Highway Safety Improvement Program

Data Driven Decisions

New Hampshire
Highway Safety Improvement Program
2013 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 Highway Safety Improvement Program (HSIP) in New Hampshire (NH) includes the core "Hazard Elimination" (referred to as HSIP Funds) and High Risk Rural Road (HRRR) category funds (left over from SAFETEA-LU as the MAP-21 law). The plan does not address the expenditures of Rail/Grade Crossing funds.

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

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.

The HSIP committee consists of Assistant Director Project Development, design, traffic, maintenance, and planning personnel from the NHDOT, RPCs, MPOs and FHWA (Appendix C). Committee meetings are held quarterly, or as necessary, 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's HSIP Program utilizes three approaches to identify sites for improvement. Each approach identifies cost-effective solutions through different analysis methods. The three approaches will identify sites for *Traditional*, *Systemic*, and *Road Safety Audit projects* that have potential for safety improvements. The present strategy is to set aside up to ten percent of HSIP funding for locally requested safety improvement projects and to balance the remainder between *Traditional* and *Systemic* improvements. The committee reviews the funding allocations of *Traditional* and *Systemic* categories annually and adjusts the budget based on identified improvements

Introduction

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

Program Structure

Program Administration

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

☒ Central

☐ District

☐ Other

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

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: 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, and planning personnel from the NHDOT, RPCs, MPOs and FHWA (Appendix C). Committee meetings are held quarterly, or as necessary, 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: Other-Regional Planning Commission Staff

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

☒Multi-disciplinary HSIP steering committee

☐Other:

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

The NHDOT Highway Safety Engineer (HSE) updates the Safety Analyst data import to the ten most recent years of data and then the HSE performs the Network Screening and produces the

Transparency Report of potential projects, by October 1. The HSE distributes the *Transparency Report* to stakeholders in October, for consideration of HSIP funding proposed projects locations and completion of submittal packages are due on January 1. The committee selects and prioritizes the projects from January – March. March – September completes the cycle and ends the Federal fiscal year; all annual funding is obligated by September 30.

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 improvement on these roadways though the HSIP program. A statewide analysis of lane departure crashes is used to identify towns with the greatest number of the targeted crash types. The prioritized list is filtered by each of the nine RPCs. Towns are selected from each RPC. Sixteen towns chose to participate in the first phase of the program.

Program Methodology

Select the programs that are administered under the HSIP.

☒ Median Barrier	☒ Intersection	☐ Safe Corridor
☒ Horizontal Curve	☐ Bicycle Safety	☐ Rural State Highways
☐ Skid Hazard	☒ Crash Data	☐ Red Light Running Prevention
☒ Roadway Departure	☒ Low-Cost Spot Improvements	☒ Sign Replacement And Improvement
☒ Local Safety	☐ Pedestrian Safety	☐ Right Angle Crash
☐ Left Turn Crash	☐ Shoulder Improvement	☒ Segments
☐ Other:		

Program: **Median Barrier**

Date of Program Methodology: **10/1/2012**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
☐ All crashes	☒ Traffic	☐ Median width
☐ Fatal crashes only	☒ Volume	☐ Horizontal curvature
☐ Fatal and serious injury crashes only	☐ Population	☒ Functional classification
☒ Other-Run Off the Road	☐ Lane miles	☐ Roadside features
	☐ Other	☐ Other

What project identification methodology was used for this program?

☐ Crash frequency

☒ Expected crash frequency with EB adjustment

☐ Equivalent property damage only (EPDO Crash frequency)

☐ EPDO crash frequency with EB adjustment

☐ Relative severity index

☐ Crash rate

☐ Critical rate

☐ Level of service of safety (LOSS)

☐ Excess expected crash frequency using SPFs

☐ Excess expected crash frequency with the EB adjustment

☐ Excess expected crash frequency using method of moments

☐ Probability of specific crash types

☐ Excess proportions of specific crash types

☐ Other

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

☒ Yes

☐ No

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

☐ Yes

☒ No

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

☐ Other

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

☐ Relative Weight in Scoring

☒ Rank of Priority Consideration

☒ Ranking based on B/C	50
☒ Available funding	50
☐ Incremental B/C	
☐ Ranking based on net benefit	
☐ Cost Effectiveness	

Program: **Intersection**

Date of Program Methodology: **10/1/2012**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
☐ All crashes	☒ Traffic	☐ Median width
☐ Fatal crashes only	☒ Volume	☐ Horizontal curvature
☒ Fatal and serious injury crashes only	☐ Population	☐ Functional classification
☒ Other-EPDO	☐ Lane miles	☐ Roadside features
	☐ Other	☒ Other-Site Subtype

What project identification methodology was used for this program?

☐ Crash frequency

☒ Expected crash frequency with EB adjustment

☒ Equivalent property damage only (EPDO Crash frequency)

☐ EPDO crash frequency with EB adjustment

☐ Relative severity index

☐ Crash rate

☐ Critical rate

☐ Level of service of safety (LOSS)

☐ Excess expected crash frequency using SPFs

☐ Excess expected crash frequency with the EB adjustment

☐ Excess expected crash frequency using method of moments

☐ Probability of specific crash types

☐ Excess proportions of specific crash types

☐ Other

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

☒ Yes

☐ No

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

☐ Yes

☒ No

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

☐Other

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

☐Relative Weight in Scoring

☒Rank of Priority Consideration

☒Ranking based on B/C	50
☒Available funding	50
☐Incremental B/C	
☐Ranking based on net benefit	
☐Cost Effectiveness	

Program: **Horizontal Curve**

Date of Program Methodology: **10/1/2012**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
☐All crashes	☒Traffic	☐Median width
☐Fatal crashes only	☒Volume	☐Horizontal curvature
☒Fatal and serious injury	☐Population	☐Functional classification

crashes only

☒ Other-Run Off the Road ☐ Lane miles ☐ Roadside features

☐ Other ☒ Other-site subtype

What project identification methodology was used for this program?

☐ Crash frequency

☒ Expected crash frequency with EB adjustment

☐ Equivalent property damage only (EPDO Crash frequency)

☐ EPDO crash frequency with EB adjustment

☐ Relative severity index

☐ Crash rate

☐ Critical rate

☐ Level of service of safety (LOSS)

☐ Excess expected crash frequency using SPFs

☐ Excess expected crash frequency with the EB adjustment

☐ Excess expected crash frequency using method of moments

☐ Probability of specific crash types

☐ Excess proportions of specific crash types

☐ Other

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

☒ Yes

☐ No

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

☒ Yes

☐ No

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☒ selection committee

☐ Other

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

☐ Relative Weight in Scoring

☒ Rank of Priority Consideration

☒ Ranking based on B/C	50
☒ Available funding	50
☐ Incremental B/C	
☐ Ranking based on net benefit	
☐ Cost Effectiveness	

Program: **Crash Data**

Date of Program Methodology: **10/1/2012**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
☒All crashes	☒Traffic	☒Median width
☐Fatal crashes only	☒Volume	☒Horizontal curvature
☐Fatal and serious injury crashes only	☐Population	☒Functional classification
☐Other	☐Lane miles	☒Roadside features
	☐Other	☐Other

What project identification methodology was used for this program?

☐Crash frequency

☒Expected crash frequency with EB adjustment

☐Equivalent property damage only (EPDO Crash frequency)

☐EPDO crash frequency with EB adjustment

☐Relative severity index

☐Crash rate

☐Critical rate

☐Level of service of safety (LOSS)

☐Excess expected crash frequency using SPFs

☐Excess expected crash frequency with the EB adjustment

☐Excess expected crash frequency using method of moments

☐Probability of specific crash types

☐Excess proportions of specific crash types

☒Other-need requirement MIRE and HSM

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

☒Yes

☐No

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

☒Yes

☐No

How are highway safety improvement projects advanced for implementation?

☐Competitive application process

☒selection committee

☐Other

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

☐Relative Weight in Scoring

☒Rank of Priority Consideration

☐Ranking based on B/C

☒Available funding 100

☐Incremental B/C

☐Ranking based on net benefit

☐Cost Effectiveness

Program: **Roadway Departure**

Date of Program Methodology: **10/1/2012**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
☐ All crashes	☒ Traffic	☒ Median width
☐ Fatal crashes only	☒ Volume	☒ Horizontal curvature
☐ Fatal and serious injury crashes only	☐ Population	☒ Functional classification
☒ Other-Run Off the Road	☐ Lane miles	☒ Roadside features
	☐ Other	☐ Other

What project identification methodology was used for this program?

☐ Crash frequency

☒ Expected crash frequency with EB adjustment

☐ Equivalent property damage only (EPDO Crash frequency)

☐ EPDO crash frequency with EB adjustment

☐ Relative severity index

☐ Crash rate

☐ Critical rate

☐ Level of service of safety (LOSS)

☐ Excess expected crash frequency using SPFs

☐ Excess expected crash frequency with the EB adjustment

☐ Excess expected crash frequency using method of moments

☐ Probability of specific crash types

☐ Excess proportions of specific crash types

☐ Other

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

☒ Yes

☐ No

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

☒ Yes

☐ No

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☐ selection committee

☐ Other

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

☐ Relative Weight in Scoring

☒ Rank of Priority Consideration

☒ Ranking based on B/C	50
☒ Available funding	50
☐ Incremental B/C	
☐ Ranking based on net benefit	

☐ Cost Effectiveness

Program: **Low-Cost Spot Improvements**

Date of Program Methodology: **10/1/2012**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
☒ All crashes	☒ Traffic	☐ Median width
☐ Fatal crashes only	☒ Volume	☐ Horizontal curvature
☐ Fatal and serious injury crashes only	☐ Population	☐ Functional classification
☐ Other	☐ Lane miles	☐ Roadside features
	☐ Other	☐ Other

What project identification methodology was used for this program?

☐ Crash frequency

☐ Expected crash frequency with EB adjustment

☐ Equivalent property damage only (EPDO Crash frequency)

☐ EPDO crash frequency with EB adjustment

☐ Relative severity index

☐ Crash rate

☐ Critical rate

☐ Level of service of safety (LOSS)

☐ Excess expected crash frequency using SPFs

☐ Excess expected crash frequency with the EB adjustment

☐ Excess expected crash frequency using method of moments

☐ Probability of specific crash types

☐ Excess proportions of specific crash types

☒ Other-RSA request from local agencies

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

☒ Yes

☐ No

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

☒ Yes

☐ No

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☒ selection committee

☐ Other

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

☐ Relative Weight in Scoring

☒ Rank of Priority Consideration

☒ Ranking based on B/C 100

☐ Available funding

☐ Incremental B/C

☐ Ranking based on net benefit

☐ Cost Effectiveness

Program: **Sign Replacement And Improvement**

Date of Program Methodology: **10/1/2012**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
☒ All crashes	☒ Traffic	☐ Median width
☐ Fatal crashes only	☒ Volume	☒ Horizontal curvature
☐ Fatal and serious injury crashes only	☐ Population	☒ Functional classification
☐ Other	☐ Lane miles	☐ Roadside features
	☐ Other	☐ Other

What project identification methodology was used for this program?

☒ Crash frequency

☐ Expected crash frequency with EB adjustment

☐ Equivalent property damage only (EPDO Crash frequency)

☐ EPDO crash frequency with EB adjustment

☐ Relative severity index

☐ Crash rate

☐ Critical rate

☐ Level of service of safety (LOSS)

☐ Excess expected crash frequency using SPFs

☐ Excess expected crash frequency with the EB adjustment

☐ Excess expected crash frequency using method of moments

☐ Probability of specific crash types

☐ Excess proportions of specific crash types

☒ Other-Run off the Road

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

☒ Yes

☐ No

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

☒ Yes

☐ No

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☒ selection committee

☐ Other

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

☐ Relative Weight in Scoring

☒ Rank of Priority Consideration

☐ Ranking based on B/C

☒ Available funding 100

☐ Incremental B/C

☐ Ranking based on net benefit

☐ Cost Effectiveness

Program: **Local Safety**

Date of Program Methodology: **10/1/2012**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
☒ All crashes	☒ Traffic	☐ Median width
☐ Fatal crashes only	☒ Volume	☐ Horizontal curvature
☐ Fatal and serious injury crashes only	☐ Population	☒ Functional classification
☐ Other	☐ Lane miles	☐ Roadside features
	☐ Other	☐ Other

What project identification methodology was used for this program?

☒ Crash frequency

☐ Expected crash frequency with EB adjustment

☐ Equivalent property damage only (EPDO Crash frequency)

☐ EPDO crash frequency with EB adjustment

☐ Relative severity index

☐ Crash rate

☐ Critical rate

☐ Level of service of safety (LOSS)

☐ Excess expected crash frequency using SPFs

☐ Excess expected crash frequency with the EB adjustment

☐ Excess expected crash frequency using method of moments

☐ Probability of specific crash types

☐ Excess proportions of specific crash types

☐ Other

☒ Other-RSA local agency

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

☒ Yes

☐ No

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

☒ Yes

☐ No

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☒ selection committee

☐ Other

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

☐ Relative Weight in Scoring

☒ Rank of Priority Consideration

☒ Ranking based on B/C	50
☒ Available funding	50
☐ Incremental B/C	
☐ Ranking based on net benefit	
☐ Cost Effectiveness	

Program: **Segments**

Date of Program Methodology: **10/1/2012**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
☐ All crashes	☒ Traffic	☒ Median width
☐ Fatal crashes only	☒ Volume	☐ Horizontal curvature
☒ Fatal and serious injury crashes only	☐ Population	☐ Functional classification

☒Other-Run off the Road ☐Lane miles ☐Roadside features

☐Other ☒Other-Site subtype

What project identification methodology was used for this program?

☐Crash frequency

☒Expected crash frequency with EB adjustment

☐Equivalent property damage only (EPDO Crash frequency)

☐EPDO crash frequency with EB adjustment

☐Relative severity index

☐Crash rate

☐Critical rate

☐Level of service of safety (LOSS)

☐Excess expected crash frequency using SPFs

☐Excess expected crash frequency with the EB adjustment

☐Excess expected crash frequency using method of moments

☐Probability of specific crash types

☐Excess proportions of specific crash types

☐Other

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

☒Yes

☐No

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

☒Yes

☐No

How are highway safety improvement projects advanced for implementation?

☒Competitive application process

☒selection committee

☐Other

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

☐Relative Weight in Scoring

☒Rank of Priority Consideration

☒Ranking based on B/C	50
☒Available funding	50
☐Incremental B/C	
☐Ranking based on net benefit	
☐Cost Effectiveness	

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

50

Highway safety improvment program funds are used to address which of the following systemic improvments?

☒ Cable Median Barriers

☐ Traffic Control Device Rehabilitation

☒ Install/Improve Signing

☒ Upgrade Guard Rails

☐ Safety Edge

☐ Add/Upgrade/Modify/Remove Traffic Signal

☒ Other Other-F--terminal Replacements

☒ Rumble Strips

☐ Pavement/Shoulder Widening

☐ Install/Improve Pavement Marking and/or Delineation

☐ Clear Zone Improvements

☐ Install/Improve Lighting

☒ Other Other-intersections

☒ Other Other-Other Median Barriers

What process is used to identify potential countermeasures?

☒ Engineering Study

☒ Road Safety Assessment

☐ Other:

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

☐ Highway Safety Manual

☒ Road Safety audits

☒ Systemic Approach

☐ Other:

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

NH has adopted Road Safety Audits (RSA) guidelines to assist in the identification of safety improvements on existing roads. The *Road Safety Audit projects* (RSA) approach is designed to provide the opportunity for agencies to submit their concerns about unsafe sites, preferably with high crash data, for consideration that have not been identified through other methods.

Locations submitted by local and/or regional stakeholders shall require a Road Safety Audit (RSA). To request a Road Safety Audit, a HSIP Candidate Location Package shall be submitted to the NHDOT State Highway Safety Engineer.

The HSIP Candidate Location Package shall include, at a minimum, the following information:

- A completed NHDOT Road Safety Audit Application (see Appendix E). The Road Safety Audit Application shall be signed by the local governing body (e.g. Board of Selectmen) or their designee, the NHDOT District Engineer (if the identified location affects state-maintained infrastructure), and the applicable Regional Planning Commission;
- A written description of the location with a summary of the safety problem(s) at the location;
- A map showing the affected location;
- A summary of traffic volume data at the location (AADT for segments, turning movement data for intersections);
- Crash reports at the location for the most recent ten-year period;
- A crash diagram displaying the time, type, and severity of crashes at the location;
- Photographs of the location.

