Highway Safety Improvement Program

Data Driven Decisions

North Dakota
Highway Safety Improvement Program
2015 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

This year the NDDOT has completed the Local Road Safety Program (LRSP). This program provides local agencies locations for possible safety projects based on a data-driven process. This year was the first year that we have received requests for projects that were generated from the LRSP. These projects have been programmed into the safety program and will be built in the next few years.

Also, the NDDOT is transitioning to an updated HSIP Implementation Plan based on the most recent SHSP document (from September 2013). The plan emphasizes the systemic method for identifying at-risk locations and provides an outline for a "State Road Safety Plan" (SRSP). Both the SRSP and LRSP documents will be used to develop safety projects. The updated HSIP Plan also provides an improved decision making process to select appropriate countermeasures and prioritize 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 Solicitation process

The NDDOT sends out an annual solicitation letter to state and local agencies each year. These agencies fill out an application form for potential projects based on the high crash listings and their own knowledge of safety issues. These applications are evaluated by the NDDOT Programming Division. This has been the process for the last several years. However the NDDOT is transitioning to a more systemic approach through the development of the "Local Road Safety Plan" (LRSP). This plan identifies potential projects based on a risk assessment. Agencies have the option of developing safety projects directly from the risk assessment instead of chasing "hot spot" locations.

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.

Design
The Design Division is included in the distribution of the high crash listings. All road safety reviews require at least one member of the Design Division. Their participation and review of at-risk locations helps in the development of potential project countermeasures.

Planning
The Planning Division provides data for the development of the HSIP. Roadway features are collected and maintained in the Planning Division include: traffic volume, truck volumes, traffic projections, roadway features, roadway viewer (for state highways) and mapping. The Planning Division is also included in the distribution of the high crash listings.

Safety Division
Crash data and statistics are provided by the Safety Division. This information is used to identify areas of focus through the Strategic Highway Safety Plan (SHSP). The Safety Division also participates in road safety reviews.

Local Government
Members of the Local Government Division provide project development through city, county and tribal agencies. The local government assists in the solicitation of safety projects. They also participate in road safety reviews.

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-See Optional Description

A new "HSIP Implementation Plan" document has been written and is currently in the "draft" stage. The major change that is included in this document is the addition of a "systemic" analysis which is used to identify projects based on levels of risk. The draft document also refines the scheduling of the HSIP development and provided improved processes for the selection of countermeasures.

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

Schedule for HSIP requests:

- October 20th – send out HSIP solicitation letter and high crash location lists/maps

- December 20th – HSIP application forms (SFN 59959) are due to NDDOT (this is the cutoff date for projects to be included in the following year's draft HSIP listing)
- January through March – NDDOT analysis of HSIP requests
- April 1st – Draft HSIP project listing
- August 1st – verify the construction year for previously approved projects
- August 31st – Final HSIP project list due to FHWA, HSIP online reporting due
- October 15th – Send responses out on approvals (or non-approvals) for the HSIP applications

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 2

☒ Cost Effectiveness 3

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

30

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

☐ 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: Other-No change

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

None

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)	13495711	68 %	10326337	62 %
HRRRP (SAFETEA-LU)	1439158	7 %	1439158	9 %
HRRR Special Rule				
Penalty Transfer - Section 154				
Penalty Transfer – Section 164	4985957	25 %	4985957	30 %
Incentive Grants - Section 163				
Incentive Grants (Section 406)				
Other Federal-aid Funds (i.e. STP, NHPP)				
State and Local Funds				

Totals	19920826	100%	16751452	100%

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

$116,000.00

How much funding is obligated to local safety projects?

$116,000.00

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
GF GUIDE SIGN DW REFLECTIVITY #2	Roadway signs and traffic control Sign sheeting - upgrade or replacement		607000	668000	HSIP (Section 148)	Multiple Functional classes			State Highway Agency	Older Drivers	
FARGO VARIOUS INTERSECTIONS	Pedestrians and bicyclists Pedestrian signal - modify existing		27000	30000	HSIP (Section 148)					Intersections	
JAMESTOWN BYPASS	Intersection geometry Auxiliary lanes - modify free-flow turn lane		897000	997000	HSIP (Section 148)	Rural Principal Arterial - Other			State Highway Agency	Intersections	
US 281 AND 99TH ST NE	Intersection geometry Auxiliary lanes - add left-turn lane		574000	638000	HSIP (Section 148)	Rural Principal Arterial - Other	1280	65	State Highway Agency	Intersections	
ND 18 AND CASS COUNTY ROAD 10	Intersection geometry Intersection geometrics - modify skew angle		1066500	1185000	HSIP (Section 148)	Rural Minor Arterial	1664	25	State Highway Agency	Intersections	

SIGNING - WESTERN DISTRICTS	Intersection traffic control Intersection signing - miscellaneous/other/unspecified		1241000	1379000	HSIP (Section 148)				State Highway Agency	Intersections	
JUNCTION OF ND 1 AND ND 46	Advanced technology and ITS Congestion detection / traffic monitoring system		195000	216000	HSIP (Section 148)	Rural Principal Arterial - Other		65	State Highway Agency	Intersections	
US 83 AND ND 23 INTERSECTION	Advanced technology and ITS Congestion detection / traffic monitoring system		388000	431000	HSIP (Section 148)	Rural Principal Arterial - Other	7090	70	State Highway Agency	Intersections	
BLANCHARD EAST TO JCT ND 200	Roadway Roadway - other		6142000	6824000	HRRR Special Rule	Rural Major Collector	539	65	State Highway Agency	Varies	
BIA ROADS - VARIOUS LOCATIONS	Roadside Roadside grading		46000	81000	HSIP (Section 148)	Rural Local Road or Street			Local Park, Forest or Reservation Agency	Lane Departure	
TURN LANES ALONG US 52, NEAR DRAKE	Intersection geometry Auxiliary lanes - add left-turn lane		1890000	2100000	HSIP (Section 148)	Rural Principal Arterial -	2290	55	State Highway Agency	Intersections	

						Other					
CAVALIER COUNTY ROADS	Roadway delineation Longitudinal pavement markings - new		46000	51000	HSIP (Section 148)	Rural Major Collector			County Highway Agency	Lane Departure	
DISTRICTWIDE RETROREFLECTIVITY	Roadway signs and traffic control Sign sheeting - upgrade or replacement		618000	686000	HSIP (Section 148)				State Highway Agency	Older Drivers	
DISTRICTWIDE RETROREFLECTIVITY	Roadway signs and traffic control Sign sheeting - upgrade or replacement		1398000	1554000	HSIP (Section 148)				State Highway Agency	Older Drivers	

Progress in Achieving Safety Performance Targets

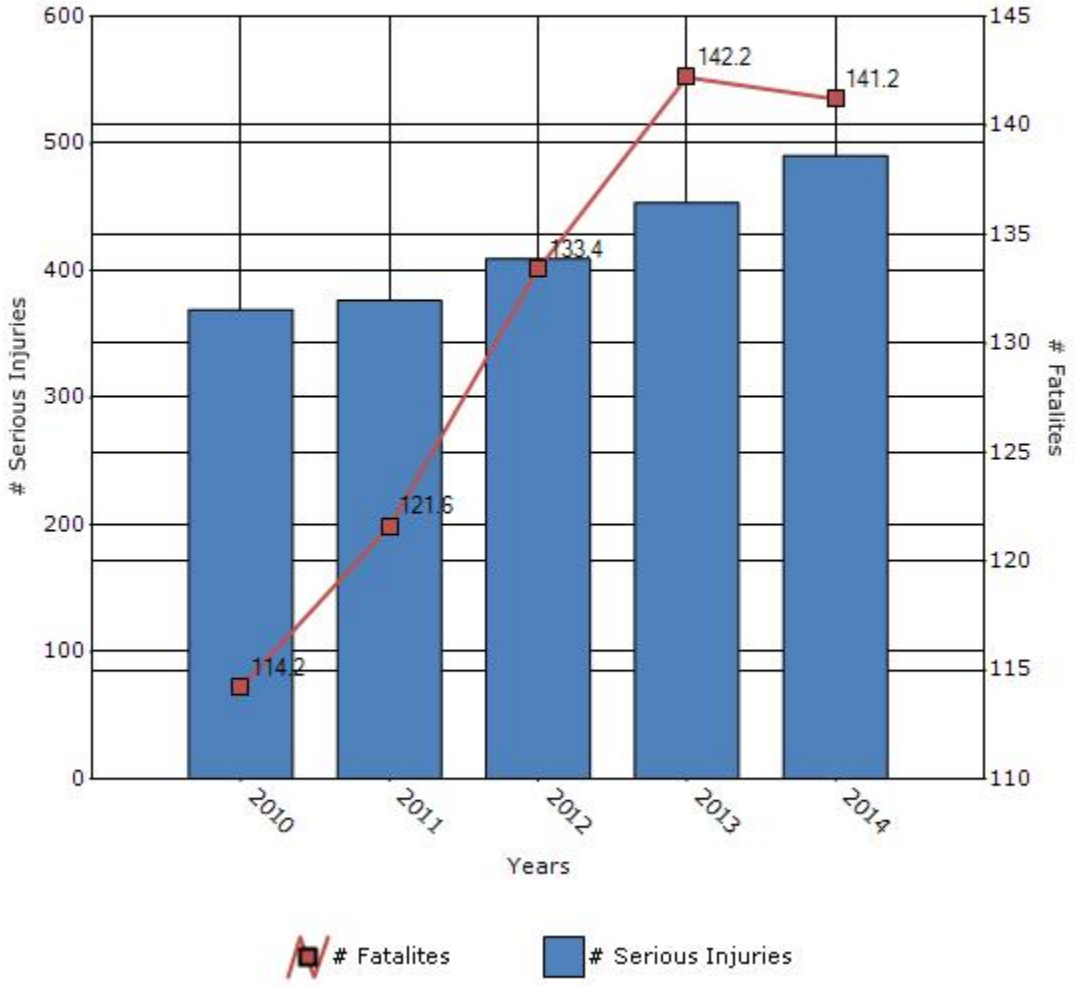
Overview of General Safety Trends

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

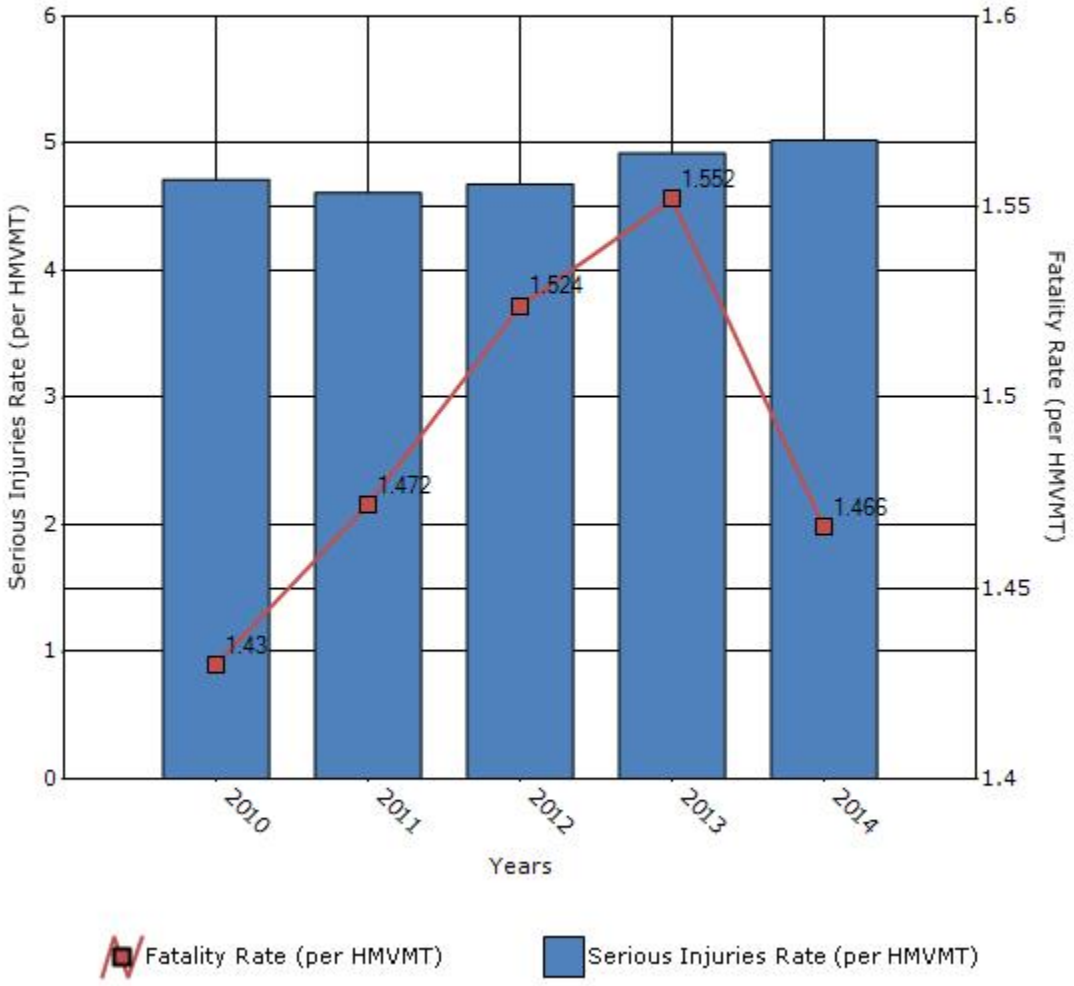
Performance Measures*	2010	2011	2012	2013	2014
Number of fatalities	114.2	121.6	133.4	142.2	141.2
Number of serious injuries	369.2	376.4	409.2	453.2	490.4
Fatality rate (per HMVMT)	1.43	1.472	1.524	1.552	1.466
Serious injury rate (per HMVMT)	4.716	4.612	4.68	4.924	5.026

