Highway Safety Improvement Program

Data Driven Decisions

North Dakota
Highway Safety Improvement Program
2014 Annual Report

Prepared by: ND

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 purpose of the overall HSIP program is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads through the implementation of infrastructure-related highway safety improvements.

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.

The NDDOT addresses safety on local roads through the Local Road Safety Program (LRSP).

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

☒ Design

☒ Planning

☐ Maintenance

☐ Operations

☒ Governors Highway Safety Office

☒ Other: Other-Safety Division, Local Government

Briefly describe coordination with internal partners.

Internal partners are included in the review of the HSIP project listings.

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

☒ Metropolitan Planning Organizations

☐ Governors Highway Safety Office

☐ Local Government Association

☒ Other: Other-Cities, Counties, and Tribal Governments

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-HSIP application form has been revised.

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

Schedule for HSIP requests:

- October – send out HSIP solicitation letter
- Mid December – HSIP application forms (SFN 59959) are due to NDDOT
- January through March – NDDOT analysis of HSIP requests
- April – Draft HSIP project listing
- August 31st – Final HSIP project list due to FHWA

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: **6/17/2014**

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-Intersection skew, intersections of curves, intersection traffic control device, presence of adjacent development

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-Systemic project identification, local agency or NDDOT district requests

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 1

☐Incremental B/C

☒Ranking based on net benefit 2

☐Other

Program: **Roadway Departure**

Date of Program Methodology: **6/17/2014**

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-shoulder width, access density

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

☒ Available funding 1

☐ Incremental B/C

☐ Ranking based on net benefit

☒ Cost Effectiveness 3

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

14

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.

ROAD SAFETY REVIEWS

A road safety review (RSR) is a site visit of a roadway or intersection by a multi-disciplinary team in order to identify changes that may improve safety. RSRs are typically requested by a local agency or the NDDOT District and are most commonly performed at high crash locations and/or locations with negative public perception. However, they may be performed at other locations as well; such as locations where there is a perceived potential for safety improvement but it is not exactly clear what should be done. RSRs are typically not performed multiple times at one location, unless traffic patterns or nearby developments have changed since the previous RSR was performed.

The road safety review is coordinated by the NDDOT traffic operations section. Typically, the RSR team consists of one or more representatives from the following organizations:

- NDDOT Traffic operations
- NDDOT District Maintenance
- NDDOT District Construction
- NDDOT Traffic Safety Design Section
- NDDOT Roadway Design Section
- NDDOT Safety Division
- NDDOT Local Government
- FHWA Safety Engineer
- City and/or County Engineer
- Local law enforcement (HP, City Police, BIA, etc)

SYSTEMIC SITE IDENTIFICATION

In the past, safety funds were focused mostly on infrastructure projects on state highways and were identified through the "black spot" method. However, because the severe crash data shows that 56% (from ND SHSP, page 4-2) are occurring on the county/local system, a majority of safety funds will now be directed to local roadways. Based on a commitment in the 2013 North Dakota Strategic Highway Safety Plan (SHSP), the NDDOT is working with CH2MHill to develop "Local Road Safety Programs" (LRSP's) for North Dakota. The LRSP's have developed a systemic process to provide application of high-priority/low-cost safety strategies at "at-risk" locations.

The LRSP's have identified certain characteristics that help identify and prioritize locations that have the most risk. For consistency in application of safety improvements, the problem identification and countermeasure selection for potential safety projects on state highways will generally follow the same process that has been developed for the local roadways in the LRSP's. Because of the higher design standards of state highways versus local roadways, some variations of this process are necessary and are discussed in detail in the following sections. Also, some countermeasures have already been applied system-wide on all state highways (such as shoulder rumble strips).

Potential projects are identified using a star rating system. A star is assigned for each risk factor that is present at any given location. Separate inventories of the state highway system have been developed using the following facility types:

- Highway segments (State Highways, US Highways)
- Highway intersections (State Highway/State Highway, US Highway/State Highway, etc)
- Horizontal curves on state highways

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	
HSIP (Section 148)	11284000	68 %	10560226.83	67 %
HRRRP (SAFETEA-LU)	0	0 %		
HRRR Special Rule				
Penalty Transfer - Section 154	5289006	32 %	5289006	33 %
Penalty Transfer – Section 164				
Incentive Grants - Section 163				
Incentive Grants (Section 406)				
Other Federal-aid Funds (i.e. STP, NHPP)	0	0 %	0	0 %
State and Local Funds	0	0 %	0	0 %

Totals	16573006	100%	15849232.83	100%

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

3 %

How much funding is obligated to local safety projects?

3 %

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

0 %

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

0 %

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

0 %

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

0 %

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
Recovery Approaches-Various Locations Devils Lake Dist	Intersection geometry Intersection geometrics - miscellaneous/other/unspecified	0	13500	15000	HSIP (Section 148)		0	0	State Highway Agency	Intersections	Safer slopes and ditches
US 2 Turn Lanes - Dist Bndry to W of Surrey	Intersection geometry Auxiliary lanes - add left-turn lane	0	1395000	1550000	HSIP (Section 148)	Rural Principal Arterial - Other	0	0	State Highway Agency	Intersections	Provide turn lanes
ND 16 & McKenzie Cnty 38	Intersection geometry Intersection geometrics - miscellaneous/other/unspecified	0	22500	25000	HSIP (Section 148)	Rural Major Collector	0	0	State Highway Agency	Intersections	Safer slopes and ditches
ND 200 and Hensler Road	Intersection geometry Intersection geometrics - miscellaneous/other/unspecified	0	26100	29000	HSIP (Section 148)	Rural Principal Arterial - Other	0	0	County Highway Agency	Intersections	Safer slopes and ditches

ND 66, Structure #066.029.076	Roadside Drainage improvements	0	797400	886000	HSIP (Section 148)	Rural Major Collector	0	0	State Highway Agency	Roadway Departure	Remove object in hazardous locations
Rumble strips on BIA roads	Roadway Rumble strips - edge or shoulder	0	244985	244985	HSIP (Section 148)	Rural Local Road or Street	0	0	Indian Tribe Nation	Roadway Departure	Rumble strips
US 52 and ND 3 near Harvey	Intersection geometry Auxiliary lanes - add left-turn lane	0	470700	523000	HSIP (Section 148)	Rural Principal Arterial - Other	0	0	State Highway Agency	Intersections	Provide turn lanes
One-way signs on Divided Highways (eastern districts)	Roadway signs and traffic control Roadway signs (including post) - new or updated	0	585000	650000	HSIP (Section 148)	Rural Principal Arterial - Other	0	0	State Highway Agency	Intersections	Enhanced signing
ND 21 from US 85 to ND 22	Roadway Roadway widening - curve	0	1759000	1955000	HSIP (Section 148)	Rural Principal Arterial - Other	0	0	State Highway Agency	Roadway Departure	Improved geometry
ND 22 from W Jct ND 21	Intersection geometry Auxiliary lanes - add left-	0	11439	12710	HSIP (Sectio	Rural Minor	0	0	State Highway	Intersecti	Provide turn

thru New England	turn lane		00	00	n 148)	Arterial			Agency	ons	lanes
US 83 Turn Lanes	Intersection geometry Auxiliary lanes - add left-turn lane	0	437980	481778	HSIP (Section 148)	Rural Principal Arterial - Other	0	0	State Highway Agency	Intersections	Provide turn lanes
US 83 Turn Lanes	Intersection geometry Auxiliary lanes - add left-turn lane	0	174904	192394	HSIP (Section 148)	Rural Principal Arterial - Other	0	0	State Highway Agency	Intersections	Provide turn lanes
Districtwide Retroreflectivity	Roadway signs and traffic control Sign sheeting - upgrade or replacement	0	1440000	1600000	HSIP (Section 148)	n/a	0	0	State Highway Agency	Older Drivers	Enhanced signing
US 81 (19th Ave N) at NDSU Barns	Advanced technology and ITS Congestion detection / traffic monitoring system	0	67500	75000	HSIP (Section 148)	Urban Principal Arterial - Other	0	0	City of Municipal Highway Agency	Intersections	Dynamic warning signs
Districtwide Retroreflectivity	Roadway signs and traffic control Sign sheeting - upgrade or replacement	0	1530000	1700000	HSIP (Section 148)		0	0	State Highway Agency	Older Drivers	Enhanced signing
Intersection of US 2 & RP 23.9	Intersection geometry Auxiliary lanes - add left-turn lane	0	272160	302400	HSIP (Section 148)	Rural Principal Arterial - Other	0	0	State Highway Agency	Intersections	Provide turn lanes

