Highway Safety Improvement Program

Data Driven Decisions

New York
Highway Safety Improvement Program
2013 Annual Report

Prepared by: NY

Disclaimer

Protection of Data from Discovery & Admission into Evidence

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

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

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Executive Summary

This report is intended to satisfy reporting requirements under Section 148 of Title 23, United States Code (23 U.S.C. 148) regulated under 23 CFR 924.

MAP-21 reinforces the importance of the Highway Safety Improvement Program (HSIP). The goal of the program is 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. Thus, the HSIP remains New York State Department of Transportation's core program to proactively identify and correct high accident locations and progress safety projects that facilitate the goal of the program.

Emphasis Areas

The New York State Department of Transportation continues to concentrate on the emphasis areas outlined in the Strategic Highway Safety Plan (SHSP) including pedestrian safety, improving safety at highway intersections, decreasing the number of crashes resulting from lane departures and enhancing safety in work zones. Site specific projects at high accident locations as well as low cost safety measures implemented widely across the network such as Center Line Audible Roadway Delineators (CARDS) and Pedestrian Countdown Timers are being implemented to meet crash goals.

HSIP Fund Administration

NYSDOT is using a hybrid approach to manage the Highway Safety Improvement Program which has essentially doubled in size under MAP-21. Approximately half of the funds have been provided to the NYSDOT regions according to existing safety planning target formulas. The remaining half is administered centrally by the Statewide Safety and System Optimization Team (SSO) who oversee a statewide solicitation for regionally significant safety projects. The statewide solicitation program funds the most cost effective safety projects and directs HSIP funds where they are most needed regardless of ownership, mode or geographic restriction. In FFY13, the statewide program funded 6 local and 8 state projects for a total of approximately $42M.

All Public Roads

The mandate to address the safety of *all public roads* has broadened the scope of work of the Department of Transportation and our partners, requiring a greater focus on key "priority result" or "emphasis" areas in order to utilize our fiscal and staff resources to greatest effect. The following initiatives support the "all public roads" mandate.

- Locally owned and state owned projects complete equally for funds in the statewide solicitation program
- Crash data on the local system is available through New York's Safety Information Management System (SIMS)
- Plans are underway to build a local GIS route system
- Enhancements to the Accident Location Information System (ALIS), the Safety Information Management System (SIMS) and a new Enterprise Linear Referencing System (ELRS) will provide functionality that allows safety problem identification and countermeasure analysis to be done on the local system in the same way as the state system
- Additional traffic counts are being taken in local roads

Performance Indicators

The MAP-21 legislation integrates performance into the HSIP program. The number of fatalities and serious injuries appear to be on a general downward trend over the last 5 years although there has been minimal change in the fatality and serious injury rates as can be seen below.

Performance Measure	**2008**	**2009**	**2010**	**2011**	**2012**
# Fatalities (persons)	1,224	1,148	1,192	1,153	1,197
# of Serious Injuries (persons)	13,137	12,988	12,802	12,012	12,532
Fatality Rate (per HMVMT)	.92	.86	.91	.90	.94
Serious Injury Rate (per HMVMT)	9.82	9.73	9.75	9.40	9.80

Data compiled by ITSMR

Whether you look at VMT, population or lane miles, New York State has an impressive safety record. Through the coordinated efforts of the New York State Department of Transportation, the Governor's Traffic and Safety Committee and other state and local partners, New York State's fatality rate has been below the USDOT's 2013 goal of 1.03 fatalities per MVMT since 2005.

Safety Project Effectiveness

A report was initiated from the New York State Department of Transportation's Post Implementation Evaluation System (PIES) showing the number of crashes occurring before and after the construction of safety projects completed in 2008 and 2009. At least 3 years of post construction crash data was available for all sites evaluated. The report showed that fatal crashes decreased by about 30 per year and injury crashes decreased by over 3,200 per year at safety project locations.

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 - Approximately 50% of the HSIP funds are provided to the NYSDOT Regions according to a safety planning target formula. Most of the the remaining funds are allocated to projects via a competitive application process.

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

Safety projects on all public roads in New York State including local roads are eligible to receive HSIP funds. Fifty percent of the HSIP allocation for Region 11 - New York City is for local roads. The competitive application component of the program awarded funding to six local projects in FFY 2013 for a total of $20.5M and four local projects in FFY 2014 for a total of $6.04M. In addition, 84 Capital Projects and/or Safety Capital Projects contained a local roads

component. Total obligations for local projects was $1.4 million in 2012. Project improvements by type in 2012 are shown below. R11 allocation is to and for the local benefit in addition to the statewide solicitation process.

Safety Improvement	Number
Pedestrian (non-SRTS)	10
Bicycle	2
Bridge Removal/Rehabilitation	3
New Highway Construction	1
Intersection Improvements	
Alignment	10
Reconstruction /Widening	11
Traffic Signal Improvements	20
Multi-course Overlay	4
Pavement Markings	4
Shared Path Usage	2
Signing	5
Skid Treatment	1
Sight Distance Improvements	1
RR Crossing	10

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

☒ Design

☒ Planning

☒ Maintenance

☒ Operations

☐ Governors Highway Safety Office

☐ Other:

Briefly describe coordination with internal partners.

The New York State Department of Transportation formed a Statewide Safety System and Optimization team (SSO) with expertise in highway safety and system optimization. The multi disciplinary team is comprised of members from various Division and Regional Offices including Safety Program Management and Coordination, System Optimization, Local Programs, Integrated Modal Services, Planning, Design and Transportation Maintenance. The SSO team is responsible for the following:

- Providing long term guidance on safety and system optimization to ensure consistency with program update strategies;
- Providing clarification and guidance to the 11 NYSDOT regions;
- Developing technical guidance for safety strategies described in the program update;
- Developing support materials for NYSDOT Regions in preparing safety program proposals;
- Reviewing safety program proposals; and
- Monitoring regional programs over the life of the program to ensure safety and optimization goals are met.

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

☒Metropolitan Planning Organizations

☒Governors Highway Safety Office

☒Local Government Association

☐Other:

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

☒Multi-disciplinary HSIP steering committee

☒Other: Other- As mentioned in a previous question, a competitive application process was developed to allocate the additional funding provided with MAP-21. The program was established in 2012.

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

NYSDOT is using a hybrid approach to manage the Highway Safety Improvement Program (HSIP) which has essentially doubled in size under MAP-21. Approximately half of the funds have been provided to the NYSDOT Regions according to existing safety planning target formulas. The remaining half is being administered centrally through initiatives managed by the Statewide Safety and System Optimization Team. The centrally managed portion allows the funds to be focused where the needs are greatest in the State and to use the funds more efficiently in support of the Strategic Highway Safety Plan (SHSP). The purpose of this program is to facilitate the goals and strategies set forth in the Strategic Highway Safety Plan and to progress the best transportation proposals that reduce fatal and severe injury crashes, regardless of ownership, mode (pedestrians, motorcycle/bicycles, grade crossings, etc.) or geographic restriction within the statewide funds available.

NYSDOT is using approximately $42M from FFY 13 and $40M from FFY 14 in available HSIP funds to solicit proposals statewide in order to select statewide and regionally significant projects. The statewide solicitations support safety specific projects that direct safety funds where they are most needed by targeting locations, corridors, or areas demonstrating an advantageous benefit-cost ratio to reduce fatal and severe injury crashes. Funding has been awarded based on an evaluation of these projects to maximize investment in the most cost-effective safety projects. Successful proposals are consistent with the strategies and emphasis areas identified in the NYS Strategic Highway Safety Plan.

Program Methodology

Select the programs that are administered under the HSIP.

☐Median Barrier	☒Intersection	☒Safe Corridor
☒Horizontal Curve	☒Bicycle Safety	☒Rural State Highways

☒ Skid Hazard	☒ Crash Data	☐ Red Light Running Prevention
☒ Roadway Departure	☒ Low-Cost Spot Improvements	☒ Sign Replacement And Improvement
☐ Local Safety	☒ Pedestrian Safety	☒ Right Angle Crash
☐ Left Turn Crash	☐ Shoulder Improvement	☒ Segments
☐ Other:		

Program: **Intersection**

Date of Program Methodology: **11/1/1989**

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-Priority Investigation Locations (PILS)	☐ 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.

Local road projects are typically identified via local municipalities and the MPO planning process.

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☐ selection committee

☐ Other

☒ Other-Priority Investigation Locations (PILS) are identified where the crash rate is greater than the average for a similar road type. An annual work program is developed to investigate a percentage of the PILS and recommend safety counter measures.

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	2
☒ Available funding	1
☐ Incremental B/C	
☐ Ranking based on net benefit	
☒ Cost Effectiveness	2

Program: **Safe Corridor**

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

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-Priority Investigation Locations (PILS)	☐ 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.

Local road projects are typically identified via local municipalities and the MPO planning process.

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☐ selection committee

☒ Other-The Priority Investigation Location process mentioned above.

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	2
☒ Available funding	1
☐ Incremental B/C	
☐ Ranking based on net benefit	
☒ Cost Effectiveness	2

Program: **Horizontal Curve**

Date of Program Methodology: **11/1/1989**

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-Priority Investigation Locations	☐ 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.

Local road projects are typically identified via local municipalities and the MPO planning process.

How are highway safety improvement projects advanced for implementation?

☒Competitive application process

☒selection committee

☒Other-The Priority Investigation Location process mentioned above.

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	2
☒Available funding	1

☐ Incremental B/C

☐ Ranking based on net benefit

☒ Cost Effectiveness 2

Program: **Bicycle Safety**

Date of Program Methodology: **1/1/2010**

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-Priority Investigation Locations (PILS)	☐ 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.

Local road projects are typically identified via local municipalities and the MPO planning process.

How are highway safety improvement projects advanced for implementation?

☒Competitive application process

☒selection committee

☒Other-The Priority Investigation Location process mentioned above.

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	2
☒ Available funding	1
☐ Incremental B/C	
☐ Ranking based on net benefit	
☒ Cost Effectiveness	2

Program: **Rural State Highways**

Date of Program Methodology: **1/1/2010**

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-Implementing CARDS on rural highways with specific characteristics.	☐ Lane miles	☐ Roadside features
☒ Other-Priority Investigation	☐ Other	☐ Other

Locations (PILS)

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.

Local road projects are typically identified via local municipalities and the MPO planning process.

How are highway safety improvement projects advanced for implementation?

☒Competitive application process

☒selection committee

☒Other-The Priority Investigation Location process mentioned above.

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	2
☒Available funding	1
☐Incremental B/C	
☐Ranking based on net benefit	
☒Cost Effectiveness	2

Program: **Skid Hazard**

Date of Program Methodology: **1/1/1995**

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- Locations are identified where the percentage of wet road accidents is twice the normal proportion for the same county and facility type.	☐ Other	☐ Other
☒ Other-Priority Investigation Locations (PILS)		

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

How are highway safety improvement projects advanced for implementation?

☐ Competitive application process

☐ selection committee

☐ Other

☒ Other- Locations with >= twice the normal percentage of wet road accidents are identified and friction tested. Tested locations which demonstrate one or more low friction test numbers (FN40R of 32) are treated.

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
- ☐ Incremental B/C
- ☐ Ranking based on net benefit
- ☐ Cost Effectiveness

☒Locations with low friction test numbers (FN40R of 32) require treatment.

Program: **Crash Data**

Date of Program Methodology: **1/1/1989**

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-Priority Investigation Locations (PILS)	☐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.

Local road projects are typically identified via local municipalities and the MPO planning process.

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☒ selection committee

☒ Other-The Priority Investigation Location process mentioned above.

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 2

☒ Available funding 1

☐ Incremental B/C

☐ Ranking based on net benefit

☒ Cost Effectiveness 2

Program: **Roadway Departure**

Date of Program Methodology: **1/1/1989**

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-Priority Investigation Locations (PILS)	☐ 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- CARDs are recommended for projects that will put >=40 mm of asphalt and meet the following: 1) there is no raised median or TWLTL, 2) the CARD quantity is >=1500'; 3) the posted speed >=45 mph; 4) the AADT >=2,000; and 4) the roadway width >=13'.

☒Other-High risk factors for roadway departure crashes were identified in a statewide systemic analysis. Additional systemic programs will be investigated in the upcoming years to decrease roadway departures.

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.

Local projects are usually identified when a municipality informs DOT of a safety issue or through MPO planning. Data that shows a safety issue is required to receive funding however a detailed analysis that identifies high accident locations is not.

How are highway safety improvement projects advanced for implementation?

☒Competitive application process

☐selection committee

☒Other- Regional HSIP projects based on recommendation noted above.

☒Other-The Priority Investigation Location process mentioned above.

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	2
☒Available funding	1
☐Incremental B/C	
☒Ranking based on net benefit	2
☒Cost Effectiveness	2
☒CARDS projects are selected regionally based upon priority and availablity of funding or via a statewide competitive application process.	

Program: **Low-Cost Spot Improvements**

Date of Program Methodology: **1/1/1999**

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-Priority Investigation Locations (PILS)	☐ 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-A project review and windshield survey is conducted as required by the SAFETAP program. Qualified staff decide upon the safety work to be done before, during and after construction to ensure safety is incorporated into maintenance projects.

☒ Other-Low cost spot improvements are often recommended as a result of a highway safety investigation.

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.

Local road projects are typically identified via local municipalities or through the MPO planning process.

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☒ selection committee

☐ Other

☒ Other- Many nominal safety improvements are incorporated into maintenance work

☒Other-The Priority Investigation Location process mentioned above.

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	2
☒Available funding	1
☐Incremental B/C	
☐Ranking based on net benefit	
☒Cost Effectiveness	2
☒Many nominal safety items are incorporated into maintenance activities.	

Program: **Sign Replacement And Improvement**

Date of Program Methodology: **1/1/1995**

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-Priority Investigation Locations (PILS)

☐ 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-Signs needing improvement can be identified during a SAFETAP review or a Highway Safety Investigation. Some regions have implemented a replacement program where signs are replaced on a defined schedule.

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.

Local road projects are typically identified via local municipalities and the MPO planning process.

How are highway safety improvement projects advanced for implementation?

☒Competitive application process

☒selection committee

☒Other-The Priority Investigation Location process mentioned above.

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	2
☒Available funding	1
☐Incremental B/C	
☐Ranking based on net benefit	
☒Cost Effectiveness	2

Program: **Pedestrian Safety**

Date of Program Methodology: **11/1/1989**

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-Crashes involving pedestrians	☐ Lane miles	☒ Roadside features
☒ Other-Priority Investigation Locations (PILS)	☐ Other	☒ Other-Intersection features; crosswalk features; pedestrian islands etc.

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.

Local road projects are typically identified via local municipalities or through the MPO planning process.

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☒ selection committee

☒ Other-The Priority Investigation Location process mentioned above.

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	2
☒ Available funding	1
☐ Incremental B/C	
☐ Ranking based on net benefit	
☒ Cost Effectiveness	2

Program: **Right Angle Crash**

Date of Program Methodology: **1/1/1989**

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-Priority Investigation Locations (PILS)	☐ Lane miles	☐ Roadside features
	☐ Other	☒ Other-Intersection features; speed limit etc.

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.

Local road projects are typically identified via local municipalities and the MPO planning process.

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☒ selection committee

☒ Other-The Priority Investigation Location process mentioned above.

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	2
☒ Available funding	1
☐ Incremental B/C	
☐ Ranking based on net benefit	
☒ Cost Effectiveness	2

Program: **Segments**

Date of Program Methodology: **11/1/1989**

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-Priority Investigation Locations (PILS)	☐ 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.

Local road projects are typically identified via local municipalities or through the MPO planning process.

How are highway safety improvement projects advanced for implementation?

☒Competitive application process

☒selection committee

☒Other-The Priority Investigation Location process mentioned above.

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	2
☒Available funding	1
☐Incremental B/C	
☐Ranking based on net benefit	
☒Cost Effectiveness	2

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

30

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

improvments?

- ☐ Cable Median Barriers
- ☒ Rumble Strips
- ☒ Traffic Control Device Rehabilitation
- ☐ Pavement/Shoulder Widening
- ☐ Install/Improve Signing
- ☐ Install/Improve Pavement Marking and/or Delineation
- ☐ Upgrade Guard Rails
- ☐ Clear Zone Improvements
- ☐ Safety Edge
- ☐ Install/Improve Lighting
- ☒ Add/Upgrade/Modify/Remove Traffic Signal
- ☐ Other

What process is used to identify potential countermeasures?

