☒ Functional classification
☒ Other-Risk Reduction	☐ Lane miles	☒ Roadside features
	☐ Other	☐ 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-Community Support and Missing sidewalk

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

☒Yes

☐No

If yes, are local road projects identified using the same methodology as state roads?

☒Yes

☐No

How are highway safety improvement projects advanced for implementation?

☒Competitive application process

☐Selection committee

☐Other

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	
☐Incremental B/C	
☐Ranking based on net benefit	
☒Cost Effectiveness	10
☒Communitysupport, benefit-need and pedestrian accessability	15
☒Problem identification inc crashes and risk	30

☒Solution proposed for improvement to mitigate risk	45

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

25

Highway safety improvment program funds are used to address which of the following systemic improvments?

☐Cable Median Barriers	☒Rumble Strips
☒Traffic Control Device Rehabilitation	☒Pavement/Shoulder Widening
☒Install/Improve Signing	☒Install/Improve Pavement Marking and/or Delineation
☒Upgrade Guard Rails	☐Clear Zone Improvements
☐Safety Edge	☐Install/Improve Lighting
☒Add/Upgrade/Modify/Remove Traffic Signal	☐Other

What process is used to identify potential countermeasures?

☒Engineering Study

☒Road Safety Assessment

☐Other:

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:

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

VDOT has used the same program methodology since SAFETEA-LU with some modificications for FY2015 based on the recently approved 2012-2016 Virginia Strategic Highway Safety Plan (SHSP). About 85 percent of the roadway centerline miles are maintained by VDOT on three systems: interstate, primary, and secondary (county) roadways except for secondary roads in Arlington and Henrico Counties. Statewide transportation safety planning on VDOT maintained systems is performed centrally by HSIP staff in the Traffic Engineering Division each year.

Listings and maps of high crash routes and intersections following the SHSP Emphasis Areas were provided to VDOT district staff to identify candidate locations for project development. On the VDOT systems the following safety planning data is available:

A) Intersections ranked by Deaths (type K) plus Severe Injuries (type A) in the most recent 3 years within each jurisdiction. Those locations in the tope 5 percent are first priority. Those between the top 5 and 15 percent are second priority and the remainders are lower priority.

B) For Roadway Departure emphasis, each route (ID) segment within a jurisdiction was ranked by the

number of K plus A severe injury plus visible injuries (type B) for the most recent 5 years. The first priority route segments are those with at least one percent of the jurisdicitions KAB injuries. The second priority is routes with less than one percent but more than two KAB injuries per year (10 in five years).

C) For Speed and Bicycle and Pedestrian crashes the same route ranking and priority thresholds were used but only for K+A injuries.

D) District Traffic Engineers and Planners are now starting to use this data for other project prioritization and to provide maps and listing to VDOT residency (3-4 county) staff for interacton with local jurisdictions and for project identification (safety based).

Progress in Implementing Projects

Funds Programmed

Reporting period for Highway Safety Improvement Program funding.

☐ Calendar Year

☒ State Fiscal Year

☐ Federal Fiscal Year

State Fiscal Year: July 1,2013 to June 30, 2014.

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

Funding Category	Programmed*		Obligated	
HSIP (Section 148)	46587222	79 %	20946128	63 %
HRRRP (SAFETEA-LU)	1772116	3 %	1371295	4 %
HRRR Special Rule				
Penalty Transfer - Section 154	10750000	18 %	10750000	33 %
Penalty Transfer – Section 164				
Incentive Grants - Section 163				
Incentive Grants (Section 406)				
Other Federal-aid Funds (i.e. STP, NHPP)				

State and Local Funds				
Totals	59109338	100%	33067423	100%

How much funding is programmed to local (non-state owned and maintained) safety projects?

$2,003,445.00

How much funding is obligated to local safety projects?

$1,626,012.00

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

$0.00

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

$0.00

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?

$0.00

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

None

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
19060	Alignment Horizontal and vertical alignment	0.175 Miles	645829	1769650	HSIP (Section 148)	Urban Minor Arterial	3600	45	State Highway Agency	Roadway Departure	Reduce likelihood of vehicles leaving travel lanes and Identify locations with a large number of Carshes and improve roadside safety devices.
67529	Alignment Horizontal and vertical alignment	0.477 Miles	1098081	4494655	HSIP (Section 148)	Urban Principal Arterial - Other	16000	55	State Highway Agency	Roadway Departure	Reduce likelihood of vehicles leaving travel lanes and Identify

											locations with a large number of Carshes and improve roadside safety devices.
81441	Intersection geometry Auxiliary lanes - add left-turn lane	0 Miles	625552.82	700000	HSIP (Section 148)	Urban Minor Arterial	12000	45	City of Municipal Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic control devices.
86480	Intersection geometry Intersection geometry - other	0 Miles	166500	931464	HSIP (Section 148)	Urban Minor Arterial	12000	35	City of Municipal Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic control devices.
86488	Intersection geometry Intersection geometry - other	0 Miles	693000	772558	HSIP (Section 148)	Urban Minor Collector	25000	35	City of Municipal	Intersections	Reduce frequency and severity

									Highway Agency		of crashes and improve traffic control devices.
86489	Intersection geometry Intersection geometry - other	0.1 Miles	717426	898806	HSIP (Section 148)	Urban Minor Collector	8400	35	City of Municipal Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic control devices.
86490	Intersection geometry Intersection geometry - other	0 Miles	90000	533304	HSIP (Section 148)	Urban Minor Arterial	18000	45	City of Municipal Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic control devices.
86544	Intersection traffic control Modify traffic signal - modernization/replacement	0.04 Miles	591925.18	1530053	HSIP (Section 148)	Urban Principal Arterial - Other	13000	30	City of Municipal Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic

											control devices.
91257	Interchange design Interchange design - other	0.2 Miles	3952579	6143126	HSIP (Section 148)	Rural Principal Arterial - Interstate	50000	25	State Highway Agency	Lane Departure	Reduce frequency and severity of crashes and improve traffic control devices & Reduce likelihood of vehicles leaving travel lanes and Identify locations with a large number of Carshes and improve roadside safety devices.
91849	Intersection traffic control Modify traffic signal - modify signal mounting	0.015 Miles	400500	675023	HSIP (Section 148)	Urban Minor Arterial	77000	45	State Highway Agency	Intersections	Reduce frequency and severity of crashes

	(spanwire to mast arm)										and improve traffic control devices.
93136	Intersection geometry Intersection geometrics - miscellaneous/other/unspecified	0.472 Miles	4137954	8141673	HSIP (Section 148)	Rural Major Collector	12000	45	State Highway Agency	Intersections	Reduce frequency and severity of crashes and improve Intersection Geometry.
93350	Intersection traffic control Modify control - modifications to roundabout	0 Miles	1041596	1222000	HSIP (Section 148)	Urban Minor Arterial	8400	35	City of Municipal Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic control devices.
93386	Pedestrians and bicyclists Install sidewalk	0.6 Miles	628170	970533	HSIP (Section 148)	Urban Principal Arterial - Other	77000	45	State Highway Agency	Pedestrians	Reduce frequency and severity of crashes and improve Intersection Geometry.

93465	Alignment Horizontal curve realignment	0.2 Miles	1765103	2242492	HSIP (Section 148)	Rural Principal Arterial - Other	15000	55	State Highway Agency	Roadway Departure	Reduce likelihood of vehicles leaving travel lanes and Identify locations with a large number of Carshes and improve roadside safety devices.
93568	Alignment Alignment - other	0.724 Miles	2189192	4462982	HSIP (Section 148)	Rural Major Collector	10000	45	State Highway Agency	Lane Departure	Reduce likelihood of vehicles leaving travel lanes and Identify locations with a large number of Carshes and improve roadside safety devices.

93626	Intersection traffic control Modify traffic signal - modernization/replacement	0 Miles	169975	292257	HSIP (Section 148)	Urban Minor Arterial	23000	45	City of Municipal Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic control devices.
95633	Intersection geometry Auxiliary lanes - add left-turn lane	0.1 Miles	193402	282060	HSIP (Section 148)	Rural Principal Arterial - Other	18000	45	State Highway Agency	Intersections	Reduce frequency and severity of crashes and improve Intersection Geometry.
96752	Pedestrians and bicyclists Miscellaneous pedestrians and bicyclists	0.08 Miles	403631	619991	HSIP (Section 148)	Urban Minor Arterial	13000	45	State Highway Agency	Bicyclists	Reduce frequency and severity of crashes and improve Intersection Geometry.
97027	Intersection traffic control Modify control - traffic signal to roundabout	0 Miles	90000	100000	HSIP (Section 148)	Urban Minor Arterial	7500	45	City of Municipal Highway Agency	Intersections	Reduce frequency and severity of crashes and improve

											Intersection Geometry.
98371	Intersection geometry Intersection geometrics - miscellaneous/other/unspecified	0.25 Miles	1882404	1802418	HSIP (Section 148)	Urban Minor Arterial	25000	45	State Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic control devices.
98372	Intersection geometry Intersection geometrics - miscellaneous/other/unspecified	0.1 Miles	747475	1625479	HSIP (Section 148)	Urban Minor Arterial	26000	35	State Highway Agency	Intersections	Reduce frequency and severity of crashes and improve Intersection Geometry.
98375	Intersection traffic control Modify traffic signal - modernization/replacement	0.157 Miles	837540	1097800	HSIP (Section 148)	Urban Minor Arterial	35000	45	State Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic control devices.
9838	Intersection traffic control Modify traffic signal -	0.08	472028	524476	HSIP (Sectio	Urban Principal	5000	45	State Highway	Intersecti	Reduce frequency

1	modernization/replacement	Miles			n 148)	Arterial - Other	0		Agency	ons	and severity of crashes and improve traffic control devices.
98382	Access management Median crossover - directional crossover	0.09 Miles	121500	185732	HSIP (Section 148)	Urban Minor Arterial	45000	45	State Highway Agency	Lane Departure	Apply state-of -the-art access management practices through standards and ordinances.
98383	Intersection traffic control Modify traffic signal - modernization/replacement	0.09 Miles	432847	515941	HSIP (Section 148)	Urban Minor Arterial	50000	45	State Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic control devices.
98561	Intersection geometry Intersection geometry - other	0.114 Miles	306755	340839	HSIP (Section 148)	Urban Principal Arterial - Other	31000	45	County Highway Agency	Intersections	Reduce frequency and severity of crashes

											and improve Intersection Geometry.
98562	Intersection geometry Intersection geometry - other	0.185 Miles	472232	632984	HSIP (Section 148)	Urban Principal Arterial - Other	27000	0	County Highway Agency	Intersections	Reduce frequency and severity of crashes and improve Intersection Geometry.
98563	Intersection traffic control Modify traffic signal - miscellaneous/other/unspecified	0.082 Miles	140278	155865	HSIP (Section 148)	Urban Principal Arterial - Other	26000	45	County Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic control devices.
98564	Intersection traffic control Modify traffic signal - modernization/replacement	0.31 Miles	484940	510534	HSIP (Section 148)	Urban Principal Arterial - Other	22000	45	County Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic control devices.

98565	Intersection traffic control Modify traffic signal - modernization/replacement	0 Miles	104956	112902	HSIP (Section 148)	Urban Principal Arterial - Other	26000	45	County Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic control devices.
98911	Shoulder treatments Shoulder treatments - other	0.23 Miles	827508	924136	HSIP (Section 148)	Rural Major Collector	0	0	State Highway Agency	Roadway Departure	Reduce likelihood of vehicles leaving travel lanes and Identify locations with a large number of Carshes and improve roadside safety devices.
100541	Pedestrians and bicyclists Install sidewalk	1.6 Miles	842779	1250000	HSIP (Section 148)	Rural Minor Arterial	4600	55	State Highway Agency	Pedestrians	
100542	Intersection traffic control Modify traffic signal -	0 Miles	724500	1385000	HSIP (Sectio	Urban Principal	42000	45	City of Municip	Intersections	Reduce frequency

	modernization/replacement				n 148)	Arterial - Other			al Highway Agency		and severity of crashes and improve traffic control devices.
100546	Intersection traffic control Modify traffic signal - miscellaneous/other/unspecified	0 Miles	591747	4502426	HSIP (Section 148)	Urban Principal Arterial - Other	0	0	City of Municipal Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic control devices.
100565	Intersection traffic control Modify traffic signal - modernization/replacement	0 Miles	677508	772132	HSIP (Section 148)	Rural Principal Arterial - Other	25000	55	State Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic control devices.
100600	Intersection traffic control Modify traffic signal - modernization/replacement	0.019 Miles	239777	439724	HSIP (Section 148)	Rural Major Collector	18000	45	State Highway Agency	Intersections	Reduce frequency and severity of crashes and improve

											traffic control devices.
100632	Roadway Roadway - other	0.367 Miles	869079	1330743	HSIP (Section 148)	Urban Major Collector	4900	45	State Highway Agency		Reduce likelihood of vehicles leaving travel lanes and Identify locations with a large number of Carshes and improve roadside safety devices.
100655	Alignment Vertical alignment or elevation change	0.4 Miles	1593743	418045 9	HSIP (Section 148)	Rural Principal Arterial - Other	10000	55	State Highway Agency	Roadway Departure	Reduce likelihood of vehicles leaving travel lanes and Identify locations with a large number of Carshes and improve

											roadside safety devices.
100657	Intersection geometry Intersection geometry - other	0 Miles	243267	272262	HSIP (Section 148)	Urban Minor Arterial	6800	35	Town or Township Highway Agency	Intersections	Reduce frequency and severity of crashes and improve Intersection Geometry.
100659	Intersection traffic control Modify traffic signal - modernization/replacement	0.05 Miles	295817	344993	HSIP (Section 148)	Urban Principal Arterial - Other	41000	35	City of Municipal Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic control devices.
100661	Intersection traffic control Intersection flashers - add advance intersection warning sign-mounted	0.3 Miles	55918	65000	HSIP (Section 148)	Rural Principal Arterial - Other	5544	35	State Highway Agency	Intersections	Improve the awareness and visibiolity of traffic control device so all users can navigate the

											intersection.
100663	Intersection traffic control Intersection flashers - add advance intersection warning sign-mounted	0.22 Miles	135979	215000	HSIP (Section 148)	Urban Principal Arterial - Other Freeways and Expressways	14903	55	State Highway Agency	Intersections	Improve the awareness and visibiolity of traffic control device so all users can navigate the intersection.
100664	Roadside Barrier- metal	22.84 Miles	170721	355000	HSIP (Section 148)	Rural Major Collector	17069	55	State Highway Agency	Roadway Departure	Reduce likelihood of vehicles leaving travel lanes and Identify locations with a large number of Crashes and improve roadside safety devices.
100700	Intersection traffic control Modify traffic signal -	0.13 Miles	278475	371185	HSIP (Sectio	Urban Principal	67600	50	State Highway	Intersections	Reduce frequency

	modernization/replacement				n 148)	Arterial - Other			Agency		and severity of crashes and improve traffic control devices.
101019	Intersection traffic control Modify traffic signal - modernization/replacement	0.4 Miles	662017	983182	HSIP (Section 148)	Urban Principal Arterial - Other	54000	45	State Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic control devices.
102524	Intersection traffic control Modify traffic signal - replace existing indications (incandescent-to-LED and/or 8-to-12 inch dia.)	0 Miles	1688619	2200000	HSIP (Section 148)	Urban Principal Arterial - Other	0	0	City of Municipal Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic control devices.
102526	Intersection traffic control Modify traffic signal - replace existing indications (incandescent-to-LED and/or 8-to-12 inch	0 Miles	1784026	2950700	HSIP (Section 148)	Urban Principal Arterial - Other	0	0	City of Municipal Highway Agency	Intersections	Reduce frequency and severity of crashes and improve

	dia.)										traffic control devices.
103317	Interchange design Interchange design - other	2 Miles	725000	50000000	HSIP (Section 148)	Urban Principal Arterial - Interstate	18000	70	State Highway Agency	Roadway Departure	Reduce frequency and severity of crashes at intersection and interchanges by limitning conflicts through geometric design and improve traffic control devices.
103436	Intersection traffic control Modify traffic signal - modernization/replacement	0 Miles	345914	397716	HSIP (Section 148)	Urban Minor Arterial	25000	40	State Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic control devices.