Progress in Achieving Safety Performance Targets

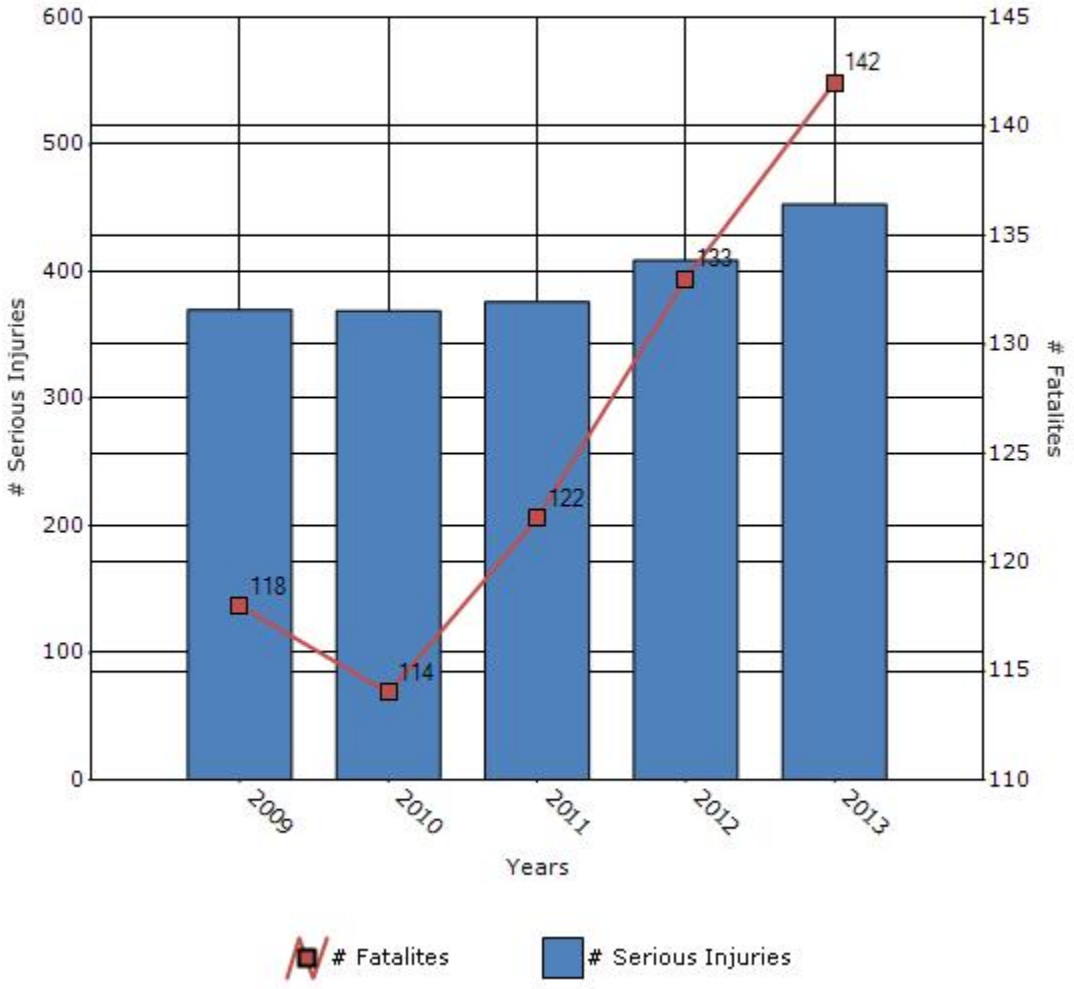
Overview of General Safety Trends

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

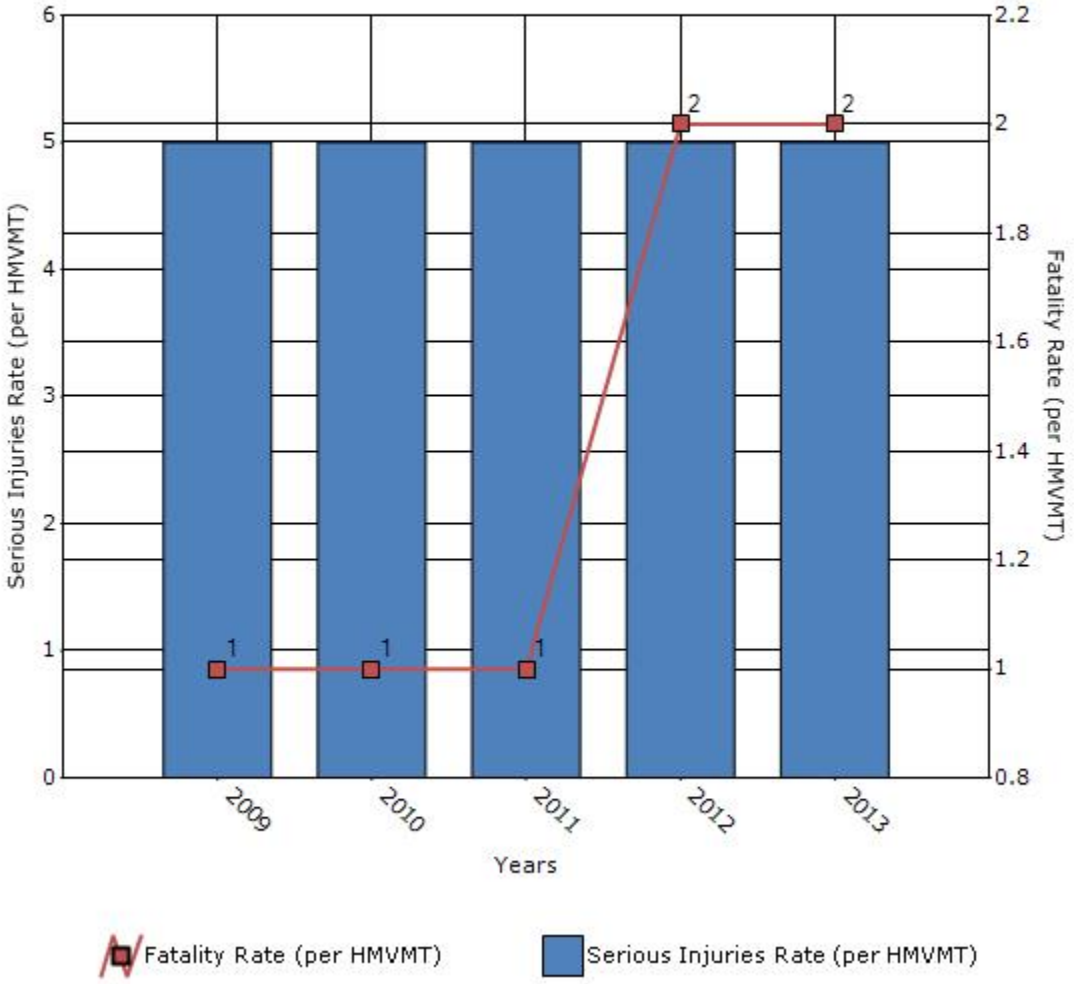
Performance Measures*	2009	2010	2011	2012	2013
Number of fatalities	118	114	122	133	142
Number of serious injuries	370	369	376	409	453
Fatality rate (per HMVMT)	1	1	1	2	2
Serious injury rate (per HMVMT)	5	5	5	5	5

*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

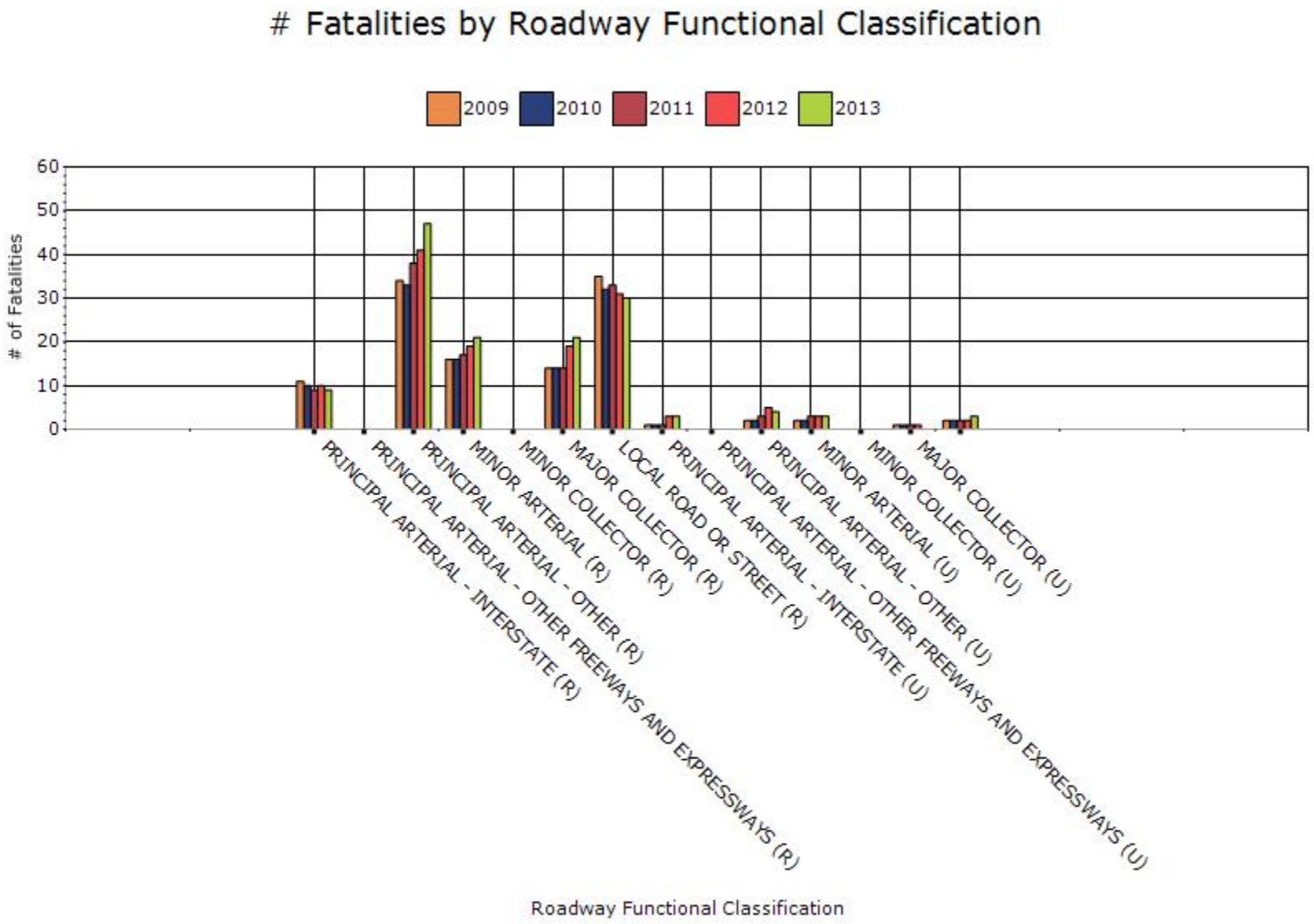


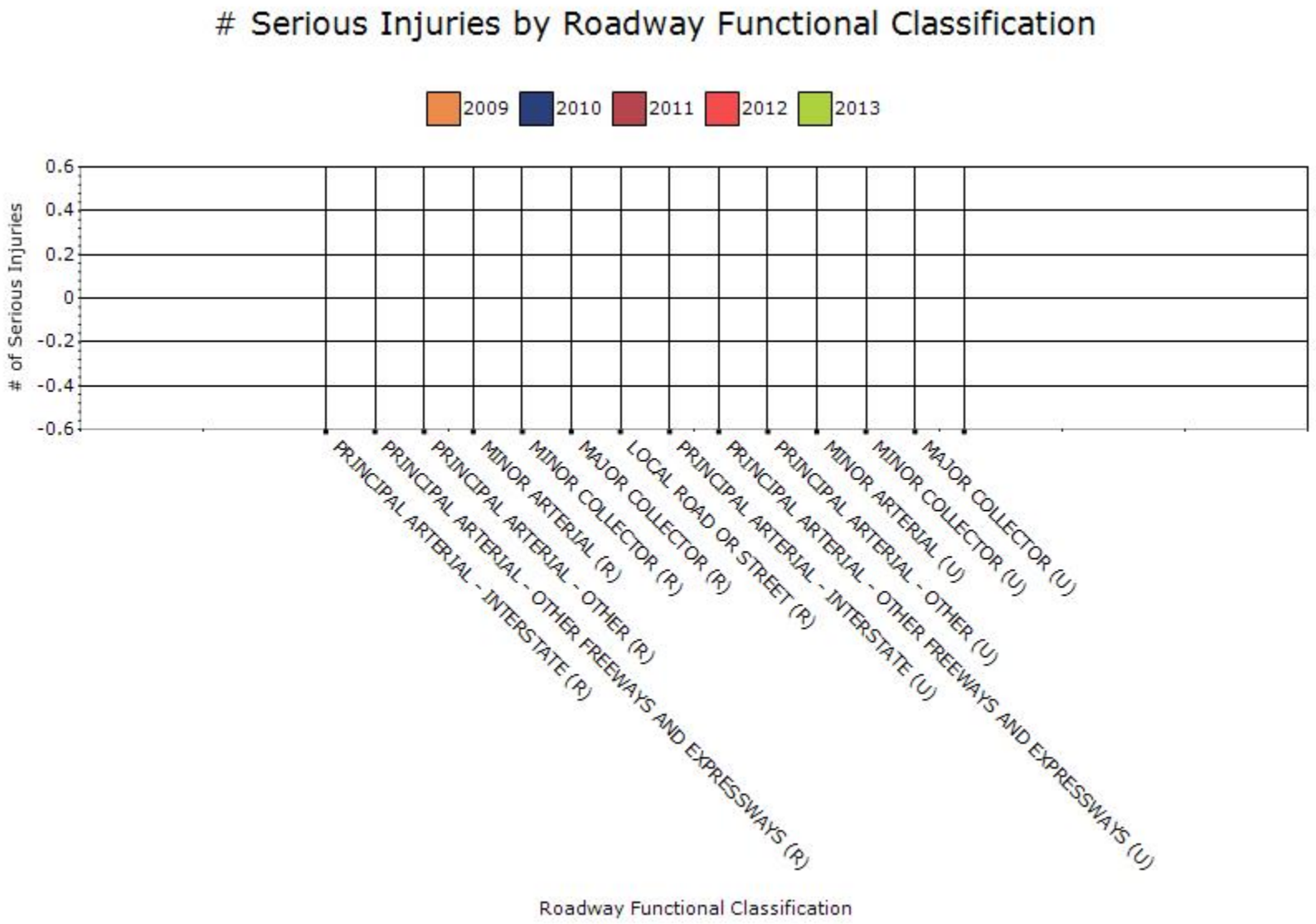
To the maximum extent possible, present performance measure* data by functional classification and ownership.

