Highway Safety Improvement Program

Data Driven Decisions

Montana
Highway Safety Improvement Program
2016 Annual Report

Prepared by: MT

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

In the reporting period, the Montana Department of Transportation (MDT) successfully utilized our allotted Highway Safety Improvement Program (HSIP) funds on Montana's roadways. MDT actively utilized our new safety analysis software and database as well as the results of our Roadway Departure Study (RDS), including utilization of Safety Performance Functions (SPFs) and diagnostic norms for identification of potential locations for safety improvements.

MDT continues to evaluate our historical processes for identifying locations for safety improvements and is discussing how to balance our site specific program with systemic improvements. Overall totals for fatalities and severe injuries in the state were up over 5% in 2015 as compared to 2014; however, overall fatalities and serious injuries are down over 28% since 2007. MDT continues efforts to conduct outreach to local government agencies on the availability of HSIP funds for completion of safety improvements on local roads.

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.

All crashes investigated by the Montana Highway Patrol, or submitted to the MHP by a local enforcement agency, are available to MDT. In 2014 MDT implemented a new crash database system. This system allows MDT staff to query local road crash data by route and reference post as well as spatially via GIS tools. Fatal crash data is available for the Tribal reservations; however, other crashes investigated by the Tribal enforcement agencies or Bureau of Indian Affairs are not consistently submitted. MDT solicits participation from local and Tribal agencies, who can submit documentation of sites to be evaluated and prioritized under the Highway Safety Improvement Program. A nomination/application for HSIP projects is included on the MDT internet page at: http://www.mdt.mt.gov/publications/docs/forms/hsip_application.pdf.

Potential HSIP projects on local and Tribal roads are currently evaluated using the same methodologies as are applied to potential projects on the state owned system.

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

Design
Planning
Maintenance
Operations
Governors Highway Safety Office
Other-District Personnel

6. Briefly describe coordination with internal partners.

The MDT Planning Division coordinates the safety activities and administers the Comprehensive Highway Safety Plan (CHSP). The CHSP has recently undergone an update. The CHSP update was completed in May 2015. The updated CHSP is available at:
http://www.mdt.mt.gov/publications/docs/plans/chsp/current_chsp.pdf

The Highway Safety Improvement Program is administered centrally by the MDT Traffic and Safety Bureau. Crash clusters are identified by roadway system and by various criteria. Enforcement agencies identify locations and request site reviews. Local and Tribal agencies can forward safety projects or request MDT evaluate areas of interest. MDT District Offices also submit sites for investigation and participate in the engineering study to determine crash trends and countermeasure selection. Project selection is currently based on the benefit/cost ratio method. MDT has advanced some systemic improvements (curve signing as an example) based on the strategies outlined in the CHSP.

Appropriate entities within MDT are invited to participate in Corridor Safety Audits (CSA's). These entities include, but may not be limited to, the State Highway Traffic Safety Section, Planning Division, Motor Carrier Services, Road Design, Traffic Operations, Maintenance, and District personnel.

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

Metropolitan Planning Organizations
Local Government Association
Other-Tribes
Other-Law Enforcement

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

Other-No changes in the reporting period.

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

Since 2006 Montana has had a Traffic Records Coordinating Committee (TRCC). The TRCC has representation from State agencies involved with safety records and Federal agencies for oversight and input. They meet regularly and attempt to coordinate and share projected record upgrades, new

projects and pertinent records among participants. As the systems mature, the TRCC may include MPO and Tribal representation.

Starting September 2008, the Montana Highway Patrol (MHP) implemented the CTS America Public Safety System dispatch-crash-record systems, including a MMUCC based crash reporting form. MHP investigates approximately 50% of all statewide crashes. This CTS America System is presently only used by the MHP via a mobile client in each patrol unit; however, a web-based crash reporting system has been developed and is being used by several local agencies. This web based system allows local enforcement agencies to input crash information via the internet, if they choose to participate. The project is starting with the eight largest local Police Departments. These eight departments report about 80% of all local crashes.

In 2014, MDT implemented an upgrade to the safety database and analysis tools. This new software, referred to as the Safety Information Management System (SIMS), has been deployed and is now in production at MDT. This new system allows MDT to access the MMUCC compliant crash data being collected by the Montana Highway Patrol. The SIMS system also has access to many roadway data elements including many of the Fundamental Data Elements identified by FHWA. Additionally, MDT has access to the MHP crash investigator's reports, if additional detail on the particular crash is required. The new system also allowed MDT to begin utilizing MHP citation data.

The Traffic and Safety Bureau is actively involved in the implementation and update of the CHSP. Traffic and Safety is taking the lead in the areas of road departure crashes and intersection crashes.

Program Methodology

10. Select the programs that are administered under HSIP.

Other-Hot Spot

11. Program: Other-Hot Spot

Date of Program Methodology: 10/1/1989

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
All crashes	Volume	
Fatal and serious injury crashes only		

What project identification methodology was used for this program?

Other-Requests - Areas to be investigated as requested by any agency or individual
Other-See additional description provided in question #15.

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.
LOSS is not available for local roads. For the 2016 HSIP, local road projects were identified by querying the data for road departure crashes occurring in dark conditions. Other areas were included via request.

How are highway safety improvement projects advanced for implementation?
Other-Projects are evaluated and ranked on a benefit/cost system.

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).

Ranking based on B/C	1
MDT has advanced some systemic projects (curve signing as an example) based on the strategies outlined in the CHSP without calculating a benefit/cost.	1

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

20%

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

Rumble Strips
Install/Improve Signing

13. What process is used to identify potential countermeasures?

Engineering Study
Road Safety Assessment
Other-Field review of location with personnel knowledgeable of the crash trend as well as personnel (MDT/Local/Tribal) familiar with the roadway.

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

Other-No Changes

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

To identify potential location for development of the 2016 HSIP, MDT has elected to screen the network using the following initial criteria: 1) Tree crash patterns; 2) Domestic animal crash patterns; 3) Wet road plus injury crash patterns; 4) Overturn plus injury crash patterns; 5) Overturn crash patterns on secondary roads; 6) Road departure crashes occurring in dark conditions; 7) Requested Sites (By an Agency, District, Public Citizen, Safety Section).

Once the sites are identified, a preliminary office review identifies the sites where there are near-term reconstruction projects, currently programmed safety projects, or sites that were recently field reviewed. After the preliminary office review, further review establishes the sites that need on-site field reviews. The sites showing no crash trend are not field reviewed. The field review team establishes crash causations and contributing factors. The team members debate potential countermeasures. Conceptual designs are developed with cost estimates.

The project prioritization process is based on a benefit-cost analysis. The costs are the annualized cost of construction over the service life of the proposed improvement plus the annual increase in operation and maintenance costs due to the improvement. The benefits are the anticipated annualized cost reductions due to a lower number of crashes and lower crash severity. The projects with the highest benefit-cost ratios are nominated for improvements.

MDT has initiated several district wide horizontal curve signing upgrade projects. The intent of these projects is to complete a proactive improvement to upgrade all the curve warning signs to a consistent standard. MDT also completed a systemic wrong way signing upgrade to all interstate ramps. The intent of this project was to bring the signing for all off-ramps to a consistent standard.

MDT has also completed development of a Roadway Departure Study. This study included development of Safety Performance Functions (SPFs), Level of Service of Safety (LOSS), and diagnostic norms for rural on-system routes. MDT is using these tools and methodologies for evaluation of the HSIP as well as analysis of other agency projects. As part of the Study, MDT has begun nominating centerline rumble strip projects as a proactive effort to address head-on, sideswipe opposite direction, and run off the road left crashes. MDT is also developing SPF's and diagnostic norms for intersections. Completion of this project is anticipated in 2016/2017.

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)	$32,215,559.66	68 %	$32,215,559.66	68 %
HRRR Special Rule	$12,124.54	0 %	$12,124.54	0 %
Penalty Transfer – Section 164	$20,859.00	0 %	$20,859.00	0 %
Other Federal-aid Funds (i.e. STP, NHPP)	$12,113,199.16	26 %	$12,113,199.16	26 %
State and Local Funds	$2,950,412.64	6 %	$2,950,412.64	6 %
Totals	$47,312,155.00	100%	$47,312,155.00	100%

18. How much funding is programmed to local (non-state owned and operated) safety projects?
$2,030,324.00
How much funding is obligated to local safety projects?
$2,030,324.00

19. How much funding is programmed to non-infrastructure safety projects?
$0.00
How much funding is obligated to non-infrastructure safety projects?
$0.00

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.

None at this time.

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

Historically, MDT has been very successful in utilizing HSIP funds. MDT is initiating the development of a Montana specific HSIP manual that will describe the overall processes for the planning, implementation, and evaluation of the HSIP components; as well as the processes MDT is using to evaluate and implement safety measures as part of overall project development. Initiation of this project is scheduled for summer/fall of 2016.

MDT has a process to perform CSA's on selected corridors. The intent is to develop safety recommendations as the engineering component of this process and pursue strategies such as enforcement activities and public education, involving the disciplines of the participants in the development of the strategic highway safety plan. The CSA's recommend short, medium and long term improvements from a behavioral and engineering perspective.

MDT has also completed development of a Roadway Departure Study. This study included development of Safety Performance Functions (SPFs), Level of Service of Safety (LOSS), and diagnostic norms for rural on-system routes. MDT is using these tools and methodologies for development of the HSIP as well as analysis of other agency projects. As part of the Study, MDT has begun nominating centerline rumble strip projects as a proactive effort to address head-on, sideswipe opposite direction, and run off the road left crashes. MDT is also developing SPF's and diagnostic norms for intersections. Completion of this project is anticipated in 2016/2017.

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
BOULDER-SOUTH	Roadway Roadway - other	5.7 Miles	20859	13621618	Other Federal-aid Funds (i.e. STP, NHPP)	Rural Minor Arterial	943	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
2016 SFTY UTILITY FAST PROCESS	Roadway Roadway - other	0	55185	55185	HSIP (Section 148)		0	0	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 099 SE OF MOLT	Roadside Barrier - other	0.3 Miles	62850	62850	HSIP (Section 148)	Rural Major Collector	350	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 099 E OF BILLINGS	Roadside Barrier - other	2.2 Miles	207461	207461	HSIP (Sectio	Rural Major	404	70	State Highway	Roadway Departure	Reduce and

					n 148)	Collector			Agency		mitigate roadway departure crashes thro
SF 099 N OF CHICO HOT SPRINGS	Roadside Roadside grading	0.7 Miles	264759	264759	HSIP (Section 148)	Rural Major Collector	690	55	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 099 E OF PONY	Roadway Roadway - other	0.3 Miles	840622	840622	HSIP (Section 148)	Rural Minor Arterial	460	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 099 KIOWA CUTOFF SIGNING	Roadway signs and traffic control Roadway signs (including post) - new or updated	11.7 Miles	17502	17502	HSIP (Section 148)	Rural Major Collector	806	45	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF-109 BUTTE SIGNING IMPRVMTS	Roadway signs and traffic control Roadway signs (including post) - new or updated	3.6 Miles	95239	95239	HSIP (Section 148)	Rural Principal Arterial - Interstate	3423	80	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro

SF109-US2/MT40-INT SFTY UPGRD	Intersection geometry Auxiliary lanes - miscellaneous/other/unspecified	1 Numbers	2045095	2135095	HSIP (Section 148)	Rural Minor Arterial	16210	0	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 109-G RAIL-HEART BUTTE RD	Roadside Barrier - other	0.5 Miles	220024	220024	HSIP (Section 148)	Rural Major Collector	0	0	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 109-CRV RECON-N OF HARRISON	Roadway Roadway widening - curve	0.5 Miles	269046	269046	HSIP (Section 148)	Rural Major Collector	670	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF109-GR NE OF BOZEMA	Roadway Roadway - other	0.76 Miles	15000	15000	HSIP (Section 148)	Rural Minor Arterial	1860	60	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 119 - JCT S-279/S-231	Intersection traffic control Modify control - two-way stop to roundabout	1 Numbers	825540	825540	HSIP (Section 148)	Rural Major Collector	2208	55	State Highway Agency	Intersections	Reduce and mitigate intersection

											crashes through d
SF 119-INT IMP-N GRASS RANGE	Intersection traffic control Modify control - two-way stop to roundabout	1 Numbers	25000	25000	HSIP (Section 148)	Rural Principal Arterial - Other	822	70	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF-119 - SAFETY IMPS OF BOZEMAN	Roadside Roadside grading	1 Miles	143386	143386	HSIP (Section 148)	Rural Major Collector	1490	60	County Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 119-GR PIPESTONE PASS	Roadside Barrier - other	1.4 Miles	644380	644380	HSIP (Section 148)	Rural Minor Arterial	690	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 119-SLP FLATTEN W-KALISPELL	Roadside Roadside grading	1.7 Miles	431063	431063	HSIP (Section 148)	Rural Principal Arterial - Other	1702	60	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 119-GR S OF	Roadside Barrier - other	1 Miles	693865	693865	HSIP (Sectio	Rural Principal	3410	70	State Highway	Roadway Departure	Reduce and