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

Number of Fatalities and Serious injuries for the Last Five Years



Rate of Fatalities and Serious injuries for the Last Five Years

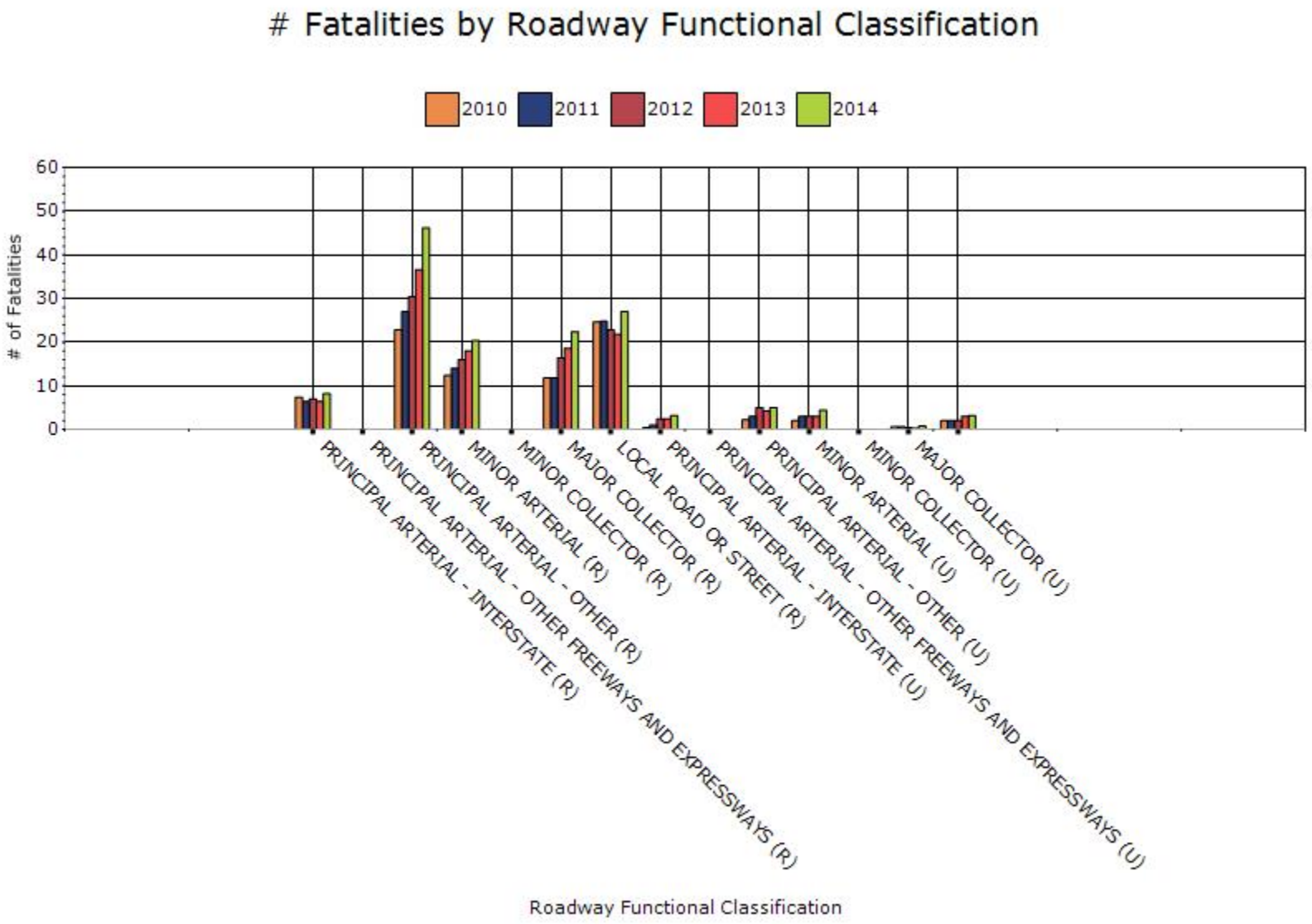


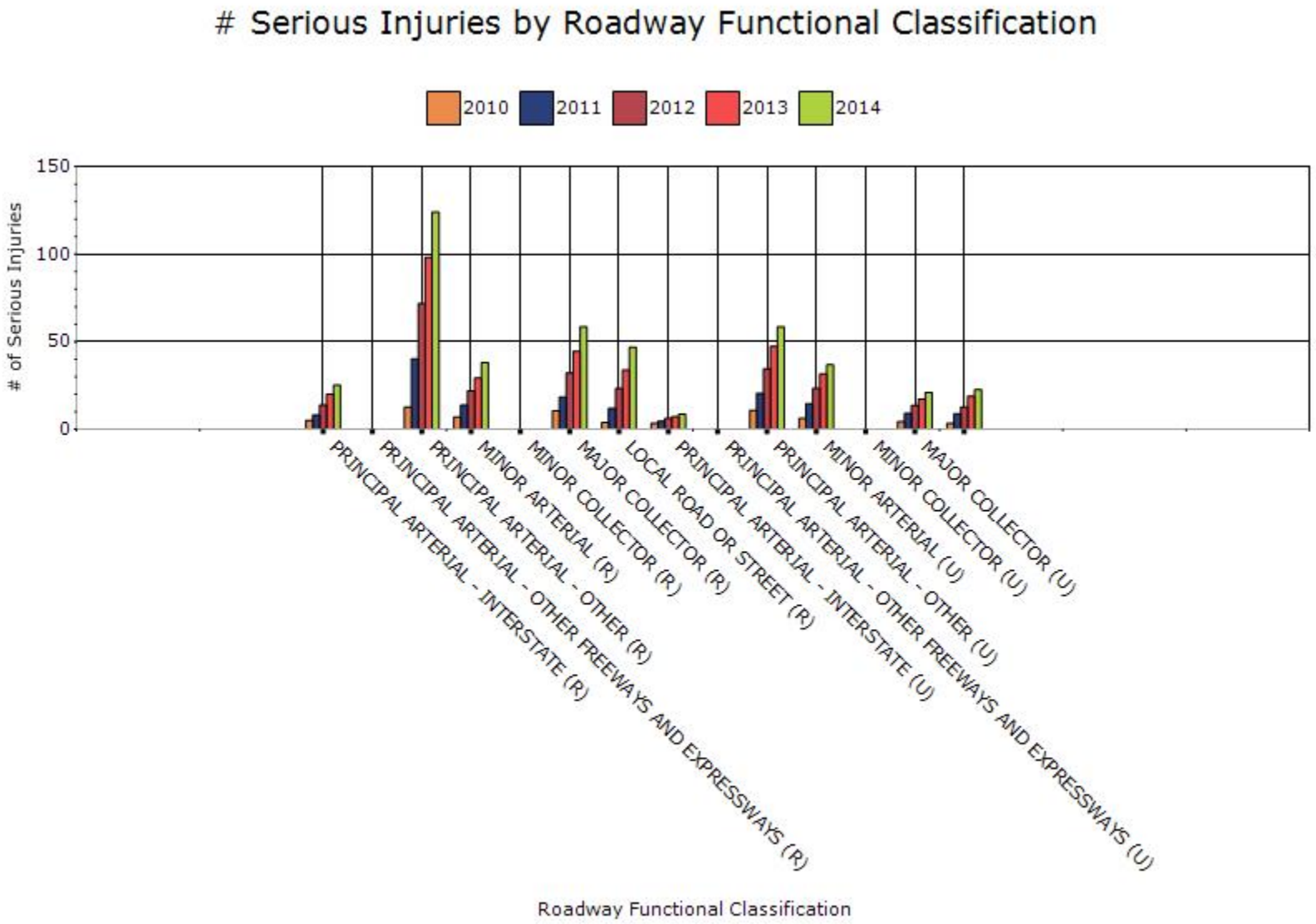
To the maximum extent possible, present performance measure* data by functional classification and ownership.

