Highway Safety Improvement Program
Data Driven Decisions

Iowa
Highway Safety Improvement Program
2016 Annual Report

Prepared by: IA

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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2. Executive Summary

Iowa is still interested in modifying how HSIP funds are sub-allocated within the state, and how projects are selected. This is evidenced by the fact that last year's multi-state peer review led to the hiring of a consultant to develop an HSIP manual to guide how the state's program is administered moving forward. The final product is expected by the end of calendar year 2016. In addition, the state is finishing up the development of District Road Safety Plans, which utilizes a risk-based model to identify approximately $10 million worth of candidate safety projects for each of Iowa's six district offices. This should provide each district with approximately 5 years' worth of potential HSIP projects. The goal is to have a new structure established in time for FY 2019 project selections that incorporates a formula for distribution of funds to DOT districts.

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

3. How are Highway Safety Improvement Program funds administered in the State?

Central

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

Iowa's HSIP addresses local roads in two ways: through Local Road Safety Plans and through the HSIP-Secondary program.

Last year's HSIP funds were utilized to complete local road safety plans for 12 counties spread throughout Iowa. These plans were developed to address local safety issues within specific counties, and they address driver-related crashes and countermeasures in addition to traditional engineering countermeasures. From an engineering standpoint, the plans are intended to be proactive rather than reactive. Roadway intersections, curves, and segments were evaluated for risk factors, and the plans provide recommendations for systemic, low-cost safety treatments totaling at least $1 million per county. Counties are not required to participate but ultimately, we hope to develop plans for all 99 counties in Iowa.

The HSIP-Secondary program was established in 2013 as a $2 million yearly set-aside out of Iowa's HSIP to address safety issues on the secondary (county-owned) roadway system. This program is focused on providing funding for projects that incorporate systemic, low-cost safety improvements, typically costing less than $10,000 per mile. Typical countermeasures include rumble strips, grooved-in pavement markings, improved signage, and guardrail updates.

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

Other-Districts

6. Briefly describe coordination with internal partners.

Iowa DOT districts are typically charged with developing and overseeing HSIP projects, so they are consulted early in the HSIP planning process. HSIP projects are chosen that align with SHSP emphasis areas, typically intersections and lane departures. A large majority of funding goes toward addressing lane departure crashes through shoulder improvements, most commonly shoulder paving. The districts provide input on which projects align with their goals, staffing, and other planned project timelines. In recent years, shoulder paving projects have been selected in order to complete specific highway corridors. However, this practice may be nearing an end as administration of the HSIP program shifts to be more data driven and supported by recommendations from the District Road Safety Plans.

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

Other-None.

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

Other-None.

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

The state has contracted with a consultant to develop an HSIP manual which will outline a framework for the selection, implementation, and evaluation of the HSIP program over the long term. The plan is to have HSIP guidelines in place so that districts will be able to select projects that align with HSIP goals and the SHSP. Projects will most likely originate from District Road Safety Plans, but other projects may be submitted for consideration based on selection criteria in the manual. The manual is scheduled to be completed prior to solicitation of projects for state fiscal year 2019.

Program Methodology

10. Select the programs that are administered under HSIP.

Local Safety

11. Program: Local Safety

Date of Program Methodology: 2/26/2013

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
All crashes	Volume	Horizontal curvature
		Functional classification
		Roadside features

What project identification methodology was used for this program?

Other-Collaboration with county engineers

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

Yes

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

No

If no, describe the methodology used to identify local road projects as part of this program.

County engineers identify projects for potential funding based on their knowledge of their system's performance.

How are highway safety improvement projects advanced for implementation?

selection committee

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).

Rank of Priority Consideration

Available funding	1
Cost Effectiveness	2

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

99%

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

Cable Median Barriers
Rumble Strips
Pavement/Shoulder Widening
Install/Improve Pavement Marking and/or

Delineation

13. What process is used to identify potential countermeasures?

Other-SHSP
Other-Project concepting by district staff

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

Other-None

15. 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

16. Reporting period for Highway Safety Improvement Program funding.

State Fiscal Year

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

Funding Category	Programmed*		Obligated	
	Amount	Percentage	Amount	Percentage
HSIP (Section 148)	$20,026,089.00	99 %	$15,501,365.00	99 %
Incentive Grants (Section 406)	$163,500.00	1 %	$163,500.00	1 %
Totals	$20,189,589.00	100%	$15,664,865.00	100%

18. How much funding is programmed to local (non-state owned and operated) safety projects?
$1,008,189.00
How much funding is obligated to local safety projects?
$842,026.00

19. How much funding is programmed to non-infrastructure safety projects?
$163,500.00
How much funding is obligated to non-infrastructure safety projects?
$163,500.00

20. 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

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

Impediments to fully obligating programmed HSIP funds include proper estimating and long development timelines. Initial cost estimates tend to be high in order to account for project uncertainties and to avoid having to ask for more money at a later time. Project development timelines can be affected by multiple external forces including coordination, clearances, and unforeseen circumstances. Our goal is to work with project sponsors to improve the accuracy of cost estimates and to minimize time delays in order to obligate HSIP funds to the fullest extent. Also, regarding the HSIP-Secondary program, applications have been slow to come in and the entire $2M allotment is not being spent. This reluctance may be due to the perception of increased costs and effort associated with federal funding. Our goal is to work with counties - especially those with recently completed Local Road Safety Plans - to alleviate these concerns and to encourage increased participation in the program.

22. 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

23. List the projects obligated using HSIP funds for 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
HSIPX-004-1(15)--3L-39	Shoulder treatments Widen shoulder - paved or other	10.22 Miles	1770553	1967281	HSIP (Section 148)	Rural Minor Arterial	3600	55	State Highway Agency	Lane Departure	Shoulder Treatments
HSIPX-014-2(36)--3L-59	Shoulder treatments Widen shoulder - paved or other	7.9 Miles	1676873	1881860	HSIP (Section 148)	Urban Minor Arterial	2420	55	State Highway Agency	Lane Departure	Shoulder Treatments
HSIPX-014-3(49)--3L-63	Shoulder treatments Widen shoulder - paved or other	12.27 Miles	1735204	1946674	HSIP (Section 148)	Rural Principal Arterial - Other	3100	55	State Highway Agency	Lane Departure	Shoulder Treatments
HSIPX-071-5(75)--3L-14	Shoulder treatments Widen shoulder - paved or other	12.42 Miles	1404025	1560028	HSIP (Section 148)	Rural Principal Arterial - Other	4880	55	State Highway Agency	Lane Departure	Shoulder Treatments

HSIPX-092-4(27)--3L-61	Shoulder treatments Widen shoulder - paved or other	12.41 Miles	1611708	1997196	HSIP (Section 148)	Rural Principal Arterial - Other	3560	55	State Highway Agency	Lane Departure	Shoulder Treatments
HSIPX-150-4(61)--3L-33	Shoulder treatments Widen shoulder - paved or other	10.84 Miles	1346855	1503527	HSIP (Section 148)	Rural Principal Arterial - Other	2512	55	State Highway Agency	Lane Departure	Shoulder Treatments
HSIPX-169-6(88)--3L-94	Shoulder treatments Widen shoulder - paved or other	19.84 Miles	2168420	2637774	HSIP (Section 148)	Rural Principal Arterial - Other	8500	55	State Highway Agency	Lane Departure	Shoulder Treatments
HSIPX-218-2(145)--3L-44	Shoulder treatments Widen shoulder - paved or other	6.94 Miles	2945700	3285757	HSIP (Section 148)	Urban Principal Arterial - Other	8700	65	State Highway Agency	Lane Departure	Shoulder Treatments
BRS-C017(57)--60-17	Shoulder treatments Widen shoulder - paved or other	0.19 Miles	110664	974373	Other Federal-aid Funds (i.e. STP, NHPP)	Rural Major Collector	530	55	County Highway Agency	Lane Departure	Shoulder Treatments
HSIP-S-C021(130)--6C-21	Shoulder treatments Widen shoulder -	0.68 Miles	101050	112278	HSIP (Section 148)	Rural Major Collector	1190	55	County Highway Agency	Lane Departure	Shoulder Treatments

	paved or other										
STP-S-C023(102)--5E-23	Shoulder treatments Pave existing shoulders	7.37 Miles	68331	2055064	Other Federal-aid Funds (i.e. STP, NHPP)	Rural Major Collector	520	55	County Highway Agency	Lane Departure	Shoulder Treatments
HSIP-S-C033(113)--6C-33	Roadway delineation Longitudinal pavement markings - remarking	37.63 Miles	186830	208195	HSIP (Section 148)	Rural Major Collector	1800	55	County Highway Agency	Lane Departure	Shoulder Treatments
STP-S-C044(77)--5E-44	Shoulder treatments Widen shoulder - paved or other	6.14 Miles	270000	4042136	Other Federal-aid Funds (i.e. STP, NHPP)	Rural Major Collector	1060	55	County Highway Agency	Lane Departure	Shoulder Treatments
HSIP-S-C081(66)--6C-81	Roadway delineation Longitudinal pavement markings - remarking	21.89 Miles	105151	116834	HSIP (Section 148)	Rural Major Collector	500	55	County Highway Agency	Lane Departure	Shoulder Treatments
SBIN(015)	Non-infrastructure Educational efforts	1 Numbers	150000	150000	Incentive Grants (Section 406)		0	0		Education	Deliver safety messages
BACS(004)	Non-infrastructure Educational	1 Numbers	13500	13500	Incentive Grants (Section		0	0		Education	Deliver safety messages

	efforts				406)						

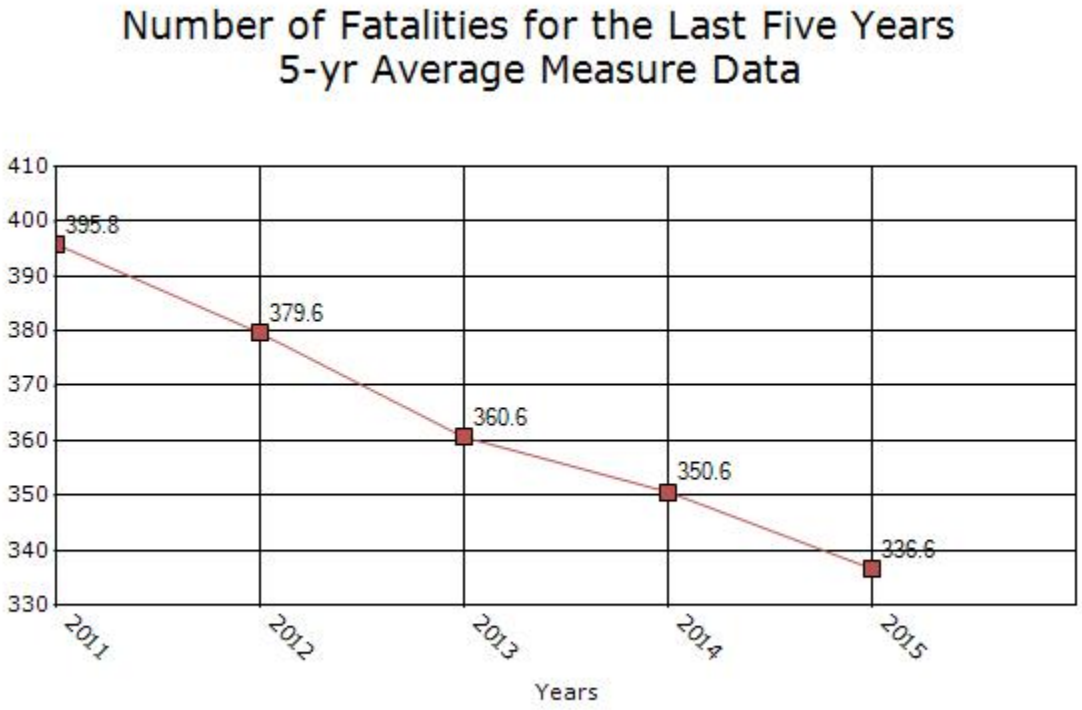
Progress in Achieving Safety Performance Targets