BROWNING					n 148)	Arterial - Other			Agency		mitigate roadway departure crashes thro
SF 129 - HIGGINS BANCROFT LGHT	Lighting Continuous roadway lighting	0.4 Miles	179093	179093	HSIP (Section 148)	Urban Minor Arterial	11050	35	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 129-SFTY IMPRV DEER LODGE	Roadside Barrier - other	1.6 Miles	67600	67600	HSIP (Section 148)	Rural Principal Arterial - Interstate	8890	80	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 129-SB RT TURN PATTERSON	Intersection geometry Auxiliary lanes - add right-turn lane	0.6 Miles	1331007	1331007	HSIP (Section 148)	Urban Major Collector	4300	60	County Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 129-ITS/VMS ROGERS PASS	Roadway signs and traffic control Roadway signs and traffic control - other	0.7 Miles	294317	294317	HSIP (Section 148)	Rural Principal Arterial - Other	1330	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes

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SF 129-FLT S HAVRE	Roadside Roadside grading	0.4 Miles	345695	345695	HSIP (Section 148)	Rural Major Collector	760	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 129-FLT E CASCADE	Roadside Roadside grading	1 Miles	761162	761162	HSIP (Section 148)	Rural Major Collector	450	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 129-RECON INT HELENA	Intersection geometry Auxiliary lanes - miscellaneous/other/unspecified	0.3 Miles	272020	272020	HSIP (Section 148)	Rural Major Collector	685	55	County Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 129-PED SFTY IMPR MAIN ST	Pedestrians and bicyclists Modify existing crosswalk	0.5 Miles	662841	962841	HSIP (Section 148)	Urban Principal Arterial - Other	6350	25	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 129-CURVE SFTY	Roadway Roadway widening - curve	0.5 Miles	206037	206037	HSIP (Sectio	Rural Principal	1820	70	State Highway	Roadway Departure	Reduce and

IMPRV					n 148)	Arterial - Other			Agency		mitigate roadway departure crashes thro
SF 129-SFTY IMPRV GRASSRANGE	Roadside Barrier - other	0.5 Miles	14264	14264	HSIP (Section 148)	Rural Principal Arterial - Other	520	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 129-RNDABOUT KING 56TH	Intersection traffic control Modify control - two-way stop to roundabout	0.3 Miles	278266	278266	HSIP (Section 148)	Rural Major Collector	4070	45	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 129-ROUNDABOUT LAME DEER	Intersection traffic control Modify control - all-way stop to roundabout	0.3 Miles	200000	200000	HSIP (Section 148)	Rural Principal Arterial - Other	3208	55	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF129-CURVE SGNG RESERVE	Roadway signs and traffic control Roadway signs (including post) - new or updated	0.5 Miles	49868	49868	HSIP (Section 148)	Rural Major Collector	430	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes

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SF 129 - GRDRAIL N LOLO	Roadside Barrier - other	1.1 Miles	66982	66982	HSIP (Section 148)	Rural Principal Arterial - Other	23250	65	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 129 - SKD TRTMT E MISSOULA	Roadway Pavement surface - high friction surface	0.5 Miles	43423	43423	HSIP (Section 148)	Rural Principal Arterial - Interstate	20290	75	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 129-SFTY IMPR E BONNER	Roadside Roadside grading	1.5 Miles	30511	30511	HSIP (Section 148)	Rural Major Collector	1644	55	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 129-SGN FLASHER RED HRN RD	Intersection traffic control Intersection flashers - add miscellaneous/other/unspecified	2 Numbers	143583	143583	HSIP (Section 148)	Rural Principal Arterial - Other	6187	70	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 139-MSLA DNTN SIGNAL	Intersection traffic control Modify traffic signal - modernization/replaceme	1.5 Miles	1351905	1351905	HSIP (Section 148)	Urban Principal Arterial -	0	0	State Highway Agency	Intersections	Reduce and mitigate

UPGR	nt					Other					intersection crashes through d
SF139-HELENA SIGNAL BORDERS	Intersection traffic control Modify traffic signal - add backplates with retroreflective borders	1.1 Miles	38597	38597	HSIP (Section 148)	Urban Principal Arterial - Other	12694	35	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 139 - BROOKS SAFETY IMPRV	Lighting Continuous roadway lighting	1.7 Miles	489282	489282	HSIP (Section 148)	Urban Principal Arterial - Other	27985	45	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 139-COTTONWOOD & STUCKY	Intersection traffic control Modify control - two-way stop to roundabout	0.6 Miles	275000	275000	HSIP (Section 148)	Rural Major Collector	2552	55	County Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 139-HLN FLTS INTERSECTION	Intersection traffic control Intersection traffic control - other	0.1 Miles	65000	65000	HSIP (Section 148)	Urban Minor Arterial	12110	55	State Highway Agency	Intersections	Reduce and mitigate intersection

											crashes through d
SF 139-AWF UPGRADE MSLA SOUTH	Intersection traffic control Intersection flashers - add miscellaneous/other/unspecified	3 Numbers	382911	382911	HSIP (Section 148)	Rural Principal Arterial - Other	8931	45	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF139-AWF UPGRADE MSLA MPO	Intersection traffic control Intersection flashers - add miscellaneous/other/unspecified	3 Numbers	302760	302760	HSIP (Section 148)	Urban Principal Arterial - Other	26454	45	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 139-AWF UPGRADE PABLO POLSN	Intersection traffic control Intersection flashers - add miscellaneous/other/unspecified	4 Numbers	86366	86366	HSIP (Section 148)	Rural Principal Arterial - Other	9975	45	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 139-AWF UPRADE MSLA NORTH	Intersection traffic control Intersection flashers - add miscellaneous/other/unspecified	8 Numbers	313987	313987	HSIP (Section 148)	Urban Principal Arterial - Other	16309	45	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through

											d
SF 139-SIDNEY SAFETY IMPRV	Roadway signs and traffic control Roadway signs (including post) - new or updated	1.4 Miles	229127	229127	HSIP (Section 148)	Rural Minor Arterial	1327	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 139 - TOSTON SKID TRTMENT	Roadway Pavement surface - high friction surface	0.7 Miles	129097	129097	HSIP (Section 148)	Rural Principal Arterial - Other	3505	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF139-MACDONALD PASS SFTY IMPR	Roadway signs and traffic control Curve-related warning signs and flashers	0.6 Miles	145231	145231	HSIP (Section 148)	Rural Principal Arterial - Other	3000	60	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 139-VMS SFTY IMPR	Advanced technology and ITS Dynamic message signs	4 Numbers	584190	584190	HSIP (Section 148)	Rural Principal Arterial - Interstate	0	80	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 139-VALIER SFTY IMPR	Intersection traffic control Intersection flashers - add miscellaneous/other/unspecified	1.4 Miles	102823	102823	HSIP (Section 148)	Rural Minor Arterial	1101	70	State Highway Agency	Intersections	Reduce and mitigate intersecti

											on crashes through d
SF 139-FLESHER PASS SFTY IMP	Roadway delineation Delineators post-mounted or on barrier	13.6 Miles	167821	167821	HSIP (Section 148)	Rural Major Collector	428	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 139 - CANYON FERRY DAM SFTY	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Miles	46540	46540	HSIP (Section 148)	Rural Major Collector	1280	45	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 139-KALISPELL SIGNALS SFTY	Intersection traffic control Modify traffic signal - miscellaneous/other/unspecified	4.2 Miles	89993	89993	HSIP (Section 148)	Urban Principal Arterial - Other	0	0	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 139 - WHITEFISH SFTY IMPRV	Lighting Continuous roadway lighting	0.5 Miles	173798	173798	HSIP (Section 148)	Rural Principal Arterial - Other	14320	65	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro

SF139-GRDRAIL E OF ST REGIS	Roadside Barrier - other	1.2 Miles	76899	76899	HSIP (Section 148)	Rural Principal Arterial - Interstate	6438	75	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 139 - FLORENCE SFTY IMPRV	Intersection geometry Intersection geometrics - miscellaneous/other/unspecified	0.7 Miles	244312	244312	HSIP (Section 148)	Rural Principal Arterial - Other	13899	45	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 139 - SFTY IMPRV N OF LOLO	Roadway signs and traffic control Roadway signs (including post) - new or updated	0.6 Miles	50600	50600	HSIP (Section 148)	Rural Principal Arterial - Other	23010	55	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 139-ARMINGTON SLOPE FLT	Roadside Roadside grading	4.6 Miles	30000	30000	HSIP (Section 148)	Rural Principal Arterial - Other	1508	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF149-CLRS SFTY IMPV DIST 2&3	Roadway Rumble strips - center	592 Miles	2833183	2833183	HSIP (Section 148)	Various	0	0	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departur

											e crashes thro
SF-149 CLRS BILLINGS NORTH	Roadway Rumble strips - center	412 Miles	2988421	2988421	HSIP (Section 148)	Various	0	0	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF-149 CLRS BILLINGS SOUTH	Roadway Rumble strips - center	410 Miles	3149280	3149280	HSIP (Section 148)	Various	0	0	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF149 HAVRE EAST CLRS	Roadway Rumble strips - center	45 Miles	276120	276120	HSIP (Section 148)	Rural Principal Arterial - Other	2864	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF149 FT BENTON SFTY IMPRV	Roadway Rumble strips - edge or shoulder	0.6 Miles	51250	51250	HSIP (Section 148)	Rural Minor Arterial	640	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF149 LINCOLN RD CLRS	Roadway Rumble strips - center	36.5 Miles	228000	228000	HSIP (Section 148)	Rural Major Collector	700	60	State Highway Agency	Roadway Departure	Reduce and mitigate roadway

											departure crashes thro
SF159 LOLA SHEPARD INT IMPRV	Intersection traffic control Intersection traffic control - other	0.5 Miles	196662	196662	HSIP (Section 148)	Urban Principal Arterial - Other	17070	55	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 159 SO INGOMAR SLP FLTN	Roadside Roadside grading	5 Miles	295848	295848	HSIP (Section 148)	Rural Minor Arterial	220	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 BROADUS SFTY IMPRV	Intersection traffic control Intersection flashers - add miscellaneous/other/unspecified	0.25 Miles	14161	14161	HSIP (Section 148)	Rural Principal Arterial - Other	860	70	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 159 SO WIBAUX CRV IMPRV	Roadway Roadway widening - curve	5.2 Miles	155024	155024	HSIP (Section 148)	Rural Minor Arterial	784	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro

SF 159 GLDV DIST SFTY IMPRV N	Roadway signs and traffic control Roadway signs (including post) - new or updated	7.3 Miles	21792	21792	HSIP (Section 148)	Various	0	0	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 GLDV DIST SFTY IMPRVS	Roadway signs and traffic control Roadway signs (including post) - new or updated	29.4 Miles	13792	13792	HSIP (Section 148)	Various	0	0	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 SHLD RUMBLE STRIPS	Roadway Rumble strips - edge or shoulder	53.2 Miles	24715	24715	HSIP (Section 148)	Various	0	0	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
S 159 BADGER CREEK S FENCING	Roadside Fencing	7 Miles	104321	104321	HSIP (Section 148)	Rural Minor Arterial	1285	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 DUCK LAKE INTX SFTY IMP	Intersection traffic control Intersection signing - miscellaneous/other/unspecified	1.5 Miles	8306	8306	HSIP (Section 148)	Rural Minor Arterial	1837	70	State Highway Agency	Intersections	Reduce and mitigate intersection crashes

											through d
SF 159 GREAT FALLS DIST CLRS	Roadway Rumble strips - center	856 Miles	706137	706137	HSIP (Section 148)	Various	0	0	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 GREAT FALLS DIST ELEC	Advanced technology and ITS Advanced technology and ITS - other	5.5 Miles	39526	39526	HSIP (Section 148)	Rural Minor Arterial	1630	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 HAVRE S-234 SLP FLTN CRV	Roadway Roadway widening - curve	3.3 Miles	48756	48756	HSIP (Section 148)	Rural Major Collector	794	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 HELENA REFLCT BACKPLATE	Intersection traffic control Modify traffic signal - add backplates with retroreflective borders	3.2 Miles	4454	4454	HSIP (Section 148)	Various	0	0	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 159 ROGERS PASS SLP	Roadside Roadside grading	5.3 Miles	18304	18304	HSIP (Section 148)	Rural Principal Arterial -	1437	70	State Highway Agency	Roadway Departure	Reduce and mitigate

FLTN						Other					roadway departure crashes thro
SF 159 SO CUT BANK SFTY IMPRV	Roadway Rumble strips - edge or shoulder	3.2 Miles	19943	19943	HSIP (Section 148)	Rural Major Collector	567	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 FORT SHAW SFTY IMPRV	Roadway Rumble strips - edge or shoulder	1 Miles	12000	12000	HSIP (Section 148)	Rural Principal Arterial - Other	2010	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 GREAT FALLS DIST SIGN	Roadway signs and traffic control Roadway signs (including post) - new or updated	6 Miles	29742	29742	HSIP (Section 148)	Various	0	0	County Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 HAVRE SFTY IMPRV	Roadway signs and traffic control Roadway signs (including post) - new or updated	11.9 Miles	28657	28657	HSIP (Section 148)	Various	0	0	County Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 ANACONDA	Roadway Rumble strips - edge or shoulder	10 Miles	16027	16027	HSIP (Sectio	Rural Minor	1399	70	State Highway	Roadway Departure	Reduce and