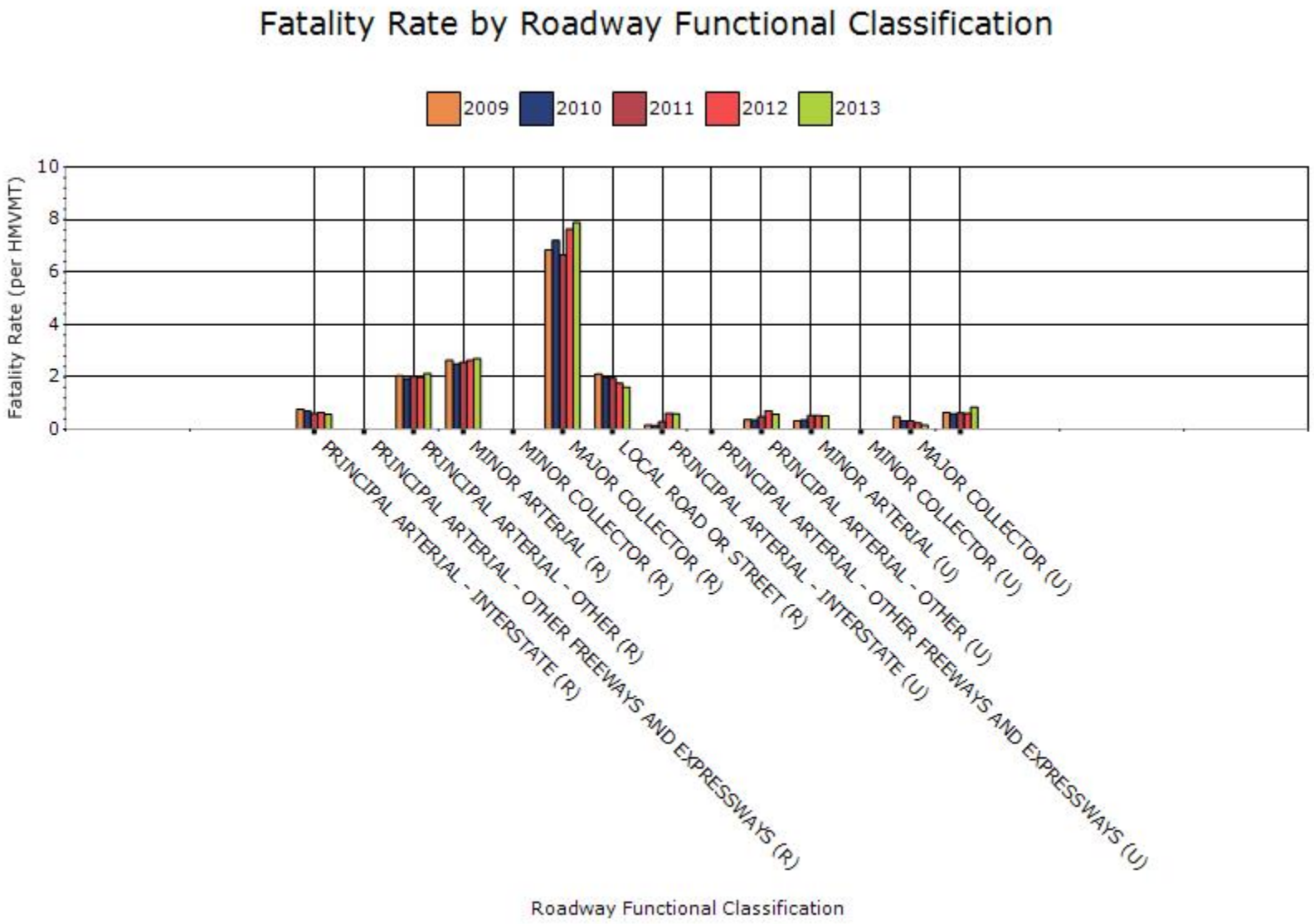
Year - 2013

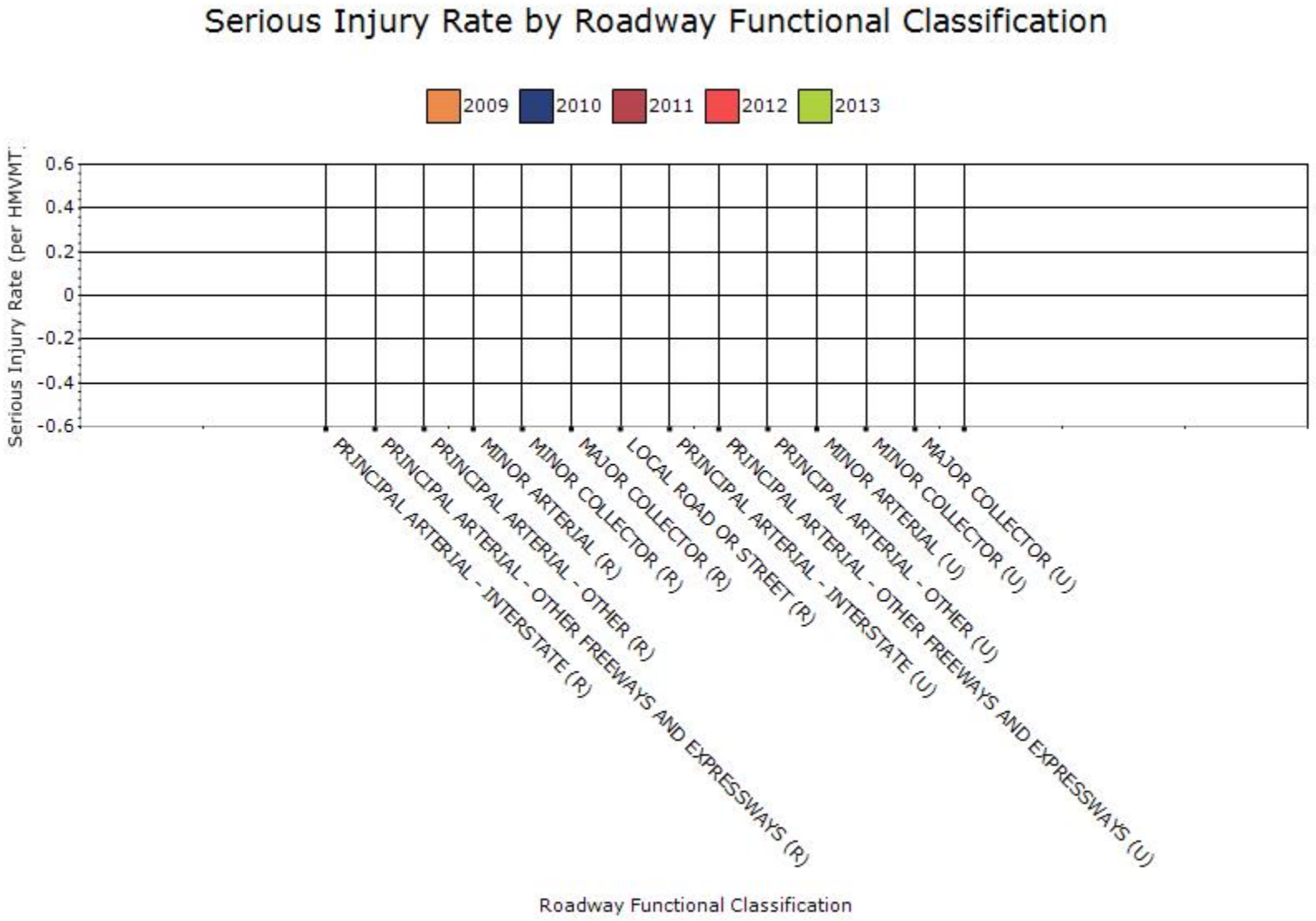
Function Classification	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
RURAL PRINCIPAL ARTERIAL - INTERSTATE	9	0	0.57	0
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	0	0	0	0
RURAL PRINCIPAL ARTERIAL - OTHER	47	0	2.13	0
RURAL MINOR ARTERIAL	21	0	2.7	0
RURAL MINOR COLLECTOR	0	0	0	0
RURAL MAJOR COLLECTOR	21	0	7.88	0
RURAL LOCAL ROAD OR STREET	30	0	1.61	0
URBAN PRINCIPAL	3	0	0.6	0

ARTERIAL - INTERSTATE				
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	0	0	0	0
URBAN PRINCIPAL ARTERIAL - OTHER	4	0	0.58	0
URBAN MINOR ARTERIAL	3	0	0.52	0
URBAN MINOR COLLECTOR	0	0	0	0
URBAN MAJOR COLLECTOR	0	0	0.16	0
URBAN LOCAL ROAD OR STREET	3	0	0.85	0


Fatalities by Roadway Functional Classification
2009
2010
2011
2012
2013
# of Fatalities
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

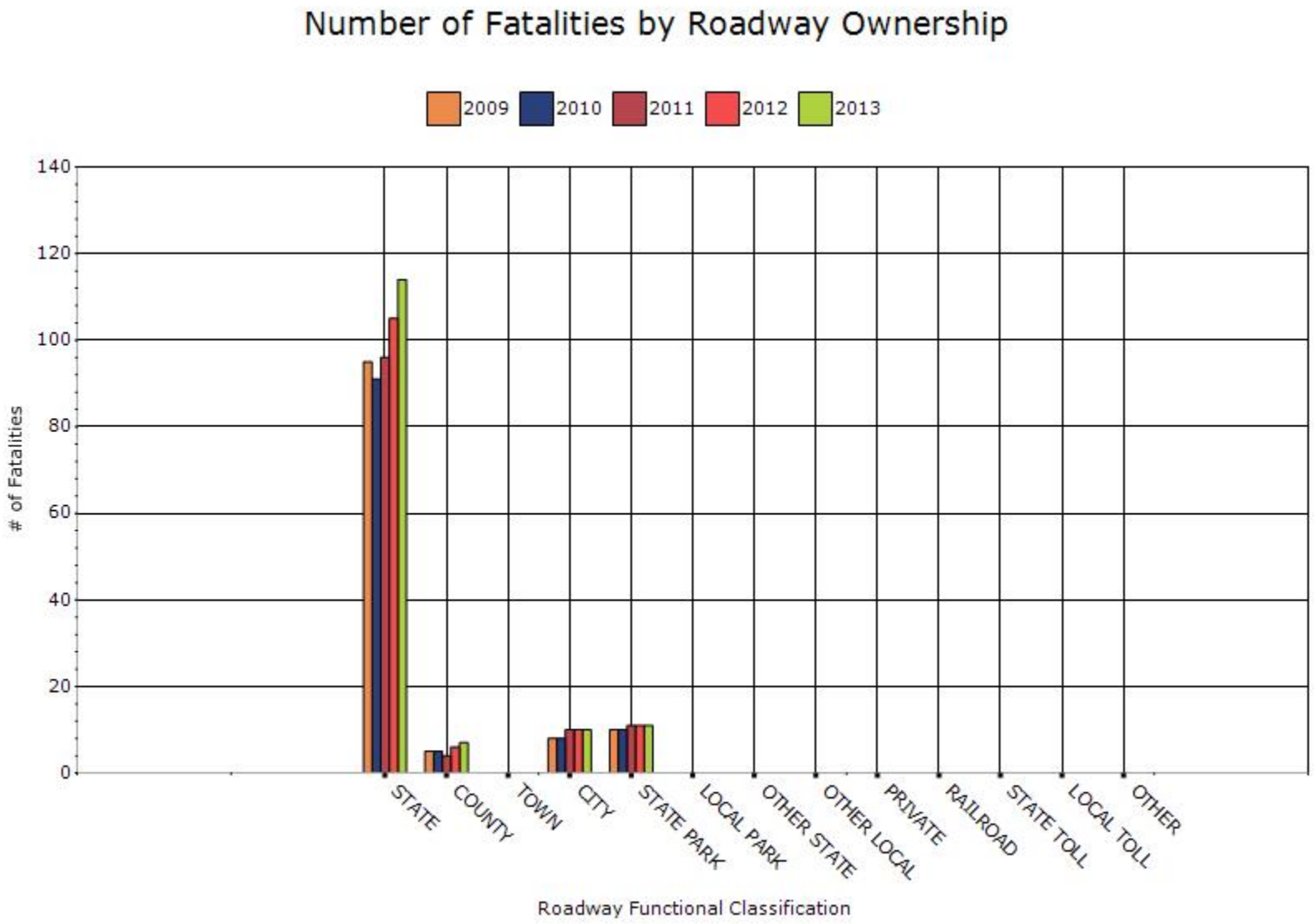

Serious Injuries by Roadway Functional Classification
2009
2010
2011
2012
2013
# of Serious Injuries
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (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