Overview of General Safety Trends

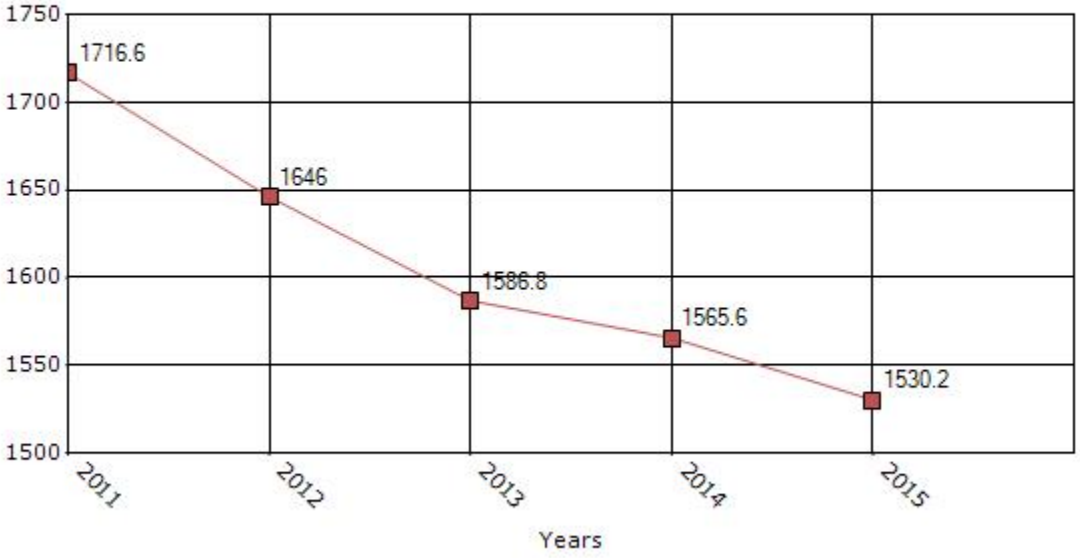
24. Present data showing the general highway safety trends in the state for the past five years.

Performance Measures*	2011 (5-yr avg)	2012 (5-yr avg)	2013 (5-yr avg)	2014 (5-yr avg)	2015 (5-yr avg)
Number of fatalities	395.8	379.6	360.6	350.6	336.6
Number of serious injuries	1716.6	1646	1586.8	1565.6	1530.2
Fatality rate (per HMVMT)	1.262	1.214	1.15	1.11	1.056
Serious injury rate (per HMVMT)	5.48	5.252	5.042	4.944	4.788

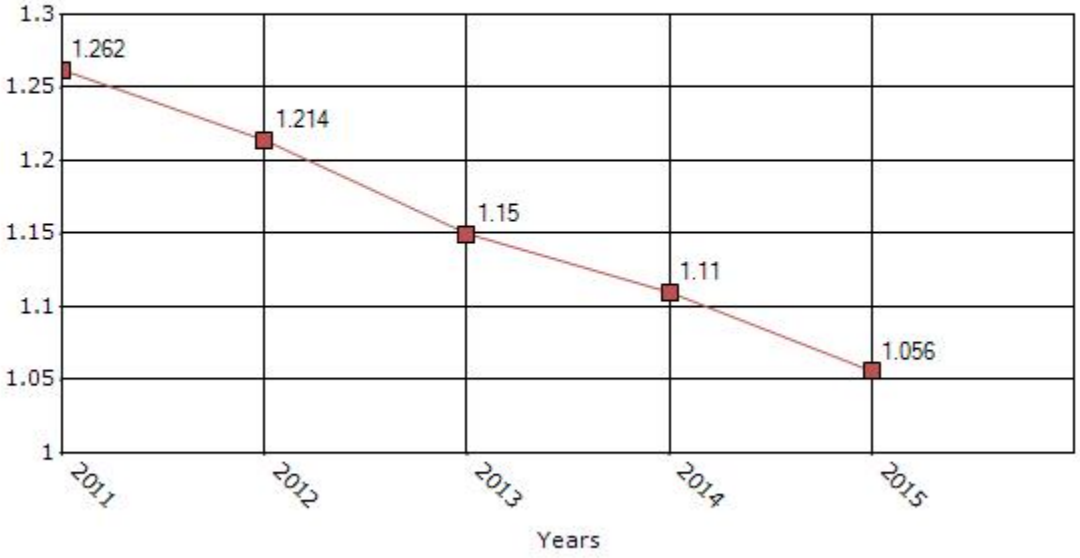
*Performance measure data is presented using a five-year rolling average.