Local stakeholders are encouraged to contact their Regional Planning Commission for assistance in compiling the required information for the HSIP Candidate Location package. Following submission to the NHDOT State Highway Safety Engineer, HSIP Candidate Location packages are reviewed and prioritized by the HSIP Committee. Ideally, effective

countermeasures identified will cost less than $100,000 dollars or be approved by the HSIP Committee. The project must meet the project selection criteria (Appendix B). When an audit identifies cost effective counter-measures at a site, it may qualify for HSIP funding.

The Audit team is made from a diverse group of stakeholders representing multiple disciplines and may include local officials such as police and fire chiefs; business and land owners adjacent to the site; NHDOT engineering staff such; and a Facilitator (typically a Consultant hired by the NHDOT) to conduct the RSA.

The Road Safety Audit typically takes three hours, which includes the presentation, site visit and suggestions/ discussions for options. Depending on the specific issues involved the road safety audit may take place in the morning, afternoon and/or evening. The Facilitator compiles the suggestions in a report. The resulting RSA report will generally recommend short, medium, and long term solutions, identifying the party(ies) responsible for implementing them. Short and medium term solutions can often be implemented within normal maintenance or operations programs. Long term solutions would generally require some measure of capital improvement that would need to be included within a transportation improvement program. The Consultant also develops 3 concepts from the long term solutions and places those concepts on an aerial to be used in meetings to help show the long term solution.

Progress in Implementing Projects

Funds Programmed

Reporting period for Highway Safety Improvement Program funding.

☐ Calendar Year

☐ State Fiscal Year

☒ Federal Fiscal Year

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

Funding Category	Programmed*		Obligated	
HSIP (Section 148)	7275279.52	82 %	6875279.52	86 %
HRRRP (SAFETEA-LU)	1605000	18 %	1105000	14 %
HRRR Special Rule	0	0 %	0	0 %
Penalty Transfer - Section 154	0	0 %	0	0 %
Penalty Transfer – Section 164	0	0 %	0	0 %
Incentive Grants - Section 163	0	0 %	0	0 %
Incentive Grants (Section 406)	0	0 %	0	0 %
Other Federal-aid Funds (i.e. STP, NHPP)	0	0 %	0	0 %
State and Local Funds	0	0 %	0	0 %
Totals	8880279.52	100%	7980279.52	100%

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

4 %

How much funding is obligated to local safety projects?

$350,000.00

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

4 %

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

$350,000.00

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

0 %

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

0 %

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

One of the biggest impediments to obligating the HSIP funds has been identification and development of enough projects on an annual bases to cover the funding for that year. Ideally, we should have a backlog of projects. Currently, we are having trouble obligating all the funds given to us annually due to not having enough projects. If an individual project is delayed for some reason, we should have other projects that could take it's place. We currently do not have enough on-shelf projects.

Two things that will help improve NHDOT obligating HSIP funds are: 1) having a way to design the projects and 2) a method to identify projects.
NHDOT is currently in the process of hiring 2 on-call consultants that will work specifically on HSIP projects. These consultants will be able to help improve NHDOT crash data as well as Design projects.
The Road Safety Audit(RSA) process is under utilized currently by the local towns and Regional Planning Commissions. NHDOT needs to develop a better way to inform the RCPs and town about the RSA process and the available funds.

NHDOT has been successful with guard rail replacement program. Those systemic replacements principles can be applied to median barrier upgrades, High Risk Rural Road projects, sign replacement projects, pavement
marking improvements and intersection improvements. The Rumble strip program is also over coming the reluctance to install more rumble stripes systematically and funds to be obligated over the next several years will increase.

The data for safety analyst comes from other state agencies and needs to be processed by them prior to importing the data into the software. Typically this data is available in June but this year it is late.
This will effect the completion of the next transparency report for the state and local roads. The Administrators of the
Bureau of Highway Design and Planning Community service need to work out a priority list and schedule to prevent the data being processed and delivered late.

All of the crashes are not reported and this effects the quality of the crash data. Education to the reporting officers needs to be done to help improve the data. Eticket software is also be implemented at the Department of Safety. This will also improve the quality of crash data

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

For a project entering the HSIP through the transparency report the timeline for the HSIP process is:

May – October for network analysis;

October – January for evaluation of high crash locations;

January – March for project selection, prioritization, and budget optimization;

March – September for project development.

The NHDOT Highway Safety Engineer (HSE) updates the Safety Analyst data import to the ten most recent years of data and then the HSE performs the Network Screening and produces the *Transparency Report* of potential projects, by October 1. The HSE distributes the *Transparency Report* to stakeholders in October, for consideration of HSIP funding proposed projects locations and completion of submittal packages are due on January 1. The committee selects and prioritizes the projects from January – March. March – September completes the cycle and ends the Federal fiscal year; all annual funding is obligated by September 30 .

The State Transportation Improvement Plan (STIP) lists the funding for HSIP/HRRR as a line item. Projects are selected for HSIP funding through the procedures outlined earlier, and a prioritized list of projects is maintained for the present and subsequent fiscal years. Ideally all funds programmed for a given year are allocated in that year to best improve highway safety as quickly as possible.

The values shown in the table below are anticipated Federal and State Resources for the years 2013 – 2016 and reflect values in the STIP. Actual amounts used will be based on funds made available from these sources.

	2013	2014	2015	2016
Federal Resources	**$ 8,838,998**	**$ 8,838,998**	**$ 8,838,998**	**$ 8,838,998**
State Resources	**$ 890,000**	**$ 890,000**	**$ 890,000**	**$ 890,000**
Total	**$ 9,728,998**	**$ 9,728,998**	**$ 9,728,998**	**$ 9,728,998**

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
Gilford	Intersection geometry Auxiliary lanes - add left-turn lane	Numbers	448500	448500	HSIP (Section 148)	Urban Minor Collector	6200	35	State Highway Agency	Improving the design and operation of highway intersections	intersection geometry
Rindge	Intersection geometry Auxiliary lanes - add left-turn lane	1 Numbers	381180	381180	HSIP (Section 148)	Rural Major Collector	7900	55	State Highway Agency	Improving the design and operation of highway intersections	intersection geometry
statewide systemic	Non-infrastructure	0 Numbers	175000	175000	HSIP (Section 148)	data improvement	0	0	State Highway Agency	Creating more effective processes and safety	data improvement

										management systems	
Bedford-Mnachester	Roadside Barrier - concrete	0 Numbers	990000	990000	HSIP (Section 148)	Urban Major Collector	19000	55	State Highway Agency	Keeping vehicles in the roadway	improve runoff the roadway crashes
Statewide D4 systemic	Roadway signs and traffic control Curve-related warning signs and flashers	0 Numbers	565000	565000	HSIP (Section 148)	Rural Major Collector	5000	40	Town or Township Highway Agency	Improving information and decision support systems	improving signs and reducing run off the road crashes
statewide d5 systemic	Roadway signs and traffic control Roadway signs and traffic control - other	0 Numbers	540000	540000	HSIP (Section 148)	Rural Major Collector	5000	45	Town or Township Highway Agency	Improving information and decision support systems	improving data and reducing run off the road crashes
guardrail replacement - cable	Roadside Barrier - cable	0 Numbers	100000 00	100000 00	HSIP (Section 148)	Rural Major Collector	5000	45	Town or Township Highway Agency	Keeping vehicles in the roadway	reducing run off the road crashes
Manchester	Intersection traffic control Modify traffic signal -	1 Numbe	350000	350000	HSIP (Sectio	Urban Minor	12000	45	City of Municipal	Improving the design and	

	modernization/replacement	rs			n 148)	Collector			Highway Agency	operation of highway intersections	
guardrail f unit upgrade	Roadside Barrier end treatments (crash cushions, terminals)	0 Numbers	1100000	1100000	HSIP (Section 148)	Rural Major Collector	5000	45	State Highway Agency	Minimizing the consequences of leaving the road	
rumble stripes	Roadway Rumble strips - edge or shoulder	0 Numbers	165000	165000	HSIP (Section 148)	Rural Major Collector	5000	45	State Highway Agency	Keeping vehicles in the roadway	
statewide rumble stripes	Roadway Rumble strips - center	0 Numbers	400000	400000	HSIP (Section 148)	Rural Major Collector	5000	45	State Highway Agency	Minimizing the consequences of leaving the road	
staewide pavement markings	Roadway delineation Longitudinal pavement markings - remarking	0 Numbers	915000	915000	HSIP (Section 148)	Rural Minor Collector	5000	55	State Highway Agency	Improving the design and operation of highway intersectio	

										ns	
Barrington	Roadway Roadway widening - add lane(s) along segment	1 Miles	75000	75000	HSIP (Section 148)	Rural Major Collector	14000	55	State Highway Agency	Improving the design and operation of highway intersections	
WEDU	Non-infrastructure	0 Numbers	250000	250000	HSIP (Section 148)	education	0	0	State Highway Agency	Increasing driver safety awareness	

Progress in Achieving Safety Performance Targets

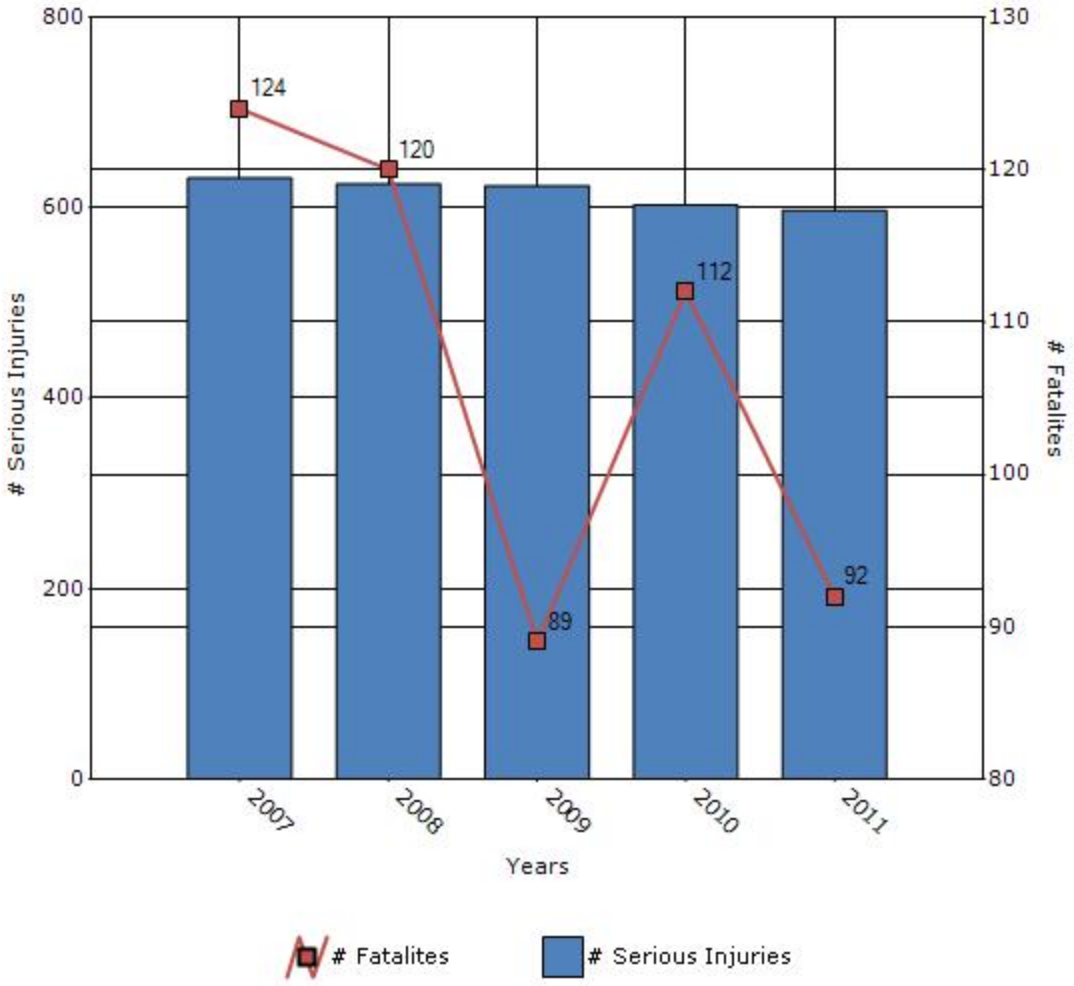
Overview of General Safety Trends

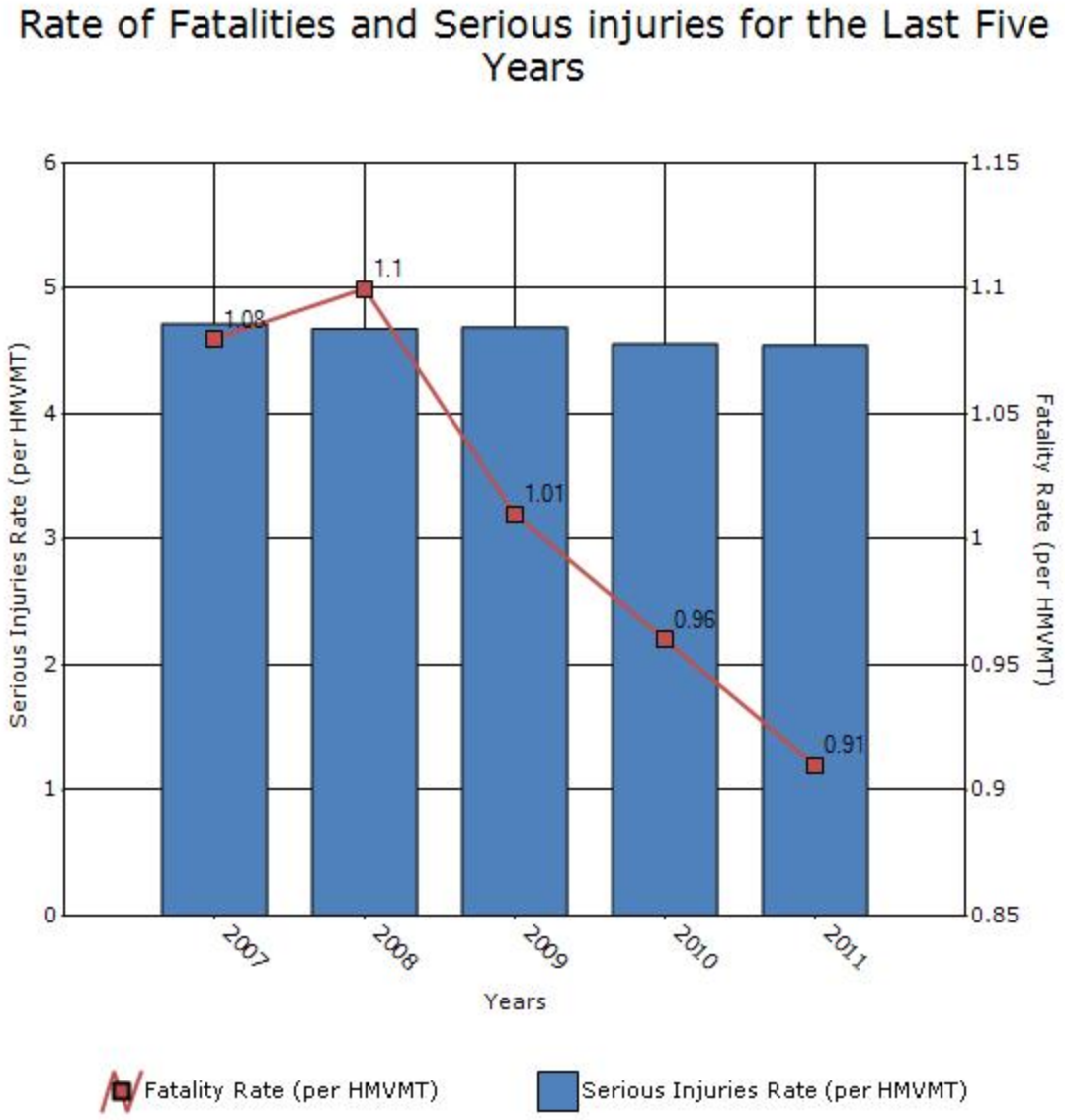
Present data showing the general highway safety trends in the state for the past five years.