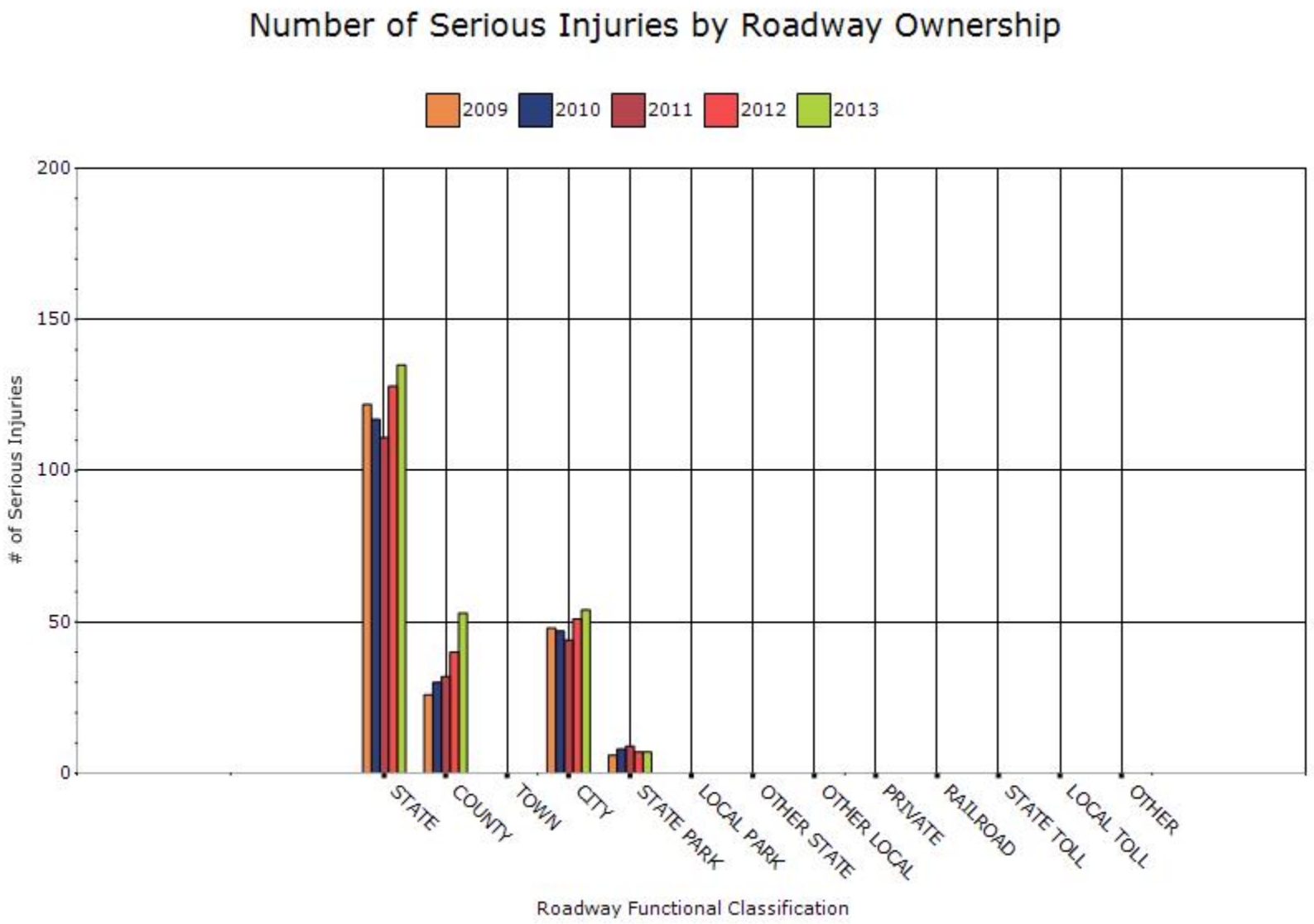

Fatality Rate by Roadway Functional Classification
2009
2010
2011
2012
2013
Fatality Rate (per HMVMT)
10
8
6
4
2
0
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)
LOCAL 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

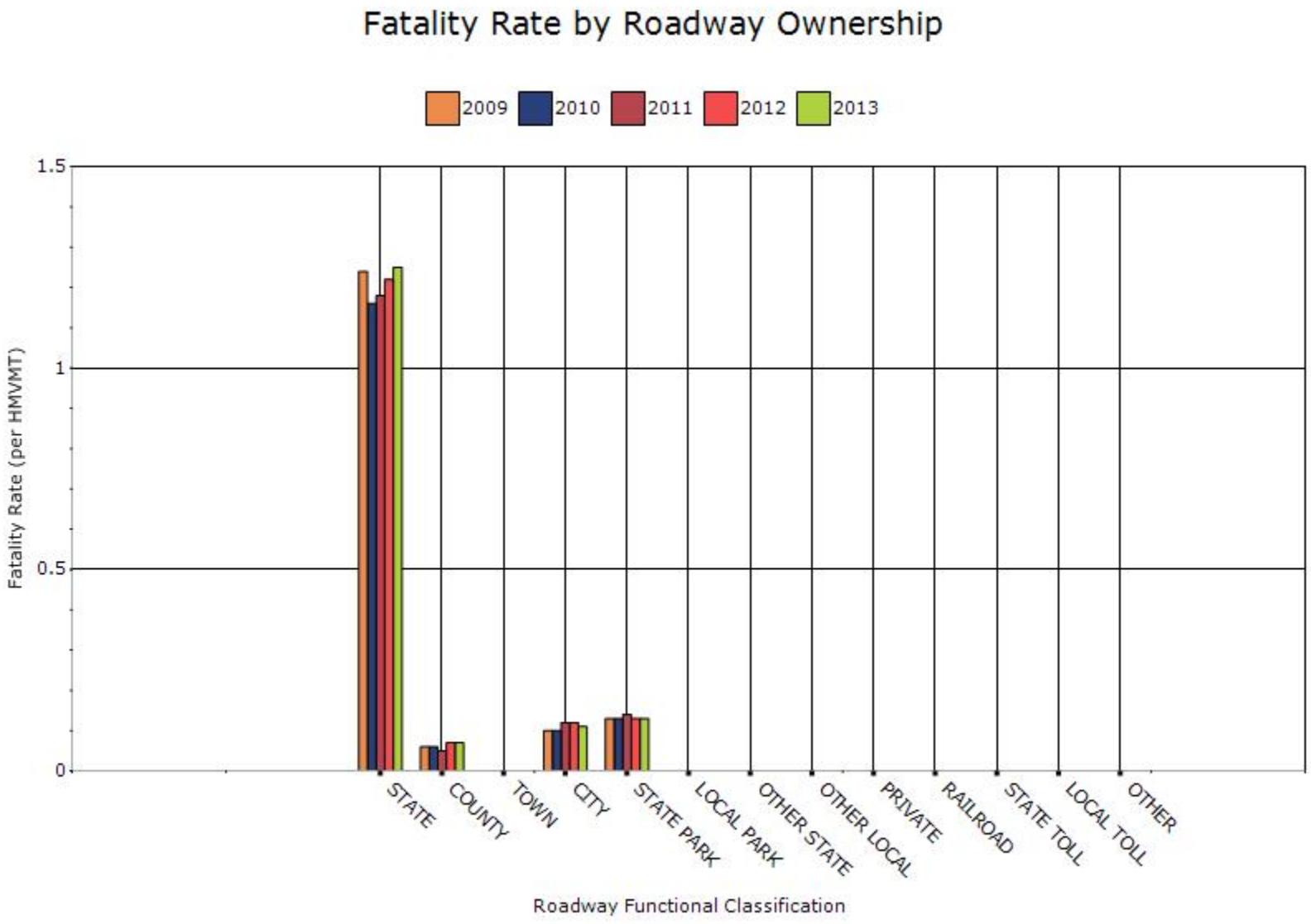

Serious Injury Rate by Roadway Functional Classification
2009
2010
2011
2012
2013
Serious Injury Rate (per HMVMT)
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (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

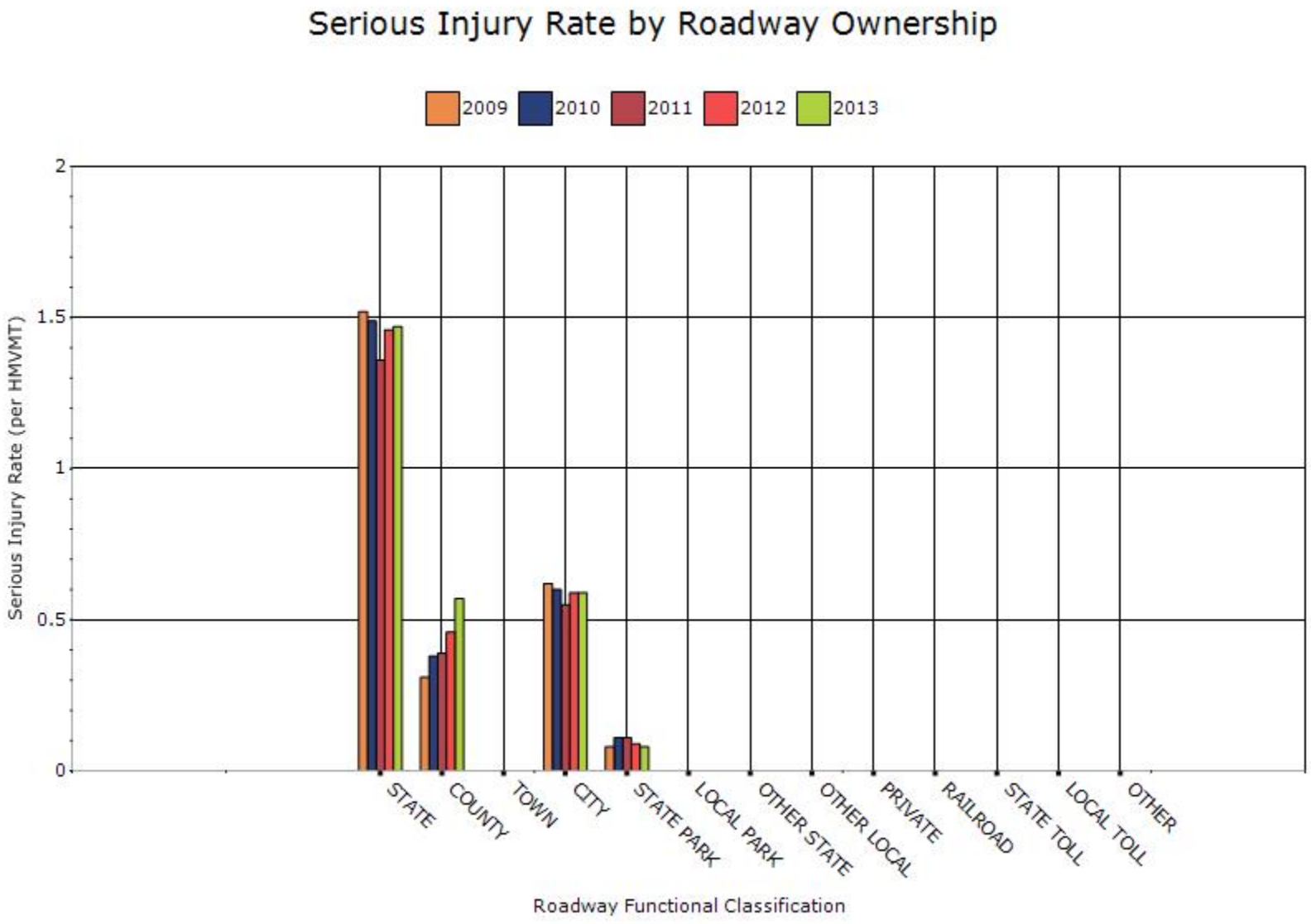
Year - 2013

Roadway Ownership	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
STATE HIGHWAY AGENCY	114	135	1.25	1.47
COUNTY HIGHWAY AGENCY	7	53	0.07	0.57
TOWN OR TOWNSHIP HIGHWAY AGENCY	0	0	0	0
CITY OF MUNICIPAL HIGHWAY AGENCY	10	54	0.11	0.59
STATE PARK, FOREST, OR RESERVATION AGENCY	11	7	0.13	0.08
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
2009
2010
2011
2012
2013
140
120
100
80
60
40
20
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
200
150
100
50
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
1.5
1
0.5
0
Fatality Rate (per HMVMT)
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)
2
1.5
1
0.5
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

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)	0.132	0.116	0.124	0.14	0.118
Serious injury rate (per capita)	1.092	0.902	0.756	0.646	0.45
Fatality and serious injury rate (per capita)	1.228	1.022	0.882	0.79	0.572

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

Number of fatalities age 65 and older + Number of Injuries age 65 and older / 1000 population = Rate