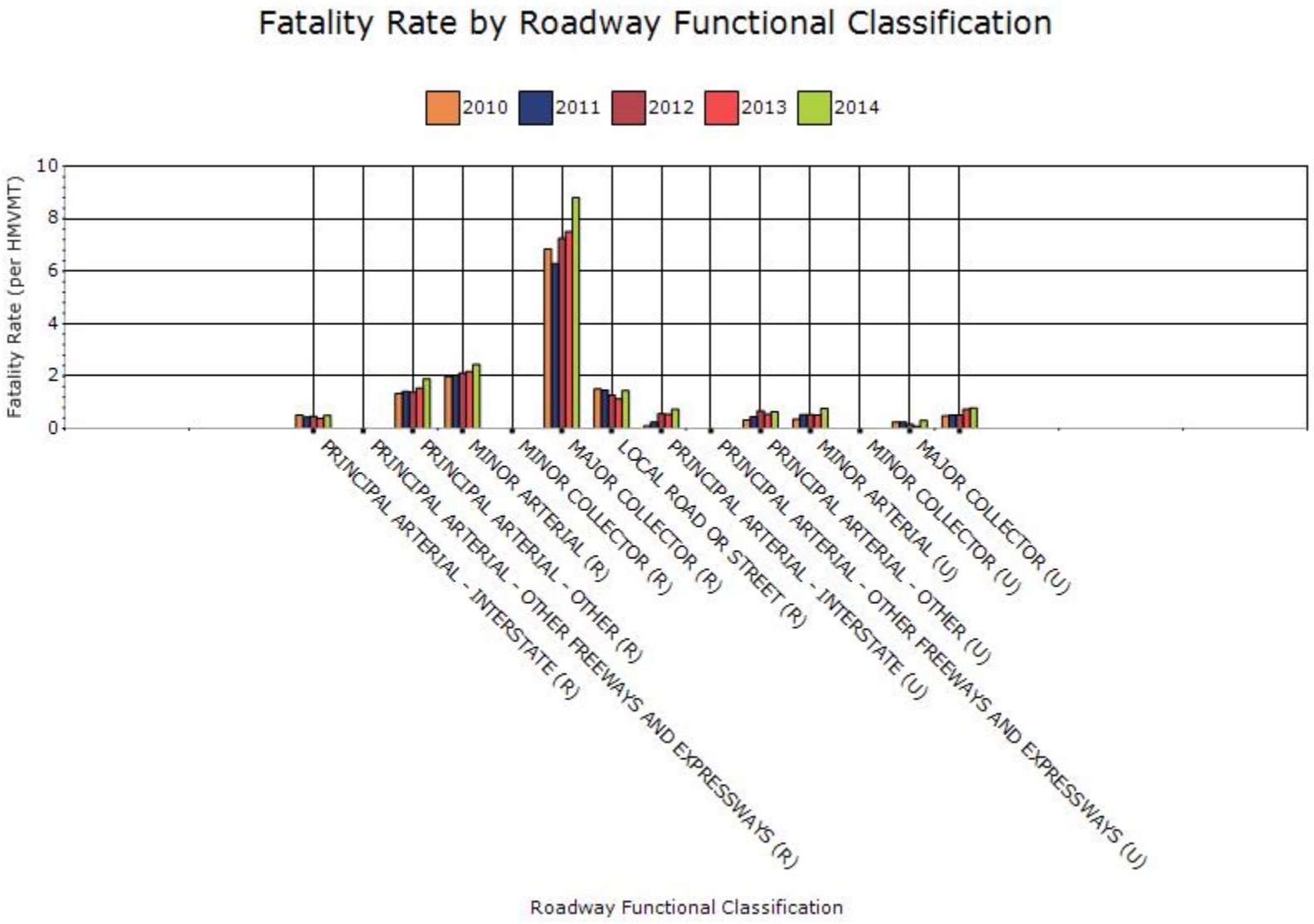
Year - 2014

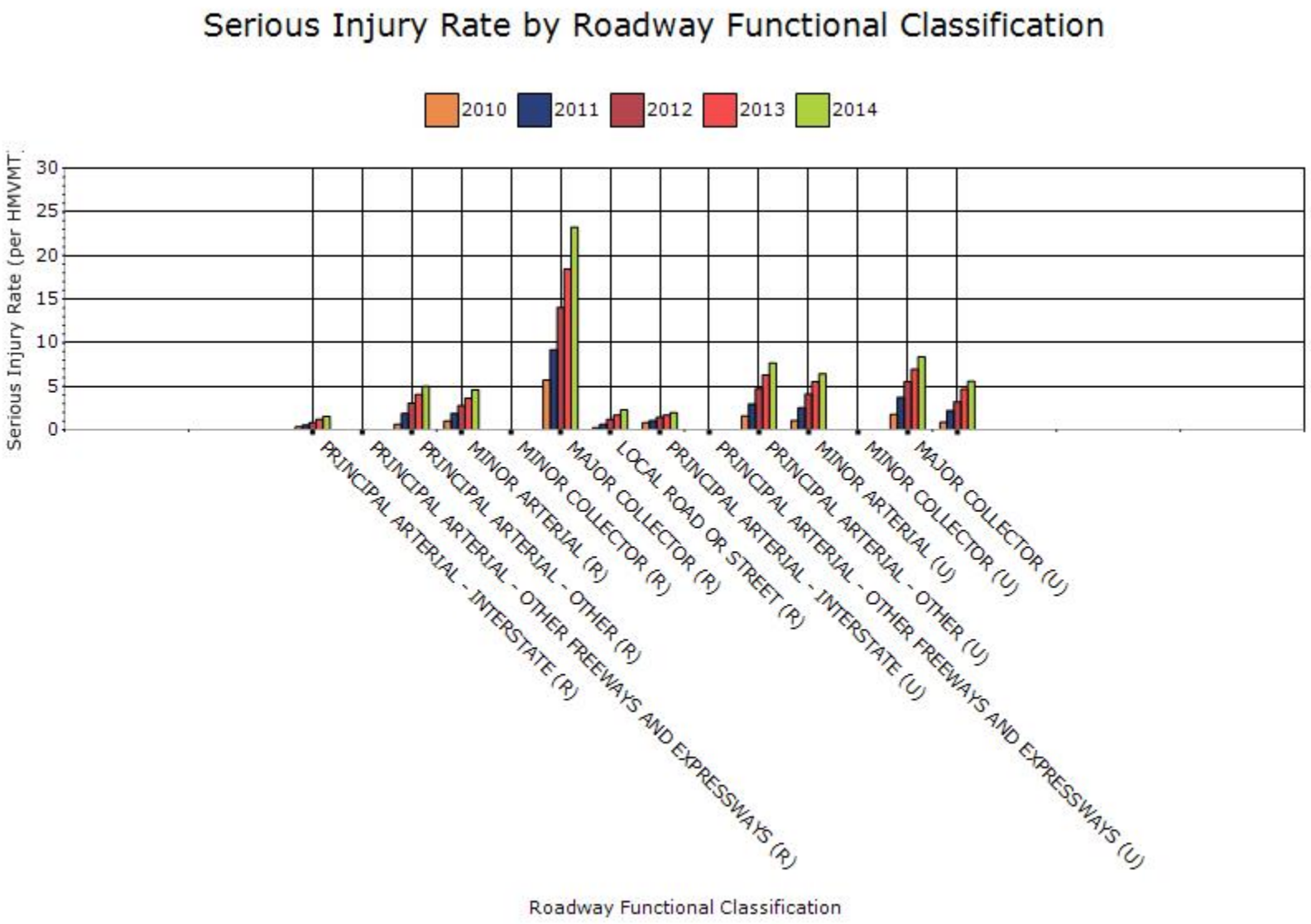
Function Classification	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
RURAL PRINCIPAL ARTERIAL - INTERSTATE	8.2	25.2	0.5	1.52
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	0	0	0	0
RURAL PRINCIPAL ARTERIAL - OTHER	46.2	124	1.89	5.01
RURAL MINOR ARTERIAL	20.4	38.2	2.45	4.59
RURAL MINOR COLLECTOR	0	0	0	0
RURAL MAJOR COLLECTOR	22.4	58.6	8.8	23.23
RURAL LOCAL ROAD OR STREET	27	46.8	1.44	2.29
URBAN PRINCIPAL	3.2	8.6	0.73	1.98

ARTERIAL - INTERSTATE				
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	0	0	0	0
URBAN PRINCIPAL ARTERIAL - OTHER	5	58.6	0.64	7.66
URBAN MINOR ARTERIAL	4.4	36.8	0.76	6.42
URBAN MINOR COLLECTOR	0	0	0	0
URBAN MAJOR COLLECTOR	0.8	21	0.31	8.4
URBAN LOCAL ROAD OR STREET	3.2	22.6	0.79	5.56


Fatalities by Roadway Functional Classification
2010
2011
2012
2013
2014
# 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

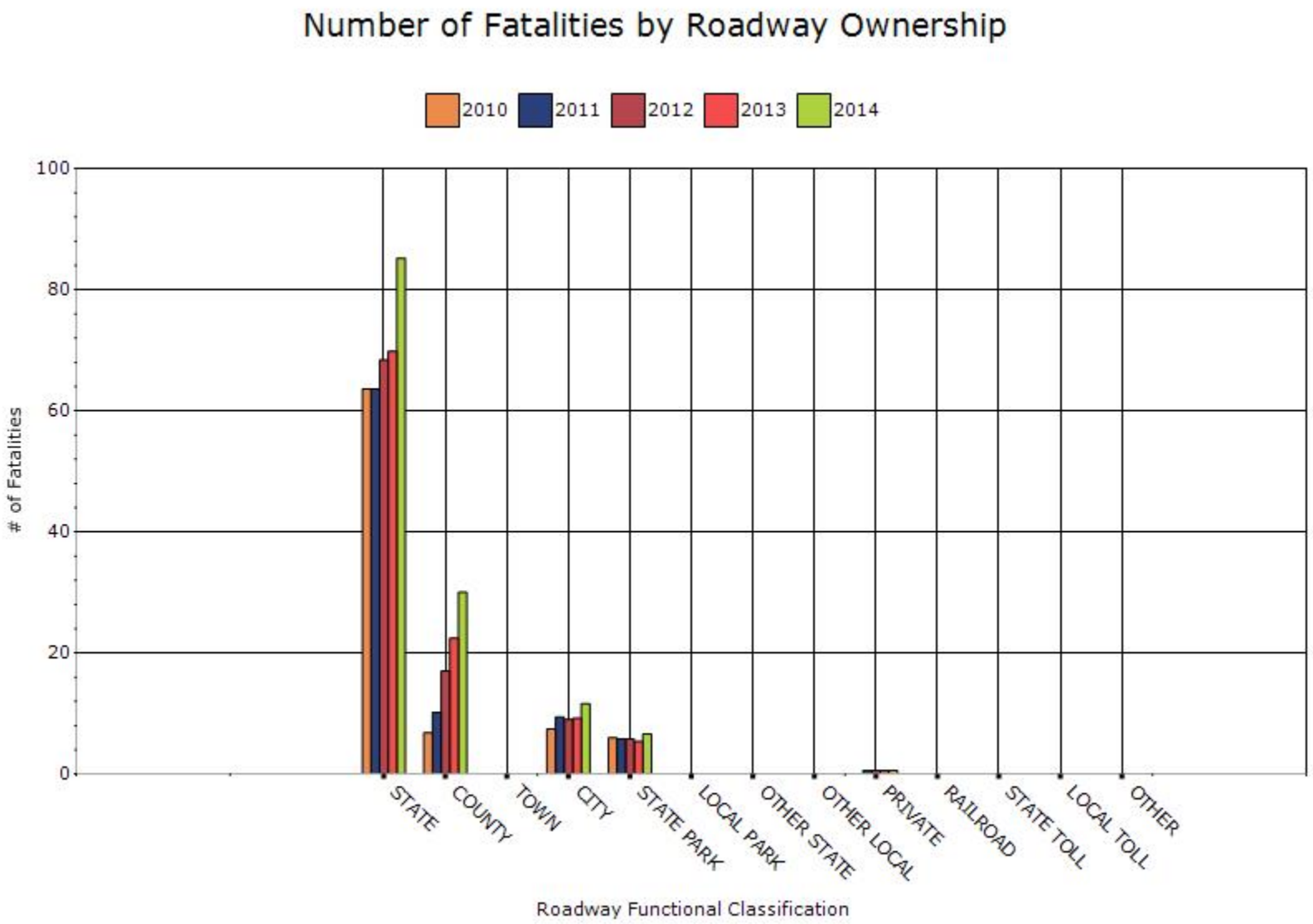

Serious Injuries by Roadway Functional Classification
2010
2011
2012
2013
2014
150
100
50
0
# of Serious Injuries
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)
LOCAL 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

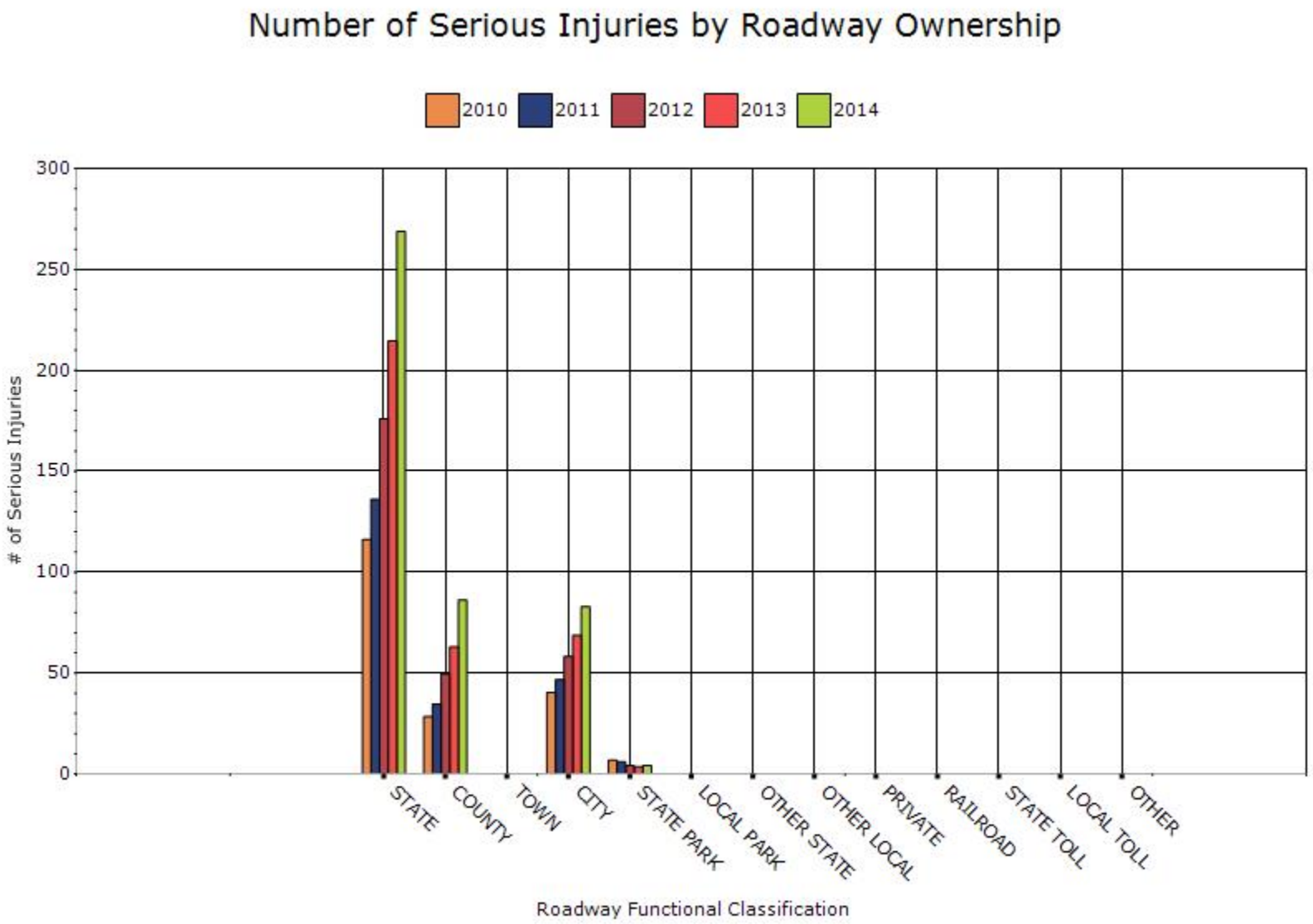

Fatality Rate by Roadway Functional Classification
2010
2011
2012
2013
2014
Fatality Rate (per HMVMT)
10
8
6
4
2
0
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)
LOCAL 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