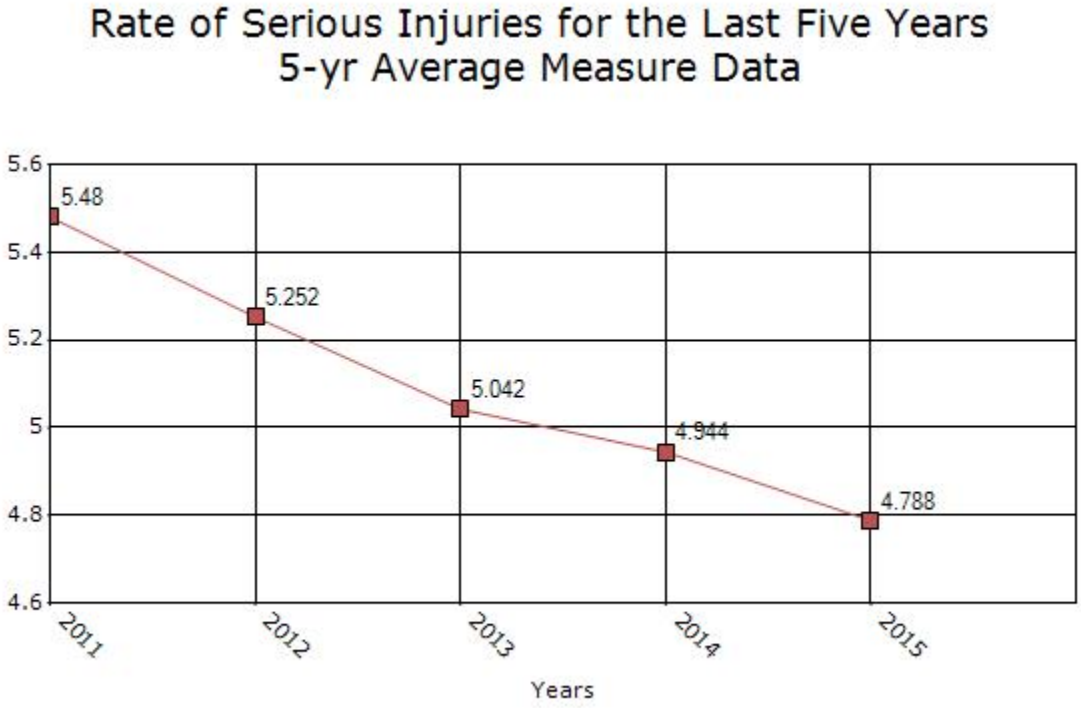


Number of Serious Injuries for the Last Five Years
5-yr Average Measure Data



Rate of Fatalities for the Last Five Years
5-yr Average Measure Data

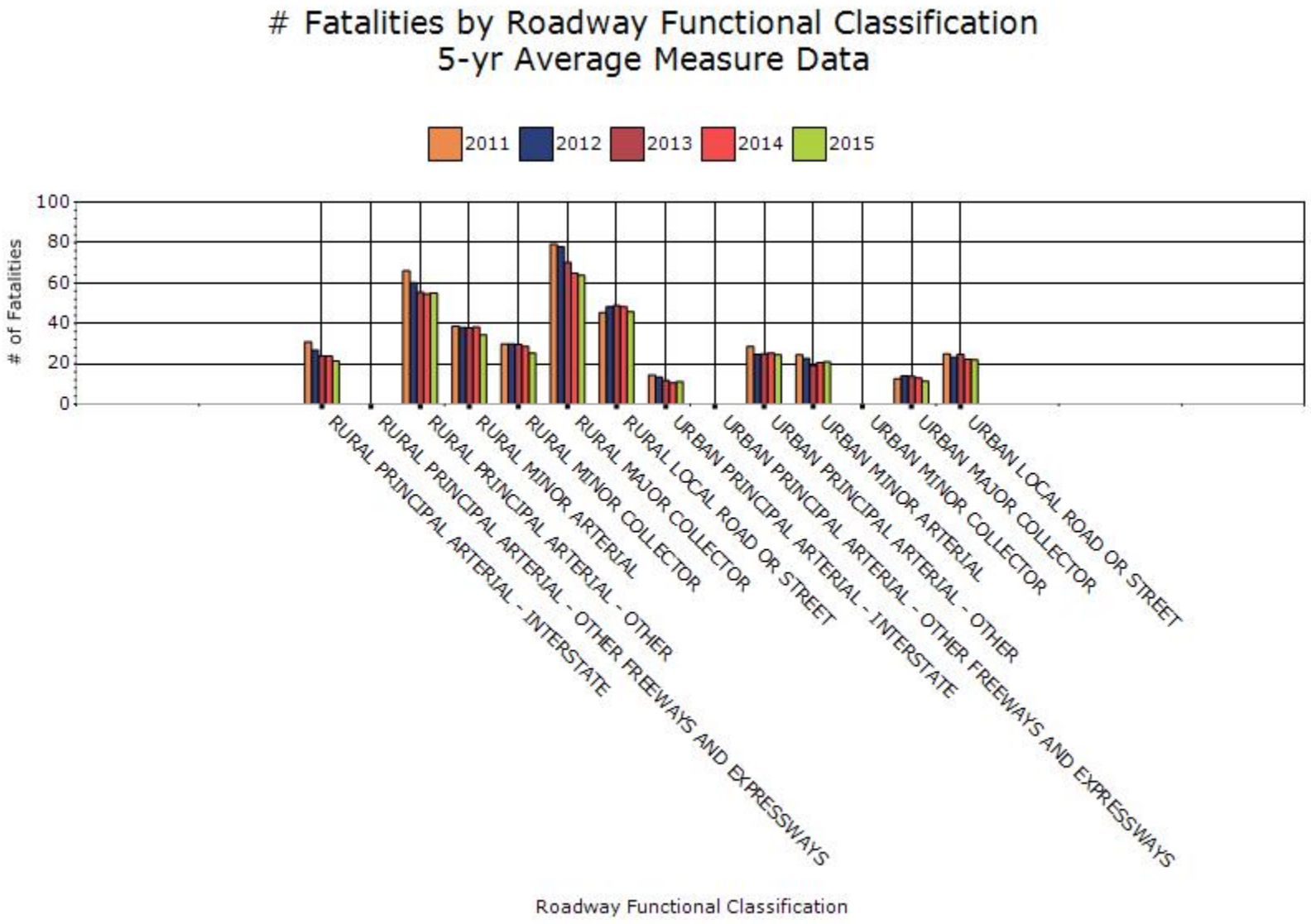


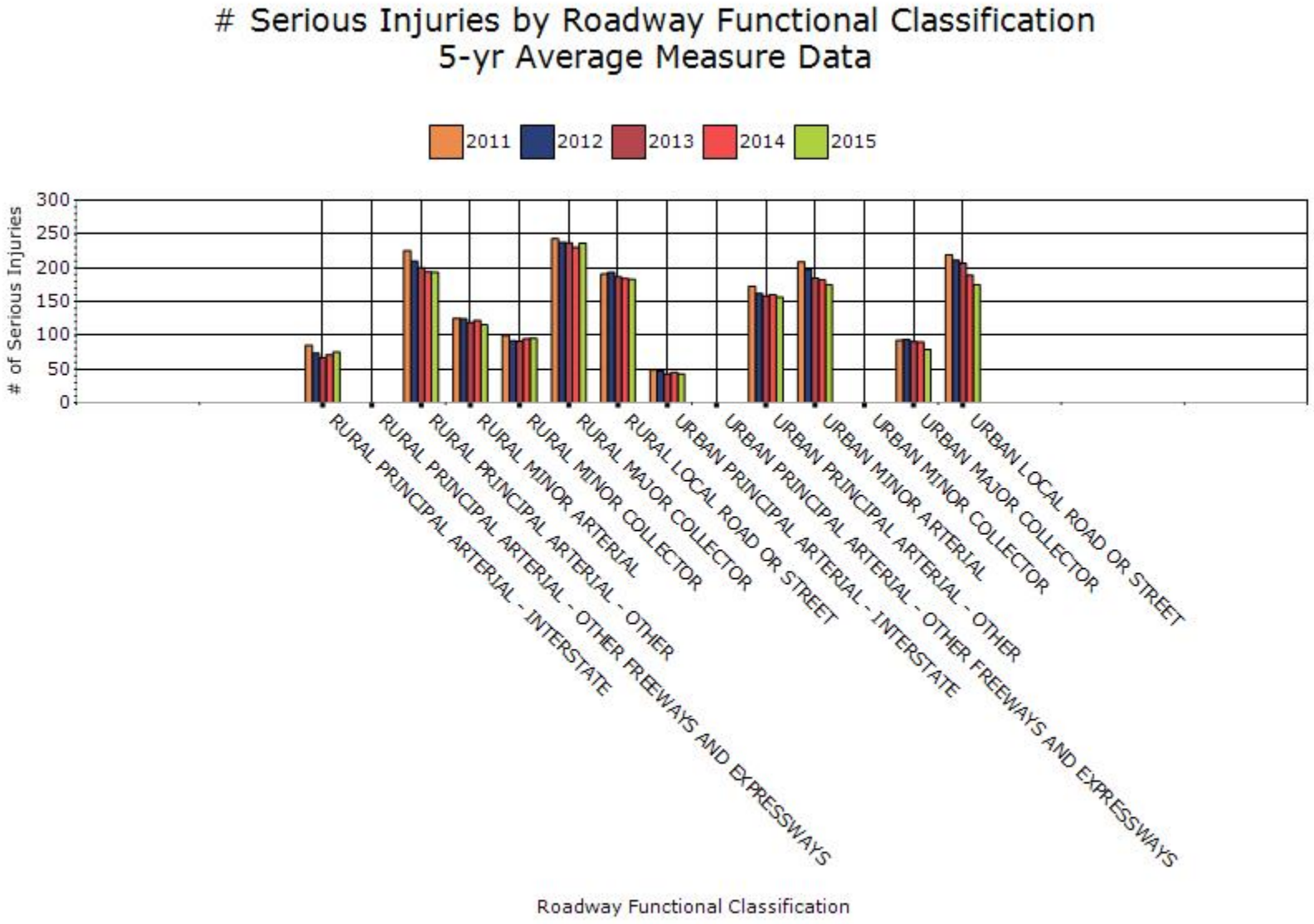

Rate of Serious Injuries for the Last Five Years
5-yr Average Measure Data
5.6
5.4
5.2
5
4.8
4.6
5.48
5.252
5.042
4.944
4.788
2011
2012
2013
2014
2015
Years

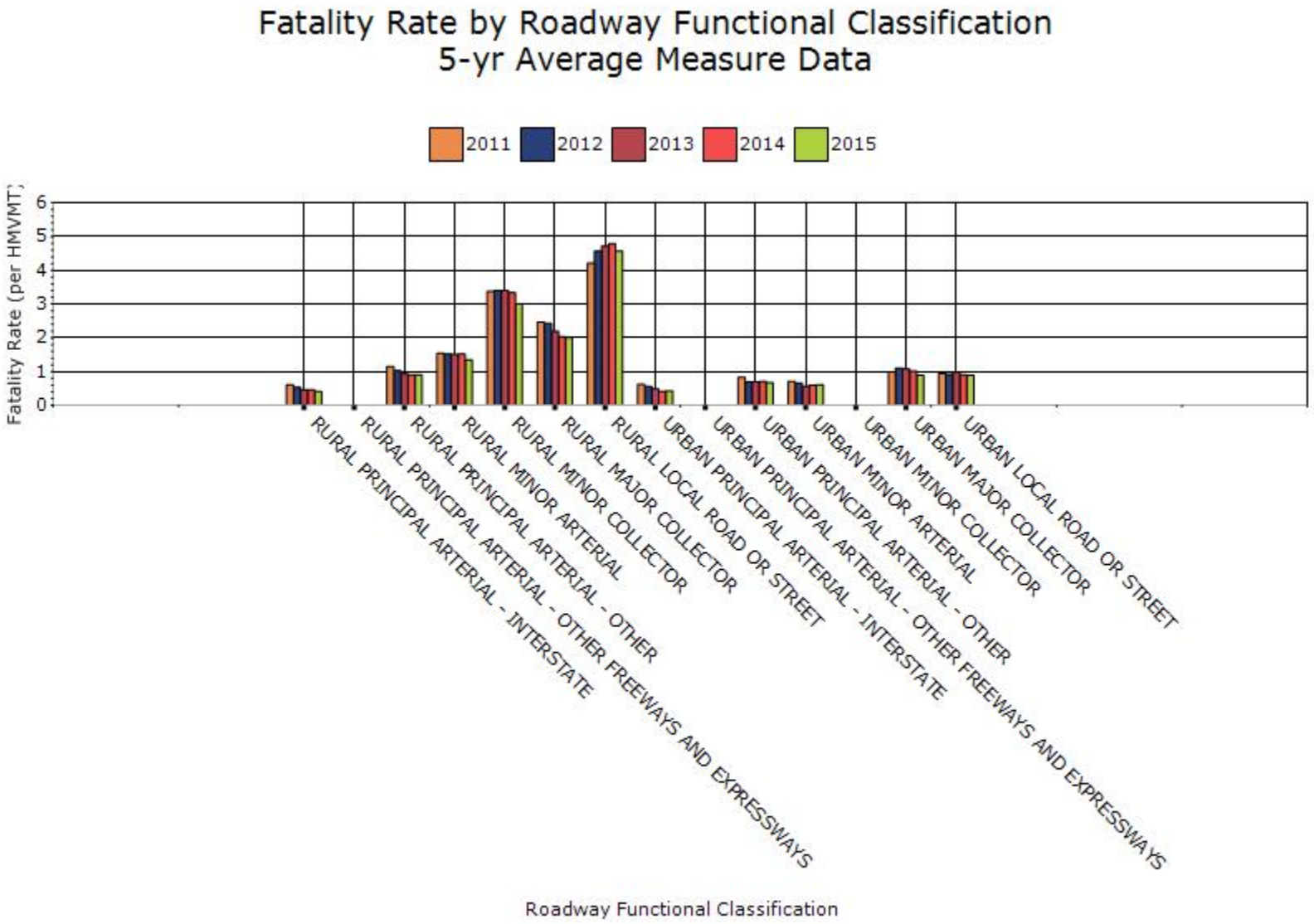
25. To the maximum extent possible, present performance measure data by functional classification and ownership.

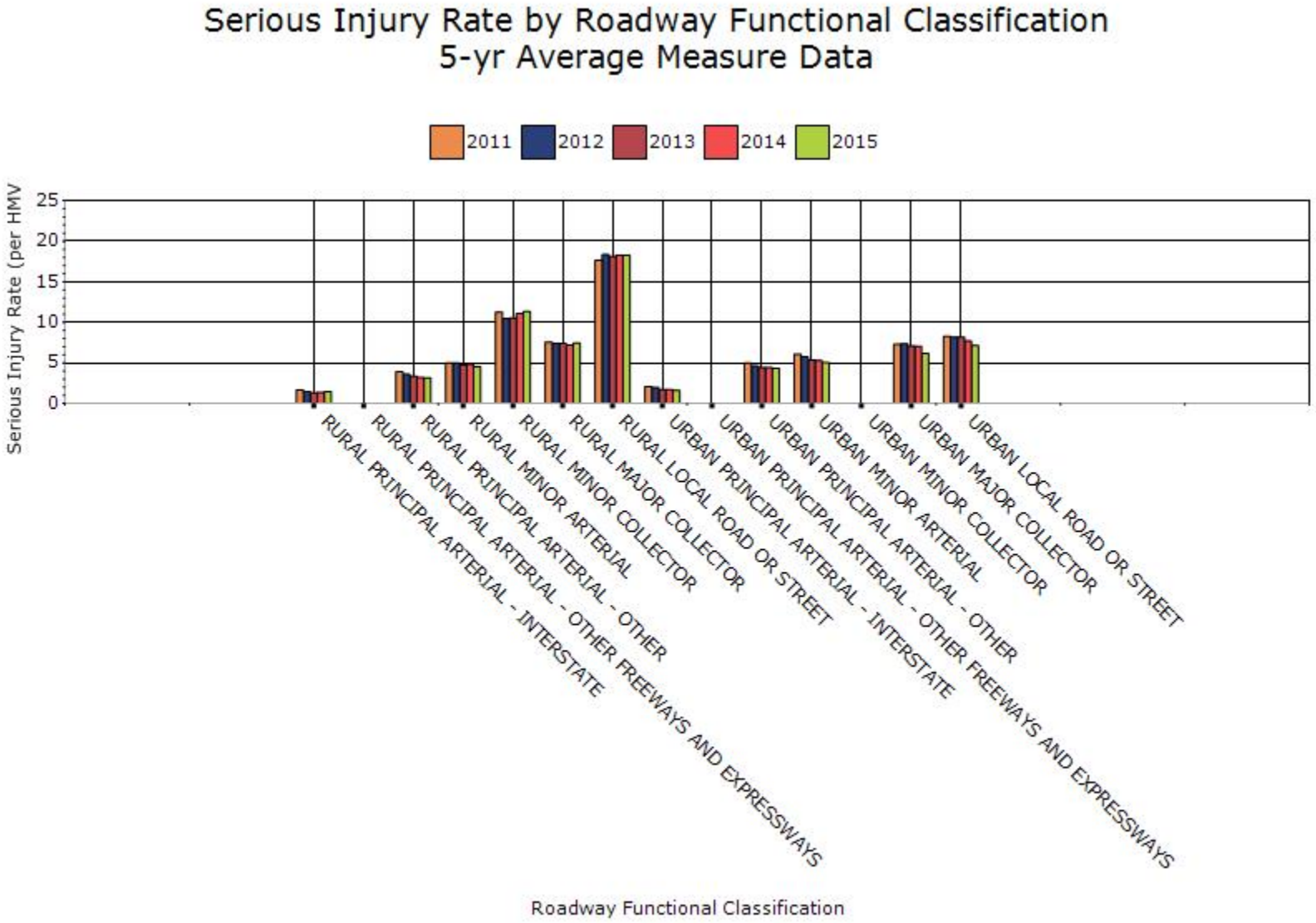
Year - 2015

Function Classification	Number of fatalities (5-yr avg)	Number of serious injuries (5-yr avg)	Fatality rate (per HMVMT) (5-yr avg)	Serious injury rate (per HMVMT) (5-yr avg)
RURAL PRINCIPAL ARTERIAL - INTERSTATE	21.4	75.2	0.41	1.44
RURAL PRINCIPAL ARTERIAL - OTHER	55	193.4	0.9	3.14
RURAL MINOR ARTERIAL	34.4	115.6	1.35	4.54
RURAL MINOR COLLECTOR	25.4	95.4	3.01	11.33
RURAL MAJOR COLLECTOR	63.8	236.4	2.01	7.44
RURAL LOCAL ROAD OR STREET	45.8	182.8	4.57	18.24
URBAN PRINCIPAL ARTERIAL - INTERSTATE	11.2	42.6	0.43	1.61
URBAN PRINCIPAL ARTERIAL - OTHER	24.4	156.6	0.67	4.33
URBAN MINOR ARTERIAL	21	175	0.61	5.05
URBAN MAJOR COLLECTOR	11.4	79.2	0.89	6.19
URBAN LOCAL ROAD OR STREET	22	175.2	0.89	7.13


Fatalities by Roadway Functional Classification
5-yr Average Measure Data
2011
2012
2013
2014
2015
# of Fatalities
100
80
60
40
20
0
RURAL PRINCIPAL ARTERIAL - INTERSTATE
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
RURAL PRINCIPAL ARTERIAL - OTHER
RURAL MINOR ARTERIAL
RURAL MINOR COLLECTOR
RURAL MAJOR COLLECTOR
RURAL LOCAL ROAD OR STREET
URBAN PRINCIPAL ARTERIAL - INTERSTATE
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
URBAN PRINCIPAL ARTERIAL - OTHER
URBAN MINOR ARTERIAL
URBAN MINOR COLLECTOR
URBAN MAJOR COLLECTOR
URBAN LOCAL ROAD OR STREET
Roadway Functional Classification