104635	Advanced technology and ITS Advanced technology and ITS - other	8.01 Miles	949590	1055100	HSIP (Section 148)	Rural Principal Arterial - Interstate	36000	65	State Highway Agency	Roadway Departure	Reduce likelihood of vehicles leaving travel lanes and Identify locations with a large number of Carshes and improve roadside safety devices.
104669	Shoulder treatments Shoulder treatments - other	10 Miles	63237	306865	HSIP (Section 148)	Rural Principal Arterial - Other	12000	55	State Highway Agency	Roadway Departure	Reduce likelihood of vehicles leaving travel lanes and Identify locations with a large number of Carshes and improve roadside safety devices.

104685	Intersection traffic control Intersection flashers - add advance intersection warning sign-mounted	0 Miles	158000	158000	HSIP (Section 148)	Rural Minor Arterial	7700	55	State Highway Agency	Intersections	Reduce frequency and severity of crashes and improve traffic control devices.Improve the visibility of traffic control devices so all users can navigate the intersection.
104699	Roadway Pavement surface - high friction surface	0 Miles	1507385	1674873	HSIP (Section 148)	Rural Major Collector	0	0	State Highway Agency	Roadway Departure	Reduce likelihood of vehicles leaving travel lanes and Identify locations with a large number of Carshes and improve roadside safety

											devices.

Progress in Achieving Safety Performance Targets

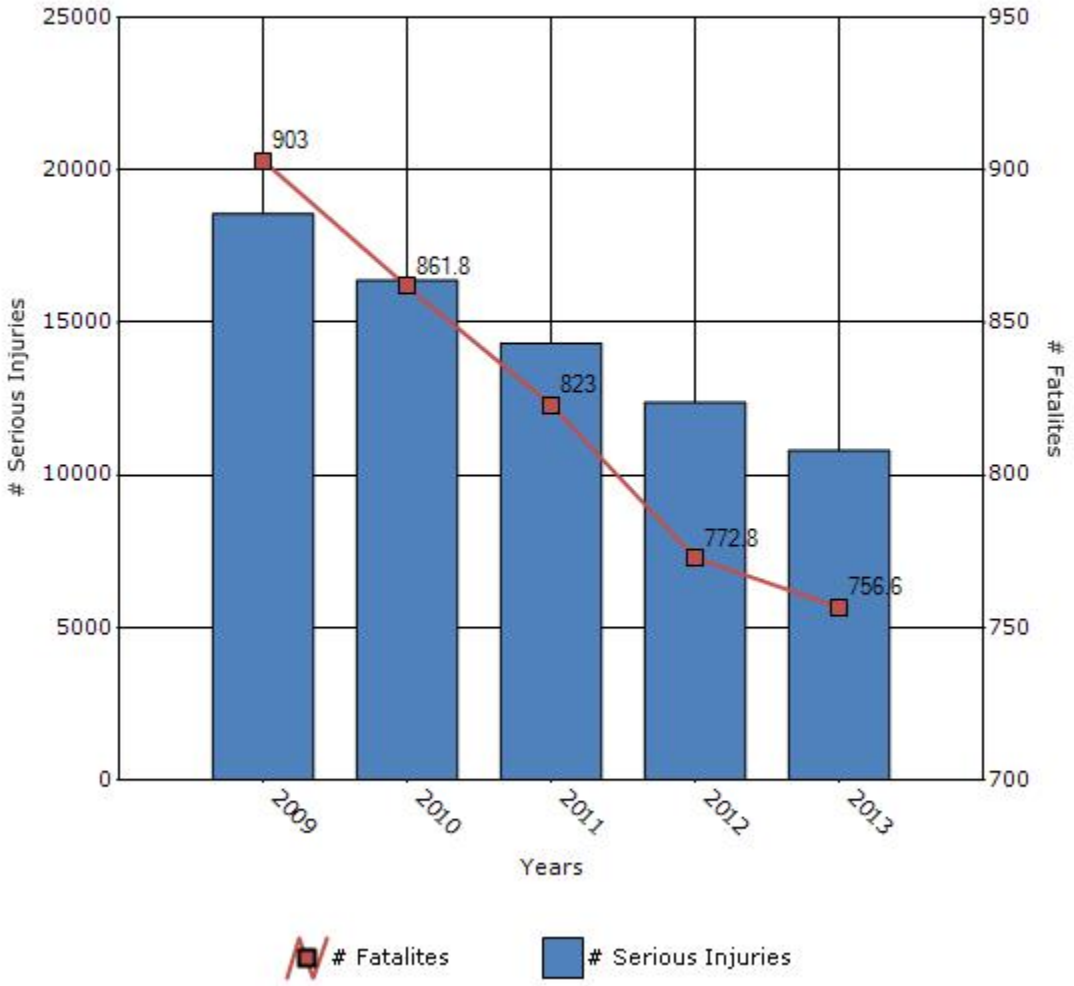
Overview of General Safety Trends

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

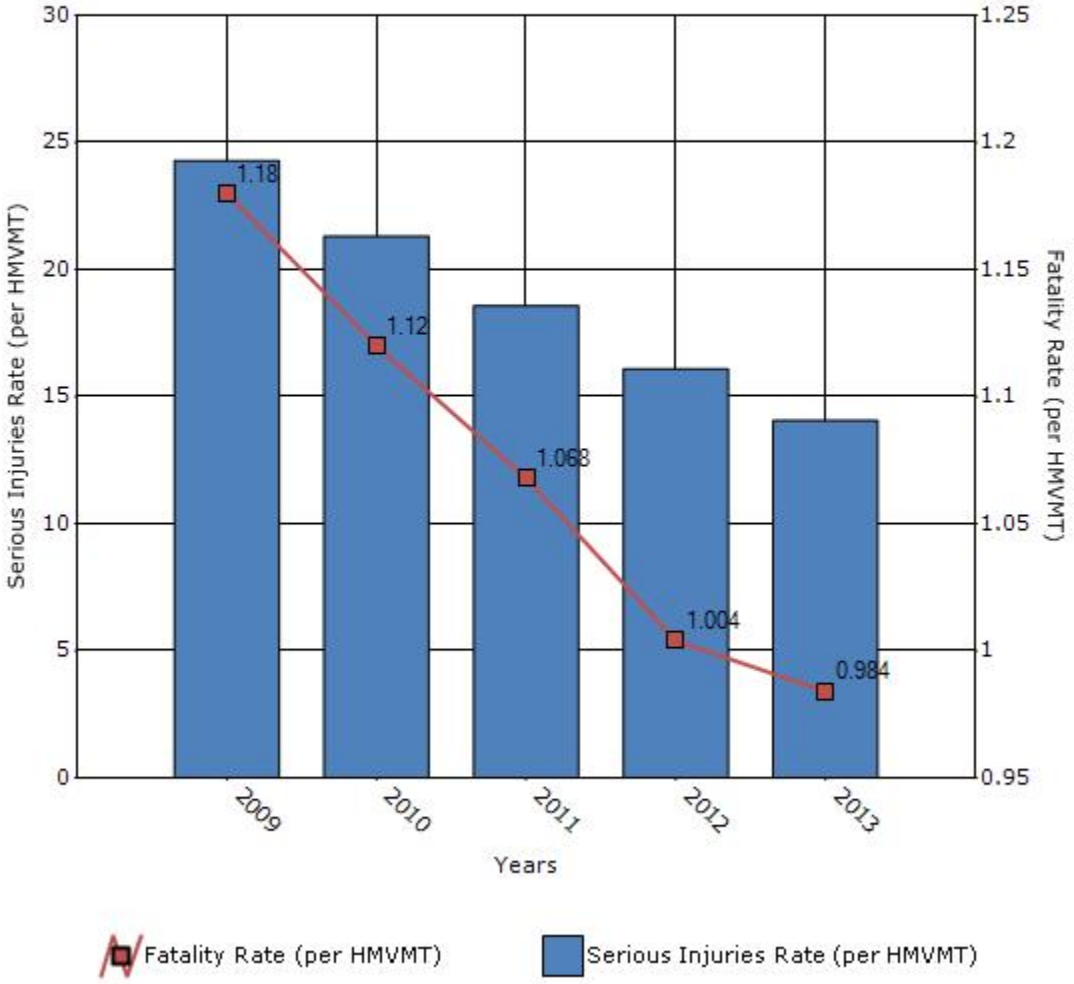
Performance Measures*	2009	2010	2011	2012	2013
Number of fatalities	903	861.8	823	772.8	756.6
Number of serious injuries	18554.8	16386.8	14314.2	12377.8	10798.6
Fatality rate (per HMVMT)	1.18	1.12	1.068	1.004	0.984
Serious injury rate (per HMVMT)	24.284	21.314	18.58	16.098	14.056