SHLD RUMBLE					n 148)	Arterial			Agency		mitigate roadway departure crashes thro
SF 159 SW MONT SFTY IMPRV	Roadway signs and traffic control Roadway signs (including post) - new or updated	6.8 Miles	29561	29561	HSIP (Section 148)	Rural Minor Arterial	820	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 MEAGHER GRDRL SFTY	Roadside Barrier - other	5.1 Miles	74813	74813	HSIP (Section 148)	Rural Minor Arterial	407	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 GALLATIN SFTY IMPRV	Roadway signs and traffic control Roadway signs (including post) - new or updated	31.2 Miles	22499	22499	HSIP (Section 148)	Rural Principal Arterial - Other	3895	60	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 E OF MOLT SFTY IMPRV	Roadway Rumble strips - edge or shoulder	7.7 Miles	6967	6967	HSIP (Section 148)	Rural Major Collector	350	65	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro

SF 159 BUTTE DISTRICT DELINEAT	Roadway delineation Delineators post-mounted or on barrier	36.2 Miles	46793	46793	HSIP (Section 148)	Various	0	0	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 BIG TIMBER SFTY IMPRV	Roadway signs and traffic control Roadway signs (including post) - new or updated	25.7 Miles	45846	45846	HSIP (Section 148)	Rural Major Collector	165	60	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 N HUNTLEY GUARDRAIL	Roadside Barrier - other	0.2 Miles	6087	6087	HSIP (Section 148)	Rural Major Collector	4121	60	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 159 N OF HARDIN SLP FLTN	Roadside Roadside grading	0.4 Miles	73227	73227	HSIP (Section 148)	Rural Minor Arterial	400	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 N OF ST XAVIER CRV RECO	Roadway Roadway - other	1 Miles	80185	80185	HSIP (Section 148)	Rural Major Collector	700	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departur

											e crashes thro
SF 159 NW PARK CITY SHLDR WID	Roadway Roadway - other	0.6 Miles	45779	45779	HSIP (Section 148)	Rural Major Collector	950	0	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 SE COLUMBUS SHLDR WID	Roadway Roadway - other	1.9 Miles	167200	167200	HSIP (Section 148)	Rural Major Collector	930	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 BLGS DIST RUMBLE STRIPS	Roadway Rumble strips - edge or shoulder	43 Miles	18866	18866	HSIP (Section 148)	Rural Minor Arterial	2711	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 BLGS DIST SFTY IMPRV	Roadway Rumble strips - edge or shoulder	7.5 Miles	9190	9190	HSIP (Section 148)	Rural Major Collector	780	0	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 BLGS DIST SIGN DELIN	Roadway signs and traffic control Roadway signs (including post) - new or updated	10.6 Miles	15678	15678	HSIP (Section 148)	Various	0	0	State Highway Agency	Roadway Departure	Reduce and mitigate roadway

											departure crashes thro
SF 159 S-384 S-401 SFTY IMPRV	Roadway delineation Delineators post-mounted or on barrier	59.4 Miles	25675	25675	HSIP (Section 148)	Rural Major Collector	239	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 S-419 S-421 SFTY IMPRV	Roadway signs and traffic control Roadway signs (including post) - new or updated	25.1 Miles	35381	35381	HSIP (Section 148)	Rural Major Collector	1172	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 BIGFORK SFTY IMPRV	Intersection traffic control Intersection flashers - add miscellaneous/other/unspecified	1.6 Miles	33062	33062	HSIP (Section 148)	Rural Minor Arterial	6851	70	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 159 BITTERROOT SFTY IMPRV	Intersection traffic control Intersection signing - miscellaneous/other/unspecified	1.5 Miles	19977	19977	HSIP (Section 148)	Various	0	0	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d

SF 159 FLATHEAD SFTY IMPRV	Roadway signs and traffic control Roadway signs (including post) - new or updated	30.6 Miles	24264	24264	HSIP (Section 148)	Various	0	0	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 FRENCHTOWN MEDIAN RAIL	Roadside Barrier - cable	10 Miles	913962	913962	HSIP (Section 148)	Rural Principal Arterial - Interstate	9161	75	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 LAKE SANDERS SFTY IMPRV	Roadway signs and traffic control Roadway signs (including post) - new or updated	10.7 Miles	53551	53551	HSIP (Section 148)	Various	0	0	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 RESERVE ST BARRIER RAIL	Roadside Barrier - concrete	0.5 Miles	141770	141770	HSIP (Section 148)	Urban Principal Arterial - Other	39100	45	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 SANDERS LINCOLN SLP FLT	Roadside Roadside grading	2.1 Miles	125272	125272	HSIP (Section 148)	Rural Minor Arterial	1490	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes

											thro
SF 159 W CLEARWATER SFTY IMPRV	Roadway Rumble strips - center	2.9 Miles	32004	32004	HSIP (Section 148)	Rural Principal Arterial - Other	3515	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 SANDERS CO SFTY IMPRV	Roadway signs and traffic control Roadway signs (including post) - new or updated	8 Miles	26945	26945	HSIP (Section 148)	Various	0	0	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 159 HELENA SFTY IMPRV	Roadway signs and traffic control Roadway signs (including post) - new or updated	42.2 Miles	25461	25461	HSIP (Section 148)	Rural Principal Arterial - Other	3220	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF-169 LINCOLN APPLEGATE INTX	Intersection traffic control Modify control - two-way stop to roundabout	0.9 Miles	559626	559626	HSIP (Section 148)	Urban Minor Arterial	3588	55	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF-169 MT200 SFTY IMPRV	Roadway signs and traffic control Roadway signs (including post) - new or	38 Miles	18001	18001	HSIP (Section 148)	Rural Principal Arterial -	422	70	State Highway Agency	Roadway Departure	Reduce and mitigate

	updated					Other					roadway departure crashes thro
SF-169 VALLEY SPUR INTX IMPRV	Intersection traffic control Intersection traffic control - other	0.2 Miles	223866	223866	HSIP (Section 148)	Urban Minor Arterial	7480	60	State Highway Agency	Intersections	Reduce and mitigate intersection crashes through d
SF 169 SAFETY ENGR MANUAL	Miscellaneous	0	383552	383552	HSIP (Section 148)		0	0	State Highway Agency		
SF-169 N24 CLRS SFTY IMPRV	Roadway Rumble strips - center	29.7 Miles	49229	49229	HSIP (Section 148)	Rural Principal Arterial - Other	3548	0	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro
SF 169 S OF GLASGOW SFTY IMPRV	Roadway Roadway widening - curve	1 Miles	125396	125396	HSIP (Section 148)	Rural Minor Arterial	1270	70	State Highway Agency	Roadway Departure	Reduce and mitigate roadway departure crashes thro

Progress in Achieving Safety Performance Targets

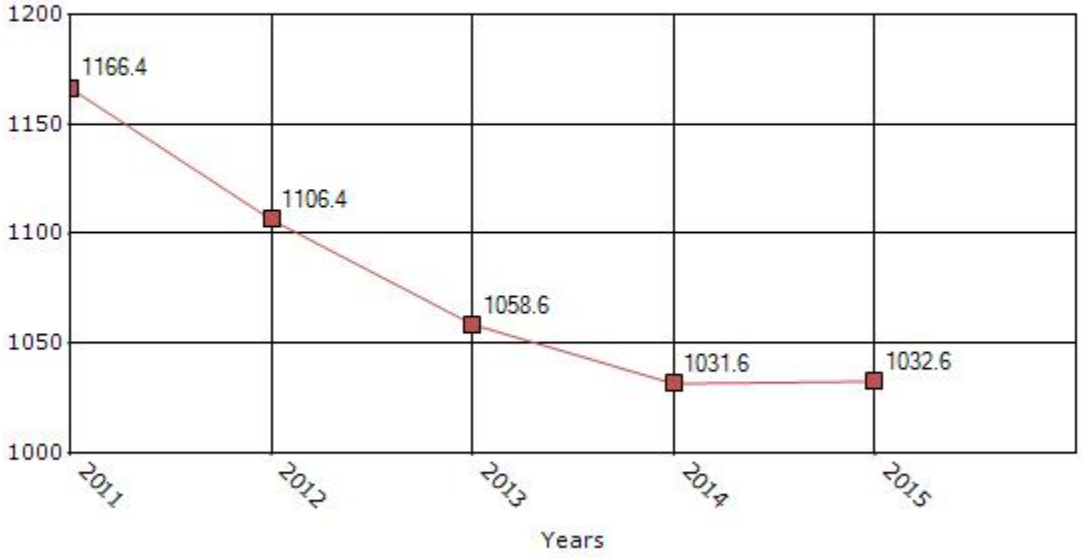
Overview of General Safety Trends

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

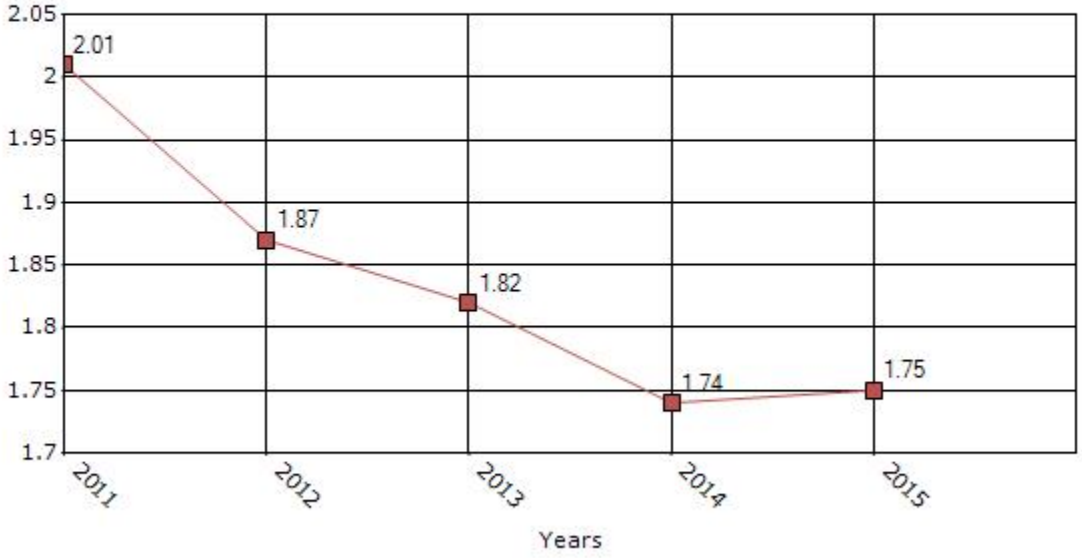
Performance Measures*	2011 (5-yr avg)	2012 (5-yr avg)	2013 (5-yr avg)	2014 (5-yr avg)	2015 (5-yr avg)
Number of fatalities	225	210.6	210.6	204.8	211.8
Number of serious injuries	1166.4	1106.4	1058.6	1031.6	1032.6
Fatality rate (per HMVMT)	2.01	1.87	1.82	1.74	1.75
Serious injury rate (per HMVMT)	10.45	9.83	9.17	8.76	8.52

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

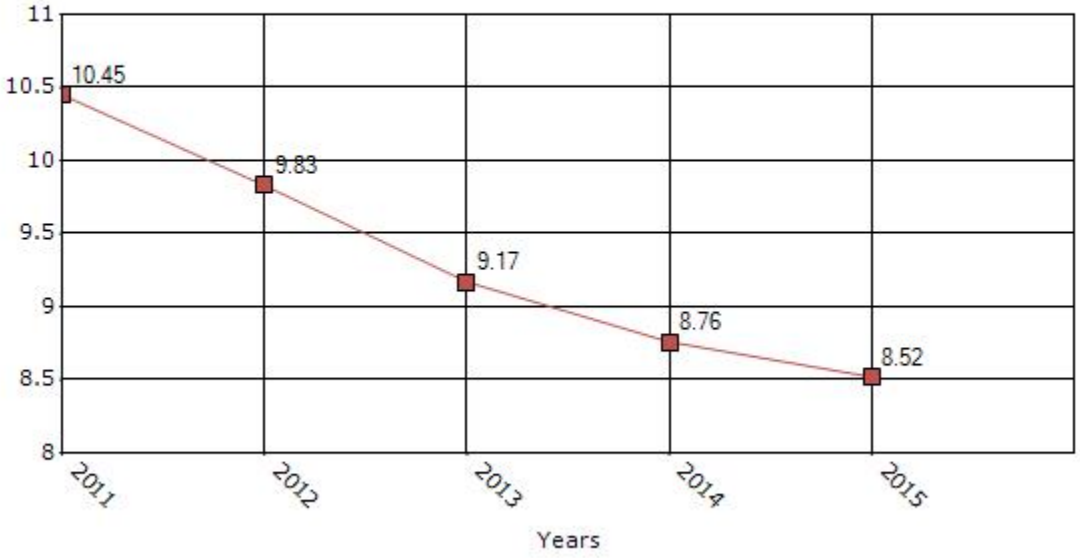
Number of Serious Injuries for the Last Five Years
5-yr Average Measure Data