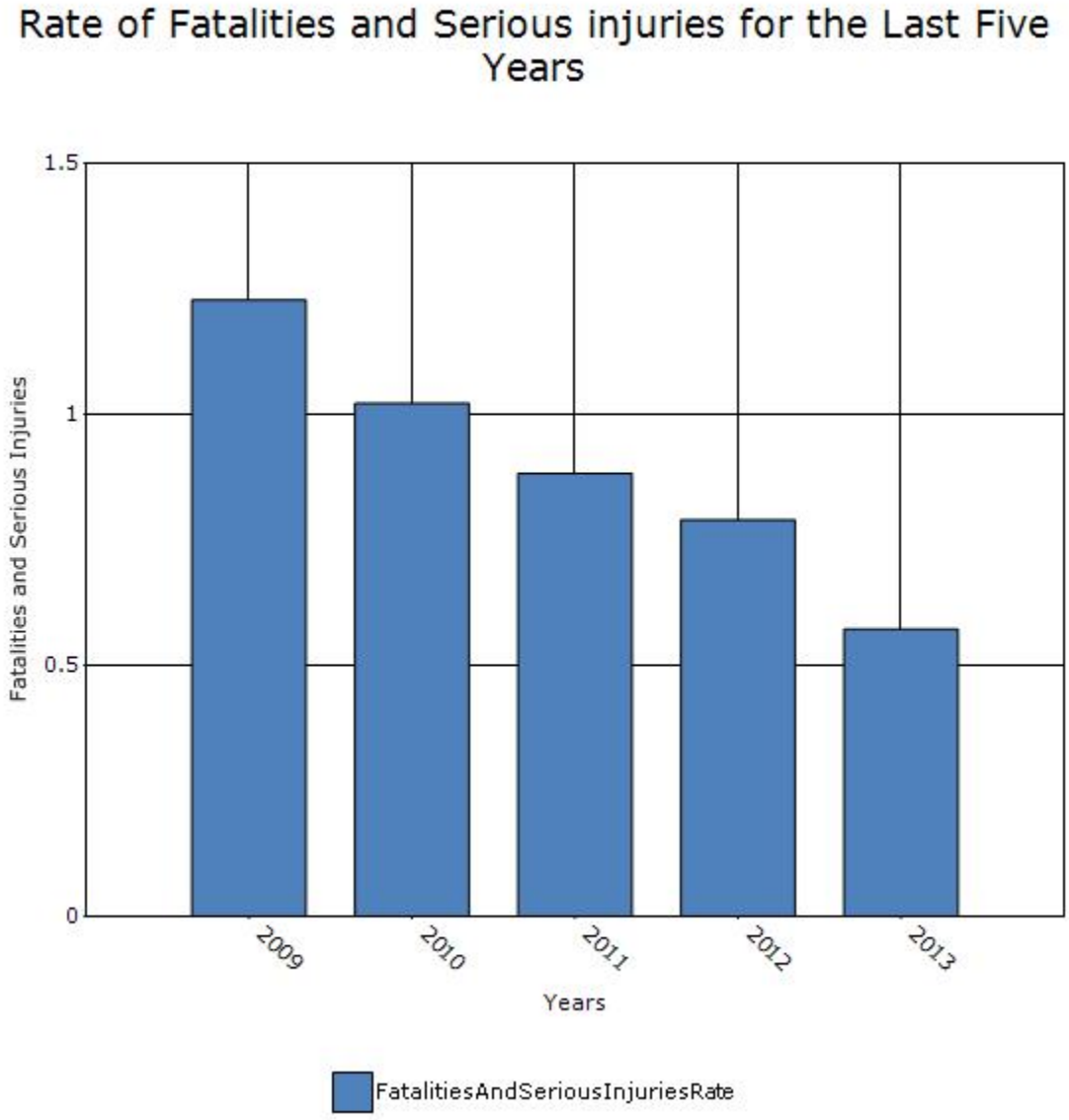
Example year 2012:
22 Fatalities age 65 and older
77 Injuries age 65 and older
2012 population is 144,000

22+77/144=0.69

(0.69+0.64+0.46+1.07+1.09)/5 = 0.79

	Fatalities (Age 65+)	Injuries (Age 65+)	Population (Age 65+, in 1000s)	Rate (fat + inj)	5-yr Average (fat + inj)
2005	23	188	142	1.49	
2006	18	177	146	1.34	
2007	10	156	144	1.15	

2008	16	143	146	1.09	
2009	29	128	147	1.07	1.23
2010	12	54	145	0.46	1.02
2011	23	69	144	0.64	0.88
2012	22	77	144	0.69	0.79
2013	10	50			



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: Other-Using systemic approach to apply low-cost countermeasures for at-risk locations

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

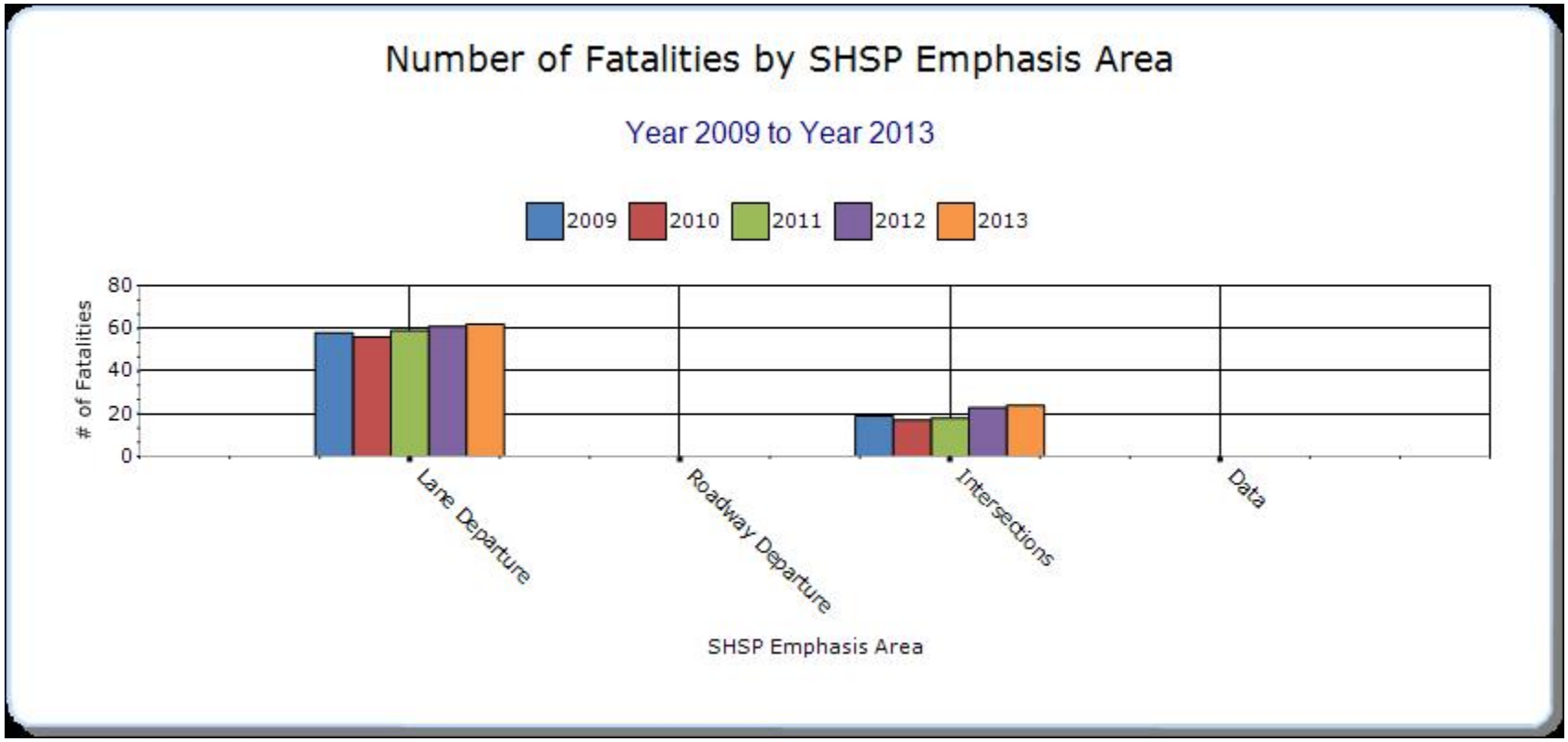
None

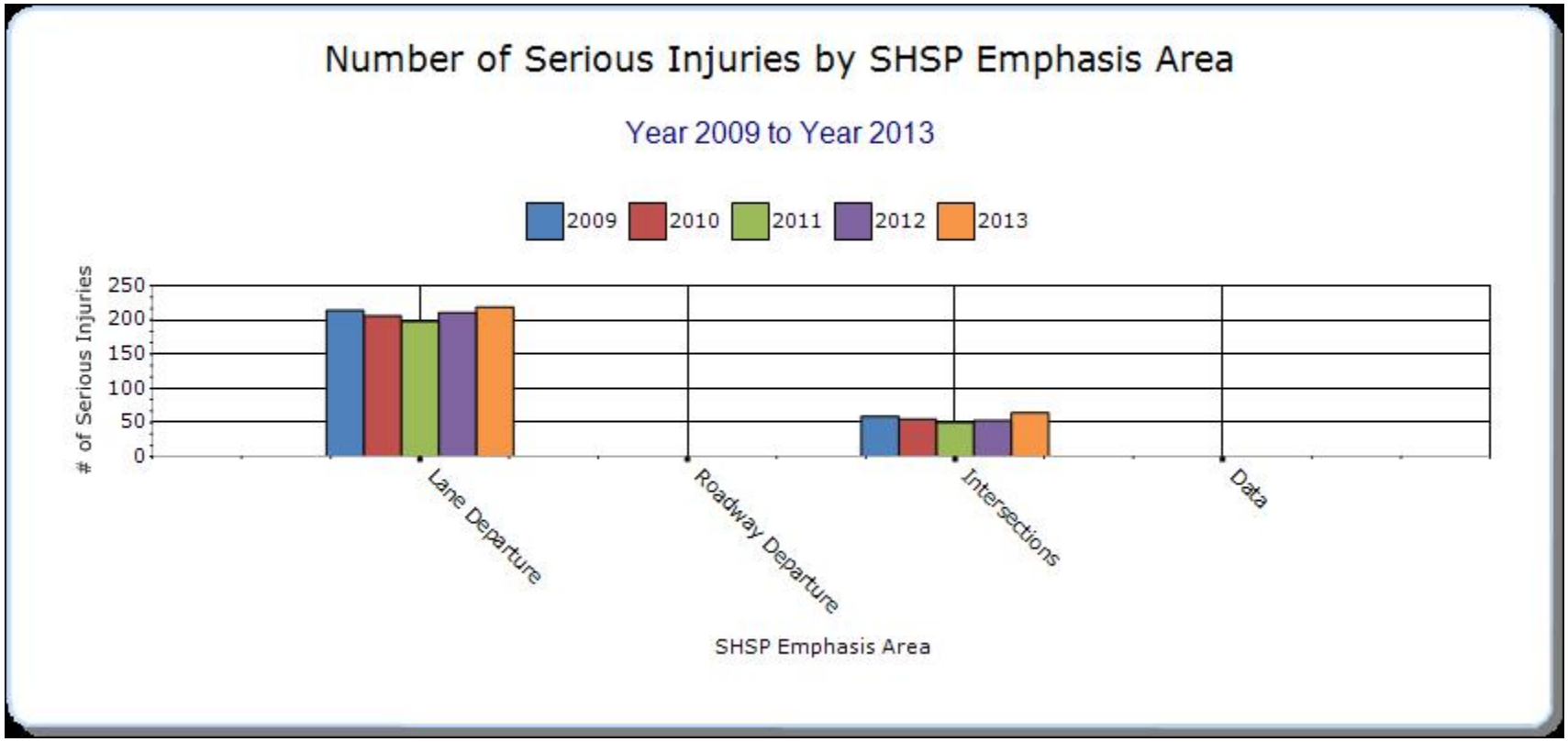
SHSP Emphasis Areas

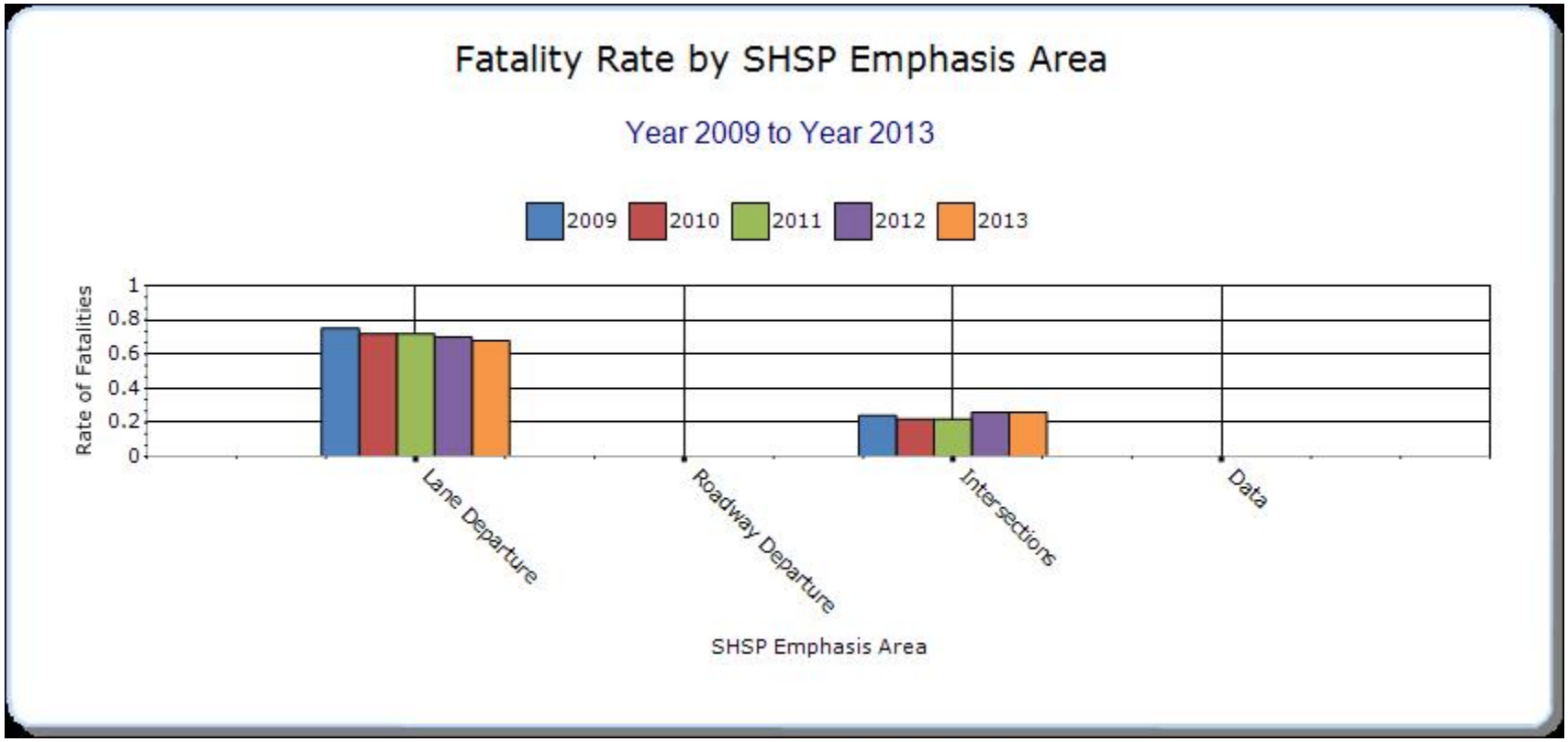
For each SHSP emphasis area that relates to the HSIP, present trends in emphasis area performance measures.

