Highway Safety Improvement Program

Data Driven Decisions

Kansas
Highway Safety Improvement Program
2013 Annual Report

Prepared by: KS

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

In Kansas we continue to spend our HSIP dollars in a variety of independently managed sub-programs, including intersections, signing, pavement markings, lighting, rail, HRRR, and general safety improvements. The rail program is reported with the RGCHP report. This is the first year HRRR is reported with the HSIP report. We are working with our sub-program managers to develop program manuals specific to each sub-program in a manner consistent with the requirements of this report. These manuals will include performance measures, which continue to be a work in progress.

Introduction

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

Program Structure

Program Administration

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

☒ Central

☐ District

☐ Other

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

Our HSIP program is made up of seven sub-programs: lighting, pavement marking, signing, rail, intersections, HRRR, and general safety improvements. Lighting, pavement marking, and signing projects are exclusive to the State Highway System, although projects may impact intersecting non-state roads. Intersections, HRRR, and rail projects may include local roads, that is, public roads not a part of the State Highway System. The rail program is addressed in the Rail-Highway Grade Crossing Program report.

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.

Lighting sub-program: Projects are selected with input from the structural engineer in our State Bridge Office responsible for traffic signals and lighting, as well as field information from our Area Offices, and road safety audits performed by our Traffic Engineering Unit. Signing sub-program: This blanket replacement program was programmed to cover the entire state highway system in ten years. It took longer than that, but we have completed the first cycle and are beginning a second cycle. Our Area Offices complete a sign inventory for each project. The Area Offices typically install the new signs and posts, which are purchased using HSIP funds. Although, many of the early projects in the second cycle will be let to a contractor because they are on urban interstate routes. Pavement Marking sub-program: Our pavement marking technician works closely with our district maintenance engineers to identify recommended routes. Works also with Traffic Engineering Unit to identify locations in need of improved markings for safety. Intersections sub-program: Projects are typically identified based on recommendations from cities. When the intersection is located on the State Highway System, our District and Area Offices are made part of the discussion as well. HRRR sub-program: District Offices act as a liaison between the Bureau of Local Projects and the local public authority. General Safety Improvements sub-program: Projects are selected and scoped in partnership with District and Area Offices. All sub-programs: The Geometric and Accident Data Unit in our Bureau of Transportation Planning manage and report on roadway and crash data as needed.

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

☒Metropolitan Planning Organizations

☐Governors Highway Safety Office

☒Local Government Association

☒Other: Other-Local Roads Support Team (SHSP)

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-created a new General Safety Improvement Sub-program

☒Other: Other-MAP-21 has facilitated systemic approaches in the HRRR sub-program

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

A total of $23,796,843 in safety funds (HSIP and Rail) was apportioned for FFY 2013, distributed to each sub-program as follows:

Lighting: $500,000 HSIP

Pavement Marking: $2,000,000 HSIP ($1,000,000 transferred to Signing)

Signing: $1,500,000 HSIP ($1,000,000 transferred from Pavement Marking)

Highway-Railway Grade Crossing and Rail: $10,896,814 ($5,896,814 Rail & $5,000,000 HSIP)

Intersection Safety: $0

High Risk Rural Roads: $3,000,000 HSIP

General Safety Improvements: $5,900,029 HSIP

The following dollars were obligated for SFY 2013 in each program:

Lighting: $2,451,717.83 HSIP

Pavement Marking: $4,937,505.39 HSIP

Signing: $6,286,442.35 HSIP

Highway-Railway Grade Crossing and Rail: $14,396,300.34 ($12,487,674.37 Rail; $1,544,304.87 STP; $364,321.10 HSIP)

Intersection Safety: $6,782,957.21 HSIP

High Risk Rural Roads: $1,137,581.66 ($835,081.68 old HRRR; $302,499.98 HSIP)

General Safety Improvements: $1,362,624.46 HSIP

Each of the programs discussed further in this report are consistent with our SHSP. It is our intent that strategies identified or developed as part of the SHSP process will contribute to the continued success of these programs. A portion of our HSIP funding is programmed as part of our RHGCP. See RHGCP report for more information.

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: Other-Pavement Marking

☒Other: Other-Lighting

☒Other: Other-General Safety Improvements

Program: **Intersection**

Date of Program Methodology: **1/1/1980**

What data types were used in the program methodology?

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

What project identification methodology was used for this program?

☒Crash frequency

☐Expected crash frequency with EB adjustment

☒Equivalent property damage only (EPDO Crash frequency)

☐EPDO crash frequency with EB adjustment

☐Relative severity index

☒ Crash rate

☐ Critical rate

☐ Level of service of safety (LOSS)

☐ Excess expected crash frequency using SPFs

☐ Excess expected crash frequency with the EB adjustment

☐ Excess expected crash frequency using method of moments

☐ Probability of specific crash types

☐ Excess proportions of specific crash types

☐ Other

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.

State: consider only pattern and crash rate; The method for local road projects is more time-consuming to validate counter-measures, including information such as EPDO, CMFs and BC.

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☐ selection committee

☐ Other

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

☐ Relative Weight in Scoring

☒ Rank of Priority Consideration

☒ Ranking based on B/C	3
☒ Available funding	4
☐ Incremental B/C	
☐ Ranking based on net benefit	
☐ Cost Effectiveness	
☒ EPDO and crash rate	1
☒ Project viability	2

Program: **Sign Replacement And Improvement**

Date of Program Methodology: **7/1/2006**

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

☐ Other

☐ Roadside features

☐ Other

☒ Other-Sign inventory

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-Pre-programmed blanket replacement program

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-Projects were pre-programmed based on a blanket replacement program.

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
- ☒ Per established cyclical program 1

Program: **Local Safety**

Date of Program Methodology: **2/11/2011**

What data types were used in the program methodology?

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

What project identification methodology was used for this program?

☒ Crash frequency

☐ Expected crash frequency with EB adjustment

☐ Equivalent property damage only (EPDO Crash frequency)

☐ EPDO crash frequency with EB adjustment

☐ Relative severity index

☒ Crash rate

☐ Critical rate

☐ Level of service of safety (LOSS)

☐ Excess expected crash frequency using SPFs

☐ Excess expected crash frequency with the EB adjustment

☐ Excess expected crash frequency using method of moments

☒ Probability of specific crash types

☒ Excess proportions of specific crash types

☐ Other

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.

This program applies only to local roads (non-state owned and operated.)

How are highway safety improvement projects advanced for implementation?

☒Competitive application process

☒selection committee

☐Other

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

☐Relative Weight in Scoring

☒Rank of Priority Consideration

☐Ranking based on B/C

☒Available funding 2

☐Incremental B/C

☐Ranking based on net benefit

☒Cost Effectiveness 1

☒Geographical distribution 3

Program: **Other-Pavement Marking**

Date of Program Methodology: **7/1/2006**

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-If we considered only traffic volumes, only high volume districts (1 and 5) would get funded, thus population is taken into account. At the district level, we then consider higher volume routes first and take into account retro-readings.	☒ Other-Retro-reflectivity.

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-Wet weather crash studies generated projects in specific locations statewide.

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-Pavement Marking Specialist works closely with district maintenance engineers to select projects.

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 1

☐ Incremental B/C

☐ Ranking based on net benefit

☐ Cost Effectiveness

Program: **Other-Lighting**

Date of Program Methodology: **7/1/2006**

What data types were used in the program methodology?

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

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-Locations are brought to our attention

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-Lighting Unit

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 1

☐Incremental B/C

☐Ranking based on net benefit

☐Cost Effectiveness

Program: **Other-General Safety Improvements**

Date of Program Methodology: **2/10/2012**

What data types were used in the program methodology?

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

What project identification methodology was used for this program?