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



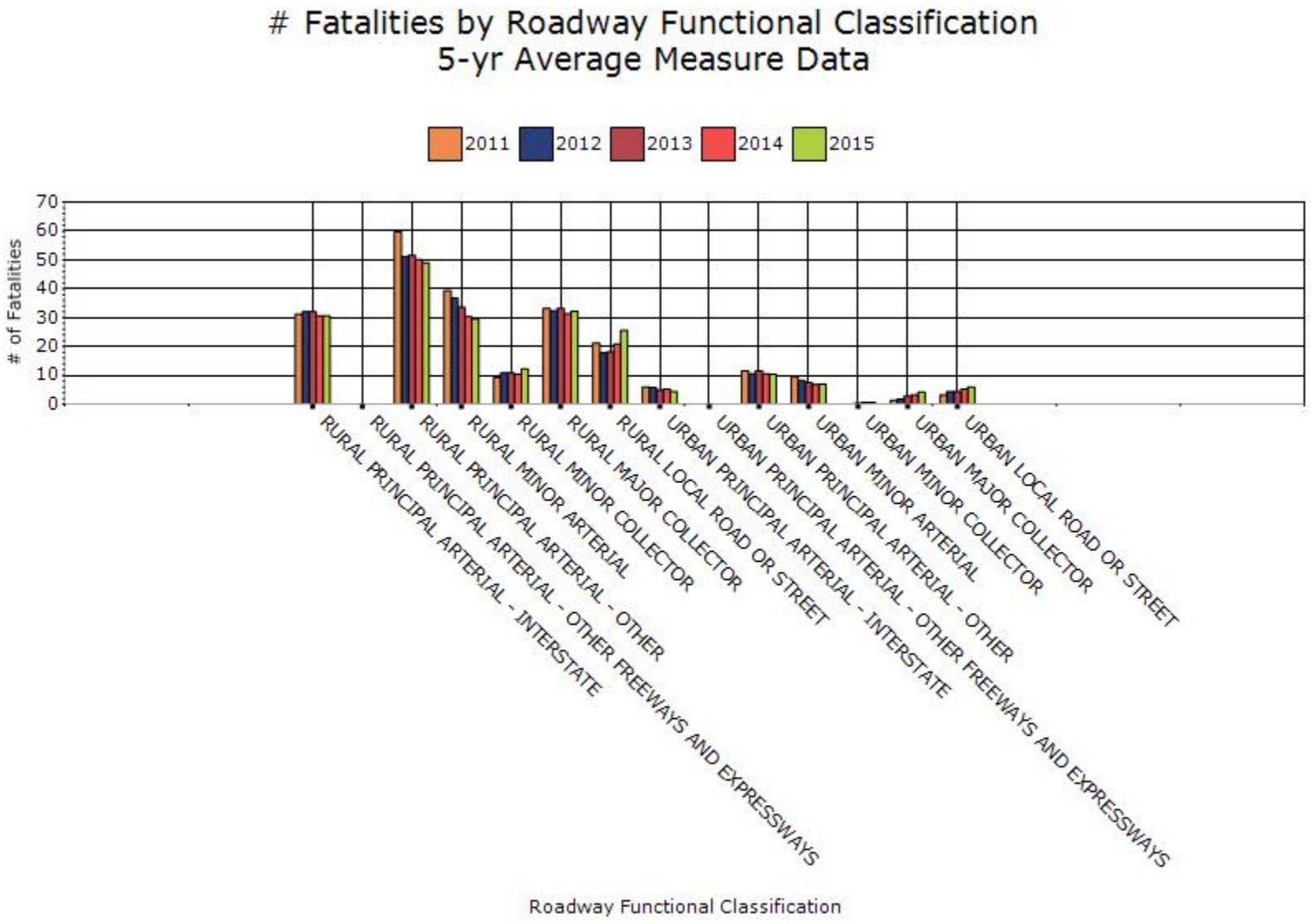
Rate of Serious Injuries for the Last Five Years
5-yr Average Measure Data

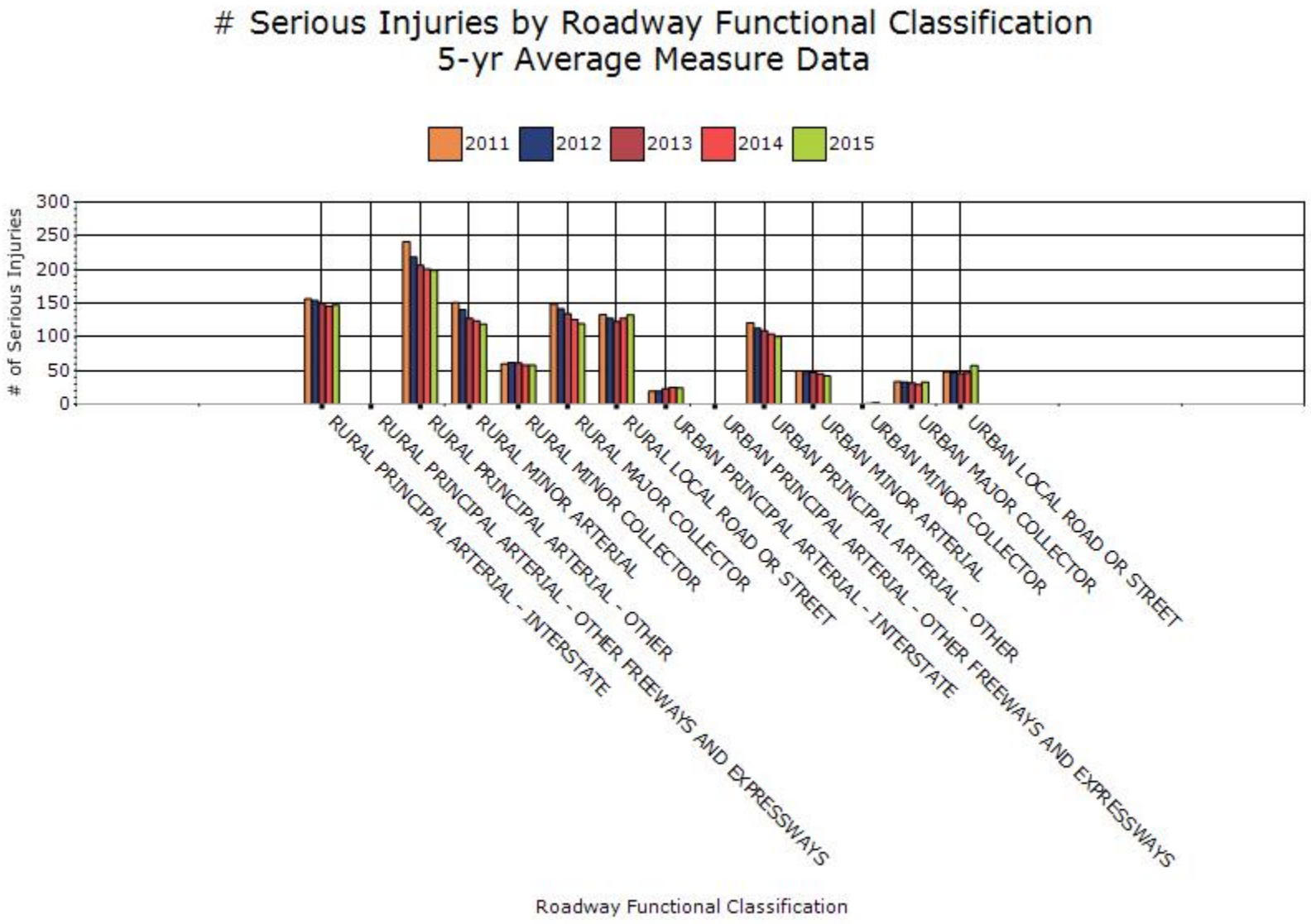


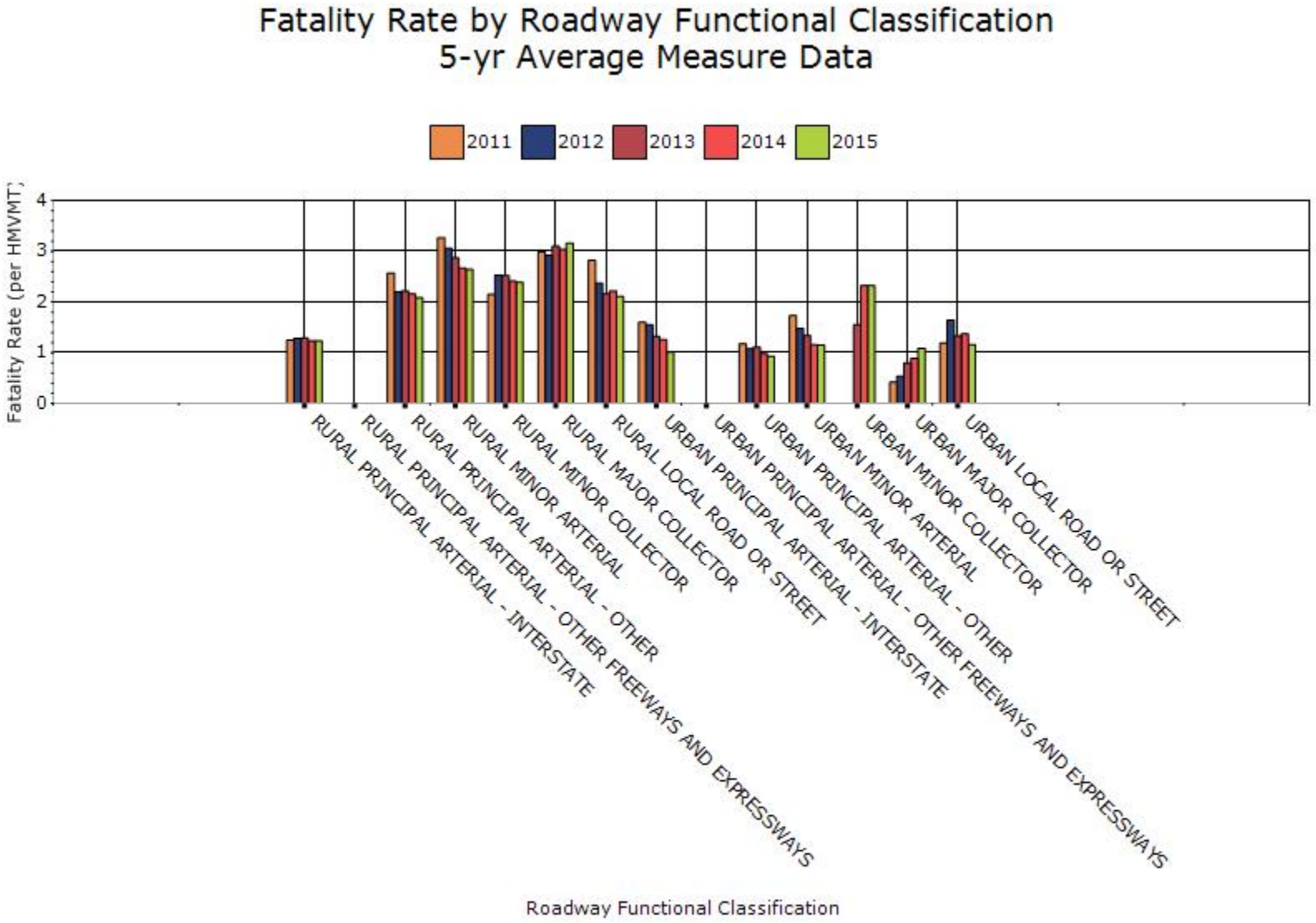
25. To the maximum extent possible, present performance measure data by functional classification and ownership.