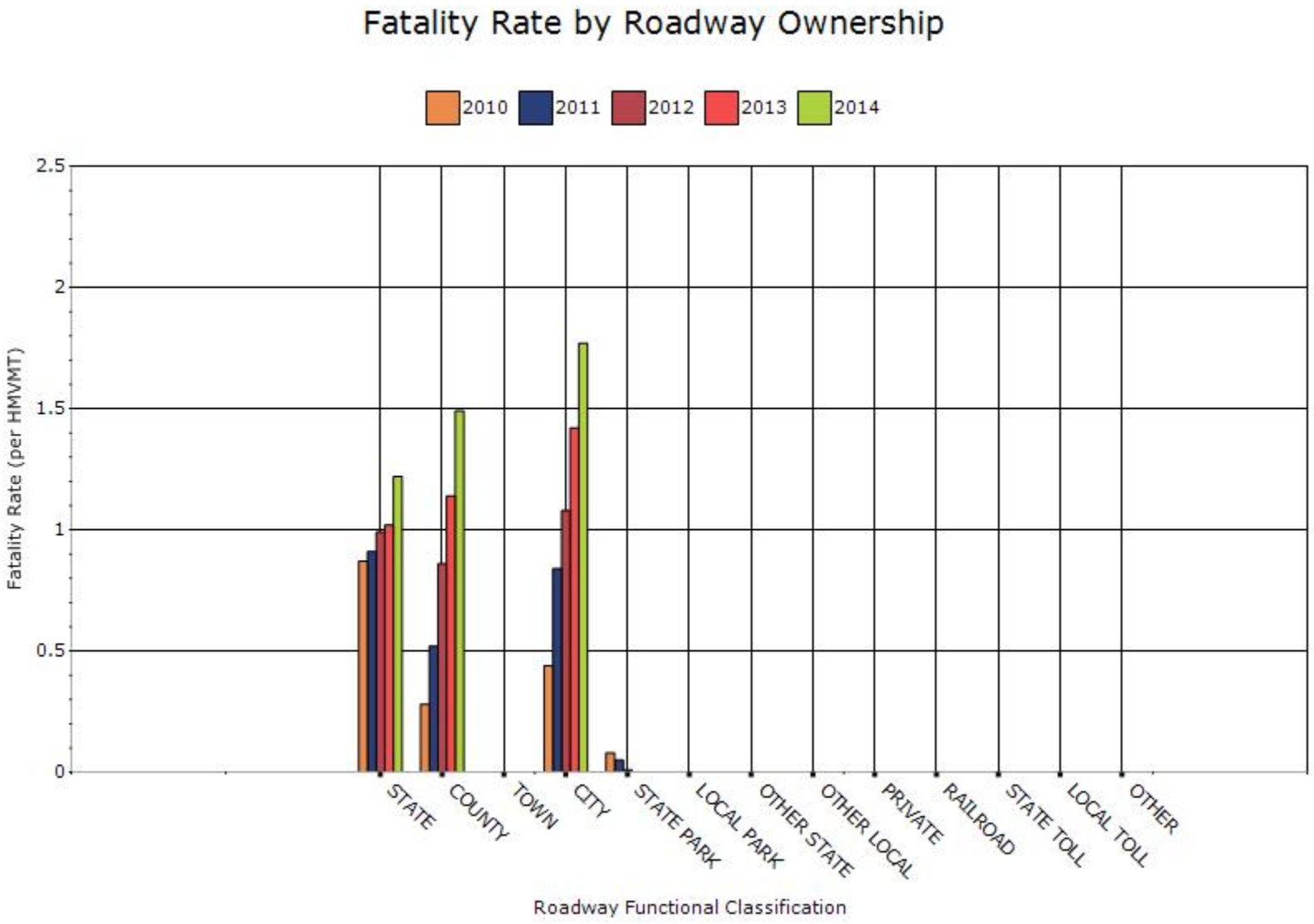

Serious Injury Rate by Roadway Functional Classification
2010
2011
2012
2013
2014
Serious Injury Rate (per HMVMT)
30
25
20
15
10
5
0
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR 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

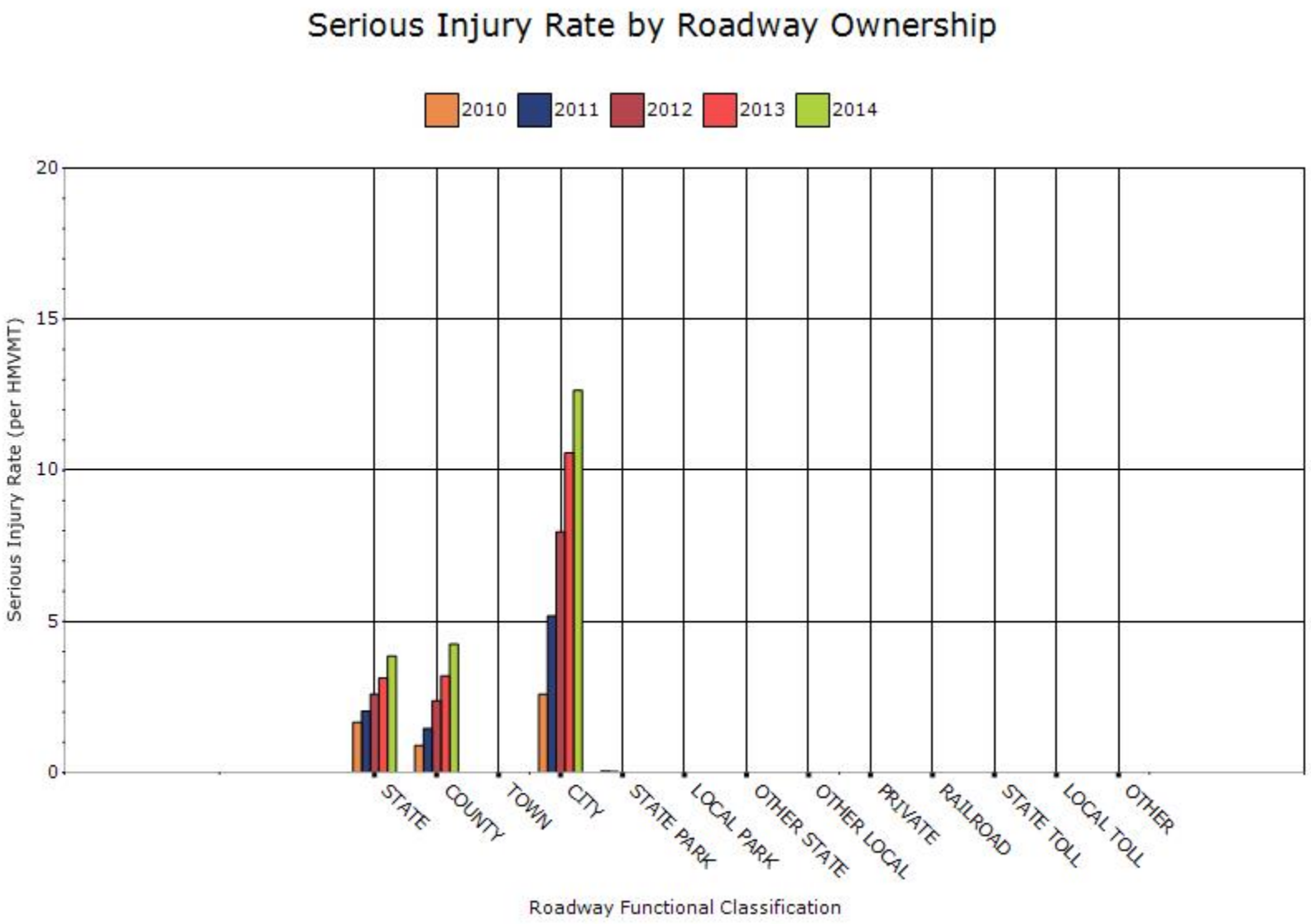
Year - 2014

Roadway Ownership	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
STATE HIGHWAY AGENCY	85.2	268.8	1.22	3.85
COUNTY HIGHWAY AGENCY	30	86.2	1.49	4.25
TOWN OR TOWNSHIP HIGHWAY AGENCY	0	0	0	0
CITY OF MUNICIPAL HIGHWAY AGENCY	11.6	83	1.77	12.65
STATE PARK, FOREST, OR RESERVATION AGENCY	6.6	4.2	0	0
LOCAL PARK, FOREST OR RESERVATION AGENCY	0	0	0	0
OTHER STATE AGENCY	0	0	0	0
OTHER LOCAL AGENCY	0	0	0	0
PRIVATE (OTHER THAN RAILROAD)	0.6	0.2	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
2010
2011
2012
2013
2014
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
2010
2011
2012
2013
2014
300
250
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
2010
2011
2012
2013
2014
Fatality Rate (per HMVMT)
2.5
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


Serious Injury Rate by Roadway Ownership
2010
2011
2012
2013
2014
20
15
10
5
0
Serious Injury 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

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)	0.04	0.046	0.072	0.084	0.08
Serious injury rate (per capita)	0.036	0.074	0.112	0.13	0.152
Fatality and serious injury rate (per capita)	0.076	0.12	0.184	0.216	0.234

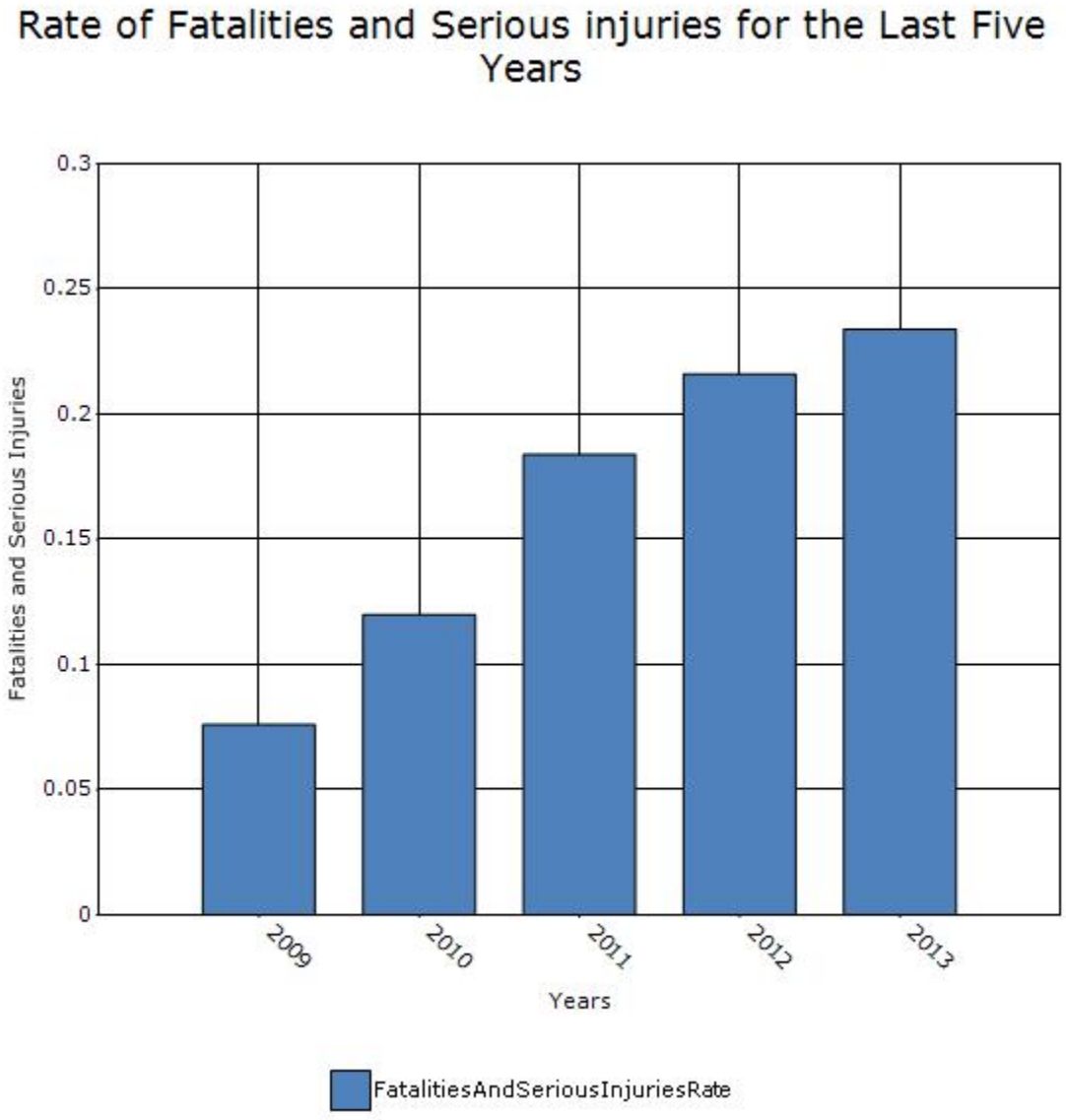
*Performance measure data is presented using a five-year rolling average.