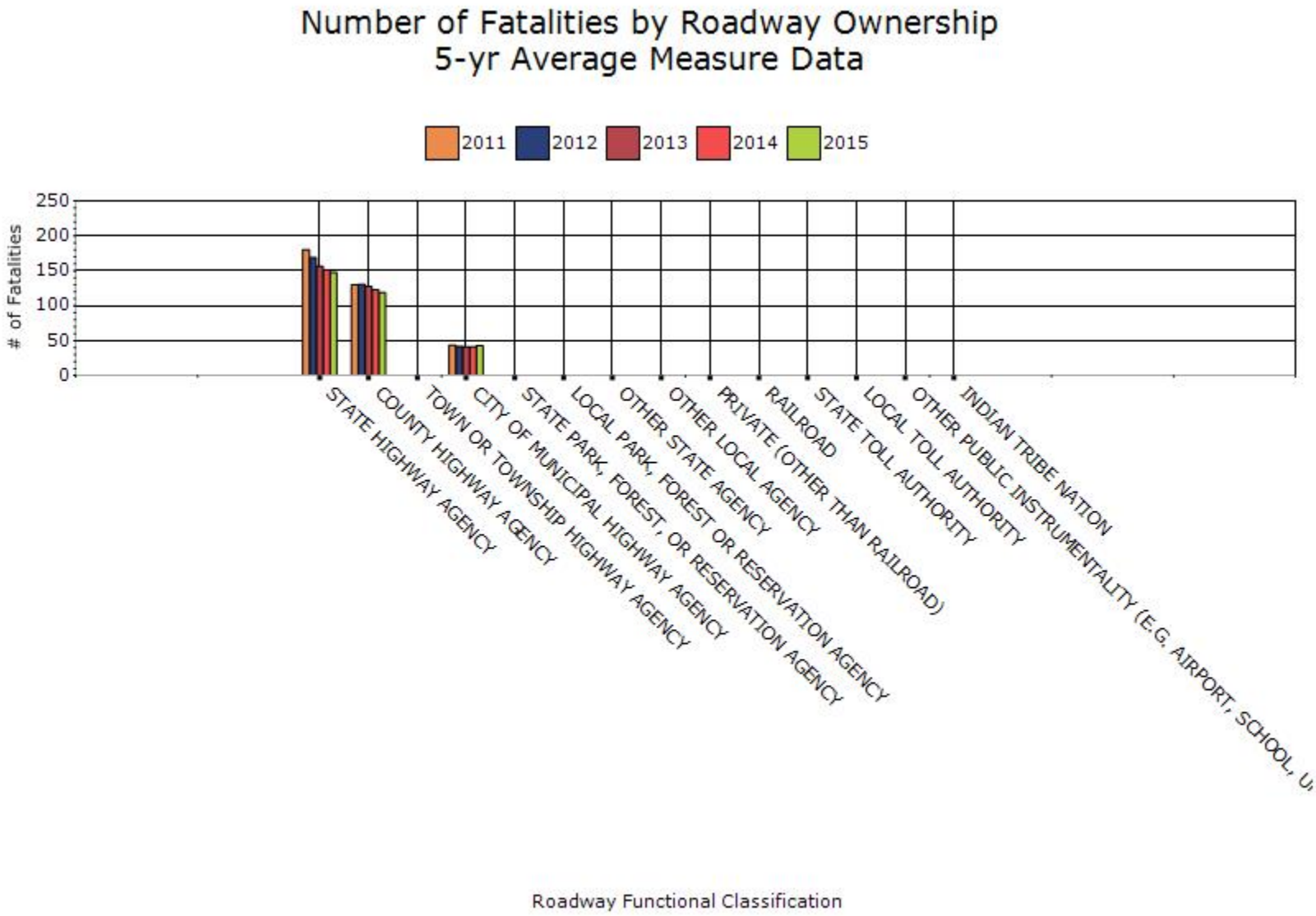

Serious Injuries by Roadway Functional Classification
5-yr Average Measure Data
2011
2012
2013
2014
2015
# of Serious Injuries
300
250
200
150
100
50
0
RURAL PRINCIPAL ARTERIAL - INTERSTATE
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
RURAL PRINCIPAL ARTERIAL - OTHER
RURAL MINOR ARTERIAL
RURAL MINOR COLLECTOR
RURAL MAJOR COLLECTOR
RURAL LOCAL ROAD OR STREET
URBAN PRINCIPAL ARTERIAL - INTERSTATE
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
URBAN PRINCIPAL ARTERIAL - OTHER
URBAN MINOR ARTERIAL
URBAN MINOR COLLECTOR
URBAN MAJOR COLLECTOR
URBAN LOCAL ROAD OR STREET
Roadway Functional Classification

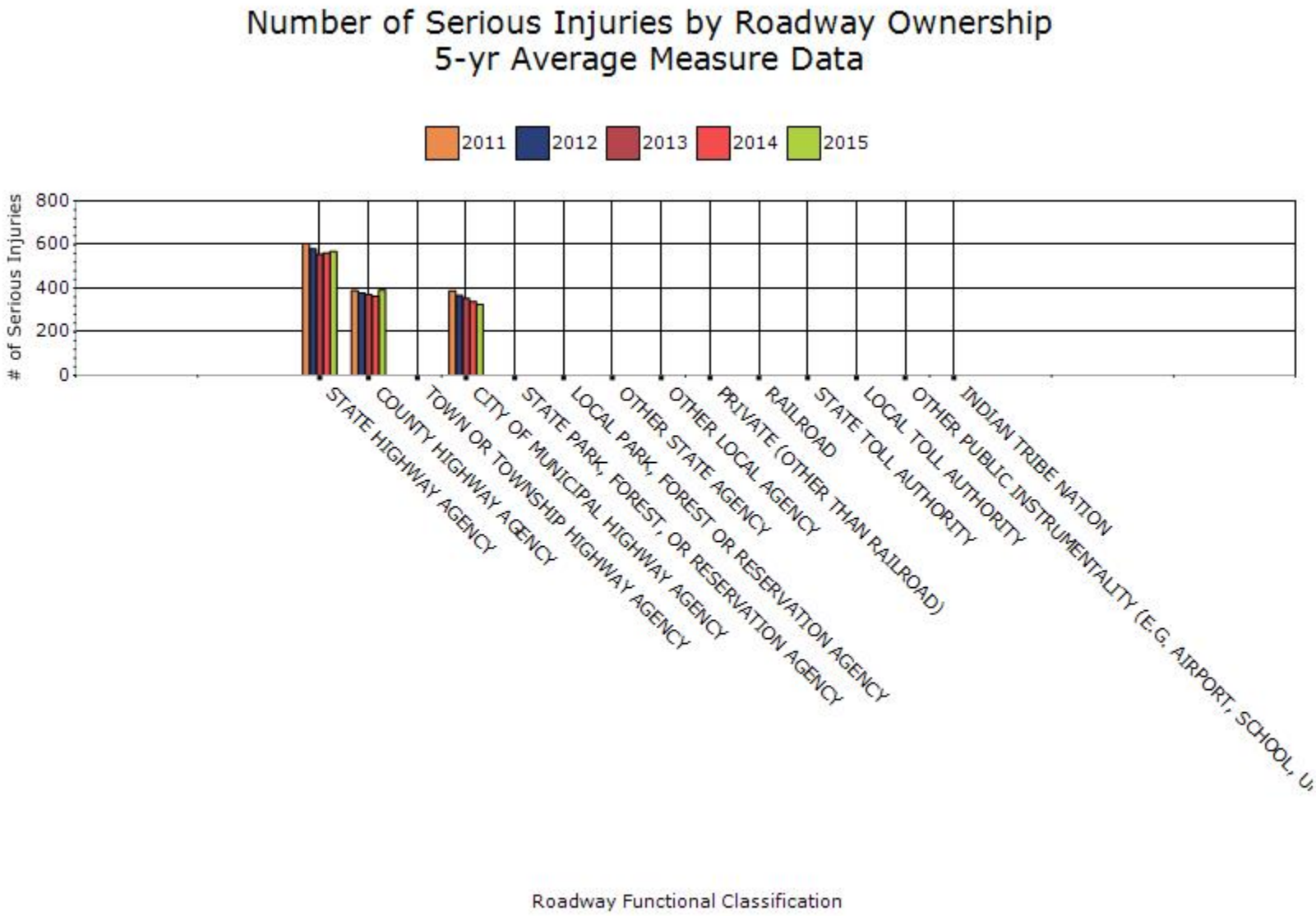

Fatality Rate by Roadway Functional Classification
5-yr Average Measure Data
2011
2012
2013
2014
2015
Fatality Rate (per HMVMT)
0
1
2
3
4
5
6
RURAL PRINCIPAL ARTERIAL - INTERSTATE
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
RURAL PRINCIPAL ARTERIAL - OTHER
RURAL MINOR ARTERIAL
RURAL MINOR COLLECTOR
RURAL MAJOR COLLECTOR
RURAL LOCAL ROAD OR STREET
URBAN PRINCIPAL ARTERIAL - INTERSTATE
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
URBAN PRINCIPAL ARTERIAL - OTHER
URBAN MINOR ARTERIAL
URBAN MINOR COLLECTOR
URBAN MAJOR COLLECTOR
URBAN LOCAL ROAD OR STREET
Roadway Functional Classification

