Highway Safety Improvement Program

Data Driven Decisions

New Hampshire
Highway Safety Improvement Program
2016 Annual Report

Prepared by: NH

Disclaimer

Protection of Data from Discovery & Admission into Evidence

23 U.S.C. 148(h)(4) states "Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for any purpose relating to this section [HSIP], shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location identified or addressed in the reports, surveys, schedules, lists, or other data."

23 U.S.C. 409 states "Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data."

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Executive Summary

The overall purpose of this program is to achieve a significant reduction in fatalities and serious injuries on all public roads through the implementation of highway safety improvement projects. This includes both infrastructure-related projects and non-infrastructure projects, selected and justified by proven data-driven approaches. All highway safety improvement projects should be chosen and implemented with the goal of reducing fatalities and serious injuries on public roads and the achievement of state safety targets. Some projects will directly impact these performance measures through the implementation of engineering or behavioral countermeasures, while others may advance the data systems and analysis capabilities of the state to more accurately identify locations with the highest potential for safety improvements, evaluate the performance of highway safety improvement projects, or identify high risk roadway characteristics and driver behaviors.

In 2006, FHWA established a new approach to advancing safety by focusing on performance. In order to effectively meet performance targets,States must apply limited resources to the areas that are most likely to achieve results. The requirement to develop and regularly update s SHSP ensures that this approach is maintained. NH annually tracks and reports performance measures including the number of fatalities and severe injury rates per vehicle mile traveled. Several other performance measures of specific interest to the State are listed in the NH SHSP.

New Hampshire has embraced the goals and vision of Toward zero Deaths (TZD) initiative. The State named its SHSP New Hampshire Driving Toward Zero in recognition of the National plan, and created a public outreach program with the same name to promote change in New Hampshire's safety culture (nhdtz.com). The initiative recognizes that even one traffic death is unacceptable and sets the aggressive goal to reduce all deaths on the Nation's highways, a goal virtually achieved in the aviation industry in the past several decades. Dozens of public and private stakeholders from across the State have come together in a collaborative effort to update and carry out the strategies in the SHSP. The vision of Driving Toward Zero is embodied in NH's goal of reducing the number of fatalities and serious injuries by 50% by 2030, equaling an annual reduction of 3.4%. This is measured as a five-year rolling average with the most recent data. Maine and Vermont share this target, and to that end MaineDOT and VTrans have formed a tri-state collaborative partnership with NHDOT to more effectively reach the collective regional goal. NHDOT has also incorporated the reduction of Fatalities into their Balanced Scorecard, representing one of the twelve Strategic Objectives of the agency.

The Concept of a focused approach has been further reinforced with requirements for data-driven decision making and resource allocation. 23 USC 148(c)(2), as amended by 1401(a)(1) of SAFETEA-LU, identification and Analysis of Highway Safety Problems and Opportunities, delineates specific requirements for determining safety problem identification and countermeasures analyzes. NH has been moving forward with implementation of Highway Safety Manual (HSM).

Map 21 continues building on the concept of a safety data system that has the capability to identify key safety problems, establish their relative severity, and then adopt strategic and performance based goals to maximize safety. Recent improvements to the NH Data system include a phased initiative to implement electronic crash reporting through the States's crash Report Management System (CRMS), the compilation of the Model Inventory of Roadway Elements (MIRE) fundamental data elements (FDE), and the completion of the National Highway Traffic Safety Administration (NHTSA) Traffic Records Assessment. One of the key outcomes of the Traffic Records Assessment was that performance measures for data quality are needed, including measures of timeliness, accuracy, completeness, uniformity, integration and accessibility in order to guide improvements to the data and data systems.

The States are required to define a clear linkage between the behavioral NHTSA- funded Highway Safety Program and the HSIP through the State SHSP. The 2012 version (2nd edition) of the NH SHSP identifies 9 critical emphasis areas (CEA) to be addressed by safety safety stake holders in NH, listed below. In 2014, the Education and Public Outreach committee was created and makes the tenth (10^{th}) emphasis area. The committee has been meeting since July 2014 and has developed documentation that states the challenge, primary focus and goals for this emphasis area.

*Adolescent Drivers

*Comprehensive Safety Data Improvement

*Crash Locations

*Distracted Driving

*Impaired Driving

*Motorcycle and Vulnerable Roadway Users

*Older Drivers

*Speeding

*Vehicle Occupant Protection

*Education and Public Outreach

The 4 E's of safety (education, enforcement, engineering, and emergency medical services) should be considered in selection and development of HSIP projects, however the intent of the HSIP is primarily target engineering-related countermeasure improvements. The crash types of special interest have been identifies in the crash locations CEA. The next major update to the SHSP is underway and should be completed by the end of this year, 2016.

With respect to eligibility for funding, 23 USC 148(a)(4) provides a sample listing of eligible highway safety improvement project types. However, it is important to note that only data-driven projects that target strategies identified in the State SHSP are eligible for funding in NH. Furthermore, given the limited funding available, funds should be prioritized to help ensure that projects with the greatest safety return will be the top priority. For example, addressing crashes involving animals is a possible eligible activity but since it is not addressed in the current version of the SHSP as a CEA or related strategy, and higher safety needs have been identified, HSIP funds should not be used for that purpose in NH.

23 USC 148(e)(2) makes clear that other federal-aid funds are eligible to support and leverage the safety program. Improvements to safety features, such as guardrail, that are routinely provided as part of a broader Federal-aid project should be funded from the same source funds as the broader project when that safety feature is included in the broader project, not HSIP funds. This allows the HSIP funds to be reserved for stand-alone safety projects thereby allowing for true targeting of safety needs. This is consistent with the provision of separate funding for safety projects and with FHWA's long-standing position on the use of safety funds.

Crash data in this report reflect 2014 crash data in order to align numbers with the report that the Office of Highway Safety submits to NHTSA. The Office of Highway Safety targets are as follows:

Reduce the number of fatalities on NH Roadways due to vehicle crashes by 5% from 111 to 105 by December 31, 2017.
Reduce the number of Fatalities per 100 million VMT by 2% from 0.86 to 0.84 by Dec 31, 2017.
Reduce the number of serious traffic injuries on NH Roadways due to vehicle crashes by 14 percent from 497 (2011-2015 average) to 427 by Dec. 31, 2017.

The definition of serious injury still needs to defined in NH and agreed of how to repeat this annual number. There are discrepancies between agencies when calculating this number. Over the next year, this number needs to be rectified. Currently, the Office of Highway Safety shows this number as 497 and NHDOT shows this number in the tri-state report as 616.

Note: the fatality target reduction number will be very hard to meet this year as the fatality number on August 1, 2016 is at 76 and last year on this date it was 53.

Introduction

The Highway Safety Improvement Program (HSIP) is a core Federal-aid program with the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads. As per 23 U.S.C. 148(h) and 23 CFR 924.15, States are required to report annually on the progress being made to advance HSIP implementation and evaluation efforts. The format of this report is consistent with the HSIP MAP-21 Reporting Guidance dated February 13, 2013 and consists of four sections: program structure, progress in implementing HSIP projects, progress in achieving safety performance targets, and assessment of the effectiveness of the improvements.

Program Structure

Program Administration

How are Highway Safety Improvement Program funds allocated in a State?

Central

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

Municipally-maintained local roads and intersections are included in the screening with State-maintained sites and are evaluated using the same methodology. The majority of rural collector as well as rural and urban local road (functional class 8, 9, and 19) traffic data are not available, and therefore the volumes are estimated based on similar roads that have measured data. Urban and rural local roads are categorized separately from the other functional classes in network screening to account for the estimation of volume data. The State is working to improve volume data on all public roads.

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

Design
Planning
Maintenance
Operations
Governors Highway Safety Office

Other-Regional Planning Commission staff

Briefly describe coordination with internal partners.

The State's HSIP is centrally administered. Annually, the Bureau of Highway Design performs a statewide network screening of crashes on all roadway types and distributes results to NHDOT Districts, Bureau of Planning and Community Assistance, and Bureau of Traffic, as well as Metropolitan Planning Organizations (MPO) and Regional Planning Commissions (RPC). These stakeholders are encouraged to review the results of the analysis and provide comments on known aspects of specific locations. Comments may include, but is not limited to: recent work in the area, significant changes to traffic patterns or volumes, upcoming capital projects in the area, local experience/insight on crashes, etc.

The HSIP committee consists of Assistant Director Project Development, Design, Traffic, Maintenance, Bike Pedestrian coordinator and Planning personnel from the NHDOT, RPCs, MPOs and FHWA . Committee meetings are held monthly to review project selection and progress reports from project managers. Regional Planning Commissions are encouraged to incorporate the HSIP process in their Transportation Improvement Plan development.

The State identifies lane departure crashes and intersections crashes as critical crash types in the Crash Locations Critical Emphasis Area in the SHSP, which addresses engineering and infrastructure-related improvements. Projects are identified that target these types of crashes using the methods listed below. The three approaches will identify sites for *Traditional*, *Systemic*, and *Road Safety Audit projects* that have potential for safety improvements.

HSIP Committee and other stakeholders will receive a list of sites identified through network screening for review. Some sites may go beyond the scope of an HSIP project, which typically means their cost is greater than the anticipated benefits, or the overall cost of right-of-way, environmental, and scope of improvements is of a magnitude that it is of an improvement is deemed too costly or prohibitive in relation to other potential HSIP projects. These sites are recommended for consideration in the long-range capital improvement plans.

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

Metropolitan Planning Organizations
Governors Highway Safety Office
Local Government Association
Other-Regional Planning Commission Staff

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

Other-HSIP crash data reporting aligns with Highway Safety Agency crash data reporting. Both using 2013 crash data for the report.

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

Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law, which eliminated specific HRRR funding and created a special rule for High Risk Rural Roads. MAP-21 also revised the definition of what is considered a "High Risk" Rural Road. The new definition is "any roadway functionally classified as a rural major or minor collector or a rural local road with significant safety risks, as defined by a State in accordance with an updated State Strategic Highway Safety Plan".

The term "High Risk Rural Road" means any roadway functionally classified as a rural major or minor collector or rural local road (functional class 7, 8 and 9)- a) on which the crash rate for fatalities and incapacitating injuries exceeds the statewide average for roadways of the same functional classifications or roadway; or b) that will likely have increases in traffic volumes that are estimated to create an crash rate for fatalities and incapacitating injuries that exceeds the statewide average for those functional classifications of roadway. Though there is no longer a specific pot of money for an HRRR program, NHDOT chooses to continue to fund improvements on these roadways through the HSIP program. These type of projects replace the curve warnings and we currently by the end of 2016 will have all of the state roads curve wanting signs up to date except for District 1.

The Highway Safety Improvement program committee meets monthly to discuss projects funded by the program. They review projects currently in design, discuss projects currently in construction and review the programmatic project list that is funded by the Highway Safety improvement program. New Hampshire Road safety audit program has a deadline of December first and requires the location of have a crash history of serious injuries or fatals. Some of the other projects that in the program include intersection improvements, guardrail terminal improvements, rumble strips, and acess management.

Program Methodology

Select the programs that are administered under the HSIP.

Median Barrier	Intersection	Horizontal Curve
Bicycle Safety	Crash Data	Roadway Departure
Low-Cost Spot Improvements	Sign Replacement And Improvement	Local Safety
Pedestrian Safety	Right Angle Crash	Left Turn Crash
Segments		

Program: **Median Barrier**
Date of Program Methodology: **10/1/2013**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
All crashes	Traffic	Functional classification
Other-Run Off the Road	Volume	

What project identification methodology was used for this program?
Expected crash frequency with EB adjustment

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.
no medians on local roads

How are highway safety improvement projects advanced for implementation?
Competitive application process
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

Ranking based on B/C	50
Available funding	50

Program: **Intersection**
Date of Program Methodology: **10/1/2013**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
All crashes	Traffic	Other-Site Subtype
Other-EPDO	Volume	

What project identification methodology was used for this program?
Expected crash frequency with EB adjustment
Equivalent property damage only (EPDO Crash frequency)

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.
EPDO

How are highway safety improvement projects advanced for implementation?
Competitive application process
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

Ranking based on B/C	50
Available funding	50

Program: **Horizontal Curve**
Date of Program Methodology: **10/1/2013**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
Fatal and serious injury crashes only	Traffic Volume	Other-site subtype
Other-Run Off the Road		

What project identification methodology was used for this program?
Expected crash frequency with EB adjustment

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?
Yes

How are highway safety improvement projects advanced for implementation?
Competitive application process
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

Ranking based on B/C	50
Available funding	50

Program: **Bicycle Safety**
Date of Program Methodology: **10/1/2013**

What data types were used in the program methodology?

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

What project identification methodology was used for this program?
Crash frequency
Equivalent property damage only (EPDO Crash frequency)

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.
EPDO

How are highway safety improvement projects advanced for implementation?
Competitive application process
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).

Ranking based on B/C	50
Available funding	50

Program: **Crash Data**
Date of Program Methodology: **10/1/2013**

What data types were used in the program methodology?

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

What project identification methodology was used for this program?
Expected crash frequency with EB adjustment
Other-need requirement MIRE and HSM

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?
Yes

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	100

Program: **Roadway Departure**
Date of Program Methodology: **10/1/2013**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
	Traffic	Median width
	Volume	Horizontal curvature
		Functional classification
Other-Run Off the Road		Roadside features

What project identification methodology was used for this program?
Expected crash frequency with EB adjustment

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?
Yes

How are highway safety improvement projects advanced for implementation?
Competitive application process

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

Ranking based on B/C	50
Available funding	50

Program: **Low-Cost Spot Improvements**
Date of Program Methodology: **10/1/2013**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
All crashes	Traffic	
	Volume	

What project identification methodology was used for this program?
Other-RSA request from local agencies

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?
Yes

How are highway safety improvement projects advanced for implementation?
Competitive application process
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

Ranking based on B/C	100

Program: **Sign Replacement And Improvement**
Date of Program Methodology: **10/1/2013**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
All crashes	Traffic	Horizontal curvature
	Volume	Functional classification

What project identification methodology was used for this program?
Crash frequency
Other-Run off the Road

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?
Yes

How are highway safety improvement projects advanced for implementation?
Competitive application process
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	100

Program: **Local Safety**
Date of Program Methodology: **10/1/2013**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
All crashes	Traffic Volume	Functional classification

What project identification methodology was used for this program?
Crash frequency
Other-RSA local agency

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?
Yes

How are highway safety improvement projects advanced for implementation?
Competitive application process
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

Ranking based on B/C	50
Available funding	50

Program: **Pedestrian Safety**
Date of Program Methodology: **10/1/2013**

What data types were used in the program methodology?

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

What project identification methodology was used for this program?

Crash frequency
Expected crash frequency with EB adjustment
Equivalent property damage only (EPDO Crash frequency)
Excess expected crash frequency using method of moments

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?
Yes

How are highway safety improvement projects advanced for implementation?

Competitive application process
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).

Ranking based on B/C	50
Available funding	50

Program: **Right Angle Crash**

Date of Program Methodology: 10/1/2013

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
All crashes	Traffic Volume	Other-RSA request by local agency

What project identification methodology was used for this program?
Crash frequency

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?
Yes

How are highway safety improvement projects advanced for implementation?
Competitive application process
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

Ranking based on B/C	50
Available funding	50

Program: Left Turn Crash
Date of Program Methodology: 10/1/2013

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
All crashes	Traffic Volume	Other-RSA rquested by local agency

What project identification methodology was used for this program?
Crash frequency

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?

Yes

How are highway safety improvement projects advanced for implementation?
Competitive application process
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

Ranking based on B/C	50
Available funding	50

Program: **Segments**
Date of Program Methodology: **10/1/2013**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
Fatal and serious injury crashes only	Traffic Volume	Median width
Other-Run off the Road		
		Other-Site subtype

What project identification methodology was used for this program?
Expected crash frequency with EB adjustment

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?
Yes

How are highway safety improvement projects advanced for implementation?
Competitive application process
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

Ranking based on B/C	50
Available funding	50

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

50%

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

Rumble Strips
Install/Improve Signing
Install/Improve Pavement Marking and/or Delineation
Upgrade Guard Rails
Add/Upgrade/Modify/Remove Traffic Signal
Other-intersections
Other-F--terminal Replacements
Other-Other Median Barriers

What process is used to identify potential countermeasures?