*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

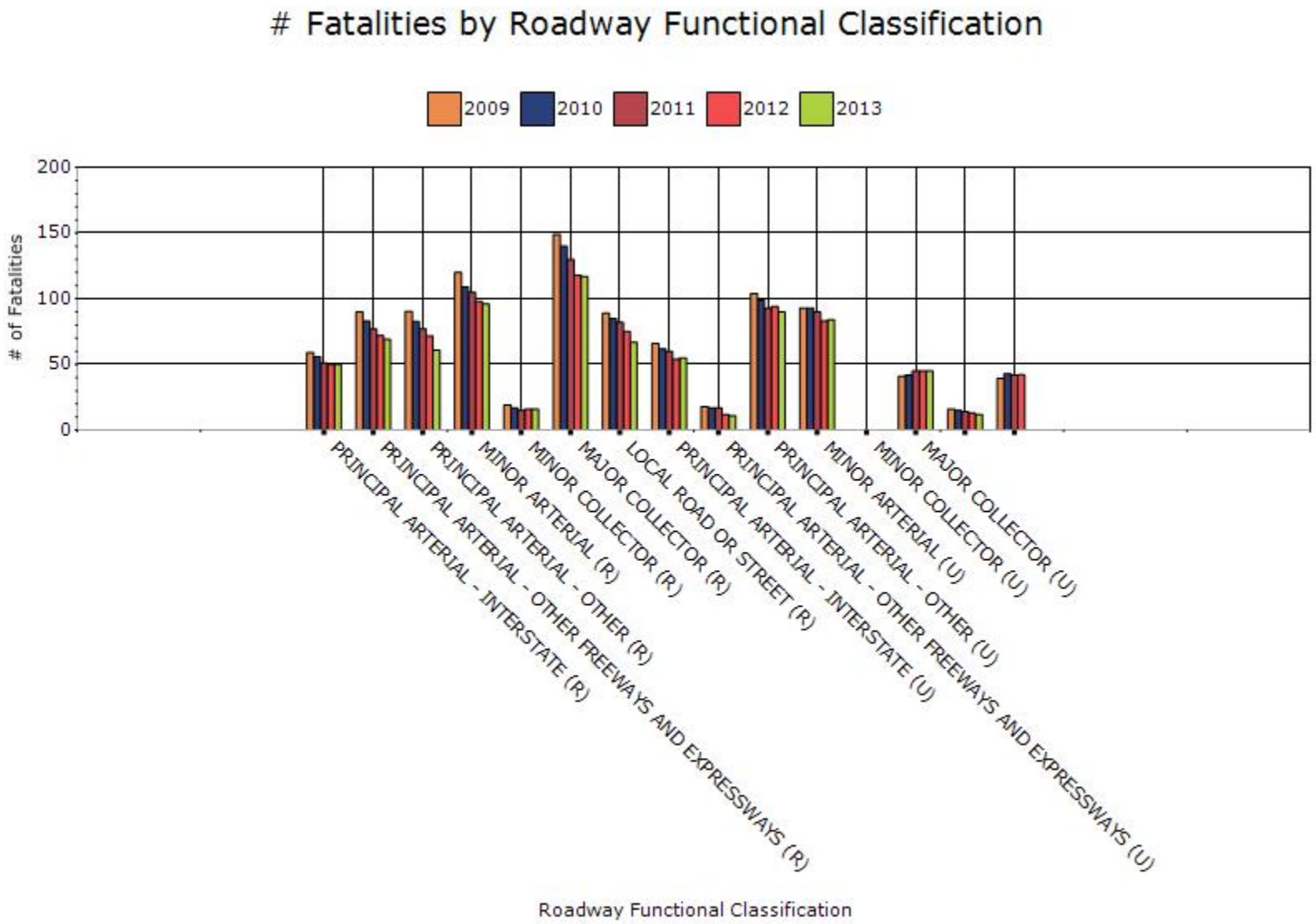


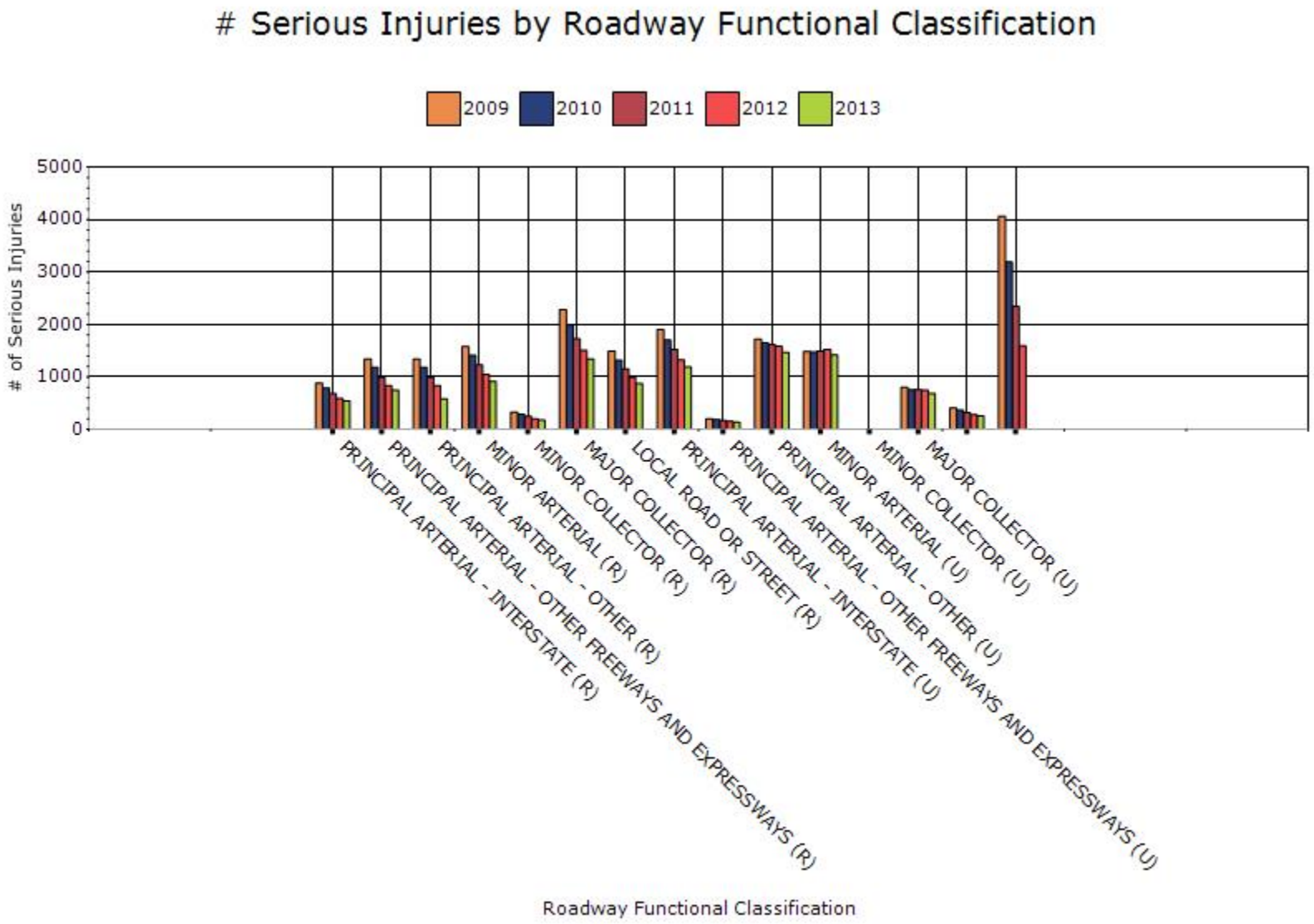
To the maximum extent possible, present performance measure* data by functional classification and ownership.

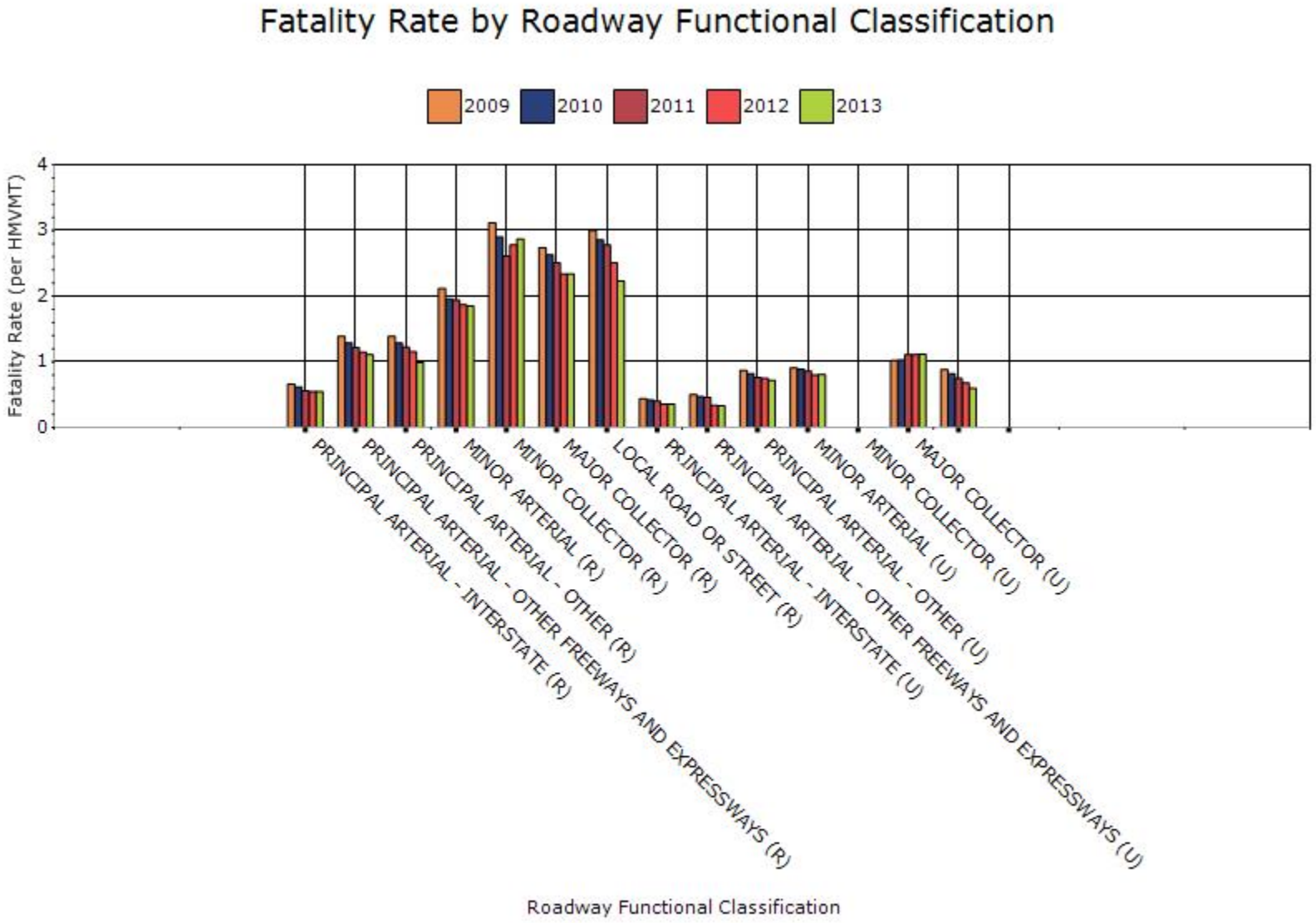
Year - 2013

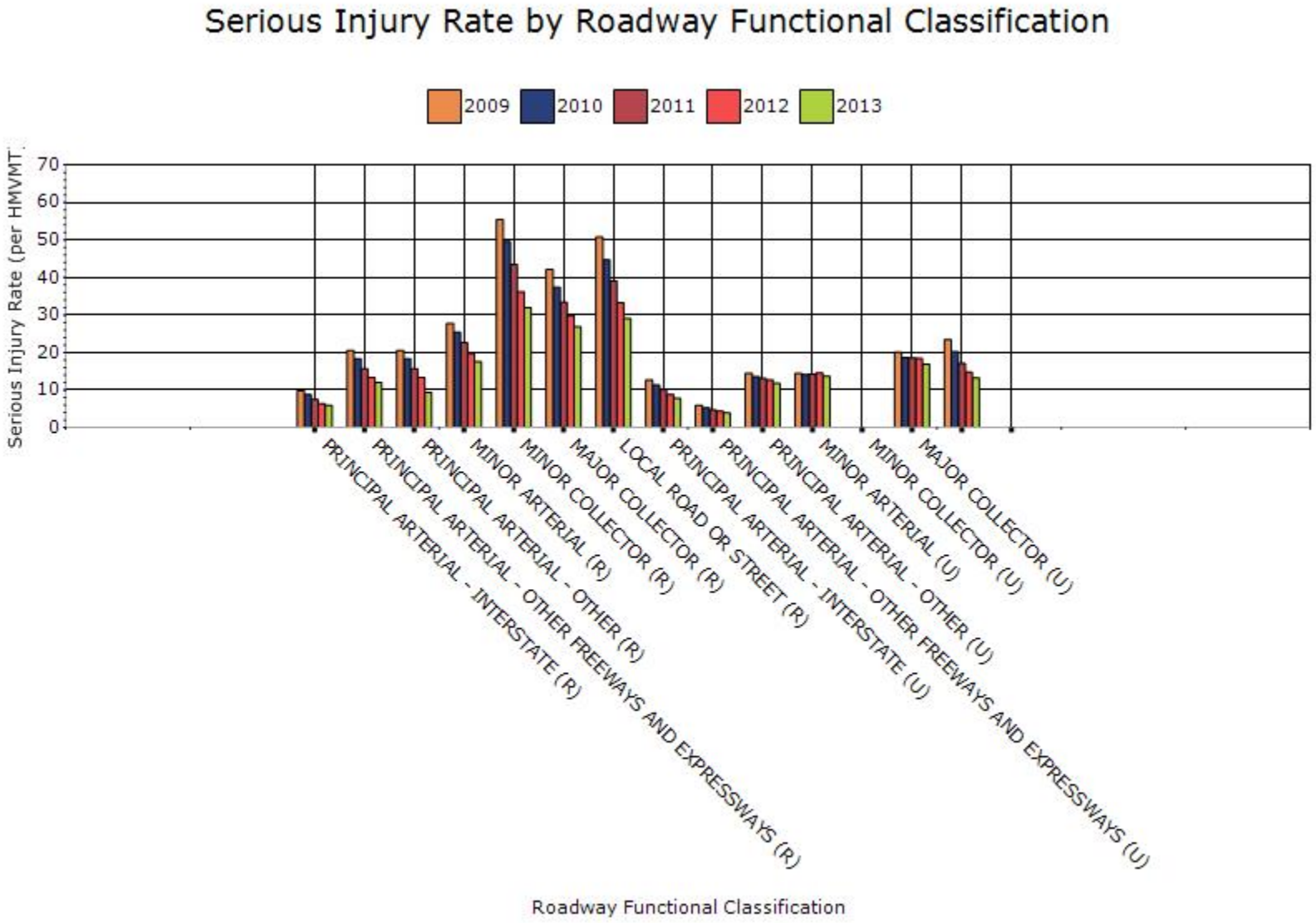
Function Classification	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
RURAL PRINCIPAL ARTERIAL - INTERSTATE	50	544	0.55	5.88
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	69	747	1.11	11.98
RURAL PRINCIPAL ARTERIAL - OTHER	61	579	0.99	9.37
RURAL MINOR ARTERIAL	96	917	1.85	17.6
RURAL MINOR COLLECTOR	16	176	2.87	31.93
RURAL MAJOR COLLECTOR	117	1344	2.34	26.88
RURAL LOCAL ROAD OR STREET	67	876	2.23	29.04
URBAN PRINCIPAL	55	1190	0.36	7.86

ARTERIAL - INTERSTATE				
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	11	135	0.33	3.9
URBAN PRINCIPAL ARTERIAL - OTHER	90	1468	0.72	11.75
URBAN MINOR ARTERIAL	84	1418	0.81	13.69
URBAN MINOR COLLECTOR	0	0	0	0
URBAN MAJOR COLLECTOR	45	684	1.12	16.91
URBAN LOCAL ROAD OR STREET	12	258	0.6	13.29
OTHER	0	0	0	0


Fatalities by Roadway Functional Classification
2009
2010
2011
2012
2013
200
150
100
50
0
# of Fatalities
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)
LOCAL ROAD OR STREET (R)
PRINCIPAL ARTERIAL - INTERSTATE (U)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (U)
PRINCIPAL ARTERIAL - OTHER (U)
MINOR ARTERIAL (U)
MINOR COLLECTOR (U)
MAJOR COLLECTOR (U)
Roadway Functional Classification


Serious Injuries by Roadway Functional Classification
2009
2010
2011
2012
2013
# of Serious Injuries
5000
4000
3000
2000
1000
0
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)
LOCAL ROAD OR STREET (R)
PRINCIPAL ARTERIAL - INTERSTATE (U)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (U)
PRINCIPAL ARTERIAL - OTHER (U)
MINOR ARTERIAL (U)
MINOR COLLECTOR (U)
MAJOR COLLECTOR (U)
Roadway Functional Classification