- ☒ Engineering Study
- ☒ Road Safety Assessment
- ☐ Other:

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

- ☐ Highway Safety Manual
- ☐ Road Safety audits
- ☒ Systemic Approach

☐ Other:

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

Improving highway safety for the traveling public is defined as a key emphasis area in New York State's Strategic Highway Safety Plan and continues to be a high priority at NYSDOT. Safety objectives defined in the plan include improving safety for pedestrians, improving data analysis tools and capabilities, improving the design and operation of highway intersections, decreasing fatalities resulting from travel lane departures and improving work zone safety.

I. Pedestrian Safety

Each year, pedestrians are involved in approximately one-quarter of the fatal motor vehicle crashes that occur on New York States's roadways. NYSDOT continues to look for solutions to improving the safety of all roadway users including pedestrians.

Safer Corridors

In the spring of 2012 and in cooperation with our local, state and federal partners, NYSDOT conducted a detailed study of the entire length of Hempstead Turnpike to determine how best to improve its safety. Those findings were the basis for many pedestrian safety improvements including remarking and widening crosswalks, increasing pedestrian crossing times at many traffic signals, reprogramming dozens of crosswalks and adding new features to pedestrian crossing buttons. The next round of pedestrian safety improvements on Hempstead Turnpike will include new crosswalks, traffic signal installations, modifications and timing changes, bus stop relocations and the installation of 13 raised medians at eight locations.

In addition to Hempstead Turnpike, the department is working on studies of the entire Sunrise Highway (Route 27) and Route 110 corridors from a pedestrian safety perspective as well as Route 5/Central Avenue in the Albany Capital District. The improvements are expected to be very similar to what is being done on Route 24 (Hempstead Turnpike).

The NYSDOT also has plans to introduce a high priority pedestrian safety concept throughout the state in major metropolitan areas.

Complete Streets

On a statewide basis, the New York State Department of Transportation is currently applying Complete Street provisions in its project planning, programming and delivery processes. Complete Street design must be considered for county and local transportation projects that NYSDOT undertakes or for projects that receive federal and state funding and have NYSDOT oversight. Complete streets are designed and operated to enable safe access for all users including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. An important component of the Complete Streets framework is a "Pedestrian Generator Checklist" which is used by planners and designers to identify a need for current or future pedestrian accommodations in our projects.

II. Improving Data Analysis Tools and Capabilities

This report is based on crash data from NYSDOT's Safety Information System (SIMS) data base through December 31, 2012. Crash records and roadway characteristics are analyzed to identify Priority Investigation Locations (PIL's). A subset of PILS are investigated every year for the purpose of identifying safety improvements. Crash data has traditionally included fatal, injury, property damage crashes over $1,000 (reportable PDO) and property damage accidents under $1,000 (non-reportable). Additional factors used in developing the Priority Investigation Locations (PIL's) list are traffic volumes, divided or undivided and the number of travel lanes. All HSIP locations studied are on the "State System" with the exception of some New York City locations.

Status of Crash Data

The Department continues to partner with the NYS Department of Motor Vehicles (NYSDMV), the Governor's Traffic Safety Committee, State Police and other key stakeholders to mutually re-engineer the accident and traffic violation records systems to address New York's data information needs. The State continues to use a strategic planning approach to improve its various information systems as articulated in the State's Traffic Safety Information Systems Strategic Plan. The status of improvements that directly affect the Department's SIMS are:

Crash Records
The fatal, injury, and reportable Property Damage Only (PDO) crash data is complete through 2012. NYSDOT continues to work with the NYSDMV, the official repository of crash data, to

reduce the lag in the deferred non-reportable (property damage under $1,000) crash records that NYSDMV traditionally processed. Both Departments continue to contract with outside vendors for record imaging and data entry services. The backlog of non-reportable accidents will continue to be reduced this year.

Traffic & Criminal Software (TraCS)

New York State continues as an active participating state in the development and further refinement of the nationally developed software for electronic collection of ticket and traffic records. Use and Dissemination Agreements for use of the software have been signed by more than 482 different police agencies across the state. This represents more than one-third of all law enforcement agencies in NYS who have committed to using the software. As of March 31, 2013, 438 agencies are transmitting data through the TraCS system. This number will increase steadily as the software is deployed to additional agencies in future years. Consistent funding will be vital to achieving this goal. The software will reduce the workload at NYSDMV decreasing the time it takes to process each crash report. This year the State Police expect to upgrade the TraCS software to improve transmittal and processing between the State Police and all ticket and crash data users.

Post-Implementation Evaluation System (PIES)

The Post-Implementation Evaluation System (PIES) allows for actual before and after project evaluations. The system allows for: verification that projected accident reductions reported as part of the Department's safety goal are reasonable and accurate; quantitative measurements of the effectiveness of the Department's overall capital program in improving highway safety (reducing accidents and safety benefit cost ratio); continued development of new accident reduction factors for accident countermeasures (shoulder rumble strips, roundabouts, and pavement surface treatments); and ensures that the mandated requirements are met.

Accident Location Information System (ALIS)

ALIS is a GIS web based accident location analysis tool that allows for geographic based crash analysis is available to MPO's, counties, and local governments that have direct access to the New York State maps through the Office of Technology. All the MPO's as well as New York City are using the analysis tool. This year the analysis tool was upgraded to allow for custom queries such as type of crash, time of day, and other data elements. Additional enhancements will be available in the Summer/Fall of 2013.

Enterprise Linear Referencing System (ELRS)

The roads and highways implementation contract was approved in July 2013. The goal of the project is to build a statewide linear referencing network with maintenance workflows that are

sustainable and integrate NYS business systems with the Enterprise Linear Referencing System. This will enhance the ability to perform crash analysis on all public roads.

All Public Roads

MAP-21 requires that as part of a State's Highway Safety Improvement Program, a State shall have in place a safety data system with the ability to perform safety problem identification and countermeasure analysis to improve the timeliness, accuracy, completeness, uniformity, integration, and accessibility of the safety data on all public roads, including non-State owned public roads and roads on tribal land. A major element toward reaching this goal is the development of local crash rates in order to conduct equitable safety analysis for both the state and local systems. In addition, NY needs to address the issue of advancing the capabilities of our traffic records system for data collection, analysis, and integration with other sources of safety data. The State continues to use a number of methods to evaluate how to reach the goal of developing and maintaining crash data for all public roads.

Accessing Crash Data

The Department currently has the ability to access crash data on the local system through the SIMS data base. The Department's database is able to identify local jurisdiction and highway functional class characteristics, allowing the Department to use frequency data to identify crash experience on the local system.

Traffic Counts

Traffic count AADT's are required in order to develop crash rates for the state and local system. The Department has complete traffic volume data for almost 45,000 miles of the approximately 115,000 miles of highway in New York. The remaining 70,000 miles are primarily local streets. In order to improve the ability to develop crash rates for the local system, data collected under the Department's legacy crash data system as well as the county traffic count program have been analyzed to determine the sample size and number of traffic count locations needed to develop a statistically valid average annual daily travel (AADT) or "exposure" rate for usage on the local road system. A contract to collect traffic counts on an extra 10,000 local (non-state, non-Federal Aid) locations over the next few years is awaiting approval. If it gets approved, we will be able to develop a good foundation for producing statistically valid VMT estimates and average AADT numbers for local roads. The counts will allow the Department to establish more accurate crash rates for the local system similar to that for the state system.

The Department and counties continue to partner in a statewide county traffic count program designed to capture traffic volume data on county owned roads.

The Department took 2,230 traffic counts on local roads in 2012 and will continue this effort for the next year. Also, the FHWA requirements to expand the national highway information data base, the Highway Performance Monitoring System (HPMS) to include traffic volume and physical characteristic data on all roads classified as Federal Aid eligible continues to add more counts and data elements to local federal aid eligible roads. Count stations are currently assigned to 29,000 miles (centerline) of roads on the non-federal aid local system.

A new Traffic Count System (TRADAS) has been implemented which provides enhanced scheduling and processing of traffic counts.

Local Highway Route System

At this point in time, the Department does not have a complete and actively maintained Geographic Information System (GIS) for local roads. Without a local road based GIS route system, it is difficult to conduct an analysis of crash data on the local system with any parity to the state system. A pilot project is underway to determine the best approach to use and the amount of effort required to build a local GIS system. Approval has been received to hire 6 to 10 consultants to build the local GIS once the pilot work is complete.

Compatibility of State and Local Crash Data Analysis

The current analysis tools in the Department's Safety Information Management System (SIMS) need to be redesigned to work with a uniform GIS route system covering both state and local highways. The new analysis tools will need to be able to handle both local and state traffic volume data and highway characteristic information for all highways. Funding is in place to build these tools (SIMS-RIS-ALIS Integration Project). The redesigned system will be an interoperable system able to link crash and highway information to perform safety problem identification and countermeasure analysis on the local system as is currently being done with the State system.

New Data Projects

The New York State Department of Transportation's Office of Traffic Safety and Mobility is currently initiating several new projects designed to support our Highway Safety Improvement Program by expanding our analysis capabilities and methods to include all public roads in the state and to improve the accuracy and completeness of the safety data used. Much of this work is being accomplished through Section 402 grants received from the Governors Traffic Safety Committee (GTSC).

The first project involves modifications to the Departments existing Accident Location Information System (ALIS). These changes will integrate the ALIS system with the Departments Enterprise Linear Referencing System to provide the necessary traffic volume and highway

characteristics needed for the network screening analysis that identifies High Accident Locations (HALS). Additional functionality will be added to incorporate analysis techniques being developed by Federal Highway Administration to identify "systemic" opportunities for improving safety in addition to the HAL locations being treated.

The second project involves the collection of up to date, accurate, reference marker and intersection locations and attributes. This data will be used to support the new crash querying and analysis processes being developed for the Accident Location Information System (ALIS).

The third project is a long term, multi-agency effort to analyze opportunities to create a more complete safety dataset, accessible to all the partner agencies. This project would determine what data could be linked between agencies, where redundant datasets or resources could be eliminated, and how access for additional users could be created. This project is designed to establish a strategic vision for the "Safety" related programs in New York State.

III. Highway Intersections

Approximately 40% of the crashes statewide between 2007 and 2011 occurred at intersections. As such, improving safety at intersections continues to be an area of focus for NYSDOT. According to NYSDOT's PSS system there were 14 HSIP intersection reconstruction and signal upgrade projects programmed in 2012. Other than an increase in 2011, fatal and serious injury crashes at intersections have been declining since 2008 as shown below.

All public roads	
Year	**Fatal/Serious Injury Intersection Crashes (All public roads)**
2008	5370
2009	5207
2010	5035
2011	5066
2012	4488

The systemic safety tool developed by Cambridge Systematics was used to analyze roadway departures. There are future plans to do the same type of systemic safety analysis for intersections.

IV. Travel Lane Departures

With the exception of 2005 and 2010, fatal lane departure crashes have been on the decline over the last 10 years with a 25% decrease from 448 fatal crashes in 2003 to 332 fatal crashes in 2012. Serious injury lane departure crashes have had more variation over the last 10 years but the general trend has been down with a 12% decrease. Overall there has been a 14% decrease in fatal and serious injury crashes from 2003-2012.

All public roads			
Year	**Fatal Lane Departure Crashes**	**Serious Injury Lane Departure Crashes**	**Fatal and Serious Injury Lane Departure Crashes**
2003	448	3060	3508
2004	424	3118	3542
2005	457	3088	3545
2006	424	2867	3291
2007	402	3011	3413
2008	386	2862	3248
2009	319	2842	3161
2010	398	2842	3240
2011	336	2615	2951
2012	332	2716	3048

Despite the downward trend seen above, lane departure crashes still account for more than 25% of all fatal and serious injury crashes and remains an emphasis area for the department. NYSDOT continues to implement counter measures and programs to prevent lane departure crashes such as:

- Installing Centerline Audible Roadway Delineators (CARDS) on rural 2 lane roads that meet specific criteria
- Advancing shoulder improvement by incorporating the shoulder wedge joint requirement into Vendor Placed Paving contracts.
- Identifying and treating sections of pavement experiencing unusually high proportions of wet road accidents via the SKARP program
- Implementing site specific projects to correct geometric issues; and
- Identifying roadway characteristics that place roads at a higher risk for lane departure crashes with a goal of implementing additional systemic programs to prevent them. NYSDOT participated in a systemic analysis pilot with Cambridge Systematics. The pilot

identified un-divided rural roads with 2 lanes, 55 mph speed, an AADT between 3000-6000, a shoulder width between 1-3' and a curve radius of 100-300 as having a high risk for lane departure crashes. As a result New York will be considering additional systemic counter measures on curves such as true wet reflective pavement marking, enhanced chevrons and high friction surface treatments in the future.

V. Work Zone Safety

In addition to regional and project based quality control and assurance activities, the Main Office conducts annual work zone safety inspections in each region to assess the overall quality of work zone traffic control statewide. Opportunities for improvement are identified and implemented via new policies, guidance, specifications or increased contract enforcement.

Accident data on construction and maintenance work zones are also tracked to help identify any accident trends. With the exception of 2010 where there was a sizeable decrease, work zone intrusions on DOT projects were relatively consistent between 2007 and 2011. See the table below.

DOT Projects - Work Zone Intrusions	**#**
2007	45
2008	41
2009	47
2010	21
2011	45

VI. System-wide Treatments

Centerline Audible Roadway Delineators
In 2010 the Department issued EI-10-030 - Rumble Strips - Centerline Audible Roadway Delineators (CARDS) - Guidance and Policy. This policy lays out the framework and criteria for installing centerline rumble-strips on eligible roads across the state. Any project that places at least 40mm of asphalt and meets the geometric/operating criteria is required to install CARDS as part of the project. Because of the low cost and proven effectiveness of centerline rumble strips, this new policy is an important tool in reducing both head-on and run-off road crashes.

At this point, 374 miles have been installed with a goal to install 3,000 miles by 2017.

Pedestrian Countdown Timers
Pedestrian crashes account for about 25% of all fatal crashes in New York and remain an emphasis area in New York State's Strategic Highway Safety Program. The goal for pedestrian countdown timers is to ensure that they are installed at ALL eligible state owned signals. Countdown timers have been installed at approximately 2,160 (66%) of the 3,260 eligible signals.

Treatment	Installed	Planned
CARDS	374 miles	1,615 miles
Pedestrian Countdown Timers	2,160 intersections	3,260 intersections

VI. Other

Safety Appurtenance Program (SAFETAP)

The SAFETAP, based on a Road Safety Audit approach, is a Department Program designed to ensure that roadside safety considerations are incorporated in the Department's Preventive Maintenance single course overlay projects. Under SAFETAP, a team of agency experts conduct a project review of Preventive Maintenance Paving project sites for the purpose of deciding upon simple, low cost safety improvements to be implemented at the time of construction, or soon after construction. Over 4,400 safety recommendations were made as a result of the SFY 12/13 reviews as is shown in the table below.

To be completed by	#
Maintenance	1,097
Deferred	507
Capital Project	44
Contract	44
Deferred to Design	113
Complete	115
Unknown/Other	2,482
Total	4,402

Skid Accident Reduction Program (SKARP)

The SKARP program incorporates safety considerations into pavement maintenance activities.

SKARP identifies sections of pavement experiencing an unusually high proportion of wet road accidents; friction tests them and schedules treatment for sections experiencing both high wet road accidents and low friction numbers. The treatment generally involves resurfacing with 1½" top course (or ½" micro surfacing) containing non-polishing aggregates. The integrated approach used by NYSDOT in implementing SKARP involves close coordination among the Office of Traffic and Safety which has overall program monitoring and evaluation responsibilities, the Technical Services Division, which has assumed responsibility for friction testing and materials issues, and the Department's eleven Regional Offices, which have responsibility for undertaking the remedial treatments.

The frictional quality of NYSDOT owned pavements has improved since the programs inception. A summary of PIL testing from 1996 through 2008 shows a decline in the number of sites requiring treatment, from 91 sites in 1996 to 42 sites in 2008 to 18 sites in 2012.

Shoulder Wedge Joints

NYSDOT has incorporated the shoulder wedge joint requirement into Vendor Place Paving contracts. The installation of shoulder wedge joints in paving applications provides a ramp type pavement edge. The wedge reduces sudden loss of vehicle control by the driver due to vertical drop off.

Traffic Control Signals

In addition to the Pedestrian Countdown timers noted above, NYSDOT continues to deploy "2070" traffic signal controllers. This allows the Department to adopt the National Transportation Communications for ITS Protocol (NTCIP) Standards, deploy closed loop systems to monitor/operate signals remotely from Transportation Management Centers as well as operate other communication technologies (variable message signs, radio, video cameras, etc.) to improve the safety and performance of the highway corridor.