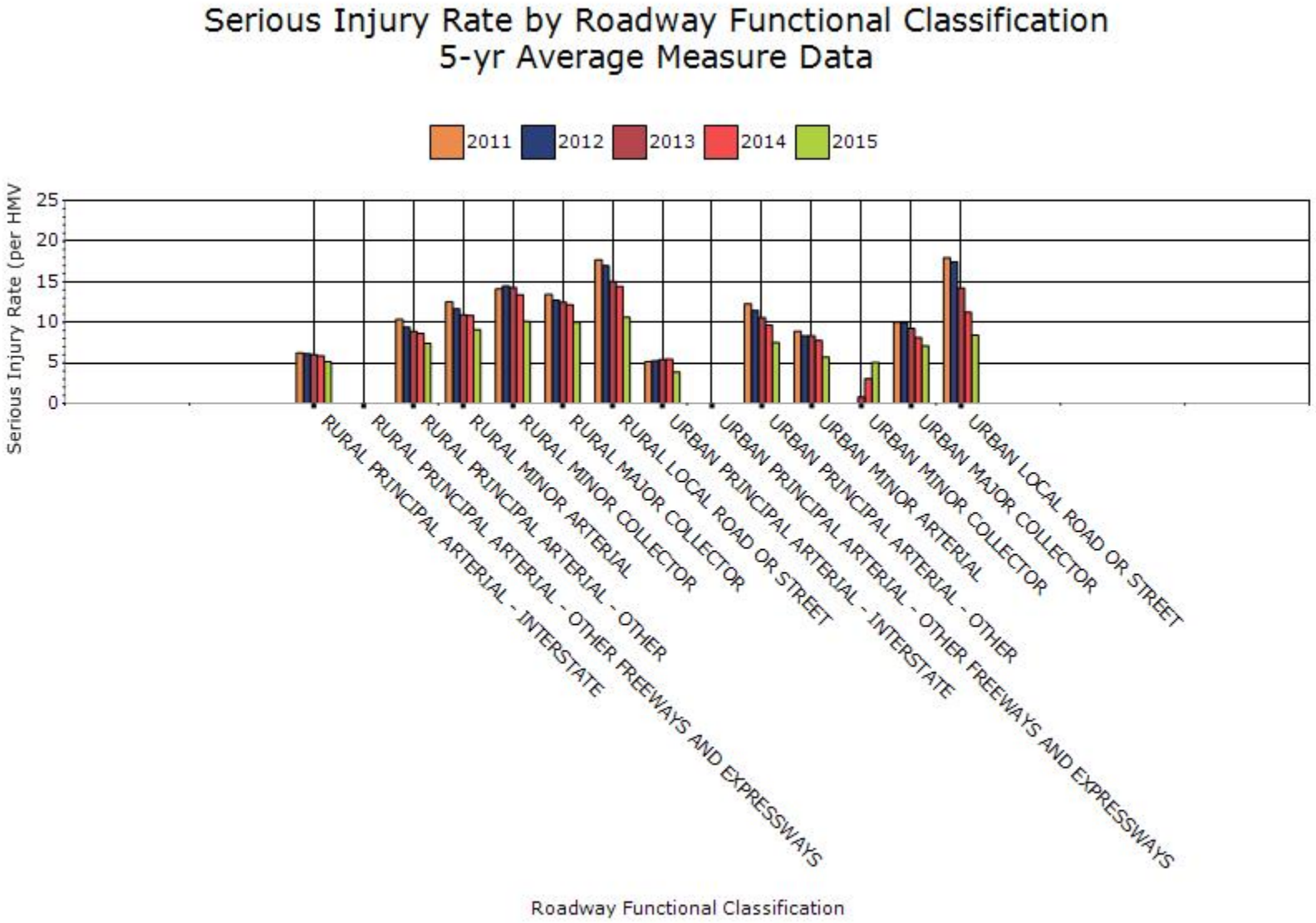
Year - 2015

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	30.6	147.4	1.23	5.14
RURAL PRINCIPAL ARTERIAL - OTHER	49	198.8	2.09	7.38
RURAL MINOR ARTERIAL	29.6	118.8	2.64	9.09
RURAL MINOR COLLECTOR	12.2	58	2.39	10.11
RURAL MAJOR COLLECTOR	32.2	119.4	3.16	10.01
RURAL LOCAL ROAD OR STREET	25.6	132.6	2.11	10.64
URBAN PRINCIPAL ARTERIAL - INTERSTATE	4.4	24.2	1.01	3.87
URBAN PRINCIPAL ARTERIAL - OTHER	10.4	100.4	0.93	7.49
URBAN MINOR ARTERIAL	7	41.8	1.15	5.71
URBAN MINOR COLLECTOR	0.6	2	2.32	5.07
URBAN MAJOR COLLECTOR	4.2	32.6	1.09	7.11
URBAN LOCAL ROAD OR STREET	6	57.2	1.16	8.41


Fatalities by Roadway Functional Classification
5-yr Average Measure Data
2011
2012
2013
2014
2015
# of Fatalities
70
60
50
40
30
20
10
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

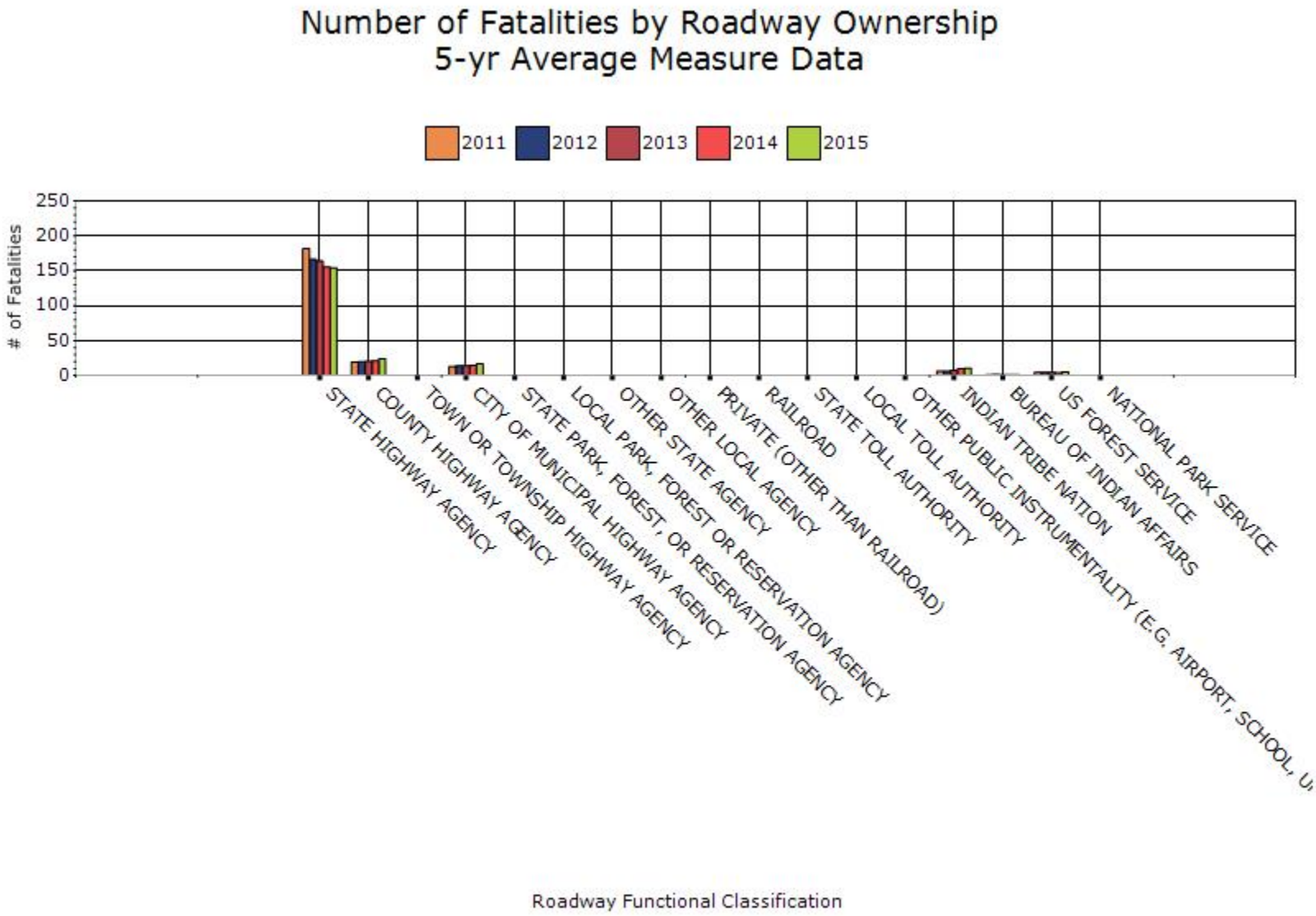

Serious Injuries by Roadway Functional Classification
5-yr Average Measure Data
2011
2012
2013
2014
2015
# of Serious Injuries
300
250
200
150
100
50
0
RURAL PRINCIPAL ARTERIAL - INTERSTATE
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
RURAL PRINCIPAL ARTERIAL - OTHER
RURAL MINOR ARTERIAL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

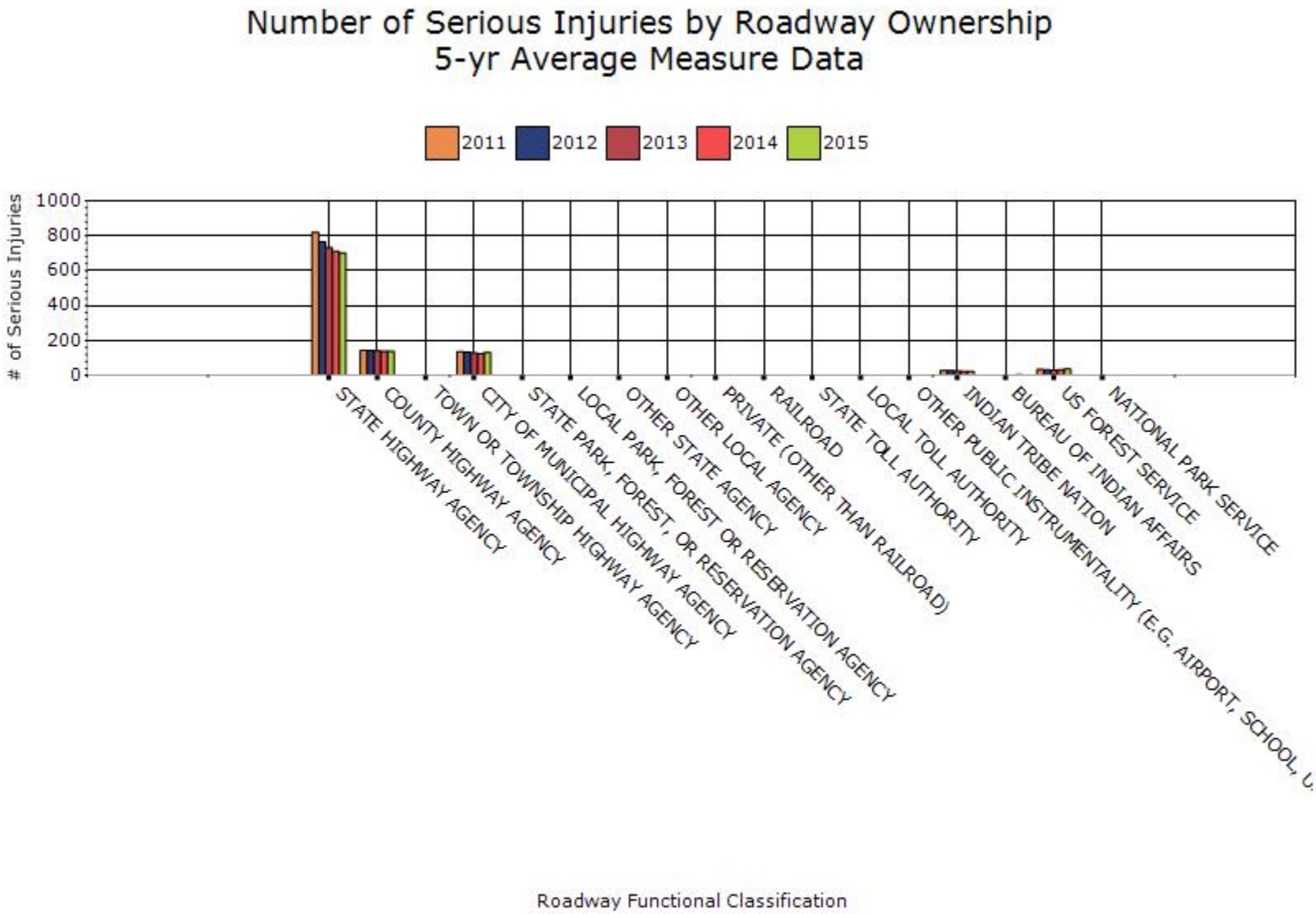

Fatality Rate by Roadway Functional Classification
5-yr Average Measure Data
2011
2012
2013
2014
2015
Fatality Rate (per HMVMT)
0
1
2
3
4
RURAL PRINCIPAL ARTERIAL - INTERSTATE
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
RURAL PRINCIPAL ARTERIAL - OTHER
RURAL MINOR ARTERIAL
RURAL MINOR COLLECTOR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

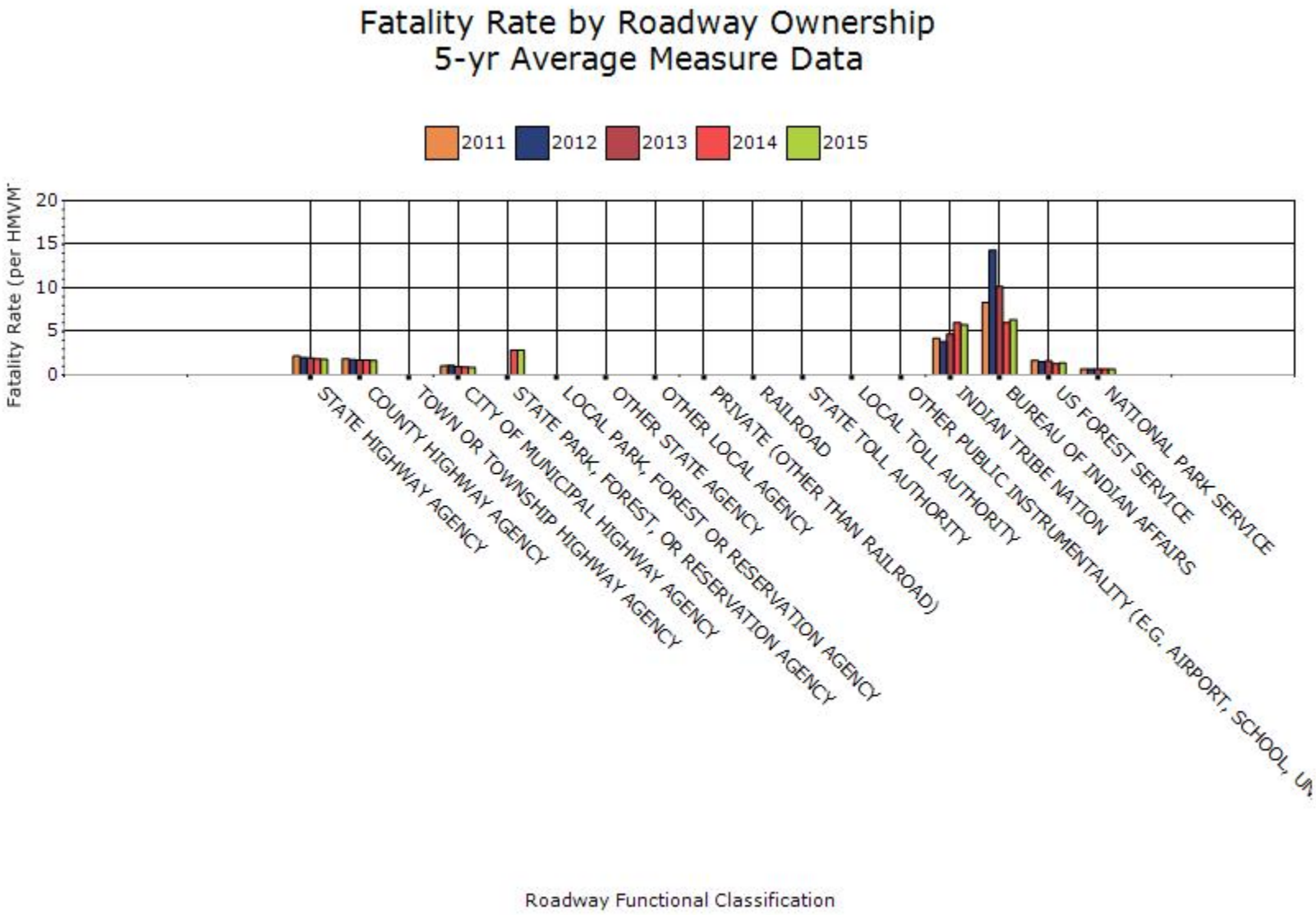

Serious Injury Rate by Roadway Functional Classification
5-yr Average Measure Data
2011
2012
2013
2014
2015
Serious Injury Rate (per HMV
25
20
15
10
5
0
RURAL PRINCIPAL ARTERIAL - INTERSTATE
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
RURAL PRINCIPAL ARTERIAL - OTHER
RURAL MINOR ARTERIAL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