Engineering Study
Road Safety Assessment

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

Road Safety audits

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

The Road Safety Audit program changed its application criteria and when the applications can be accepted. The application deadline is submitted every December 1st. The Road safety audit criteria includes:

* at least one crash resulting in a fatal or serious injury in the past 10 years

* no project completed in the last 5 years addressing safety concerns

* no previous studies indicating desired countermeasures that are too expensive

* completed application forms with signatures, location description, description of the safety concerns and traffic volumes

* selecting sites that are crash data driven

Once the applications are received the applications are reviewed for completeness, safety issues and crash data. The information about each location is entered into a spreadsheet and is ranked for the highest safety improvement to reduce fatalities and serious injuries on NH Roadways.

Progress in Implementing Projects

Funds Programmed

Reporting period for Highway Safety Improvement Program funding.

Federal Fiscal Year

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

Funding Category	Programmed*		Obligated	
HSIP (Section 148)	$8,999,994.00	95 %	$9,362,489.03	95 %
HRRRP (SAFETEA-LU)	$0.00	0 %	$0.00	0 %
HRRR Special Rule	$467,005.59	5 %	$467,005.59	5 %
Penalty Transfer - Section 154	$0.00	0 %	$0.00	0 %
Penalty Transfer – Section 164	$0.00	0 %	$0.00	0 %
Incentive Grants - Section 163	$0.00	0 %	$0.00	0 %
Incentive Grants (Section 406)	$0.00	0 %	$0.00	0 %

Other Federal-aid Funds (i.e. STP, NHPP)	$0.00	0 %	$0.00	0 %
State and Local Funds	$0.00	0 %	$0.00	0 %
Totals	$9,466,999.59	100%	$9,829,494.62	100%

How much funding is programmed to local (non-state owned and operated) safety projects?
2 %
How much funding is obligated to local safety projects?
2 %

How much funding is programmed to non-infrastructure safety projects?
2 %
How much funding is obligated to non-infrastructure safety projects?
2 %

How much funding was transferred in to the HSIP from other core program areas during the reporting period?
$0.00
How much funding was transferred out of the HSIP to other core program areas during the reporting period?
$0.00

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

If Federal Highway Administration (FHWA) advises again in the future like recently done in the past year, that the funding levels for the Federal Highway Trust Fund (HTF) will likely limit money for transportation disbursements to states, then this will impact the program. The impact to The State of New Hampshire and the Transportation Improvement program will result in general uncertainty and will have a significant impact to funding the State Ten Year Transportation Improvement Plan. Due to limited State Highway Trust Fund revenues, the State of New Hampshire uses Turnpike Toll Credits to meet the match of the federal program. As a result, there are limited State dollars to support the federal program and as a consequence, the STIP becomes dependent on the availability of federal funds. Any loss of federal funds could very well lead to suspension of work and delay of future State and local transportation projects.

The Fixing America's Surface Transportation Act (FAST Act) signed in December 2015 provides funding for the Highway Safety Improvement program. The FAST Act continues the Highway Safety Improvement Program (HSIP) to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-state-owned public roads and roads on tribal lands. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance.

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

The Road Safety audit ranking spreadsheet provides a data driven analysis of the requested locations. The locations with crash data, traffic volumes and speed limits are ranked against each other. The spreadsheet shows locations with higher points are better applications/locations for safety improvements.

General Listing of Projects

List each highway safety improvement project obligated during the reporting period.

Project	Improvement Category	Output	HSIP Cost	Total Cost	Funding Category	Functional Classification	AADT	Speed	Roadway Ownership	Relationship to SHSP	
										Emphasis Area	Strategy
Exeter-Hampton #28535	Roadside Barrier - other	Miles	467500	467500	HSIP (Section 148)	Rural Principal Arterial - Interstate		55	State Highway Agency	Roadway Departure	Crash Locations
Swanzey #15697	Intersection traffic control Modify control - modifications to roundabout	Miles	49500	49500	HSIP (Section 148)	Rural Principal Arterial - Other		45	State Highway Agency	Lane Departure	Crash Locations
Lancaster #16208	Intersection geometry Intersection geometrics - miscellaneous/other/unspecified	Miles	1159293.41	1159293.41	HSIP (Section 148)	Rural Principal Arterial - Other		40	State Highway Agency	Intersections	Crash Locations
Manchester #27412	Alignment Horizontal curve realignment	Miles	5729.32	5729.32	HSIP (Section 148)	Urban Local Road or Street		40	City of Municipal Highway Agency	Intersections	Crash Locations
Statewide #28135	Roadway delineation Improve retroreflectivity	Miles	467005.59	467005.59	HSIP (Section 148)	Rural Principal Arterial - Other		45	State Highway Agency	Roadway Departure	Crash Locations
Rocheste	Intersection geometry		58541.1	58541.1	HSIP	Rural		40	State	Intersecti	Crash

r #27873	Intersection geometrics - miscellaneous/other/unspecified	Miles			(Section 148)	Principal Arterial - Other			Highway Agency	ons	Locations
Statewide #28655	Roadside Barrier end treatments (crash cushions, terminals)	Miles	1102677.95	1102677.95	HSIP (Section 148)	Rural Principal Arterial - Other		45	State Highway Agency	Roadway Departure	Crash Locations
Seabrook #16444	Interchange design Interchange design - other	Miles	1025264.54	1025264.54	HSIP (Section 148)	Rural Principal Arterial - Other		40	State Highway Agency	Intersections	Crash Locations
Statewide #28513	Roadway Rumble strips - center	Miles	450670	450670	HSIP (Section 148)	Rural Principal Arterial - Other		50	State Highway Agency	Roadway Departure	Crash Locations
Meredith #16470	Interchange design Installation of new lane on ramp	Miles	1061044.6	1061044.6	HSIP (Section 148)	Rural Principal Arterial - Other		45	State Highway Agency	Intersections	Crash Locations
Keene #26765	Intersection traffic control Modify control - traffic signal to roundabout	Miles	1545732.65	1545732.65	HSIP (Section 148)	Rural Principal Arterial - Other		45	State Highway Agency	Intersections	Crash Locations
Belmont #16203	Interchange design Interchange design - other	Miles	538735.45	538735.45	HSIP (Section 148)	Rural Principal Arterial - Other		45	State Highway Agency	Intersections	Crash Locations
District Three #24863	Roadside Barrier - cable	Miles	269500	269500	HSIP (Section 148)	Rural Principal Arterial - Other		50	State Highway Agency	Roadway Departure	Crash Locations
Brookline #40092	Intersection geometry Auxiliary lanes - add left-	Miles	353440.12	353440.12	HSIP (Sectio	Rural Principal		45	State Highway	Intersections	Crash Locations

	turn lane				n 148)	Arterial - Other			Agency		
Henniker #28735	Intersection geometry Intersection geometrics - re-assign existing lane use	Miles	30000	30000	HSIP (Section 148)	Rural Local Road or Street		35	Town or Township Highway Agency	Intersections	Crash Locations
Concord #24921	Intersection traffic control Modify traffic signal - miscellaneous/other/unspecified	Miles	5500	5500	HSIP (Section 148)	Rural Principal Arterial - Other		45	State Highway Agency	Intersections	Crash Locations
Barnstead #14121E	Intersection geometry Auxiliary lanes - add left-turn lane		159500	159500	HSIP (Section 148)	Rural Principal Arterial - Other		45	State Highway Agency	Intersections	Crash Locations
Pelham #29338	Interchange design Interchange design - other	Miles	27500	27500	HSIP (Section 148)	Rural Principal Arterial - Other		40	State Highway Agency	Intersections	Crash Locations
Ossipee #29315	Intersection geometry Auxiliary lanes - extend existing right-turn lane	Miles	44000	44000	HSIP (Section 148)	Rural Principal Arterial - Other		45	State Highway Agency	Intersections	Crash locations
Farmington #16212	Intersection geometry Auxiliary lanes - add two-way left-turn lane	Miles	132000	132000	HSIP (Section 148)	Rural Principal Arterial - Other		45	State Highway Agency	Intersections	Crash Locations
Statewide #40604	Roadside Barrier end treatments (crash cushions, terminals)	Miles	168300	168300	HSIP (Section 148)	Rural Principal Arterial - Other		45	State Highway Agency	Roadway Departure	Crash Locations
Concord	Intersection geometry		4750.2	4750.2	HSIP	Rural		35	City of	Lane	Crash

#28053	Auxiliary lanes - add two-way left-turn lane	Miles			(Section 148)	Principal Arterial - Other			Municipal Highway Agency	Departure	locations
Statewide #40922	Intersection traffic control Modify traffic signal - add backplates with retroreflective borders	Miles	27500	27500	HSIP (Section 148)	Rural Principal Arterial - Other		45	State Highway Agency	Intersections	Crash Locations
Tilton #29358	Interchange design Interchange design - other	Miles	44000	44000	HSIP (Section 148)	Rural Principal Arterial - Other		45	State Highway Agency	Intersections	Crash Locations
Derry #24861	Interchange design Interchange design - other	Miles	66000	66000	HSIP (Section 148)	Rural Principal Arterial - Other		40	State Highway Agency	Intersections	Crash Locations
Statewide #40802	Roadside Barrier - cable	Miles	77000	77000	HSIP (Section 148)	Rural Principal Arterial - Other		45	State Highway Agency	Roadway Departure	Crash Locations
Swanzey #40485	Intersection traffic control Modify control - two-way stop to roundabout	Miles	27500	880000	HSIP (Section 148)	Rural Principal Arterial - Other		40	State Highway Agency	Intersections	Crash Locations
Statewide #40014	Miscellaneous		93500	93500	HSIP (Section 148)	Rural Principal Arterial - Other			State Highway Agency	Data	Comprehensive Safety Data Improvements
Statewide #40921	Interchange design Interchange design - other		27500	55000	HSIP (Section 148)	Rural Principal Arterial -		45	State Highway Agency	Intersections	Crash Locations

						Other					
Statewide #40914	Pedestrians and bicyclists Miscellaneous pedestrians and bicyclists		27500	38500	HSIP (Section 148)	Rural Principal Arterial - Other			State Highway Agency	Pedestrians	Crash Locations
Statewide #40864	Interchange design Interchange design - other		55000	55000	HSIP (Section 148)	Rural Principal Arterial - Other			State Highway Agency	Roadway Departure	Crash Locations
Statewide #40913	Interchange design Interchange design - other		82500	82500	HSIP (Section 148)	Rural Principal Arterial - Other			State Highway Agency	Data	Comprehensive Safety Data Improvements
Statewide #26484	Non-infrastructure Educational efforts		42694.1	42694.1	HSIP (Section 148)	Educational efforts			Education and Outreach	All of the Emphasis areas	Crash Locations
Statewide #40862	Non-infrastructure Educational efforts		23100	23100	HSIP (Section 148)	Rural Principal Arterial - Other			Education and Outreach	All of the Emphasis areas	Crash Locations
Statewide #26524	Non-infrastructure Educational efforts		110000	110000	HSIP (Section 148)	Educational efforts			Education and Outreach	All of the Emphasis areas	Comprehensive Safety Data Improvements

Progress in Achieving Safety Performance Targets

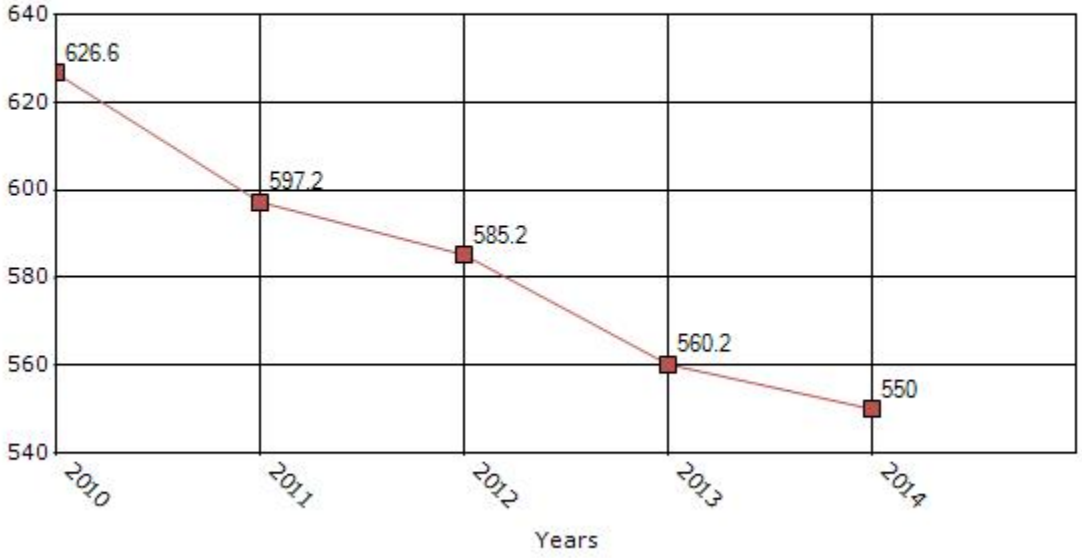
Overview of General Safety Trends

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

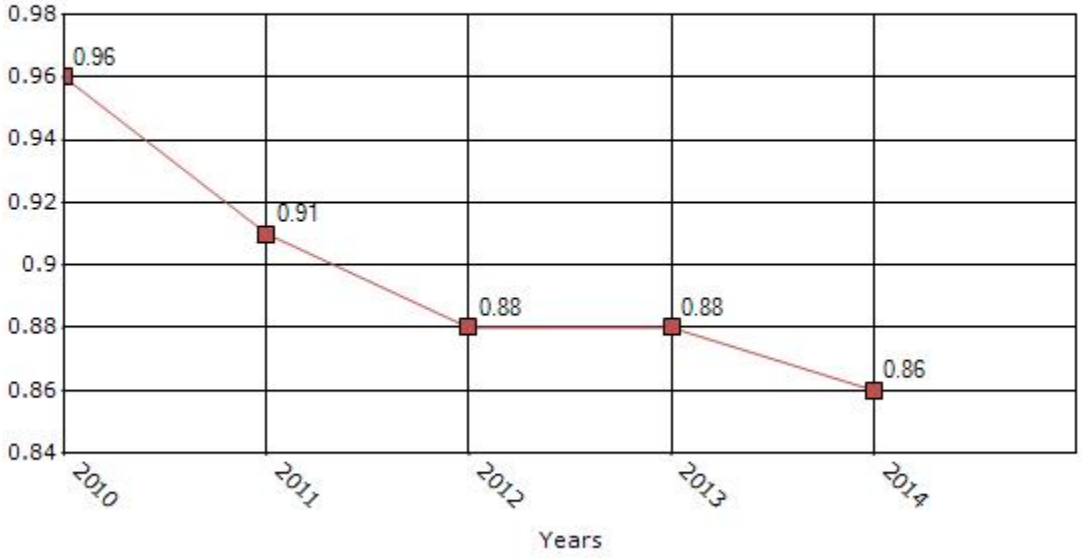
Performance Measures*	2010	2011	2012	2013	2014
Number of fatalities	126.4	119	114.8	114.2	111.2
Number of serious injuries	626.6	597.2	585.2	560.2	550
Fatality rate (per HMVMT)	0.96	0.91	0.88	0.88	0.86
Serious injury rate (per HMVMT)	4.74	4.55	4.51	4.32	4.24