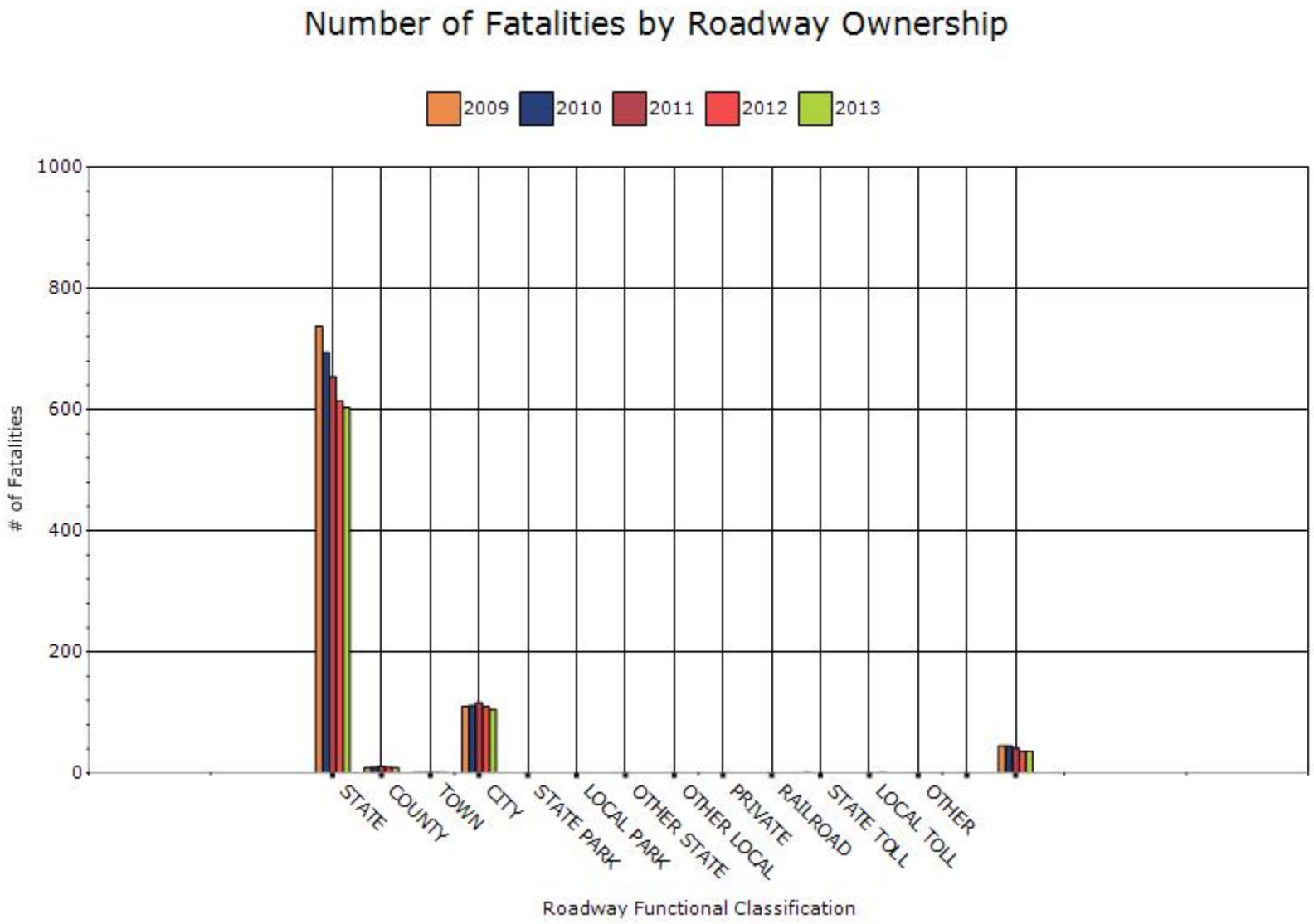

Fatality Rate by Roadway Functional Classification
2009
2010
2011
2012
2013
Fatality Rate (per HMVMT)
0
1
2
3
4
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)
LOCAL ROAD OR STREET (R)
PRINCIPAL ARTERIAL - INTERSTATE (U)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (U)
PRINCIPAL ARTERIAL - OTHER (U)
MINOR ARTERIAL (U)
MINOR COLLECTOR (U)
MAJOR COLLECTOR (U)
Roadway Functional Classification

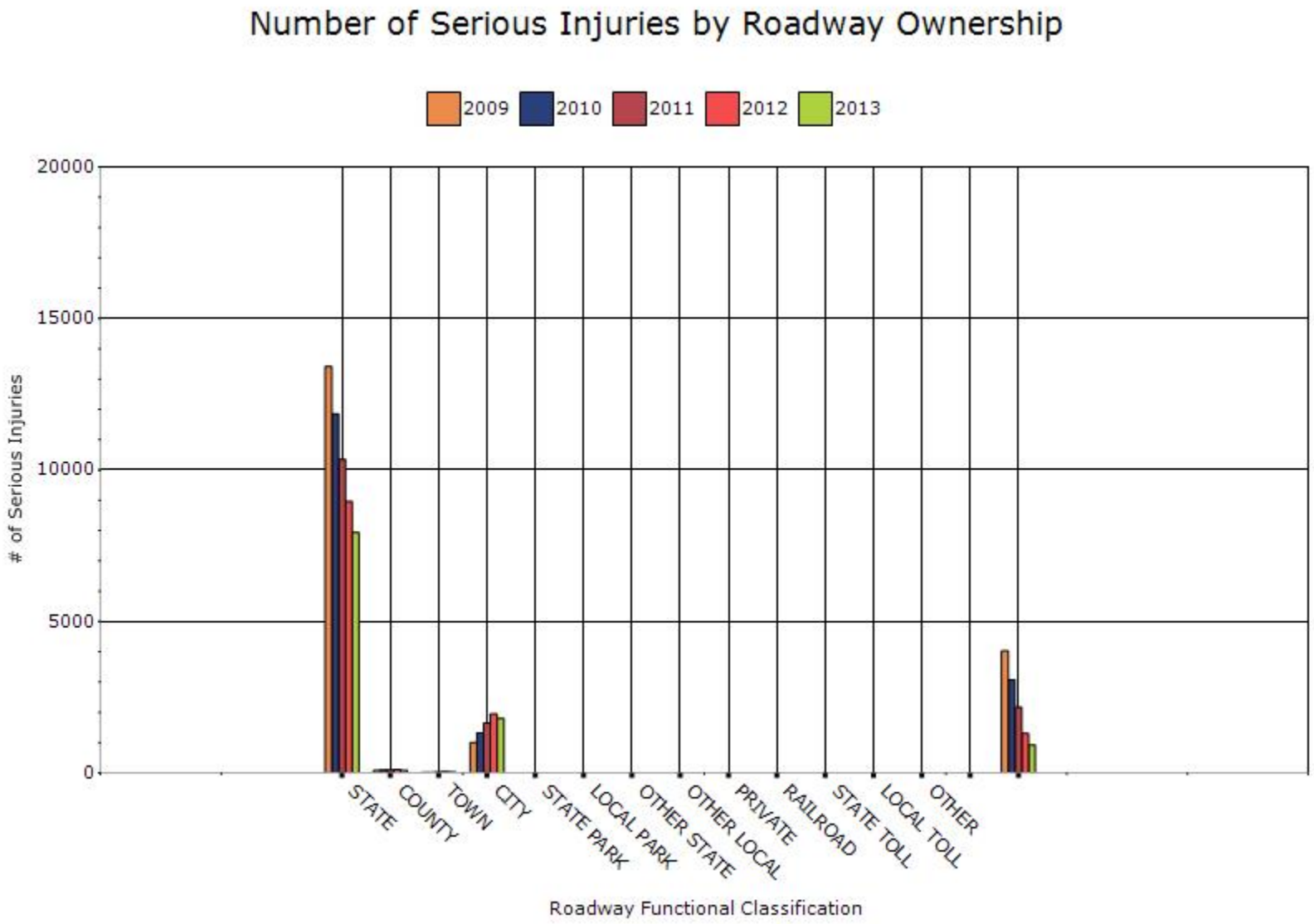

Serious Injury Rate by Roadway Functional Classification
2009
2010
2011
2012
2013
Serious Injury Rate (per HMVMT)
70
60
50
40
30
20
10
0
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)
LOCAL ROAD OR STREET (R)
PRINCIPAL ARTERIAL - INTERSTATE (U)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (U)
PRINCIPAL ARTERIAL - OTHER (U)
MINOR ARTERIAL (U)
MINOR COLLECTOR (U)
MAJOR COLLECTOR (U)
Roadway Functional Classification

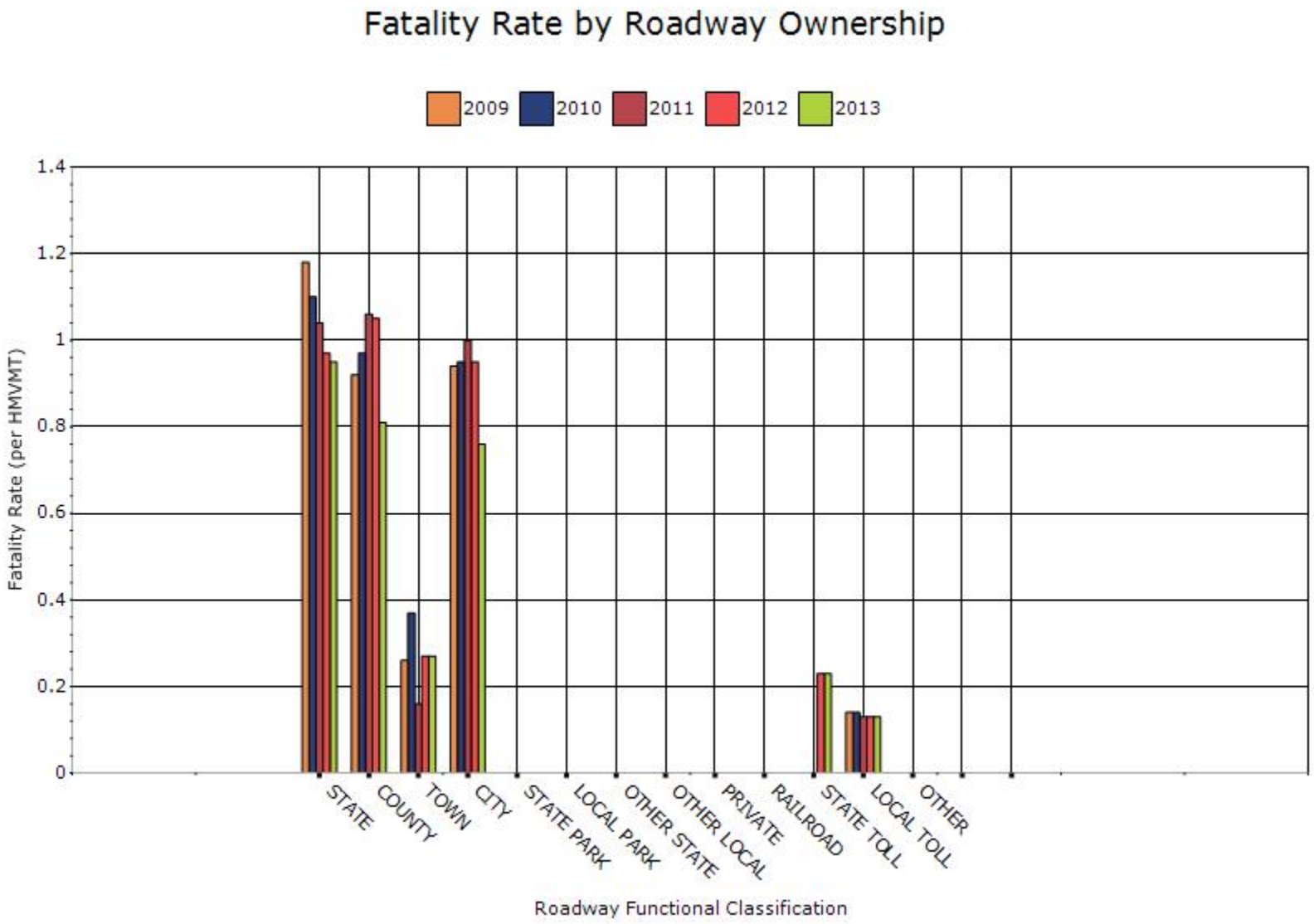
Year - 2013

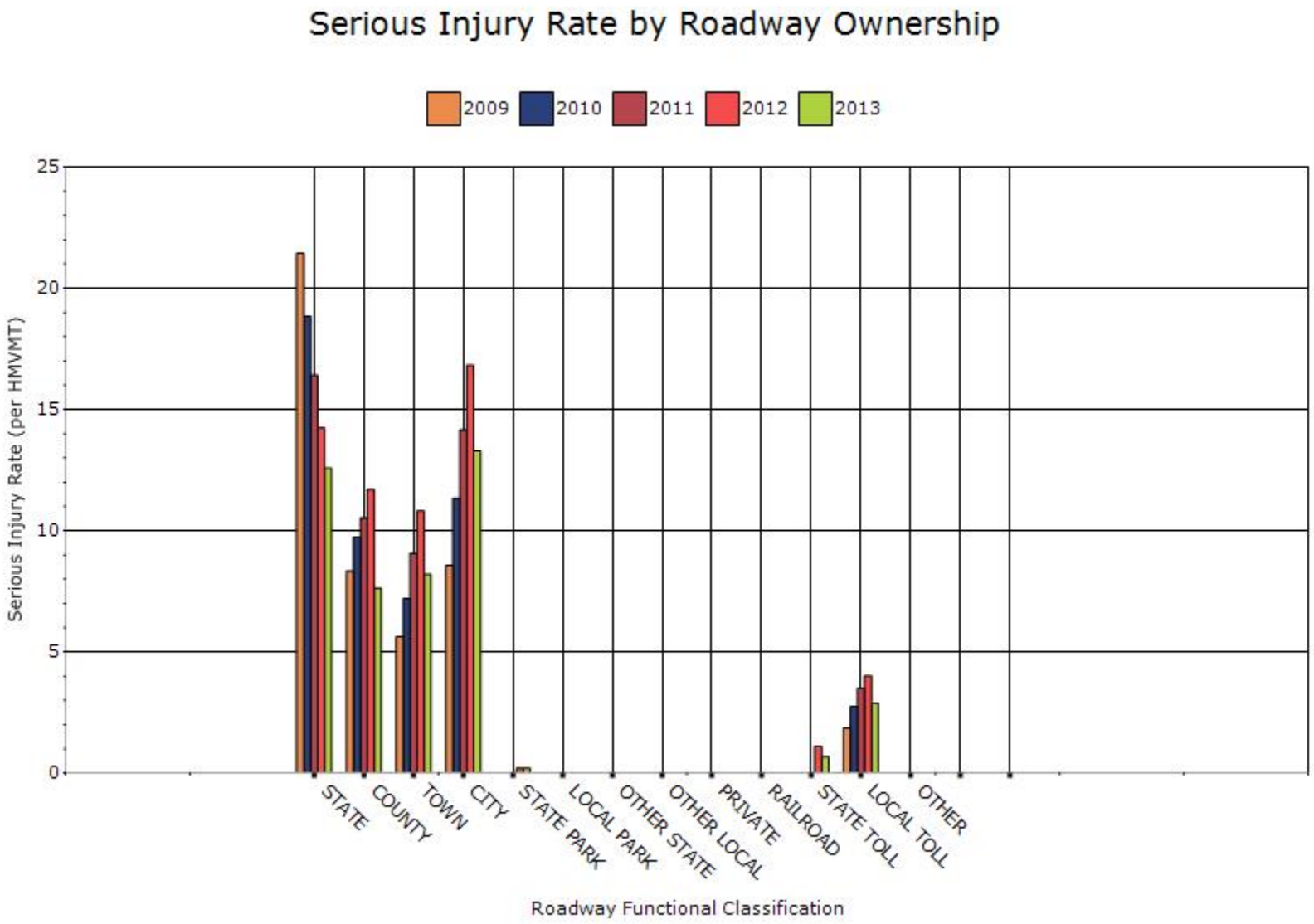
Roadway Ownership	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
STATE HIGHWAY AGENCY	603	7942	0.95	12.58
COUNTY HIGHWAY AGENCY	9	89	0.81	7.63
TOWN OR TOWNSHIP HIGHWAY AGENCY	1	35	0.27	8.2
CITY OF MUNICIPAL HIGHWAY AGENCY	105	1803	0.76	13.29
STATE PARK, FOREST, OR RESERVATION AGENCY	0	1	0	0.19
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	1	0.23	0.68
LOCAL TOLL AUTHORITY	1	7	0.13	2.89
OTHER PUBLIC INSTRUMENTALITY (E.G. AIRPORT, SCHOOL, UNIVERSITY)	0	1	NaN	NaN
INDIAN TRIBE NATION	0	0	0	0