Short Term Accident Reduction Program (STAR)

The STAR program allows streamlining of the design process for intersection safety improvements. The scope of the design is limited to correcting the safety deficiencies at an intersection. Targeted projects generally require six to nine months to design as opposed to the usual three to seven years required for a full rehabilitation.

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)	31747990	17 %	29057932	16 %
HRRRP (SAFETEA-LU)	763552	0 %	232789	0 %
HRRR Special Rule				
Penalty Transfer - Section 154				
Penalty Transfer – Section 164				
Incentive Grants - Section 163				
Incentive Grants (Section 406)				
Other Federal-aid Funds (i.e. STP, NHPP)	58241639	32 %	106378435	58 %
State and Local Funds	91310126	50 %	47947561	26 %
Totals	182063307	100%	183616717	100%

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

$1,700,000.00

How much funding is obligated to local safety projects?

$1,600,000.00

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

$540,000.00

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

$540,000.00

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.

Impediments to obligating HSIP funds include project delays for reasons not limited to just safety projects such as environmental approvals, right of way/easement issues, community issues, other funding needs, resource issues, historic issues, NYS permit issues etc. In addition, the Federal Obligation Limitation that exists on all Federal funding also serves as an impediment to obligating safety funds. The following describes some of the approaches used to overcome those obstacles for HSIP projects.

Statewide Solicitation Program

The application process for the statewide HSIP solicitation program, which currently accounts for 50% of the HSIP program, requires an applicant to identify all potential barriers to a timely implementation. The barriers are one of the factors taken into consideration during the project selection process. Thus, a project with good safety benefits but significant impediments to a timely implementation may be denied funding in favor of another safety project with less risk.

Design Services Agreement

Design resources are sometimes limited at the regional level especially for larger projects. The department is in the process of implementing a statewide regional design services agreement that can be used to fund contract services to assist with design or other urgent safety project needs. The contract will be funded via HSIP dollars specifically set aside for that purpose.

Marchiselli

The department will continue to support programs such as the Marchiselli Highway Improvement Program which provides funding assistance to local municipalities for approved projects. The Marchiselli program requires state and local governments to share in the cost of approved local projects. The projects are typically funded in shares of 80% Federal, 15% State and 5% Local.

Low Cost Counter Measures

The NYSDOT is encouraging and implementing more low cost and systemic safety counter measures which typically have less impediments to a timely implementation.

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

No additional information regarding HSIP funding.

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
See Appendix											

See Appendix for the General Listing of Projects

Progress in Achieving Safety Performance Targets

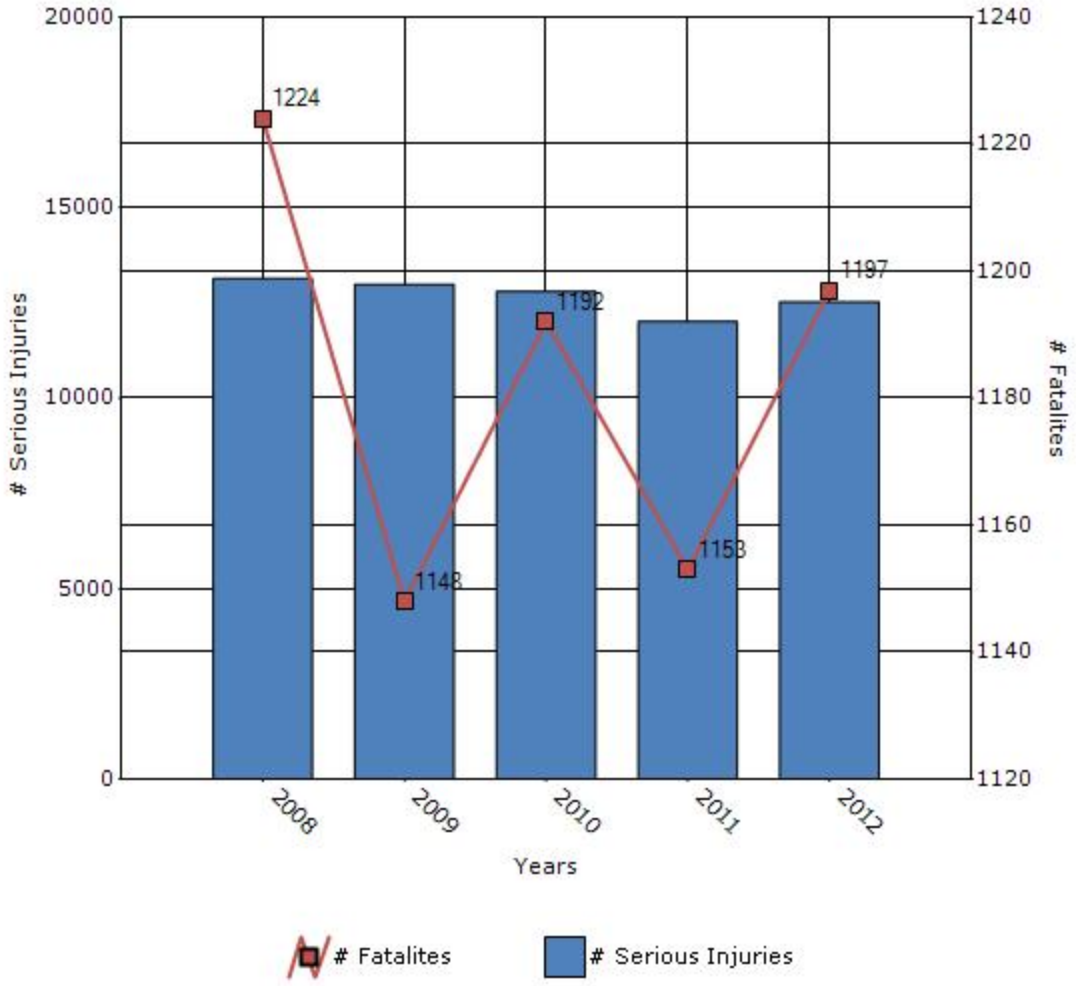
Overview of General Safety Trends

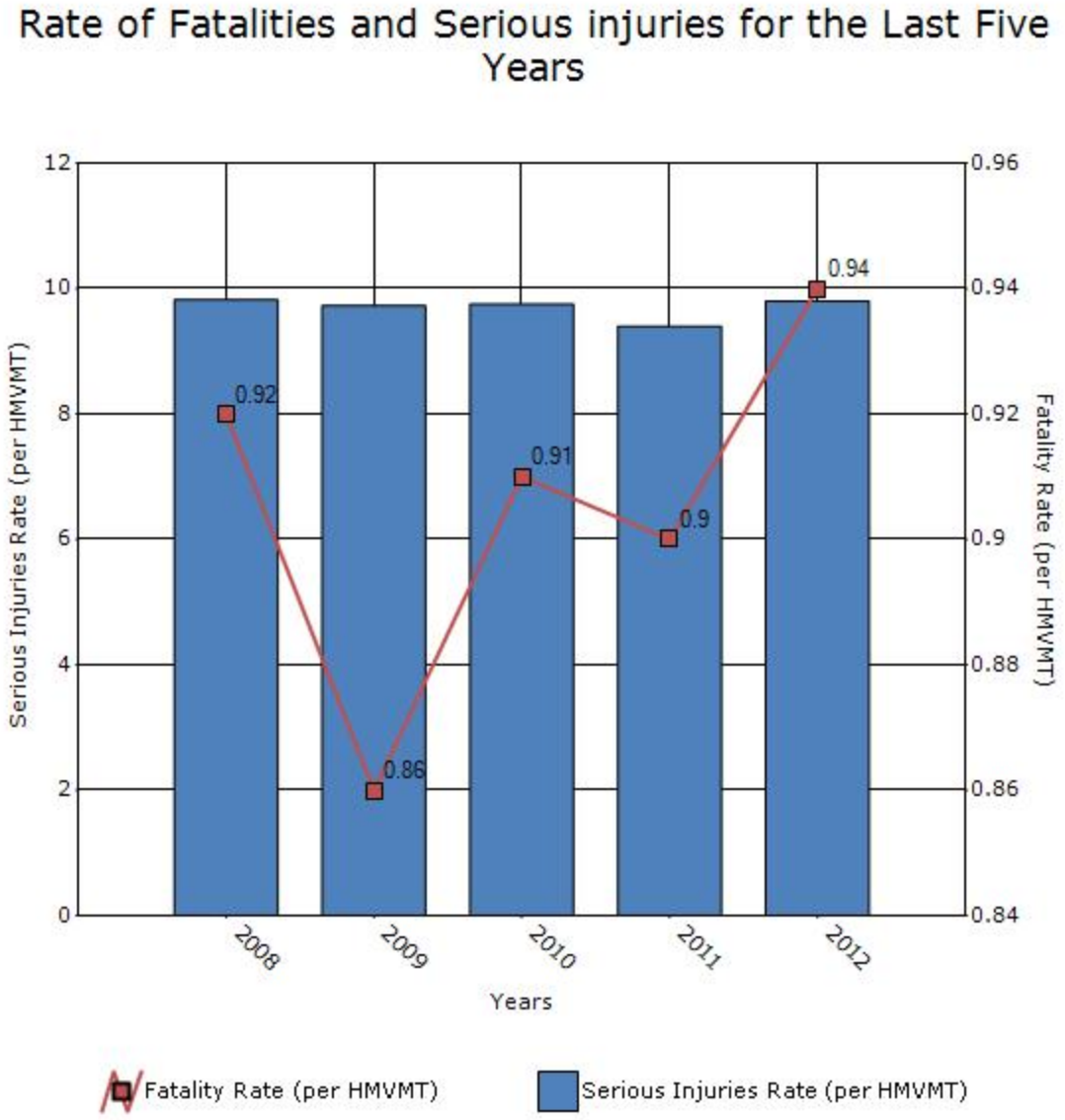
Present data showing the general highway safety trends in the state for the past five years.

Performance Measures*	2008	2009	2010	2011	2012
Number of fatalities	1224	1148	1192	1153	1197
Number of serious injuries	13137	12988	12802	12012	12532
Fatality rate (per HMVMT)	0.92	0.86	0.91	0.9	0.94
Serious injury rate (per HMVMT)	9.82	9.73	9.75	9.4	9.8

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

Number of Fatalities and Serious injuries for the Last Five Years





Data Source: Institute for Traffic Safety Management and Research (ITSMR) for years 2008-2011. 2012 results throughout the document are preliminary and derived from New York State DOT's Safety Information Management System (SIMS). All averages noted in the following tables and charts are straight averages as opposed to 5 year rolling averages. The preliminary 5 year rolling averages for 2012 are shown below.

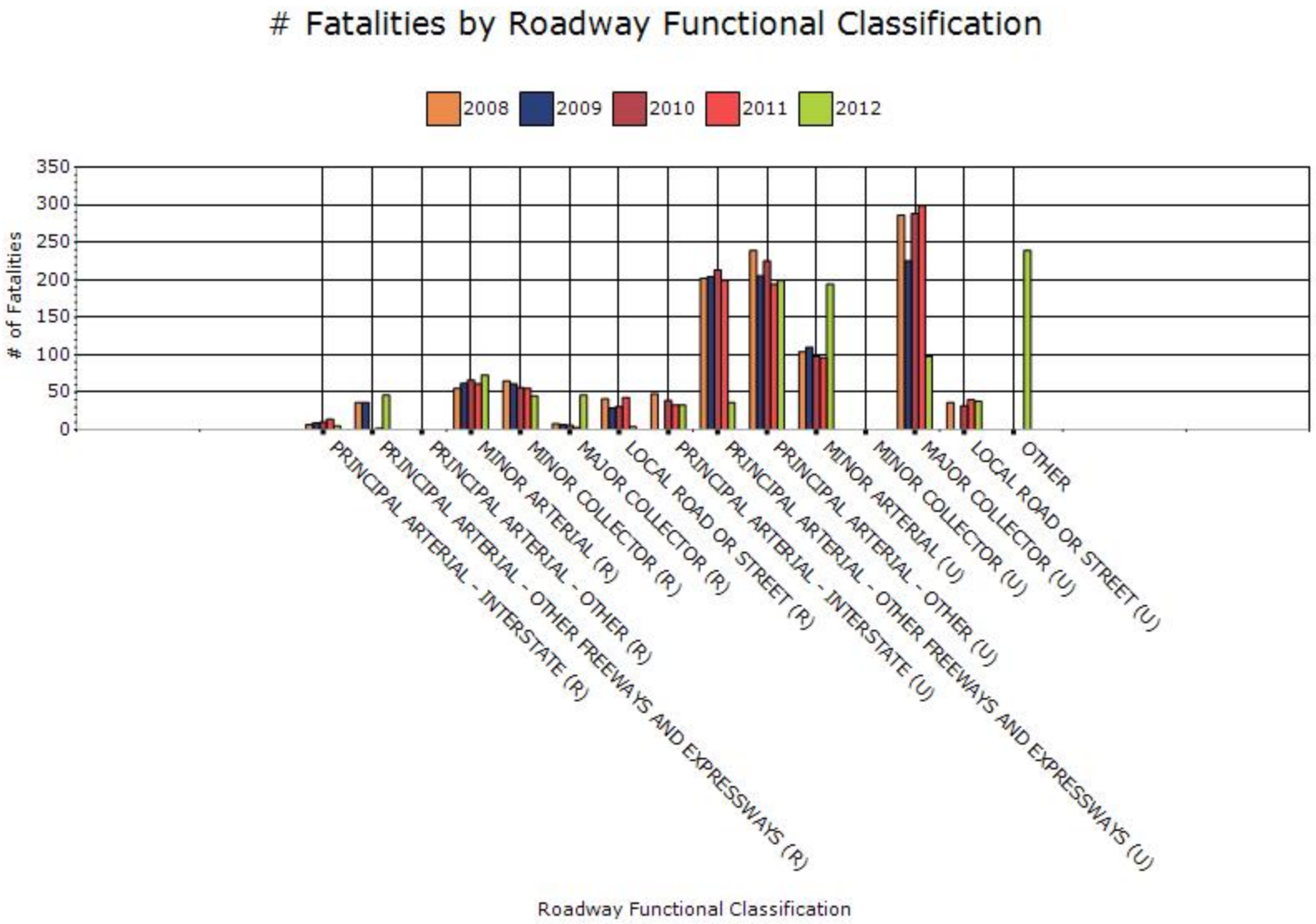
Fatalities - 1,1,83
Serious Injuries - 12,694
Fatality Rate - .9
Serious Injury Rate - 9.7

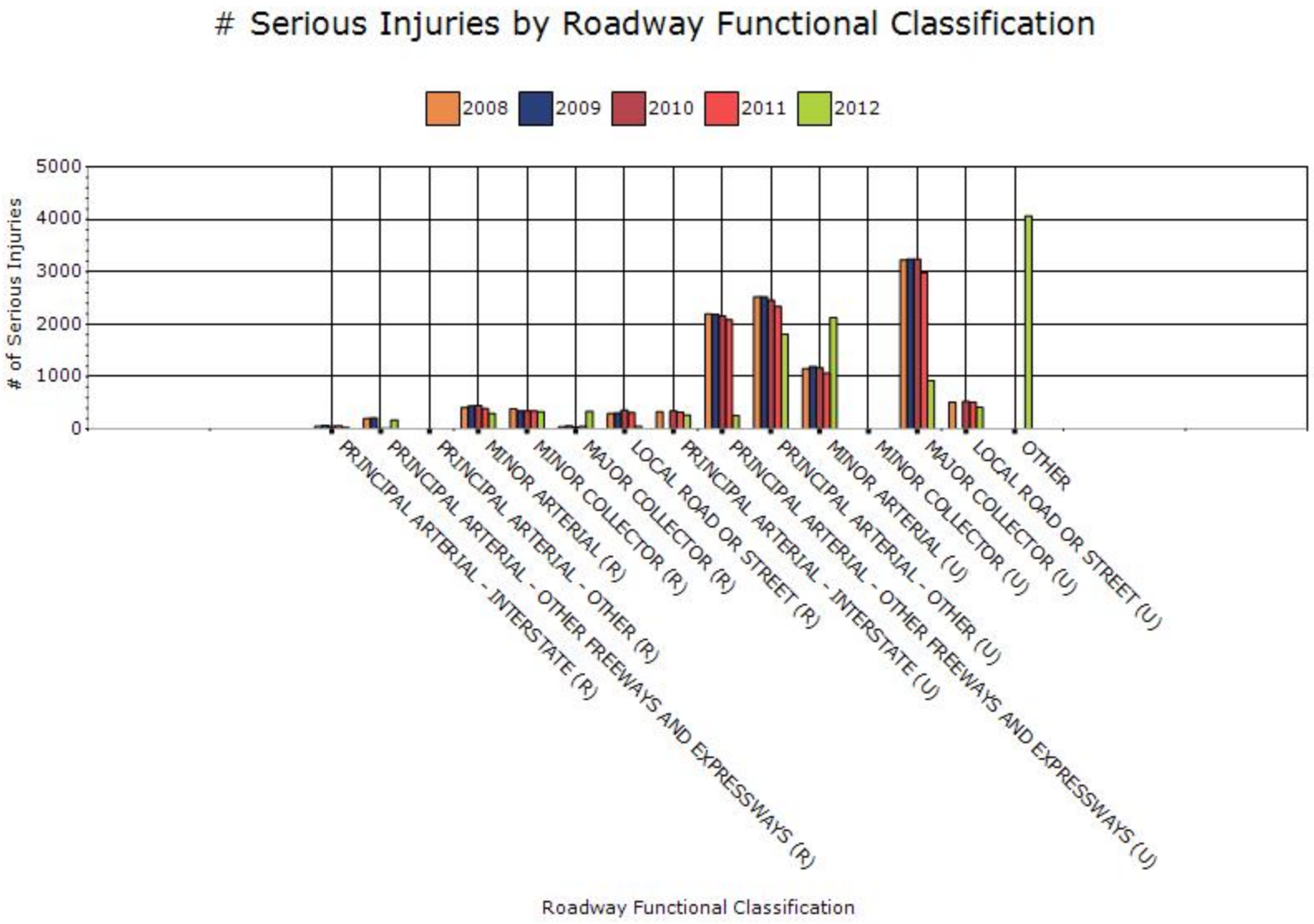
To the maximum extent possible, present performance measure* data by functional classification and ownership.