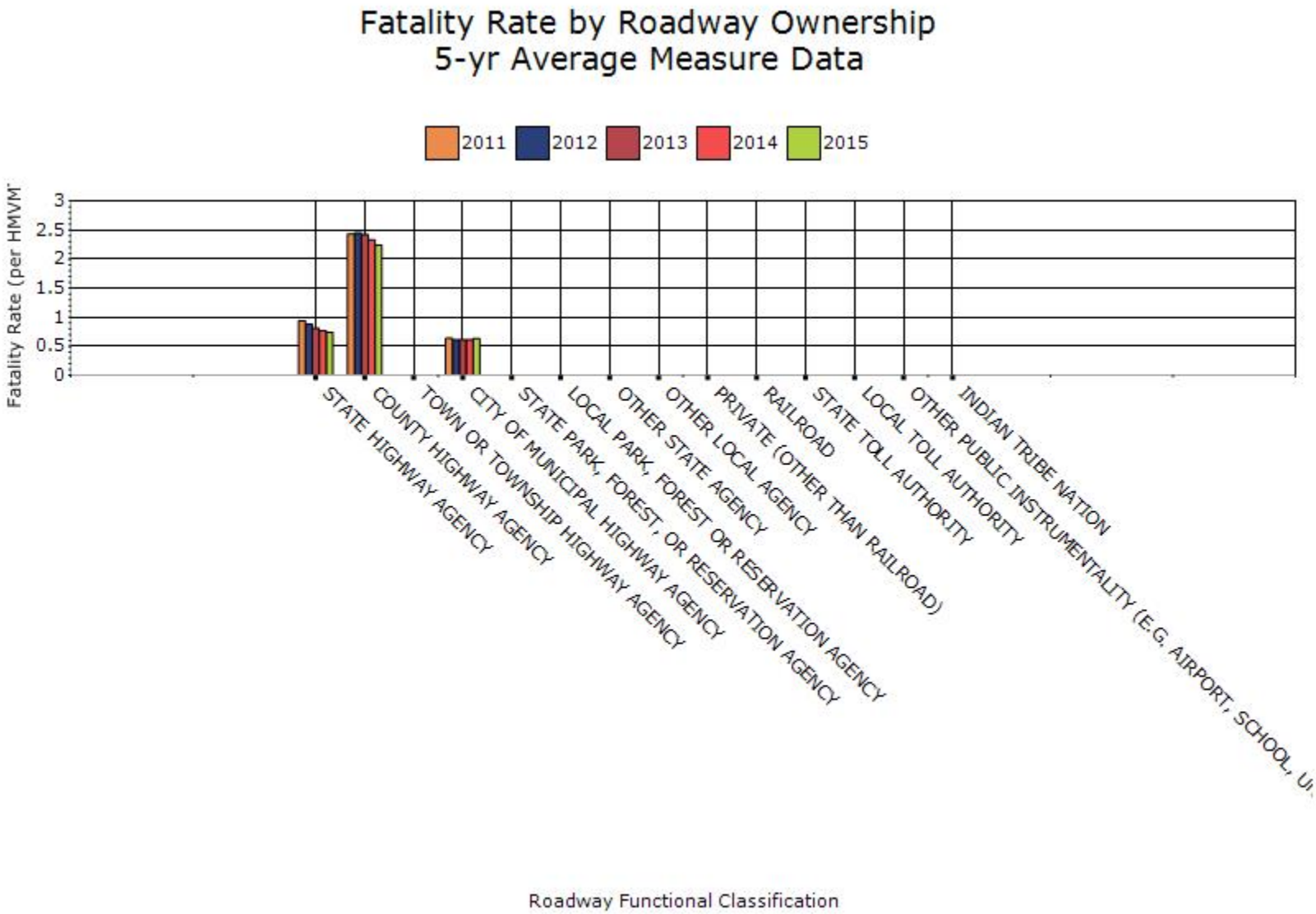

Serious Injury Rate by Roadway Functional Classification
5-yr Average Measure Data
2011
2012
2013
2014
2015
Serious Injury Rate (per HMV
25
20
15
10
5
0
RURAL PRINCIPAL ARTERIAL - INTERSTATE
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
RURAL PRINCIPAL ARTERIAL - OTHER
RURAL MINOR ARTERIAL
RURAL MINOR COLLECTOR
RURAL MAJOR COLLECTOR
RURAL LOCAL ROAD OR STREET
URBAN PRINCIPAL ARTERIAL - INTERSTATE
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
URBAN PRINCIPAL ARTERIAL - OTHER
URBAN MINOR ARTERIAL
URBAN MINOR COLLECTOR
URBAN MAJOR COLLECTOR
URBAN LOCAL ROAD OR STREET
Roadway Functional Classification

Year - 2015

Roadway Ownership	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
STATE HIGHWAY AGENCY	147.6	568.6	0.74	2.85
COUNTY HIGHWAY AGENCY	118.6	392.4	2.24	7.41
CITY OF MUNICIPAL HIGHWAY AGENCY	42.8	326.2	0.63	4.83


Number of Fatalities by Roadway Ownership
5-yr Average Measure Data
2011
2012
2013
2014
2015
# of Fatalities
250
200
150
100
50
0
STATE HIGHWAY AGENCY
COUNTY HIGHWAY AGENCY
TOWN OR TOWNSHIP HIGHWAY AGENCY
CITY OF MUNICIPAL HIGHWAY AGENCY
STATE PARK, FOREST, OR RESERVATION AGENCY
LOCAL PARK, FOREST OR RESERVATION AGENCY
OTHER STATE AGENCY
OTHER LOCAL AGENCY
PRIVATE (OTHER THAN RAILROAD)
RAILROAD
STATE TOLL AUTHORITY
LOCAL TOLL AUTHORITY
OTHER PUBLIC INSTRUMENTALITY (E.G. AIRPORT, SCHOOL, U
INDIAN TRIBE NATION
Roadway Functional Classification


Number of Serious Injuries by Roadway Ownership
5-yr Average Measure Data
2011
2012
2013
2014
2015
# of Serious Injuries
800
600
400
200
0
STATE HIGHWAY AGENCY
COUNTY HIGHWAY AGENCY
TOWN OR TOWNSHIP HIGHWAY AGENCY
CITY OF MUNICIPAL HIGHWAY AGENCY
STATE PARK, FOREST, OR RESERVATION AGENCY
LOCAL PARK, FOREST OR RESERVATION AGENCY
OTHER STATE AGENCY
OTHER LOCAL AGENCY
PRIVATE (OTHER THAN RAILROAD)
RAILROAD
STATE TOLL AUTHORITY
LOCAL TOLL AUTHORITY
OTHER PUBLIC INSTRUMENTALITY (E.G. AIRPORT, SCHOOL, U
INDIAN TRIBE NATION
Roadway Functional Classification


Fatality Rate by Roadway Ownership
5-yr Average Measure Data
2011
2012
2013
2014
2015
Fatality Rate (per HMVM
3
2.5
2
1.5
1
0.5
0
STATE HIGHWAY AGENCY
COUNTY HIGHWAY AGENCY
TOWN OR TOWNSHIP HIGHWAY AGENCY
CITY OF MUNICIPAL HIGHWAY AGENCY
STATE PARK, FOREST, OR RESERVATION AGENCY
LOCAL PARK, FOREST OR RESERVATION AGENCY
OTHER STATE AGENCY
OTHER LOCAL AGENCY
PRIVATE (OTHER THAN RAILROAD)
RAILROAD
STATE TOLL AUTHORITY
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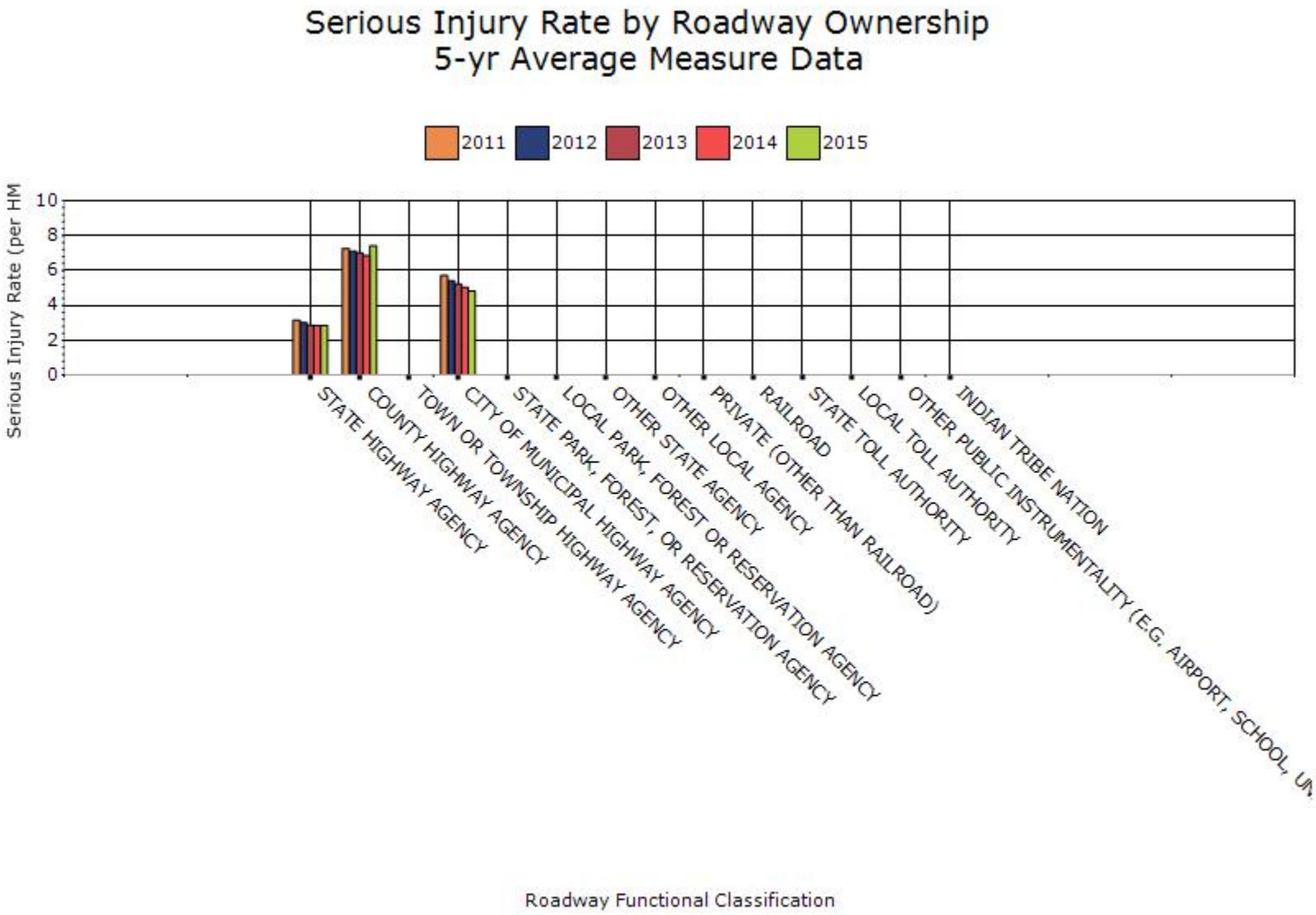
INDIAN TRIBE NATION
Roadway Functional Classification


Serious Injury Rate by Roadway Ownership
5-yr Average Measure Data
2011
2012
2013
2014
2015
Serious Injury Rate (per HM
10
8
6
4
2
0
STATE HIGHWAY AGENCY
COUNTY HIGHWAY AGENCY
TOWN OR TOWNSHIP HIGHWAY AGENCY
CITY OF MUNICIPAL HIGHWAY AGENCY
STATE PARK, FOREST, OR RESERVATION AGENCY
LOCAL PARK, FOREST OR RESERVATION AGENCY
OTHER STATE AGENCY
OTHER LOCAL AGENCY
PRIVATE (OTHER THAN RAILROAD)
RAILROAD
STATE TOLL AUTHORITY
LOCAL TOLL AUTHORITY
OTHER PUBLIC INSTRUMENTALITY (E.G. AIRPORT, SCHOOL, UN
INDIAN TRIBE NATION
Roadway Functional Classification

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

It appears that Iowa's HSIP investments are having a positive effect on the reduction of serious injuries and fatalities. However, it is noted that the fatality rate on locally owned roadways is significantly higher than for state-owned roadways. This is a disparity that we hope to address in future years by continuing to develop Local Road Safety Plans and through a possible increase in the percentage of funds that gets applied to the local system.