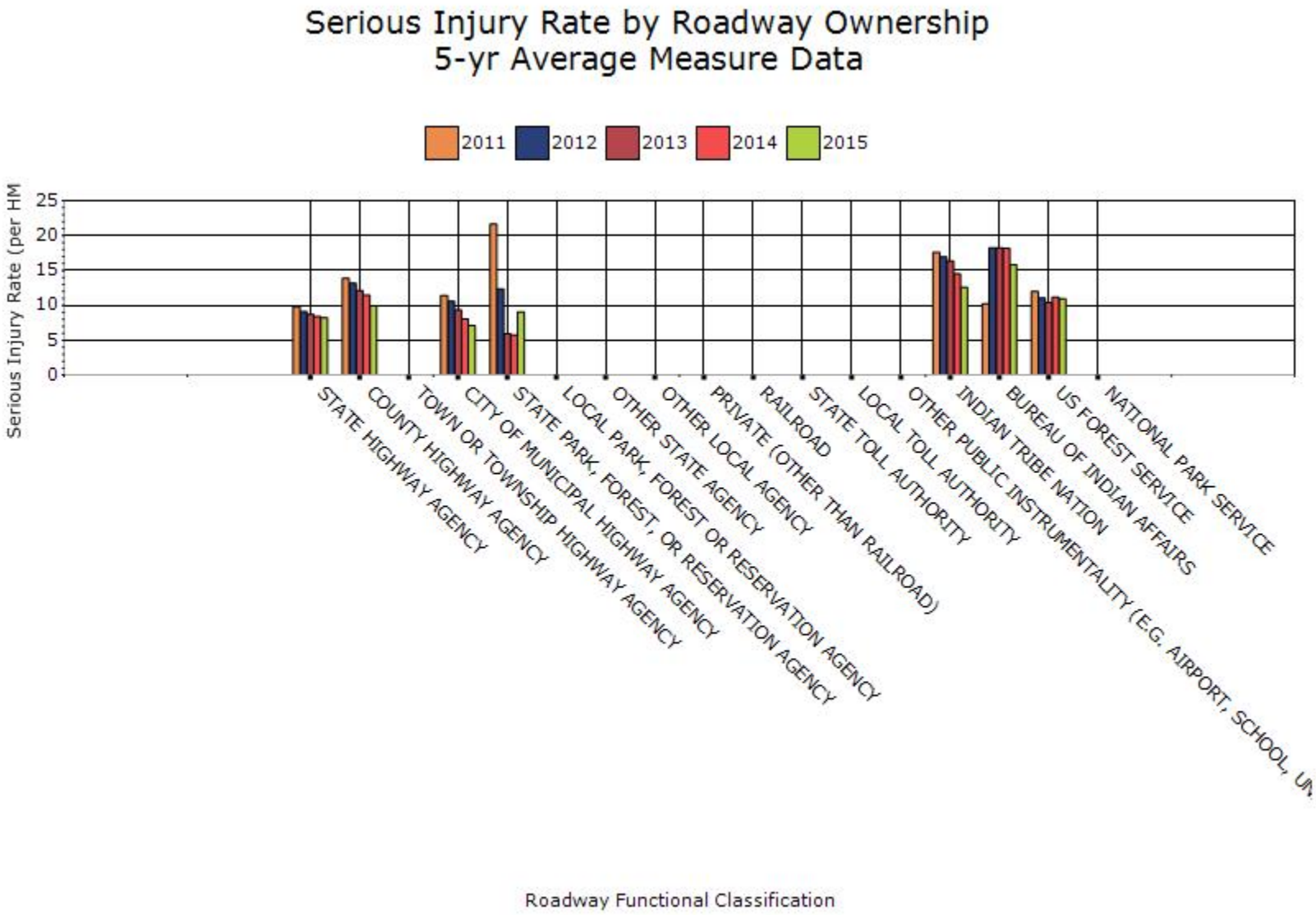
Year - 2015

Roadway Ownership	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
STATE HIGHWAY AGENCY	154.4	701.6	1.81	8.22
COUNTY HIGHWAY AGENCY	24	138.2	1.68	9.91
CITY OF MUNICIPAL HIGHWAY AGENCY	16.6	131.4	0.89	7.08
STATE PARK, FOREST, OR RESERVATION AGENCY	0.2	0.8	2.86	9.05
INDIAN TRIBE NATION	10.6	22	5.78	12.59
BUREAU OF INDIAN AFFAIRS	0.8	2.4	6.36	15.82
US FOREST SERVICE	5	36.2	1.37	10.94
NATIONAL PARK SERVICE	0.25		0.69	


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
BUREAU OF INDIAN AFFAIRS
US FOREST SERVICE
NATIONAL PARK SERVICE
Roadway Functional Classification


Number of Serious Injuries by Roadway Ownership
5-yr Average Measure Data
2011
2012
2013
2014
2015
# of Serious Injuries
1000
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
BUREAU OF INDIAN AFFAIRS
US FOREST SERVICE
NATIONAL PARK SERVICE
Roadway Functional Classification


Fatality Rate by Roadway Ownership
5-yr Average Measure Data
2011
2012
2013
2014
2015
Fatality Rate (per HMVM
20
15
10
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
LOCAL TOLL AUTHORITY
OTHER PUBLIC INSTRUMENTALITY (E.G. AIRPORT, SCHOOL, UN
INDIAN TRIBE NATION
BUREAU OF INDIAN AFFAIRS
US FOREST SERVICE
NATIONAL PARK SERVICE
Roadway Functional Classification


Serious Injury Rate by Roadway Ownership
5-yr Average Measure Data
2011
2012
2013
2014
2015
Serious Injury Rate (per HM
25
20
15
10
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
LOCAL TOLL AUTHORITY
OTHER PUBLIC INSTRUMENTALITY (E.G. AIRPORT, SCHOOL, UN
INDIAN TRIBE NATION
BUREAU OF INDIAN AFFAIRS
US FOREST SERVICE
NATIONAL PARK SERVICE
Roadway Functional Classification

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

In the spring of 2014, Montana Department of Transportation Director Mike Tooley announced "Vision Zero," a multi-pronged initiative with the ultimate goal of eliminating deaths and injuries on Montana highways. Montana Highway Safety Stakeholders completed an update of the Montana CHSP in the spring of 2015. The updated CHSP formalizes Montana's vision of zero deaths and serious injuries on Montana's roads.

While the overall goal of the CHSP is zero fatalities and serious injuries, the CHSP update maintains an interim goal of halving fatalities and serious injuries from 1,705 in 2007 to 852 in 2030. The following is summary of the number of fatalities and serious injuries from 2006-2015:

Year -- Fatalities and Serious Injuries
2006 -- 1,877
2007 -- 1,704
2008 -- 1,565
2009 -- 1,322
2010 -- 1,185
2011 -- 1,162
2012 -- 1,335
2013 -- 1,331
2014 -- 1,158
2015 -- 1,224

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)	0.2	0.2	0.2	0.2	0.2
Serious injury rate (per capita)	0.6	0.5	0.5	0.5	0.5
Fatality and serious injury rate (per capita)	0.8	0.7	0.7	0.6	0.7

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

In order to determine the per capita fatality and serious injury rates the Montana Department of Transportation (MDT) queried the MDT crash database for crashes in which the driver or pedestrian involved is 65 years of age and older for 2006-2014 time frame.

A summary of the number of drivers or pedestrians 65 years of age or older who were injured (based on severity) in the crash were tabulated. For reporting purposes, the State of Montana only evaluated crashes that resulted in a fatal injury or serious (incapacitating) injury to the older driver or pedestrian. Other occupants in the crash are not included in the calculation.

The fatal injury crash data was obtained by querying the Fatality Analysis Reporting System (FARS) database.
The criteria used for querying the FARS database was as follows:
1) Select State: Montana
2) Injury Severity: Fatal Injury
3) Age: 65 years or older
4) Person Type: Driver of a Motor Vehicle In-Transport and/or Pedestrian

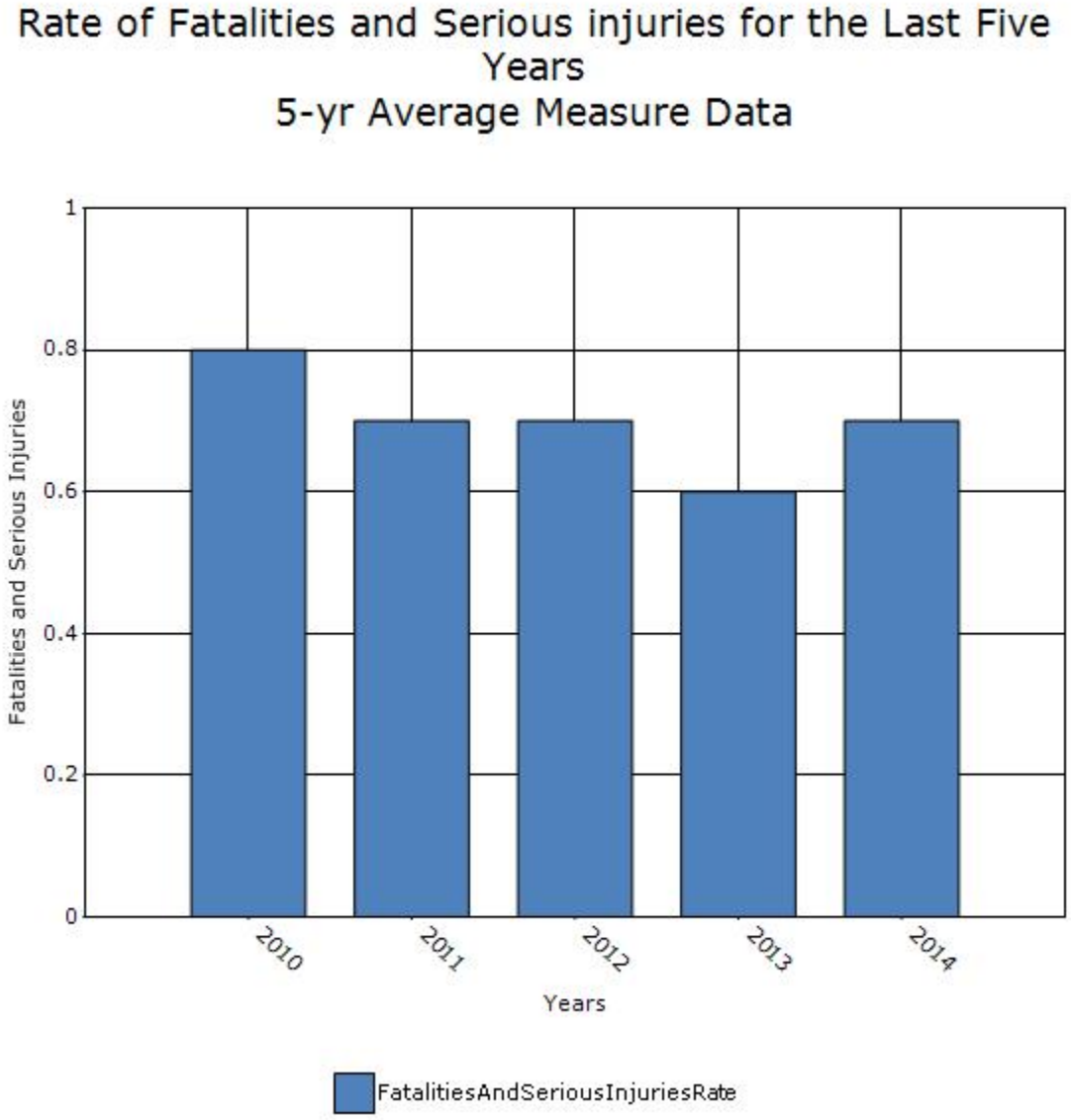
The population data was obtained from Attachment 2 of the Older Driver and Pedestrian Special Rule Final Guidance (May 19, 2016) provided by the FHWA.