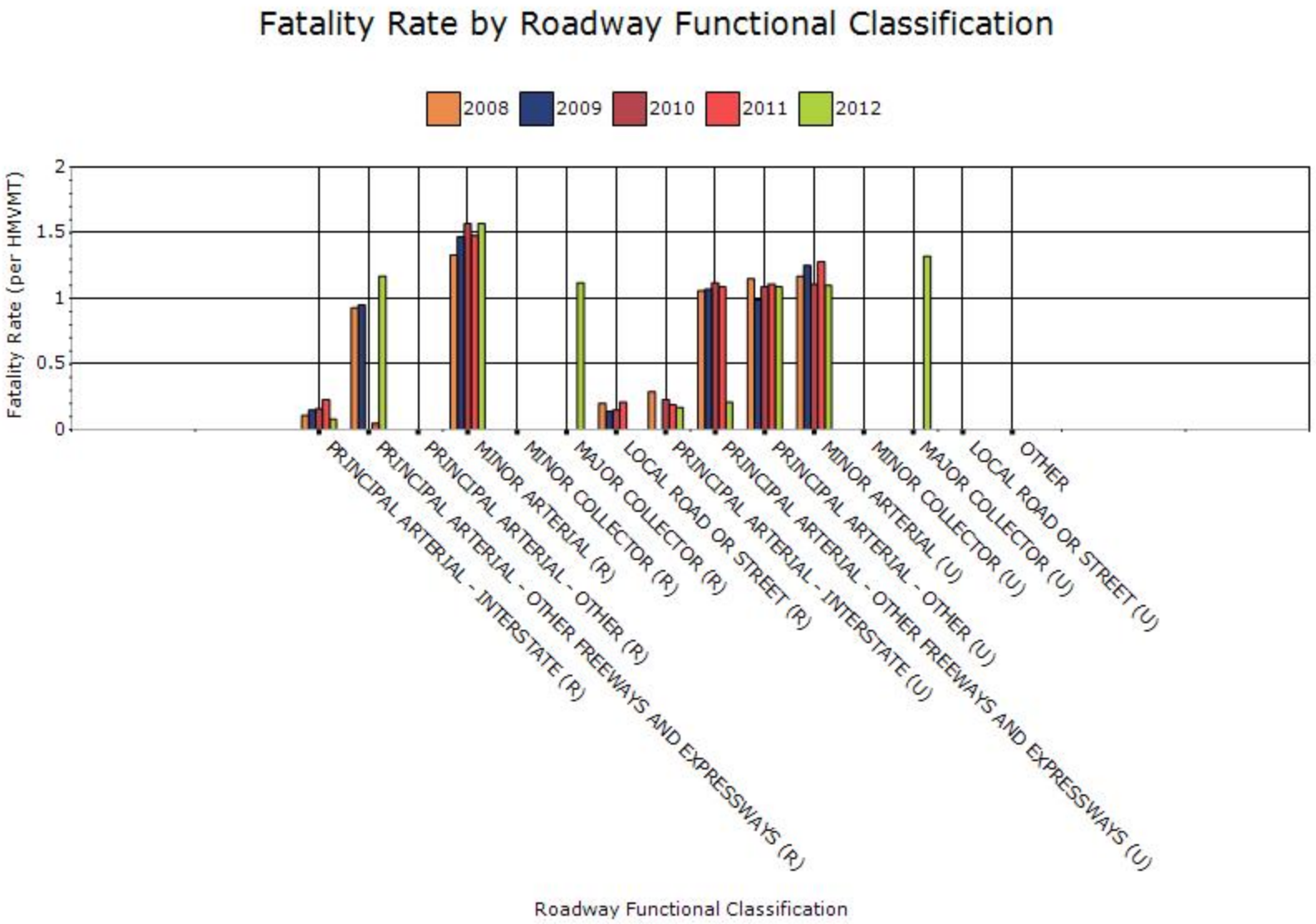
Year - 2012

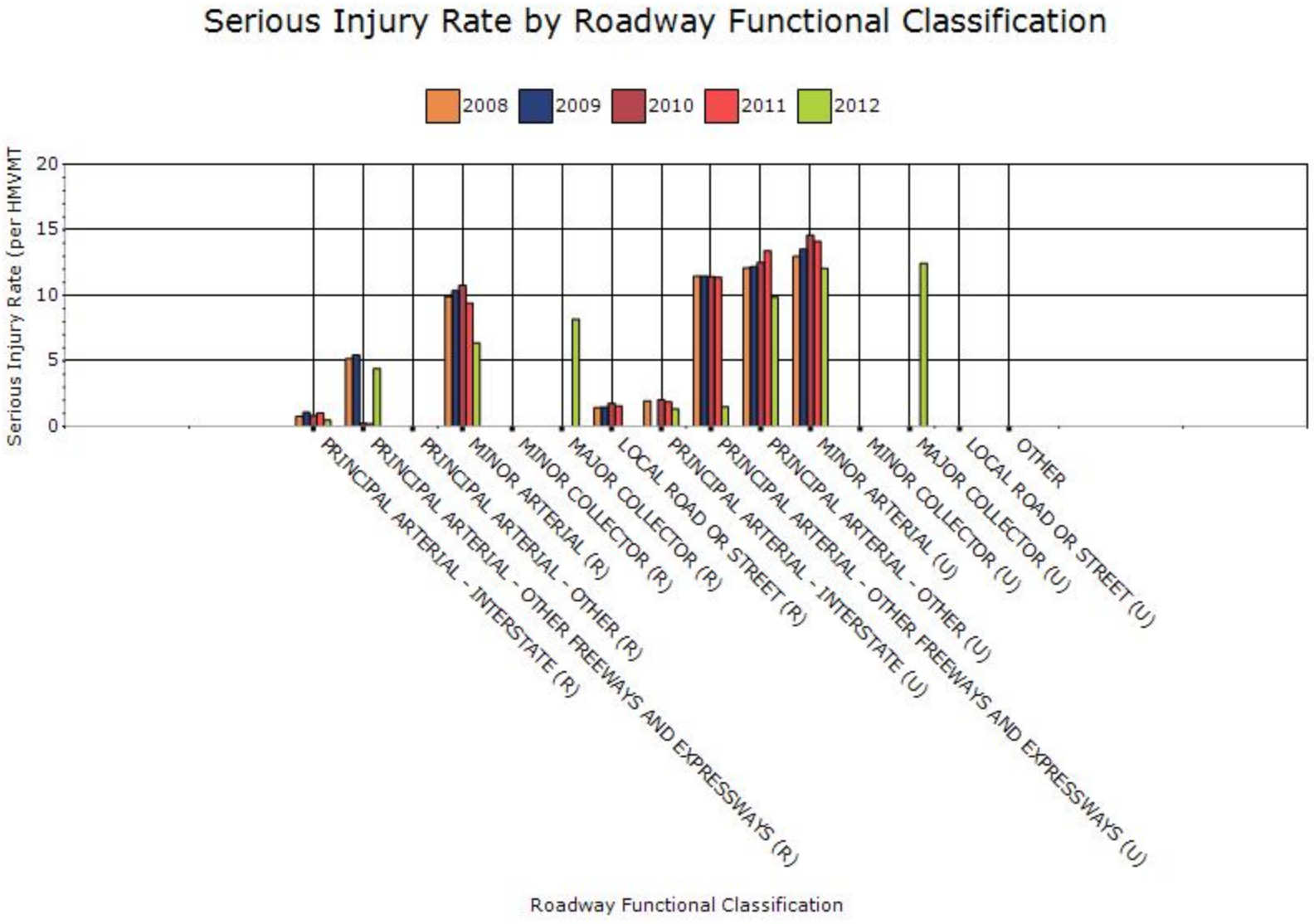
Function Classification	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
RURAL PRINCIPAL ARTERIAL - INTERSTATE	5	31	0.08	0.5
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	46	173	1.17	4.4
RURAL PRINCIPAL ARTERIAL - OTHER	0	0	0	0
RURAL MINOR ARTERIAL	73	296	1.57	6.38
RURAL MINOR COLLECTOR	45	329	0	0
RURAL MAJOR COLLECTOR	46	337	1.12	8.19
RURAL LOCAL ROAD OR STREET	4	50	0	0
URBAN PRINCIPAL	33	265	0.17	1.33

ARTERIAL - INTERSTATE				
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	36	257	0.21	1.51
URBAN PRINCIPAL ARTERIAL - OTHER	199	1811	1.09	9.87
URBAN MINOR ARTERIAL	194	2124	1.1	12.07
URBAN MINOR COLLECTOR	0	0	0	0
URBAN MAJOR COLLECTOR	98	924	1.32	12.45
URBAN LOCAL ROAD OR STREET	38	413	0	0
OTHER	239	4066	0	0
OTHER	239	4066	0	0


Fatalities by Roadway Functional Classification
2008
2009
2010
2011
2012
# of Fatalities
350
300
250
200
150
100
50
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
5000
4000
3000
2000
1000
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

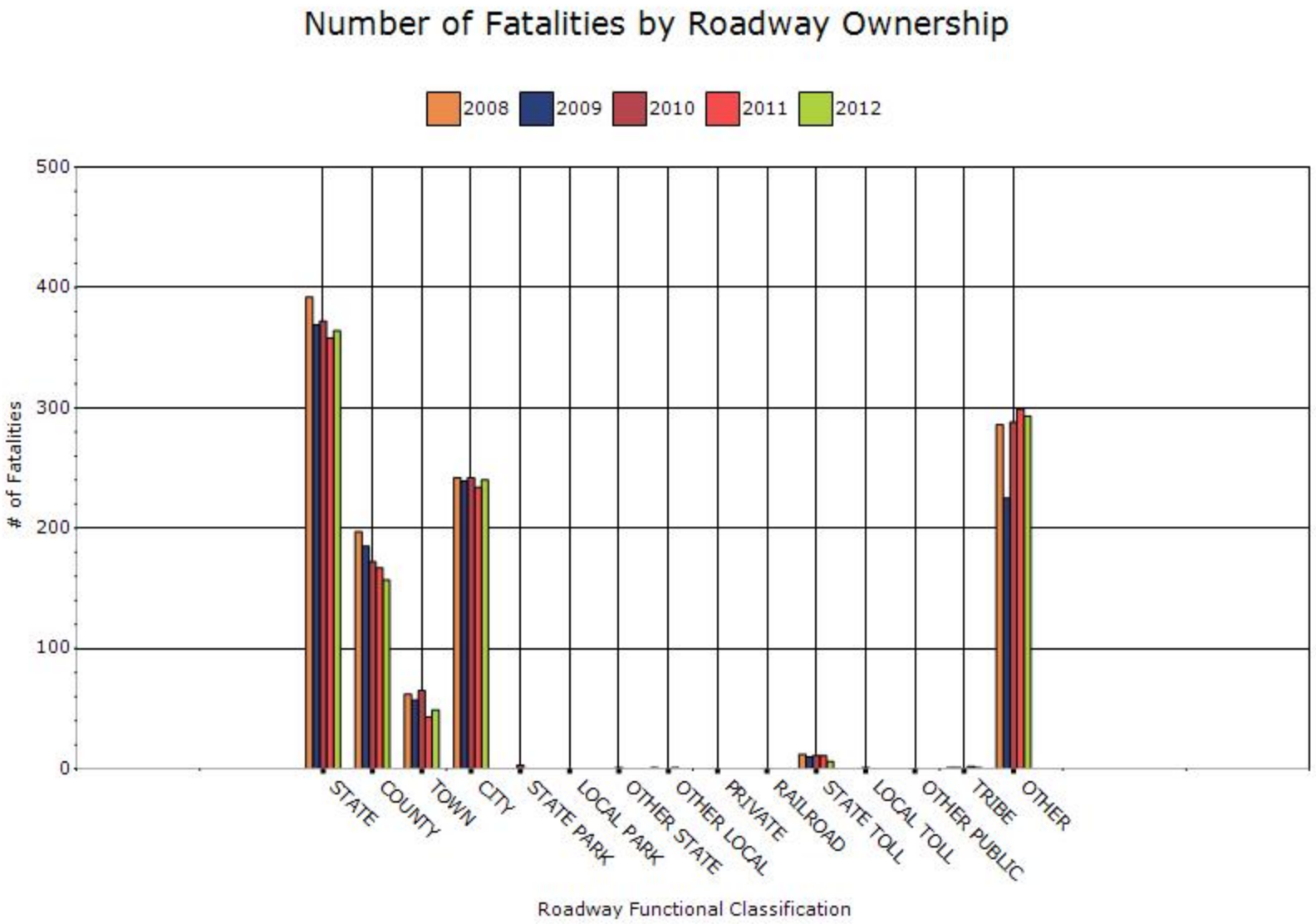

Fatality Rate by Roadway Functional Classification
2008
2009
2010
2011
2012
Fatality Rate (per HMVMT)
2
1.5
1
0.5
0
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)
LOCAL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