Performance Measures*	2007	2008	2009	2010	2011
Number of fatalities	124	120	89	112	92
Number of serious injuries	631	625	623	603	597
Fatality rate (per HMVMT)	1.08	1.1	1.01	0.96	0.91
Serious injury rate (per HMVMT)	4.72	4.68	4.69	4.56	4.55

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

Number of Fatalities and Serious injuries for the Last Five Years



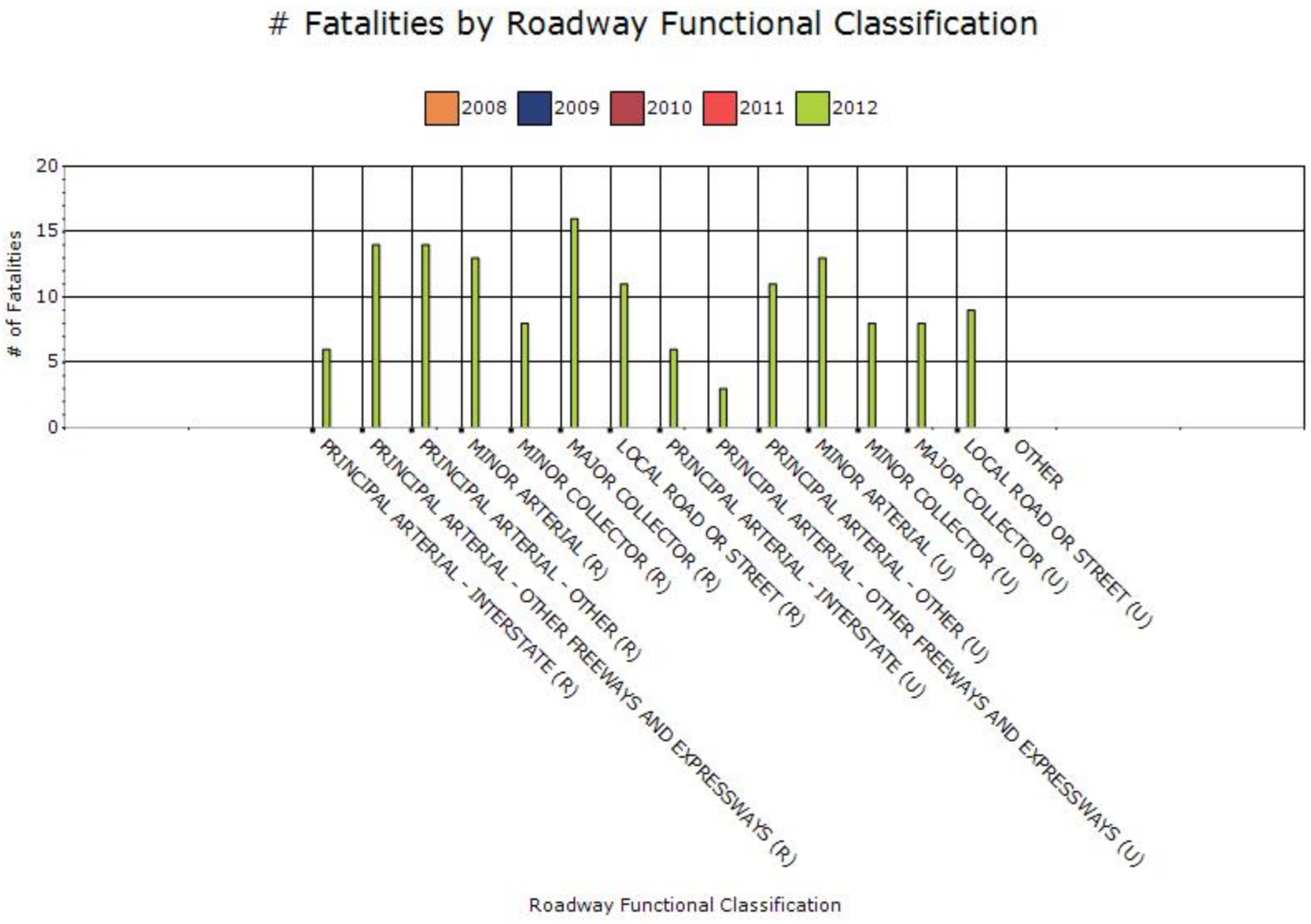

Rate of Fatalities and Serious injuries for the Last Five Years
Serious Injuries Rate (per HMVMT)
Fatality Rate (per HMVMT)
Years
2007
2008
2009
2010
2011
1.08
1.1
1.01
0.96
0.91
Fatality Rate (per HMVMT)
Serious Injuries Rate (per HMVMT)

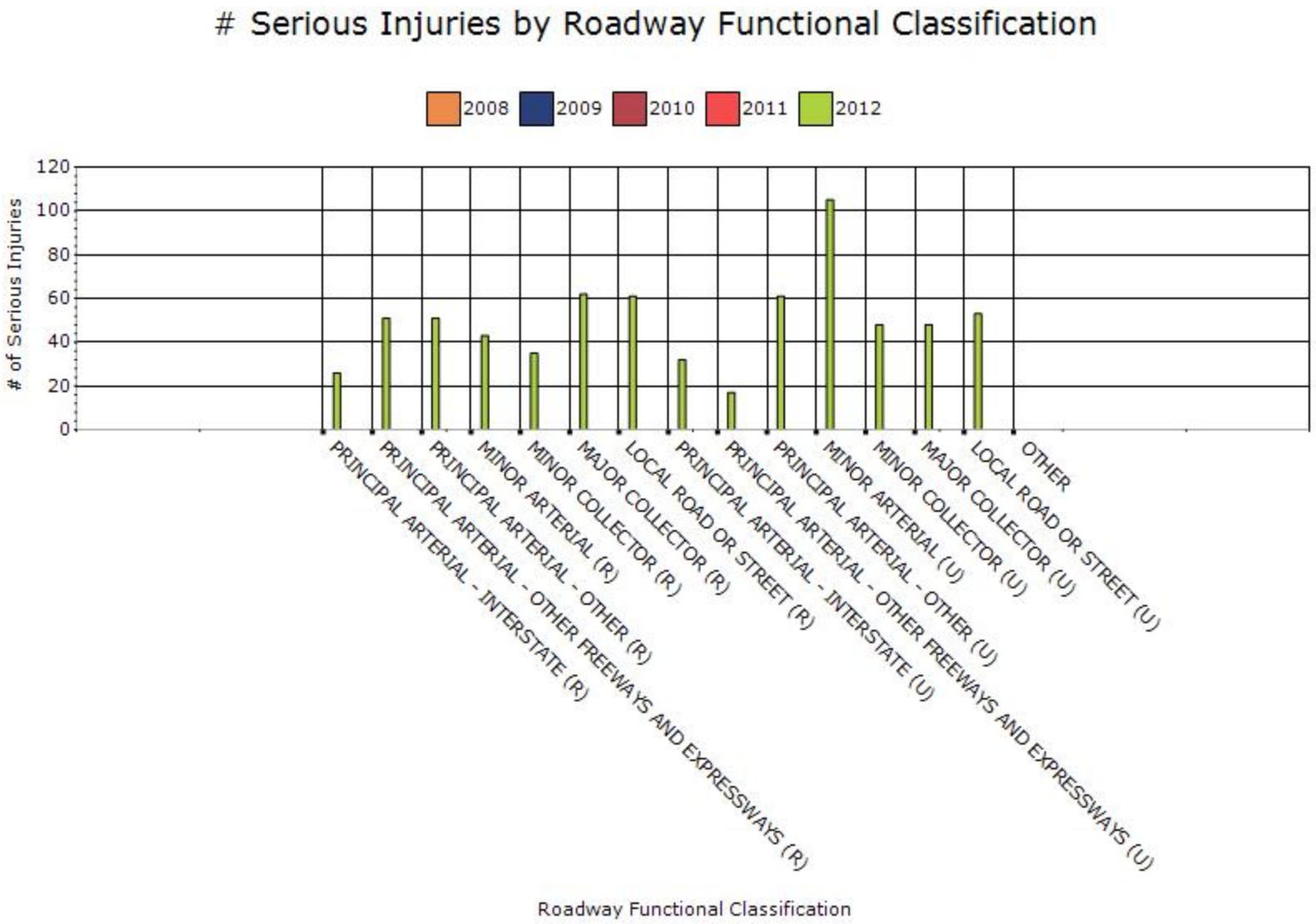
To the maximum extent possible, present performance measure* data by functional classification and ownership.

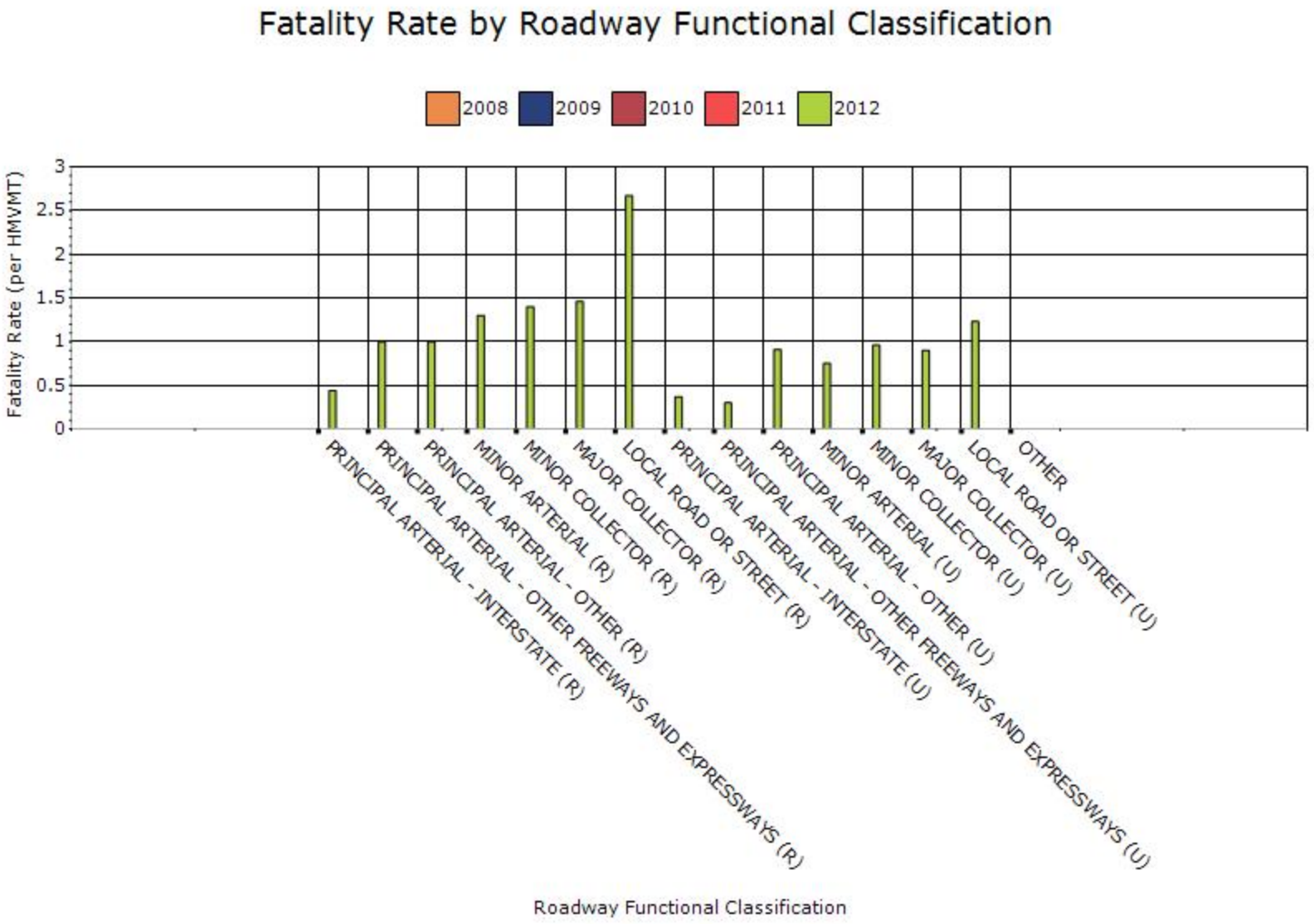
Year - 2012

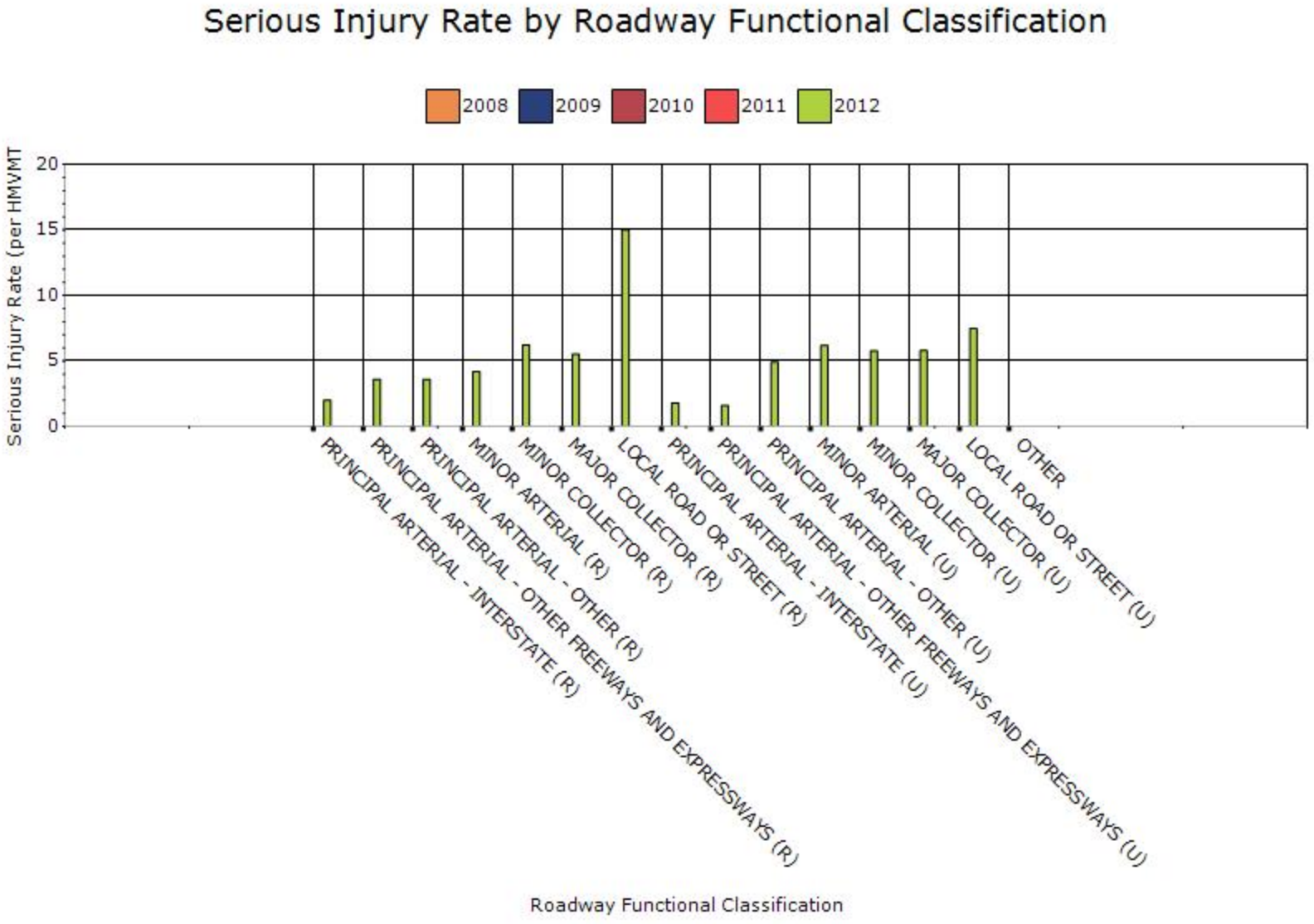
Function Classification	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
RURAL PRINCIPAL ARTERIAL - INTERSTATE	6	26	0.44	2
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	14	51	1	3.6
RURAL PRINCIPAL ARTERIAL - OTHER	14	51	1	3.6
RURAL MINOR ARTERIAL	13	43	1.3	4.2
RURAL MINOR COLLECTOR	8	35	1.4	6.22
RURAL MAJOR COLLECTOR	16	62	1.46	5.52
RURAL LOCAL ROAD OR STREET	11	61	2.67	15
URBAN PRINCIPAL	6	32	0.37	1.79