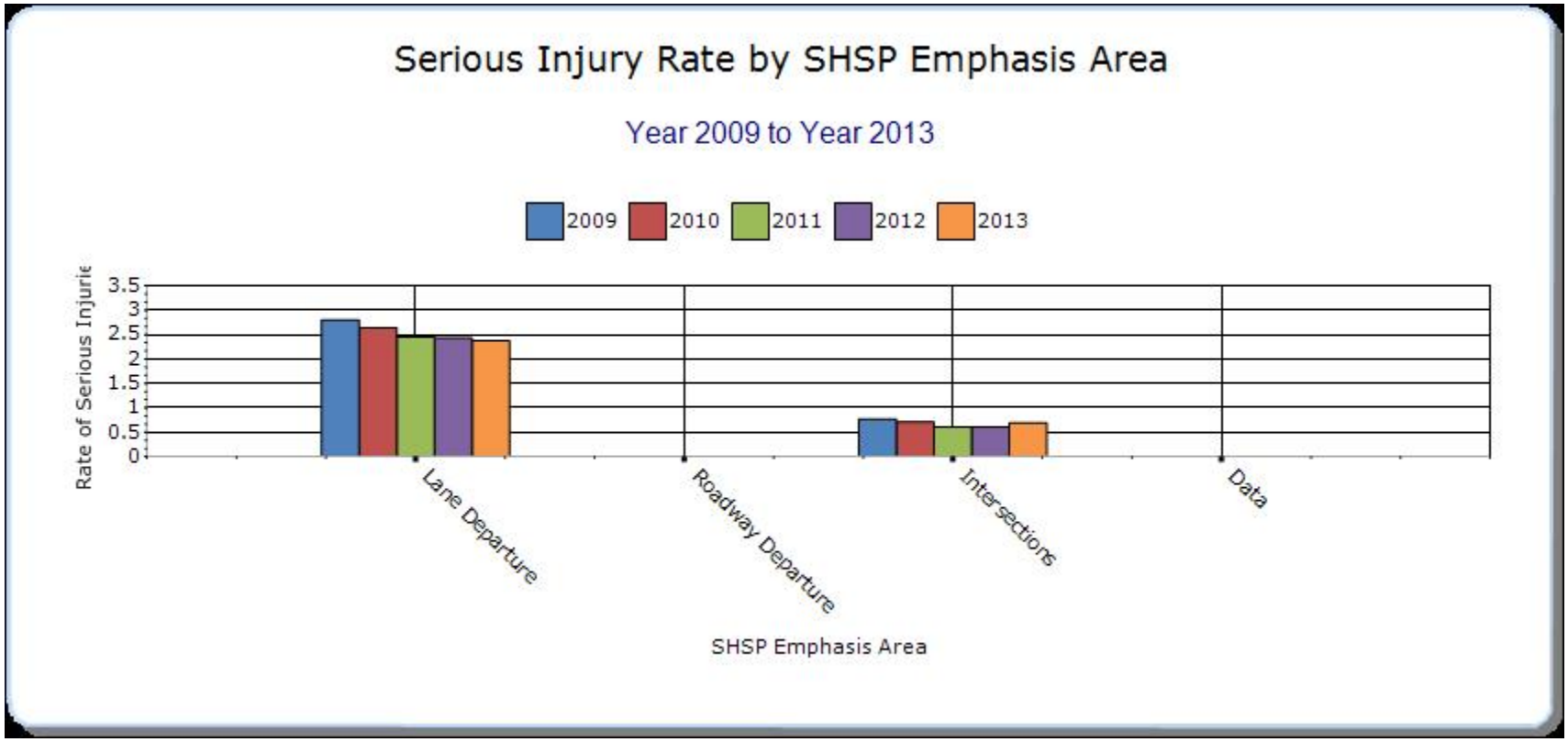
Year - 2013

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
Lane Departure		62	219	0.68	2.38	0	0	0
Intersections		24	64	0.26	0.69	0	0	0


Number of Fatalities by SHSP Emphasis Area
Year 2009 to Year 2013
2009
2010
2011
2012
2013
# of Fatalities
80
60
40
20
0
Lane Departure
Roadway Departure
Intersections
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
250
200
150
100
50
0
Lane Departure
Roadway Departure
Intersections
Data
SHSP Emphasis Area


Fatality Rate by SHSP Emphasis Area
Year 2009 to Year 2013
2009
2010
2011
2012
2013
Rate of Fatalities
1
0.8
0.6
0.4
0.2
0
Lane Departure
Roadway Departure
Intersections
Data
SHSP Emphasis Area

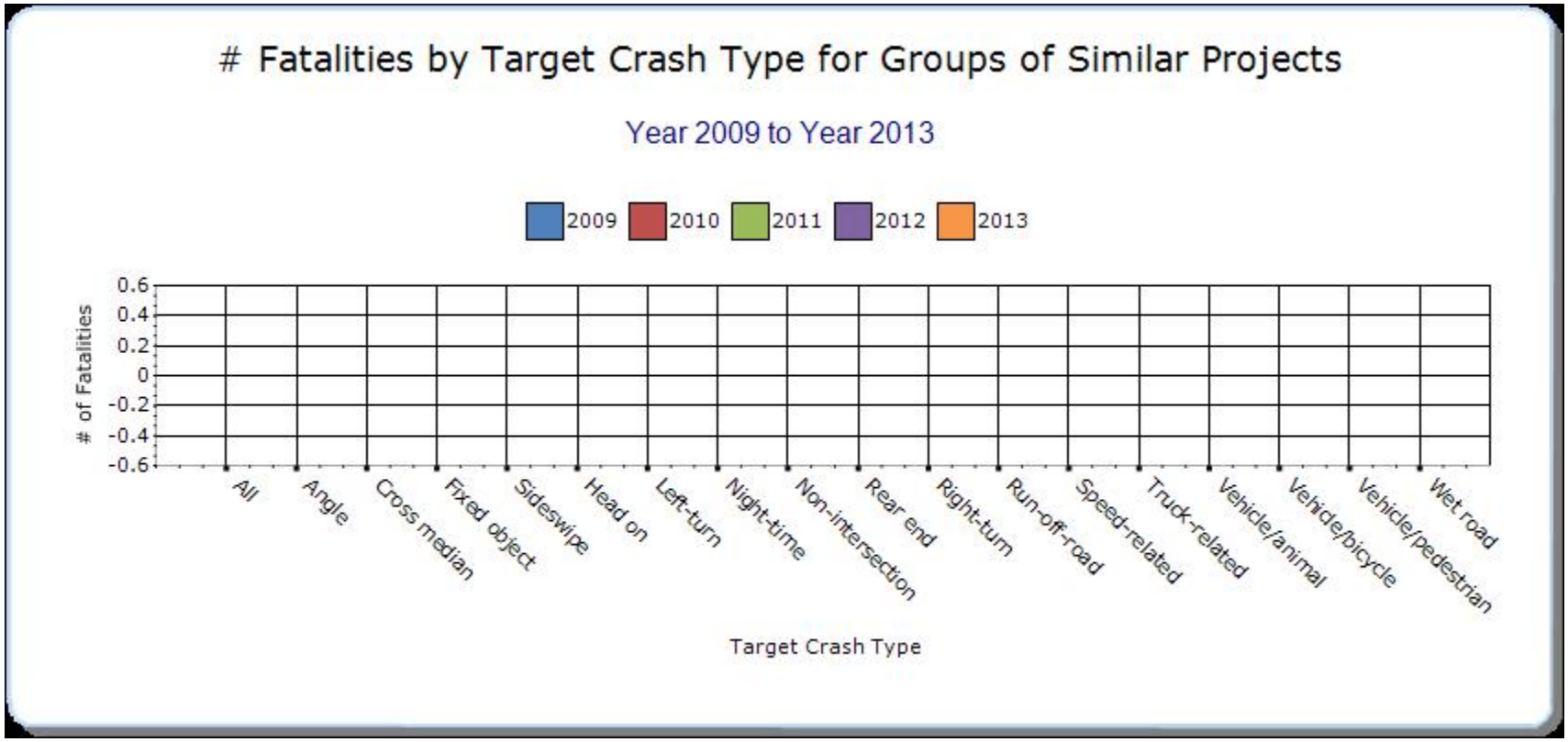

Serious Injury Rate by SHSP Emphasis Area
Year 2009 to Year 2013
2009
2010
2011
2012
2013
Rate of Serious Injurie
3.5
3
2.5
2
1.5
1
0.5
0
Lane Departure
Roadway Departure
Intersections
Data
SHSP Emphasis Area