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

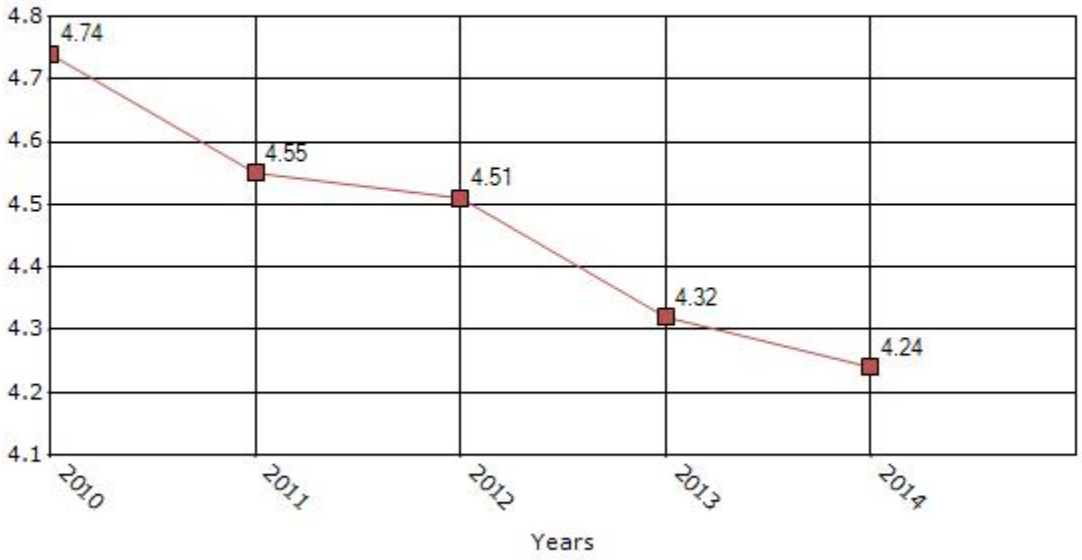
Number of Serious Injuries for the Last Five Years
5-yr Average Measure Data



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

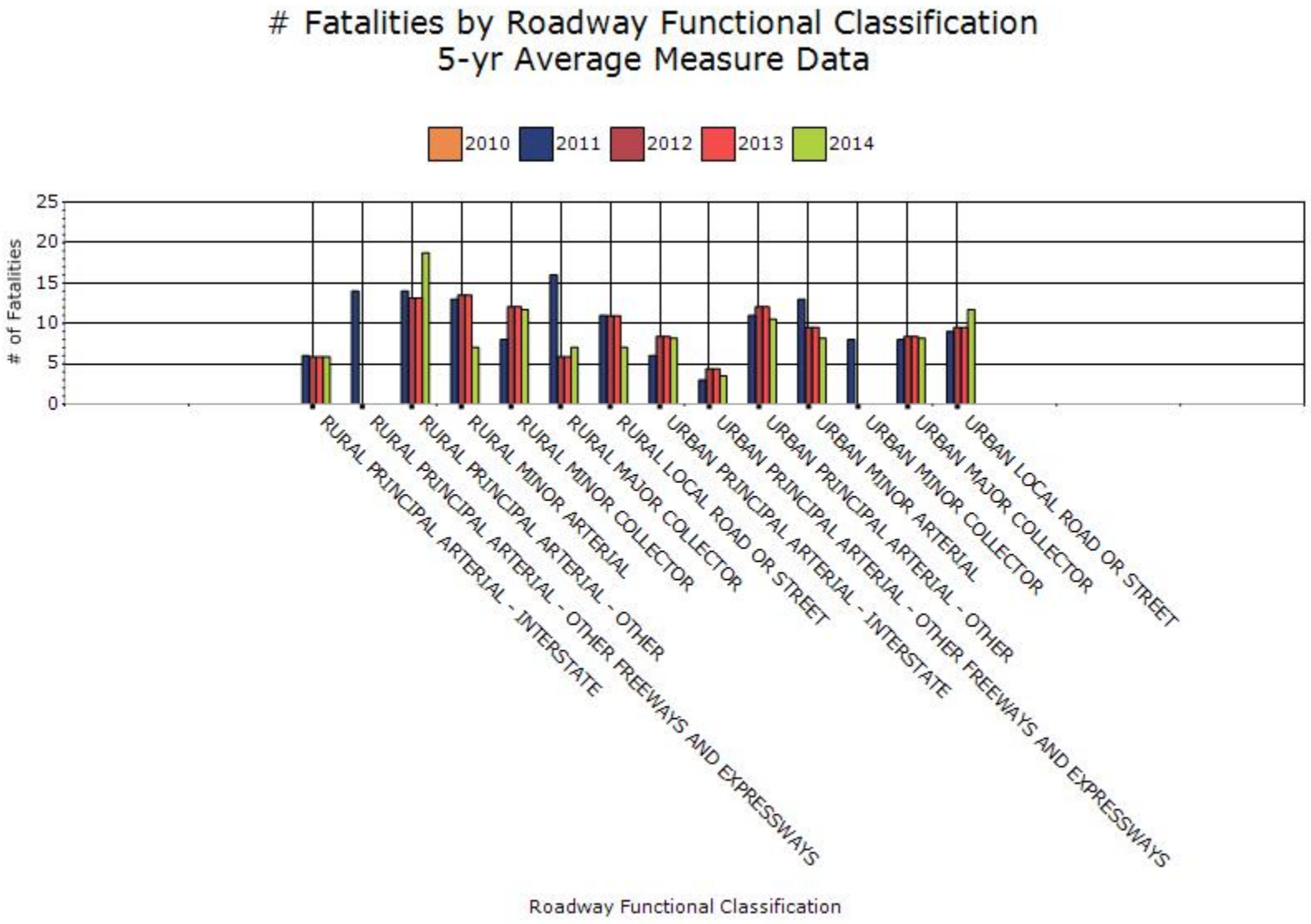


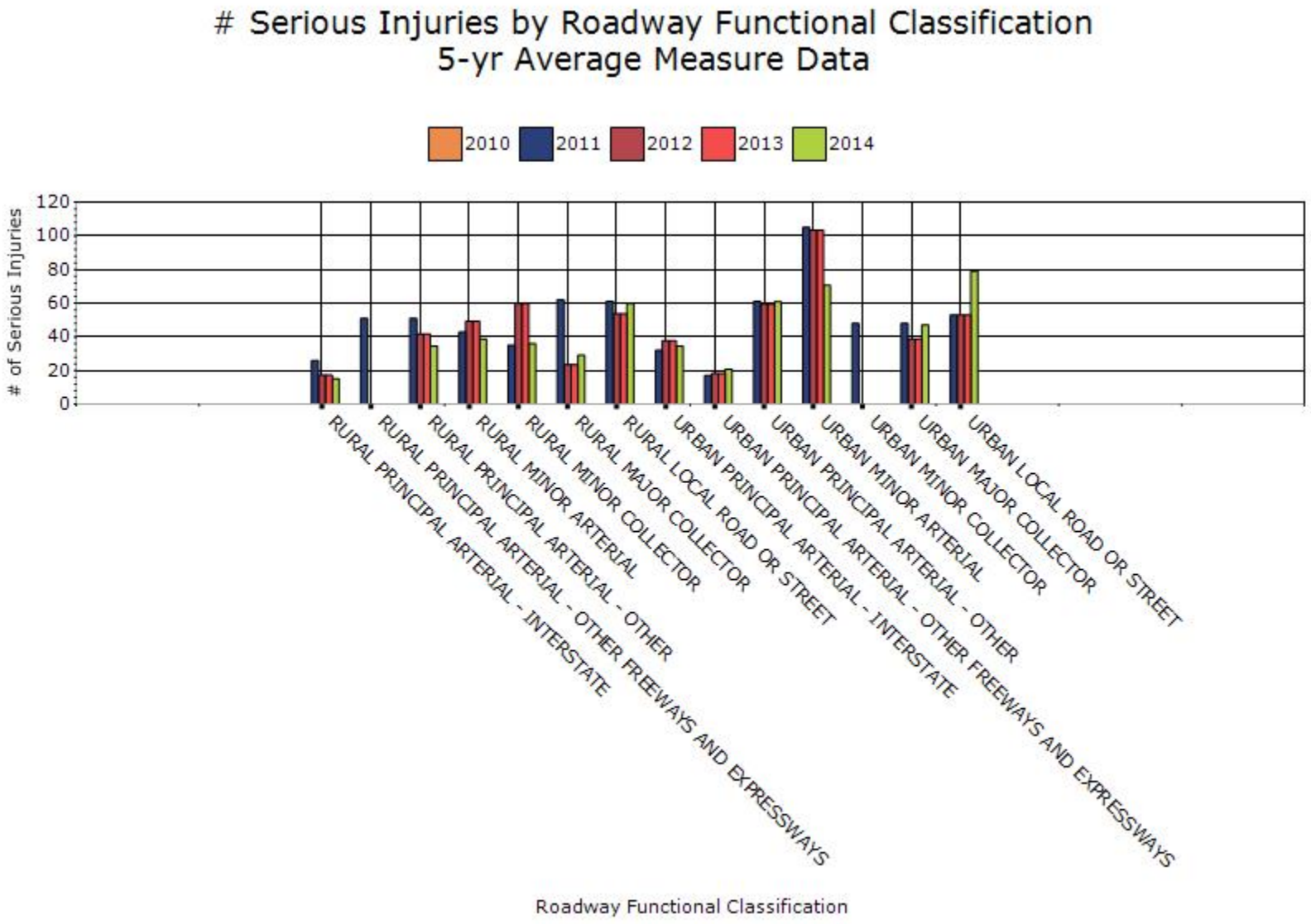
To the maximum extent possible, present performance measure* data by functional classification and ownership.

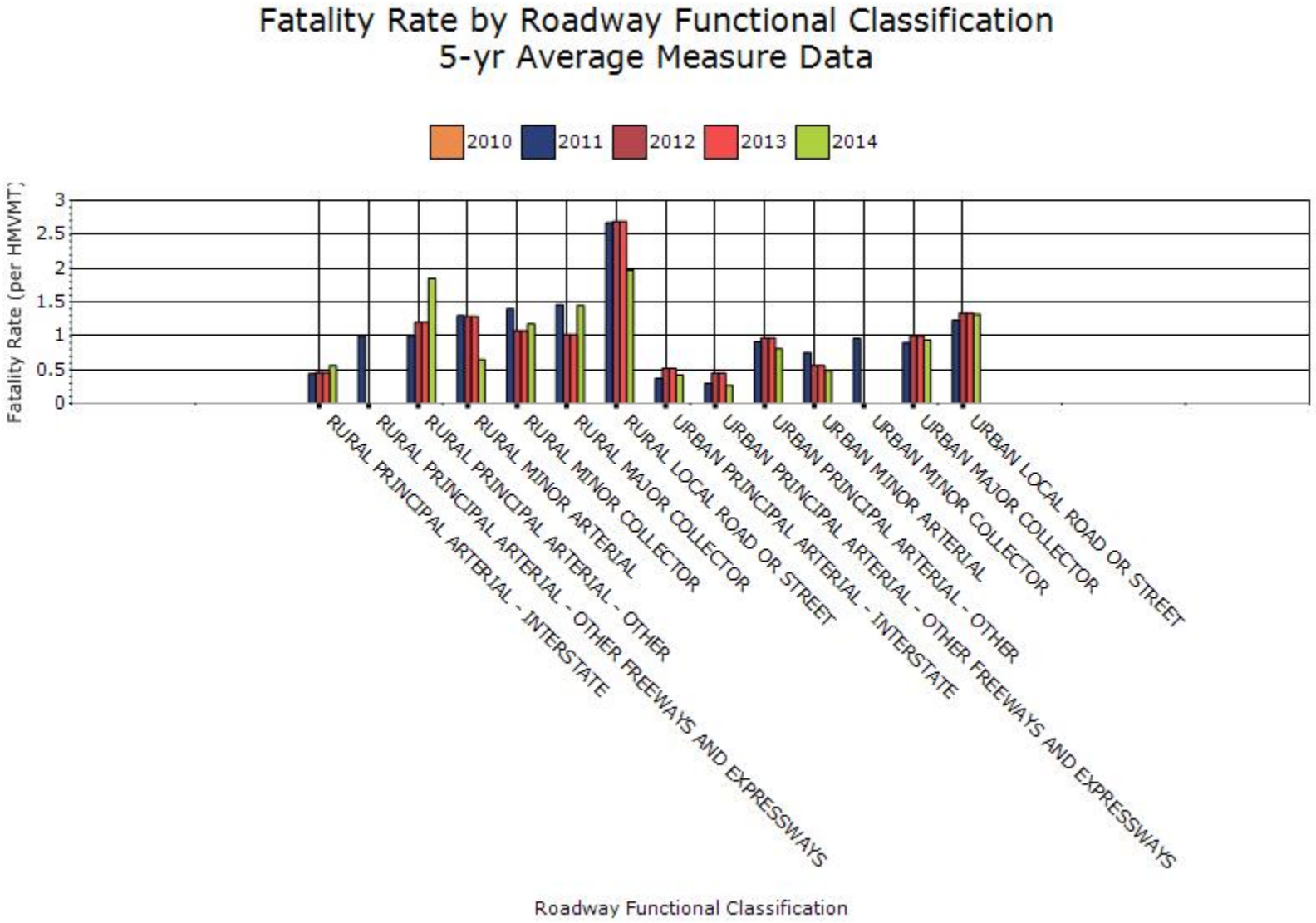
Year - 2014

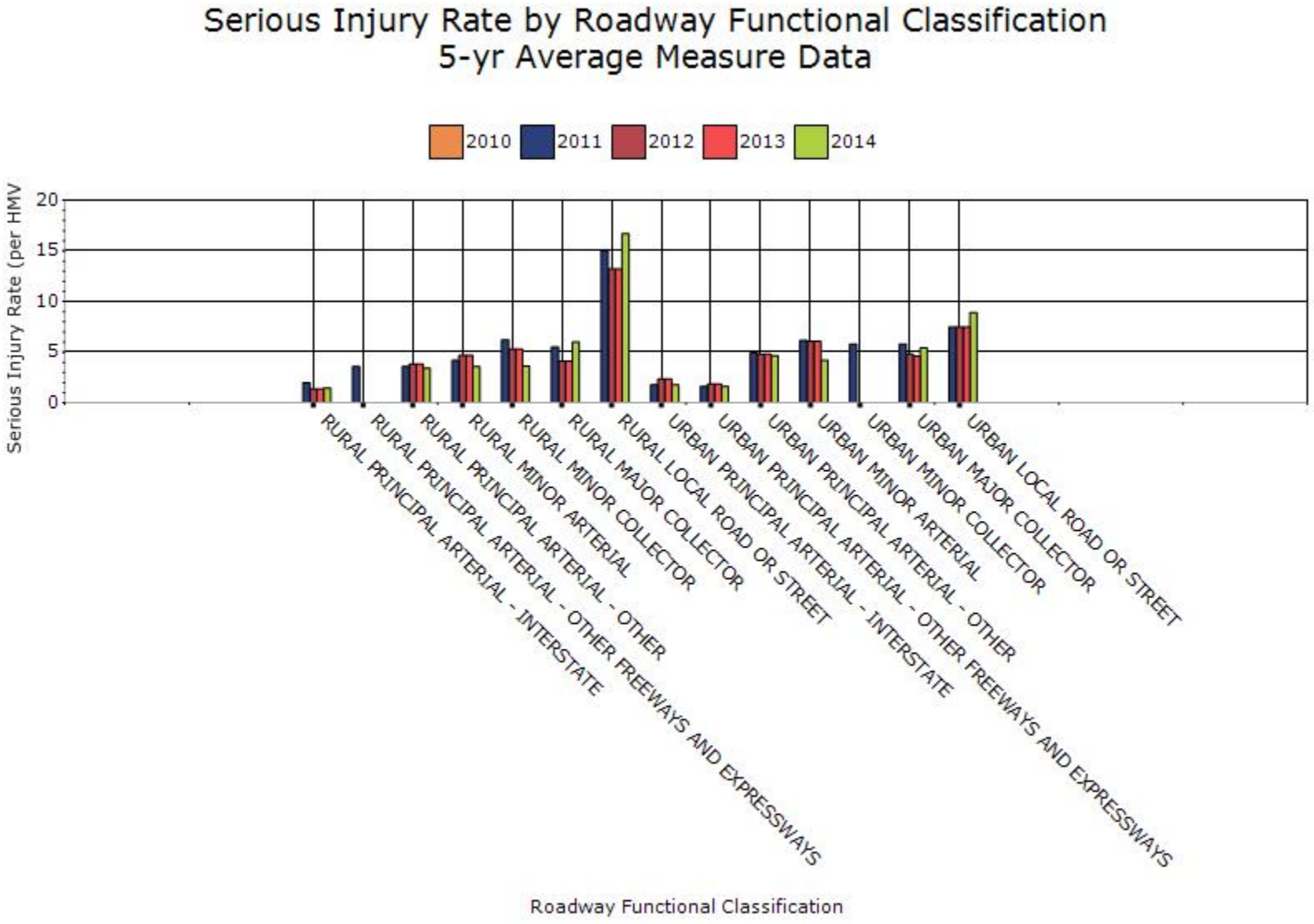
Function Classification	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
RURAL PRINCIPAL ARTERIAL - INTERSTATE	5.85	15.24	0.56	1.47
RURAL PRINCIPAL ARTERIAL - OTHER	18.73	34.63	1.85	3.41
RURAL MINOR ARTERIAL	7.02	38.79	0.65	3.58
RURAL MINOR COLLECTOR	11.71	36.02	1.18	3.63
RURAL MAJOR COLLECTOR	7.02	29.09	1.45	6
RURAL LOCAL ROAD OR STREET	7.02	59.97	1.97	16.69
URBAN PRINCIPAL ARTERIAL - INTERSTATE	8.19	34.63	0.42	1.78
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	3.51	20.78	0.27	1.62