ARTERIAL - INTERSTATE				
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	3	17	0.3	1.61
URBAN PRINCIPAL ARTERIAL - OTHER	11	61	0.91	4.93
URBAN MINOR ARTERIAL	13	105	0.75	6.18
URBAN MINOR COLLECTOR	8	48	0.96	5.78
URBAN MAJOR COLLECTOR	8	48	0.9	5.8
URBAN LOCAL ROAD OR STREET	9	53	1.23	7.49
OTHER	0	0	0	0
OTHER	0	0	0	0


Fatalities by Roadway Functional Classification
2008
2009
2010
2011
2012
# of Fatalities
20
15
10
5
0
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)
LOCAL ROAD OR STREET (R)
PRINCIPAL ARTERIAL - INTERSTATE (U)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (U)
PRINCIPAL ARTERIAL - OTHER (U)
MINOR ARTERIAL (U)
MINOR COLLECTOR (U)
MAJOR COLLECTOR (U)
LOCAL ROAD OR STREET (U)
OTHER
Roadway Functional Classification


Serious Injuries by Roadway Functional Classification
2008
2009
2010
2011
2012
# of Serious Injuries
120
100
80
60
40
20
0
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)
LOCAL ROAD OR STREET (R)
PRINCIPAL ARTERIAL - INTERSTATE (U)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (U)
PRINCIPAL ARTERIAL - OTHER (U)
MINOR ARTERIAL (U)
MINOR COLLECTOR (U)
MAJOR COLLECTOR (U)
LOCAL ROAD OR STREET (U)
OTHER
Roadway Functional Classification

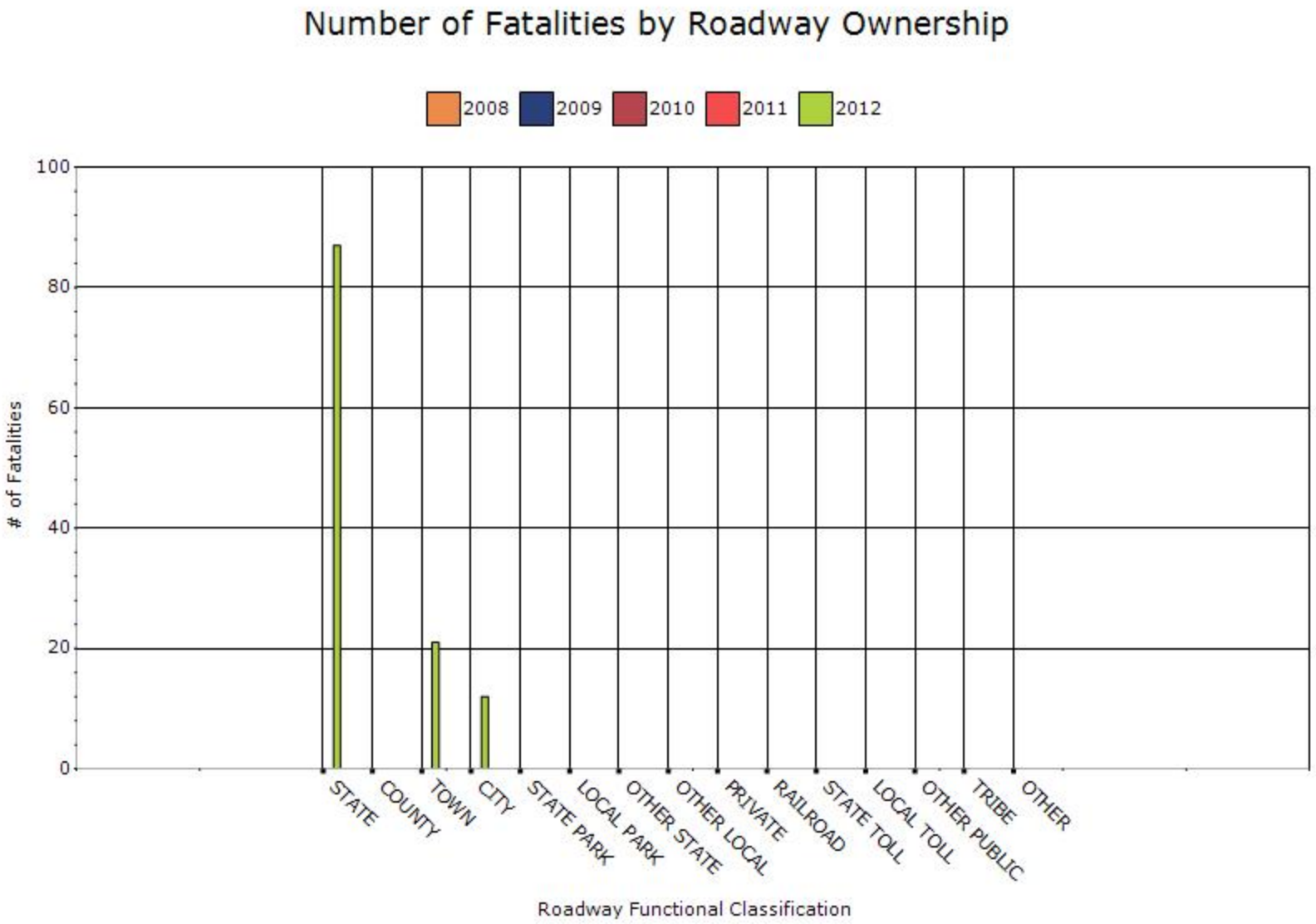

Fatality Rate by Roadway Functional Classification
2008
2009
2010
2011
2012
Fatality Rate (per HMVMT)
3
2.5
2
1.5
1
0.5
0
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)
LOCAL ROAD OR STREET (R)
PRINCIPAL ARTERIAL - INTERSTATE (U)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (U)
PRINCIPAL ARTERIAL - OTHER (U)
MINOR ARTERIAL (U)
MINOR COLLECTOR (U)
MAJOR COLLECTOR (U)
LOCAL ROAD OR STREET (U)
OTHER
Roadway Functional Classification

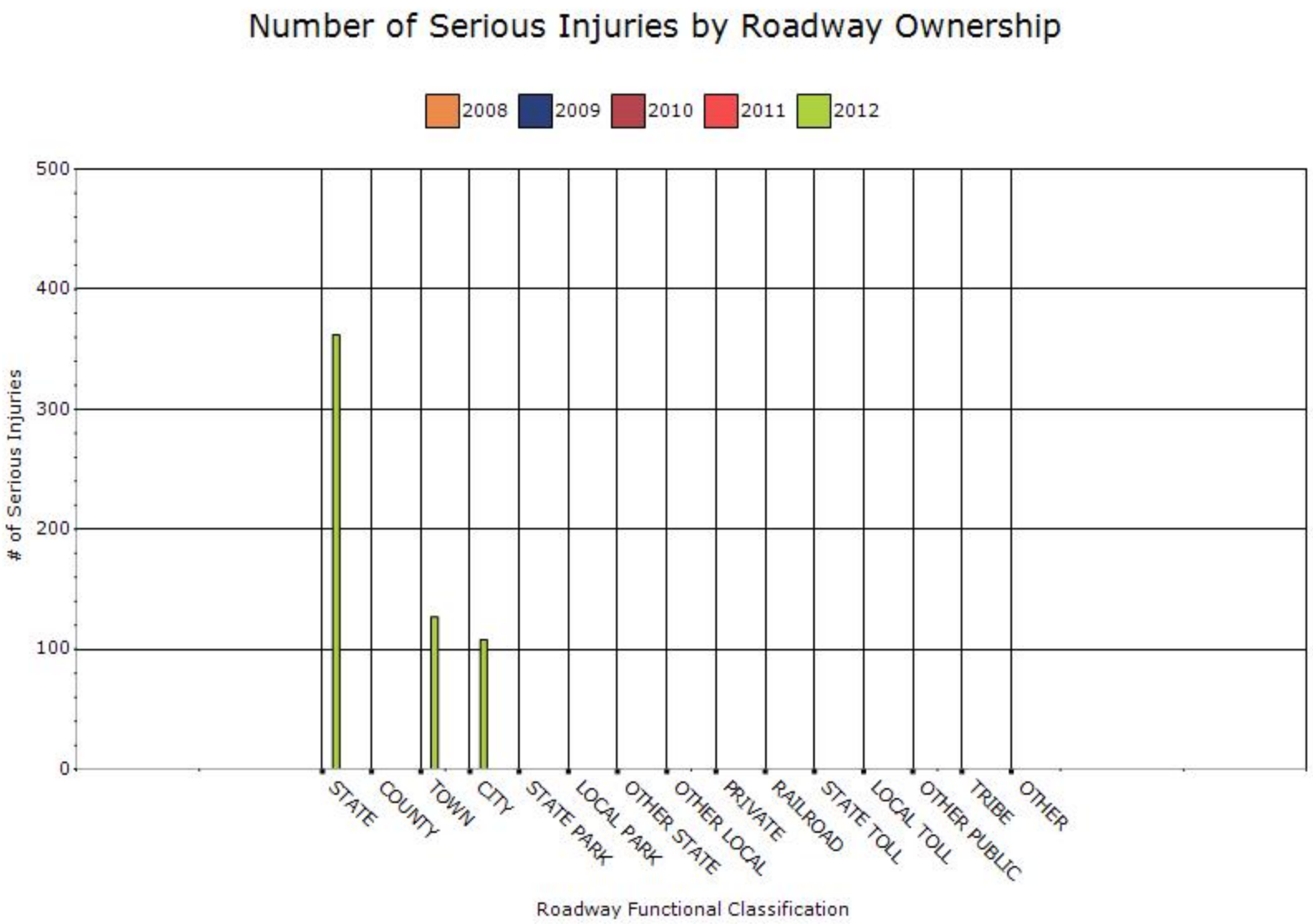

Serious Injury Rate by Roadway Functional Classification
2008
2009
2010
2011
2012
Serious Injury Rate (per HMVMT
20
15
10
5
0
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)
LOCAL ROAD OR STREET (R)
PRINCIPAL ARTERIAL - INTERSTATE (U)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (U)
PRINCIPAL ARTERIAL - OTHER (U)
MINOR ARTERIAL (U)
MINOR COLLECTOR (U)
MAJOR COLLECTOR (U)
LOCAL ROAD OR STREET (U)
OTHER
Roadway Functional Classification

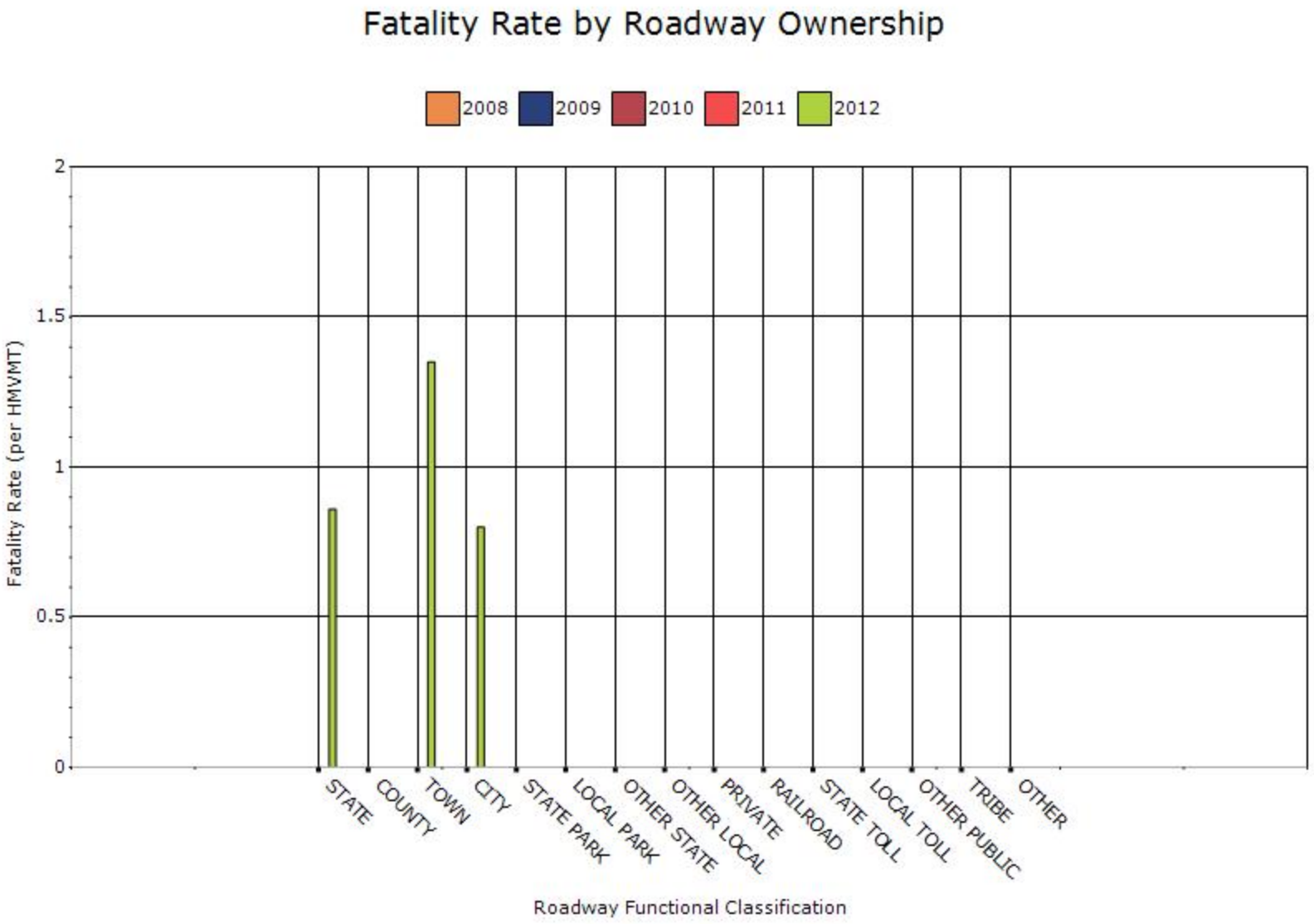
Year - 2012

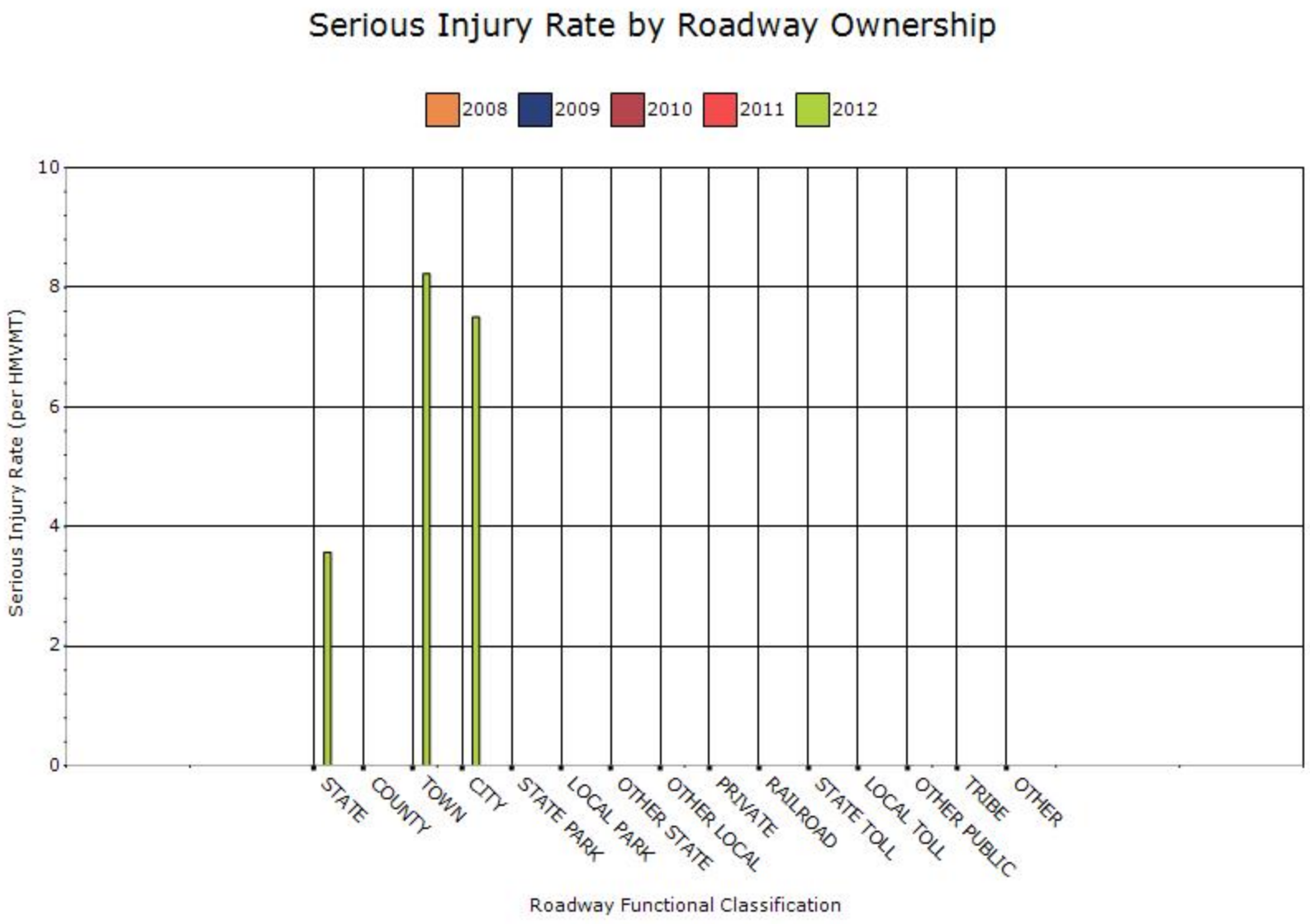
Roadway Ownership	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
STATE HIGHWAY AGENCY	87	362	0.86	3.57
COUNTY HIGHWAY AGENCY	0	0	0	0
TOWN OR TOWNSHIP HIGHWAY AGENCY	21	127	1.35	8.23
CITY OF MUNICIPAL HIGHWAY AGENCY	12	108	0.8	7.5
STATE PARK, FOREST, OR RESERVATION AGENCY	0	0	0	0
LOCAL PARK, FOREST OR RESERVATION AGENCY	0	0	0	0
OTHER STATE AGENCY	0	0	0	0
OTHER LOCAL AGENCY	0	0	0	0
PRIVATE (OTHER THAN RAILROAD)	0	0	0	0