☒Crash frequency

☐Expected crash frequency with EB adjustment

☐ Equivalent property damage only (EPDO Crash frequency)

☐ EPDO crash frequency with EB adjustment

☐ Relative severity index

☒ Crash rate

☐ Critical rate

☐ Level of service of safety (LOSS)

☐ Excess expected crash frequency using SPFs

☐ Excess expected crash frequency with the EB adjustment

☐ Excess expected crash frequency using method of moments

☐ Probability of specific crash types

☐ Excess proportions of specific crash types

☐ Other

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

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

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

32

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: Other-Practical RSAs

☒Other: Other-Use of past Transparency Reports

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

Intersections sub-program:

Kansas chooses to devote a portion of its HSIP funding to intersection projects, as Intersections have been identified as one of the emphasis areas in our Strategic Highway Safety Plan. Recently, the majority of funds have been spent in the metro areas. Metropolitan and Urban jurisdictions are requested to submit three years of crash data for up to four high-crash locations on any system where the major street is not classified as a local street or rural minor collector within their areas. High-crash locations are determined and ranked by descending equivalent-property-damage-only (EPDO) accident rate. The top 20 (approximately) are considered for further analysis. To determine if a location is a high-frequency location on Rural State Highways, a comparison is made between the actual crash rate and the statewide average rate for similar highways. KDOT conducts county-wide road safety audits. From these audits and from traffic studies, high-crash locations are established. High-crash locations are ranked in descending EPDO crash rate order, with further analysis done on the top ten locations. Identified high-crash locations are prioritized on the basis of the average annual net return for each location. The average net return is a dollar amount found by subtracting the average annual costs from the average annual benefits. First priority is given to the location with the highest average annual net return. Remaining projects are selected in descending order until funds are exhausted. Exceptions to this practice might be caused by the unavailability of city matching funds, future projects that may encompass the selected location, a grouping of proximate locations into one project, or combining several smaller projects for a total net return larger than another single project. Projects on County Roads and other roadways are selected by local units of government. These projects are subject to approval by the Federal Highway Administration and are administered by KDOT.

Lighting sub-program:

Because lighting is beneficial to the safety and operation of the highway system, this set-aside program was established in FY 2000. Projects are selected by the Bureau of Transportation Safety & Technology (BTS&T) based on the roadway's volume and the potential for night-time crash history. This program is limited to projects which are not included under any other KDOT program. Projects are scheduled until the available lighting funds are exhausted. This is the eighth year KDOT has used HSIP funds to improve lighting.

Pavement Marking sub-program:

This set-aside program was established in FY 1996 to address pavement marking necessary due to pending new federal requirements for minimum retro-reftectivity of pavement markings. Improvements in this category utilize high-performance, long-life pavement marking materials. Efforts are also made to identify those marking materials with wet-weather retro-reftectivity. This program is limited to projects that do not have high-performance markings included under any other KDOT program. Projects are selected by the BTS&T based upon a roadway's traffic volumes, past performance of marking material, geometry, surface condition, surface type, crash history, and, in the case of new marking materials, the research benefit. This is the eighth year KDOT has used HSIP funds to improve pavement markings.

Signing sub-program:

This program was established in 1996 to address necessary sign replacements on the State Highway System due to pending (now final) federal requirements for minimum retro-reftectivity of highway signs. This program schedules sign replacements based upon highway routemileage statewide and the total mileage of all the routes in each District for that year. This program excludes signs on any other state projects that include sign replacement for that highway route in the same year. This program also

excludes any signs that were replaced within seven years of the scheduled date of the replacement project. This is the sixth year KDOT has used HSIP funds to improve permanent signing. The projects in this program are typically not let to contract via the normal letting procedure. Instead, materials are purchased thru the purchase request process and signs and posts are installed by KDOT maintenance forces. However, with the beginning of a second cycle many of the projects are on urban interstates. Consequently, two-thirds of the SFY13 program was let to contract.

HRRR sub-program:

This program was established under SAFETEA-LU as a set-aside. It was eliminated under MAP-21 although states are required to address locally-owned roads if crash rates increase. Regardless, KDOT continues to fund HRRR as a sub-program to the HSIP program.

General Safety Improvement sub-program:

Every year the FHWA provides funds for DOT's to make safety improvements to their system through the Highway Safety Improvement Program (HSIP). As a pilot KDOT has developed a program that will direct up to $6,000,000 of HSIP funds to projects that will be selected using a new system that combines quantitative safety analysis and prediction (IHSDM) with District input. The goal is to distribute these funds throughout the state and address spot locations, like individual curves, intersections, or short tangent sections that are identified with tools developed for the Transparency Report. Moreover the hope is that the program can help address locations that demonstrate a potential safety issue but have not been addressed through traditional KDOT funding programs.

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)	17900029	100 %	22488067	96 %
HRRRP (SAFETEA-LU)	0	0 %	835082	4 %
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)				
State and Local Funds				
Totals	17900029	100%	23323149	100%

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

45 %

How much funding is obligated to local safety projects?

$5,896,500.00

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

0 %

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

225,000 %

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.

Intersections sub-program:

We often review project locations and must decline them because the number of crashes aren't large enough which leads to a benefit-to-cost ratio below 1. Because of the success of this program, we are beginning to struggle to find candidate locations. We hope to overcome this by opening the submittal timeframe to year round. In addition, we hope to be able to use network screening tools such as Safety Analyst to identify more locations. A secondary issue is change-over on city staffs and the economy-cities

are often unable to afford the local match and cost of unfunded work phases such as right-of-way and utilities.

Signing sub-program:

The FY13 program has fallen behind due to an increase in the number of signs on overhead structures. Overhead signs require additional design time to produce sign layouts that don't require significant structure modifications. The lack of staff to gather inventories and prepare plans has contributed to the delay. During the previous 10 year program the three digit interstate routes were all pooled together in the say replacement year. This has contributed to the delay due to the increased number of sign associated with these routes. In the future, interstate routes will be distributed evenly over the program life.

General Safety Improvement sub-program:

Trying to obligate $6mil in FY13 was a mistake. As of April 19, 2013 $6.8 million was planned and $4.4million was programmed. However, it will take thru FY15 to obligate all the money since many of these projects are beginning from scratch. The long-range goal is a $6mil program, beginning with $2mil in FY15, $4mil in FY16, and $6mil in FY17.

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

Nothing to note at this time.

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
KA-3204-01	Roadway delineation Longitudinal pavement markings - remarking	5 Miles	145202	145202	HSIP (Section 148)	Rural Principal Arterial - Other	0	0	State Highway Agency	Roadway Departure	Pavement Markings
KA-3205-01	Roadway delineation Longitudinal pavement markings - remarking	17 Miles	460101	460101	HSIP (Section 148)	Rural Principal Arterial - Other	0	0	State Highway Agency	Roadway Departure	Pavement Markings
KA-3284-01	Roadway delineation Longitudinal pavement markings - remarking	27 Miles	416765	416765	HSIP (Section 148)	Rural Principal Arterial - Other	0	0	State Highway Agency	Roadway Departure	Pavement Markings
KA-	Roadway	4 Miles	424772	424772	HSIP	Urban	0	0	State	Roadway	Pavement

3283-01	delineation Longitudinal pavement markings - remarking				(Section 148)	Principal Arterial - Other			Highway Agency	Departure	Markings
KA-3290-01	Roadway delineation Longitudinal pavement markings - remarking	3 Miles	116487	116487	HSIP (Section 148)	Urban Principal Arterial - Other	0	0	State Highway Agency	Roadway Departure	Pavement Markings
KA-3298-01	Roadway delineation Longitudinal pavement markings - remarking	16 Miles	341081	341081	HSIP (Section 148)	Urban Principal Arterial - Other Freeways and Expressways	0	0	State Highway Agency	Roadway Departure	Pavement Markings
KA-3297-01	Roadway delineation Longitudinal pavement markings - remarking	11 Miles	589760	589760	HSIP (Section 148)	Urban Principal Arterial - Other Freeways and Expressways	0	0	State Highway Agency	Roadway Departure	Pavement Markings
KA-3340-	Roadway delineation	8 Miles	372342	372342	HSIP (Section	Rural Minor	0	0	State Highway	Roadway	Pavement