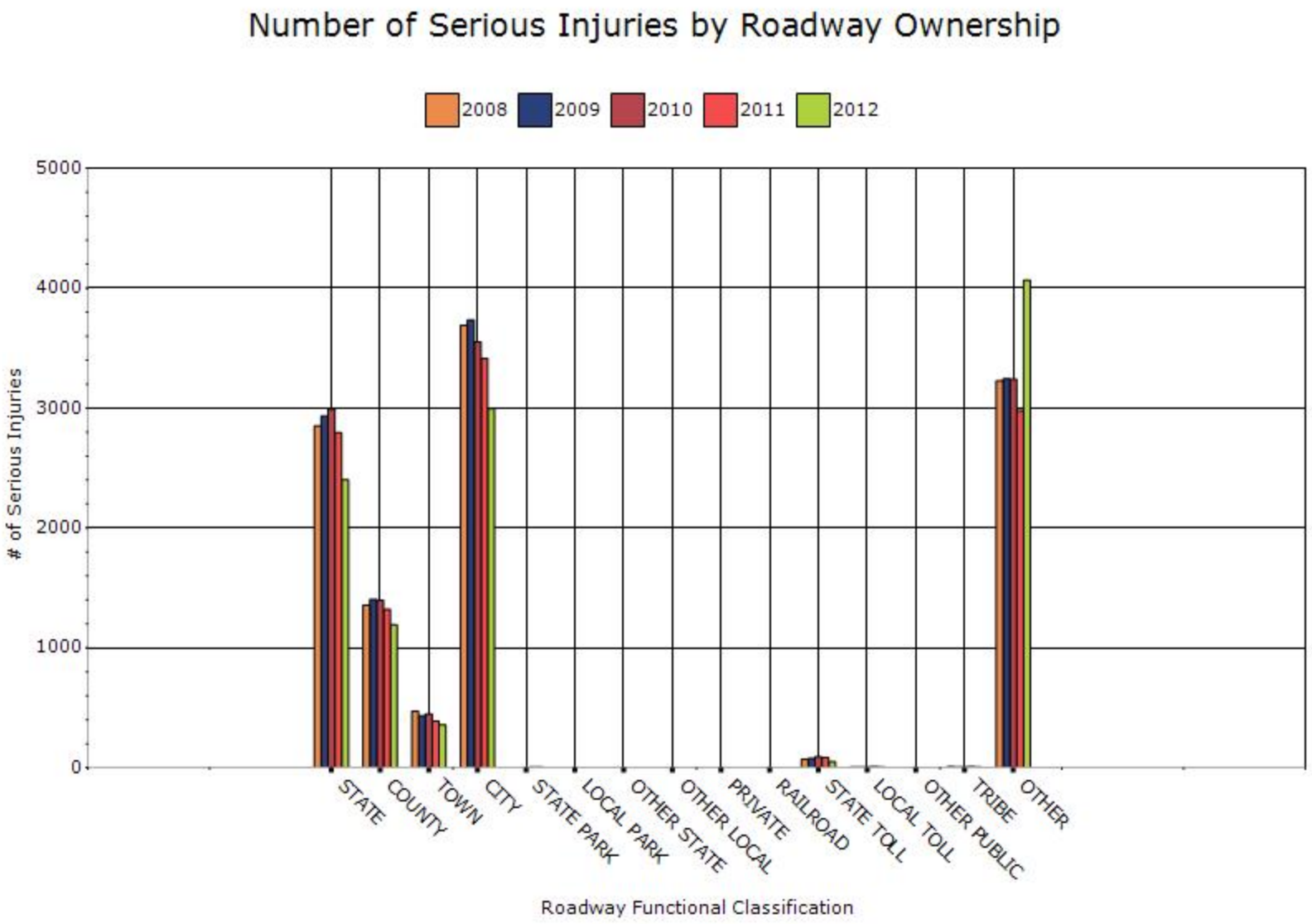

Serious Injury Rate by Roadway Functional Classification
2008
2009
2010
2011
2012
Serious Injury Rate (per HMVMT
20
15
10
5
0
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR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

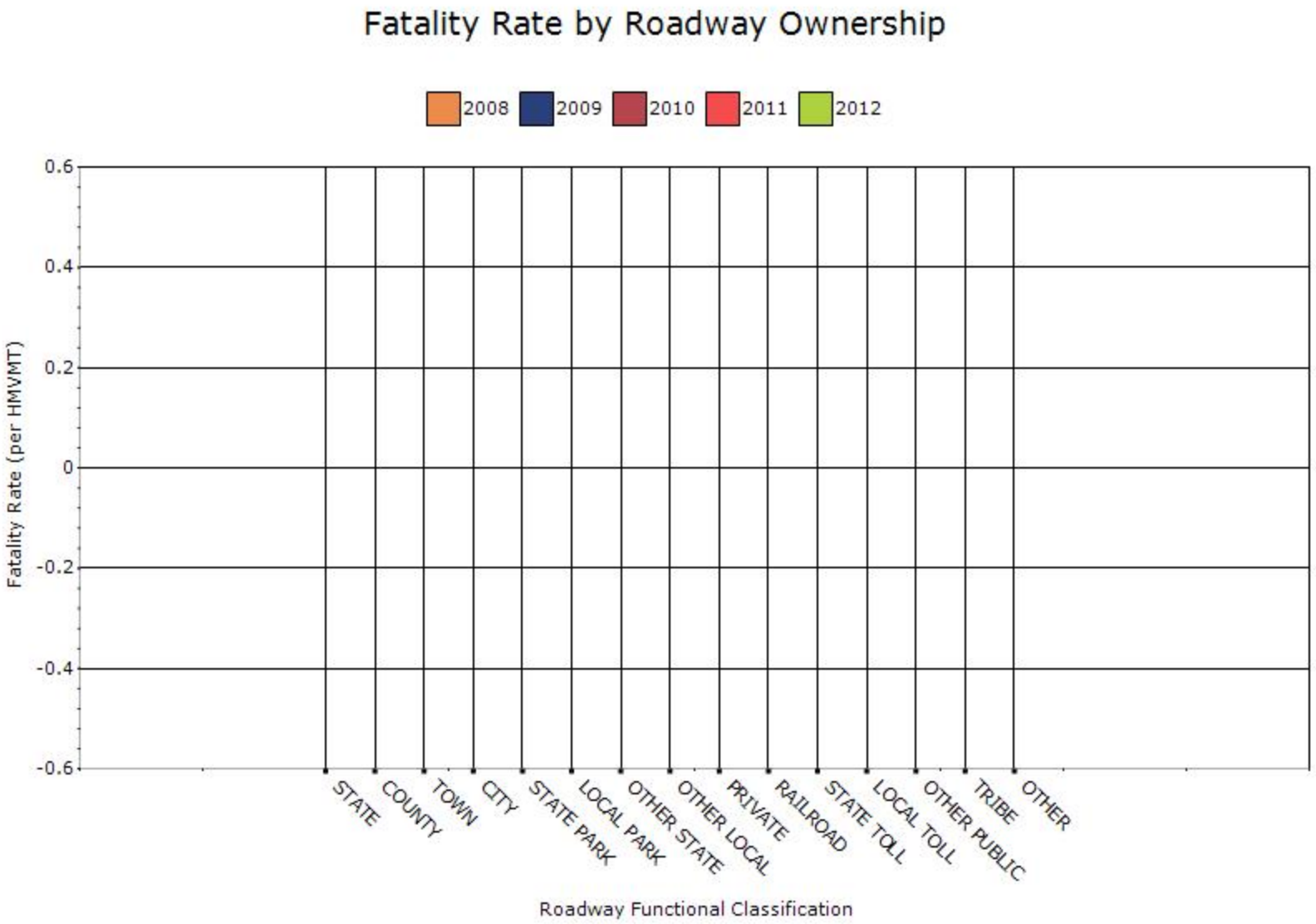
Year - 2012

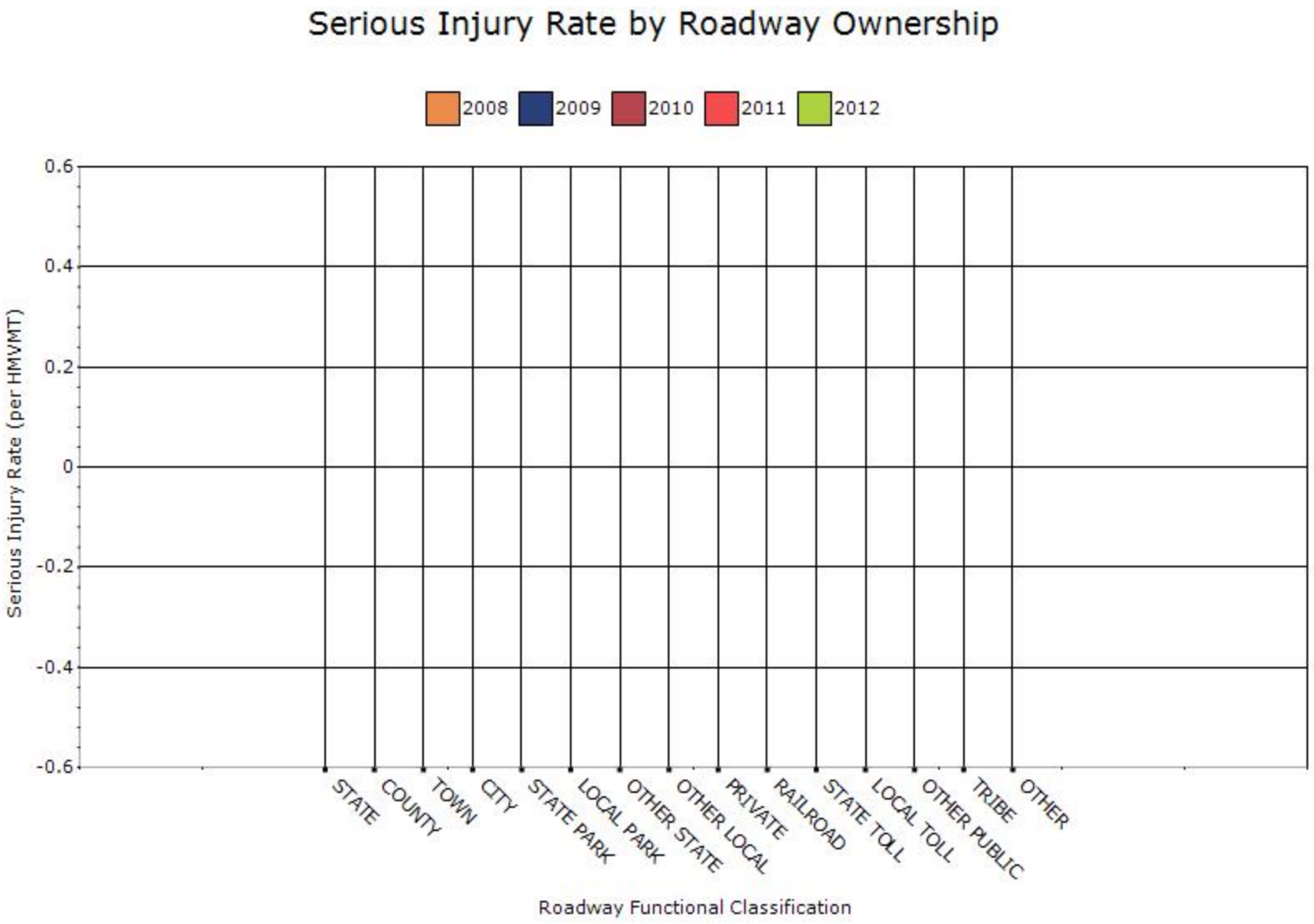
Roadway Ownership	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
STATE HIGHWAY AGENCY	364	2403	0	0
COUNTY HIGHWAY AGENCY	157	1192	0	0
TOWN OR TOWNSHIP HIGHWAY AGENCY	49	357	0	0
CITY OF MUNICIPAL HIGHWAY AGENCY	240	2994	0	0
STATE PARK, FOREST, OR RESERVATION AGENCY	0	4	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	6	50	0	0
LOCAL TOLL AUTHORITY	0	6	0	0
OTHER PUBLIC INSTRUMENTALITY (E.G. AIRPORT, SCHOOL, UNIVERSITY)	0	0	0	0
INDIAN TRIBE NATION	1	4	0	0
OTHER	293	4066	0	0
OTHER	293	4066	0	0


Number of Fatalities by Roadway Ownership
2008
2009
2010
2011
2012
500
400
300
200
100
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
5000
4000
3000
2000
1000
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
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
Fatality Rate (per HMVMT)
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
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
Serious Injury Rate (per HMVMT)
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.

Since 2000 the number of fatal crashes in New York State has been on a general downward trend. The number of fatalities dropped from 1,444 in 2000 to 1,153 in 2011, representing a decrease of almost 20%. The fatality rate per 100 million vehicle miles traveled (VMT) decreased from 1.13 in 2,000 to .90 in 2011. New York's fatality rate per 100 Million Vehicle Miles Traveled (MVMT) has been below the national level every year between 2000 and 2011.

Highway related injuries have also decreased. The number of injuries occurring in New York dropped from 292,663 in 2000 to 177,445 in 2011, representing a decrease of almost 40%.

Preliminary crash numbers and rates for 2012 show a slight increase from 2011 levels.

Application of Special Rules

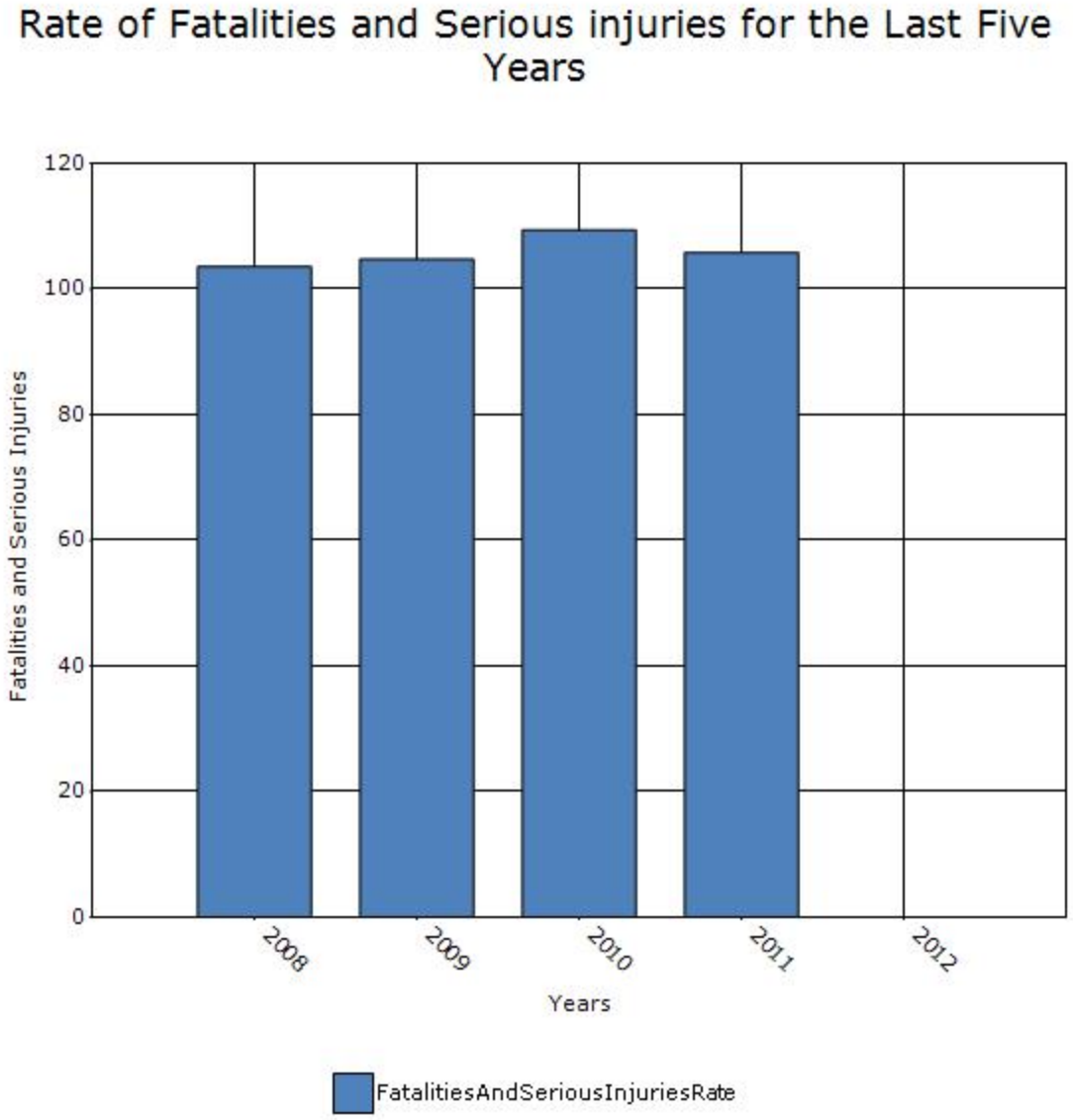
Present the rate of traffic fatalities and serious injuries per capita for drivers and pedestrians over the age of 65.

Older Driver Performance Measures	**2008**	**2009**	**2010**	**2011**	**2012**
Fatality rate (per capita)	1.7	1.22	1.61	1.42	0
Serious injury rate (per capita)	101.86	103.53	106.89	104.42	0
Fatality and serious injury rate (per capita)	103.56	104.75	109.41	105.82	0

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

((# driver 65+ fatalities) + (# pedestrian 65+ fatalities)) * 100,000 / Population of NYS
((# driver 65+ severe injuries) + (# pedestrian 65+ severe injuries)) * 100,000 / Population of NYS
((# driver 65+ severe injuries + fatalities)+(# pedestrian 65+ severe injuries + fatalities)) * 100,000 / Pop NYS

Data not yet available for 2012. Numbers shown are a straight average as opposed to a 5 year rolling average.



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: Other- Decrease of Fatal and Injury Crashes

A report was initiated from the Department's Post Implementation Evaluation System (PIES) showing the number of crashes occurring before and after the construction of safety projects completed in 2008 and 2009. At least 3 years of post construction crash data was available for all sites evaluated. The report showed that fatal crashes decreased by about 30 per year and injury crashes decreased by over 3,200 per year.