	Fatalities Age 65+	Serious Inj Age 65+	Population 65+	Fatal+Injury Rate
2007	6	9	144,000	0.10
2008	11	8	146,000	0.13
2009	12	10	147,000	0.15
2010	5	27	145,000	0.22
2011	19	27	144,000	0.32
2012	15	22	144,000	0.26
2013	8	23	142,000	0.22
2014	10	36	N/A	

Example calculations:

Fatality plus injury rate for 2007 = (6+9)/144 = 0.10

2007 - 2011 Average of fatalities and serious injuries = (0.10+0.13+0.15+0.22+0.32) / 5 = 0.18



Does the older driver special rule apply to your state?

Yes

If yes, describe the approach to include respective strategies to address the increase in those rates in the State SHSP.

Because of the increasing trend in severe crashes involving older drivers, the SHSP Steering Committee discussed key strategies. From ND SHSP section 3.3.1:

Regarding infrastructure approaches to reduce these severe crashes, the strategies focus on improving signing, installing intersection lighting, and adding turn lanes; which are already priority strategies in the Lane Departure and Intersection safety emphasis areas. Furthermore, the NDDOT is already implementing these kinds of projects across the state. Policy and program strategies identified as a priority to address issues with older drivers include the following:

Review license renewal policies for older drivers identified as an excessive risk through screening by motor vehicle personnel (such as restrict vs. rescind, age and interval schedule for license renewal, etc.). Continue to evaluate policies and relevant data in the future.

Develop informational resources and conduct outreach for older driver safety screening for family, friends, physicians, and law enforcement to report at-risk drivers:

Establish a statewide "one-stop" resource to guide the public on addressing driving skill assessments, educational courses, licensing, and safe mobility choices.

Provide educational and training opportunities to the general older driver population to assess their driving capabilities and limitations, improve skills, and voluntarily limit their driving to safer driving conditions.

Establish a broad-based coalition to plan for addressing older adults' transportation needs and strengthen transportation options.

North Dakota intends to have further consideration for older drivers in the next update to the SHSP.

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.

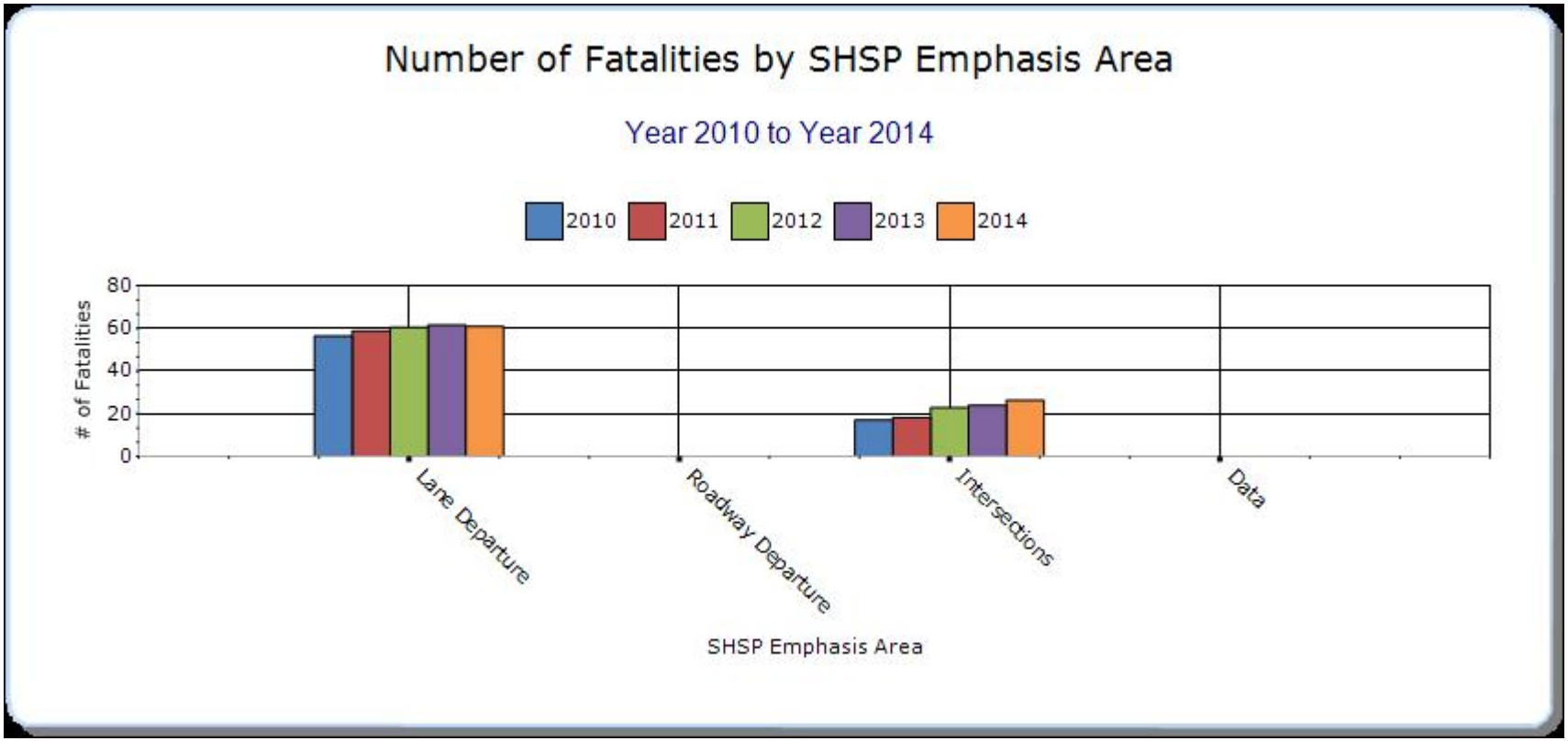
None

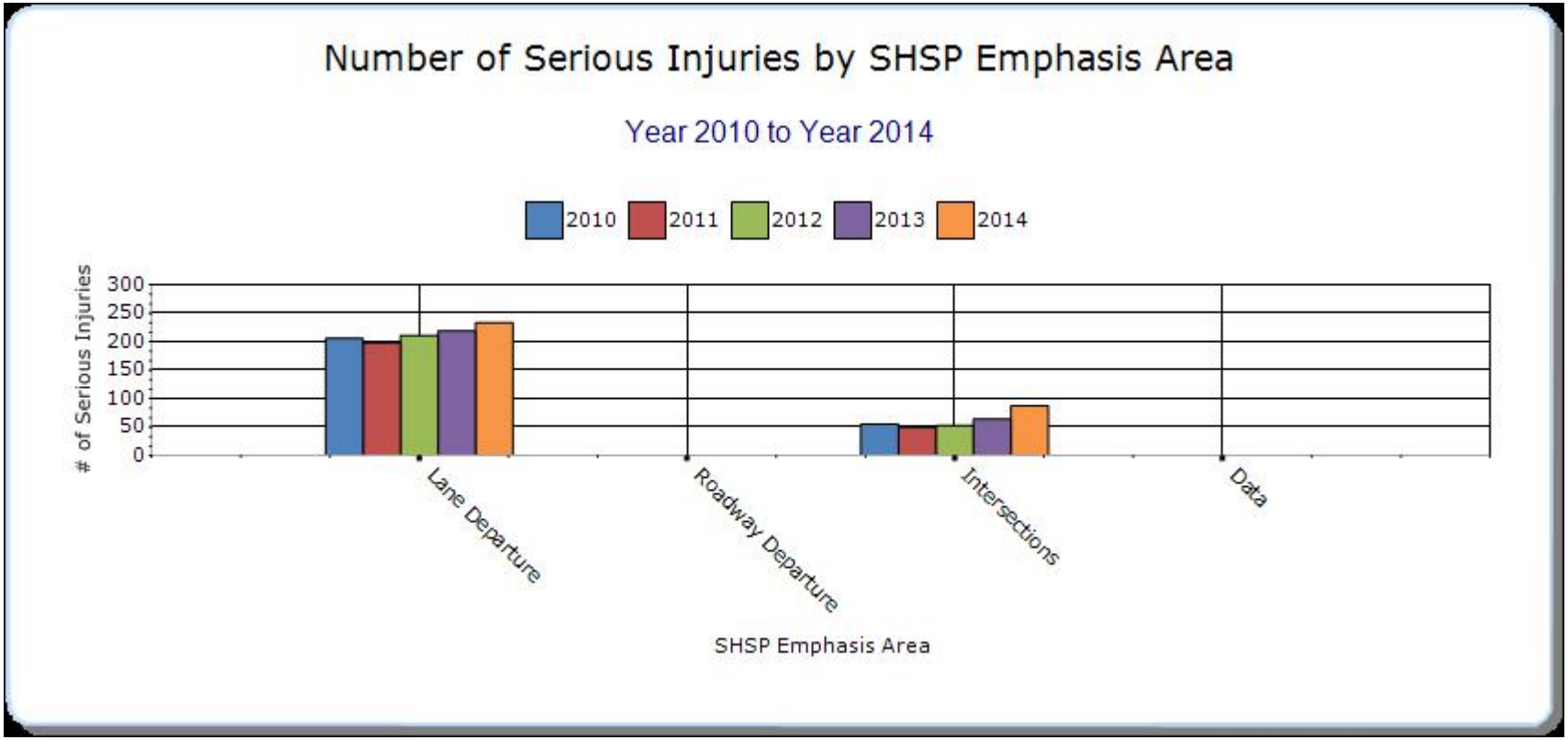
SHSP Emphasis Areas

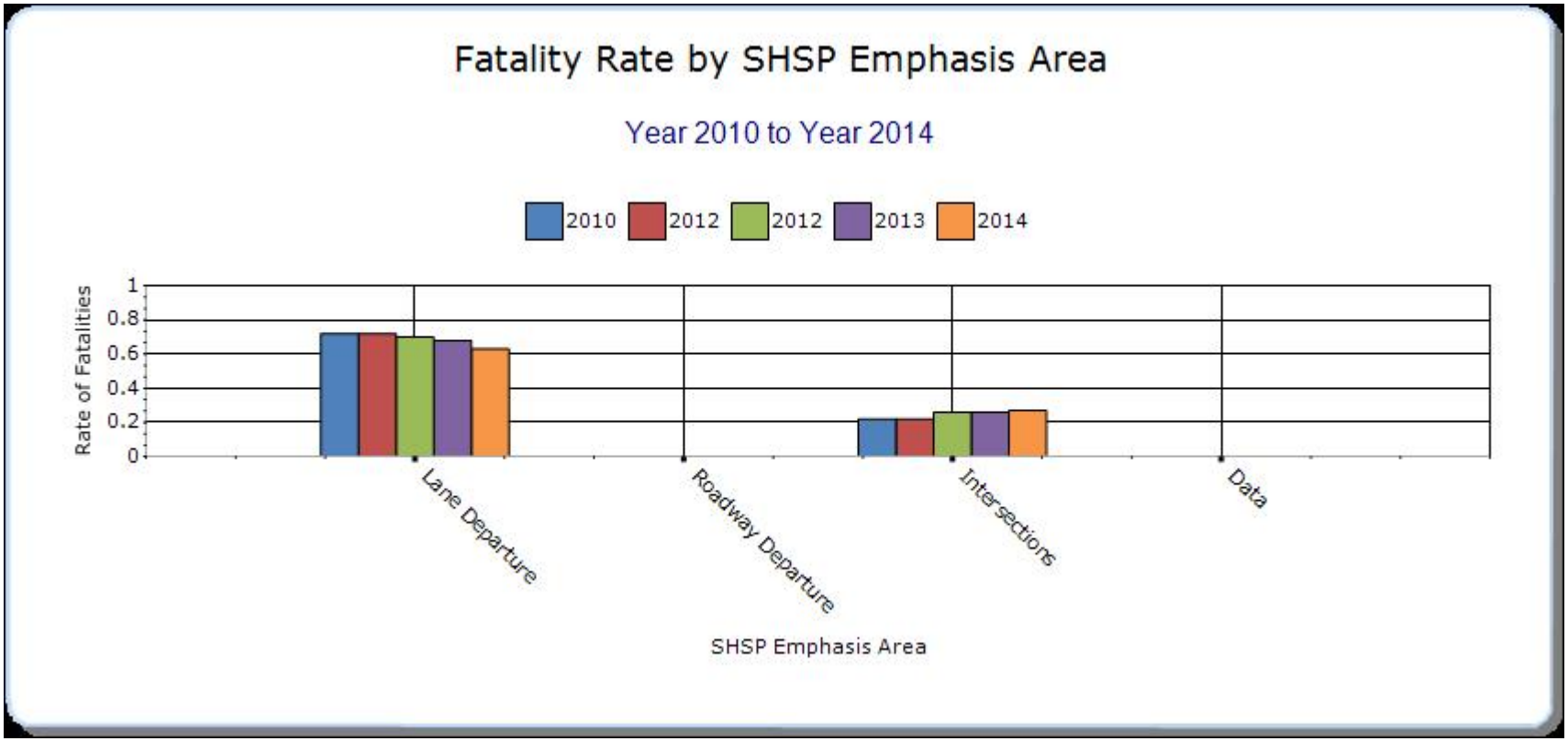
For each SHSP emphasis area that relates to the HSIP, present trends in emphasis area performance measures.