URBAN PRINCIPAL ARTERIAL - OTHER	10.53	60.96	0.81	4.67
URBAN MINOR ARTERIAL	8.19	70.65	0.49	4.22
URBAN MAJOR COLLECTOR	8.19	47.1	0.94	5.41
URBAN LOCAL ROAD OR STREET	11.71	78.97	1.32	8.9


Fatalities by Roadway Functional Classification
5-yr Average Measure Data
2010
2011
2012
2013
2014
# of Fatalities
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

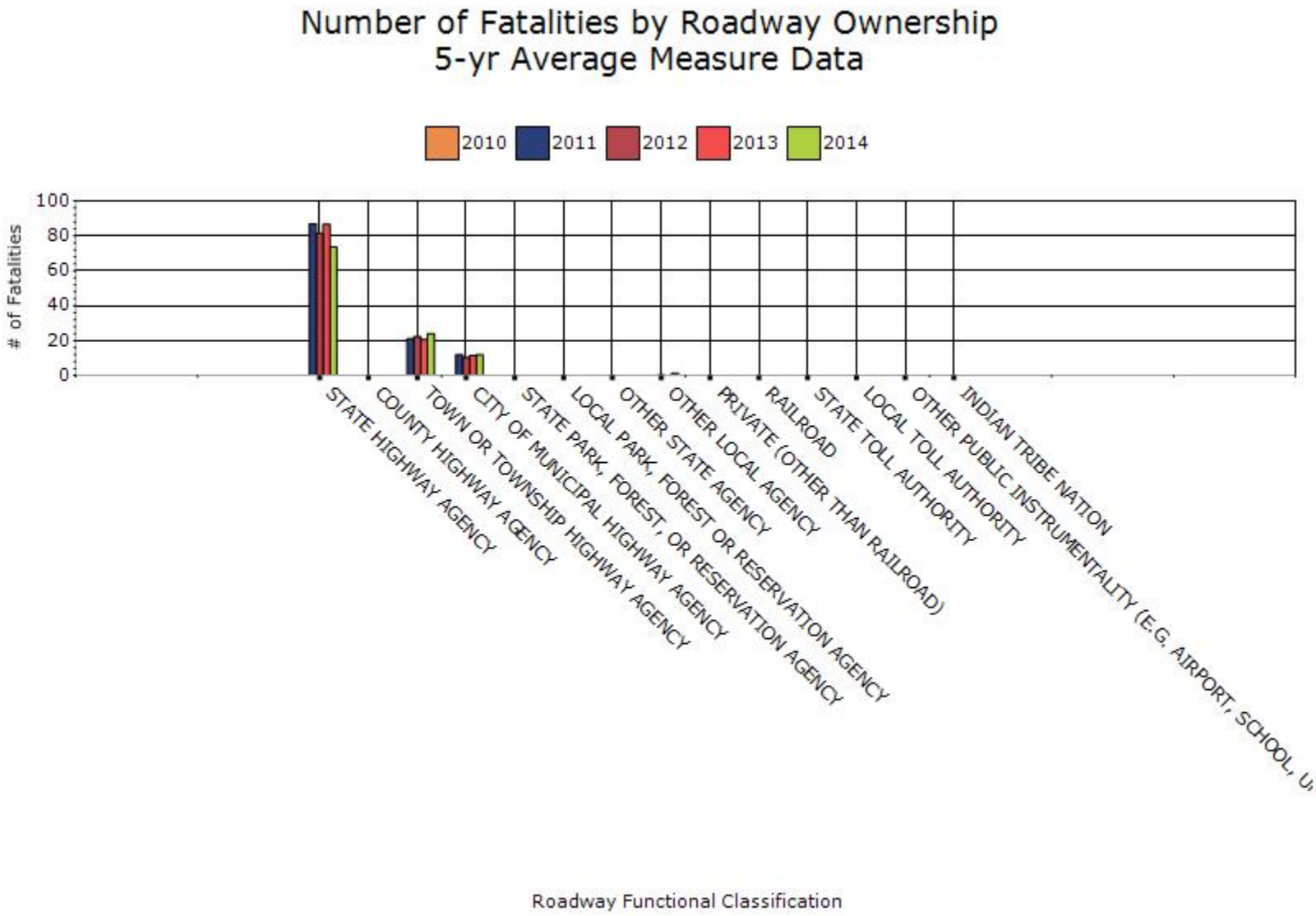

Serious Injuries by Roadway Functional Classification
5-yr Average Measure Data
2010
2011
2012
2013
2014
# of Serious Injuries
120
100
80
60
40
20
0
RURAL PRINCIPAL ARTERIAL - INTERSTATE
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
RURAL PRINCIPAL ARTERIAL - OTHER
RURAL MINOR ARTERIAL
RURAL 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

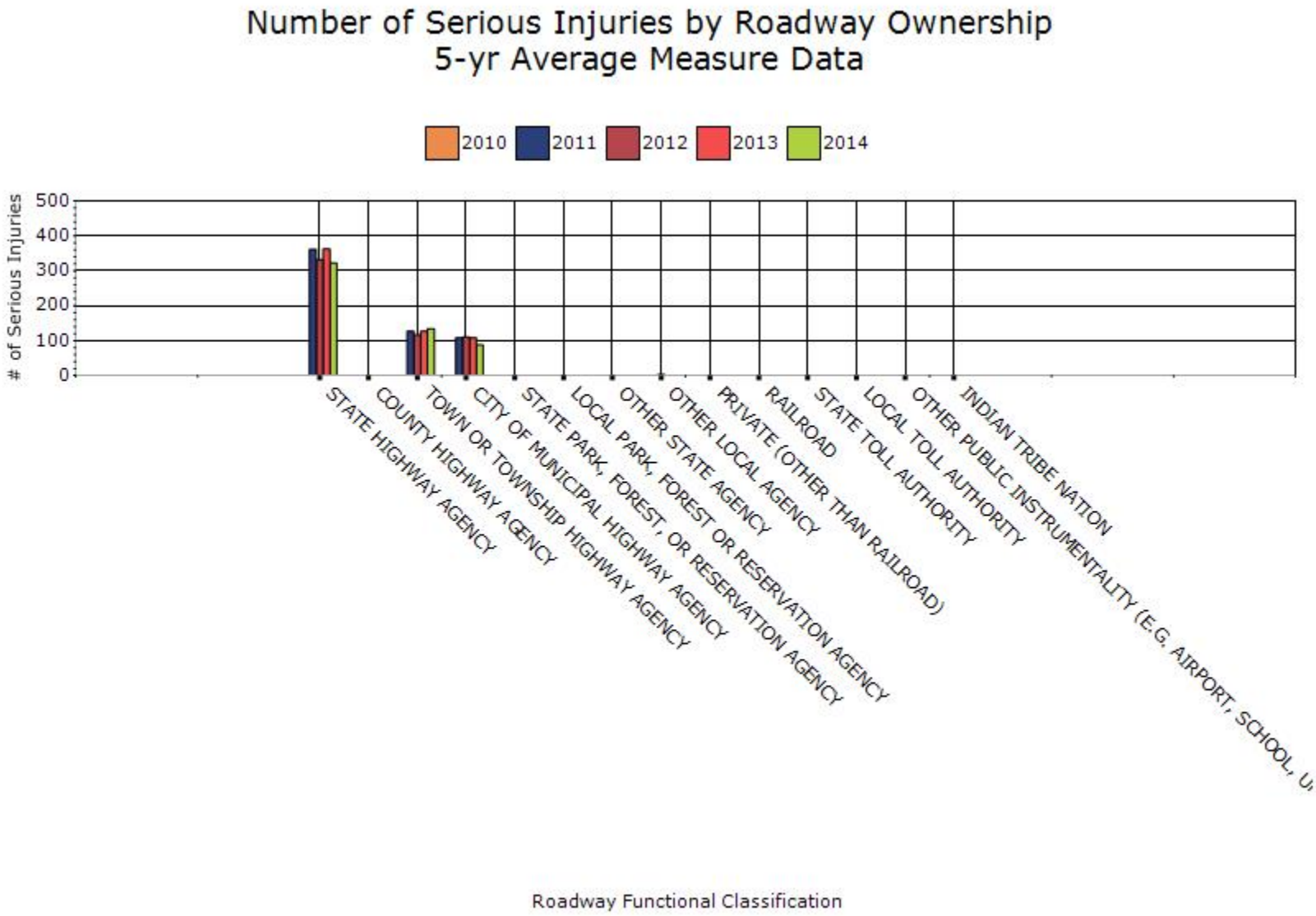

Fatality Rate by Roadway Functional Classification
5-yr Average Measure Data
2010
2011
2012
2013
2014
Fatality Rate (per HMVMT)
3
2.5
2
1.5
1
0.5
0
RURAL PRINCIPAL ARTERIAL - INTERSTATE
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
RURAL PRINCIPAL ARTERIAL - OTHER
RURAL MINOR ARTERIAL
RURAL 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

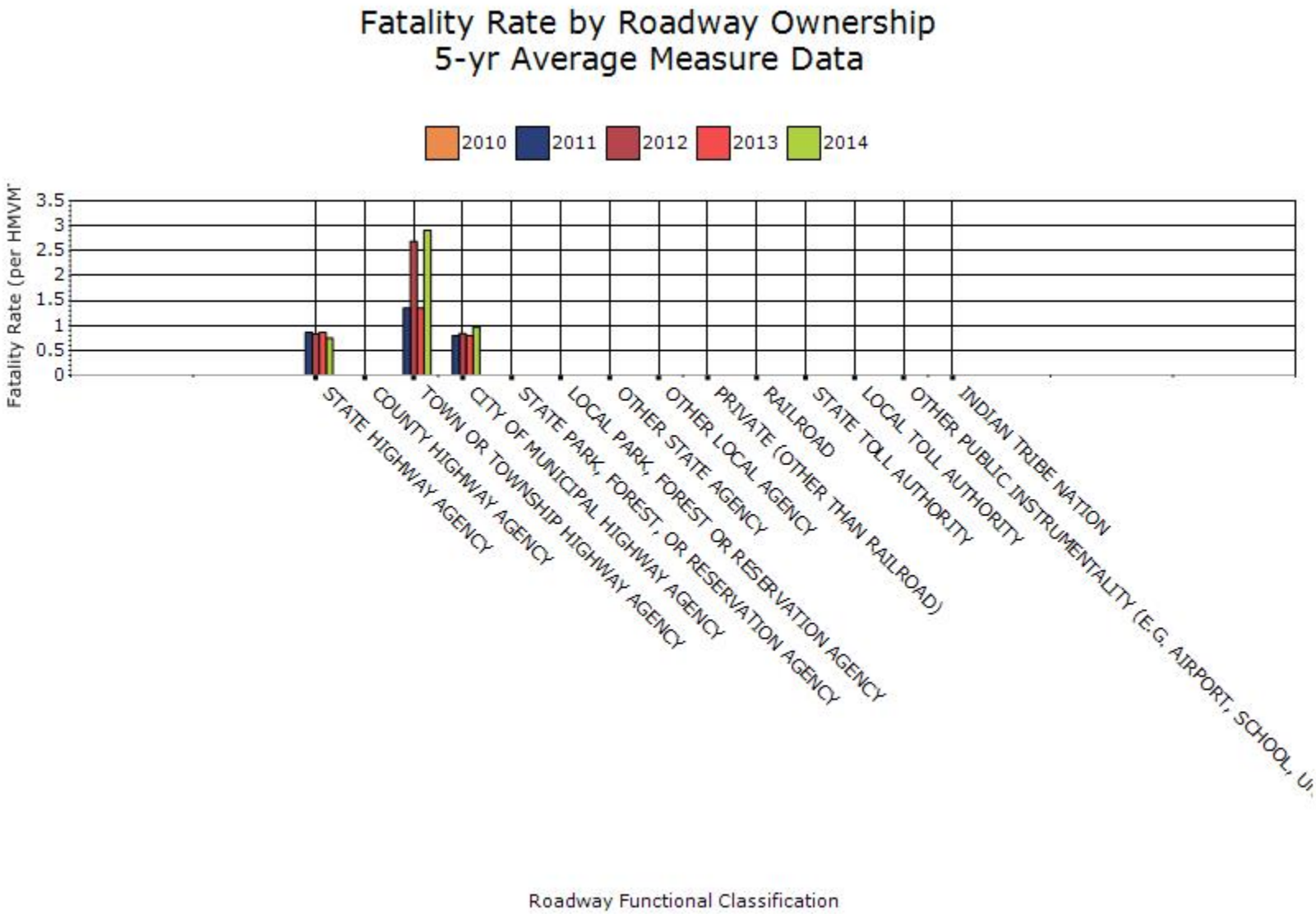

Serious Injury Rate by Roadway Functional Classification
5-yr Average Measure Data
2010
2011
2012
2013
2014
Serious Injury Rate (per HMV
20
15
10
5
0
RURAL PRINCIPAL ARTERIAL - INTERSTATE
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
RURAL PRINCIPAL ARTERIAL - OTHER
RURAL MINOR ARTERIAL
RURAL 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