01	Longitudinal pavement markings - remarking				148)	Arterial			Agency	Departure	Markings
KA-3339-01	Roadway delineation Longitudinal pavement markings - remarking	14 Miles	208932	208932	HSIP (Section 148)	Rural Principal Arterial - Other	0	0	State Highway Agency	Roadway Departure	Pavement Markings
KA-3318-01	Roadway delineation Longitudinal pavement markings - remarking	3 Miles	212268	212268	HSIP (Section 148)	Urban Principal Arterial - Other Freeways and Expressways	0	0	State Highway Agency	Roadway Departure	Pavement Markings
KA-3337-01	Roadway delineation Longitudinal pavement markings - remarking	1 Miles	28513	28513	HSIP (Section 148)	Rural Principal Arterial - Other	0	0	State Highway Agency	Roadway Departure	Pavement Markings
KA-3336-01	Roadway delineation Longitudinal pavement	6 Miles	207112	207112	HSIP (Section 148)	Rural Principal Arterial -	0	0	State Highway Agency	Roadway Departure	Pavement Markings

	markings - remarking					Other					
KA-3332-01	Roadway delineation Longitudinal pavement markings - remarking	8 Miles	192104	192104	HSIP (Section 148)	Rural Minor Arterial	0	0	State Highway Agency	Roadway Departure	Pavement Markings
KA-3338-01	Roadway delineation Longitudinal pavement markings - remarking	11 Miles	712185	712185	HSIP (Section 148)	Urban Principal Arterial - Other Freeways and Expressways	0	0	State Highway Agency	Roadway Departure	Pavement Markings
KA-3412-01	Roadway delineation Longitudinal pavement markings - remarking	9 Miles	622399	622399	HSIP (Section 148)	Urban Principal Arterial - Interstate	0	0	State Highway Agency	Roadway Departure	Pavement Markings
KA-3468-01	Roadway delineation Longitudinal pavement markings -	10 Miles	438399	438399	HSIP (Section 148)	Rural Minor Arterial	0	0	State Highway Agency	Roadway Departure	Pavement Markings

	remarking										
KA-3416-01	Roadway delineation Longitudinal pavement markings - remarking	11 Miles	462759	462759	HSIP (Section 148)	Urban Principal Arterial - Other Freeways and Expressways	0	0	State Highway Agency	Roadway Departure	Pavement Markings
KA-3535-01	Roadway delineation Longitudinal pavement markings - remarking	9 Miles	103000	103000	HSIP (Section 148)	Rural Principal Arterial - Other	0	0	State Highway Agency	Roadway Departure	Pavement Markings
K-5925-13	Roadway signs and traffic control Roadway signs (including post) - new or updated	22 Miles	1134900	1134900	HSIP (Section 148)	Multiple	0	0	State Highway Agency	Intersections & Roadway Departure	Signing
K-5926-13	Roadway signs and traffic control Roadway signs	56 Miles	790000	790000	HSIP (Section 148)	Multiple	0	0	State Highway Agency	Intersections & Roadway Departure	Signing

	(including post) - new or updated										
K-5927-13	Roadway signs and traffic control Roadway signs (including post) - new or updated	201 Miles	516000	516000	HSIP (Section 148)	Multiple	0	0	State Highway Agency	Intersections & Roadway Departure	Signing
K-5928-13	Roadway signs and traffic control Roadway signs (including post) - new or updated	90 Miles	1520000	1520000	HSIP (Section 148)	Multiple	0	0	State Highway Agency	Intersections & Roadway Departure	Signing
K-5929-13	Roadway signs and traffic control Roadway signs (including post) - new or updated	298 Miles	710000	710000	HSIP (Section 148)	Multiple	0	0	State Highway Agency	Intersections & Roadway Departure	Signing

K-6254-13	Roadway signs and traffic control Roadway signs (including post) - new or updated	137 Miles	335000	335000	HSIP (Section 148)	Multiple	0	0	State Highway Agency	Intersections & Roadway Departure	Signing
KA-3293-01	Roadway signs and traffic control Sign sheeting - upgrade or replacement	16 Miles	450000	450000	HSIP (Section 148)	Urban Principal Arterial - Interstate	0	0	State Highway Agency	Intersections & Roadway Departure	Signing
KA-3294-01	Roadway signs and traffic control Sign sheeting - upgrade or replacement	7 Miles	200000	200000	HSIP (Section 148)	Urban Principal Arterial - Interstate	0	0	State Highway Agency	Intersections & Roadway Departure	Signing
KA-3295-01	Roadway signs and traffic control Sign sheeting - upgrade or replacement	21 Miles	266000	266000	HSIP (Section 148)	Rural Principal Arterial - Interstate	0	0	State Highway Agency	Intersections & Roadway Departure	Signing

KA-3296-01	Roadway signs and traffic control Sign sheeting - upgrade or replacement	232 Miles	640000	640000	HSIP (Section 148)	Multiple	0	0	State Highway Agency	Intersections & Roadway Departure	Signing
KA-2138-01	Lighting Site lighting - interchange	1 Numbers	400495	401296	HSIP (Section 148)	Urban Principal Arterial - Interstate	0	0	State Highway Agency	Intersections	Roadway lighting
KA-2139-01	Lighting Site lighting - interchange	2 Numbers	197410	197696	HSIP (Section 148)	Urban Principal Arterial - Interstate	0	0	State Highway Agency	Intersections	Roadway lighting
KA-2140-01	Lighting Site lighting - interchange	1 Numbers	239865	240310	HSIP (Section 148)	Urban Principal Arterial - Interstate	0	0	State Highway Agency	Intersections	Roadway lighting
KA-2141-01	Lighting Site lighting - interchange	1 Numbers	109116	110642	HSIP (Section 148)	Rural Principal Arterial - Interstate	0	0	State Highway Agency	Intersections	Roadway lighting
KA-2825-01	Lighting Site lighting - interchange	1 Numbers	286838	287188	HSIP (Section 148)	Urban Principal Arterial -	0	0	State Highway Agency	Intersections	Roadway lighting

						Interstate					
KA-2826-01	Lighting Site lighting - interchange	1 Numbers	325500	329686	HSIP (Section 148)	Urban Principal Arterial - Interstate	0	0	State Highway Agency	Intersections	Roadway lighting
KA-2827-01	Lighting Site lighting - interchange	1 Numbers	391766	392355	HSIP (Section 148)	Urban Principal Arterial - Interstate	0	0	State Highway Agency	Intersections	Roadway lighting
KA-2829-01	Lighting Site lighting - interchange	1 Numbers	398014	398210	HSIP (Section 148)	Urban Principal Arterial - Interstate	0	0	State Highway Agency	Intersections	Roadway lighting
KA-2830-01	Lighting Site lighting - interchange	1 Numbers	152000	152000	HSIP (Section 148)	Urban Principal Arterial - Interstate	0	0	State Highway Agency	Intersections	Roadway lighting
KA-2831-01	Lighting Site lighting - interchange	1 Numbers	135330	135330	HSIP (Section 148)	Urban Principal Arterial - Interstate	0	0	State Highway Agency	Intersections	Roadway lighting
U-0039-01	Intersection geometry Auxiliary lanes - add	1 Numbers	800000	920487	HSIP (Section 148)	Urban Local Road or Street	21033	40	City of Municipal Highway	Intersections	Upgrade signals and improve

	left-turn lane								Agency		geometry
KA-2402-01	Intersection geometry Intersection geometry - other	1 Numbers	900000	2171326	HSIP (Section 148)	Rural Principal Arterial - Other	4100	60	State Highway Agency	Intersections	New signals and improve geometry
KA-2607-01	Intersection geometry Intersection geometry - other	2 Numbers	662099.19	848589	HSIP (Section 148)	Rural Principal Arterial - Other	4410	55	State Highway Agency	Intersections	New signal and improve geometry
N-0545-01	Intersection geometry Auxiliary lanes - add right-turn lane	1 Numbers	444600	494000	HSIP (Section 148)	Urban Principal Arterial - Other	27000	45	City of Municipal Highway Agency	Intersections	Upgrade signals and improve geometry
N-0546-01	Intersection geometry Auxiliary lanes - add left-turn lane	1 Numbers	350000	654000	HSIP (Section 148)	Urban Principal Arterial - Other	28000	45	City of Municipal Highway Agency	Intersections	Upgrade signals and improve geometry
U-0063-01	Intersection traffic control Modify traffic signal - add	1 Numbers	175000	245221	HSIP (Section 148)	Urban Minor Arterial	25166	30	City of Municipal Highway	Intersections	Upgrade signals