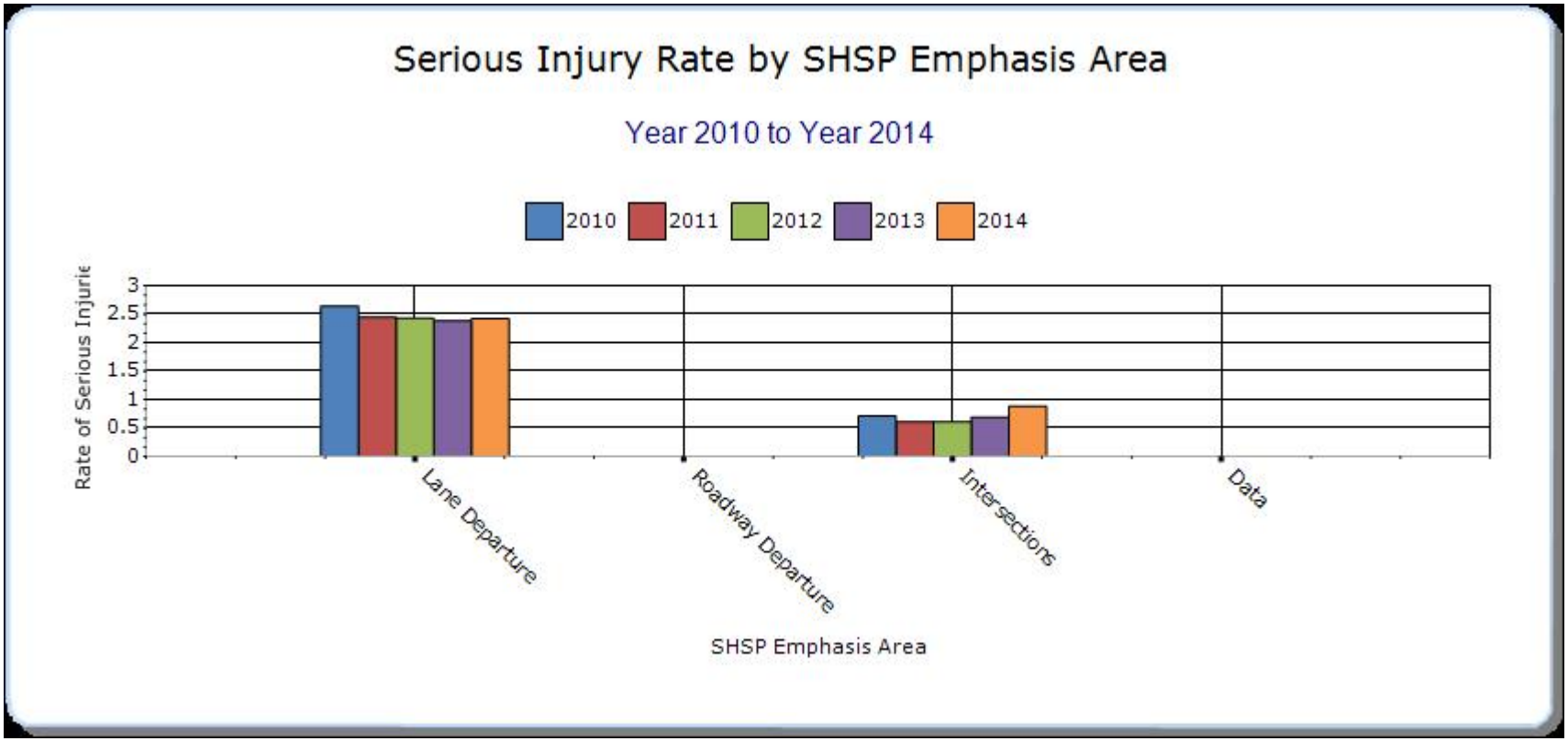
Year - 2014

HSIP-related SHSP Emphasis Areas	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3
Lane Departure		61	233.6	0.63	2.42	0	0	0
Intersections		26.4	87.4	0.27	0.88	0	0	0
Data		0	0	0	0	0	0	0


Number of Fatalities by SHSP Emphasis Area
Year 2010 to Year 2014
2010
2011
2012
2013
2014
# 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 2010 to Year 2014
2010
2011
2012
2013
2014
# of Serious Injuries
300
250
200
150
100
50
0
Lane Departure
Roadway Departure
Intersections
Data
SHSP Emphasis Area


Fatality Rate by SHSP Emphasis Area
Year 2010 to Year 2014
2010
2012
2012
2013
2014
Rate of Fatalities
1
0.8
0.6
0.4
0.2
0
Lane Departure
Roadway Departure
Intersections
Data
SHSP Emphasis Area

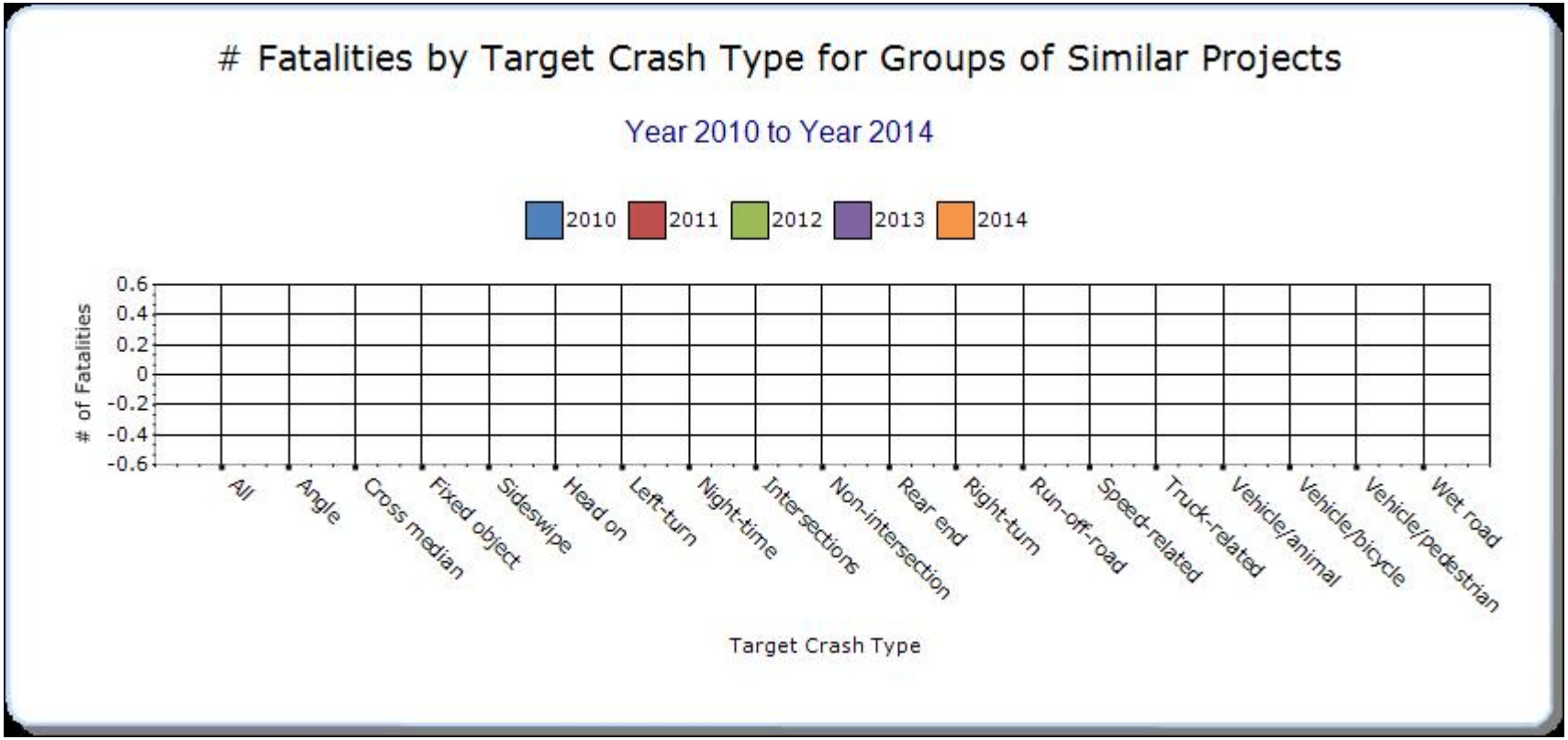

Serious Injury Rate by SHSP Emphasis Area
Year 2010 to Year 2014
2010
2011
2012
2013
2014
Rate of Serious Injurie
3
2.5
2
1.5
1
0.5
0
Lane Departure
Roadway Departure
Intersections
Data
SHSP Emphasis Area