OTHER	36	927	NaN	NaN


Number of Fatalities by Roadway Ownership
2009
2010
2011
2012
2013
1000
800
600
400
200
0
# of Fatalities
STATE
COUNTY
TOWN
CITY
STATE PARK
LOCAL PARK
OTHER STATE
OTHER LOCAL
PRIVATE
RAILROAD
STATE TOLL
LOCAL TOLL
OTHER
Roadway Functional Classification


Number of Serious Injuries by Roadway Ownership
2009
2010
2011
2012
2013
20000
15000
10000
5000
0
# of Serious Injuries
STATE
COUNTY
TOWN
CITY
STATE PARK
LOCAL PARK
OTHER STATE
OTHER LOCAL
PRIVATE
RAILROAD
STATE TOLL
LOCAL TOLL
OTHER
Roadway Functional Classification


Fatality Rate by Roadway Ownership
2009
2010
2011
2012
2013
Fatality Rate (per HMVMT)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
STATE
COUNTY
TOWN
CITY
STATE PARK
LOCAL PARK
OTHER STATE
OTHER LOCAL
PRIVATE
RAILROAD
STATE TOLL
LOCAL TOLL
OTHER
Roadway Functional Classification


Serious Injury Rate by Roadway Ownership
2009
2010
2011
2012
2013
Serious Injury Rate (per HMVMT)
25
20
15
10
5
0
STATE
COUNTY
TOWN
CITY
STATE PARK
LOCAL PARK
OTHER STATE
OTHER LOCAL
PRIVATE
RAILROAD
STATE TOLL
LOCAL TOLL
OTHER
Roadway Functional Classification

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

None at this time.

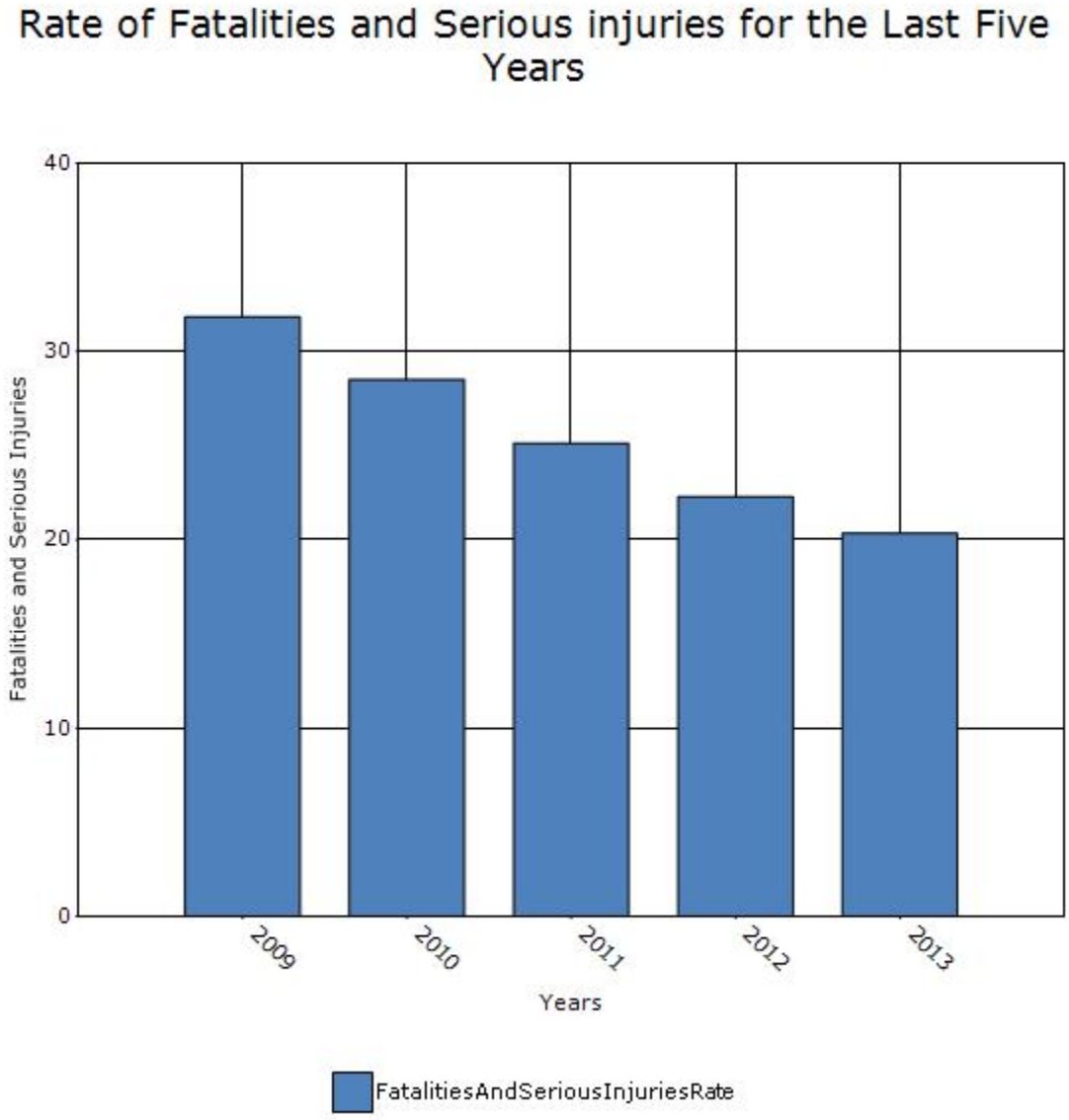
Application of Special Rules

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)	1.91	1.83	1.76	1.71	1.8
Serious injury rate (per capita)	29.93	26.69	23.37	20.58	18.55
Fatality and serious injury rate (per capita)	31.84	28.52	25.13	22.29	20.35

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

Fatal Rate= (Fatal Crashes *100,000)/Population
Injury Rate= (Injury Crashes*100,000)/Population
Fatal and Injury Rate= ((Fatal+Injury)*100,000)/Population



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:

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.