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

☐ Shift Focus to Fatalities and Serious Injuries

☒ Include Local Roads in Highway Safety Improvement Program

☐ Organizational Changes

☐ None

☐ Other:

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

Program update:
Sustainability principles were introduced into the Comprehensive Program update (CPU) and integrated into the decision-making processes. To ensure that NYSDOT is making good decisions in the efforts to preserve, maintain, operate and enhance the safety and condition of our transportation system, four guiding principles were identified: Preservation First; System Not Projects; Maximize Return on Investment; and Make It Sustainable. A common theme integrated into all four principles and inherent in all of our investment decisions is stewardship of safety for the traveling public.

Local Roads:
The majority of the additional HSIP funding provided with the MAP-21 legislation was allocated to a centrally administered HSIP Project Application program where state and local projects complete equally for the additional HSIP funds. Applications are reviewed and scored with the objective of funding the best safety projects in the state regardless of region, location or ownership. Local projects were awarded funding for the FFY 2013 and FFY 2014 program. While local roads were eligible for HSIP funding in previous years, most funding was allocated to state projects. The HSIP application program provides a mechanism for projects on locally owned roads to compete for funds equally with projects on state owned roads.

SHSP Emphasis Areas

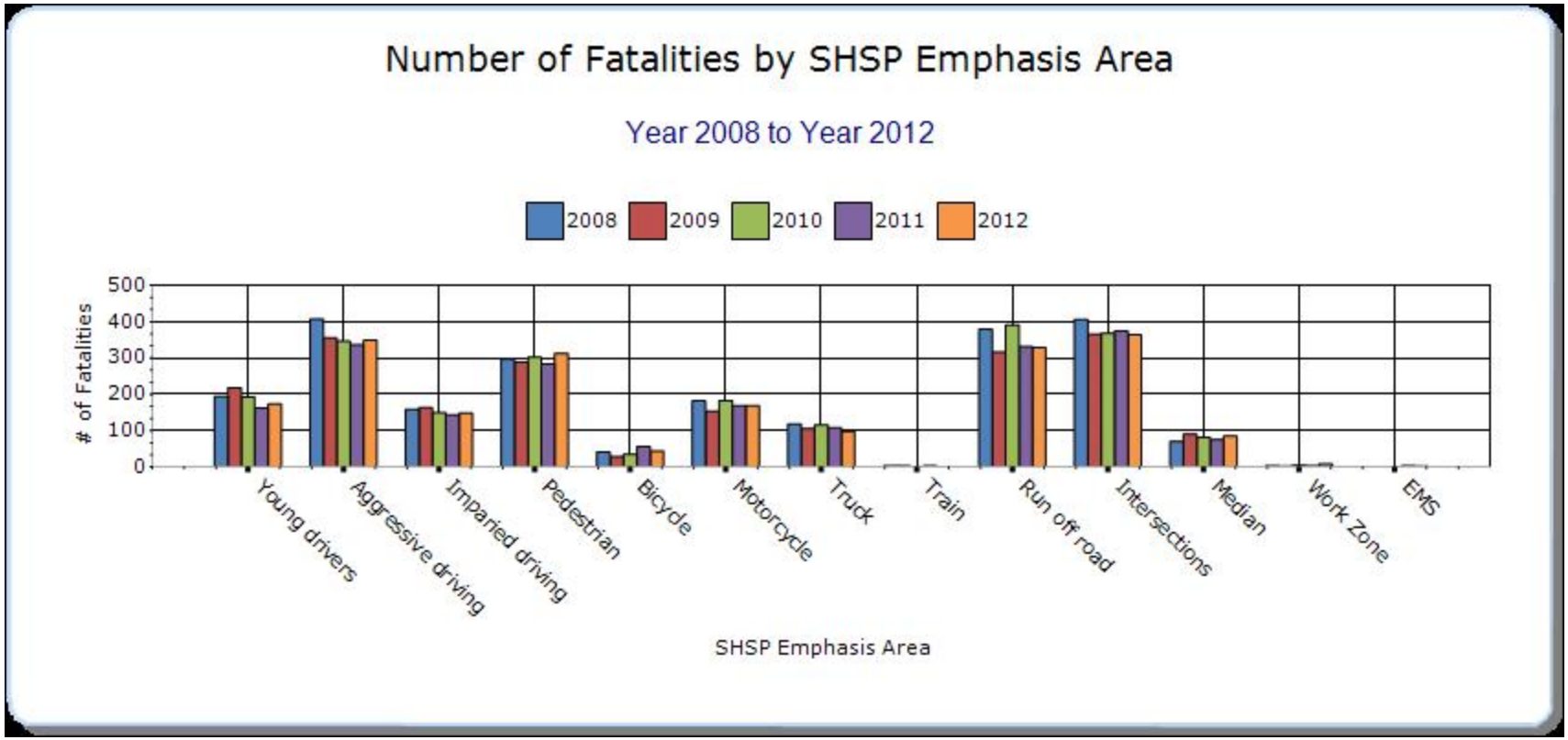
For each SHSP emphasis area that relates to the HSIP, present trends in emphasis area performance measures.

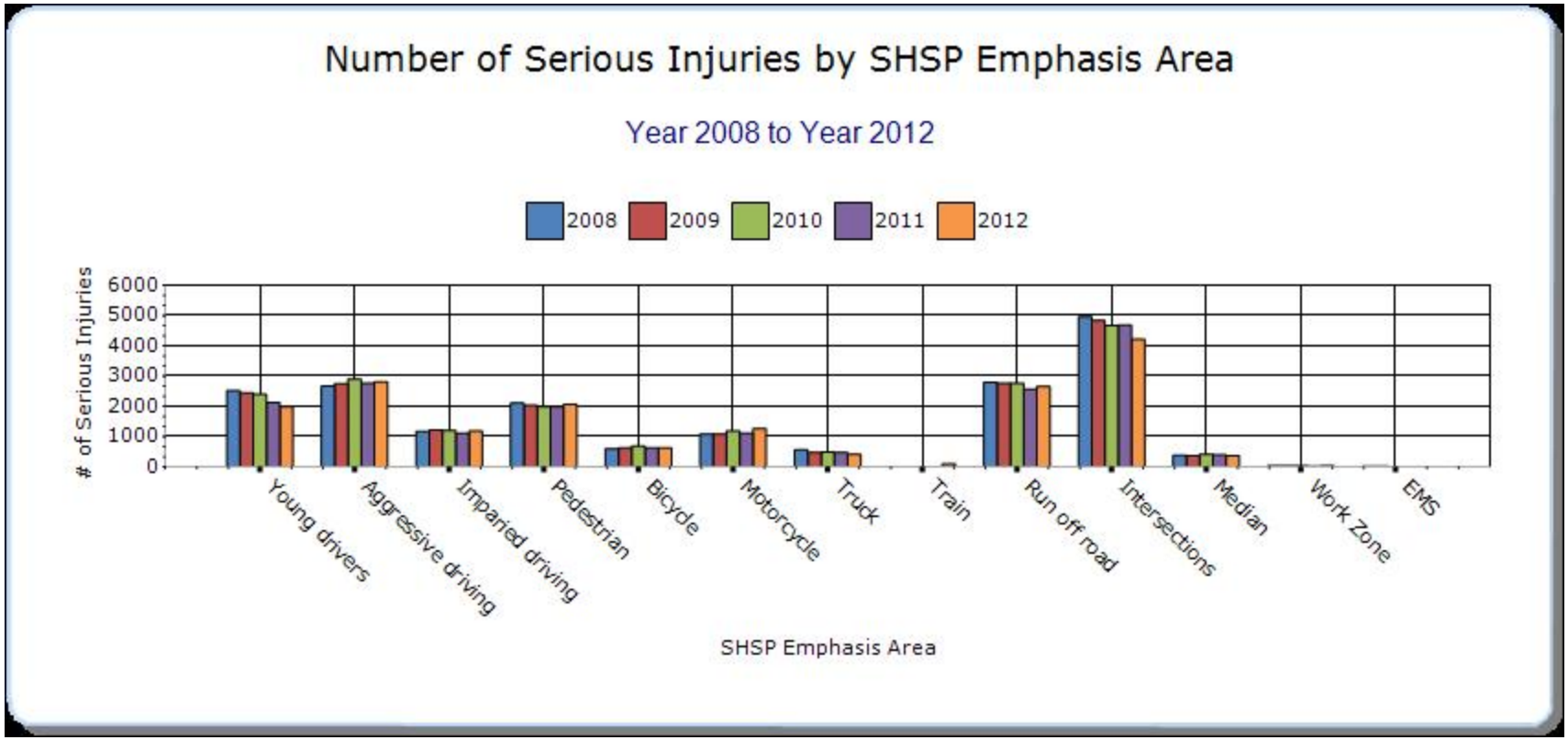
Year - 2012

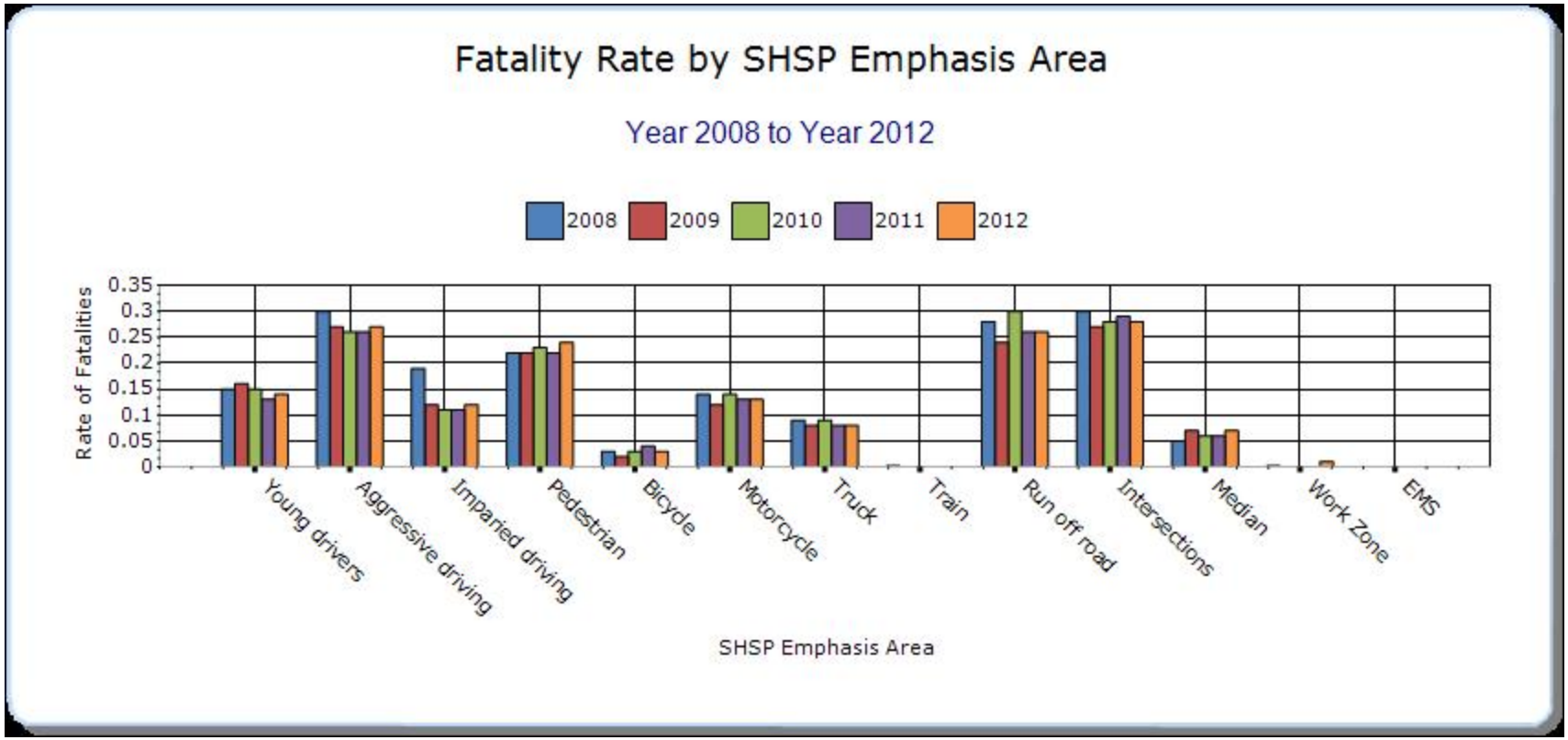
HSIP-related SHSP Emphasis Areas	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3
Instituting graduated licensing for younger drivers	**All crash types where driver < 21**	**173**	**1997**	**0.14**	**1.56**	**0**	**0**	**0**
Curbing aggressive driving	All crash types where driver was speeding, following/passing too close, changing lanes unsafely or drivng aggressively	349	2804	0.27	2.19	0	0	0
Reducing impaired driving	All crash types where impaired driving was a contributing factor	148	1182	0.12	0.92	0	0	0
Making walking and street crossing easier	vehicle/pedestrian	312	2067	0.24	1.62	0	0	0

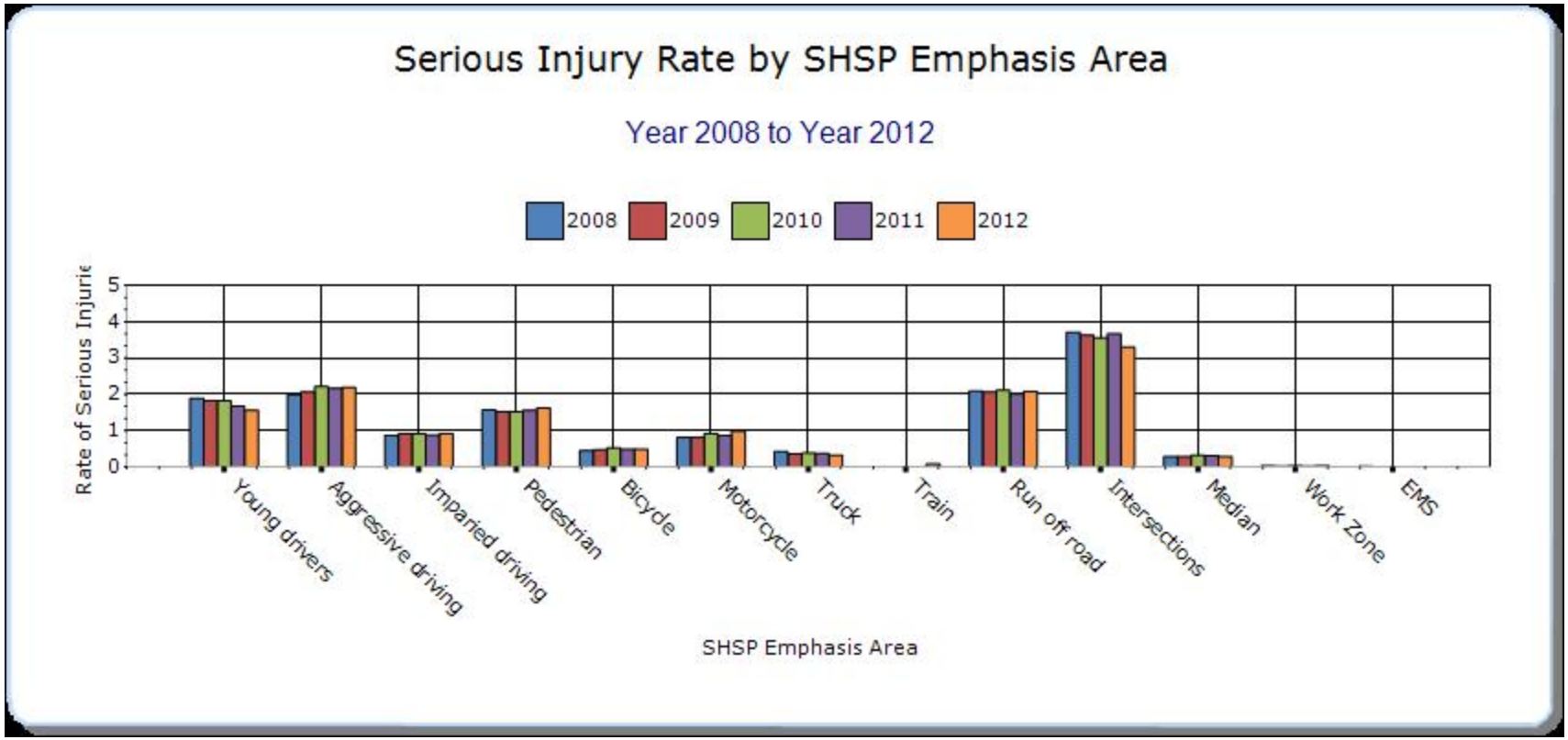
Ensuring safer bicycle travel	Vehicle/bicycle	44	624	0.03	0.49	0	0	0
Improving motorcycle safety and increasing motorcycle awareness	motorcycle-related	169	1268	0.13	0.99	0	0	0
Making truck travel safer	Truck-related	98	414	0.08	0.32	0	0	0
Reducing vehicle-train crashes	vehicle-train	1	100	0	0.08	0	0	0
Keeping vehicles in the roadway	Run-off-road	329	2657	0.26	2.08	0	0	0
Improving the design and operation of highway intersections	Intersection-related	364	4215	0.28	3.3	0	0	0
Reducing head-on and across-median crashes	Head on	85	372	0.07	0.29	0	0	0
Designing safer work zones	Construction work zones	8	32	0.01	0.03	0	0	0
Enhancing emergency medical	ambulance-	2	10	0	0.01	0	0	0

capabilities to increase survivability	related							




Number of Serious Injuries by SHSP Emphasis Area
Year 2008 to Year 2012
2008
2009
2010
2011
2012
# of Serious Injuries
6000
5000
4000
3000
2000
1000
0
Young drivers
Aggressive driving
Impaired driving
Pedestrian
Bicycle
Motorcycle
Truck
Train
Run off road
Intersections
Median
Work Zone
EMS
SHSP Emphasis Area