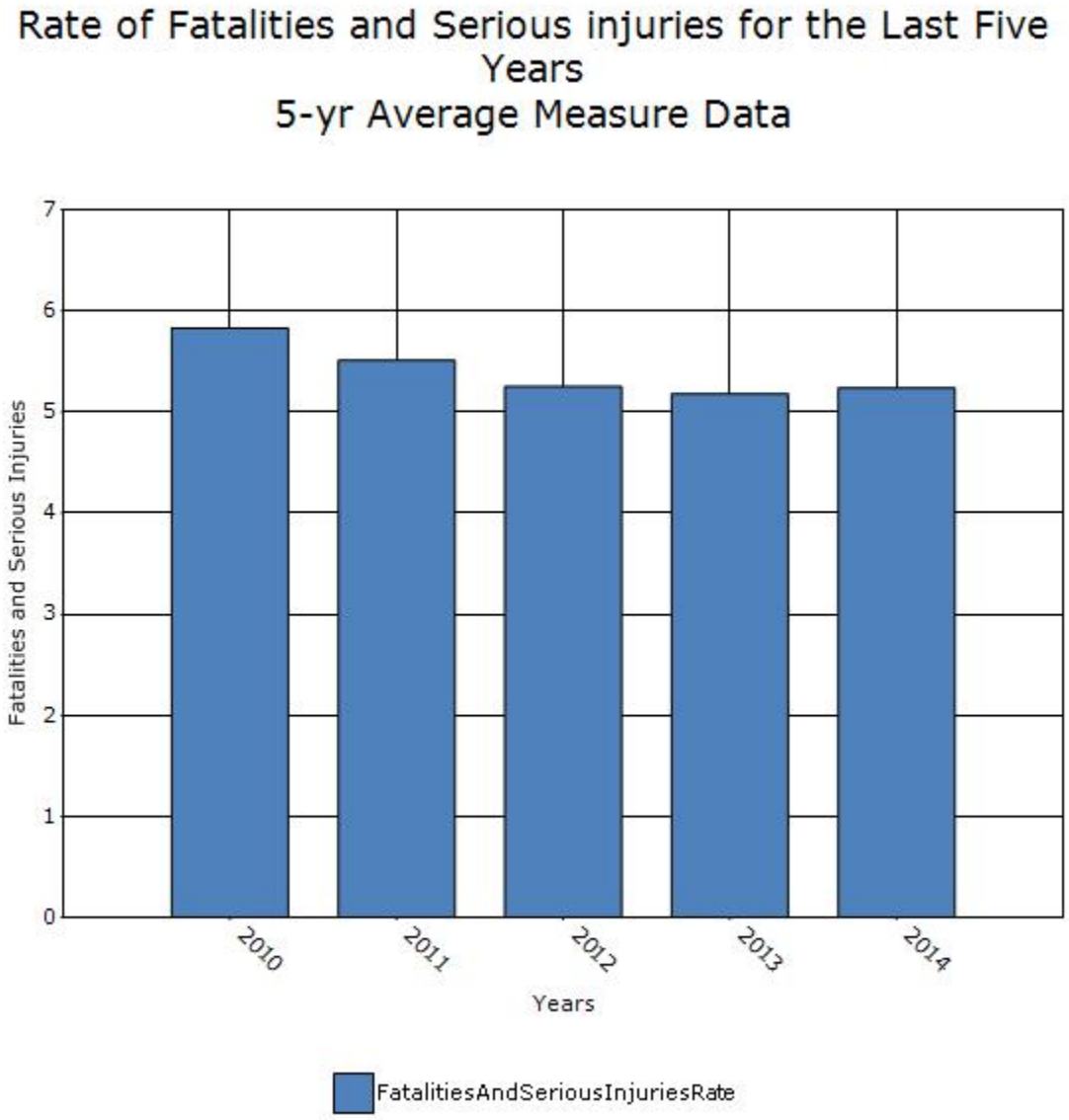
Application of Special Rules

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

Older Driver Performance Measures	2010 (5-yr avg)	2011 (5-yr avg)	2012 (5-yr avg)	2013 (5-yr avg)	2014 (5-yr avg)
Fatality rate (per capita)	1.76	1.7	1.63	1.57	1.54
Serious injury rate (per capita)	4.07	3.8	3.62	3.61	3.7
Fatality and serious injury rate (per capita)	5.83	5.51	5.25	5.18	5.24

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

The number of older driver and pedestrian fatalities and serious injuries in Iowa was summed for each year from 2006 to 2014. For each year, this sum was divided by the number of older person population in the State of Iowa, as published by FHWA, to determine a yearly rate. This rate was multiplied by 10,000 in order to present the rate as a whole number with decimals.



28. Does the older driver special rule apply to your state?

No

Assessment of the Effectiveness of the Improvements (Program Evaluation)

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

Other-Crash data

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

None

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

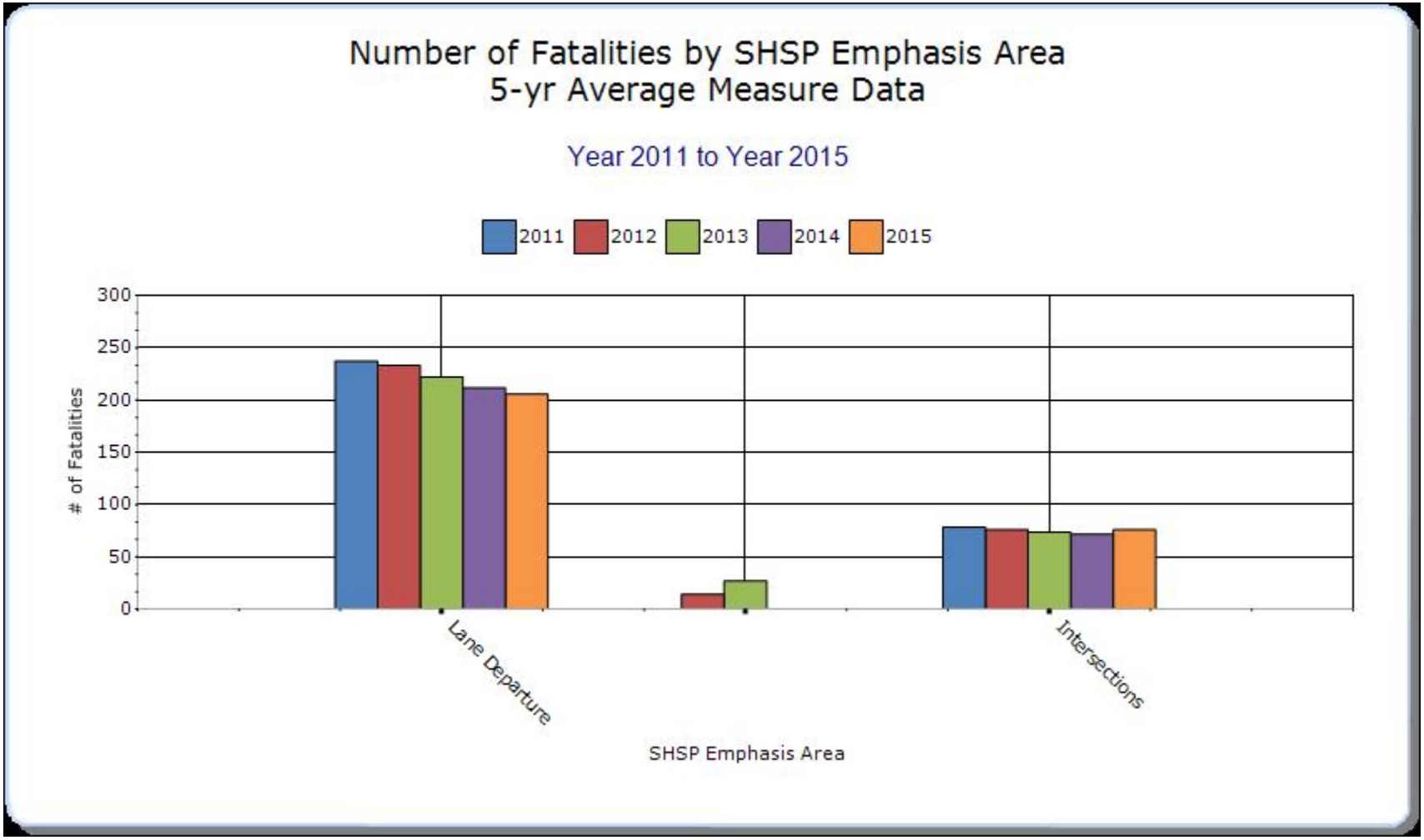
None.

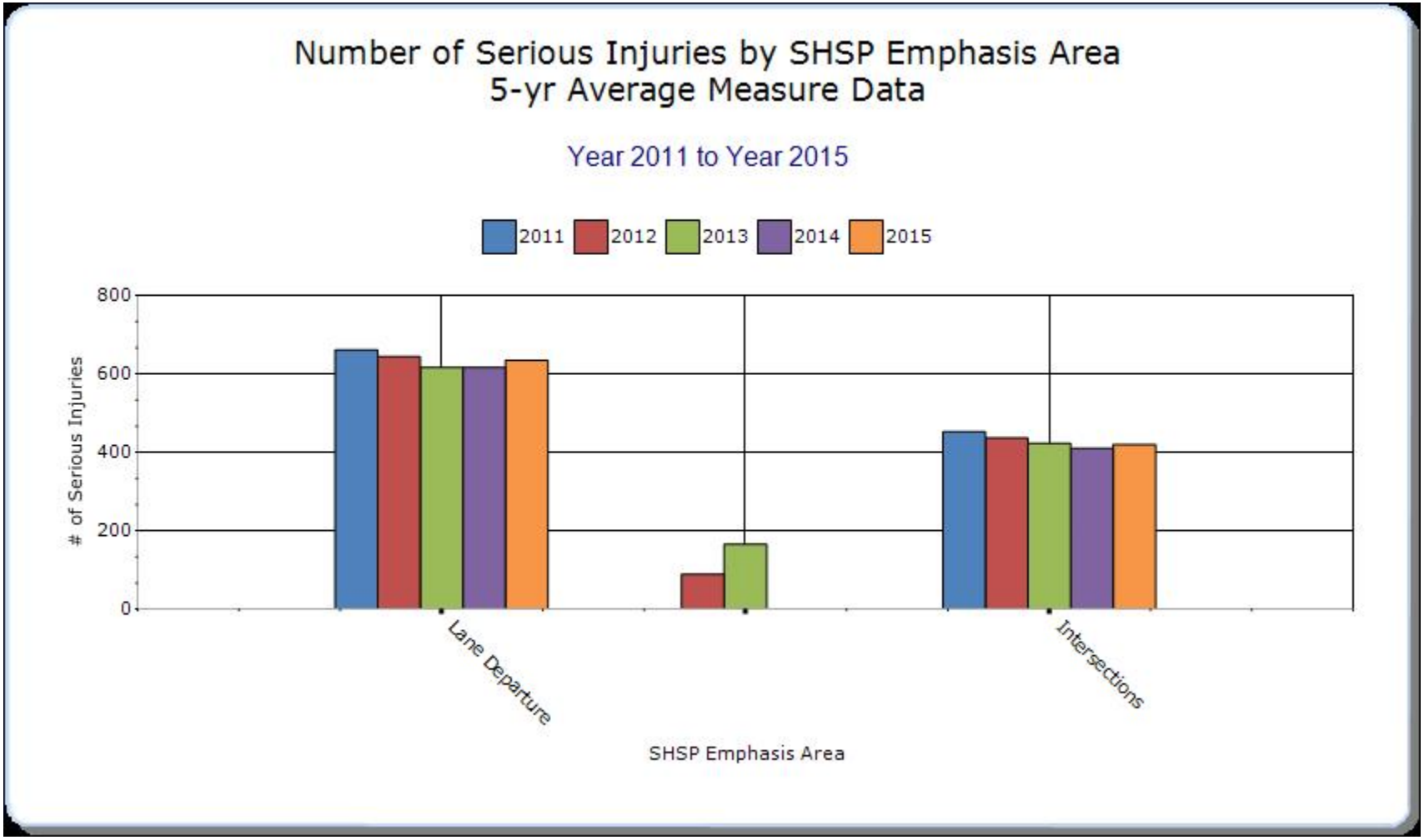
SHSP Emphasis Areas

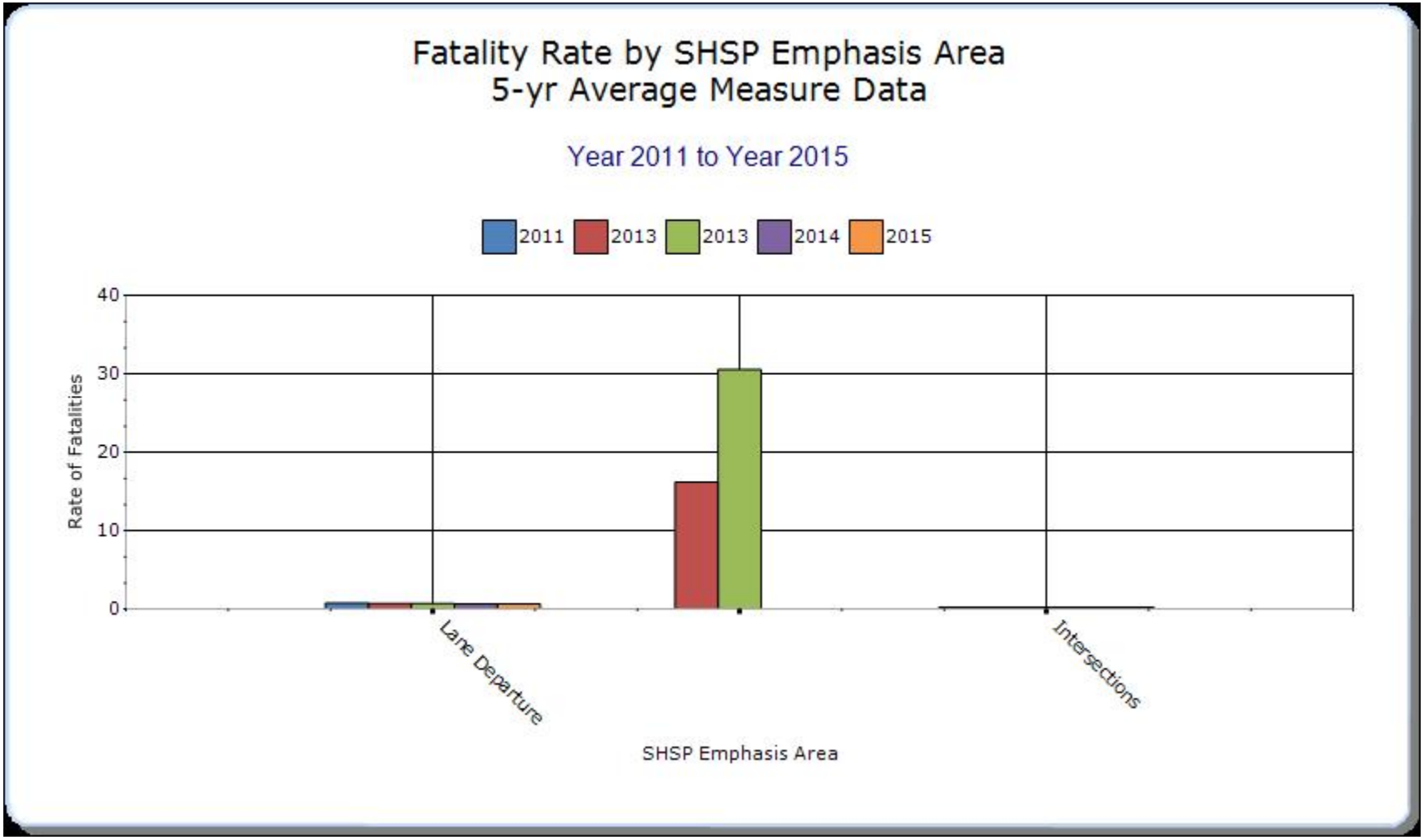
32. Present and describe trends in SHSP emphasis area performance measures.