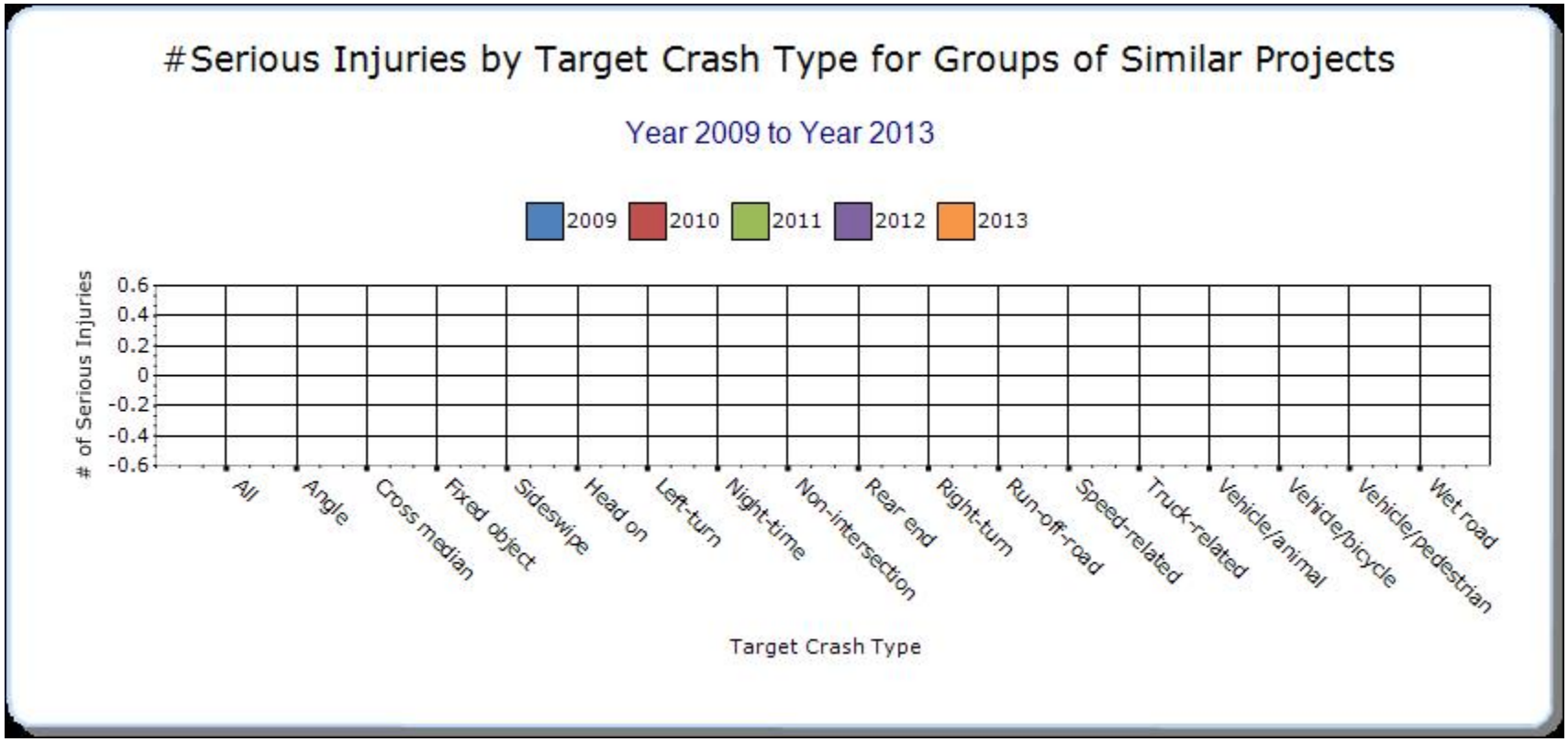
Groups of similar project types

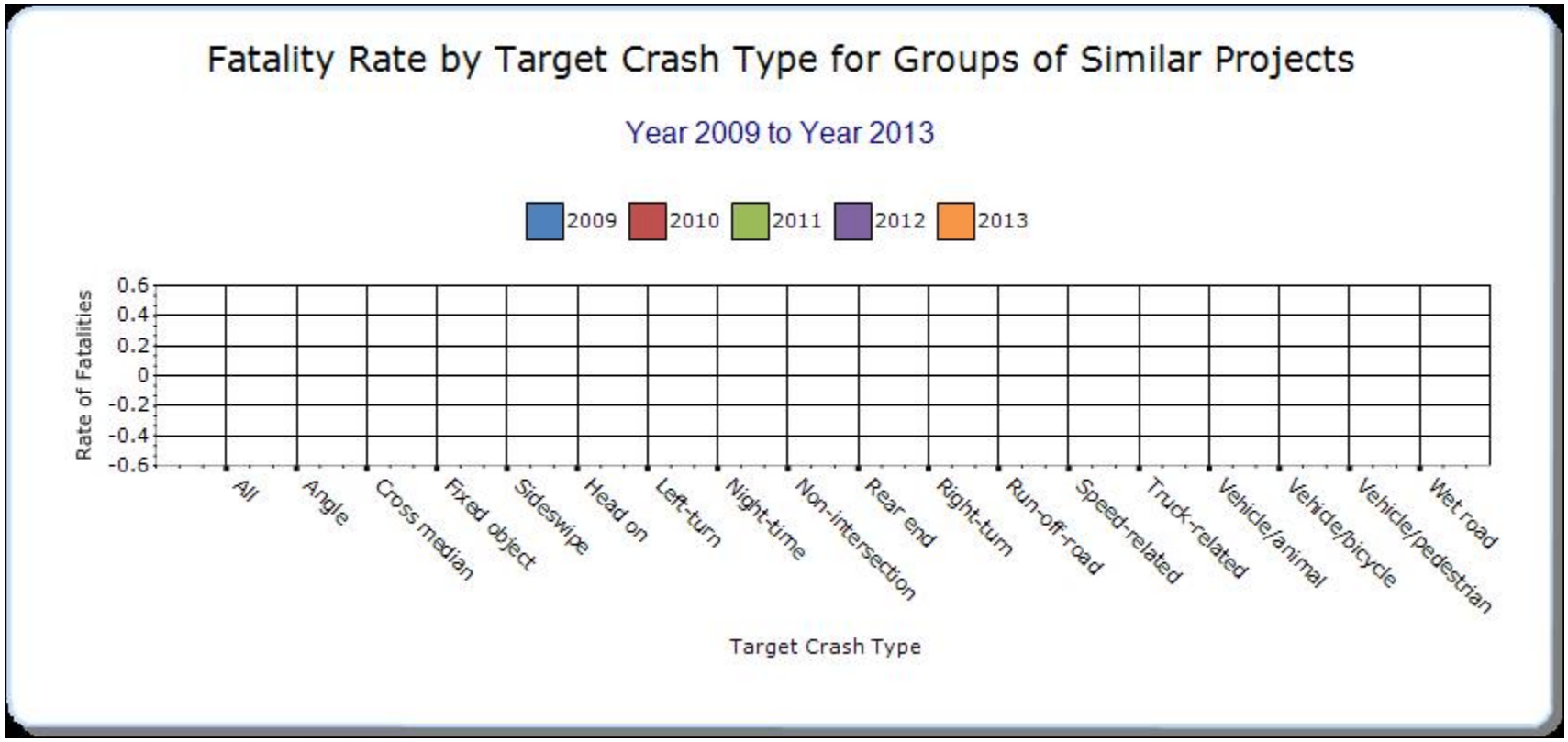
Present the overall effectiveness of groups of similar types of projects.

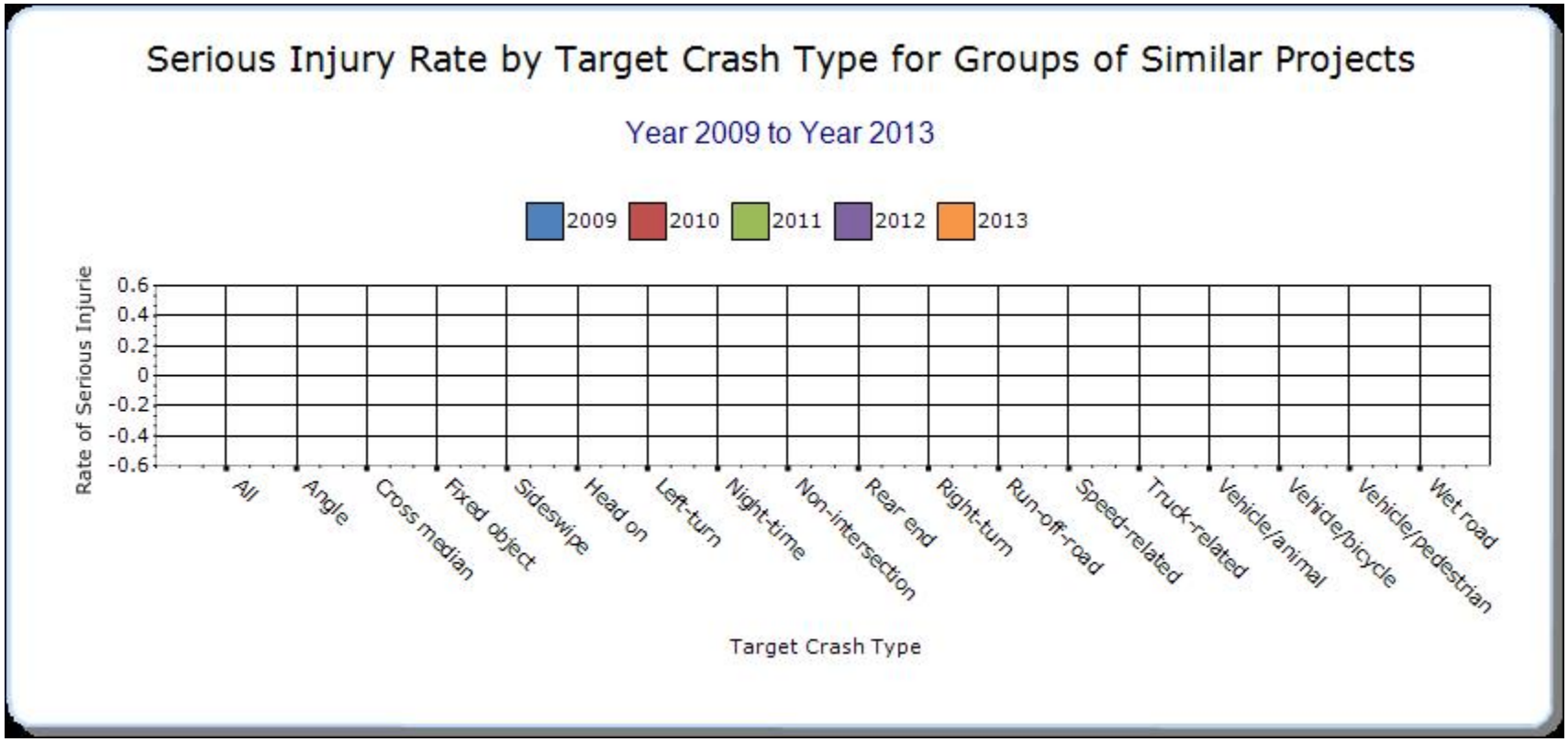
Year - 2013

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
Roadway Departure		62	219	0.68	2.38	0	0	0
Intersection		24	64	0.26	0.69	0	0	0


Fatalities by Target Crash Type for Groups of Similar Projects
Year 2009 to Year 2013
2009
2010
2011
2012
2013
# of Fatalities
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type


#Serious Injuries by Target Crash Type for Groups of Similar Projects
Year 2009 to Year 2013
2009
2010
2011
2012
2013
# of Serious Injuries
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type


Fatality Rate by Target Crash Type for Groups of Similar Projects
Year 2009 to Year 2013
2009
2010
2011
2012
2013
Rate of Fatalities
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type

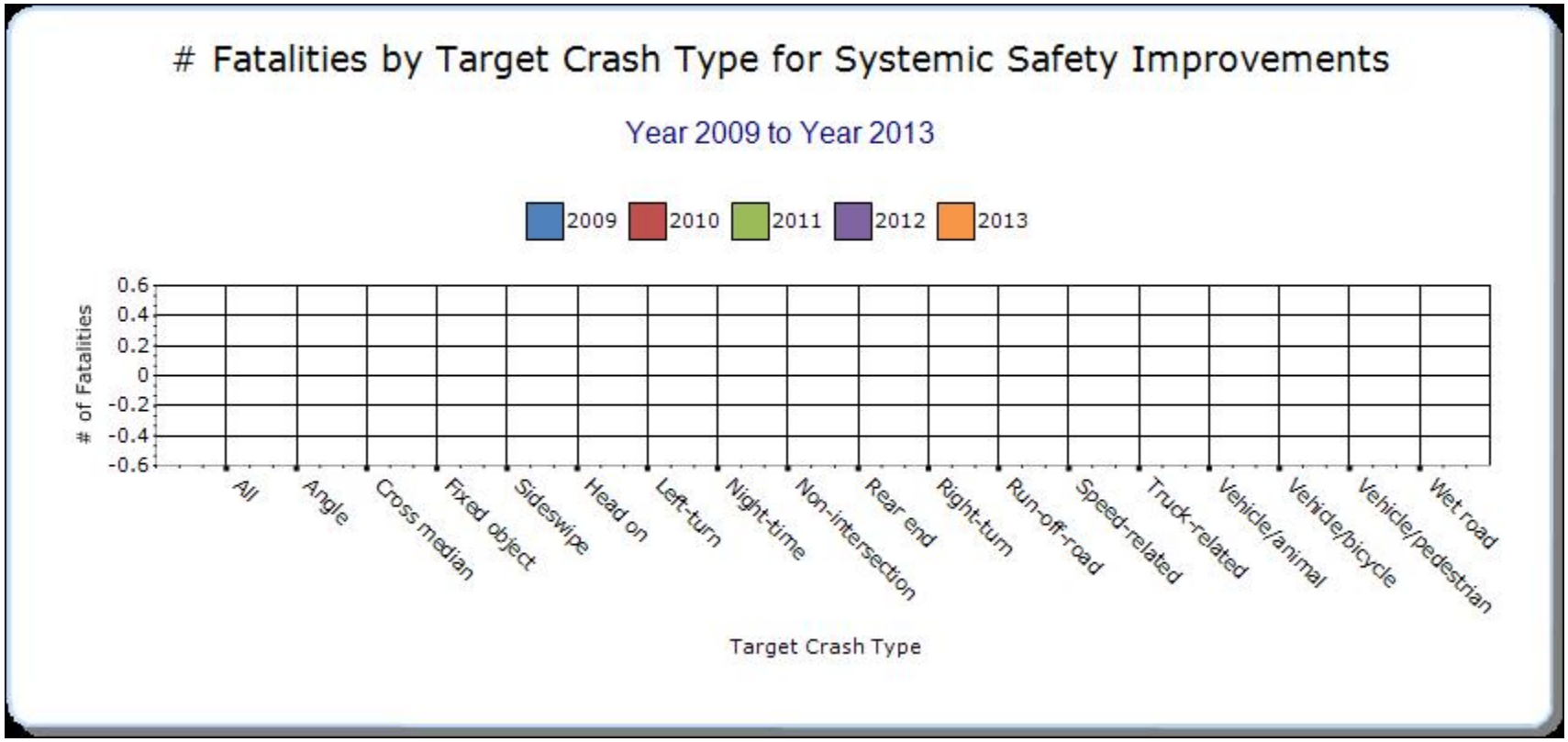

Serious Injury Rate by Target Crash Type for Groups of Similar Projects
Year 2009 to Year 2013
2009
2010
2011
2012
2013
Rate of Serious Injurie
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type