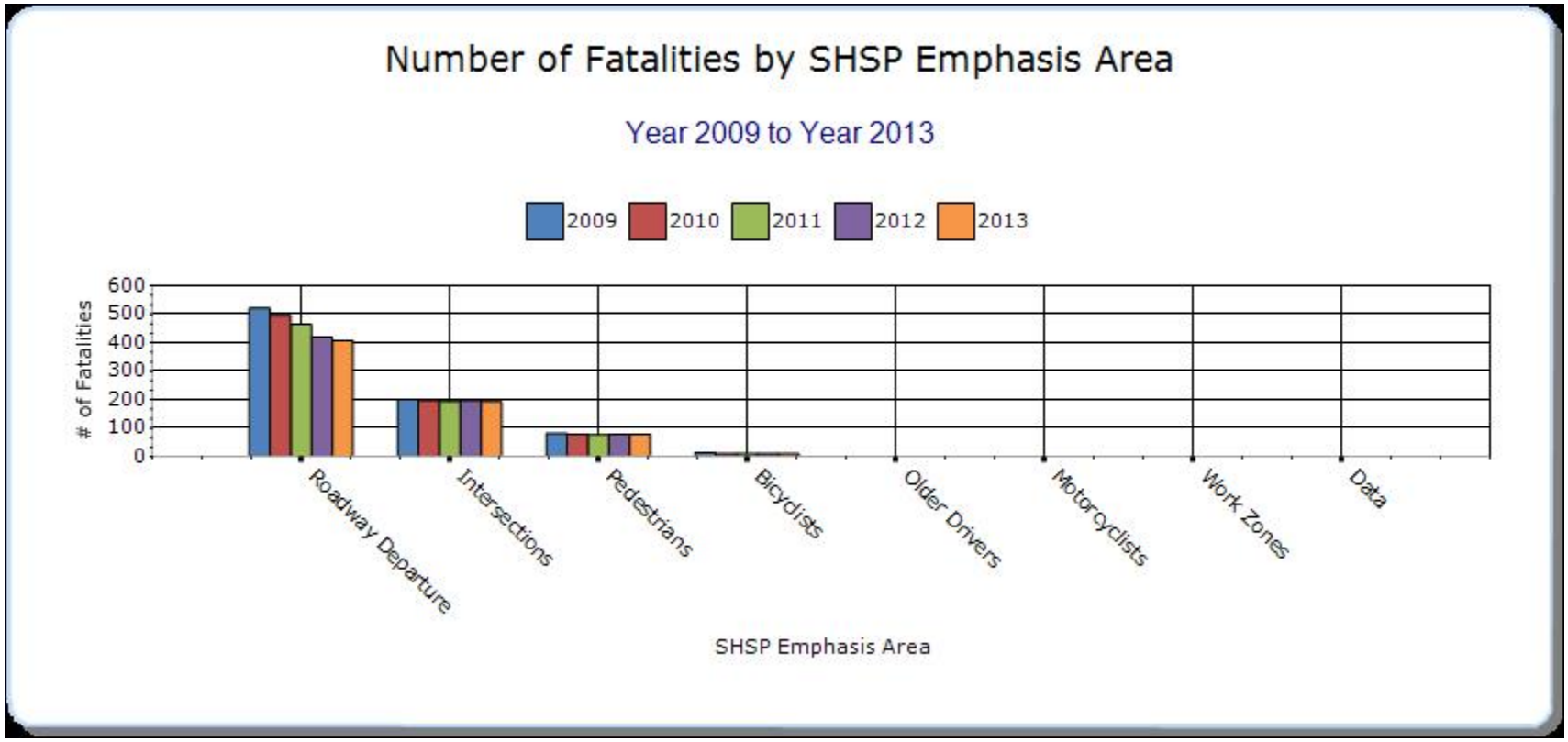
None

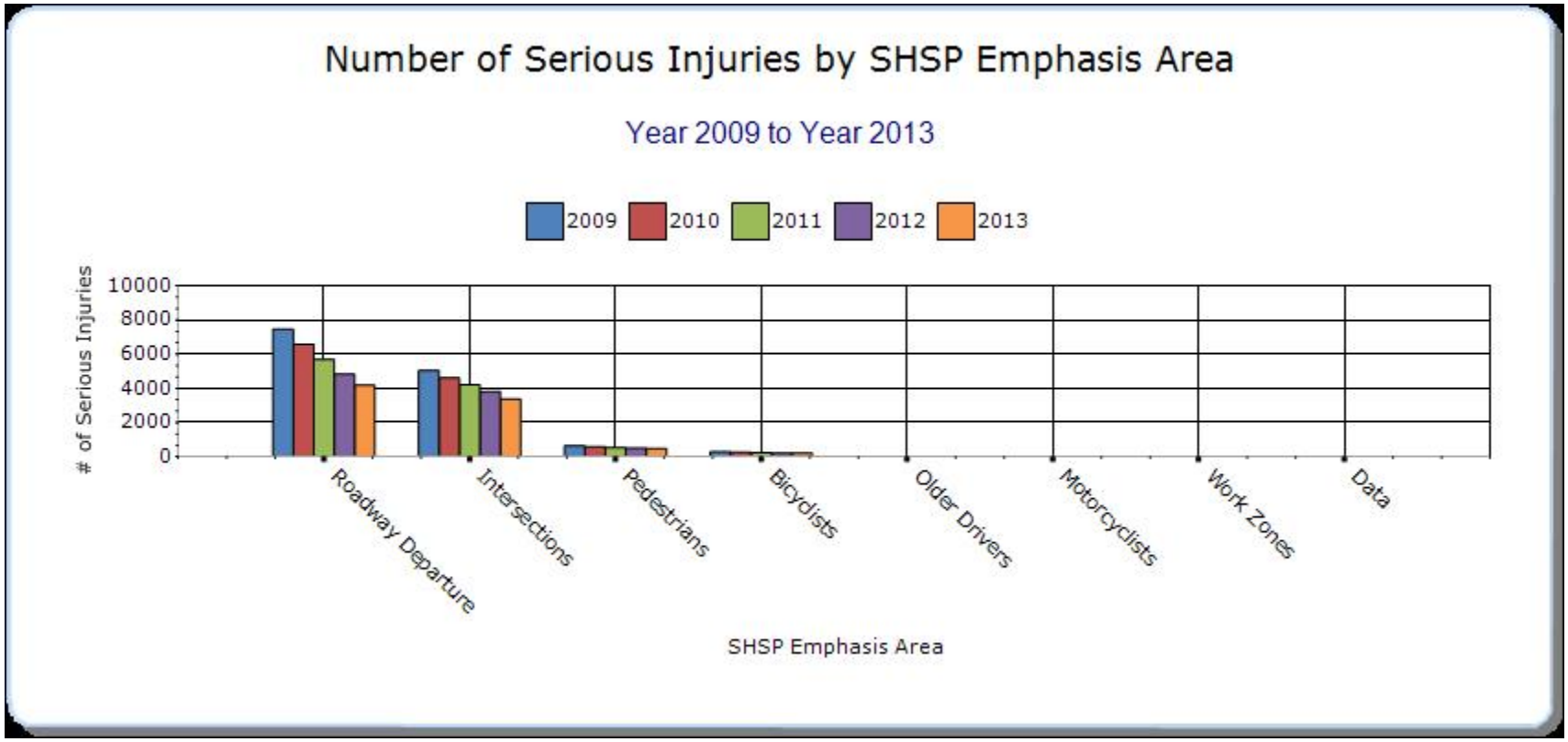
SHSP Emphasis Areas

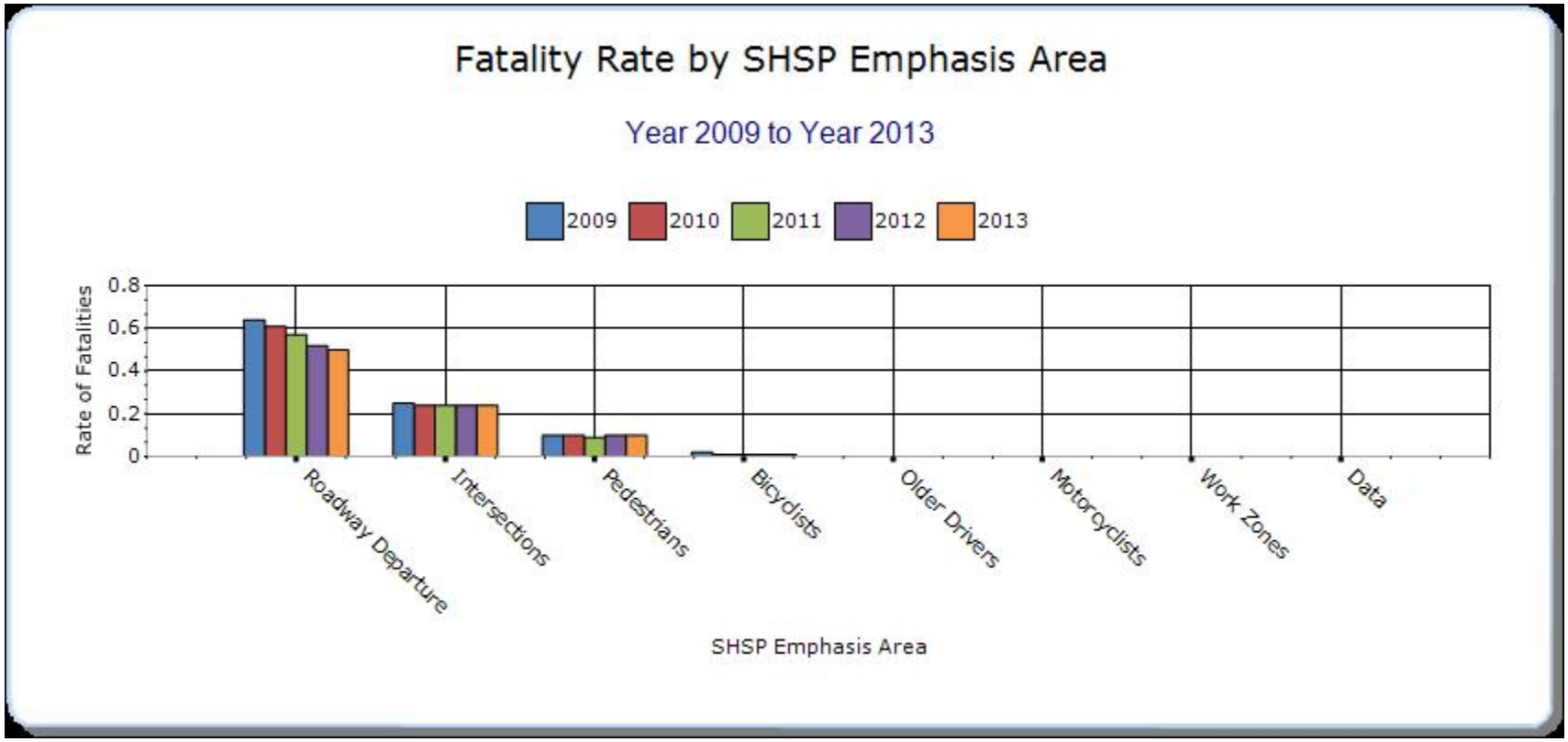
For each SHSP emphasis area that relates to the HSIP, present trends in emphasis area performance measures.

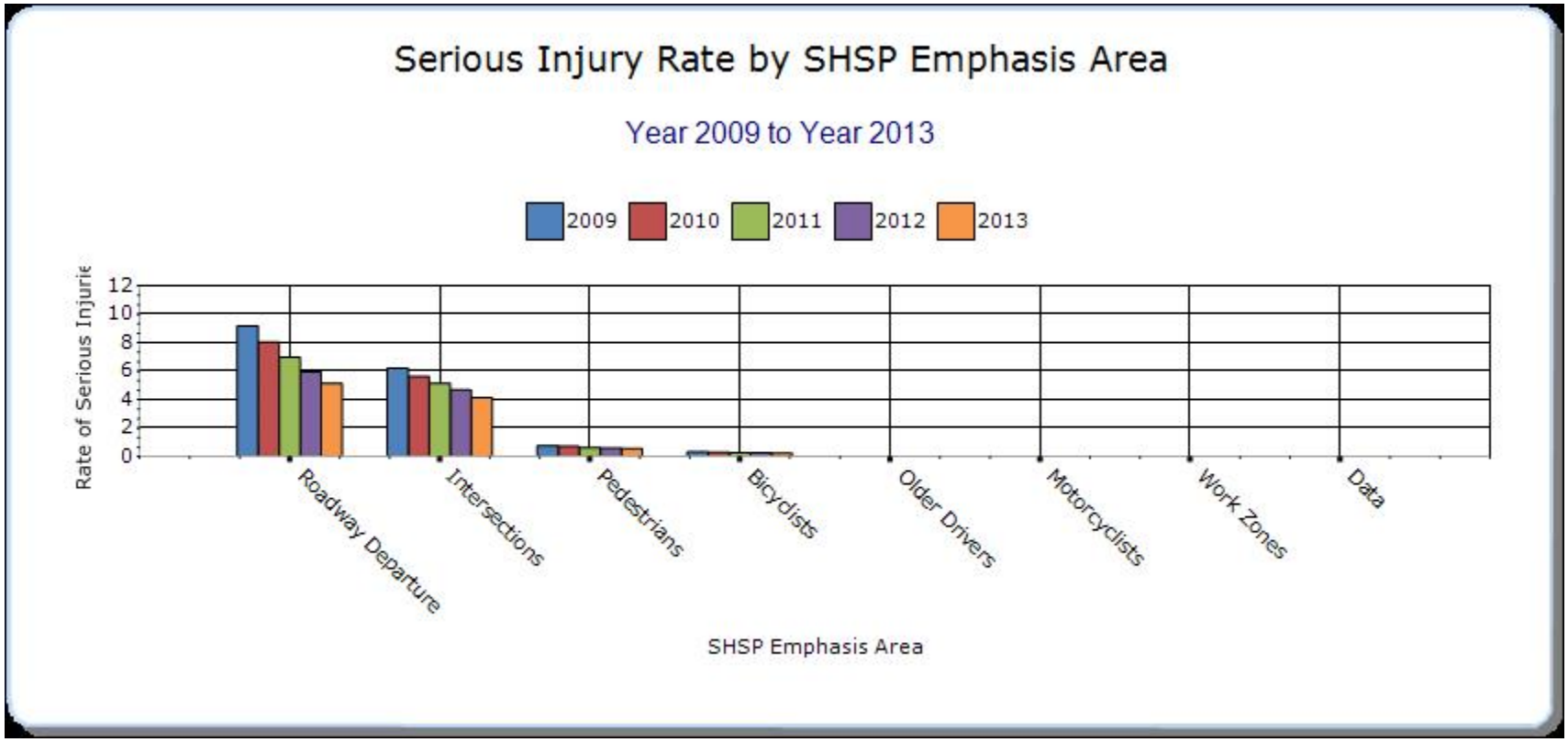
Year - 2013

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		407	4168	0.5	5.14	0	0	0
Intersections		192	3366	0.24	4.15	0	0	0
Pedestrians		79	470	0.1	0.58	0	0	0
Bicyclists		10	190	0.01	0.23	0	0	0


Number of Fatalities by SHSP Emphasis Area
Year 2009 to Year 2013
2009
2010
2011
2012
2013
# of Fatalities
600
500
400
300
200
100
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Data
SHSP Emphasis Area


Number of Serious Injuries by SHSP Emphasis Area
Year 2009 to Year 2013
2009
2010
2011
2012
2013
# of Serious Injuries
10000
8000
6000
4000
2000
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Data
SHSP Emphasis Area

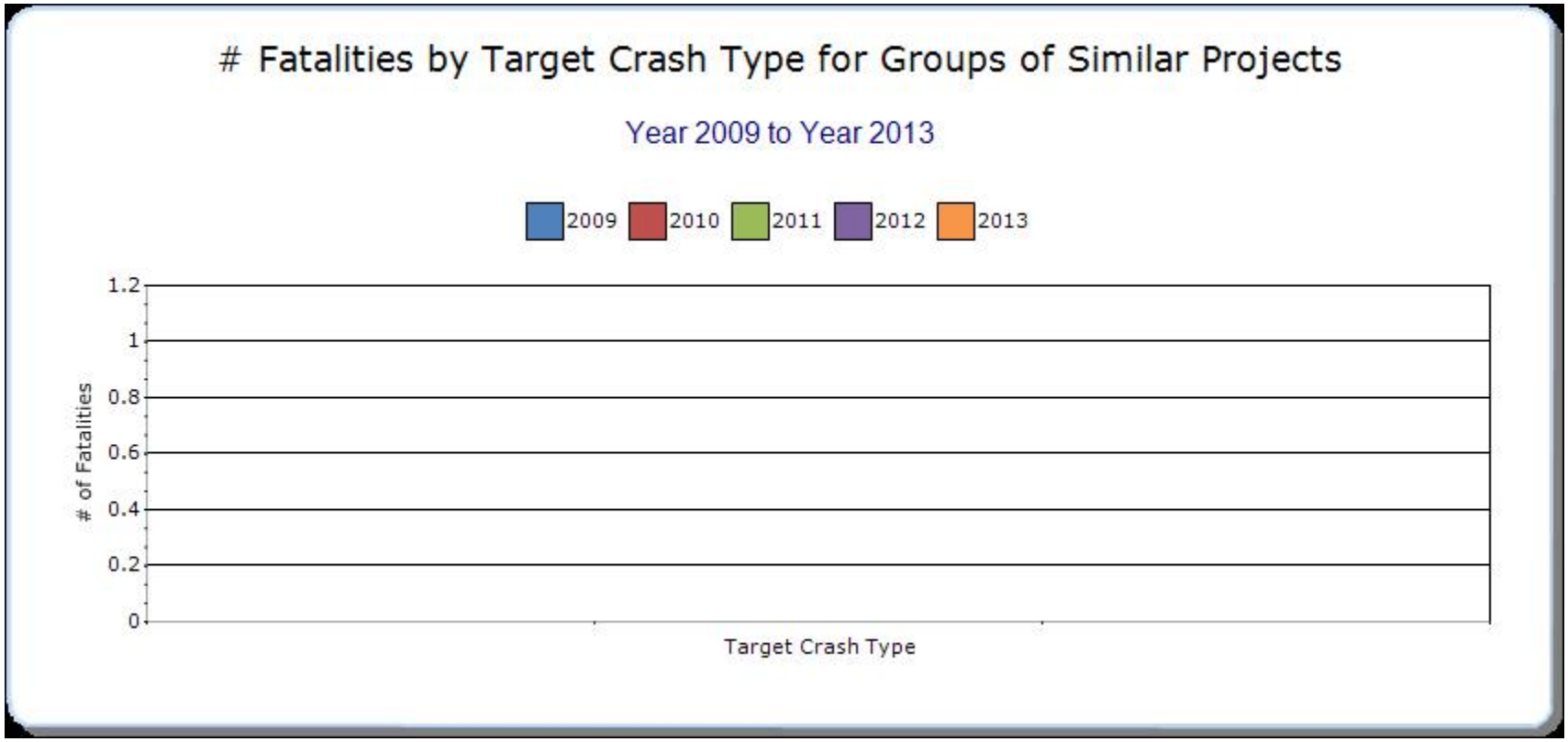

Fatality Rate by SHSP Emphasis Area
Year 2009 to Year 2013
2009
2010
2011
2012
2013
Rate of Fatalities
0.8
0.6
0.4
0.2
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Data
SHSP Emphasis Area