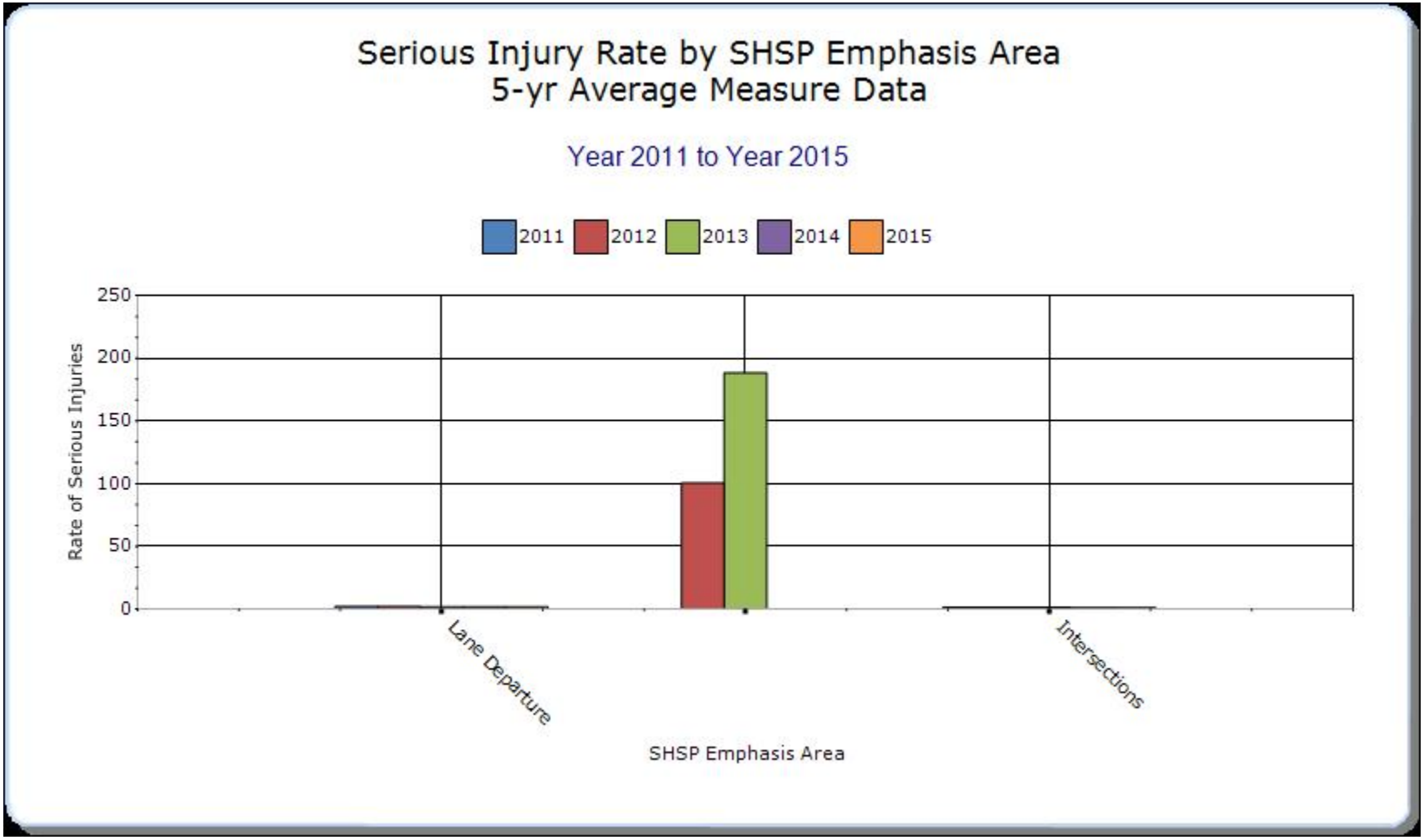
Year - 2015

HSIP-related SHSP Emphasis Areas	Target Crash Type	Number of fatalities (5-yr avg)	Number of serious injuries (5-yr avg)	Fatality rate (per HMVMT) (5-yr avg)	Serious injury rate (per HMVMT) (5-yr avg)	Other-1 (5-yr avg)	Other-2 (5-yr avg)	Other-3 (5-yr avg)
Lane Departure	All	205.6	634.2	0.64	1.98			
Intersections	All	75.8	420	0.24	1.31			


Number of Fatalities by SHSP Emphasis Area
5-yr Average Measure Data
Year 2011 to Year 2015
2011
2012
2013
2014
2015
300
250
200
150
100
50
0
# of Fatalities
Lane Departure
Intersections
SHSP Emphasis Area


Number of Serious Injuries by SHSP Emphasis Area
5-yr Average Measure Data
Year 2011 to Year 2015
2011
2012
2013
2014
2015
800
600
400
200
0
# of Serious Injuries
Lane Departure
Intersections
SHSP Emphasis Area


Fatality Rate by SHSP Emphasis Area
5-yr Average Measure Data
Year 2011 to Year 2015
2011
2013
2013
2014
2015
40
30
20
10
0
Rate of Fatalities
Lane Departure
Intersections
SHSP Emphasis Area



Groups of similar project types

33. Present the overall effectiveness of HSIP subprograms.

Year - 2015

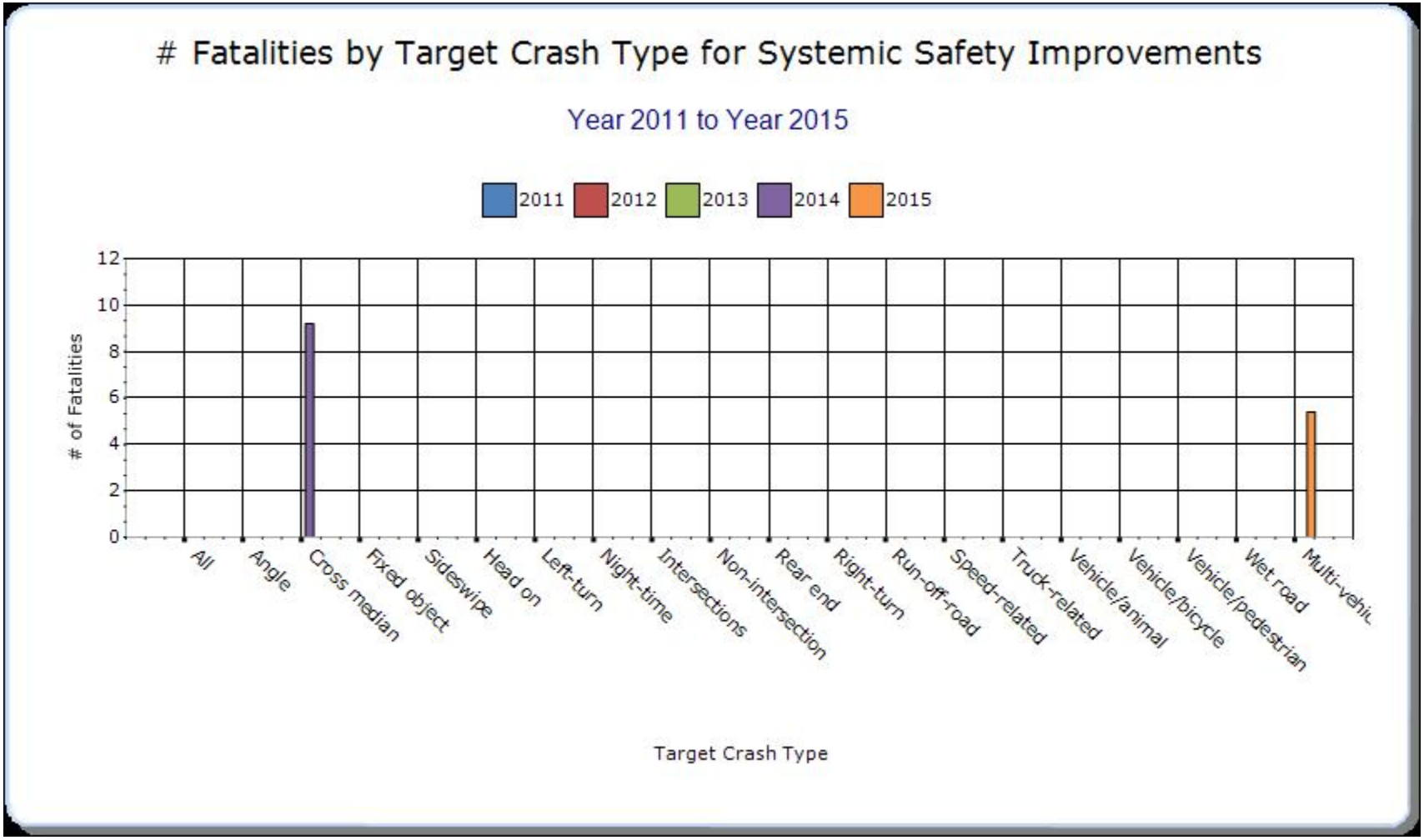
HSIP Sub-program Types	Target Crash Type	Number of fatalities (5-yr avg)	Number of serious injuries (5-yr avg)	Fatality rate (per HMVMT) (5-yr avg)	Serious injury rate (per HMVMT) (5-yr avg)	Other-1 (5-yr avg)	Other-2 (5-yr avg)	Other-3 (5-yr avg)
Local Safety		162	720.8	1.35	5.98			
Local Safety	Intersections	43	324.6	0.64	4.81			
Local Safety	Run-off-road	110	359	2.08	6.78			