RAILROAD	0	0	0	0
STATE TOLL AUTHORITY	0	0	0	0
LOCAL TOLL AUTHORITY	0	0	0	0
OTHER PUBLIC INSTRUMENTALITY (E.G. AIRPORT, SCHOOL, UNIVERSITY)	0	0	0	0
INDIAN TRIBE NATION	0	0	0	0
OTHER	0	0	0	0
OTHER	0	0	0	0


Number of Fatalities by Roadway Ownership
2008
2009
2010
2011
2012
100
80
60
40
20
0
# of Fatalities
STATE
COUNTY
TOWN
CITY
STATE PARK
LOCAL PARK
OTHER STATE
OTHER LOCAL
PRIVATE
RAILROAD
STATE TOLL
LOCAL TOLL
OTHER PUBLIC
TRIBE
OTHER
Roadway Functional Classification


Number of Serious Injuries by Roadway Ownership
2008
2009
2010
2011
2012
500
400
300
200
100
0
# of Serious Injuries
STATE
COUNTY
TOWN
CITY
STATE PARK
LOCAL PARK
OTHER STATE
OTHER LOCAL
PRIVATE
RAILROAD
STATE TOLL
LOCAL TOLL
OTHER PUBLIC
TRIBE
OTHER
Roadway Functional Classification


Fatality Rate by Roadway Ownership
2008
2009
2010
2011
2012
Fatality Rate (per HMVMT)
2
1.5
1
0.5
0
STATE
COUNTY
TOWN
CITY
STATE PARK
LOCAL PARK
OTHER STATE
OTHER LOCAL
PRIVATE
RAILROAD
STATE TOLL
LOCAL TOLL
OTHER PUBLIC
TRIBE
OTHER
Roadway Functional Classification


Serious Injury Rate by Roadway Ownership
2008
2009
2010
2011
2012
Serious Injury Rate (per HMVMT)
10
8
6
4
2
0
STATE
COUNTY
TOWN
CITY
STATE PARK
LOCAL PARK
OTHER STATE
OTHER LOCAL
PRIVATE
RAILROAD
STATE TOLL
LOCAL TOLL
OTHER PUBLIC
TRIBE
OTHER
Roadway Functional Classification

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

Eliminating deaths on New Hampshire roadways is an important vision and the driving force behind this plan and the coalition that united in its development. It is also an important vision for the public, all of whom travel New Hampshire's roadways—by car, motorcycle, truck, bicycle, or even on foot—day and night under all types of weather conditions. Our mission is to create a safety culture where even one death is too many, through acollaborative effort of both public and private entities, as well as the implementation ofeducation, enforcement, engineering, and emergency management solutions.Our vision is to reduce the number of fatal and severe injury crashes on New Hampshireroadways to ZERO. The principles on which the Strategic Highway Safety Plan was developed comprise a comprehensive, systematic approach in the reduction of crashes on all public roads. The plan is integrated, proactive, and data-driven, both in the selection of counter measures and in the evaluation of results. The need for New Hampshire to take action to reduce motor vehicle crashesis clear. According to the Department of Safety's Crashes Database, in 2010,30,736 motor vehicle crashes occurred on New Hampshire's roadways, resultingin 128 deaths and 528 severe injuries. In 2011 the number of fatalities was down to 90. A collective effort between all of the emphasis areas in the Strategic Highway Safety plan has contributed to this decrease. State Police has made some headway with Impaired driving, Distracted Driving and speeding. Thru education and training the State Police are contributing towards eliminating death on New Hampshire roadways. Vehicle Occupant Protection, Teen Driver and Older Driver committees have all worked together to enhance education for their emphasis areas and have tried to pass new laws that will make the roadways of New Hampshire safer for everyone. They all have a common goal to educate and improve the safety along the roadway. The Rev continues to educate the public about motorcycle safety and helps users determine which size motorcycle is the best for them. The motorcycle safety training class also is training users to ride safer. NHDOT remains committed to Safety. The NHDOT along with its safety partners have set the goal of zero fatalities Recognizing the probability of reaching zero is a vision, the NHDOT has set a target of reducing fatal and severe injury crashes by 50% by the year 2030.

Two Committees have been developed: Intersection Safety Implementation committee and the Highway Safety Implementation Plan committee

- Both committees consists of DOT, FHWA, City of Concord and Manchester & local RCP

¿ Both groups have developed guidelines

¿ These groups meets quarterly.

- The intersection safety Implementation committee is working to advertise a project that will add back plates to signal heads at signalized intersections. There will be separate projects for state roads and for town and city roads.
- The Highway Safety Implementation Plan committee approves Road safety audit locations & all HSIP projects

¿ The NHDOT is using Safety Analyst to identify HSIP projects In 2012 the NHDOT advertised 12 projects at a value of $8,000,000 to make safety improvements on the state Highway System.

The 2012 projects include:

- 3 intersection projects that had some of the highest fatality numbers in the state
- 2.98 miles of median barrier to prevent median crossover head on crashes
- 41.6 lane miles of shoulder rumble stripes
- 6.3 lane miles of center lane rumble stripes.
- 9.5 miles of guardrail upgrades
- $0.5 million was spent to upgrade warning signs on local roads in 43 communities for horizontal curves

In 2013 there were:

- $2.25 Million intersection improvements for 3 projects
- $880,000 to establish median barrier in areas of narrow medians
- $2 million of guardrail upgrades which is about 8.8 miles
- $277,000 for rumble stripes, which is about 100 lane miles
- $450,000 in horizontal curve improvements for one project
- $1.2 million in upgrading and adding warning signs for 3 projects

The NHDOT is also investing funds to target behavior issues that lead to fatal crashes DOT is collaborating with other agencies and organizations in outreach efforts to help educate the public.

2013 HSIP REPORTING

	K	A	K rate	A rate	5-year K	5-year A	5-year K
2002	127	705	1.01	5.61			
2003	127	623	0.96	4.73			
2004	171	674	1.29	5.10			
2005	166	632	1.24	4.71			
2006	127	569	0.93	4.18	143.6	640.6	1.09
2007	129	655	0.96	4.87	**144.0**	**630.6**	**1.08**
2008	138	594	1.06	4.56	**146.2**	**624.8**	**1.10**
2009	110	667	0.85	5.14	**134.0**	**623.4**	**1.01**
2010	128	528	0.98	4.04	**126.4**	**602.6**	**0.96**
2011	90	542	0.69	4.15	**119.0**	**597.2**	**0.91**

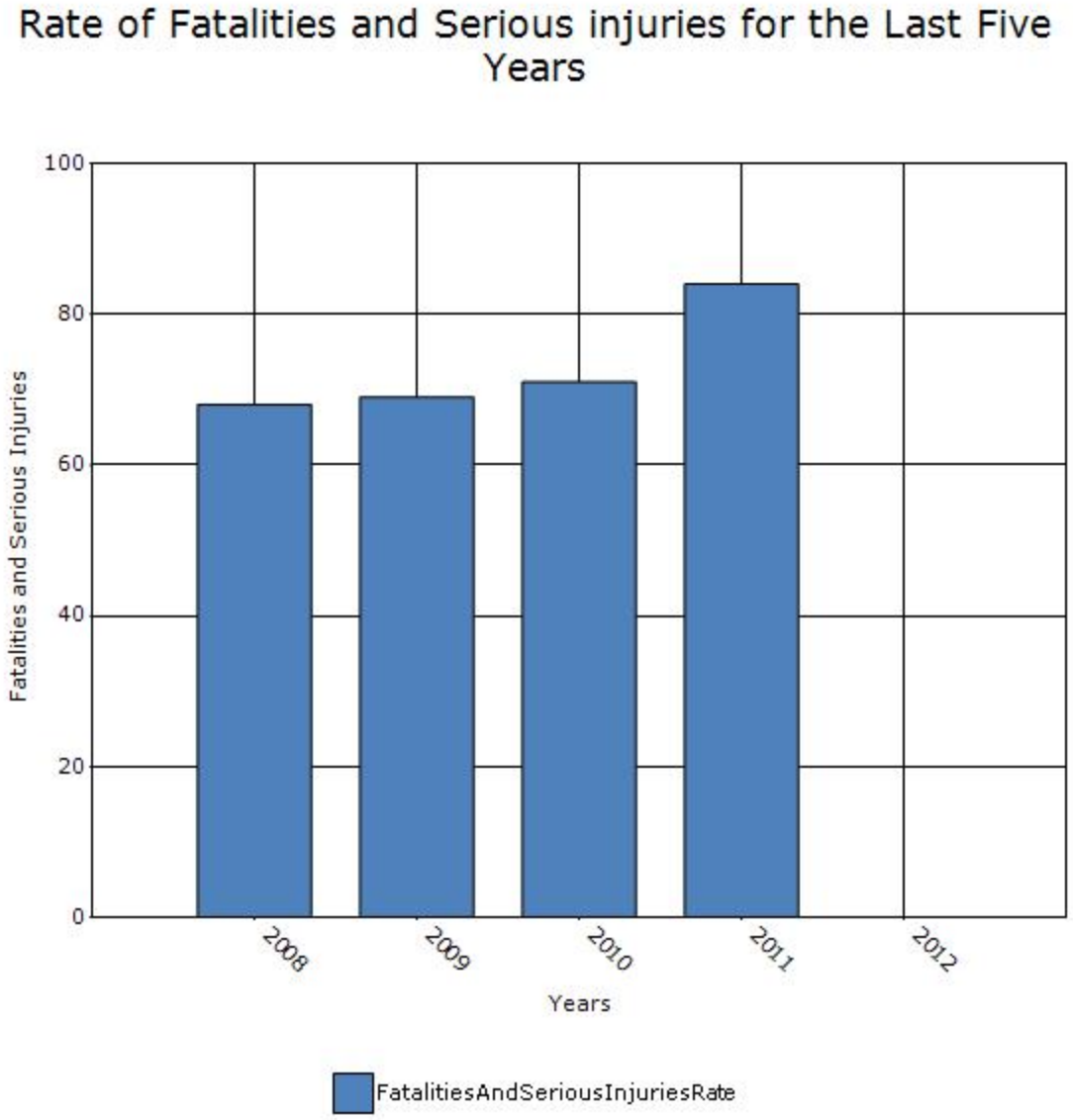
Application of Special Rules

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

Older Driver Performance Measures	2008	2009	2010	2011	2012
Fatality rate (per capita)	25	18	20	22	0
Serious injury rate (per capita)	43	51	51	62	0
Fatality and serious injury rate (per capita)	68	69	71	84	0

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

(i.e. see attachment [question 27.docx])



Does the older driver special rule apply to your state?

No

Assessment of the Effectiveness of the Improvements (Program Evaluation)

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

☐ None

☒ Benefit/cost

☒ Policy change

☐ Other:

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

☐ Shift Focus to Fatalities and Serious Injuries

☐ Include Local Roads in Highway Safety Improvement Program

☒ Organizational Changes

☐ None

☒ Other: Other-culture change

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

NH has formalized the Road Safety Audit process and it now includes a way for the auditted project to become a project.

NH has adopted Road Safety Audits (RSA) guidelines to assist in the identification of safety improvements on existing roads. The *Road Safety Audit projects* (RSA) approach is designed to provide the opportunity for agencies to submit their concerns about unsafe sites, preferably with high crash data, for consideration that have not been identified through other methods.

Locations submitted by local and/or regional stakeholders shall require a Road Safety Audit (RSA). To request a Road Safety Audit, a HSIP Candidate Location Package shall be submitted to the NHDOT State Highway Safety Engineer.

The HSIP Candidate Location Package shall include, at a minimum, the following information:

- A completed NHDOT Road Safety Audit Application (see Appendix E). The Road Safety Audit Application shall be signed by the local governing body (e.g. Board of Selectmen) or their designee, the NHDOT District Engineer (if the identified location affects state-maintained infrastructure), and the applicable Regional Planning Commission;
- A written description of the location with a summary of the safety problem(s) at the location;
- A map showing the affected location;
- A summary of traffic volume data at the location (AADT for segments, turning movement data for intersections);
- Crash reports at the location for the most recent ten-year period;
- A crash diagram displaying the time, type, and severity of crashes at the location;
- Photographs of the location.

Local stakeholders are encouraged to contact their Regional Planning Commission for assistance in compiling the required information for the HSIP Candidate Location package. Following submission to the NHDOT State Highway Safety Engineer, HSIP Candidate Location packages are reviewed and prioritized by the HSIP Committee. Ideally, effective

countermeasures identified will cost less than $100,000 dollars or be approved by the HSIP Committee. The project must meet the project selection criteria (Appendix B). When an audit identifies cost effective counter-measures at a site, it may qualify for HSIP funding.

The Audit team is made from a diverse group of stakeholders representing multiple disciplines and may include local officials such as police and fire chiefs; business and land owners adjacent to the site; NHDOT engineering staff such; and a Facilitator (typically a Consultant hired by the NHDOT) to conduct the RSA.

The Road Safety Audit typically takes three hours, which includes the presentation, site visit and suggestions/ discussions for options. Depending on the specific issues involved the road safety audit may take place in the morning, afternoon and/or evening. The Facilitator compiles the suggestions in a report. The resulting RSA report will generally recommend short, medium, and long term solutions, identifying the party(ies) responsible for implementing them. Short and medium term solutions can often be implemented within normal maintenance or operations programs. Long term solutions would generally require some measure of capital improvement that would need to be included within a transportation improvement program.

Factors looked at in determining potential improvement funding sources and levels include: ownership of roadway, magnitude of cost, safety benefits anticipated, and priorities of the program. The Federal 'Highway Safety Improvement Program' funds managed by the NHDOT may fund a number of improvements based on these factors as well as other Department concerns. Two key factors in determining if the HSIP program can support potential improvement using HSIP funds is the benefit cost ratio for the particular improvement and the demands on the funds for other safety improvements being considered in other locations around the State.