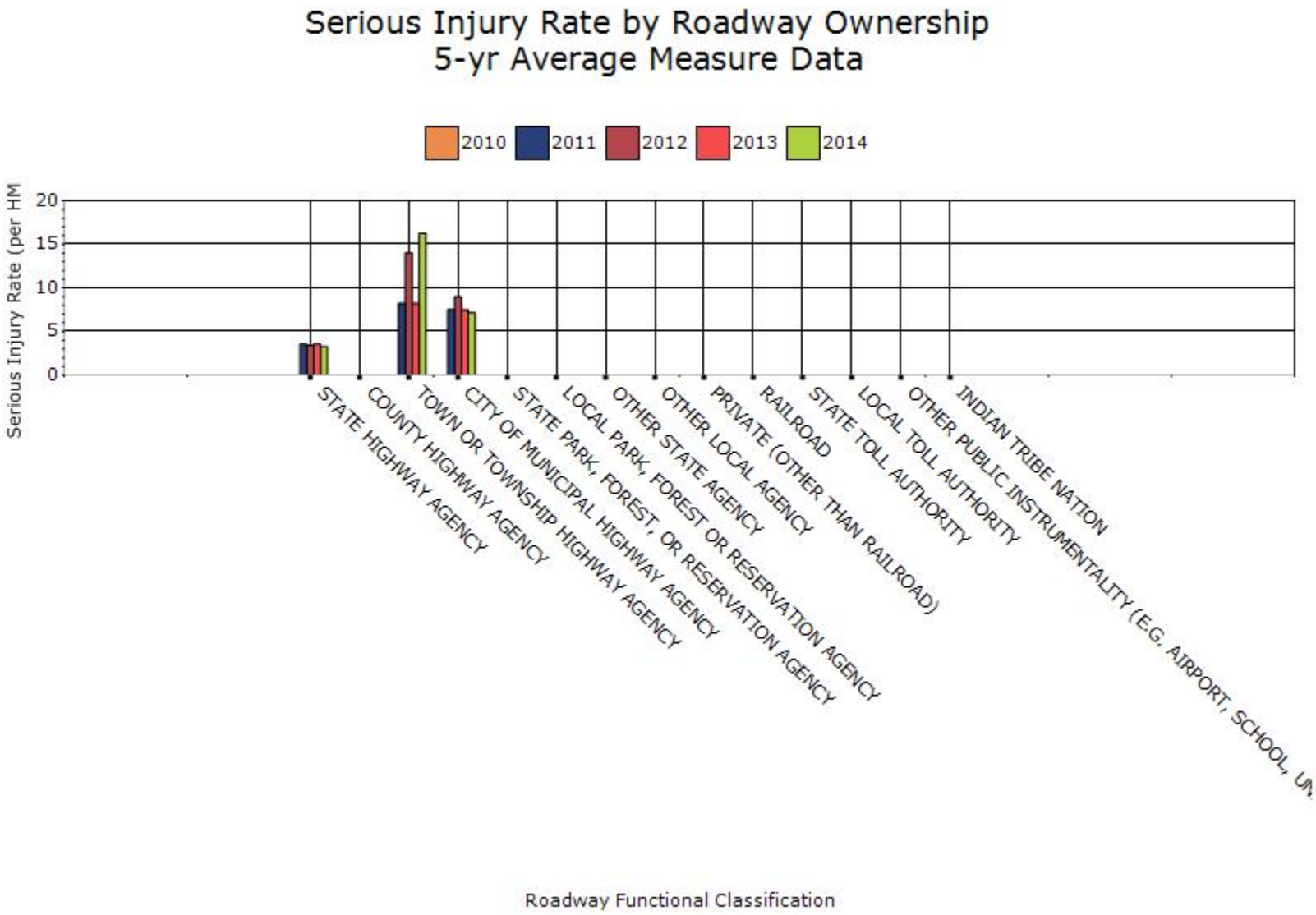
Year - 2014

Roadway Ownership	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
STATE HIGHWAY AGENCY	73.78	322.41	0.75	3.27
TOWN OR TOWNSHIP HIGHWAY AGENCY	24.04	134.2	2.91	16.23
CITY OF MUNICIPAL HIGHWAY AGENCY	11.91	87.26	0.97	7.14
STATE PARK, FOREST, OR RESERVATION AGENCY		0.47		
OTHER LOCAL AGENCY	1.25	0.24		
PRIVATE (OTHER THAN RAILROAD)	0.21	0.24		


Number of Fatalities by Roadway Ownership
5-yr Average Measure Data
2010
2011
2012
2013
2014
# of Fatalities
100
80
60
40
20
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
2010
2011
2012
2013
2014
# of Serious Injuries
500
400
300
200
100
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
2010
2011
2012
2013
2014
Fatality Rate (per HMVM
3.5
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
LOCAL TOLL AUTHORITY
OTHER PUBLIC INSTRUMENTALITY (E.G. AIRPORT, SCHOOL, U
INDIAN TRIBE NATION
Roadway Functional Classification


Serious Injury Rate by Roadway Ownership
5-yr Average Measure Data
2010
2011
2012
2013
2014
Serious Injury Rate (per HM
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
Roadway Functional Classification

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

The new Hands Free Electronic Device law was effective July 1, 2015 and the first time in numerous years Distraction was not in the top 5 causes of deaths on NH roadways according to the Data analyst at the Department of Safety. The fatality and serious injury numbers are trending downward but there are behavioral issues that are reoccurring year to year. Some of those issues include not wearing seat belts, speeding, impaired driving, failure to yield or centerline encroachment and medical issues. To impact those behavioral issues State and local agencies will need to work together collaboratively to find solutions and education methods. NH Driving Toward Zero program, though not funded under the new FAST ACT, should continue to be a way to bring those agencies together to collectively influence the fatalities and serious injuries.

NHDOT is working on improvements to automate some of the locating features in GIS. Thru the Traffic Records grants State Police is also working to have all of the police reports be submitted electronically. This will improve the crash data quality and availability once the entire state is electronic.

Application of Special Rules

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

Older Driver Performance Measures	**2010**	**2011**	**2012**	**2013**	**2014**
Fatality rate (per capita)	0.11	0.11	0.11	0.16	0.11
Serious injury rate (per capita)	0.28	0.32	0.34	0.28	0.34
Fatality and serious injury rate (per capita)	0.39	0.43	0.45	0.44	0.45

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

divide total older driver injuries by the older driver population data as shown on your website.

VMT rate for K = K/HMVMT for 2012 where k=23,HMVMT=128.61
VMT rate for K =0.17

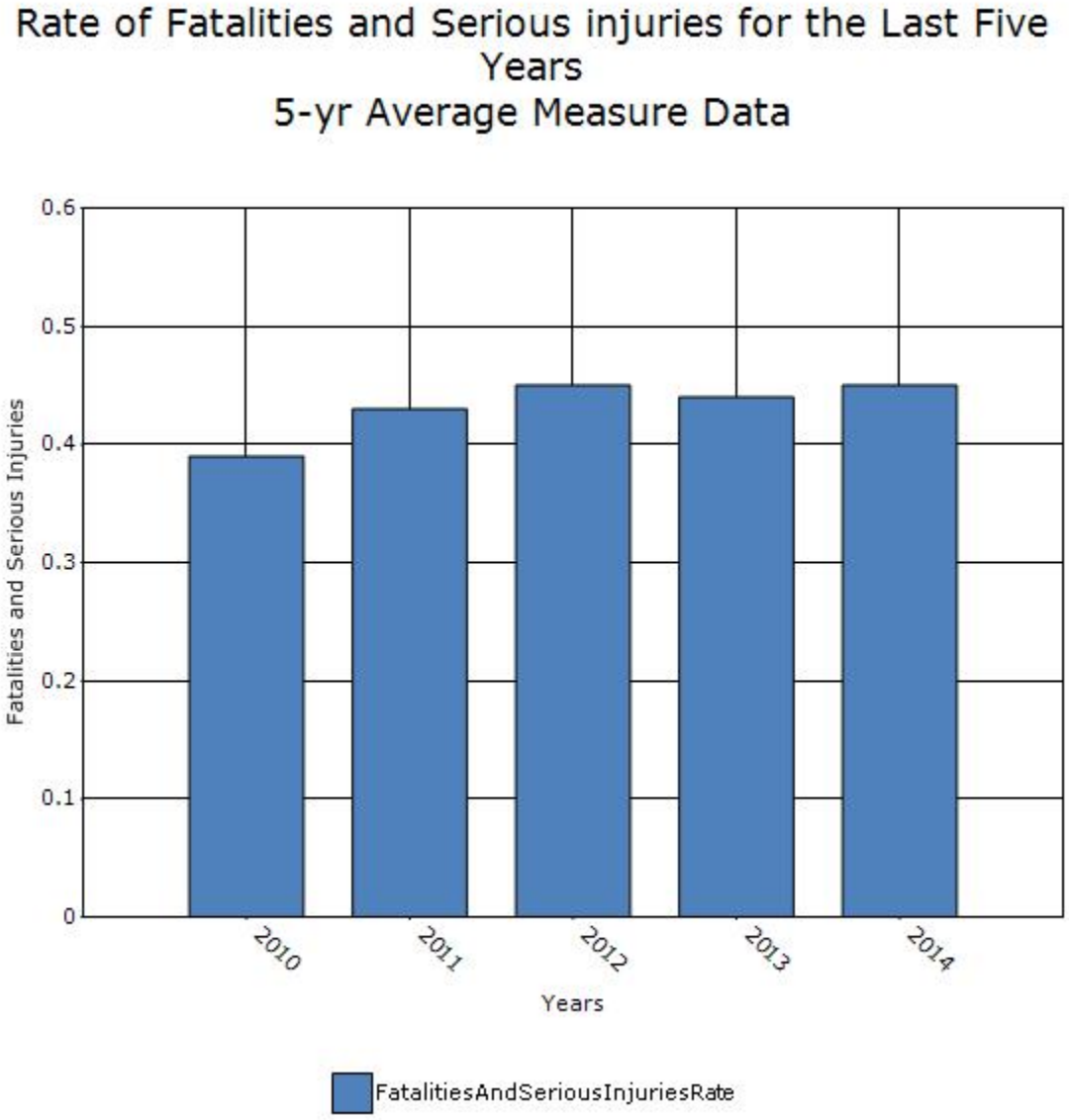
For the special rule VMT rate for K=K/# of people 65 yrs or older for 2012, where k=22, # people =194
Special rule for K = 23/194=0.11

For special rule of injuries for A=A/# people 65 or older for 2012, where A=65, # people= 194
Special rule for A=65/194=0.33

calculated rate for 2012= (.4+.38+.39+.43+.44)/5= 0.09

calculated rate for 2014 =(.39+.43+.44+.44+.45)/5=0.09

2014 cal rate is not high so special rule does not apply



Does the older driver special rule apply to your state?

No

Assessment of the Effectiveness of the Improvements (Program Evaluation)

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

Benefit/cost

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

1

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

Shift Focus to Fatalities and Serious Injuries

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

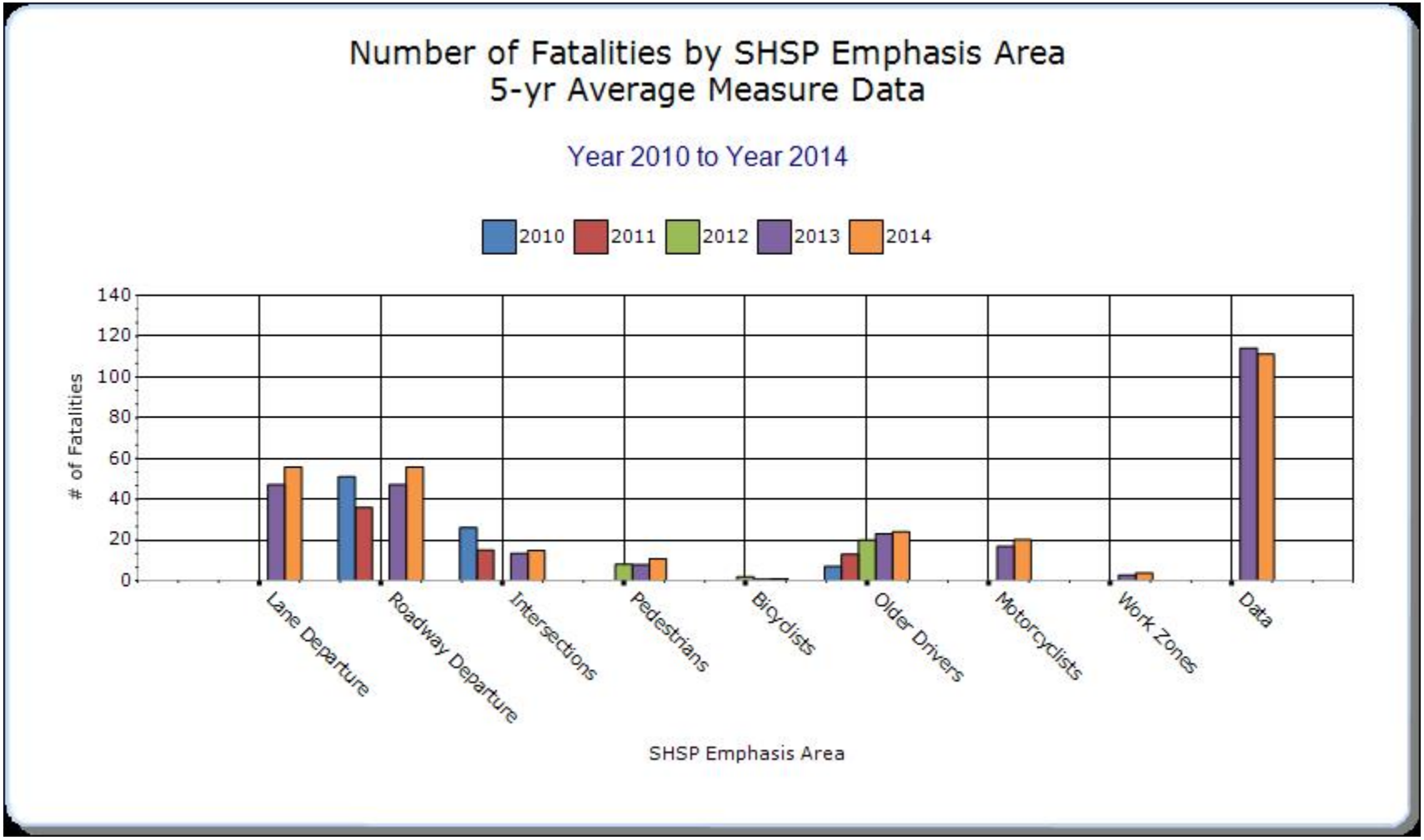
NH is investigating "Y-intersections" around the state. NH is identifying these locations and will look for a way to prioritize which intersection would benefit the most and design safety improvements for those locations.