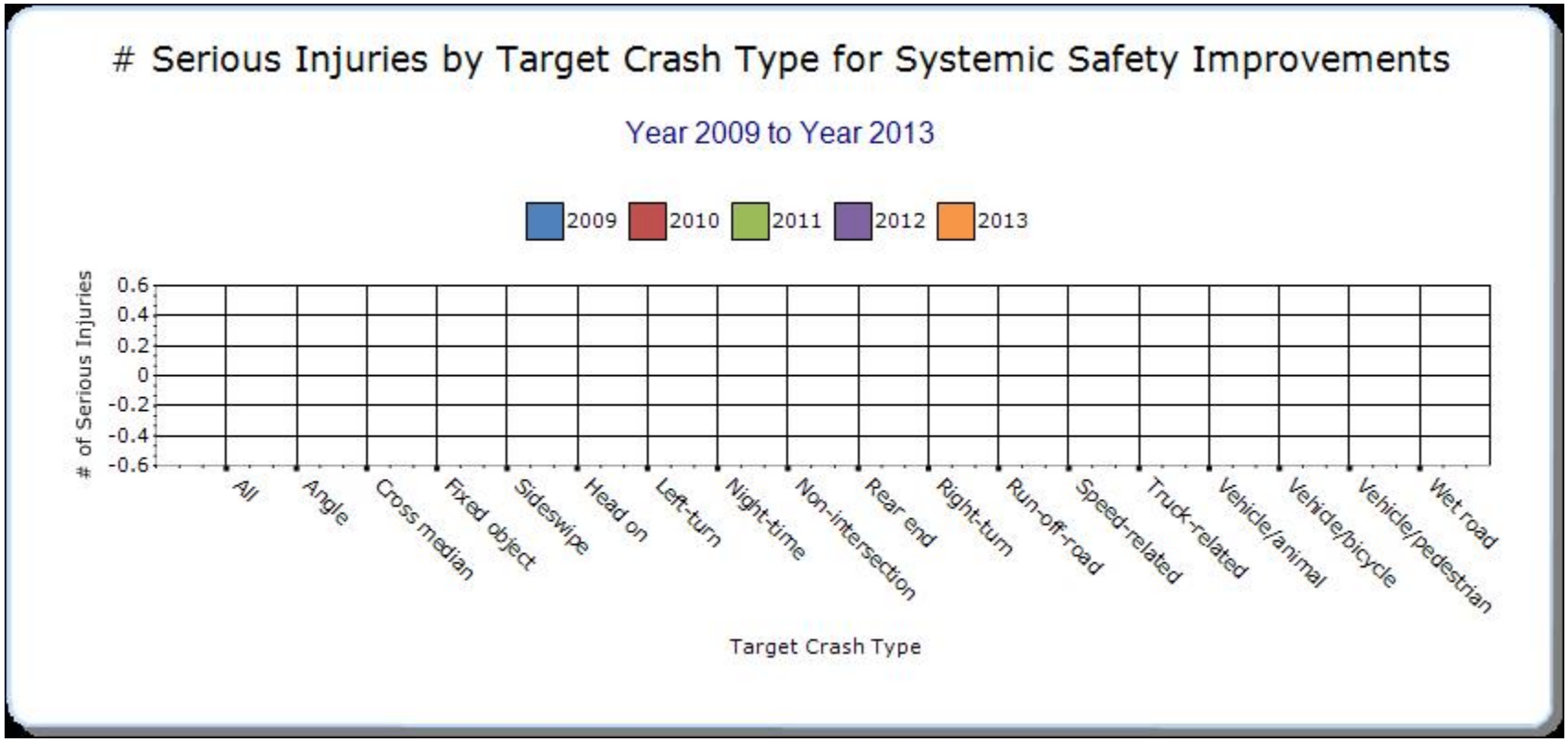
Systemic Treatments

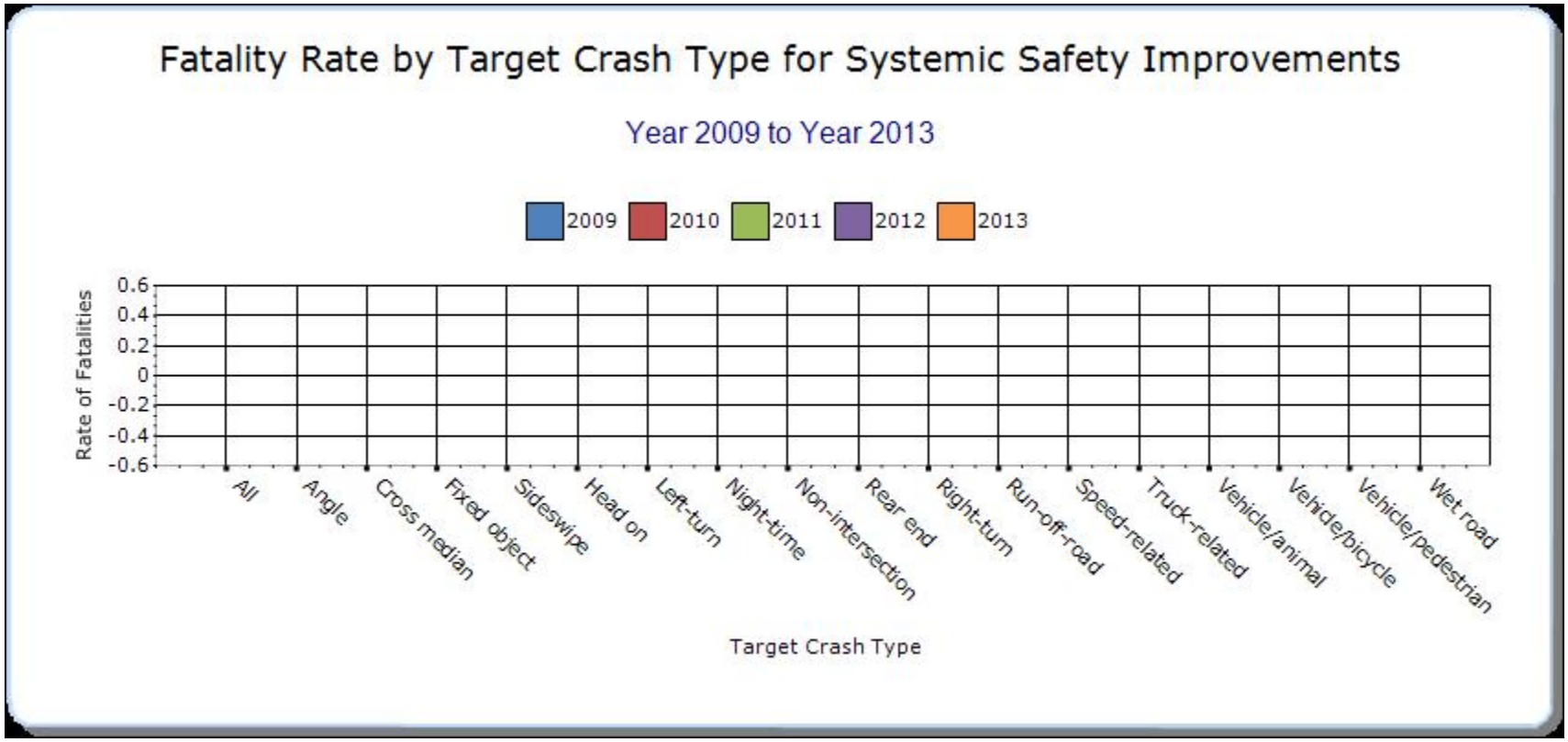
Present the overall effectiveness of systemic treatments.

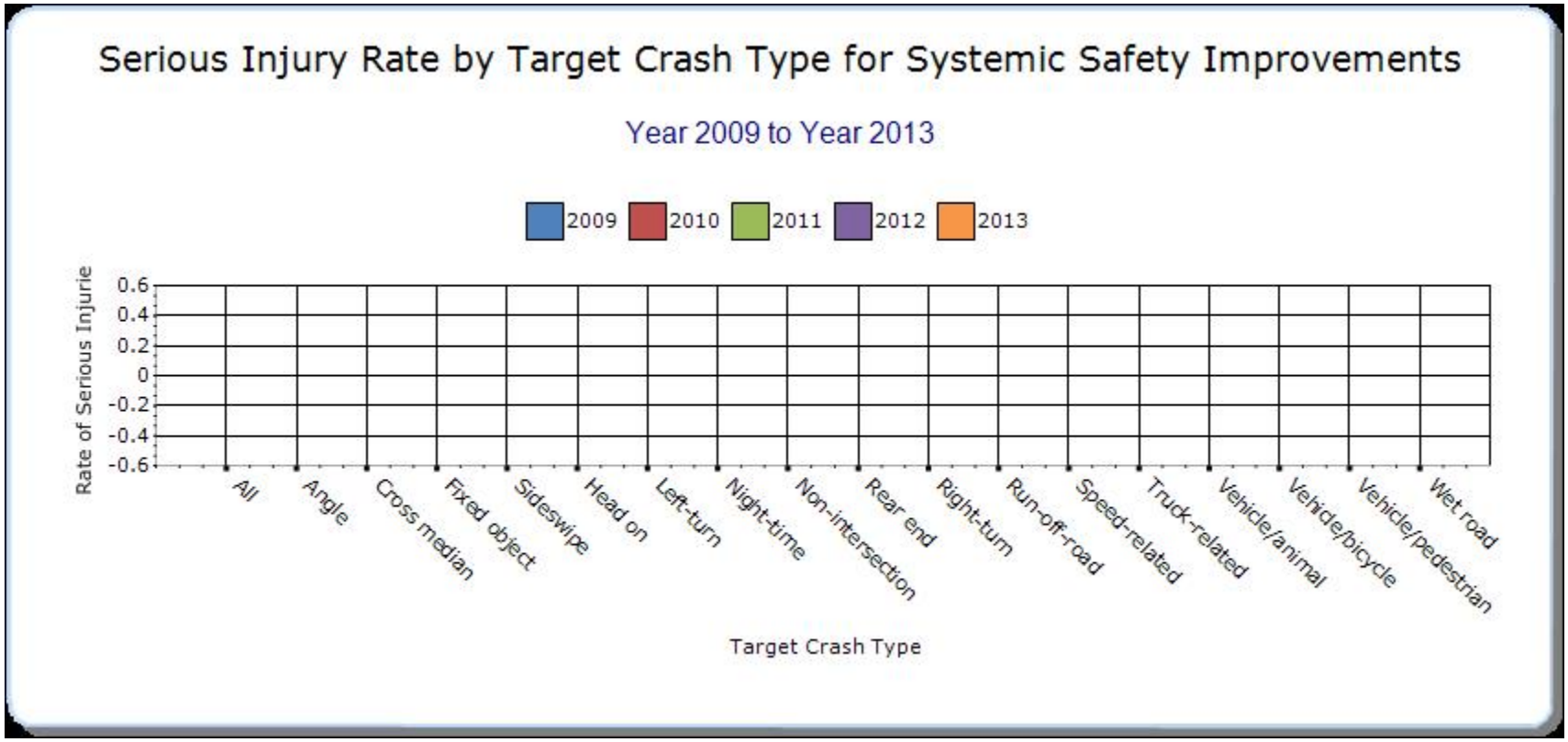
Year - 2013

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
Rumble Strips		62	219	0.68	2.38	0	0	0


Fatalities by Target Crash Type for Systemic Safety Improvements
Year 2009 to Year 2013
2009
2010
2011
2012
2013
# of Fatalities
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type


Serious Injuries by Target Crash Type for Systemic Safety Improvements
Year 2009 to Year 2013
2009
2010
2011
2012
2013
# of Serious Injuries
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type


Fatality Rate by Target Crash Type for Systemic Safety Improvements
Year 2009 to Year 2013
2009
2010
2011
2012
2013
Rate of Fatalities
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type


Serious Injury Rate by Target Crash Type for Systemic Safety Improvements
Year 2009 to Year 2013
2009
2010
2011
2012
2013
Rate of Serious Injurie
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
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)
n/a														

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.