MDT then used a 5-year rolling average for each year of reporting. A similar query was run for crashes involving a pedestrian(s) that were 65 years of age and older for the same time period and 5-year rolling average was calculated.

To derive the fatality rate and serious injury rate for persons 65 years of age or older per 1,000 total population that are age 65 or greater, the number of fatalities and serious injuries were added together for each year of study and divided by the proportion of Montana's population that is 65 years of age and older for the corresponding year obtained from Attachment 2. As mentioned above, once the yearly fatality rates and serious injury rates were calculated a 5-year rolling average was used for the various reporting years.

An example calculation for the combined Fatal and Serious Injury Rate per capita for Drivers and Pedestrians 65 years of age and older for 2011 (2011, 2010, 2009, 2008, and 2007) is illustrated below:
(Fatal + Serious Injury 2011 Drivers and Pedestrians 65 years of age and older/2011 Population Figure)+
(Fatal + Serious Injury 2010 Drivers and Pedestrians 65 years of age and older/2010 Population Figure)+
(Fatal + Serious Injury 2009 Drivers and Pedestrians 65 years of age and older/2009 Population Figure)+
(Fatal + Serious Injury 2008 Drivers and Pedestrians 65 years of age and older/2008 Population Figure)+
(Fatal + Serious Injury 2007 Drivers and Pedestrians 65 years of age and older/2007 Population Figure)/5

All rates were rounded to the nearest tenth as described in the Section 148-Older Drivers and Pedestrians Special Rule Final Guidance Report dated May 19, 2016. The same methodology was used for calculating the Fatality Rate and/or Serious Injury Rate by excluding either the fatal or serious injury portion of the above equation.



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?

Benefit/cost

If 'benefit/cost', indicate the overall Highway Safety Improvement Program benefit/cost ratio.

Overall benefit/cost for the 2015 HSIP is approximately 2.0.

Other-Overall reduction in fatalities and incapacitating injuries from 1,704 in 2007 to 1,224 in 2014. HSIP is a component of the overall CHSP goal.

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.

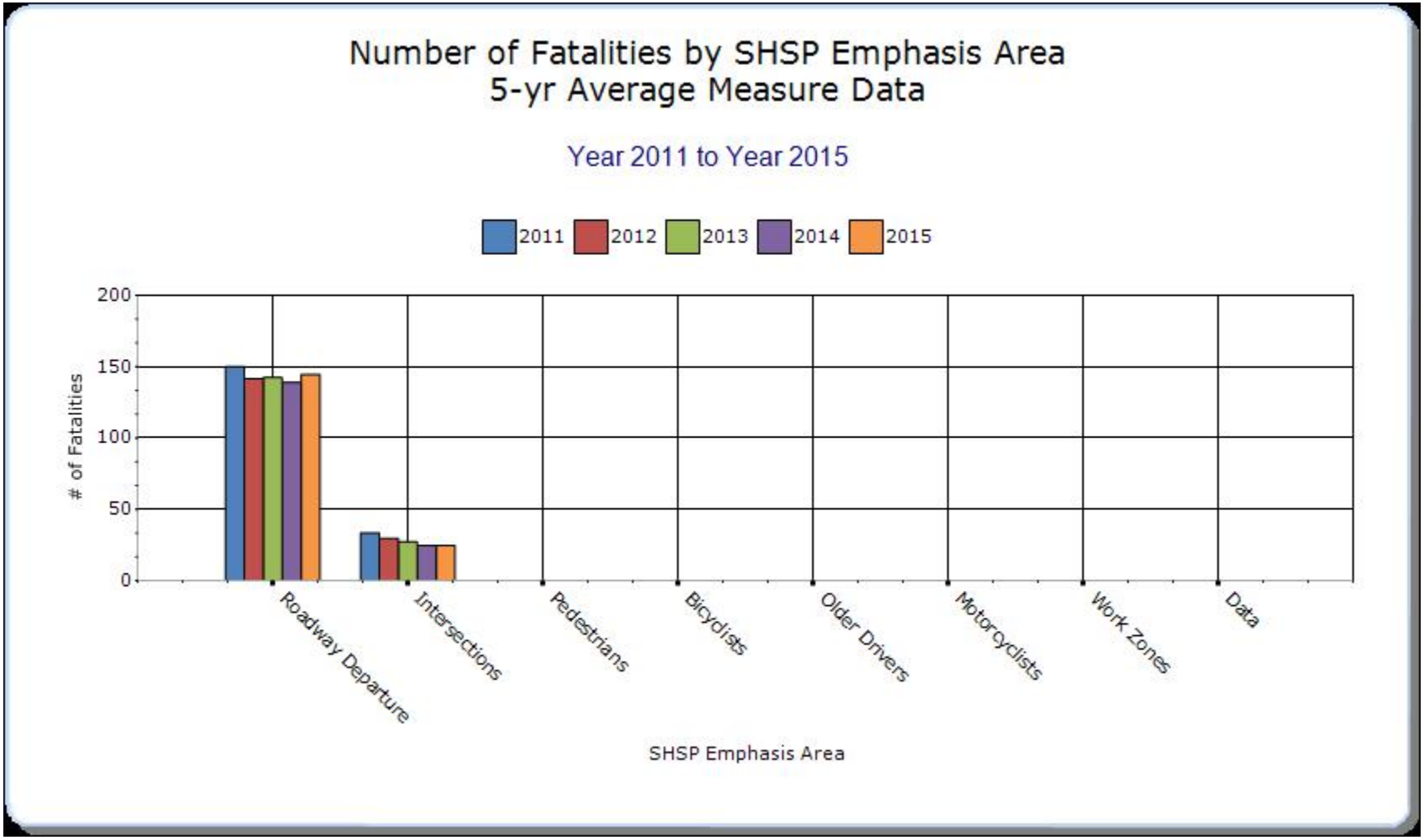
No significant program changes have occurred since the last reporting period.

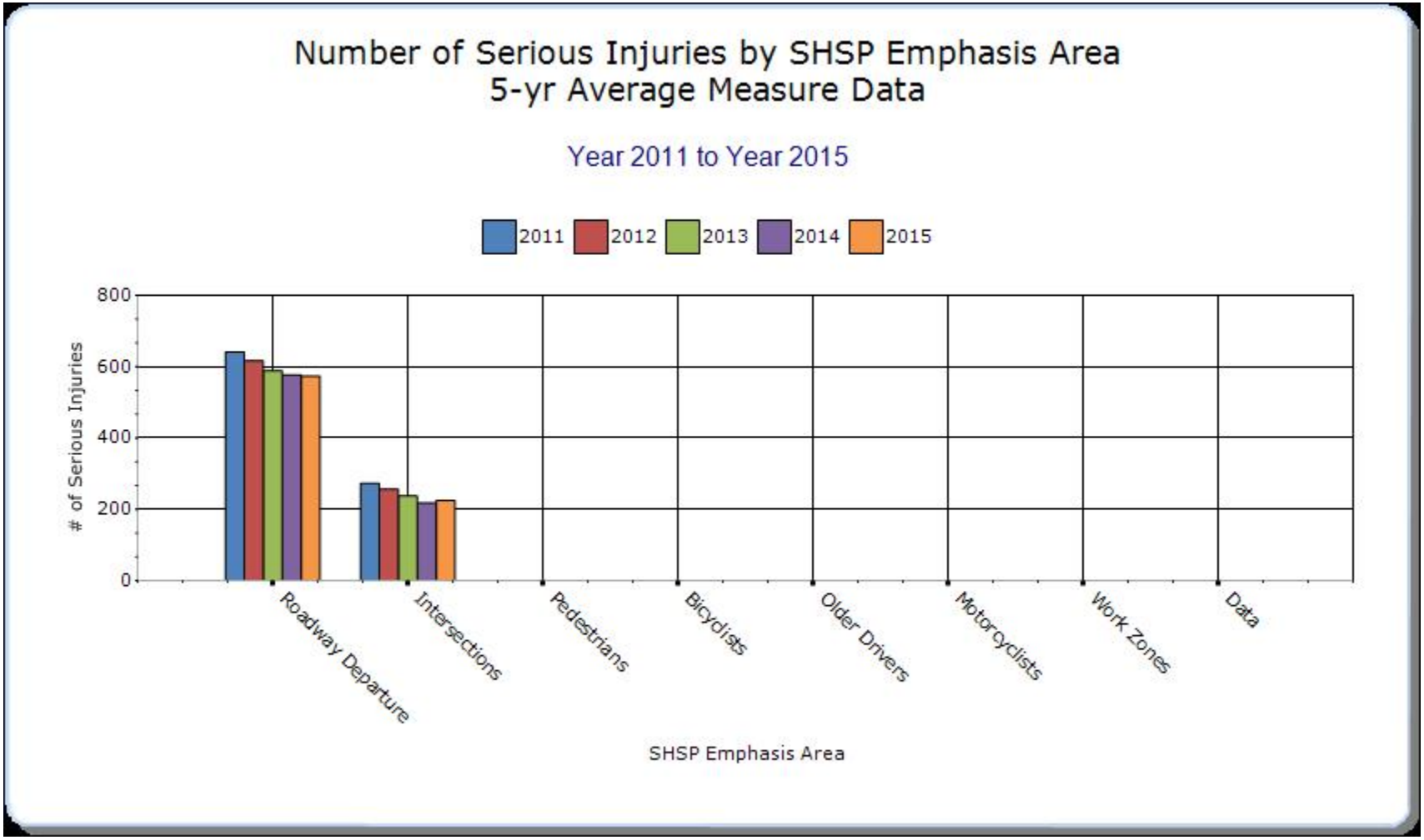
SHSP Emphasis Areas

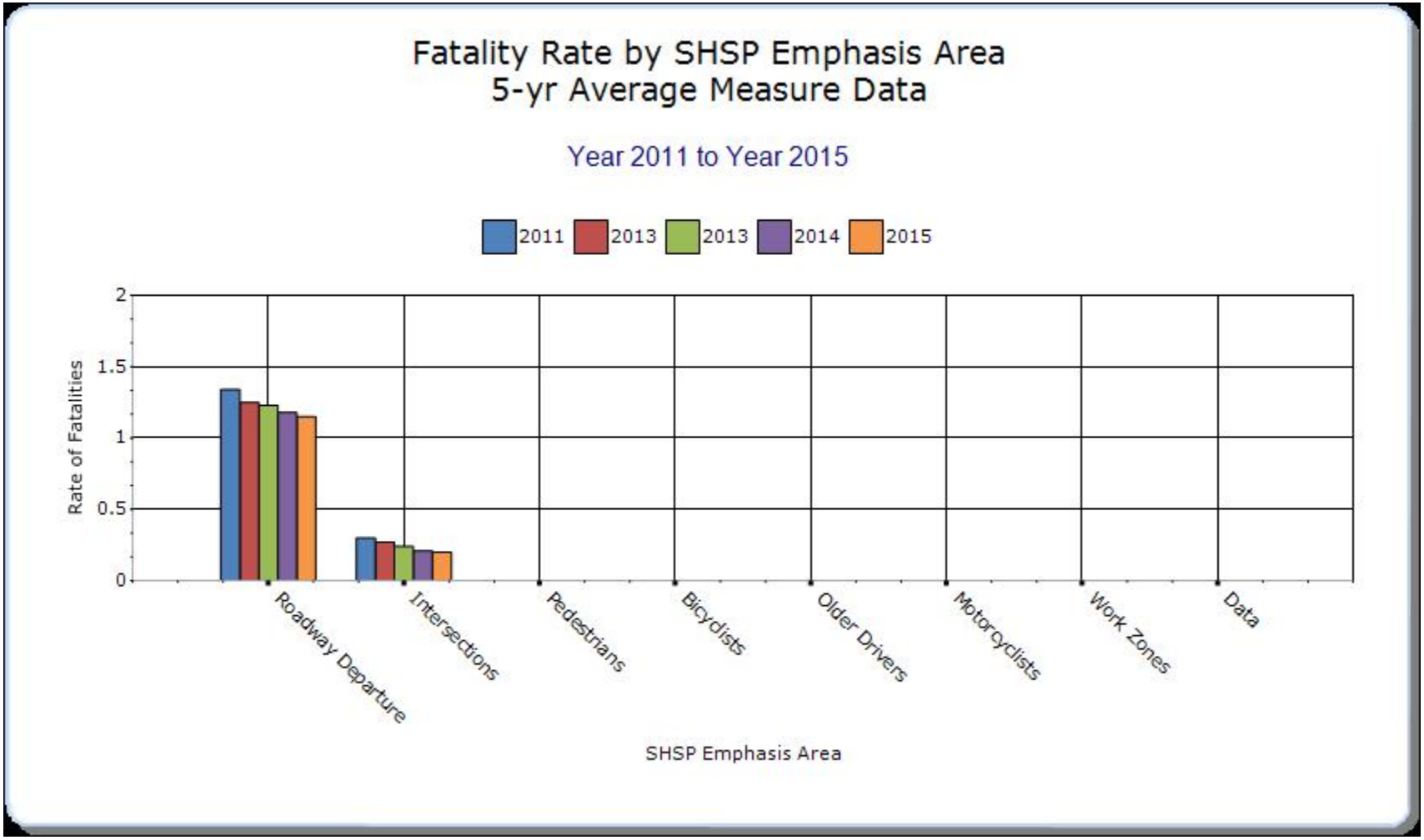
32. Present and describe trends in SHSP emphasis area performance measures.