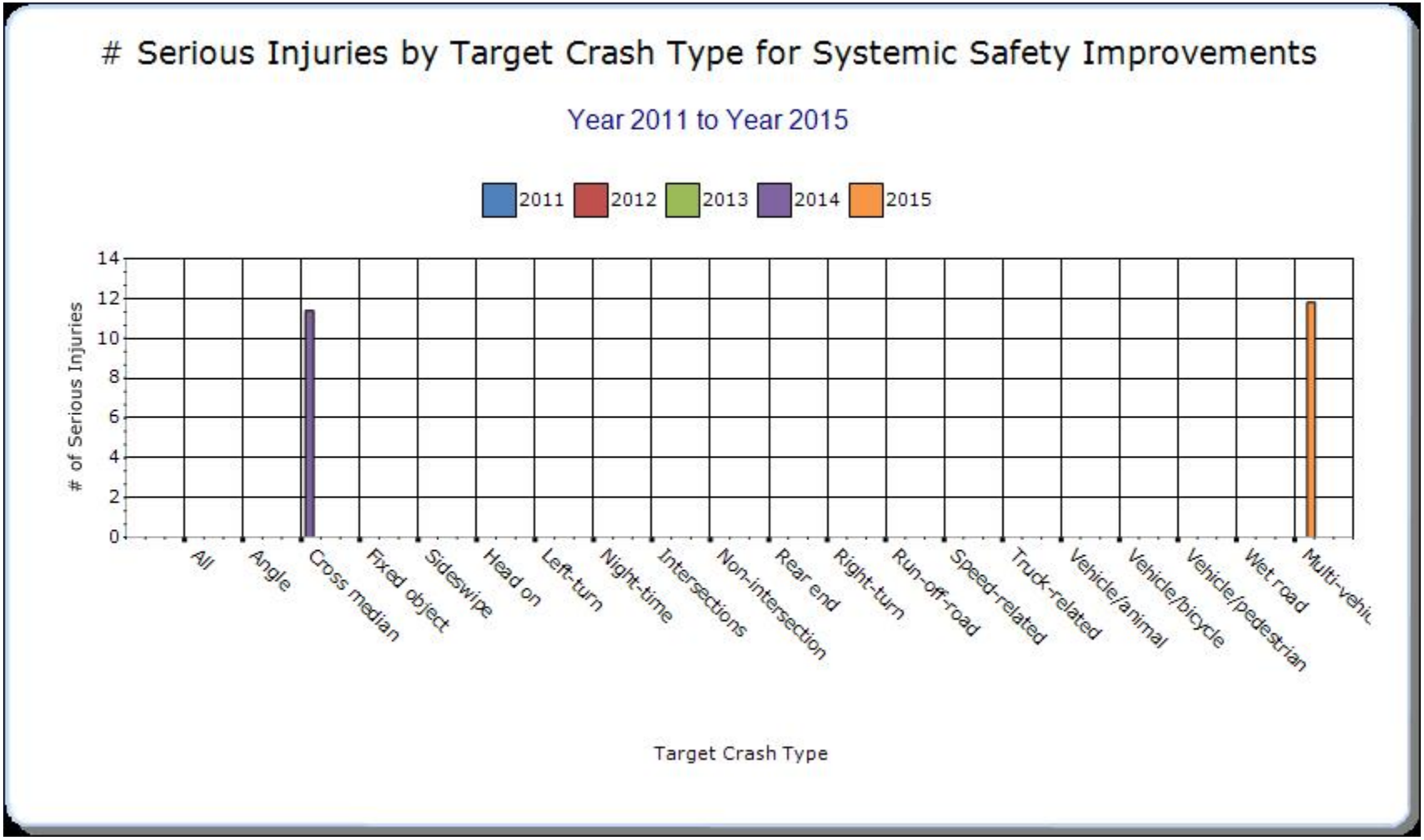
Systemic Treatments

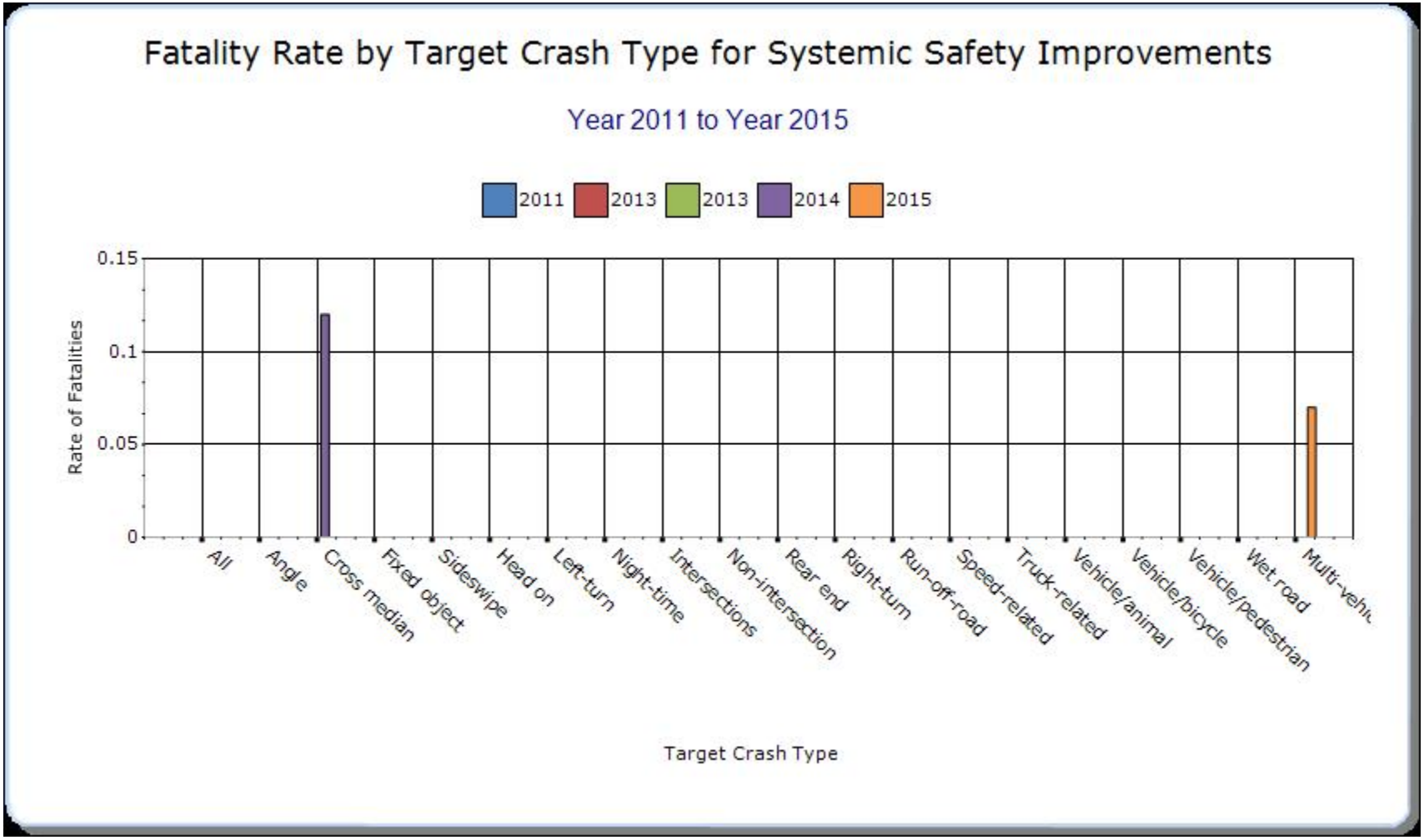
34. Present the overall effectiveness of systemic treatments.

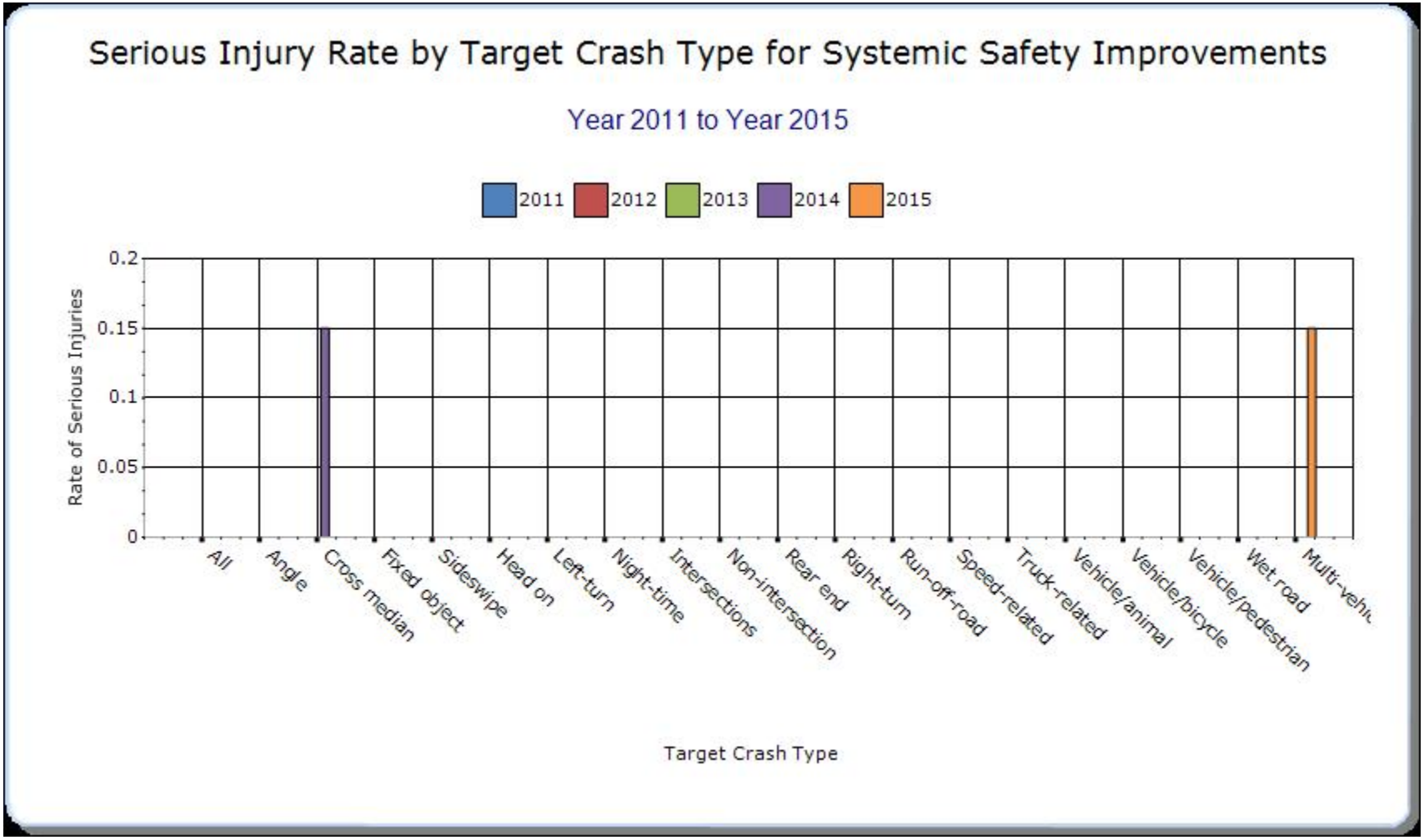
Year - 2015

Systemic improvement	Target Crash Type	Number of fatalities (5-yr avg)	Number of serious injuries (5-yr avg)	Fatality rate (per HMVMT) (5-yr avg)	Serious injury rate (per HMVMT) (5-yr avg)	Other-1 (5-yr avg)	Other-2 (5-yr avg)	Other-3 (5-yr avg)
Cable Median Barriers	Multi-vehicle cross median	5.4	11.8	0.07	0.15			


Fatalities by Target Crash Type for Systemic Safety Improvements
Year 2011 to Year 2015
2011
2012
2013
2014
2015
# of Fatalities
0
2
4
6
8
10
12
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
Multi-vehi
Target Crash Type


Serious Injuries by Target Crash Type for Systemic Safety Improvements
Year 2011 to Year 2015
2011
2012
2013
2014
2015
# of Serious Injuries
0
2
4
6
8
10
12
14
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
Multi-vehi
Target Crash Type


Fatality Rate by Target Crash Type for Systemic Safety Improvements
Year 2011 to Year 2015
2011
2013
2013
2014
2015
Rate of Fatalities
0.15
0.1
0.05
0
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
Multi-vehi
Target Crash Type


Serious Injury Rate by Target Crash Type for Systemic Safety Improvements
Year 2011 to Year 2015
2011
2012
2013
2014
2015
Rate of Serious Injuries
0.2
0.15
0.1
0.05
0
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

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

Iowa continues a program of installing cable barriers in the median of its Interstates. These barriers were installed at a rate of approximately 20 miles per year, with the exception of 2011, when more than 170 miles were installed. At the end of 2015, approximately 38 percent of Interstate miles had cable barrier installed. This practice has had a significant effect on reducing the average frequencies and rates of multi-vehicle cross-median fatalities and serious injuries in the last 5 years.

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.
Systematic refers to an approach where an agency deploys countermeasures at all locations across a system.
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.