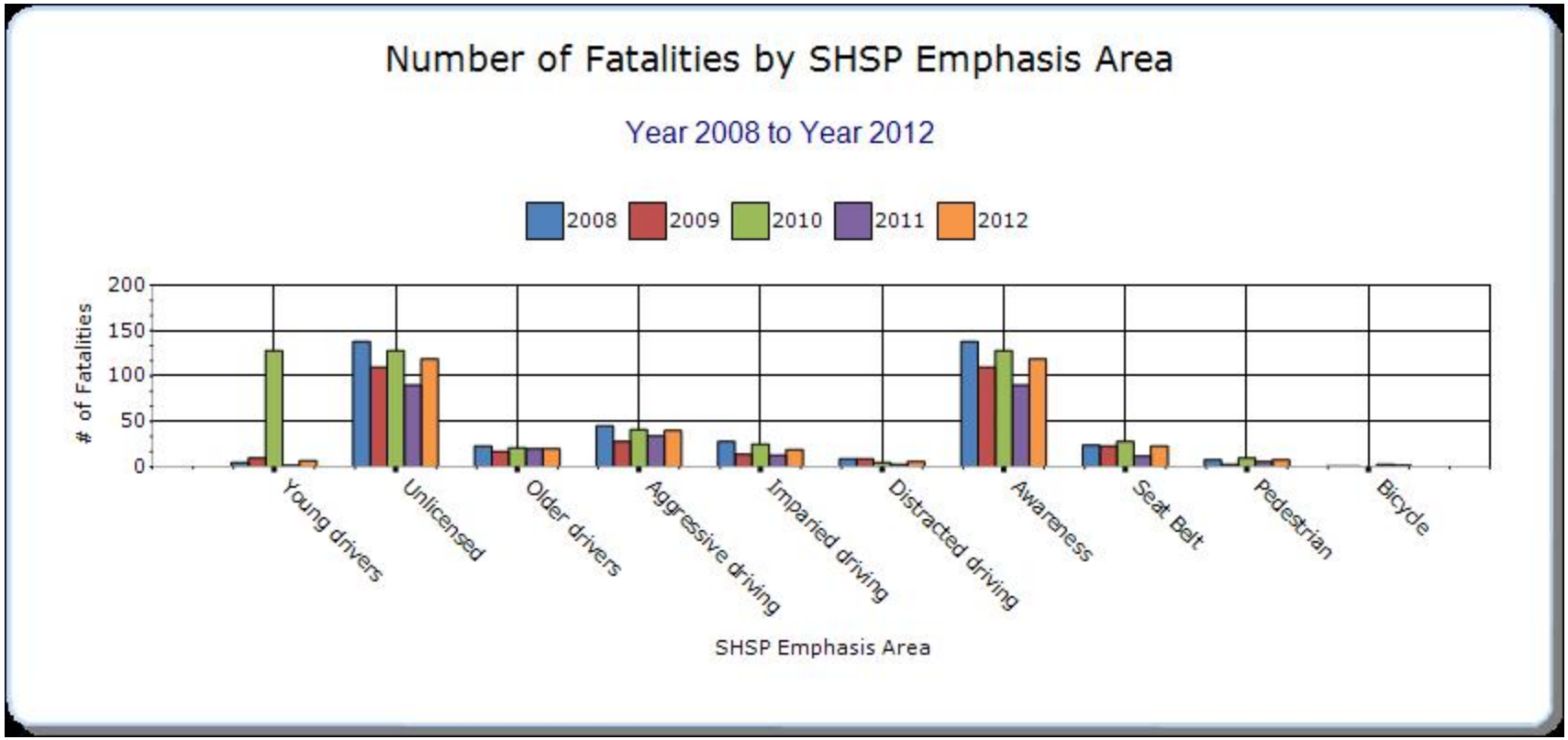
SHSP Emphasis Areas

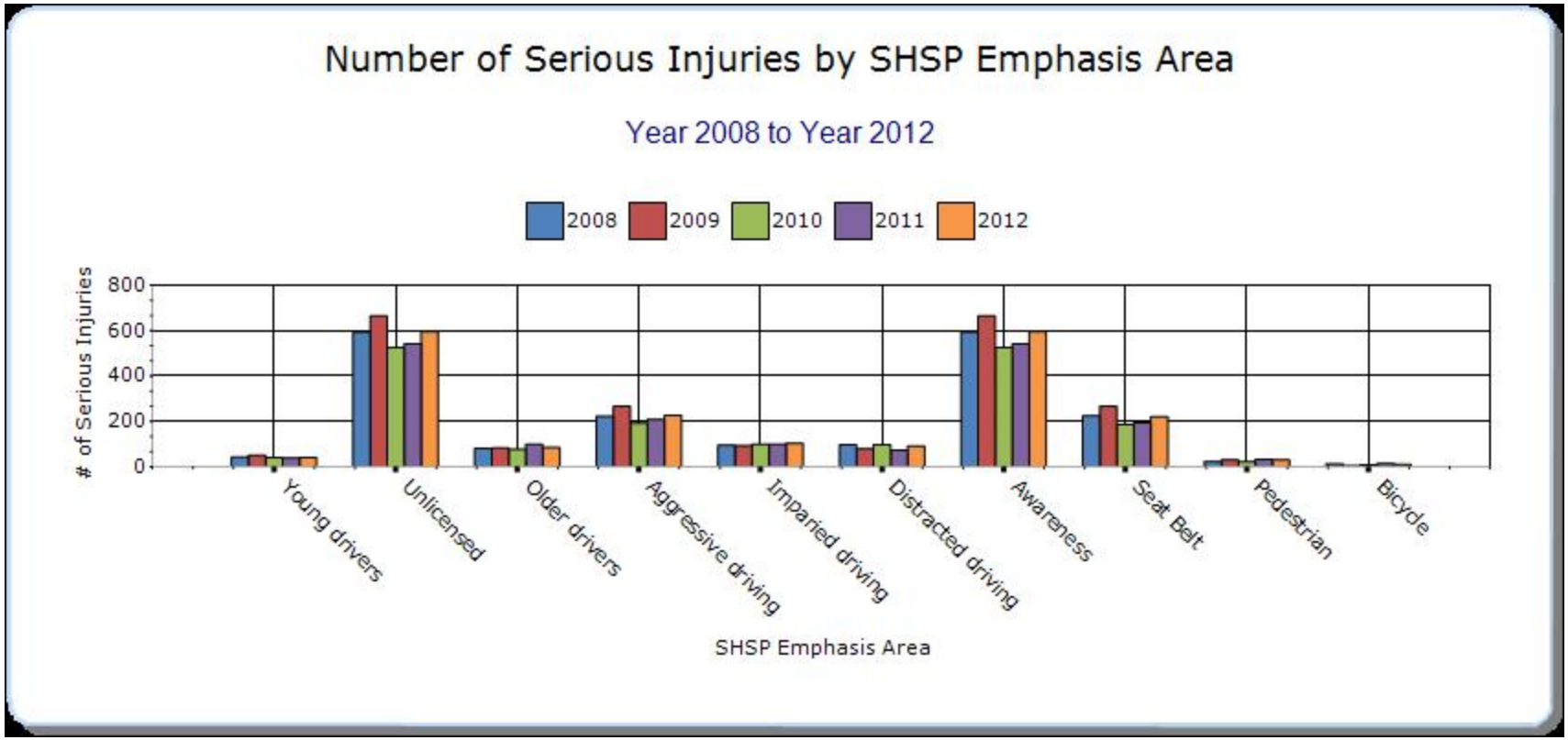
For each SHSP emphasis area that relates to the HSIP, present trends in emphasis area performance measures.

Year - 2012

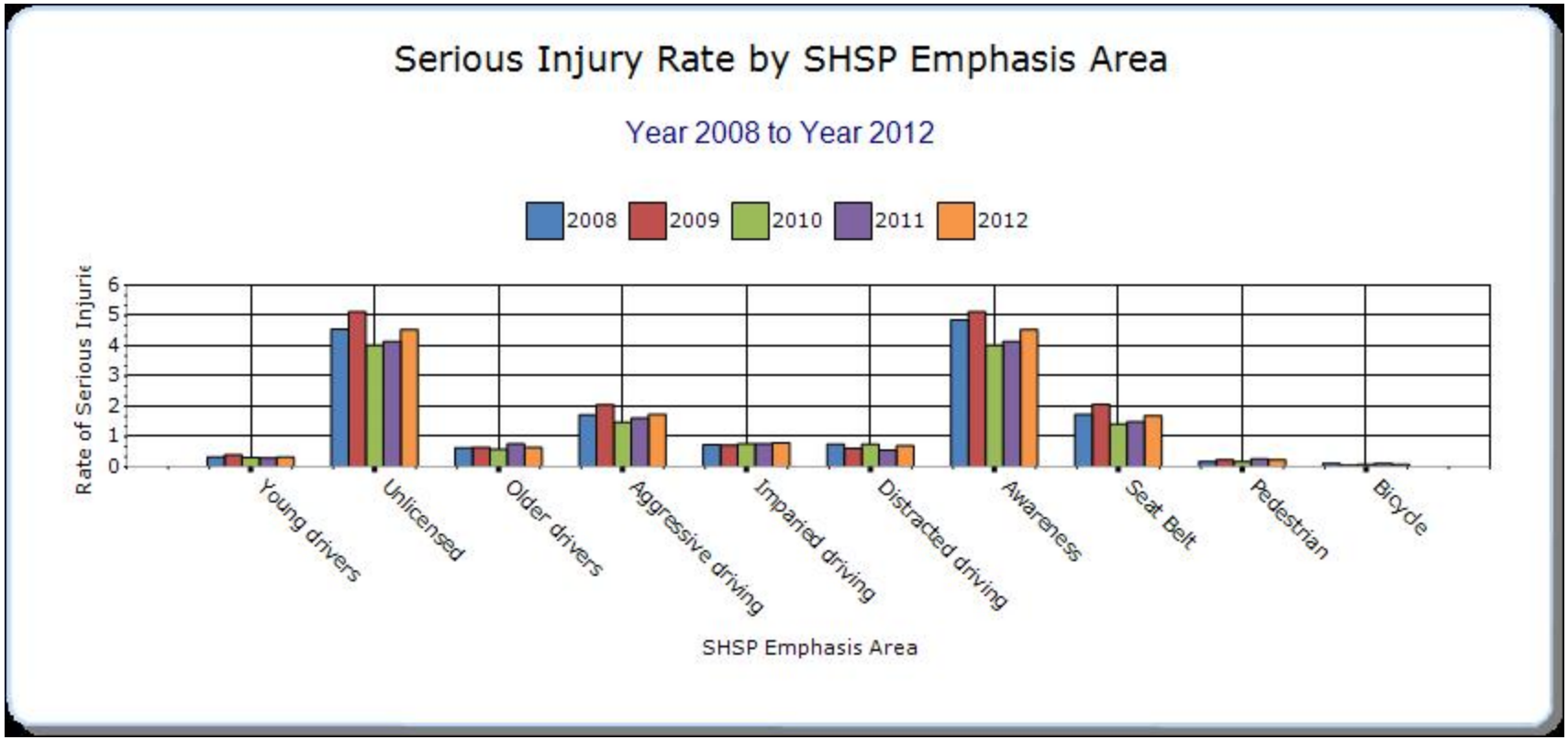
HSIP-related SHSP Emphasis Areas	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3
Instituting graduated licensing for younger drivers	**teen drivers 15-17 yo**	**7**	**42**	**5**	**0.32**	**0**	**0**	**0**
Ensuring drivers are licensed and fully competent	education (all)	119	596	0.91	4.54	0	0	0
Sustaining proficiency in older drivers	older drivers	20	85	0.15	0.65	0	0	0
Curbing aggressive driving	aggression (overestimated)	40	228	0.3	1.74	0	0	0
Reducing impaired driving	impaired	19	105	0.15	0.8	0	0	0
Keeping drivers alert	distraction	6	92	0.05	0.7	0	0	0
Increasing driver safety awareness	All	119	596	0.91	4.54	0	0	0

Increasing seat belt use and improving airbag effectiveness	restraint used	23	222	0.17	1.69	0	0	0
Making walking and street crossing easier	Vehicle/pedestrian	8	32	0.06	0.24	0	0	0
Ensuring safer bicycle travel	Vehicle/bicycle	2	11	0.01	0.08	0	0	0


Number of Fatalities by SHSP Emphasis Area
Year 2008 to Year 2012
2008
2009
2010
2011
2012
# of Fatalities
200
150
100
50
0
Young drivers
Unlicensed
Older drivers
Aggressive driving
Impaired driving
Distracted driving
Awareness
Seat Belt
Pedestrian
Bicyde
SHSP Emphasis Area


Number of Serious Injuries by SHSP Emphasis Area
Year 2008 to Year 2012
2008
2009
2010
2011
2012
# of Serious Injuries
800
600
400
200
0
Young drivers
Unlicensed
Older drivers
Aggressive driving
Impaired driving
Distracted driving
Awareness
Seat Belt
Pedestrian
Bicyde
SHSP Emphasis Area


Fatality Rate by SHSP Emphasis Area
Year 2008 to Year 2012
2008
2009
2010
2011
2012
Rate of Fatalities
20
15
10
5
0
Young drivers
Unlicensed
Older drivers
Aggressive driving
Impaired driving
Distracted driving
Awareness
Seat Belt
Pedestrian
Bicycle
SHSP Emphasis Area

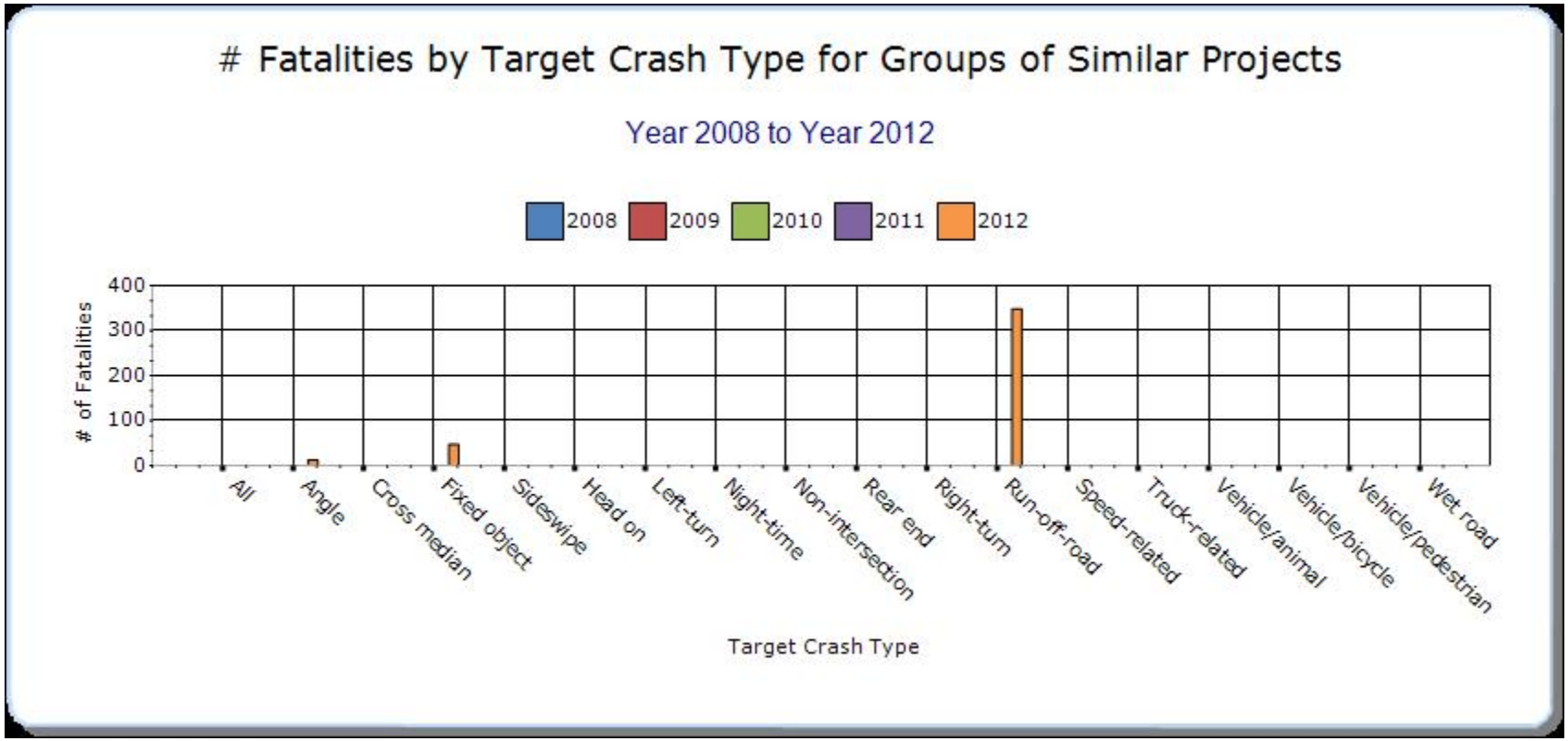

Serious Injury Rate by SHSP Emphasis Area
Year 2008 to Year 2012
2008
2009
2010
2011
2012
Rate of Serious Injurie
6
5
4
3
2
1
0
Young drivers
Unlicensed
Older drivers
Aggressive driving
Impaired driving
Distracted driving
Awareness
Seat Belt
Pedestrian
Bicycle
SHSP Emphasis Area