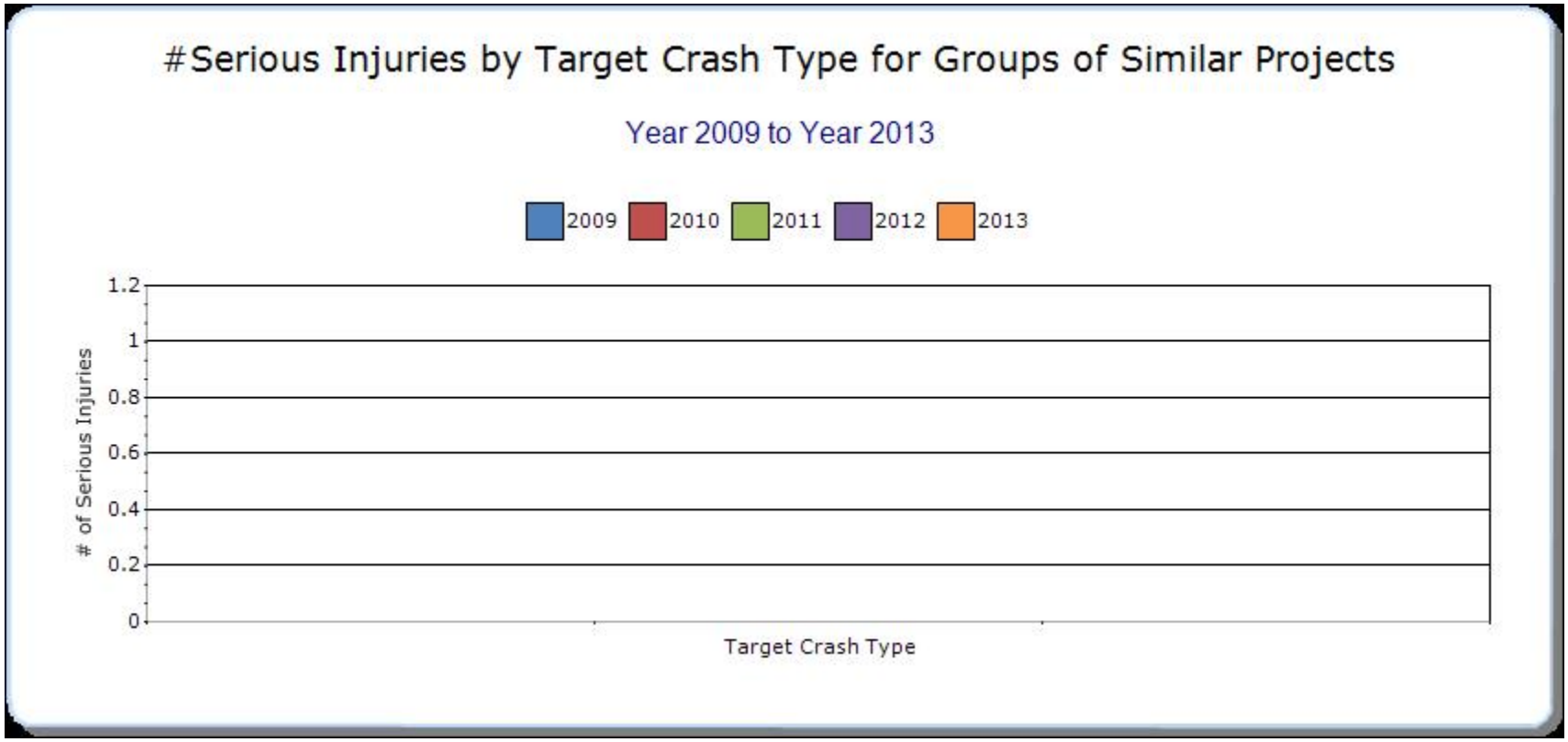

Serious Injury Rate by SHSP Emphasis Area
Year 2009 to Year 2013
2009
2010
2011
2012
2013
Rate of Serious Injurie
12
10
8
6
4
2
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Data
SHSP Emphasis Area

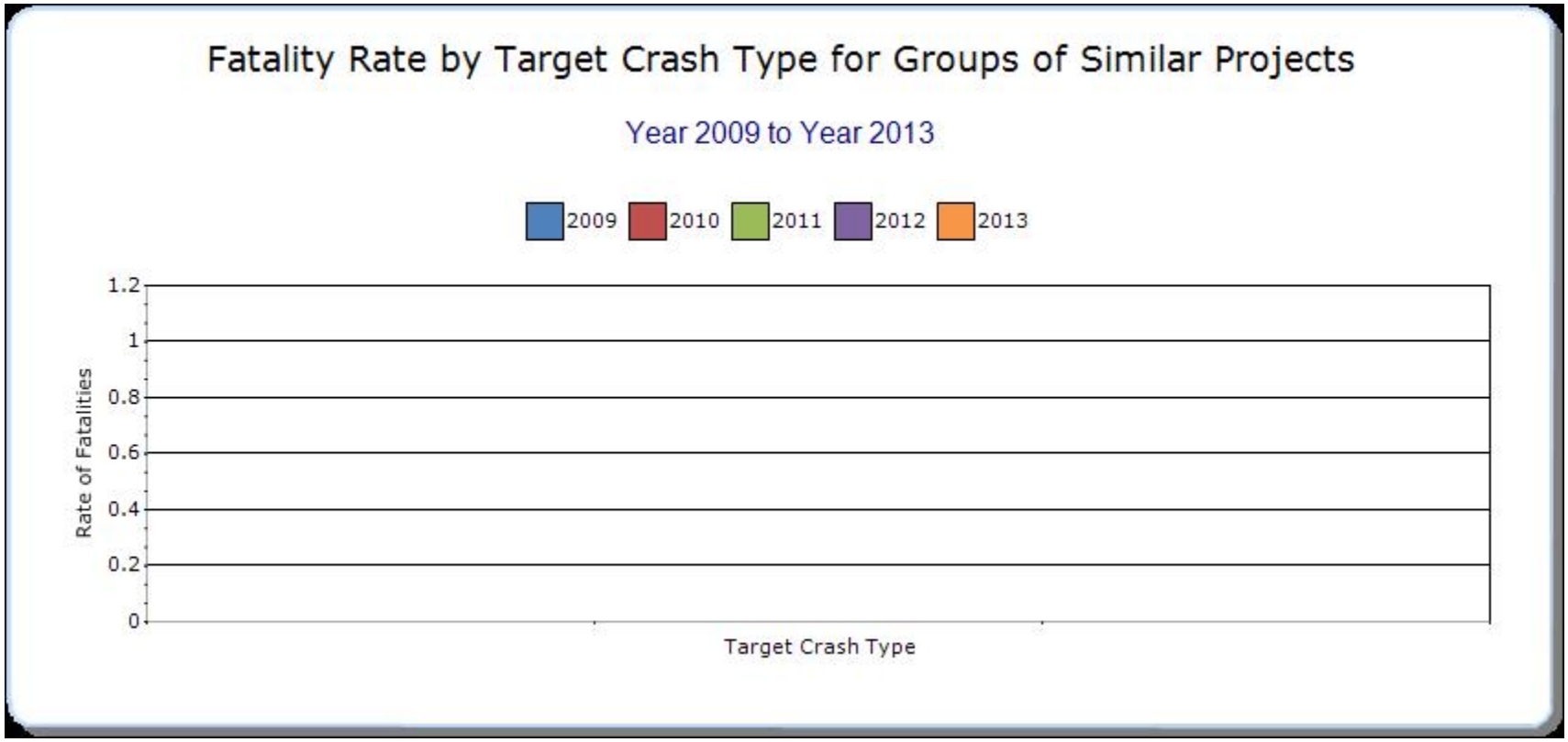
Groups of similar project types

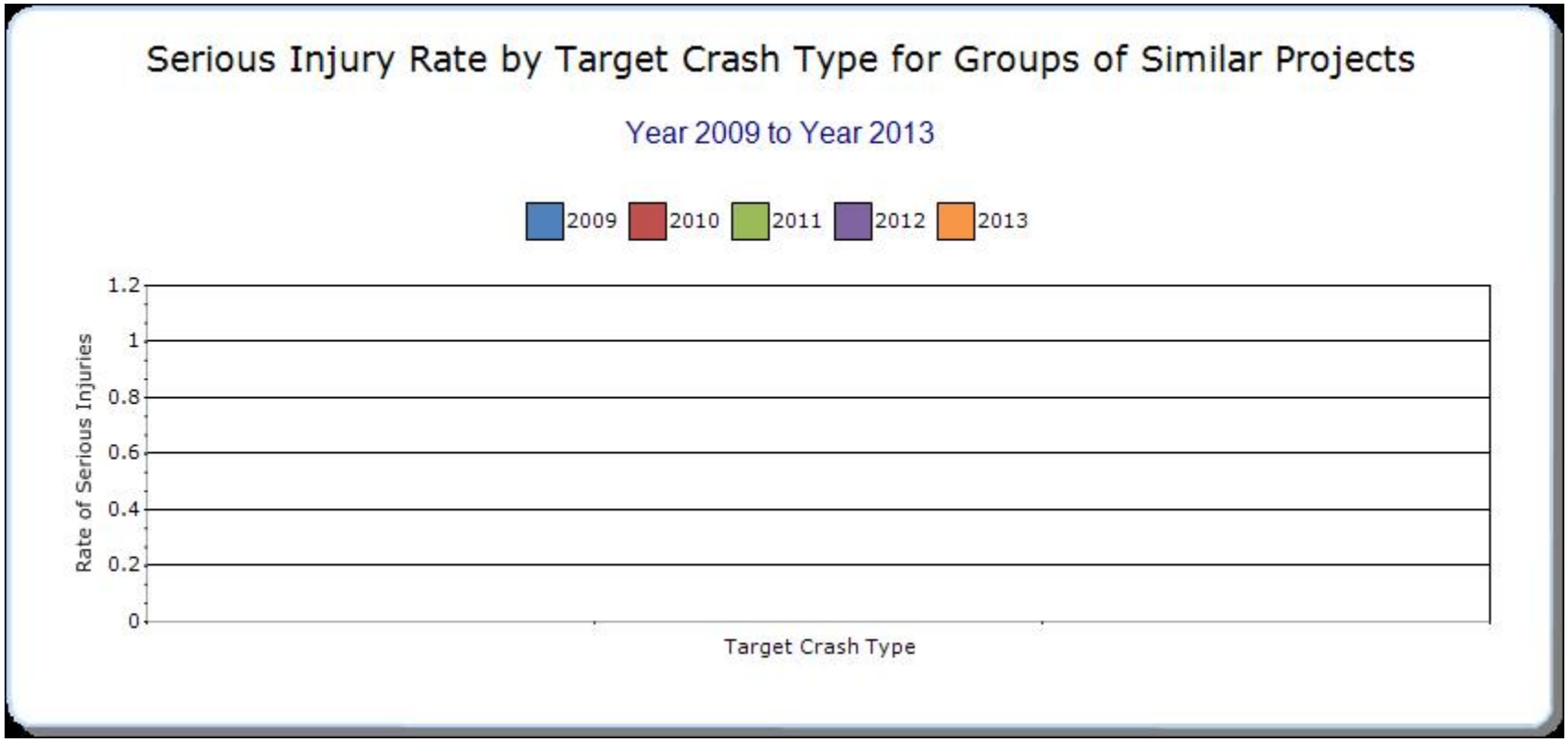
Present the overall effectiveness of groups of similar types of projects.

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


Fatalities by Target Crash Type for Groups of Similar Projects
Year 2009 to Year 2013
2009
2010
2011
2012
2013
1.2
1
0.8
0.6
0.4
0.2
0
# of Fatalities
Target Crash Type


#Serious Injuries by Target Crash Type for Groups of Similar Projects
Year 2009 to Year 2013
2009
2010
2011
2012
2013
1.2
1
0.8
0.6
0.4
0.2
0
# of Serious Injuries
Target Crash Type


Fatality Rate by Target Crash Type for Groups of Similar Projects
Year 2009 to Year 2013
2009
2010
2011
2012
2013
1.2
1
0.8
0.6
0.4
0.2
0
Rate of Fatalities
Target Crash Type

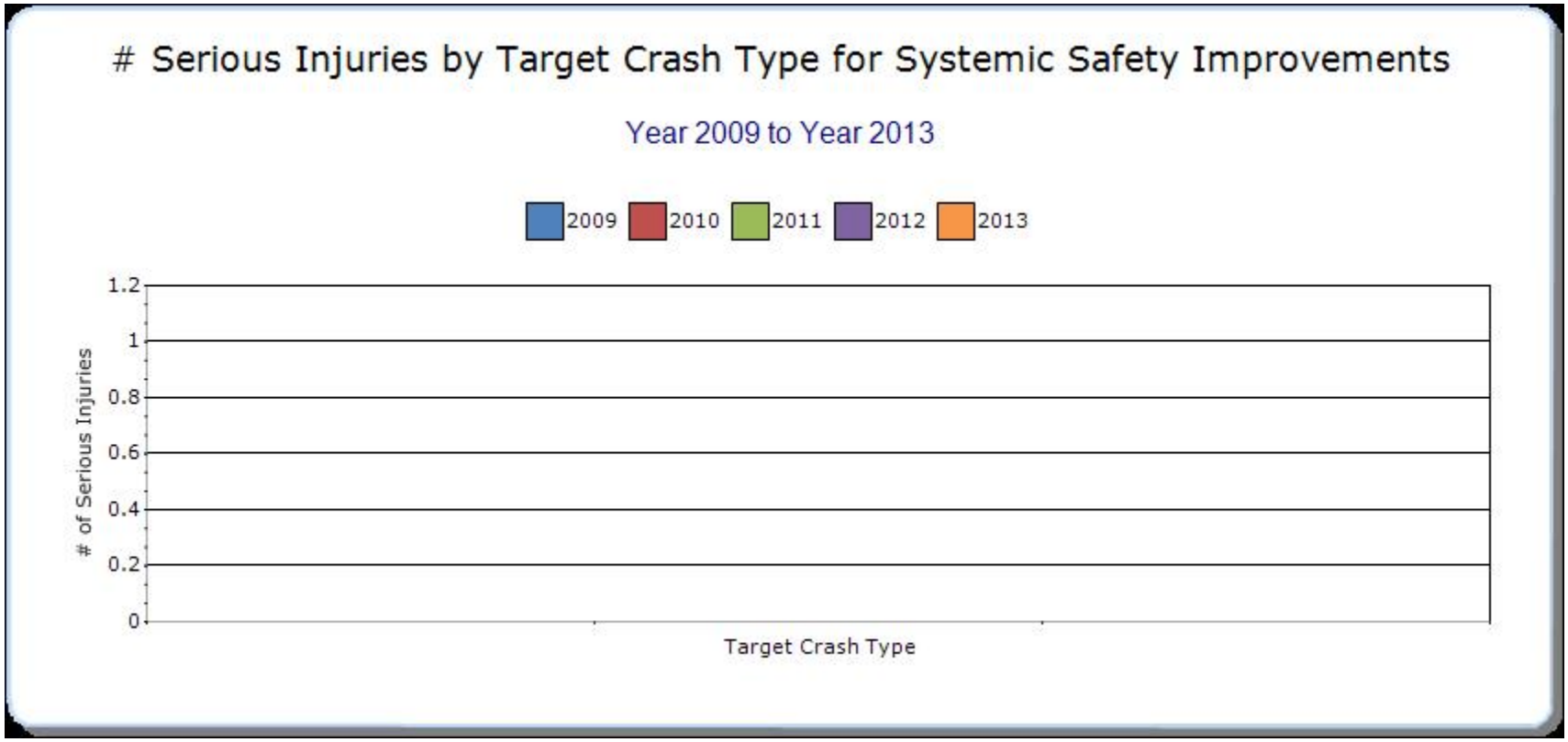

Serious Injury Rate by Target Crash Type for Groups of Similar Projects
Year 2009 to Year 2013
2009
2010
2011
2012
2013
1.2
1
0.8
0.6
0.4
0.2
0
Rate of Serious Injuries
Target Crash Type