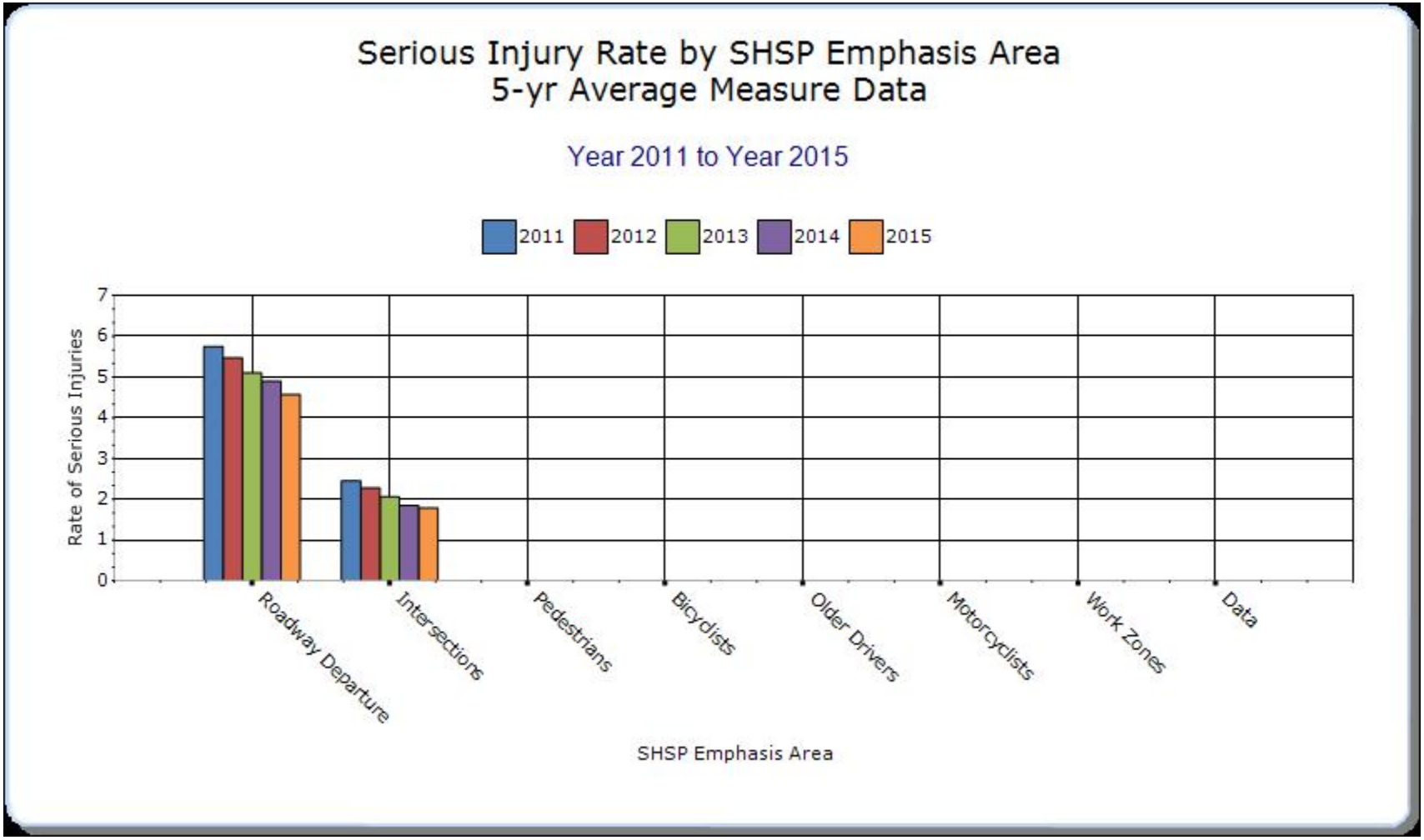
Year - 2015

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)
Roadway Departure		144.6	574.2	1.15	4.57			
Intersections		24.8	225.2	0.2	1.79			


Number of Fatalities by SHSP Emphasis Area
5-yr Average Measure Data
Year 2011 to Year 2015
2011
2012
2013
2014
2015
200
150
100
50
0
# of Fatalities
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Data
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
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Data
SHSP Emphasis Area


Fatality Rate by SHSP Emphasis Area
5-yr Average Measure Data
Year 2011 to Year 2015
2011
2013
2013
2014
2015
Rate of Fatalities
2
1.5
1
0.5
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Data
SHSP Emphasis Area



Groups of similar project types

33. Present the overall effectiveness of HSIP subprograms.

Year - 2015

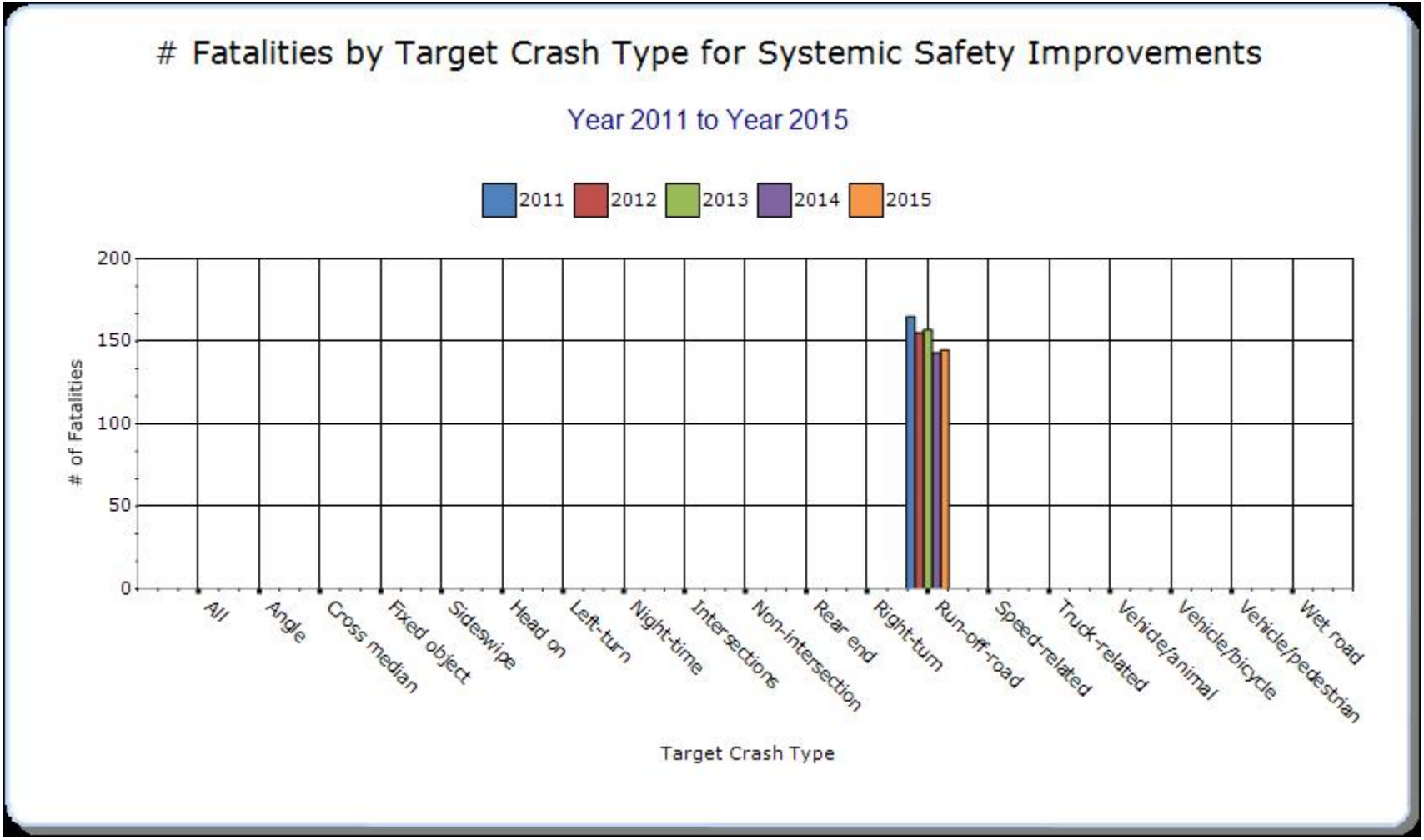
HSIP Sub-program Types	Target Crash Type	Number of fatalities (5-yr avg)	Number of serious injuries (5-yr avg)	Fatality rate (per HMVMT) (5-yr avg)	Serious injury rate (per HMVMT) (5-yr avg)	Other-1 (5-yr avg)	Other-2 (5-yr avg)	Other-3 (5-yr avg)
Other-Hot Spot		212.2	1030.8	1.68	8.22			

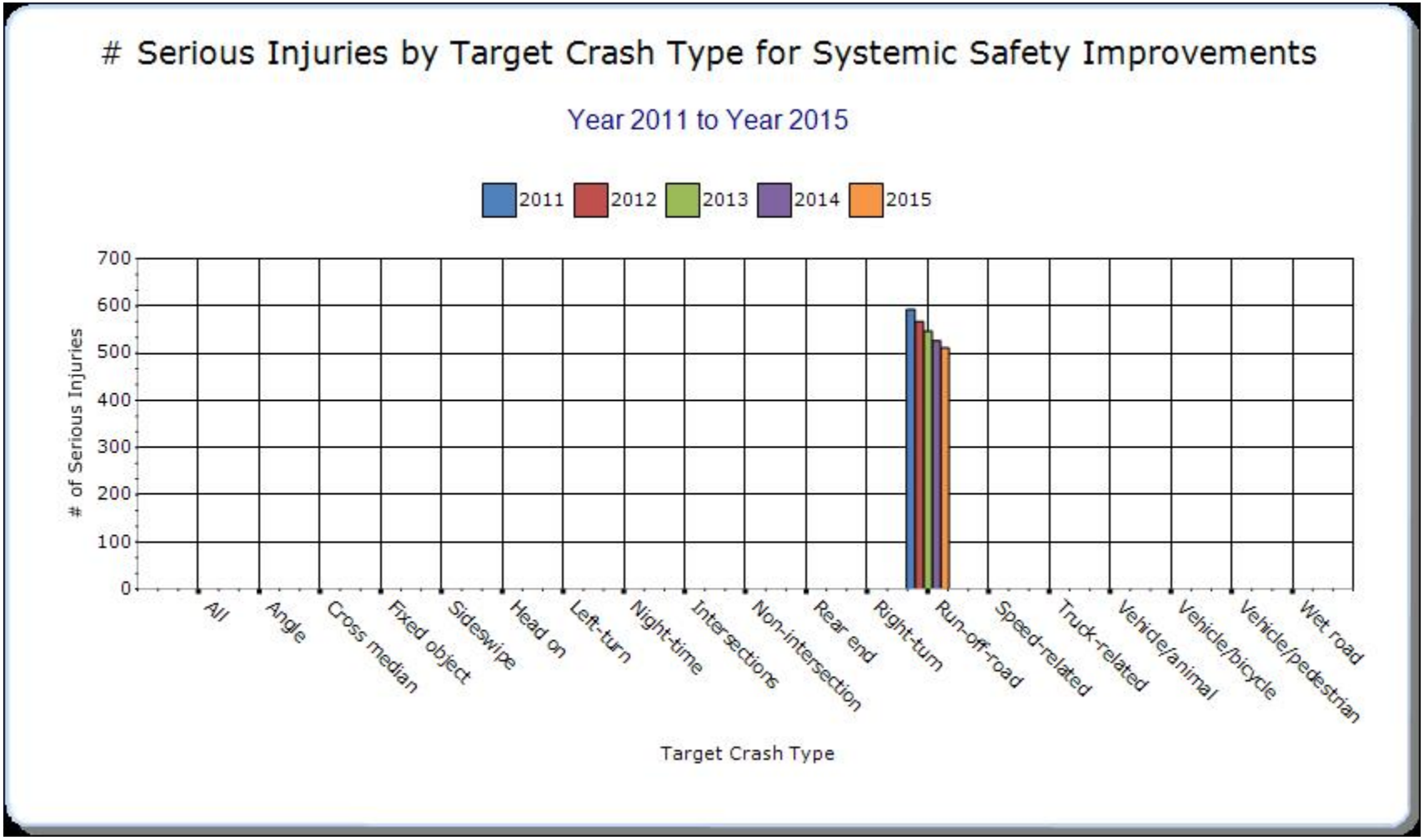
Systemic Treatments

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)
Install/Improve Signing	Run-off-road	51.4	162.4					
Rumble Strips	Run-off-road	93.4	348.6					


Fatalities by Target Crash Type for Systemic Safety Improvements
Year 2011 to Year 2015
2011
2012
2013
2014
2015
200
150
100
50
0
# of Fatalities
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 2011 to Year 2015
2011
2012
2013
2014
2015
# of Serious Injuries
700
600
500
400
300
200
100
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.

The number of fatalities and incapacitating injuries shows a steady overall decline since 1997 and is summarized as follows:

Year-Fatalities and Incapacitating Injuries
1997 - 2,182
1998 - 2,071
1999 - 1,959
2000 - 2,027
2001 - 1,663
2002 - 2,007
2003 - 1,896
2004 - 1,796
2005 - 1,792
2006 - 1,877
2007 - 1,704
2008 - 1,565
2009 - 1,322
2010 - 1,185
2011 - 1,162
2012 - 1,335
2013 - 1,331
2014 - 1,158
2015 - 1,224

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.