	additional signal heads								Agency		
U-0064-01	Access management Raised island - install new	1 Numbers	900000	1222774	HSIP (Section 148)	Urban Principal Arterial - Other	22250	30	City of Municipal Highway Agency	Intersections	Access management
U-0015-01	Roadway Roadway widening - add lane(s) along segment	1 Miles	1200000	5102689	HSIP (Section 148)	Urban Principal Arterial - Other	0	0	City of Municipal Highway Agency	Intersections	Improve geometry
U-2271-01	Intersection geometry Intersection geometry - other	1 Numbers	525000	769907	HSIP (Section 148)	Urban Principal Arterial - Other	5365	30	City of Municipal Highway Agency	Intersections	Upgrade signals and improve geometry
C-0313-01	Roadside Drainage improvements	33 Miles	36000	40000	HRRRP (SAFETEA-LU)	Rural Major Collector	0	0	County Highway Agency	Roadway Departure	Remove fixed objects
C-0325-01	Roadside Removal of roadside objects (trees, poles,	0	6390	7100	HRRRP (SAFETEA-LU)	Rural Local Road or Street	0	0	County Highway Agency	Roadway Departure	Remove fixed objects

	etc.)										
C-0370-01	Shoulder treatments Widen shoulder - paved or other	7 Miles	175000	217000	HRRRP (SAFETEA-LU)	Rural Major Collector	0	0	County Highway Agency	Roadway Departure	Improve shoulders
C-4496-01	Intersection geometry Intersection geometry - other	0.5 Miles	500000	723757	HRRRP (SAFETEA-LU)	Rural Major Collector	0	0	County Highway Agency	Intersections	Improve geometry
C-0314-01	Roadside Barrier - other	0.5 Miles	302500	336111	HSIP (Section 148)	Rural Major Collector	0	0	County Highway Agency	Roadway Departure	Remove fixed objects
KA-3275-01	Non-infrastructure Data/traffic records	0	225000	250000	HSIP (Section 148)		0	0		Intersections & Roadway Departure	Inventories
KA-2950-01	Shoulder treatments Shoulder treatments - other	2 Miles	77000	418115	HSIP (Section 148)	Rural Minor Arterial	0	0	State Highway Agency	Roadway Departure	Improve shoulders

KA-2951-01	Shoulder treatments Shoulder treatments - other	16 Miles	523000	2807186	HSIP (Section 148)	Rural Minor Arterial	0	0	State Highway Agency	Roadway Departure	Improve shoulders