Fatality Rate by SHSP Emphasis Area
Year 2008 to Year 2012
2008
2009
2010
2011
2012
Rate of Fatalities
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Young drivers
Aggressive driving
Impaired driving
Pedestrian
Bicycle
Motorcycle
Truck
Train
Run off road
Intersections
Median
Work Zone
EMS
SHSP Emphasis Area

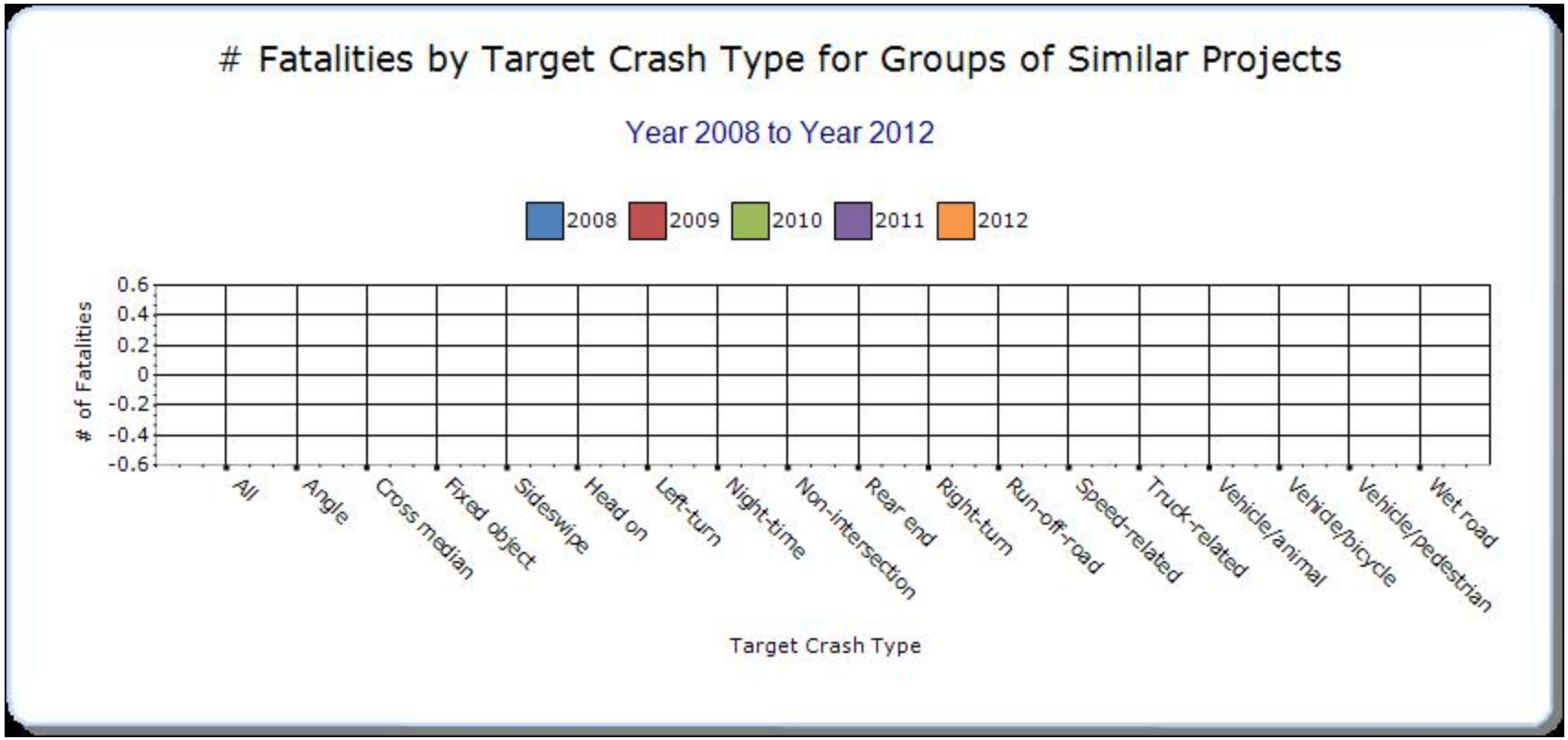

Serious Injury Rate by SHSP Emphasis Area
Year 2008 to Year 2012
2008
2009
2010
2011
2012
Rate of Serious Injurie
5
4
3
2
1
0
Young drivers
Aggressive driving
Impaired driving
Pedestrian
Bicycle
Motorcycle
Truck
Train
Run off road
Intersections
Median
Work Zone
EMS
SHSP Emphasis Area

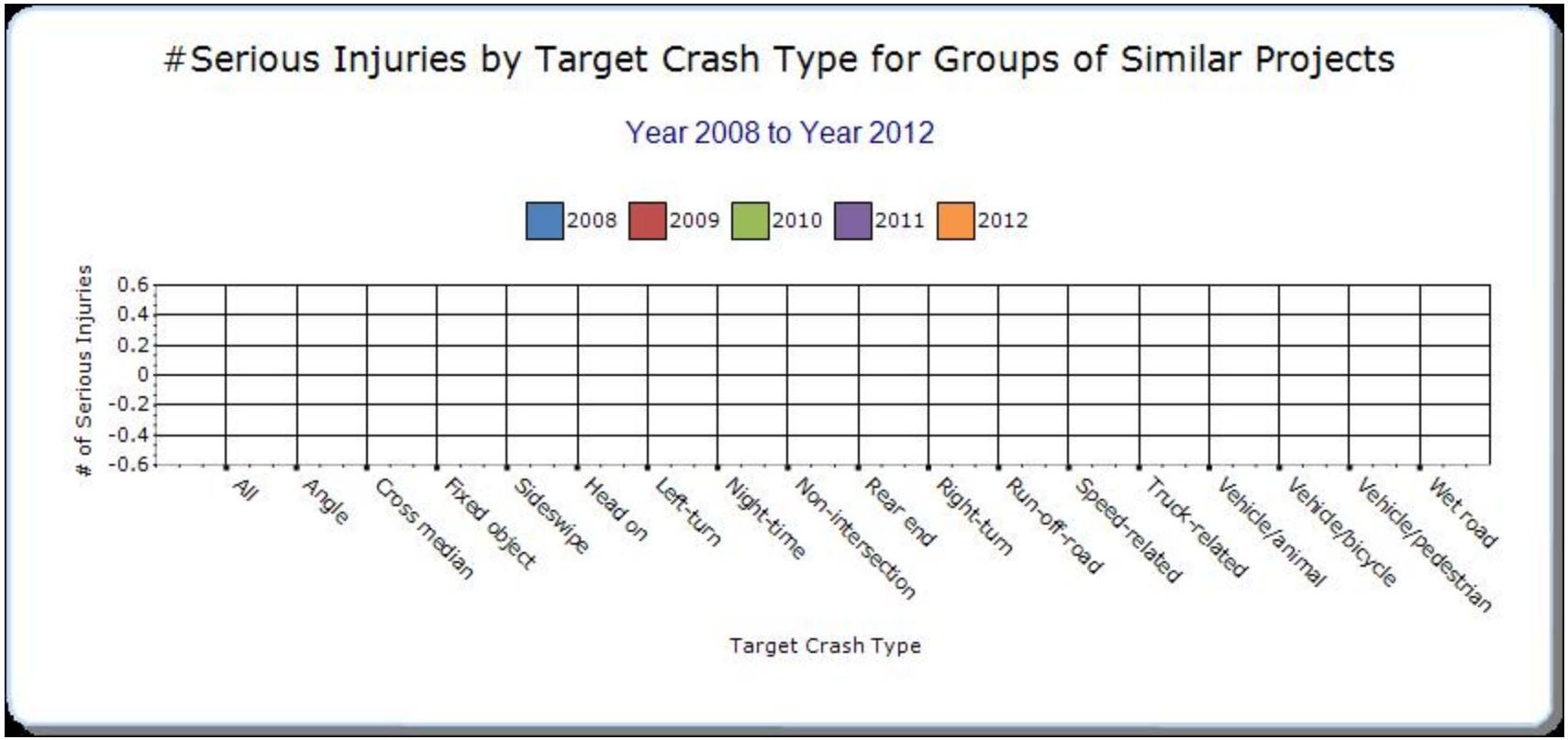
Groups of similar project types

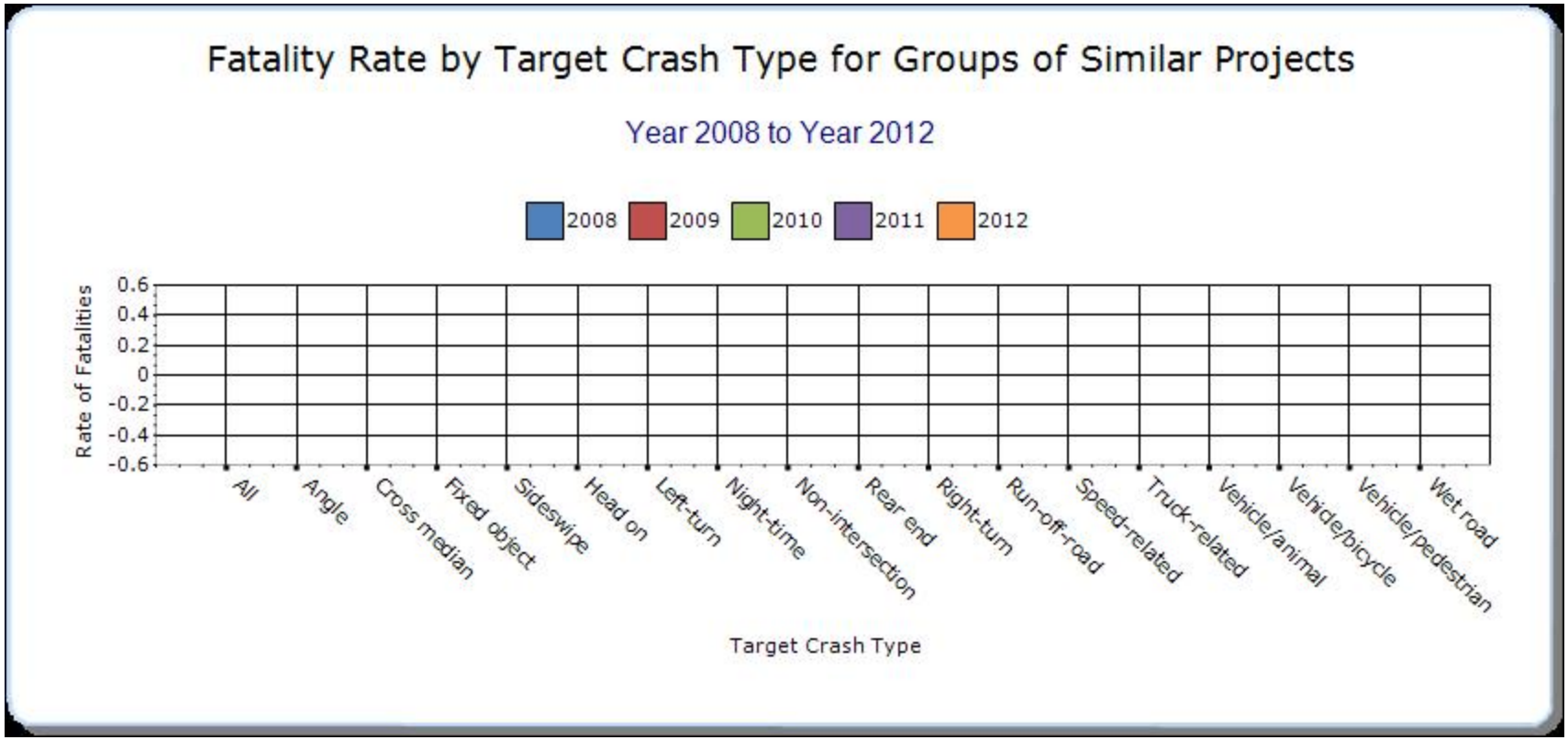
Present the overall effectiveness of groups of similar types of projects.

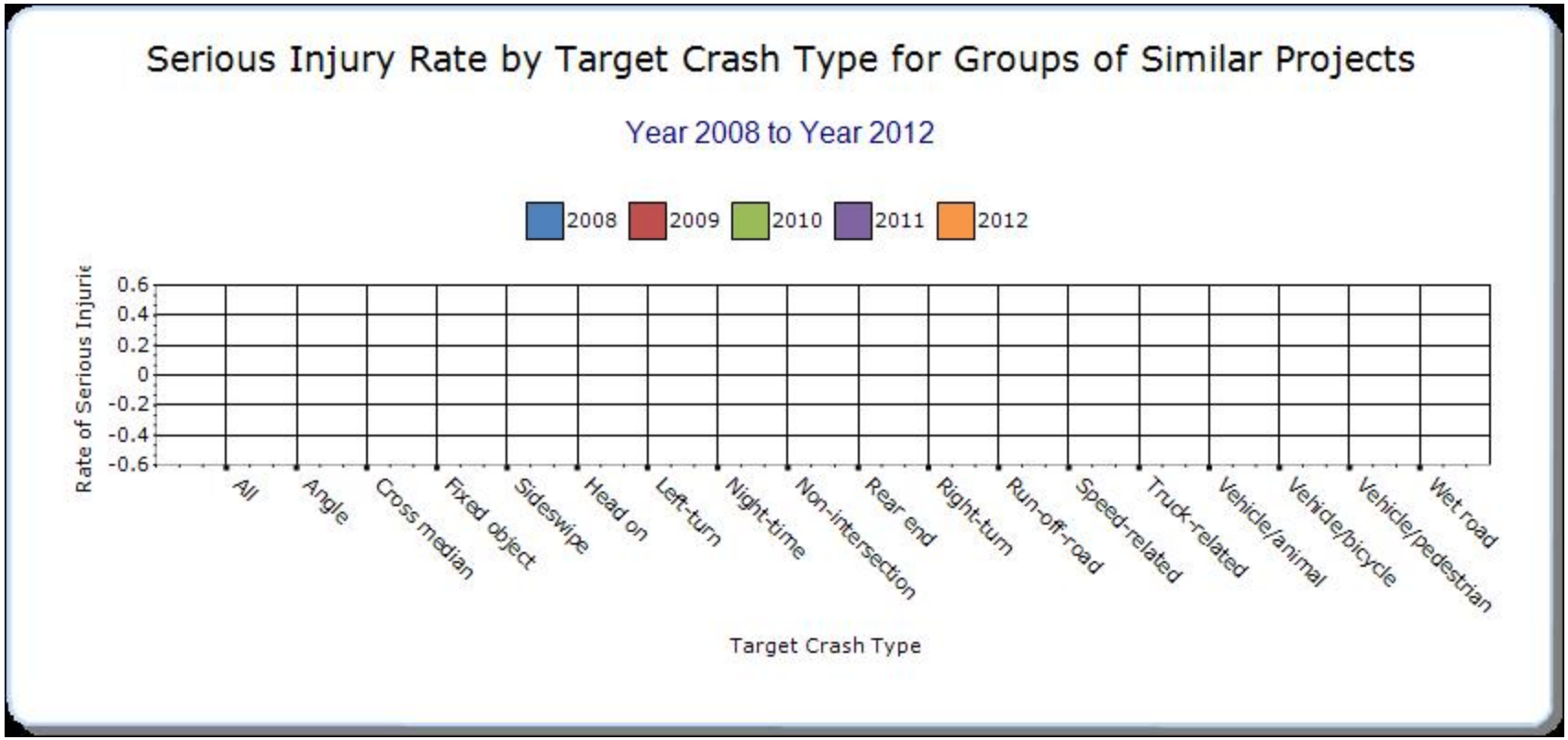
Year - 2012

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


Fatalities by Target Crash Type for Groups of Similar Projects
Year 2008 to Year 2012
2008
2009
2010
2011
2012
# of Fatalities
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
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
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
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
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type