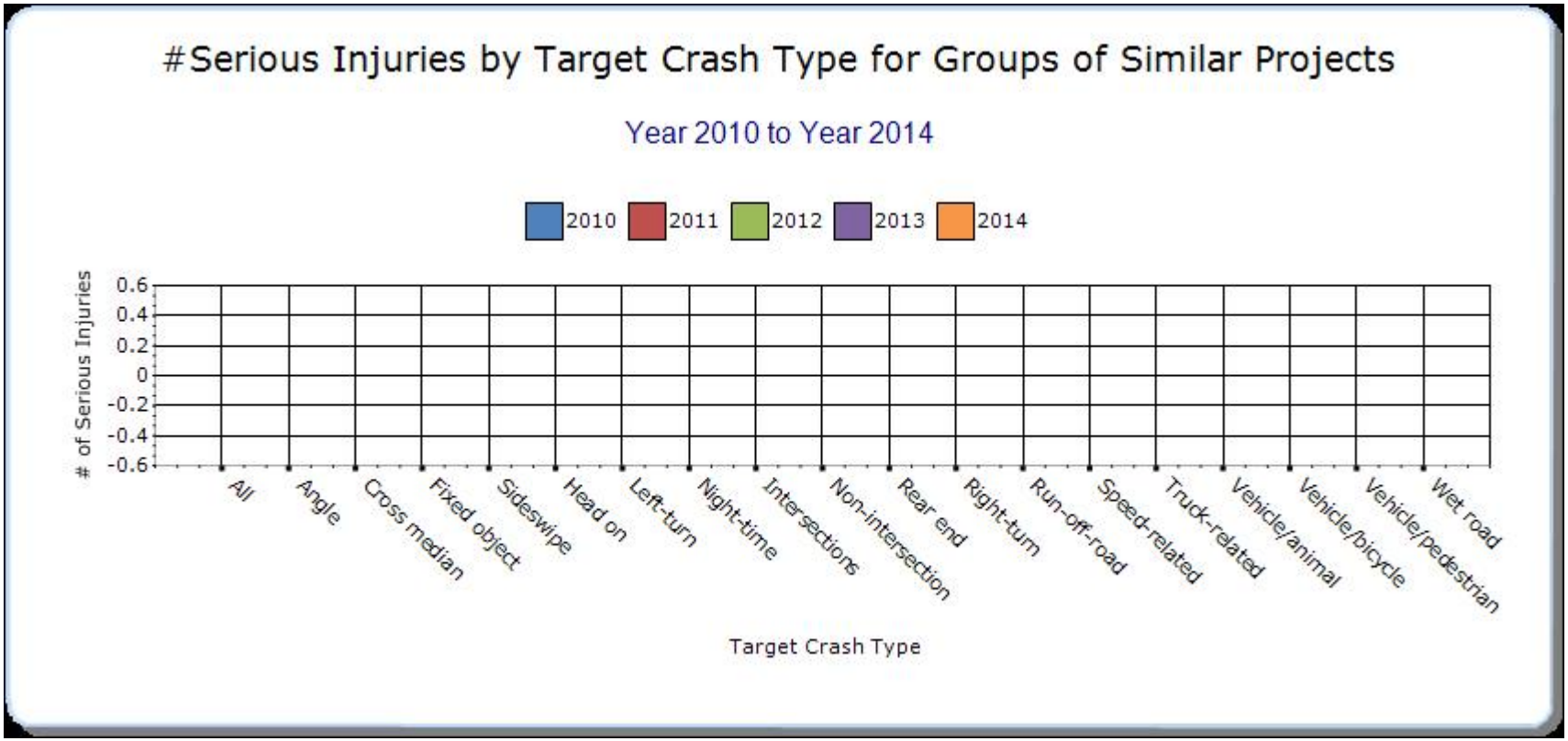
Groups of similar project types

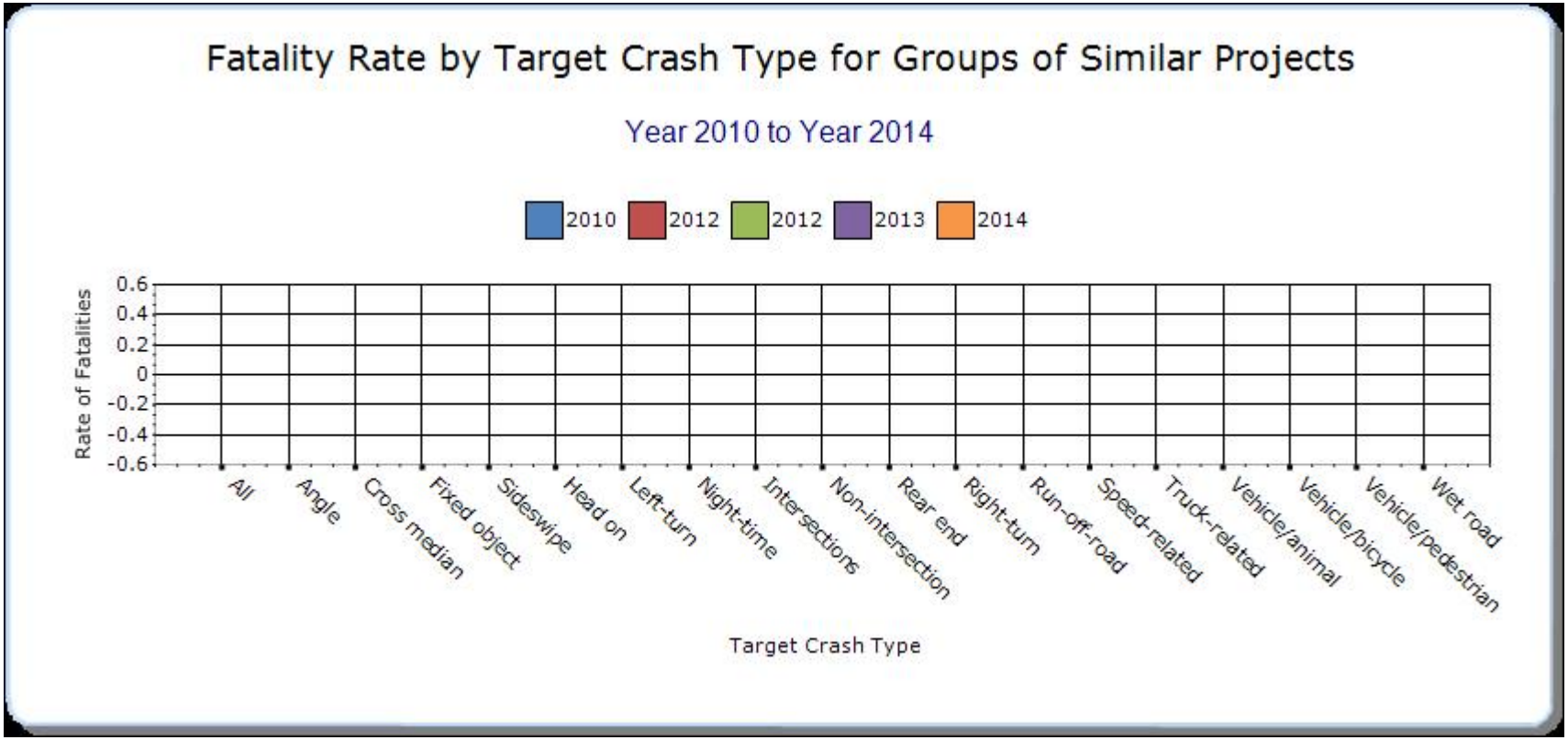
Present the overall effectiveness of groups of similar types of projects.

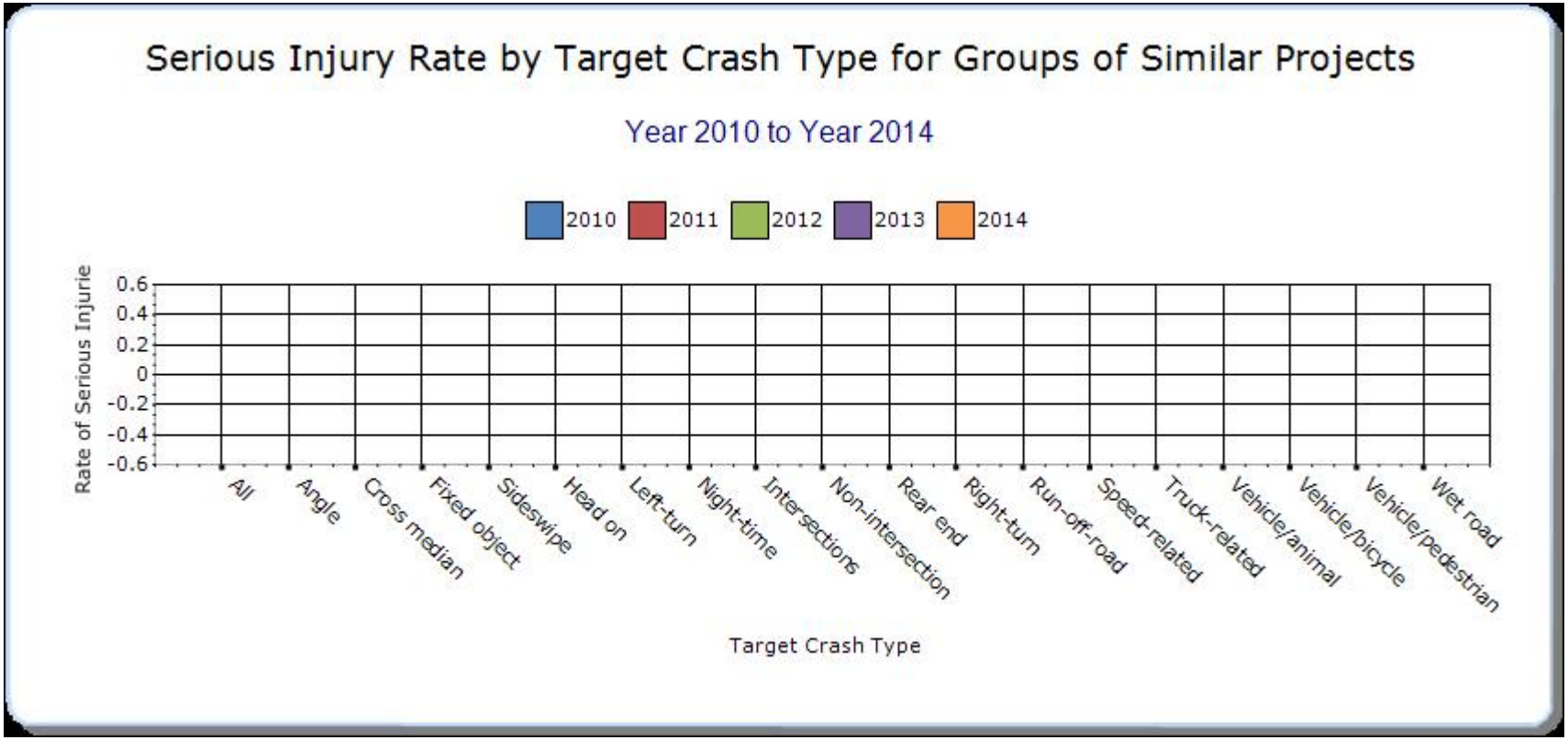
Year - 2013

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		49.2	183.4	0.52	1.94	0	0	0
Intersection		19.6	54.2	0.2	0.56	0	0	0


Fatalities by Target Crash Type for Groups of Similar Projects
Year 2010 to Year 2014
2010
2011
2012
2013
2014
# 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
Intersections
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 2010 to Year 2014
2010
2011
2012
2013
2014
# 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
Intersections
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 2010 to Year 2014
2010
2012
2012
2013
2014
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
Intersections
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type

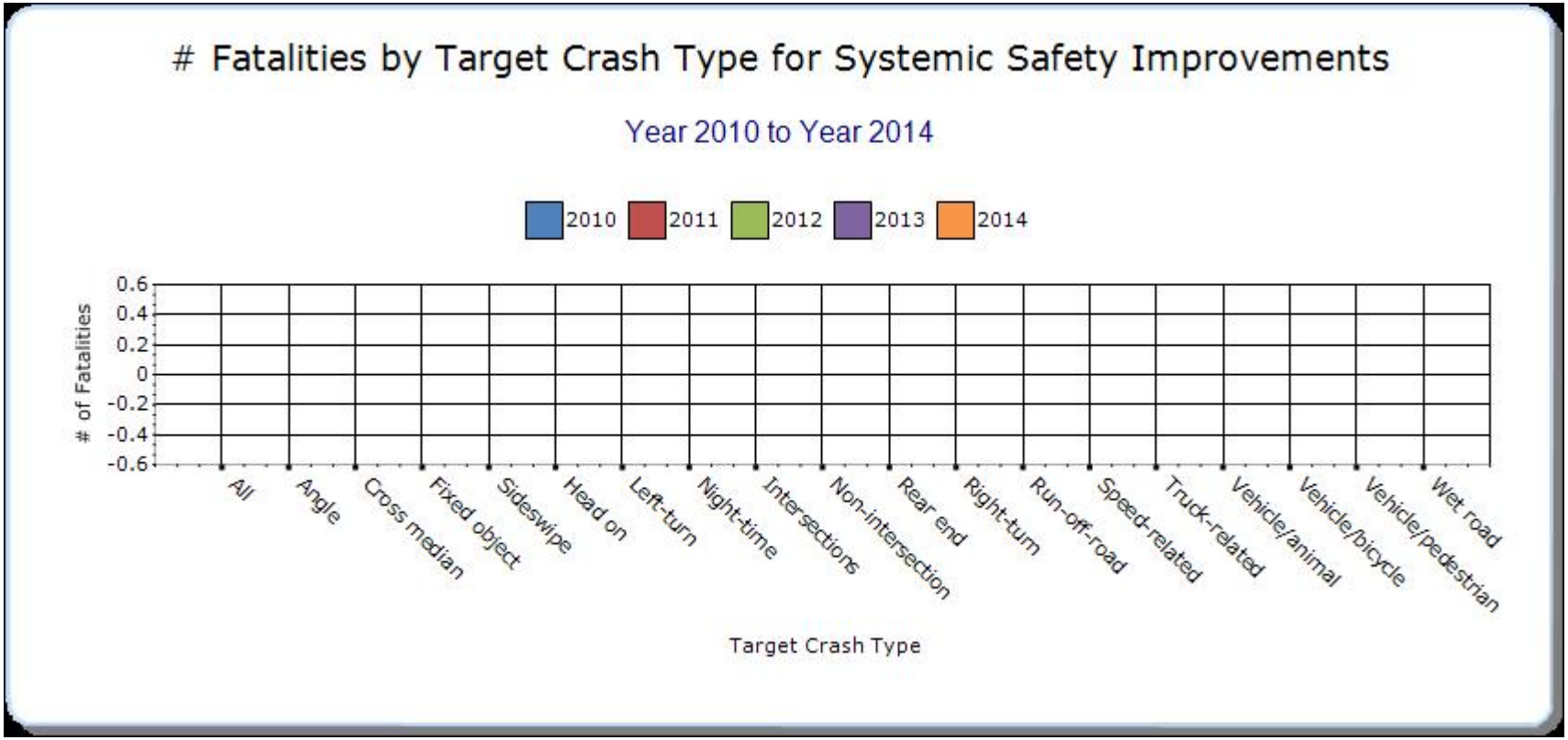

Serious Injury Rate by Target Crash Type for Groups of Similar Projects
Year 2010 to Year 2014
2010
2011
2012
2013
2014
Rate of Serious Injurie
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Intersections
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type