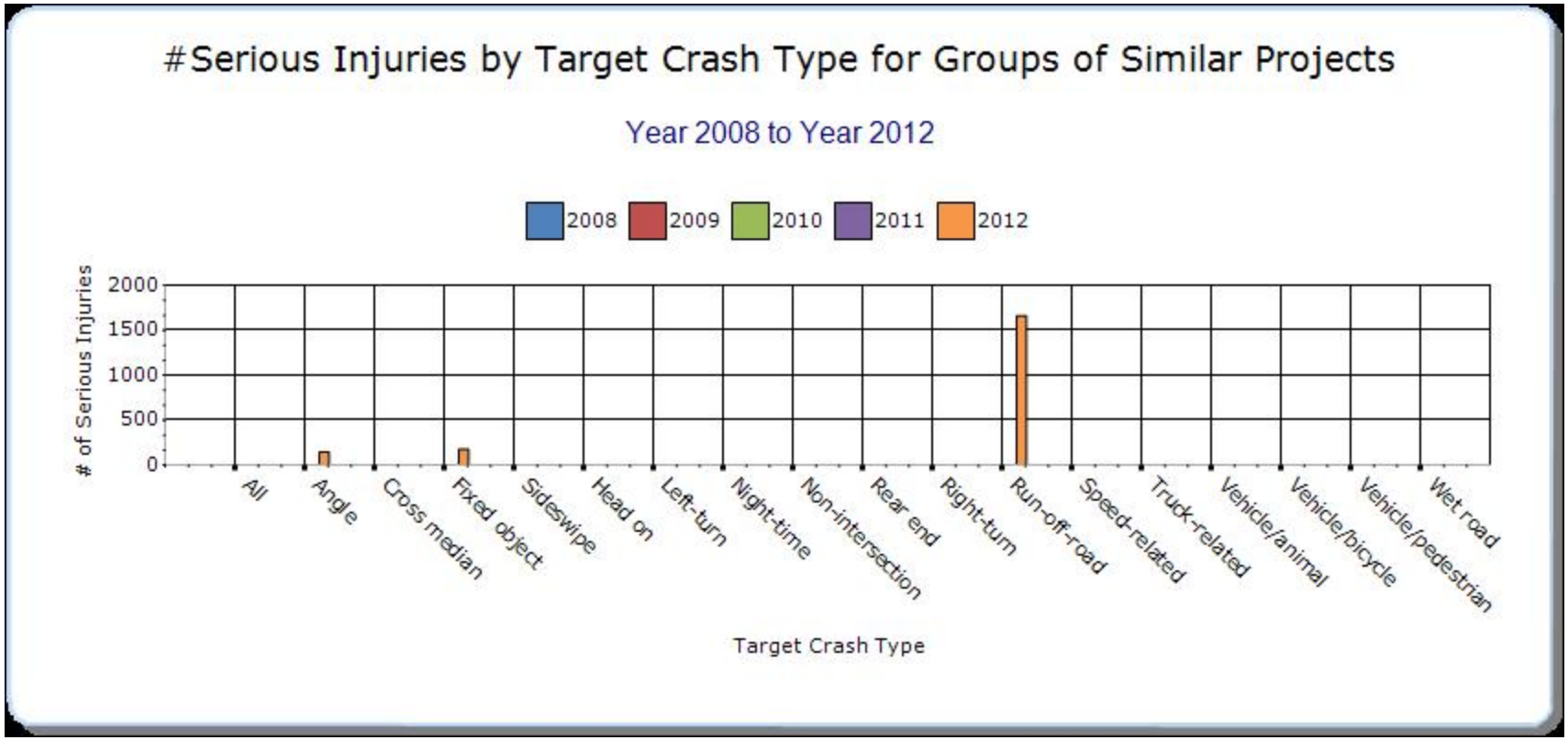
Groups of similar project types

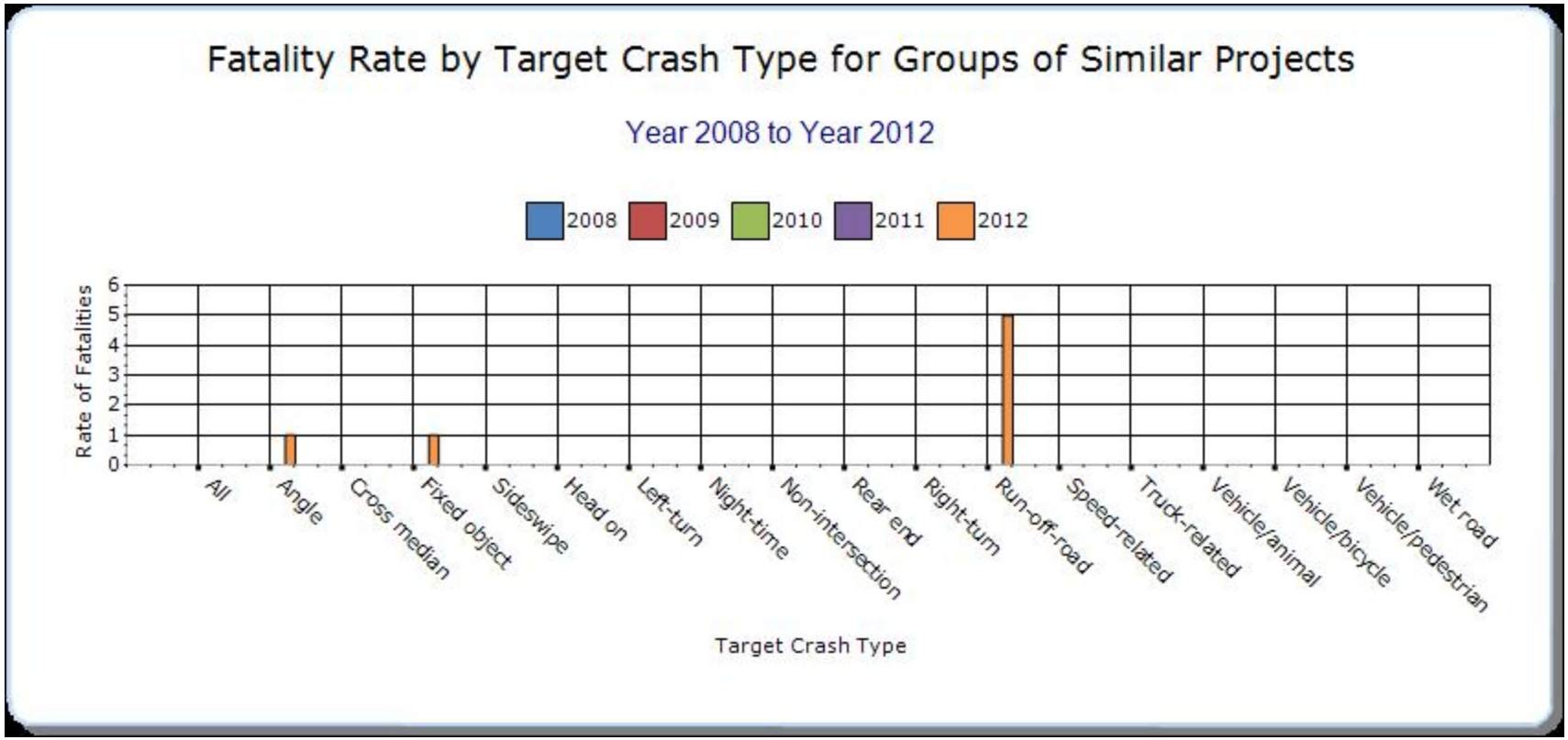
Present the overall effectiveness of groups of similar types of projects.

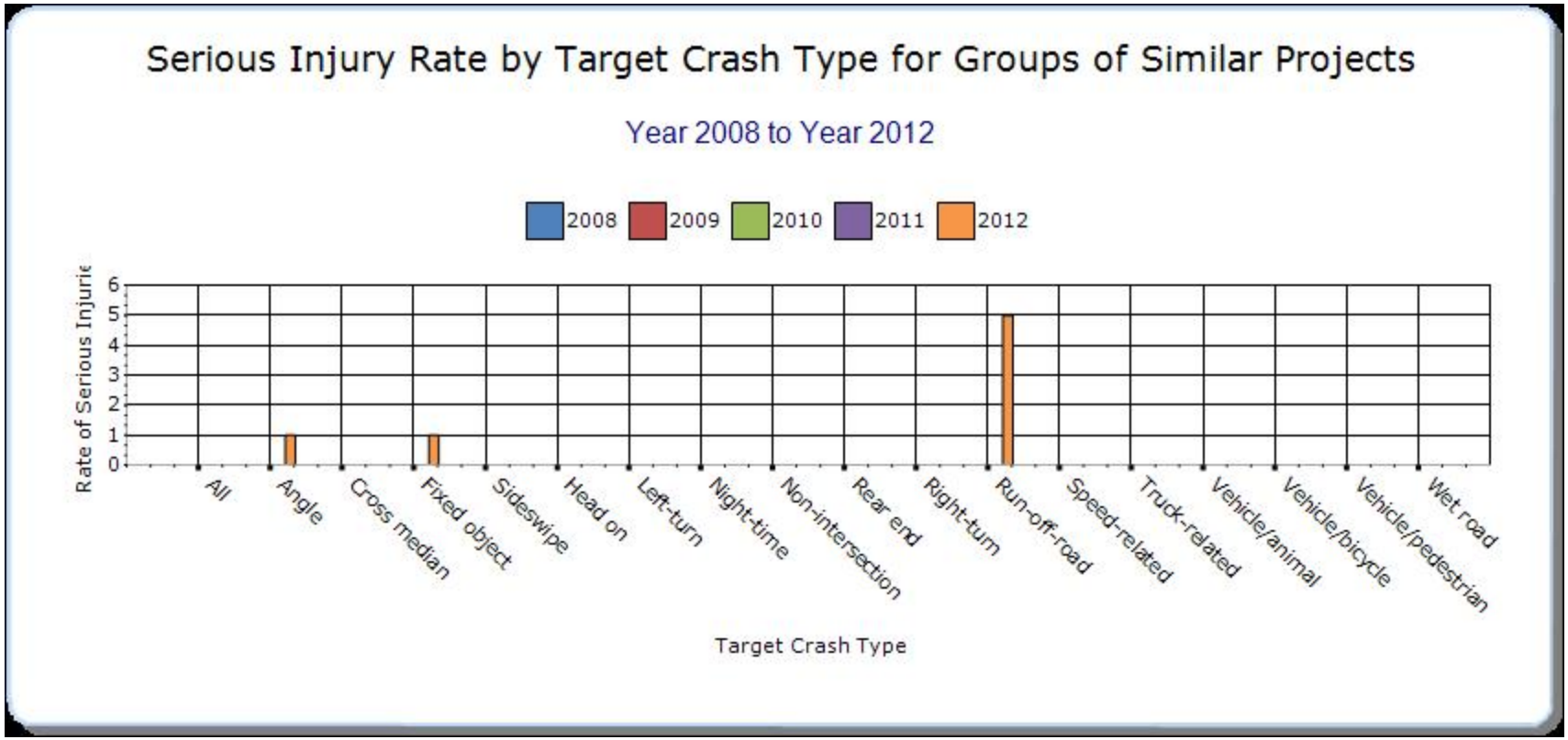
Year - 2012

HSIP Sub-program Types	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3
Roadway Departure	**Run-off-road**	**48.2**	**204**	**1**	**4**	**0**	**0**	**0**
Sign Replacement And Improvement	Fixed object	47.6	177	1	4	0	0	0
Horizontal Curve	Run-off-road	47.6	177	1	4	0	0	0
Intersection	Angle	13	143	1	4	0	0	0
Local Safety	Run-off-road	37	254	1	4	0	0	0
Median Barrier		13	59	1	4	0	0	0
Crash Data	Run-off-road	119	597	1	4	0	0	0
Segments	Run-off-road	97	430	1	4	0	0	0


Fatalities by Target Crash Type for Groups of Similar Projects
Year 2008 to Year 2012
2008
2009
2010
2011
2012
# of Fatalities
400
300
200
100
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type


#Serious Injuries by Target Crash Type for Groups of Similar Projects
Year 2008 to Year 2012
2008
2009
2010
2011
2012
# of Serious Injuries
2000
1500
1000
500
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type


Fatality Rate by Target Crash Type for Groups of Similar Projects
Year 2008 to Year 2012
2008
2009
2010
2011
2012
Rate of Fatalities
0
1
2
3
4
5
6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type

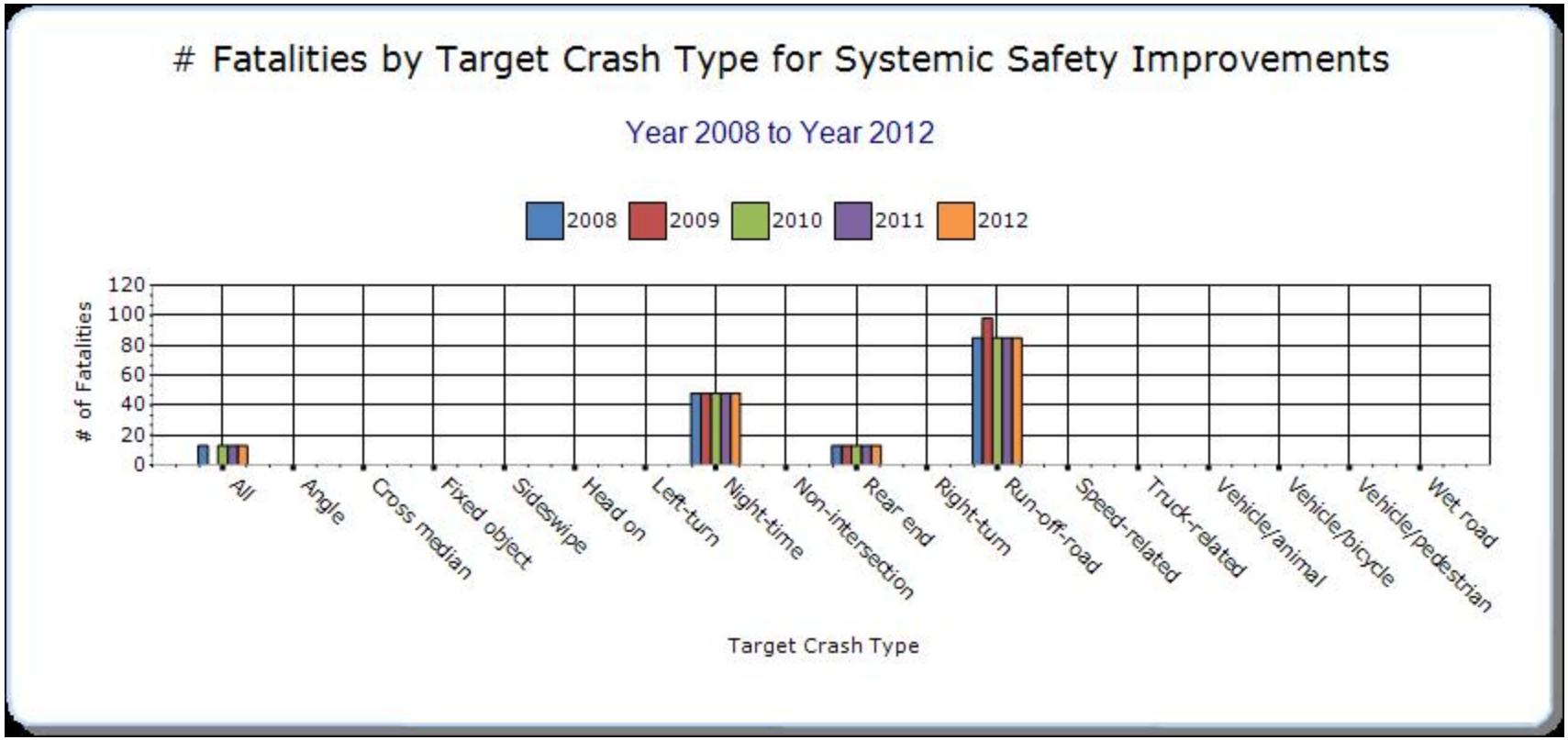

Serious Injury Rate by Target Crash Type for Groups of Similar Projects
Year 2008 to Year 2012
2008
2009
2010
2011
2012
Rate of Serious Injurie
6
5
4
3
2
1
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type