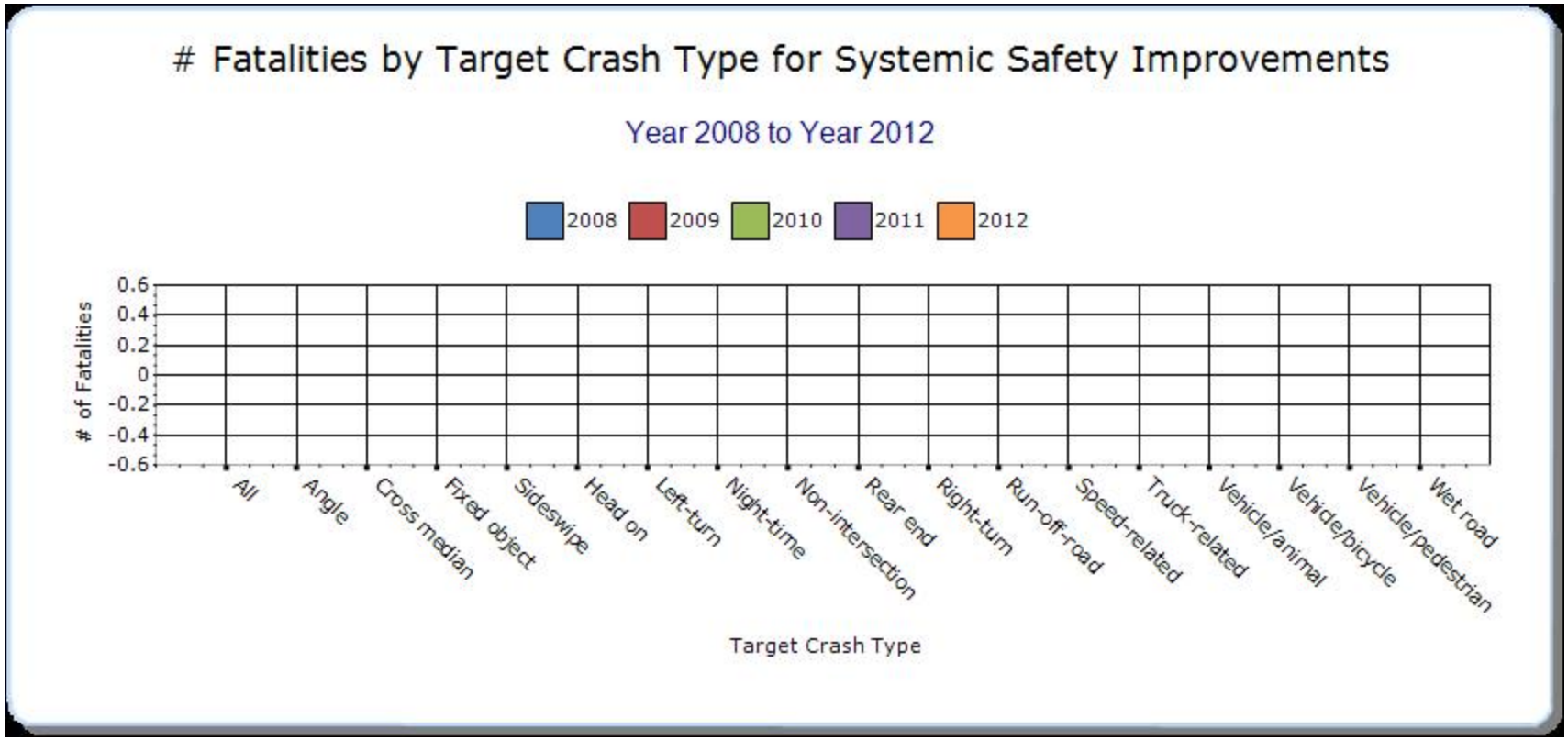

Serious Injury Rate by Target Crash Type for Groups of Similar Projects
Year 2008 to Year 2012
2008
2009
2010
2011
2012
Rate of Serious Injurie
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type

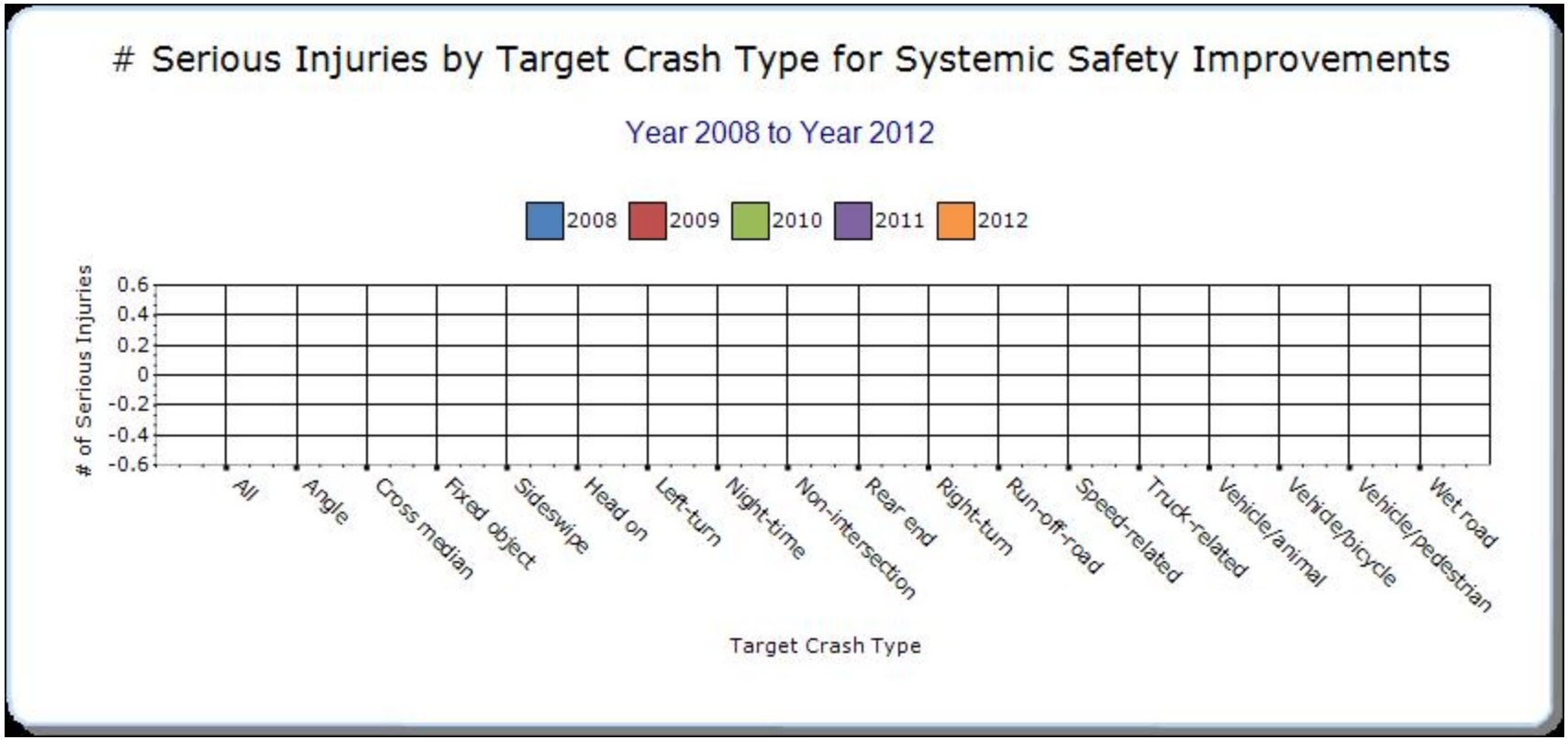
Systemic Treatments

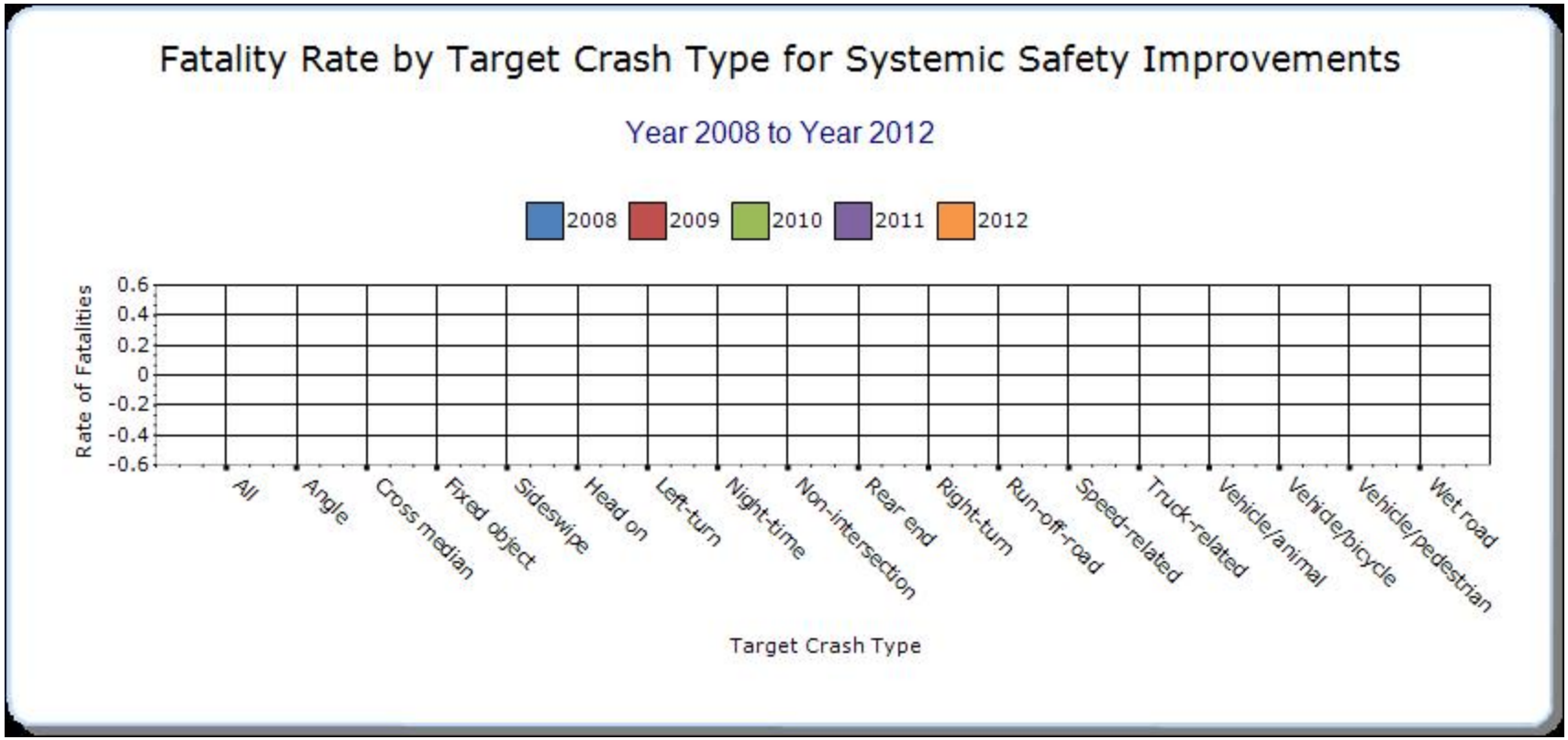
Present the overall effectiveness of systemic treatments..

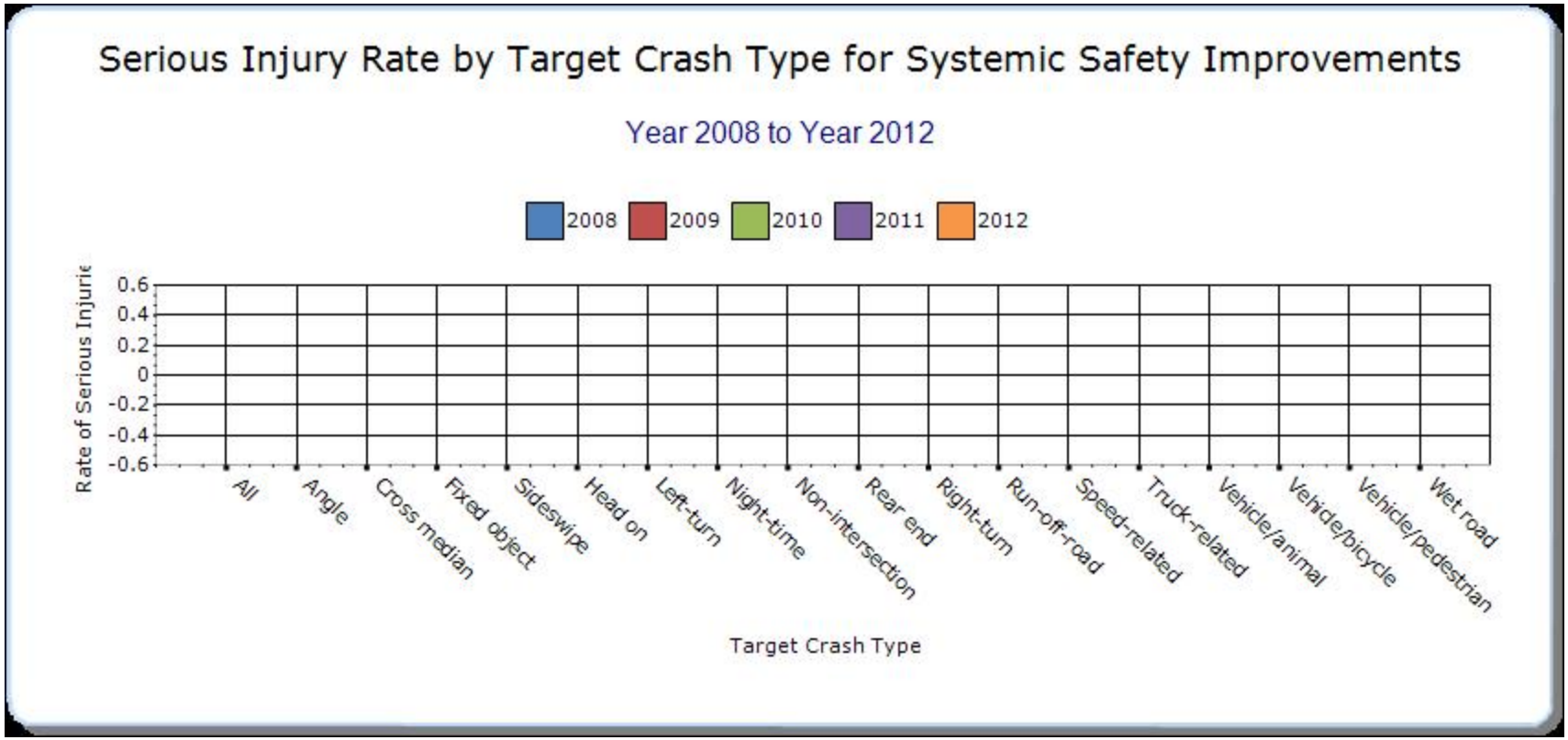
Year - 2012

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
		0	0	0	0	0	0	0


Fatalities by Target Crash Type for Systemic Safety Improvements
Year 2008 to Year 2012
2008
2009
2010
2011
2012
# of Fatalities
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
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
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
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
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
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
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
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.

No additional information to add.

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)

Optional Attachments

Sections	Files Attached
Progress in Implementing the Projects: General Listing of Projects	Question # 23 General Listing of Projects(1).xlsx

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.