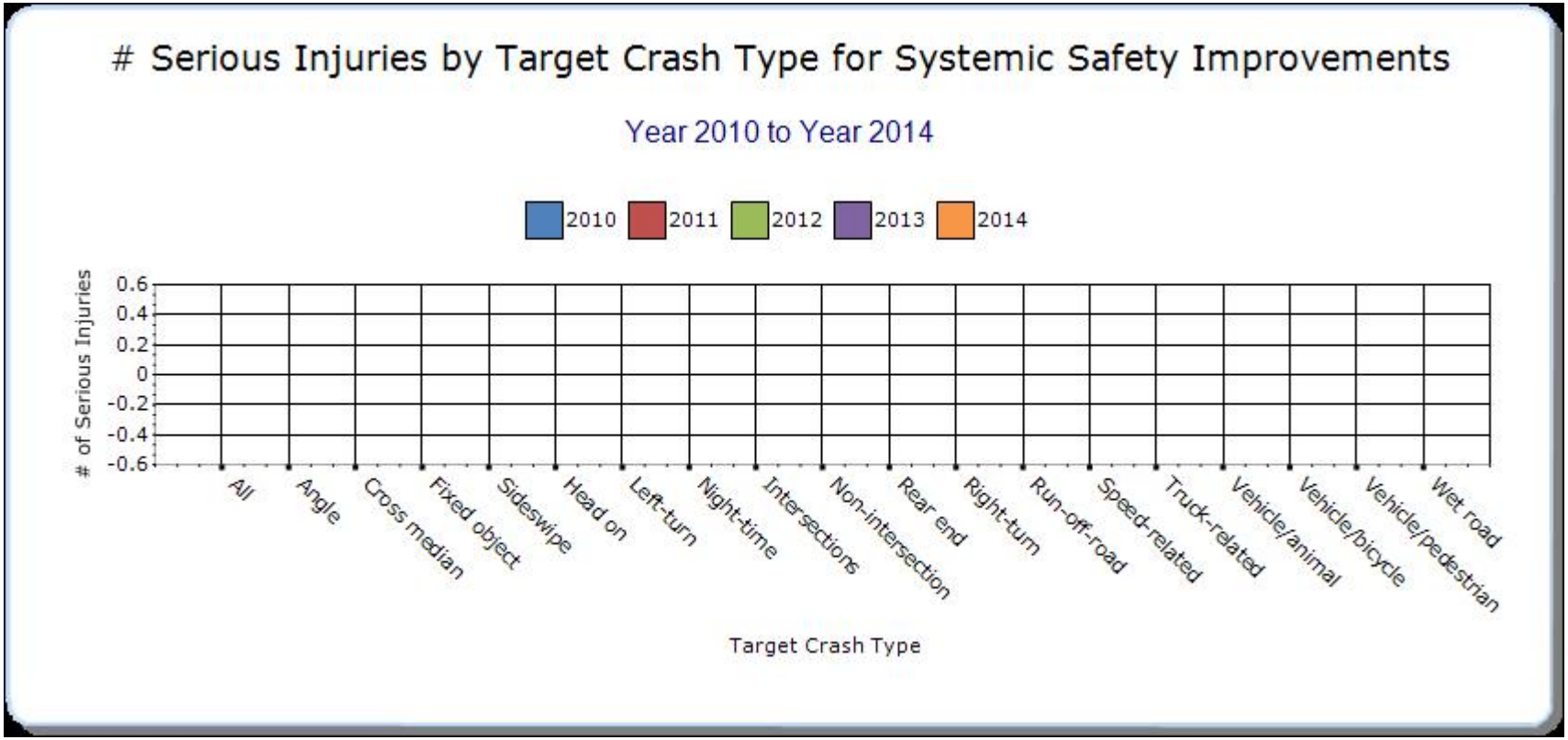
Systemic Treatments

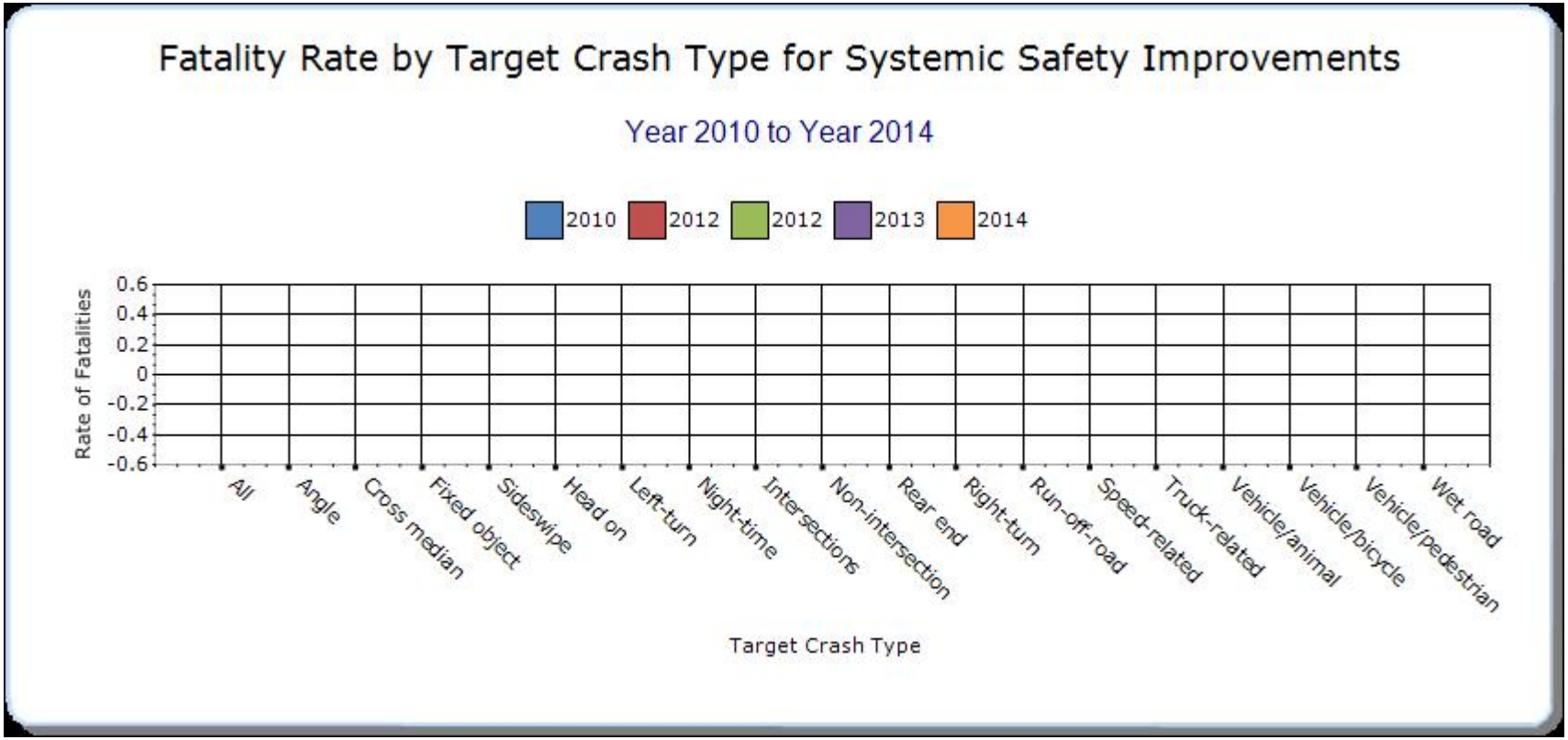
Present the overall effectiveness of systemic treatments.

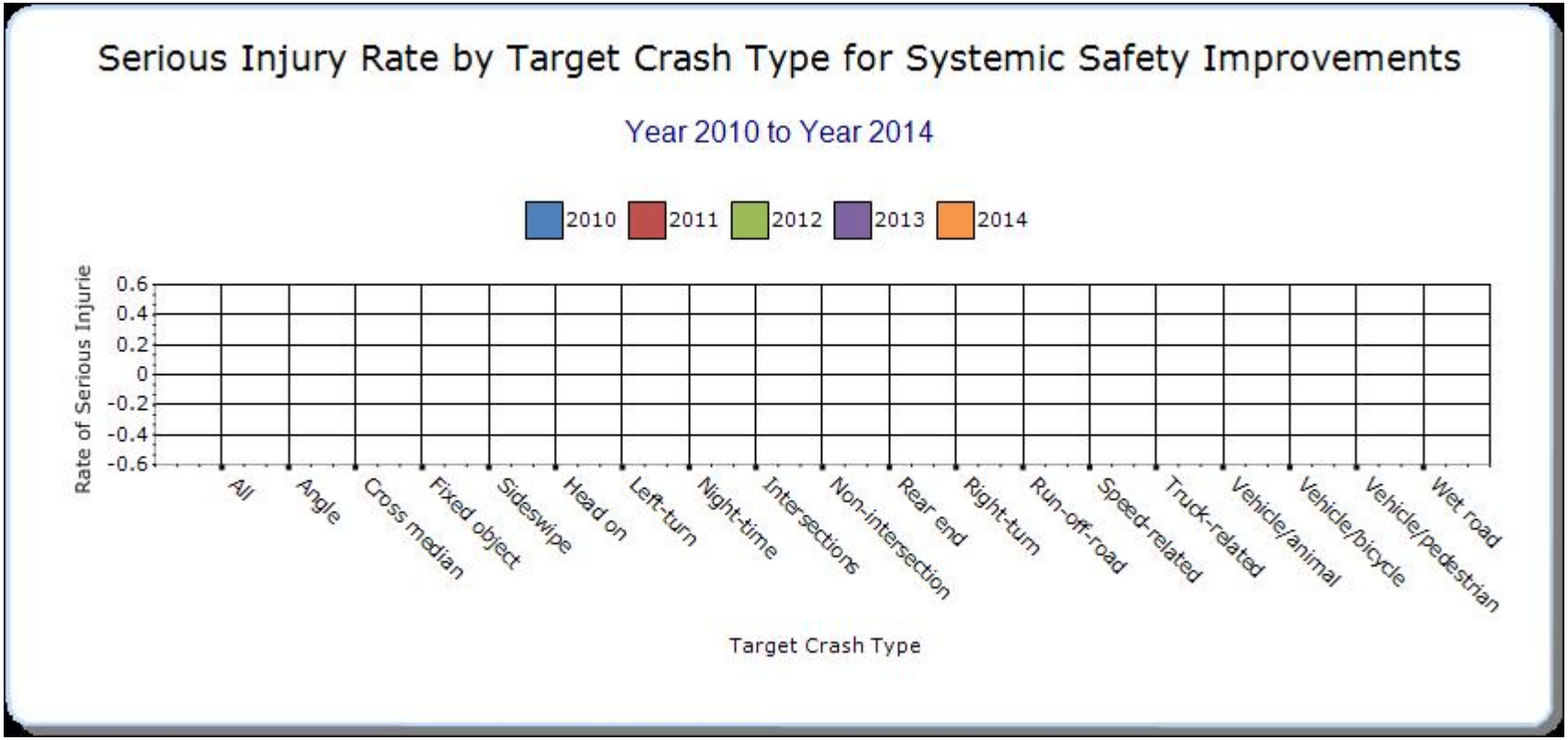
Year - 2014

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		61	233.6	0.63	2.42	0	0	0


Fatalities by Target Crash Type for Systemic Safety Improvements
Year 2010 to Year 2014
2010
2011
2012
2013
2014
# 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
Intersections
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 2010 to Year 2014
2010
2011
2012
2013
2014
# 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
Intersections
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 2010 to Year 2014
2010
2012
2012
2013
2014
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
Intersections
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 2010 to Year 2014
2010
2011
2012
2013
2014
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
Intersections
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

Project Evaluation

Provide project evaluation data for completed projects (optional).

Location	Functional Class	Improvement Category	Improvement Type	Bef-Fatal	Bef-Serious Injury	Bef-All Injuries	Bef-PDO	Bef-Total	Aft-Fatal	Aft-Serious Injury	Aft-All Injuries	Aft-PDO	Aft-Total	Evaluation Results (Benefit/ Cost Ratio)
n/a														

Optional Attachments

Sections	Files Attached
Progress in Implementing Projects: General Listing of Projects	HSIP_Update_2015.pdf

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.