Progress in Achieving Safety Performance Targets

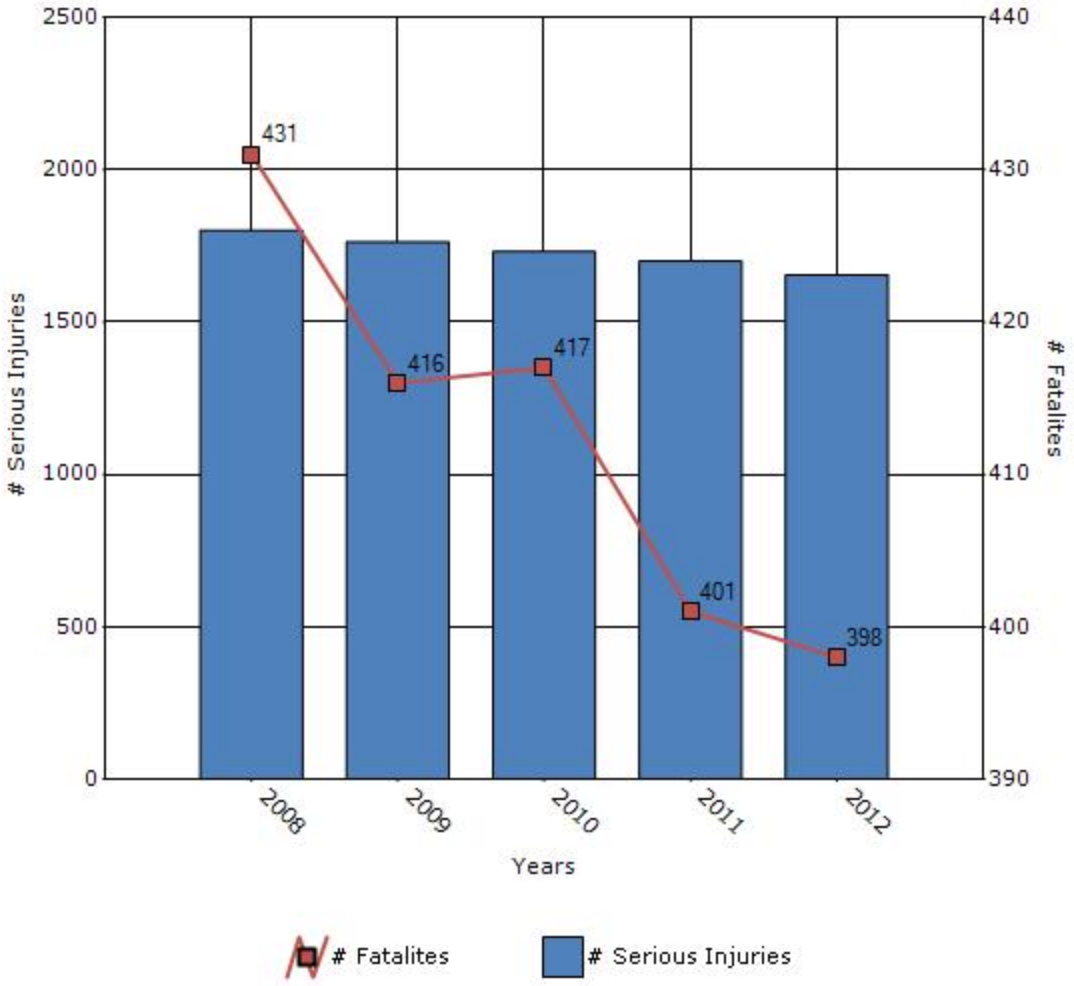
Overview of General Safety Trends

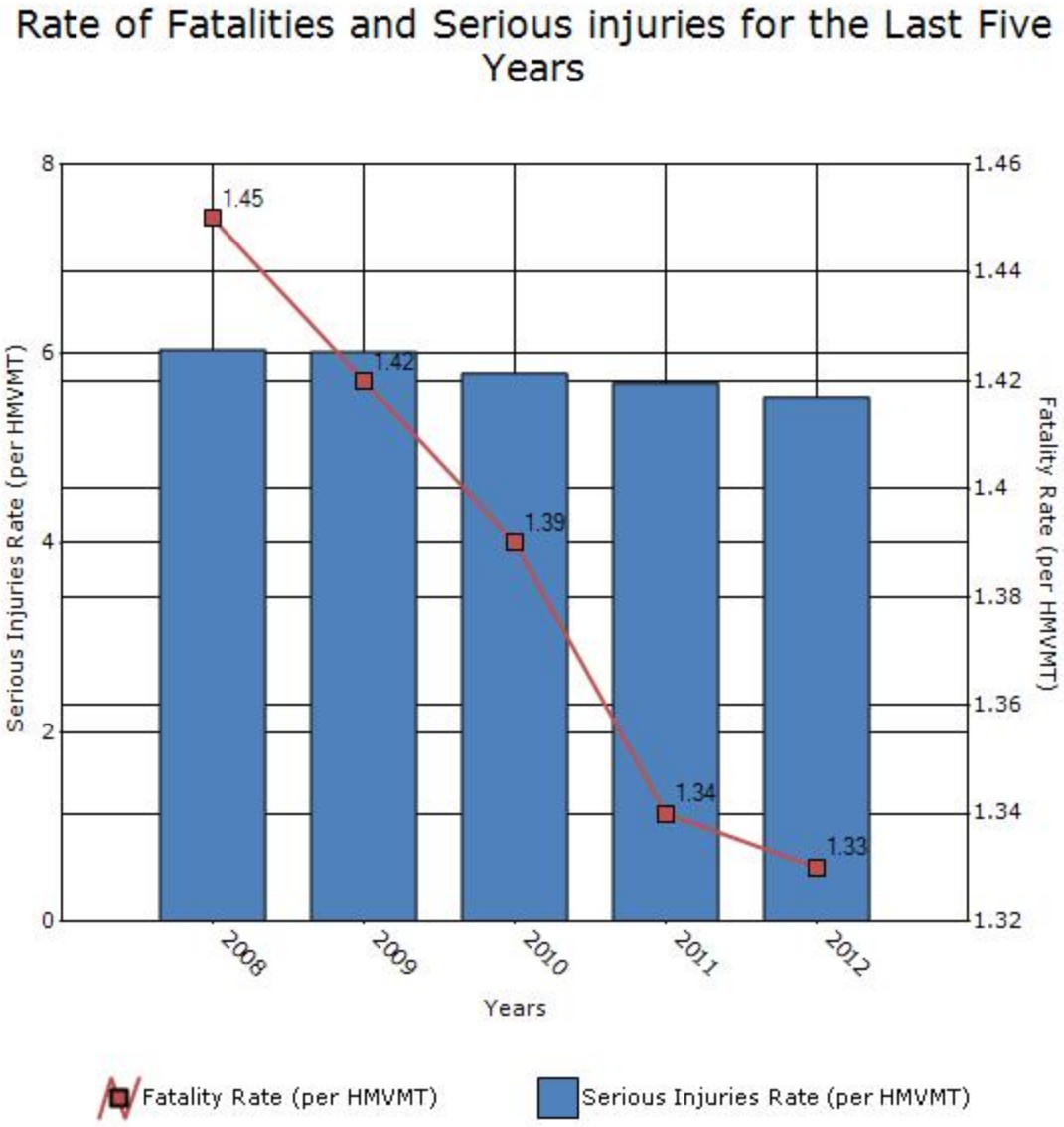
Present data showing the general highway safety trends in the state for the past five years.

Performance Measures*	2008	2009	2010	2011	2012
Number of fatalities	431	416	417	401	398
Number of serious injuries	1800	1763	1731	1700	1655
Fatality rate (per HMVMT)	1.45	1.42	1.39	1.34	1.33
Serious injury rate (per HMVMT)	6.04	6.02	5.79	5.69	5.54

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

Number of Fatalities and Serious injuries for the Last Five Years



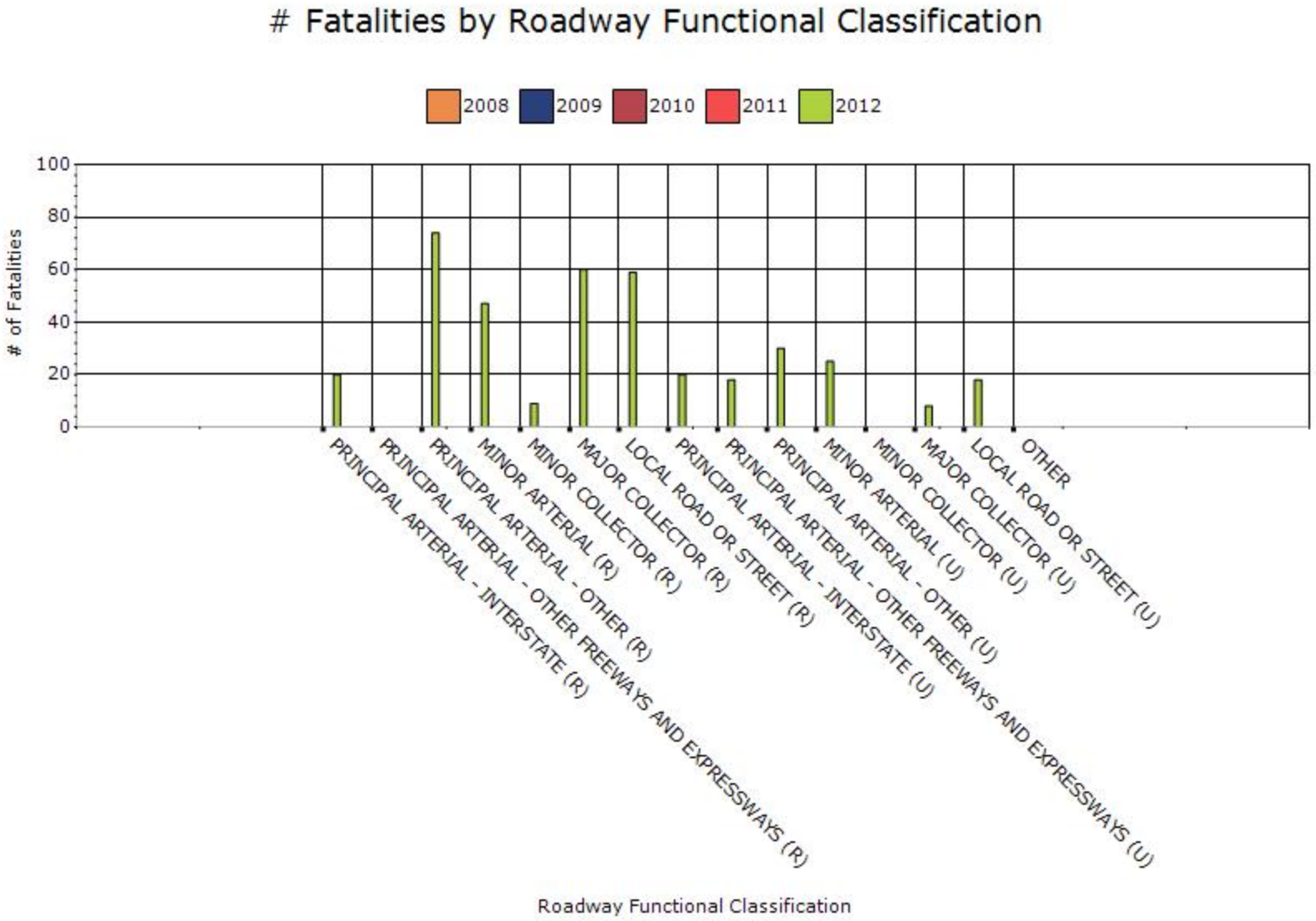

Rate of Fatalities and Serious injuries for the Last Five Years
Serious Injuries Rate (per HMVMT)
Fatality Rate (per HMVMT)
Years
1.45
1.42
1.39
1.34
1.33
2008
2009
2010
2011
2012
Fatality Rate (per HMVMT)
Serious Injuries Rate (per HMVMT)