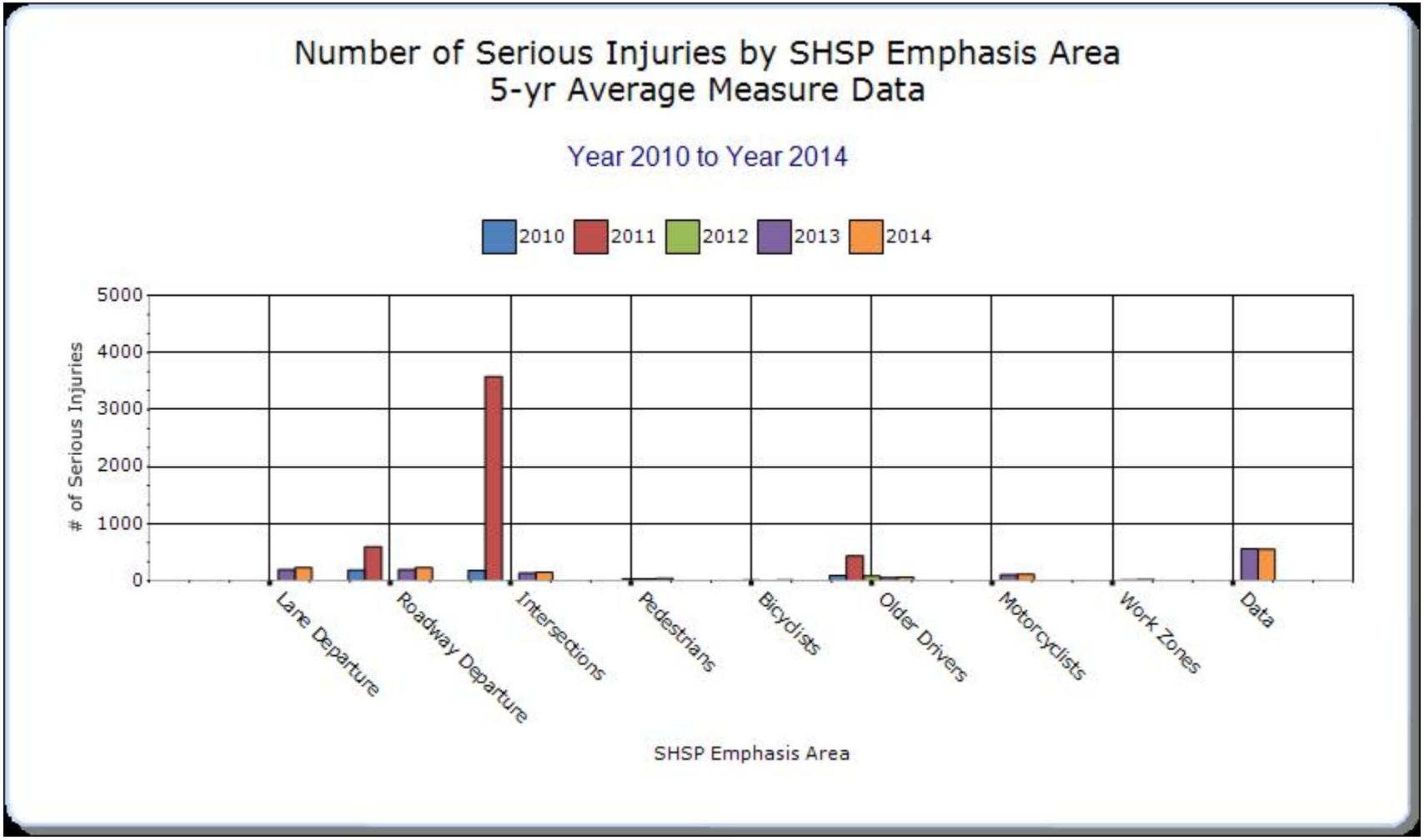
SHSP Emphasis Areas

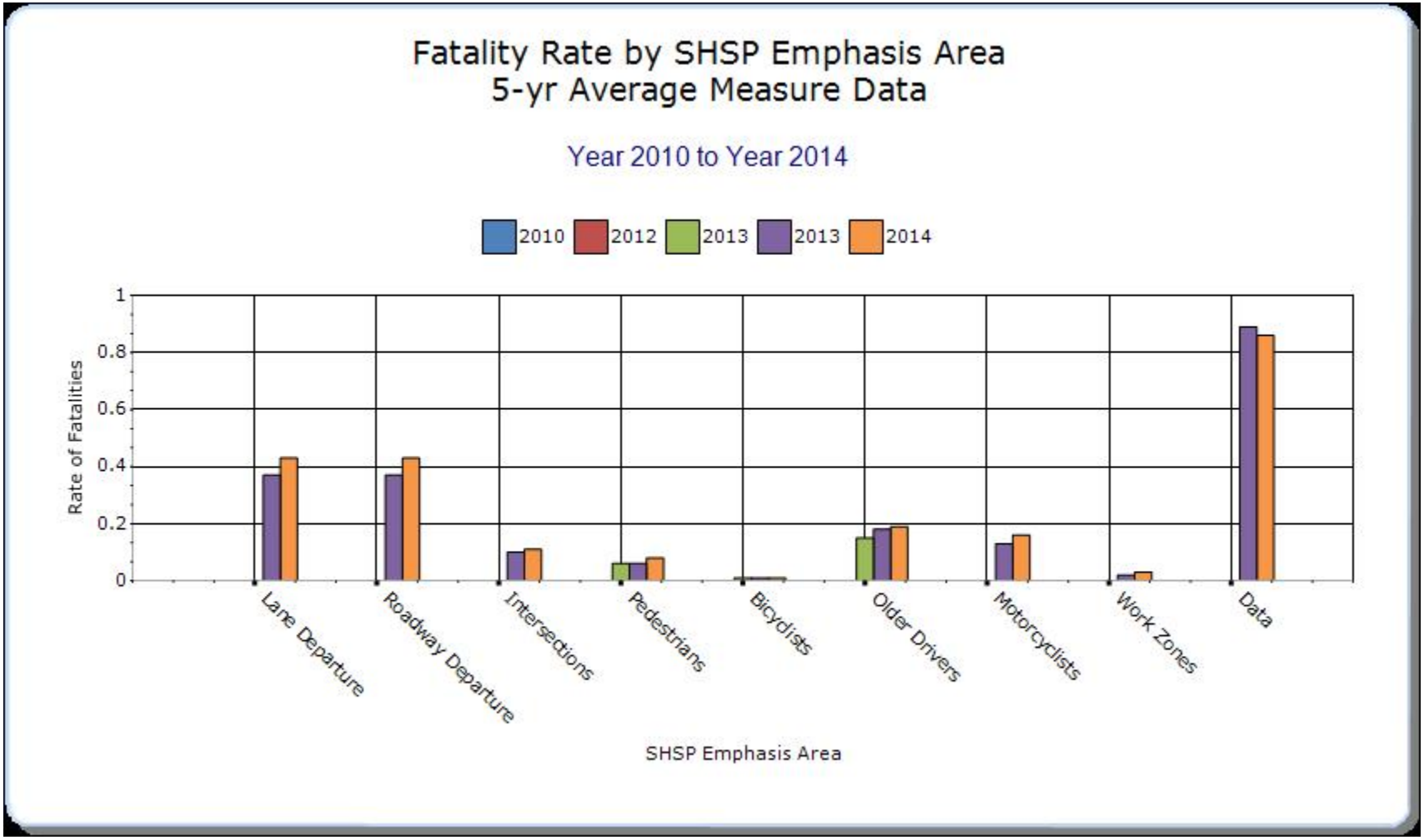
For each SHSP emphasis area that relates to the HSIP, present trends in emphasis area performance measures.

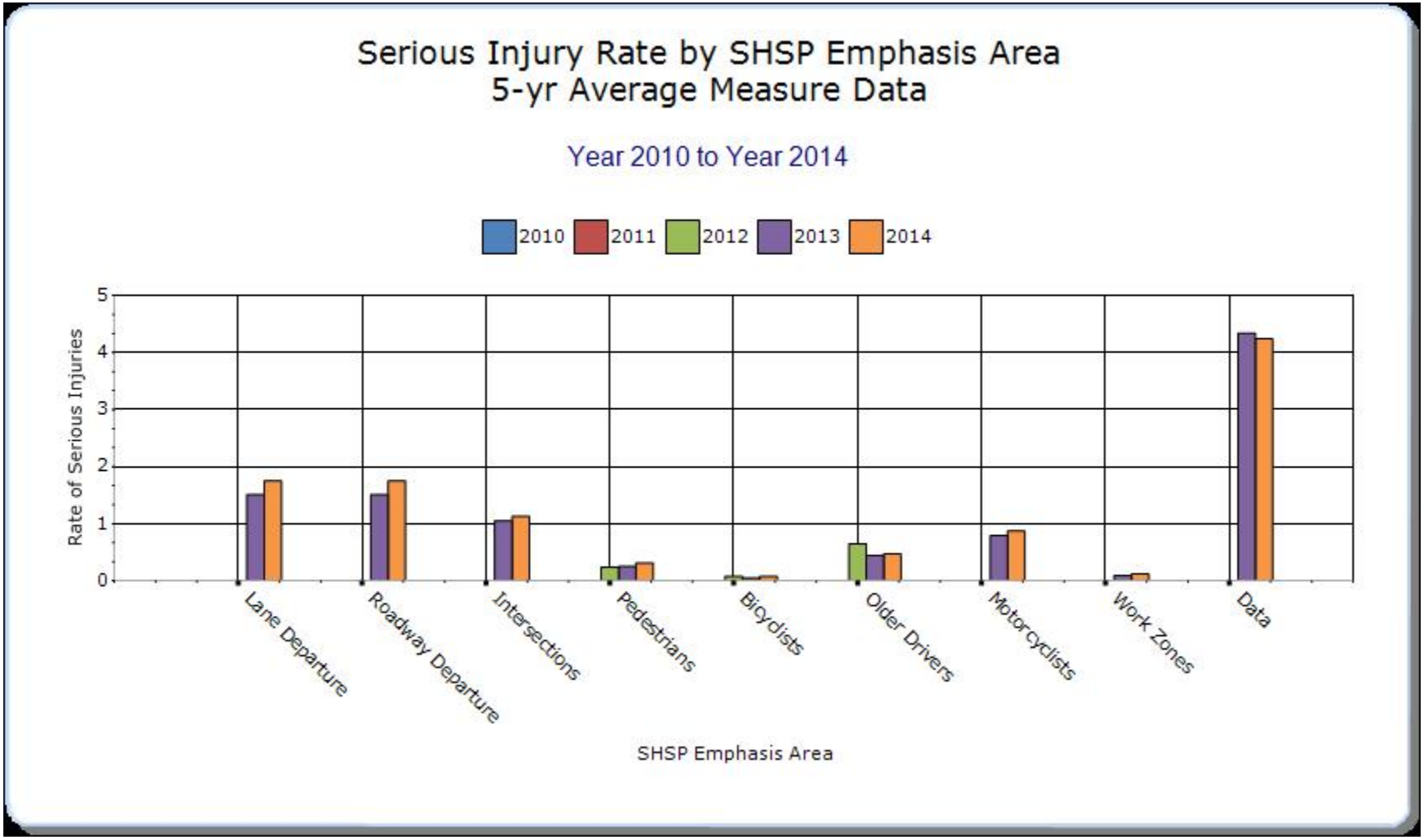
Year - 2014

HSIP-related SHSP Emphasis Areas	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3
Lane Departure	Run-off-road	55.8	227.2	0.43	1.75			
Roadway Departure	Run-off-road	55.8	227.2	0.43	1.75			
Intersections	Intersections	14.8	146.8	0.11	1.13			
Pedestrians	Vehicle/pedestrian	10.8	39.8	0.08	0.31			
Bicyclists	Vehicle/bicycle	1	10.4	0.01	0.08			
Older Drivers	All	24	61	0.19	0.47			
Motorcyclists	All	20.2	112.4	0.16	0.87			
Work Zones	All	3.8	15.8	0.03	0.12			
Data	All	111.2	550	0.86	4.24			


Number of Fatalities by SHSP Emphasis Area
5-yr Average Measure Data
Year 2010 to Year 2014
2010
2011
2012
2013
2014
# of Fatalities
140
120
100
80
60
40
20
0
Lane Departure
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 2010 to Year 2014
2010
2011
2012
2013
2014
# of Serious Injuries
5000
4000
3000
2000
1000
0
Lane Departure
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 2010 to Year 2014
2010
2012
2013
2013
2014
Rate of Fatalities
1
0.8
0.6
0.4
0.2
0
Lane Departure
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Data
SHSP Emphasis Area