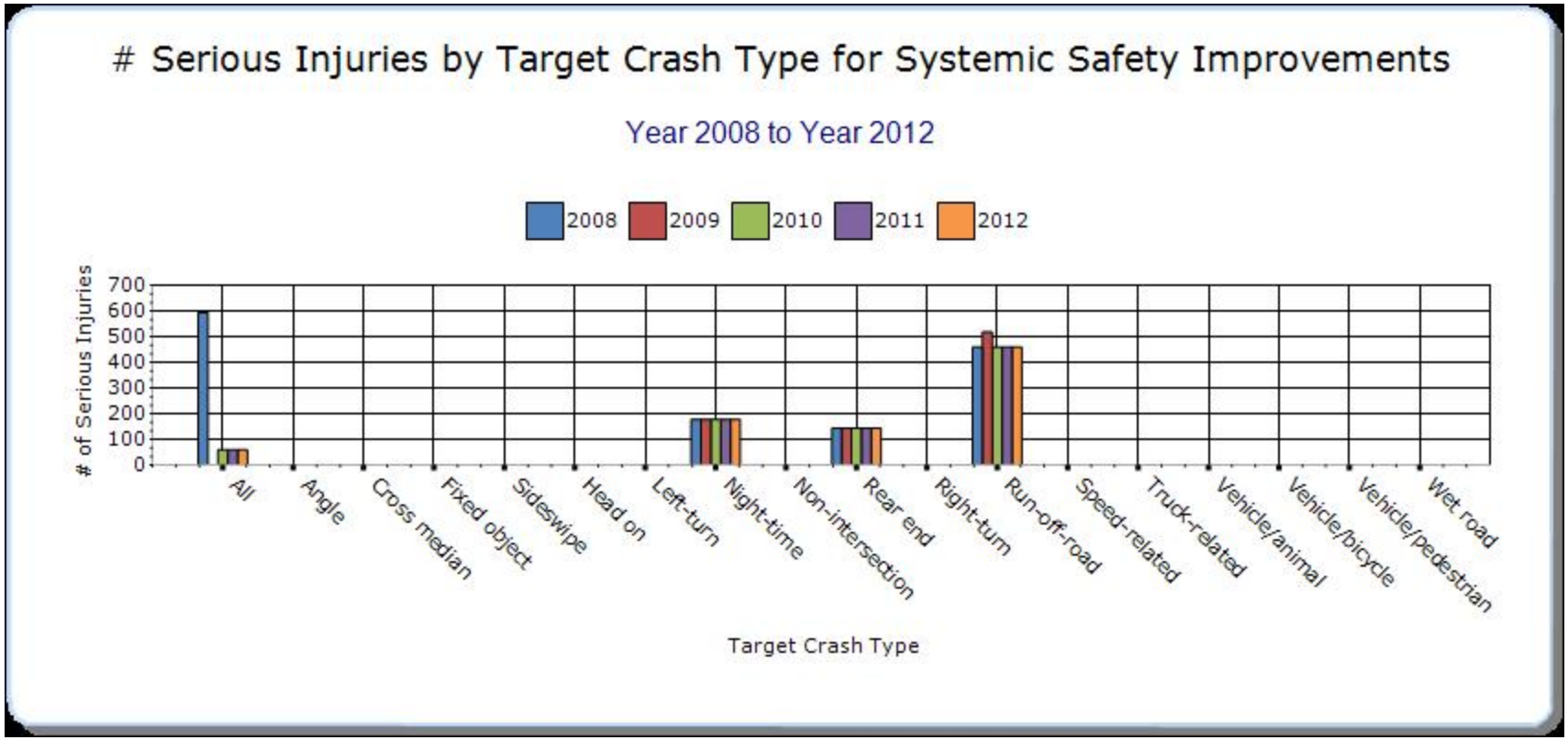
Systemic Treatments

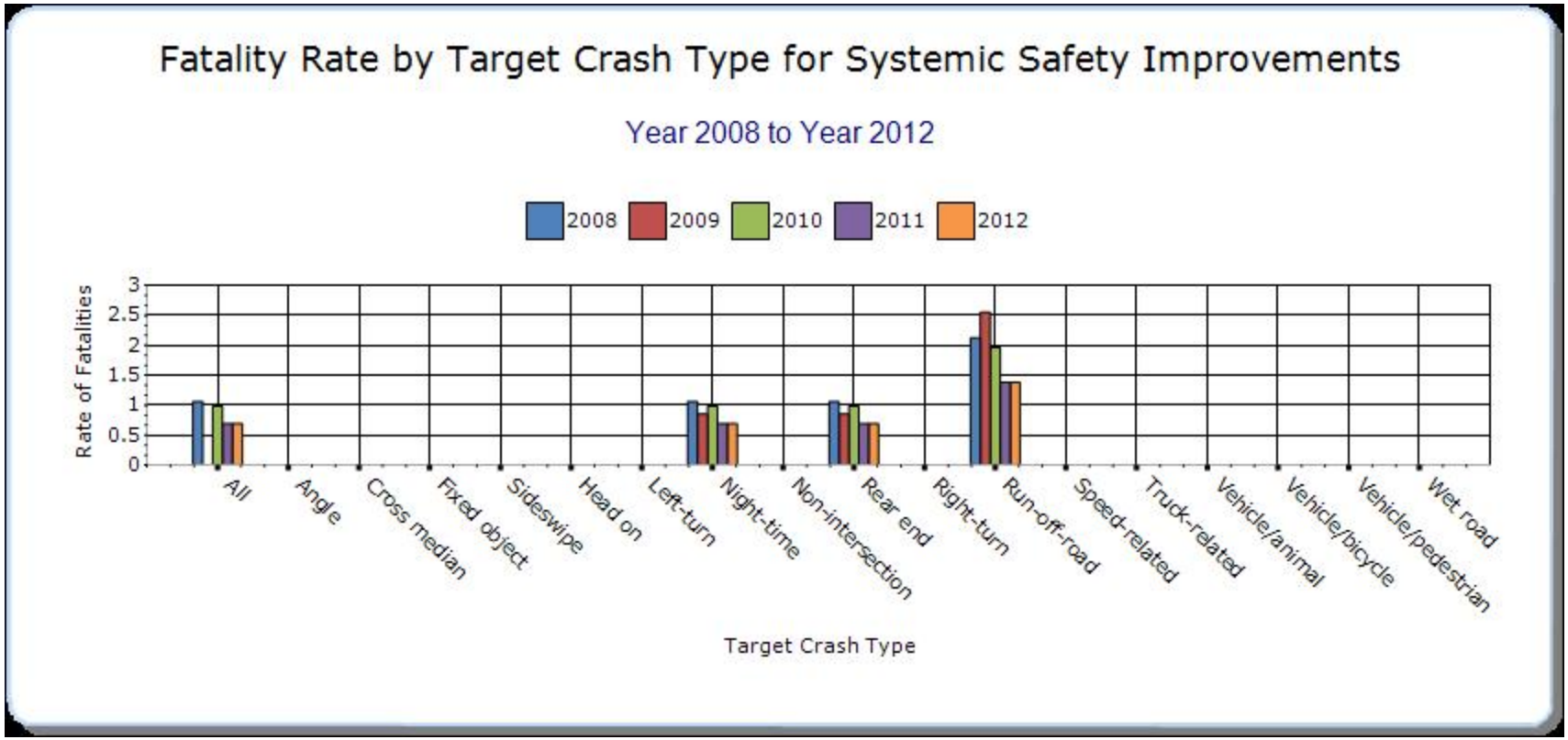
Present the overall effectiveness of systemic treatments..

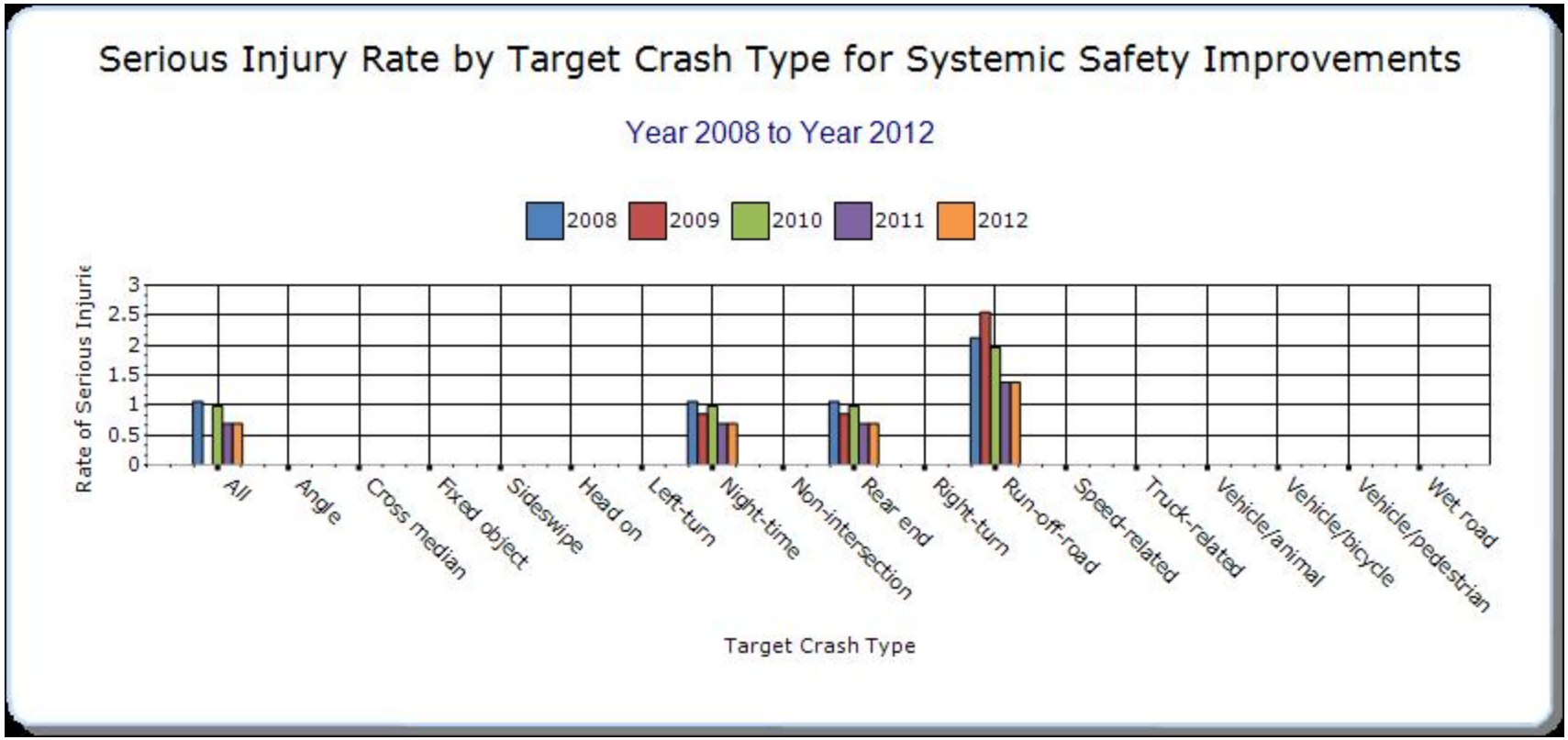
Year - 2012

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
Cable Median Barriers	**All**	**13**	**59**	**0.69**	**4.15**	**0**	**0**	**0**
local safety	Run-off-road	37	255	0.69	4.15	0	0	0
Install/Improve Signing	Night-time	48	177	0.69	4.15	0	0	0
Rumble Strips	Run-off-road	48	204	0.69	4.15	0	0	0
Other-intersections	Rear end	13	143	0.69	4.15	0	0	0


Fatalities by Target Crash Type for Systemic Safety Improvements
Year 2008 to Year 2012
2008
2009
2010
2011
2012
# of Fatalities
120
100
80
60
40
20
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type


Serious Injuries by Target Crash Type for Systemic Safety Improvements
Year 2008 to Year 2012
2008
2009
2010
2011
2012
# of Serious Injuries
700
600
500
400
300
200
100
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type


Fatality Rate by Target Crash Type for Systemic Safety Improvements
Year 2008 to Year 2012
2008
2009
2010
2011
2012
Rate of Fatalities
3
2.5
2
1.5
1
0.5
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type


Serious Injury Rate by Target Crash Type for Systemic Safety Improvements
Year 2008 to Year 2012
2008
2009
2010
2011
2012
Rate of Serious Injurie
3
2.5
2
1.5
1
0.5
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type

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

A systemic approach is the reverse of the *Traditional* approach. Systemic improvements are improvements that are widely implemented based on high risk roadway features that are correlated with particular crash types, rather than crash frequency. The first step is to identify crash types that make a significant reduction in fatal and severe injury crashes. Then low-cost countermeasures are identified to mitigate the specific crash type. Finally, the chosen mitigating countermeasures are installed systemically at sites identified with a high potential for these crash types based on their existing geometry and roadway features.

In 2009, the State identified its first systemic project focusing on rural signing improvements. Since that time, the following systemic projects have been implemented: rumble strips, median barriers, guardrail improvements, and intersection improvements. It is the intent of the NH HSIP to use systemic projects as a significant means to improve safety around the State.

Provide project evaluation data for completed projects (optional).

Location	Functional Class	Improvement Category	Improvement Type	Bef-Fatal	Bef-Serious Injury	Bef-Other Injury	Bef-PDO	Bef-Total	Aft-Fatal	Aft-Serious Injury	Aft-Other Injury	Aft-PDO	Aft-Total	Evaluation Results (Benefit/ Cost Ratio)
Not enough information yet in our data to complete this section														

Optional Attachments

Sections	Files Attached
Assessment of the Effectiveness of the Improvements: Description of Overall Effectiveness	question 27.docx

Glossary

5 year rolling average means the average of five individual, consecutive annual points of data (e.g. annual fatality rate).

Emphasis area means a highway safety priority in a State's SHSP, identified through a data-driven, collaborative process.

Highway safety improvement project means strategies, activities and projects on a public road that are consistent with a State strategic highway safety plan and corrects or improves a hazardous road location or feature or addresses a highway safety problem.

HMVMT means hundred million vehicle miles traveled.

Non-infrastructure projects are projects that do not result in construction. Examples of non-infrastructure projects include road safety audits, transportation safety planning activities, improvements in the collection and analysis of data, education and outreach, and enforcement activities.

Older driver special rule applies if traffic fatalities and serious injuries per capita for drivers and pedestrians over the age of 65 in a State increases during the most recent 2-year period for which data are available, as defined in the Older Driver and Pedestrian Special Rule Interim Guidance dated February 13, 2013.

Performance measure means indicators that enable decision-makers and other stakeholders to monitor changes in system condition and performance against established visions, goals, and objectives.

Programmed funds mean those funds that have been programmed in the Statewide Transportation Improvement Program (STIP) to be expended on highway safety improvement projects.

Roadway Functional Classification means the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide.

Strategic Highway Safety Plan (SHSP) means a comprehensive, multi-disciplinary plan, based on safety data developed by a State Department of Transportation in accordance with 23 U.S.C. 148.

Systemic safety improvement means an improvement that is widely implemented based on high risk roadway features that are correlated with specific severe crash types.

Transfer means, in accordance with provisions of 23 U.S.C. 126, a State may transfer from an apportionment under section 104(b) not to exceed 50 percent of the amount apportioned for the fiscal year to any other apportionment of the State under that section.