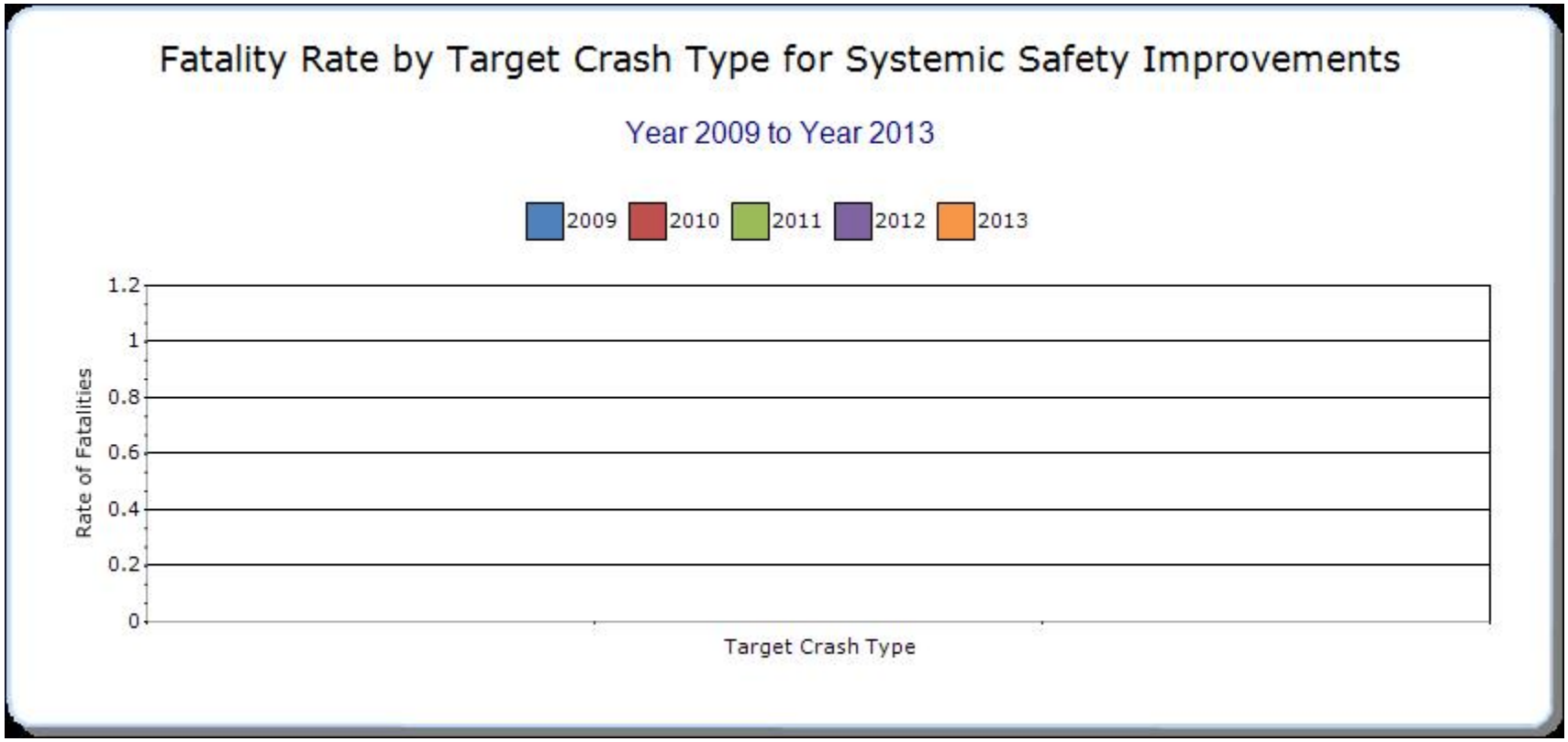
Systemic Treatments

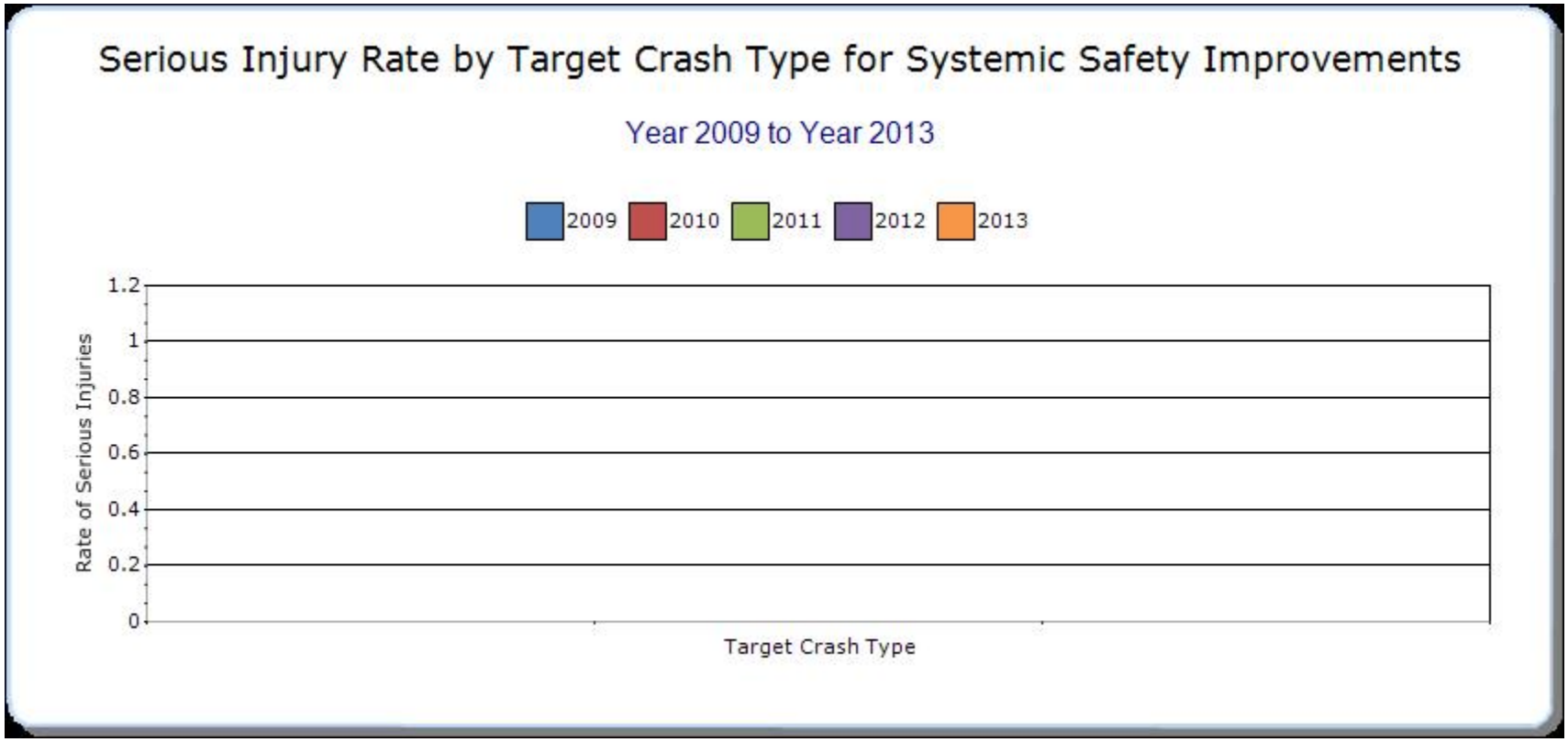
Present the overall effectiveness of systemic treatments.

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


Fatalities by Target Crash Type for Systemic Safety Improvements
Year 2009 to Year 2013
2009
2010
2011
2012
2013
1.2
1
0.8
0.6
0.4
0.2
0
# of Fatalities
Target Crash Type


Serious Injuries by Target Crash Type for Systemic Safety Improvements
Year 2009 to Year 2013
2009
2010
2011
2012
2013
1.2
1
0.8
0.6
0.4
0.2
0
# of Serious Injuries
Target Crash Type


Fatality Rate by Target Crash Type for Systemic Safety Improvements
Year 2009 to Year 2013
2009
2010
2011
2012
2013
1.2
1
0.8
0.6
0.4
0.2
0
Rate of Fatalities
Target Crash Type


Serious Injury Rate by Target Crash Type for Systemic Safety Improvements
Year 2009 to Year 2013
2009
2010
2011
2012
2013
1.2
1
0.8
0.6
0.4
0.2
0
Rate of Serious Injuries
Target Crash Type

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

None

Provide project evaluation data for completed projects (optional).

Location	Functional Class	Improvement Category	Improvement Type	Bef-Fatal	Bef-Serious Injury	Bef-Other Injury	Bef-PDO	Bef-Total	Aft-Fatal	Aft-Serious Injury	Aft-Other Injury	Aft-PDO	Aft-Total	Evaluation Results (Benefit/ Cost Ratio)
86539	Rural Major Collector	Alignment	Alignment - other	0	0	1	3	4	0	0	1	0	1	0.57
86540	Rural Principal Arterial - Other	Alignment	Alignment - other	0	3	1	2	6	0	1	3	1	5	3.7
81238	Rural Major Collector	Alignment	Vertical alignment or elevation change	1	1	4	5	11	0	1	0	0	1	2.99
86520	Urban Minor Arterial	Intersection geometry	Auxiliary lanes - add left-turn lane	0	1	1	3	5	0	0	0	0	0	0.34
90220	Rural Minor Arterial	Intersection geometry	Auxiliary lanes - add left-turn lane	1	2	1	5	9	0	0	1	0	1	0.28

89936	Rural Principal Arterial - Other	Intersection geometry	Auxiliary lanes - extend existing left-turn lane	0	0	1	0	1	0	2	0	1	3	6.91
72050	Rural Major Collector	Intersection geometry	Intersection geometry - other	0	0	0	0	0	0	0	0	0	0	0
86515	Urban Principal Arterial - Other	Intersection geometry	Intersection geometry - other	0	1	2	0	3	0	0	0	0	0	0
52525	Urban Minor Arterial	Intersection traffic control	Intersection traffic control - other	0	7	20	34	61	0	3	23	29	55	91.27
52506	Urban Minor Arterial	Intersection traffic control	Modify control - modifications to roundabout	0	1	4	7	12	0	1	0	3	4	0.83
91366	Urban Principal Arterial - Other	Intersection traffic control	Modify traffic signal - miscellaneous/other/unspecified	0	1	14	24	39	0	1	8	19	28	5.08
56788	Urban Minor Arterial	Intersection traffic control	Modify traffic signal - miscellaneous/other/unspecified	0	0	3	15	18	0	0	3	6	9	0.79

71287	Urban Principal Arterial - Other	Intersection traffic control	Modify traffic signal - miscellaneous/other/unspecified	0	4	28	51	83	0	0	9	11	20	8.47
77159	Urban Minor Arterial	Intersection traffic control	Modify traffic signal - miscellaneous/other/unspecified	0	0	5	26	31	0	0	10	12	22	12.4
71451	Urban Principal Arterial - Other	Intersection traffic control	Modify traffic signal - modify signal mounting (spanwire to mast arm)	1	14	40	73	128	0	5	47	51	103	14.56
81444	Urban Collector	Intersection traffic control	Modify traffic signal - modify signal mounting (spanwire to mast arm)	0	3	12	8	23	0	1	3	5	9	2.31
95073	Rural Principal Arterial - Other	Intersection traffic control	Modify traffic signal - modify signal mounting (spanwire to mast arm)	2	1	3	8	14	0	0	5	2	7	4.23
77157	Urban Principal Arterial - Other	Intersection traffic control	Modify traffic signal - modify signal mounting (spanwire to mast arm)	0	3	4	26	33	0	1	5	10	16	17.12
86545	Urban Principal Arterial -	Roadway	Roadway - other	1	2	2	7	12	0	1	0	2	3	0.51

	Other													
94970	Rural Minor Arterial	Roadway	Roadway widening - travel lanes	2	0	2	2	6	0	0	2	3	5	0.06
90731	Rural Minor Arterial	Roadway	Rumble strips - center	0	0	1	7	8	0	0	0	2	2	0.16
86481	Rural Minor Arterial	Roadway	Rumble strips - center	0	0	1	1	2	0	2	2	3	7	2.64
90732	Rural Minor Arterial	Roadway	Rumble strips - center	0	1	0	0	1	0	0	0	1	1	0.31
90733	Rural Minor Arterial	Roadway	Rumble strips - center	0	0	0	1	1	0	1	1	1	3	0.52
90734	Rural Minor Arterial	Roadway	Rumble strips - center	0	0	0	0	0	0	0	0	1	1	0
90736	Rural Minor Arterial	Roadway	Rumble strips - center	0	0	0	0	0	0	0	0	0	0	0
89658	Rural Minor	Roadway	Rumble strips - center	1	4	3	3	11	0	1	3	3	7	1.49

	Arterial													
86476	Rural Principal Arterial - Other	Roadway	Rumble strips - edge or shoulder	0	4	1	2	7	0	1	5	3	9	2.6
52530	Urban Minor Arterial	Roadway signs and traffic control	Roadway signs and traffic control - other	0	3	4	7	14	0	0	1	8	9	3.02

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.