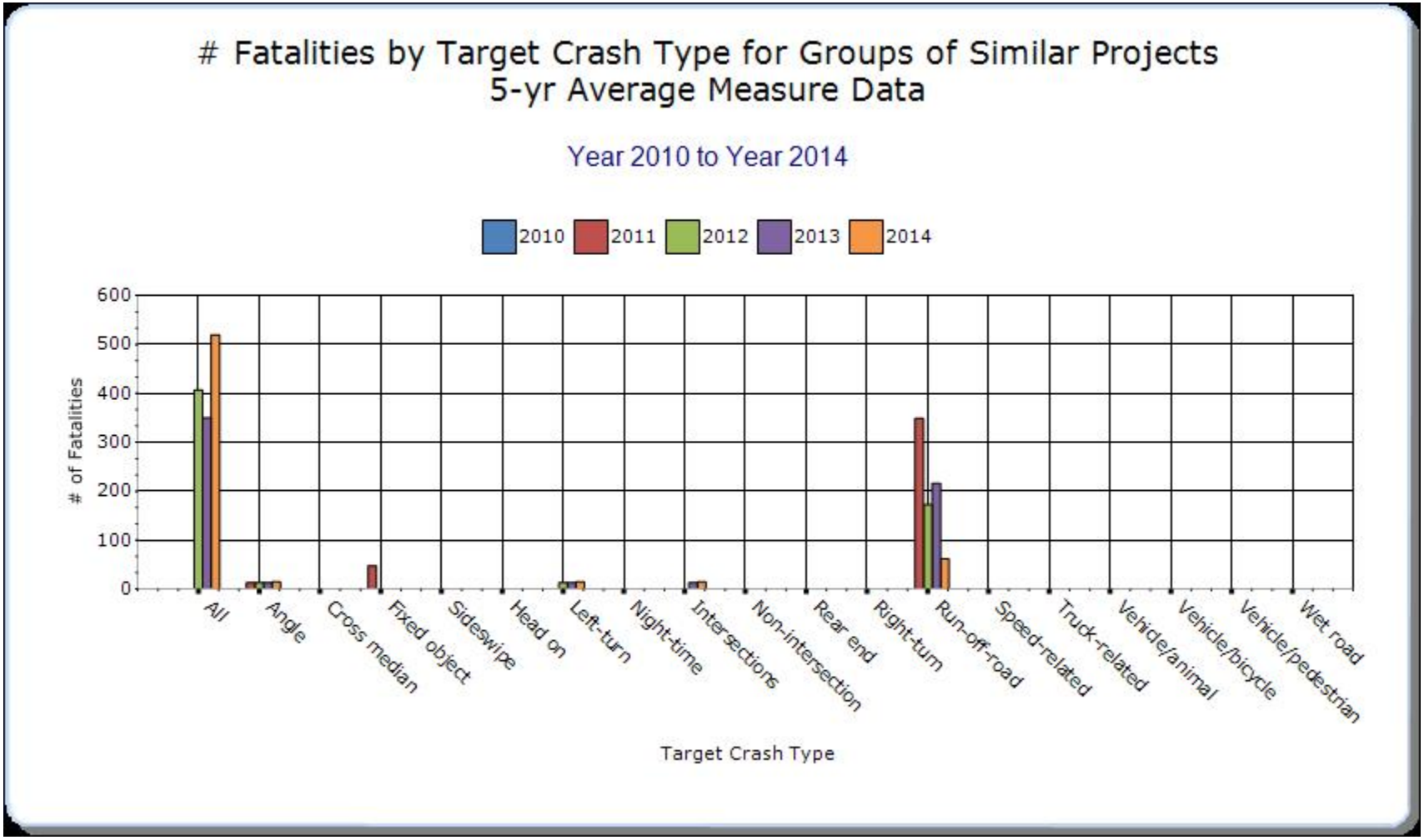


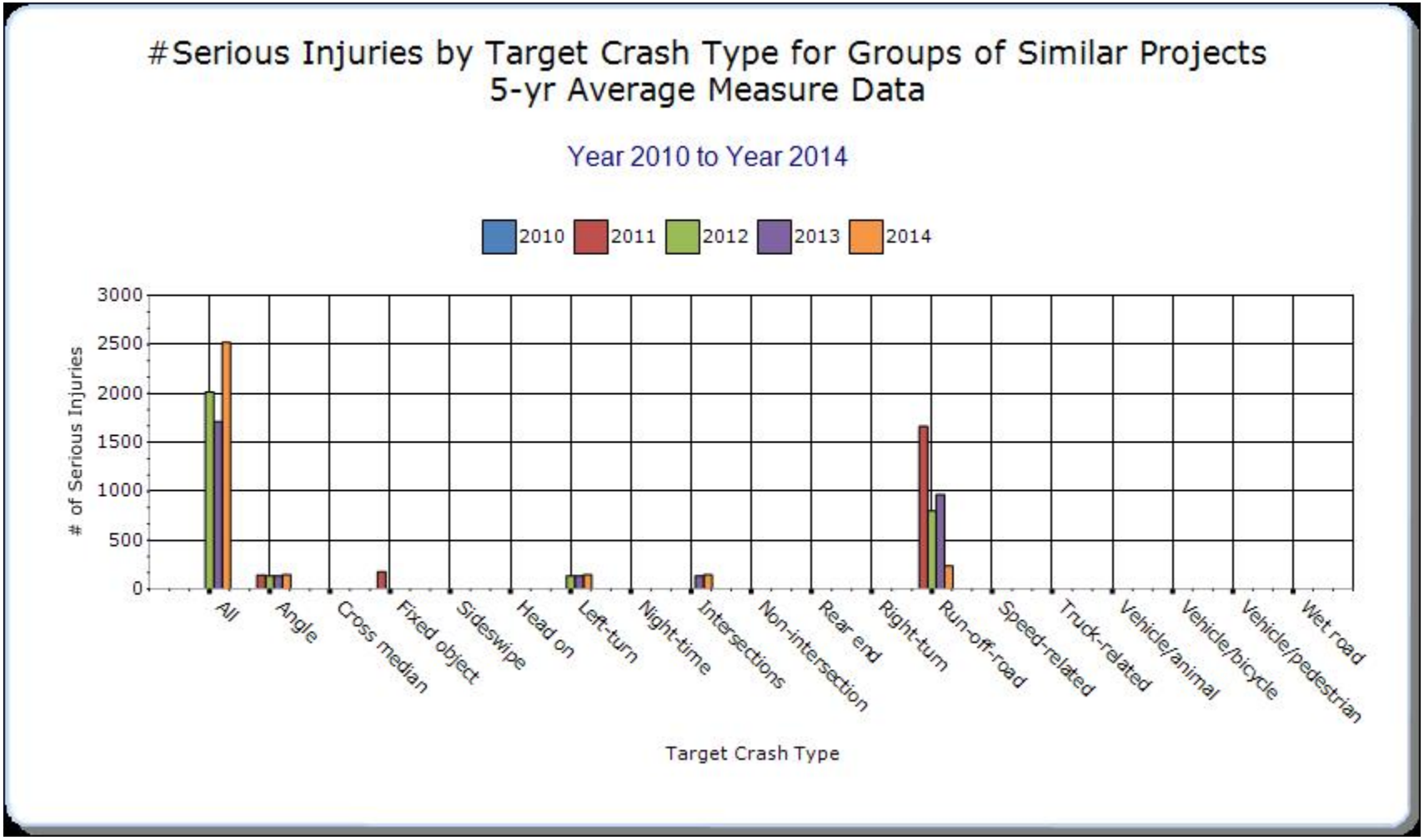
Groups of similar project types

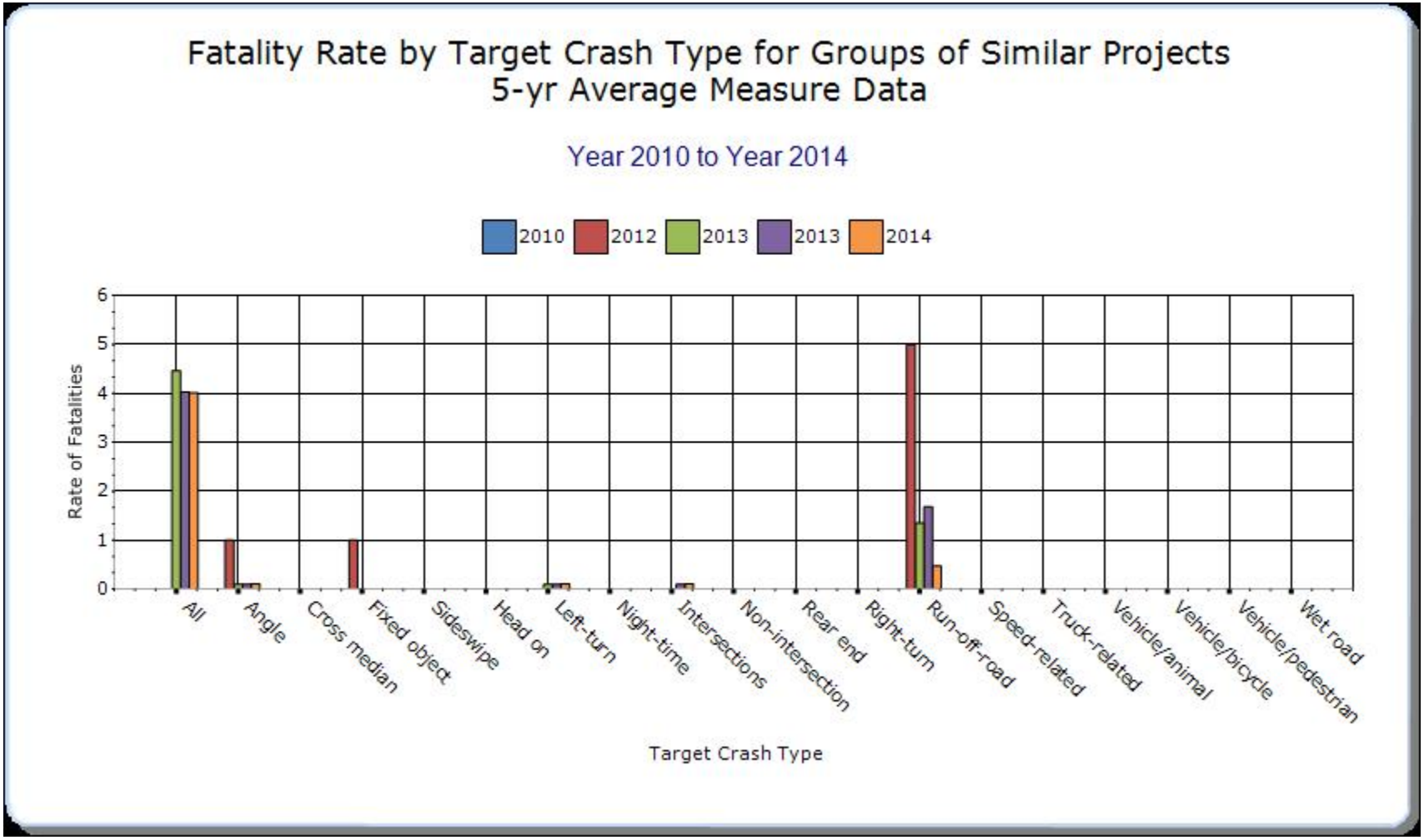
Present the overall effectiveness of groups of similar types of projects.

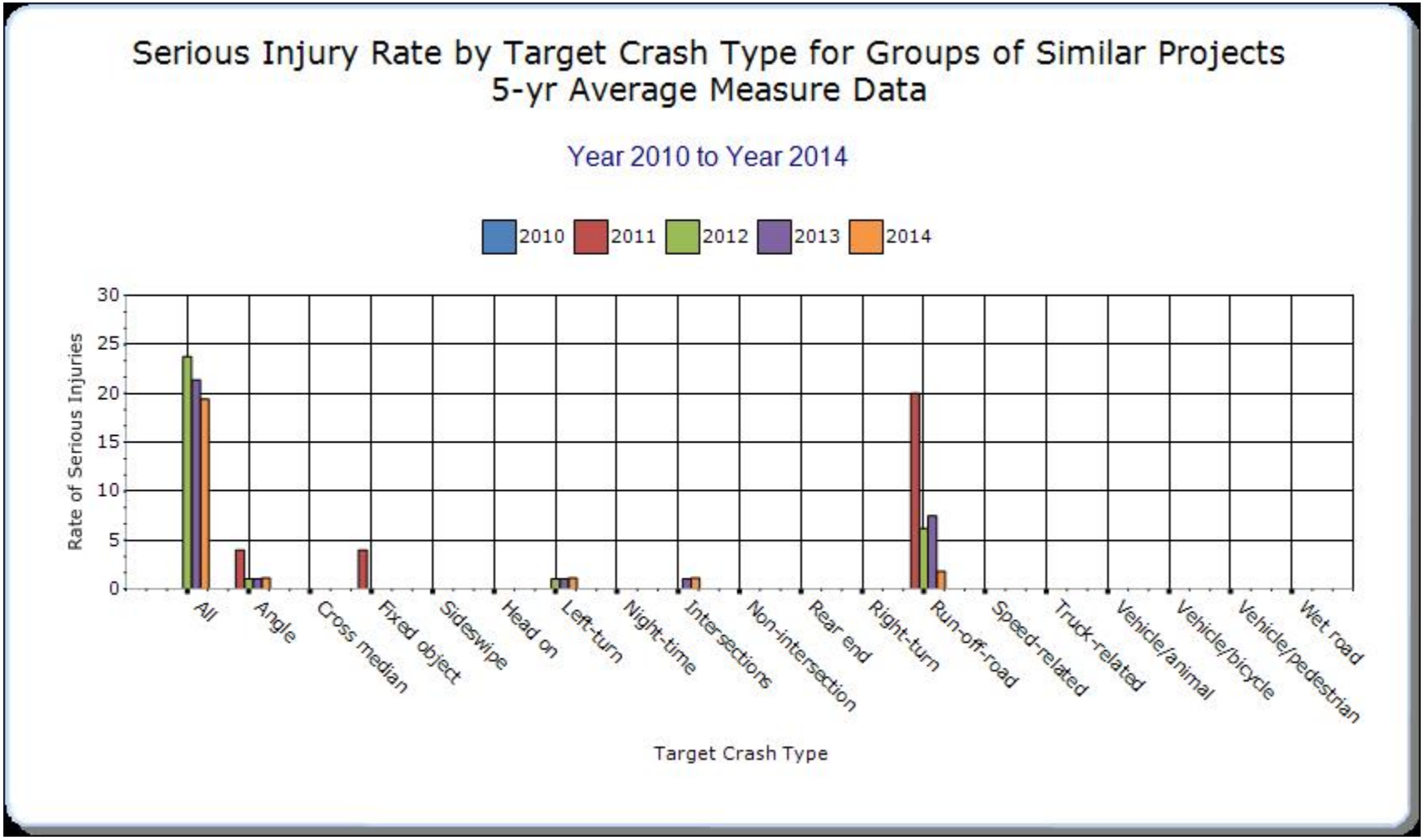
Year - 2014

HSIP Sub-program Types	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3
Median Barrier	Run-off-road	13.4	48.8	0.1	0.38			
Roadway Departure	All	55.8	227.2	0.43	1.75			
Sign Replacement And Improvement	All	111.2	550	0.86	4.24			
Local Safety	All	31.6	221.6	0.24	1.71			
Horizontal Curve	Run-off-road	48.4	187.4	0.37	1.44			
Right Angle Crash	Angle	14.8	146.8	0.11	1.13			
Crash Data	All	111.2	550	0.86	4.24			
Low-Cost Spot Improvements	All	111.2	550	0.86	4.24			
Left Turn Crash	Left-turn	14.8	146.8	0.11	1.13			
Segments	All	98.2	420	0.76	3.24			
Intersection	Intersections	14.8	146.8	0.11	1.13			


Fatalities by Target Crash Type for Groups of Similar Projects
5-yr Average Measure Data
Year 2010 to Year 2014
2010
2011
2012
2013
2014
# of Fatalities
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


#Serious Injuries by Target Crash Type for Groups of Similar Projects
5-yr Average Measure Data
Year 2010 to Year 2014
2010
2011
2012
2013
2014
# of Serious Injuries
3000
2500
2000
1500
1000
500
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


Fatality Rate by Target Crash Type for Groups of Similar Projects
5-yr Average Measure Data
Year 2010 to Year 2014
2010
2012
2013
2013
2014
Rate of Fatalities
0
1
2
3
4
5
6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Intersections
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type