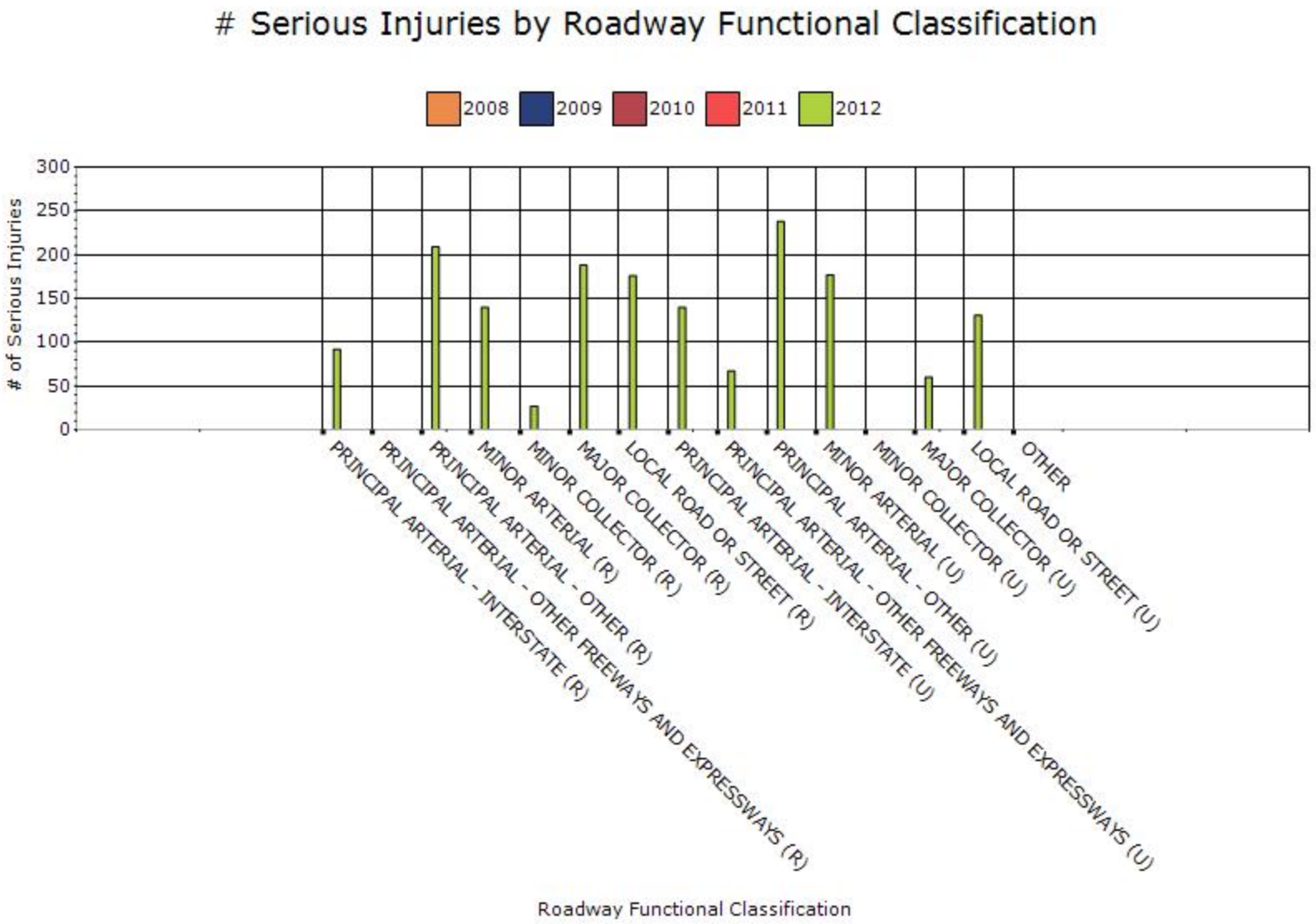
To the maximum extent possible, present performance measure* data by functional classification and ownership.