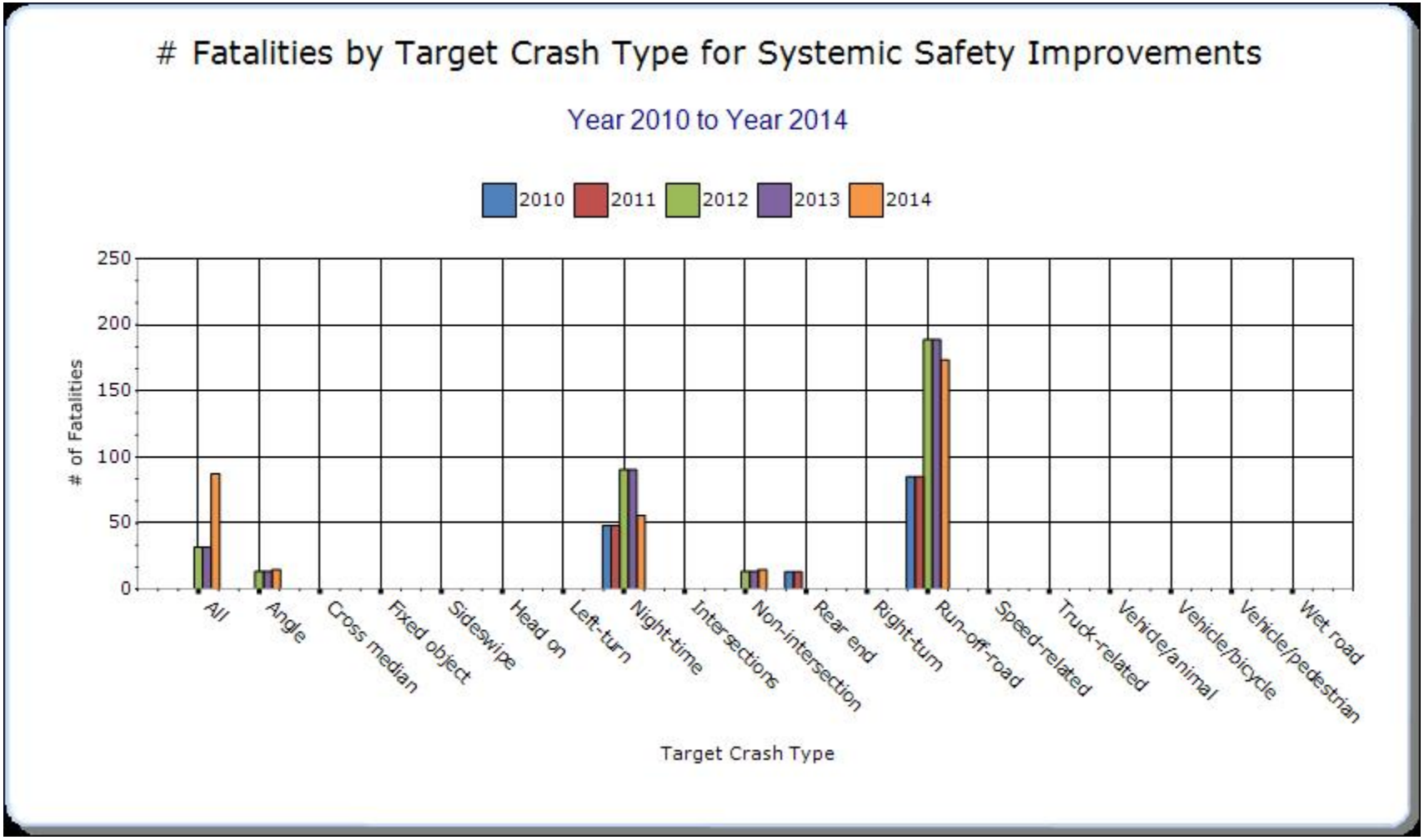


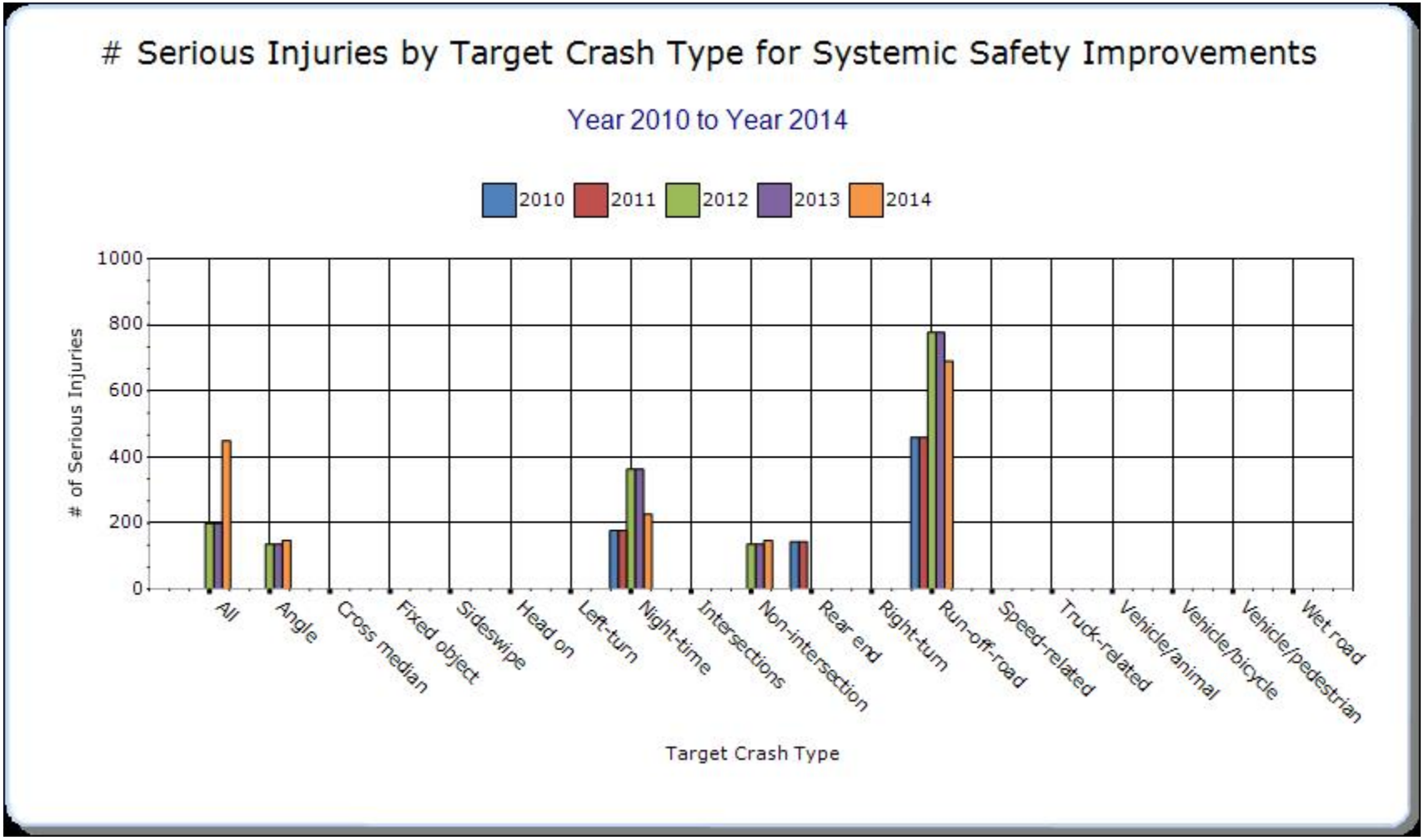
Systemic Treatments

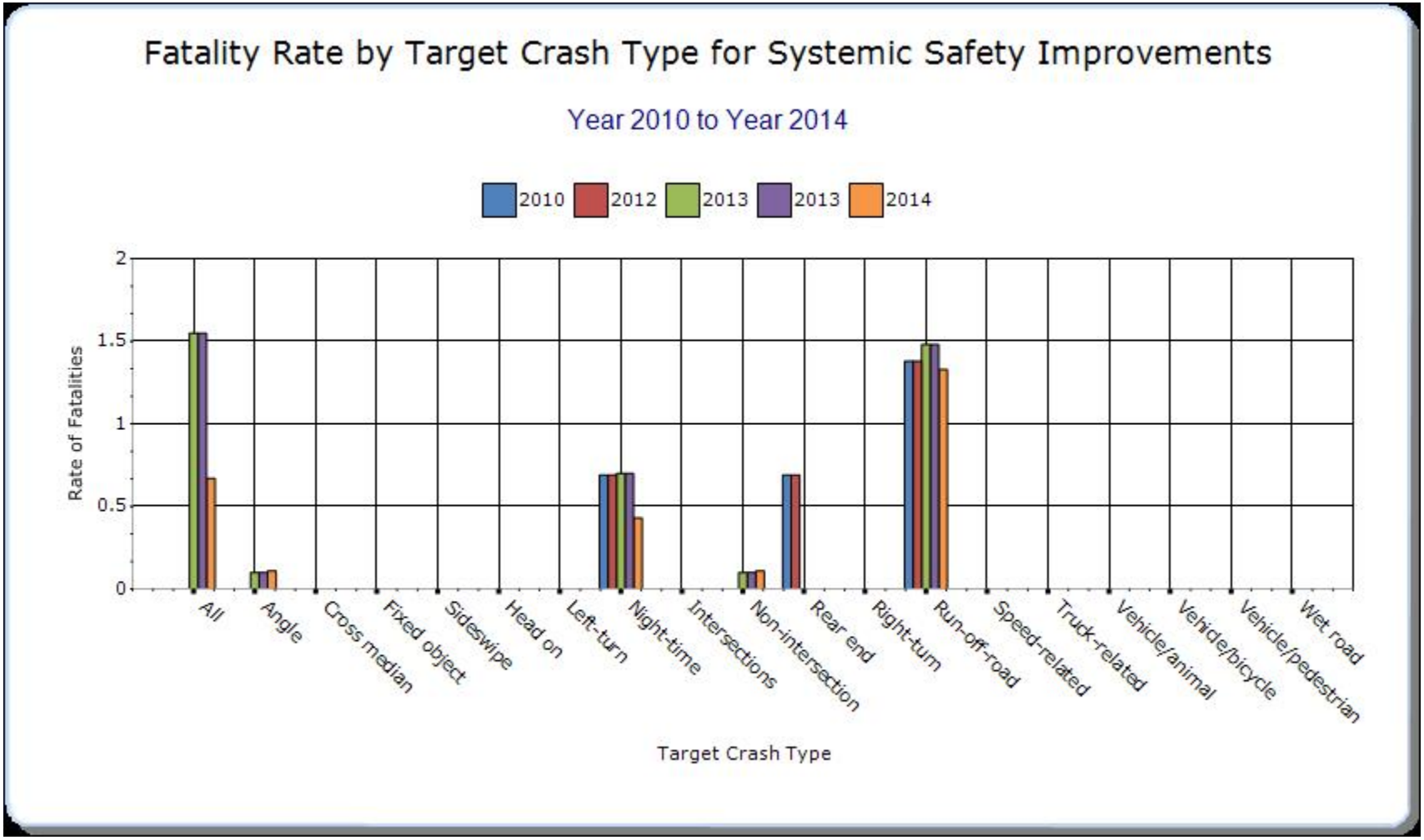
Present the overall effectiveness of systemic treatments.

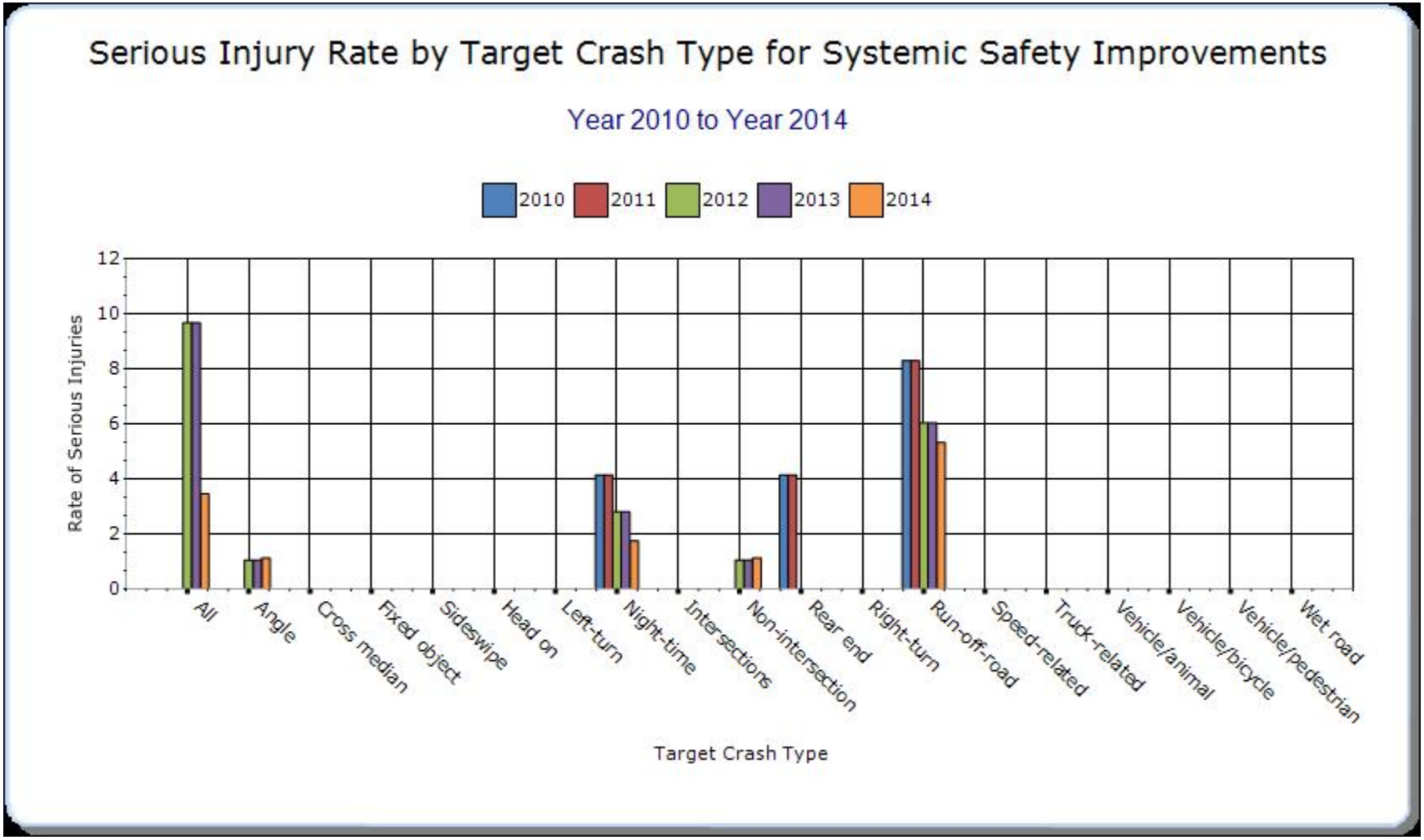
Year - 2014

Systemic improvement	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3
Other-intersections	Non-intersection	14.8	146.8	0.11	1.13			
Other-Other Median Barriers	Run-off-road	13.4	48.8	0.1	0.38			
Rumble Strips	All	55.8	227.2	0.43	1.75			
Add/Upgrade/Modify/Remove Traffic Signal	Angle	14.8	146.8	0.11	1.13			
local safety	All	31.6	221.6	0.24	1.71			
Upgrade Guard Rails	Run-off-road	55.8	227.2	0.43	1.75			
Install/Improve Signing	Run-off-road	48.4	187.4	0.37	1.44			
Other-F--terminal Replacements	Run-off-road	55.8	227.2	0.43	1.75			
Install/Improve Pavement Marking and/or Delineation	Night-time	55.8	227.2	0.43	1.75			


Fatalities by Target Crash Type for Systemic Safety Improvements
Year 2010 to Year 2014
2010
2011
2012
2013
2014
# of Fatalities
250
200
150
100
50
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


Serious Injuries by Target Crash Type for Systemic Safety Improvements
Year 2010 to Year 2014
2010
2011
2012
2013
2014
# of Serious Injuries
1000
800
600
400
200
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


Fatality Rate by Target Crash Type for Systemic Safety Improvements
Year 2010 to Year 2014
2010
2012
2013
2013
2014
Rate of Fatalities
2
1.5
1
0.5
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


Serious Injury Rate by Target Crash Type for Systemic Safety Improvements
Year 2010 to Year 2014
2010
2011
2012
2013
2014
Rate of Serious Injuries
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
Target Crash Type

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

The systemic approach to safety involves improvements to roadways that are widely implemented based on high-risk roadway features correlated with particular severe crash types. This method is very different from the traditional approach used in network screening in that locations receiving improvements are not necessarily required to have a demonstrated crash history. Systemic improvements serve as a strong complement to improvements identified through network screening, together treating the most hazardous sites and reducing the risk of severe crashes across the entire network.

Systemic countermeasure programs have also been shown to be more effective at reducing the overall number of crashes in the state than spot improvements, meaning that successful management of these programs will be essential in reaching State performance targets for reduction of fatalities and severe injuries. Whereas spot improvement projects only influence the safety at a single site or small area, systemic countermeasures are installed in entire towns, districts, or statewide with the potential to treat a large number of safety concerns and change driver behaviors. This is typically accomplished by implementing a large number of low-cost countermeasures that generally have a proportionally large safety benefit. Thus, it is the intent of the NH HSIP to use systemic countermeasure treatments as a significant means to improve highway safety in the State.

The systemic approach is iterative, flexible, and applicable to a variety of systems, locations, and crash types. Similar to the network screening approach, systemic planning involves problem identification, countermeasure selection, and project prioritization. The first step in the systemic process is to analyze system-wide crash and roadway data to target crash types (e.g., lane departure) and associated roadway risk factors (e.g., curves or roadside hazards) that make a significant contribution to the number of fatal and severe injury crashes in the State. Sites with these risk factors are identified and prioritized by potential for future severe crashes based on AADT, crash predictions for that roadway type, roadway characteristics, etc. Appropriate low-cost countermeasures (e.g., rumble strips) are then proposed to effectively address the specific crash types on roads with the identified risk factors. Finally, the chosen countermeasures are installed systemically at the selected sites.

NH is starting to move towards more systemic projects and countermeasures.

Project Evaluation

Provide project evaluation data for completed projects (optional).

Location	Functional Class	Improvement Category	Improvement Type	Bef-Fatal	Bef-Serious Injury	Bef-All Injuries	Bef-PDO	Bef-Total	Aft-Fatal	Aft-Serious Injury	Aft-All Injuries	Aft-PDO	Aft-Total	Evaluation Results (Benefit/ Cost Ratio)
Whitefield	Rural Principal Arterial - Other	Shoulder treatments	Widen shoulder - paved or other				3	3			2	4	6	-0.21
Whitefield	Rural Principal Arterial - Other	Roadway	Roadway - other				1	1						0.01

Derry	Urban Principal Arterial - Other	Intersection traffic control	Modify traffic signal - modernization/replacement			10	23	33			2	13	15	0.78
New London	Rural Principal Arterial - Other	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	1	2	6	17	26			3	3	6	19.05
Boscawen	Rural Principal Arterial - Other	Intersection geometry	Intersection geometry - other		2	4	2	8				1	1	0.32
Holderness	Rural Principal Arterial - Other	Intersection geometry	Intersection geometrics - modify skew angle				4	4						3.61

Epsom	Rural Principal Arterial - Other	Intersection traffic control	Intersection signing - add basic advance warning	1			10	11				3	3	81.72
Pittsfield	Rural Principal Arterial - Other	Intersection traffic control	Modify traffic signal - modernization/replacement			8	14	22			2	1	3	1.65
Brentwood	Rural Principal Arterial - Other	Intersection traffic control	Modify traffic signal - modernization/replacement	1	2	12	11	26			4	5	9	36.86
Brentwood	Rural Principal Arterial - Other	Intersection geometry	Auxiliary lanes - add right-turn lane			2	4	6			4	7	11	-3.52

Greenland	Urban Principal Arterial - Other	Intersection geometry	Auxiliary lanes - add right-turn lane			5	24	29		1	7	8	16	-7.02
Boscawen	Rural Principal Arterial - Other	Intersection traffic control	Modify control - modifications to roundabout				18	18			2	8	10	-0.55
Hampstead -Atkinson	Urban Minor Collector	Intersection geometry	Auxiliary lanes - add right-turn lane			4	10	14			1	3	4	-0.16
Lyme	Rural Minor Collector	Speed management	Traffic calming feature			1	2	3						1.39

Effingham	Rural Principal Arterial - Other	Intersection traffic control	Intersection signing - add enhanced advance warning (double-up and/or oversize)	3		2	4	9						532.64
Epping	Rural Principal Arterial - Other	Intersection geometry	Auxiliary lanes - add auxiliary through lane		1	25	47	73			1	13	14	1.16

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.