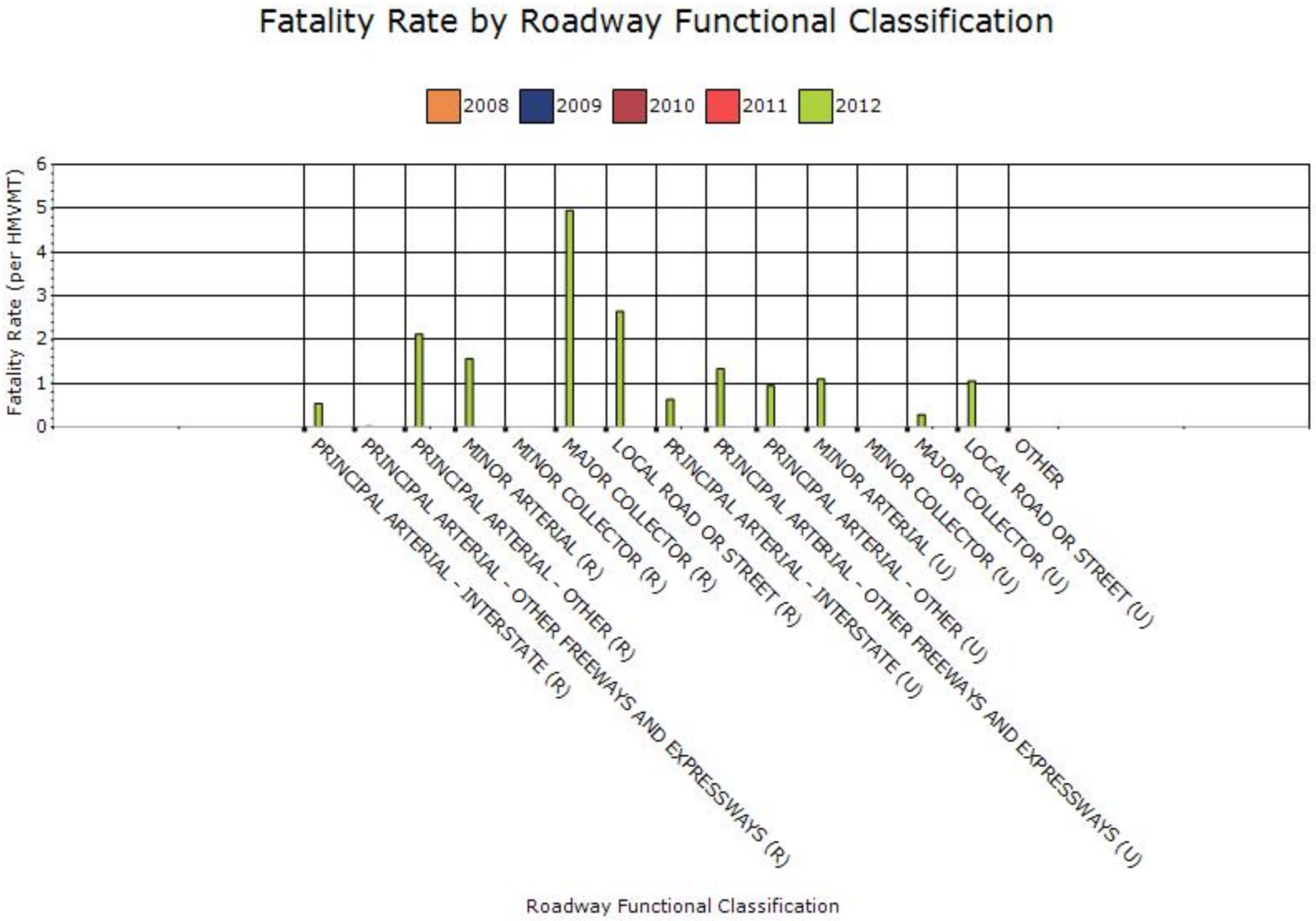
Year - 2012

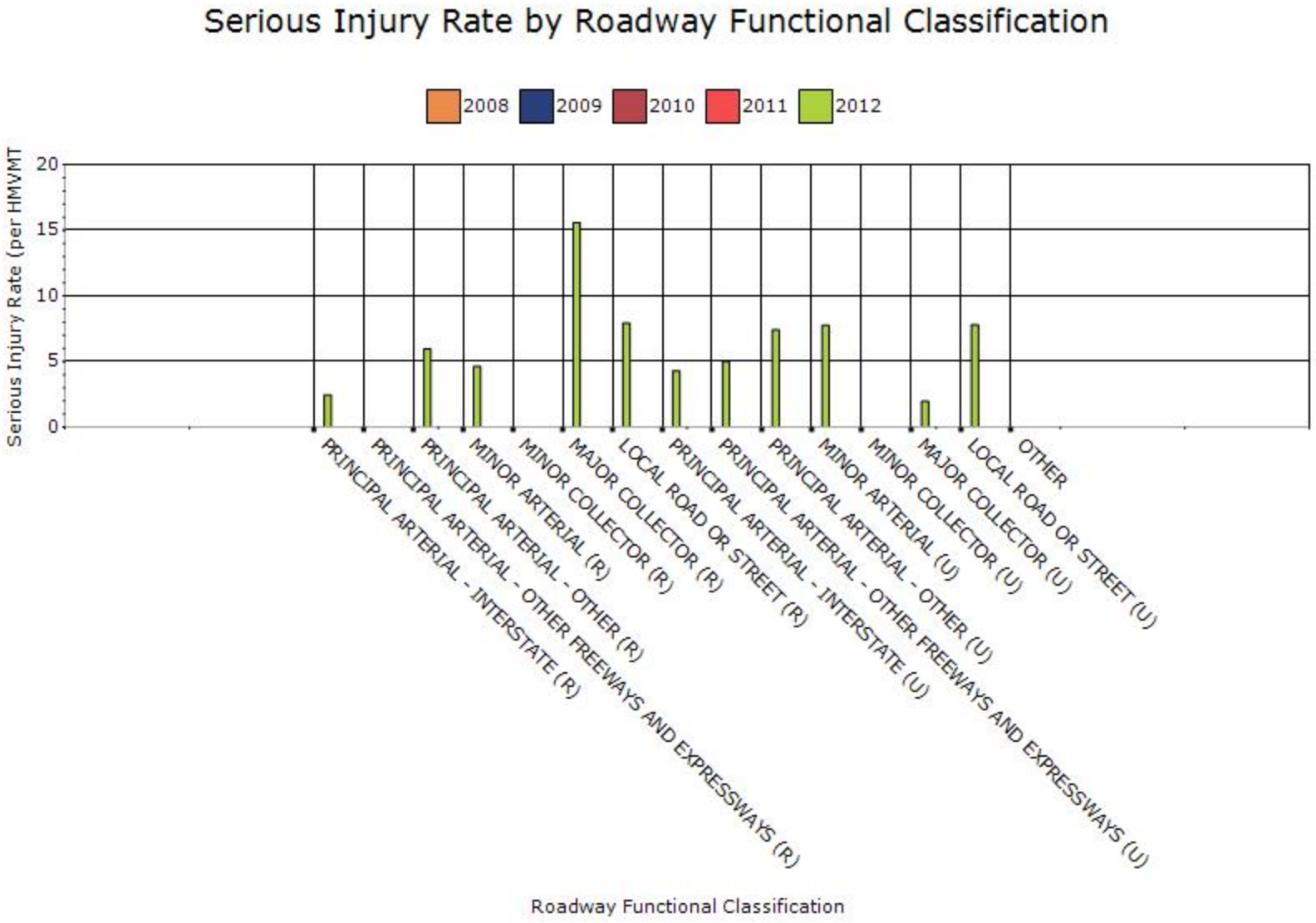
Function Classification	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
RURAL PRINCIPAL ARTERIAL - INTERSTATE	20	92	0.54	2.46
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	0	0	0.01	0.02
RURAL PRINCIPAL ARTERIAL - OTHER	74	209	2.12	5.98
RURAL MINOR ARTERIAL	47	140	1.56	4.63
RURAL MINOR COLLECTOR	9	27	0	0
RURAL MAJOR COLLECTOR	60	188	4.95	15.59
RURAL LOCAL ROAD OR STREET	59	176	2.64	7.94
URBAN PRINCIPAL	20	140	0.63	4.3

ARTERIAL - INTERSTATE				
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	18	67	1.33	5.02
URBAN PRINCIPAL ARTERIAL - OTHER	30	238	0.94	7.41
URBAN MINOR ARTERIAL	25	177	1.1	7.76
URBAN MINOR COLLECTOR	0	0	0	0
URBAN MAJOR COLLECTOR	8	60	0.28	1.99
URBAN LOCAL ROAD OR STREET	18	131	1.05	7.8
OTHER	0	0	0	0
OTHER	0	0	0	0


Fatalities by Roadway Functional Classification
2008
2009
2010
2011
2012
100
80
60
40
20
0
# of Fatalities
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
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

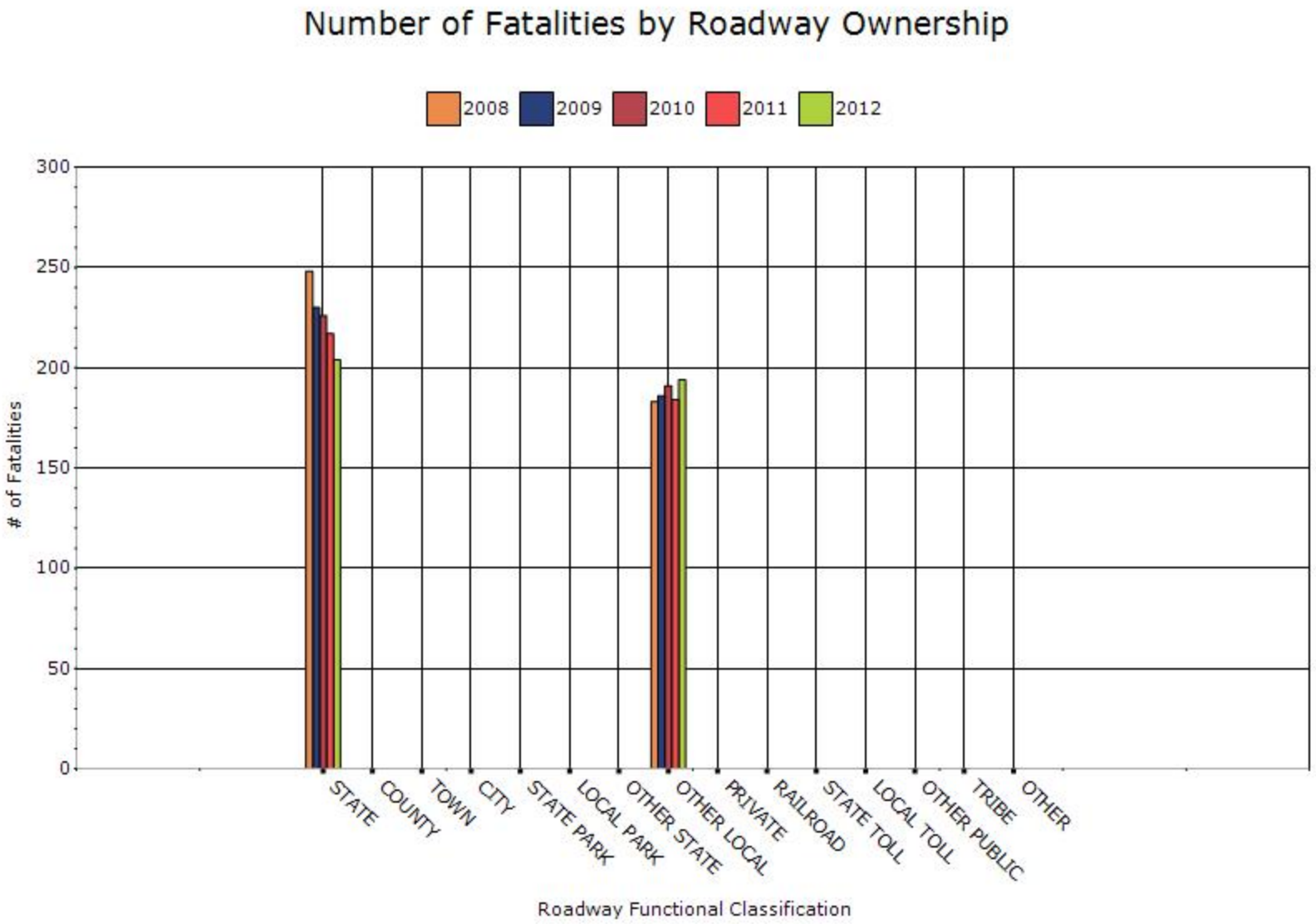

Fatality Rate by Roadway Functional Classification
2008
2009
2010
2011
2012
Fatality Rate (per HMVMT)
0
1
2
3
4
5
6
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)
LOCAL 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

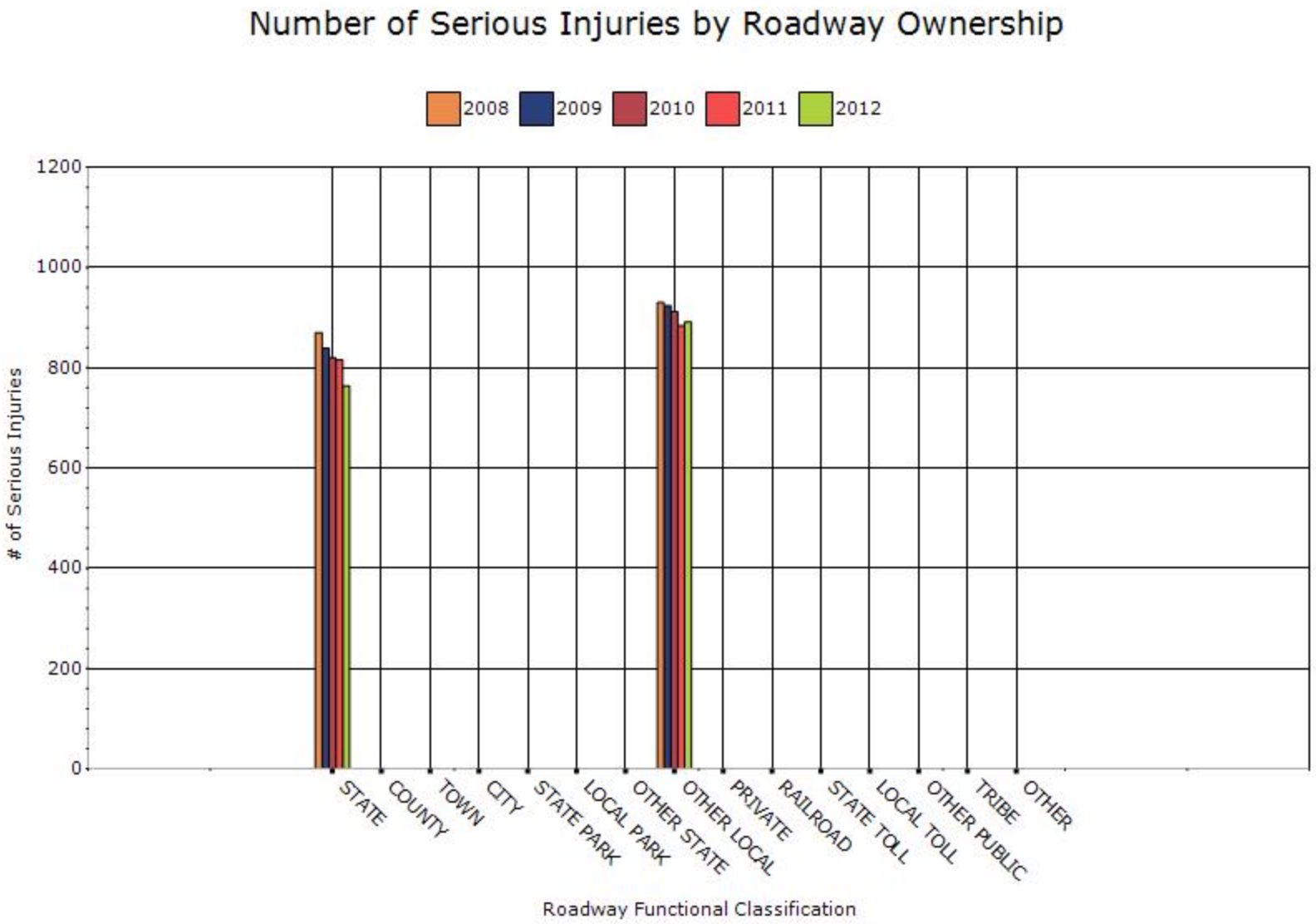

Serious Injury Rate by Roadway Functional Classification
2008
2009
2010
2011
2012
Serious Injury Rate (per HMVMT
20
15
10
5
0
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR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

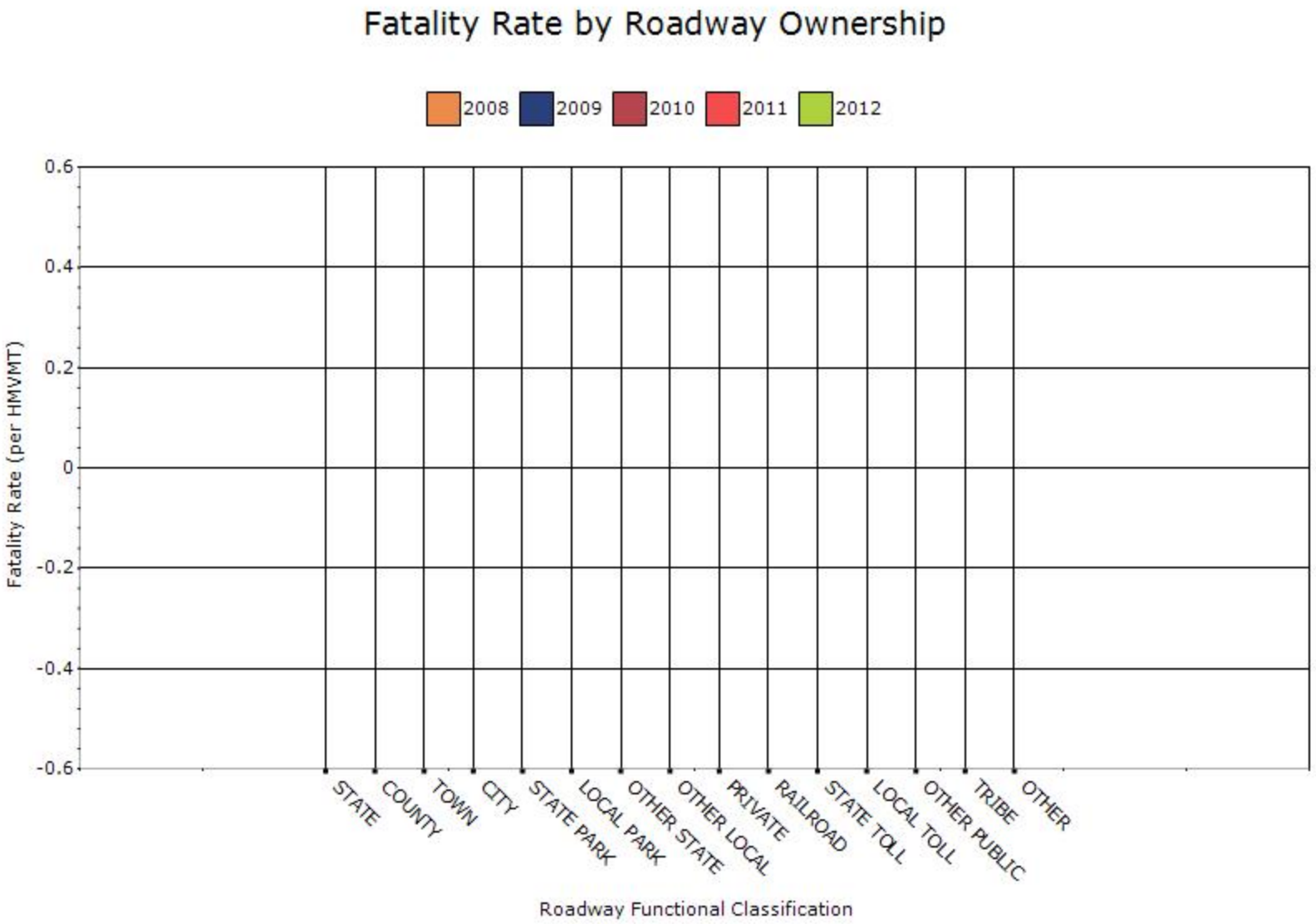
Year - 2012

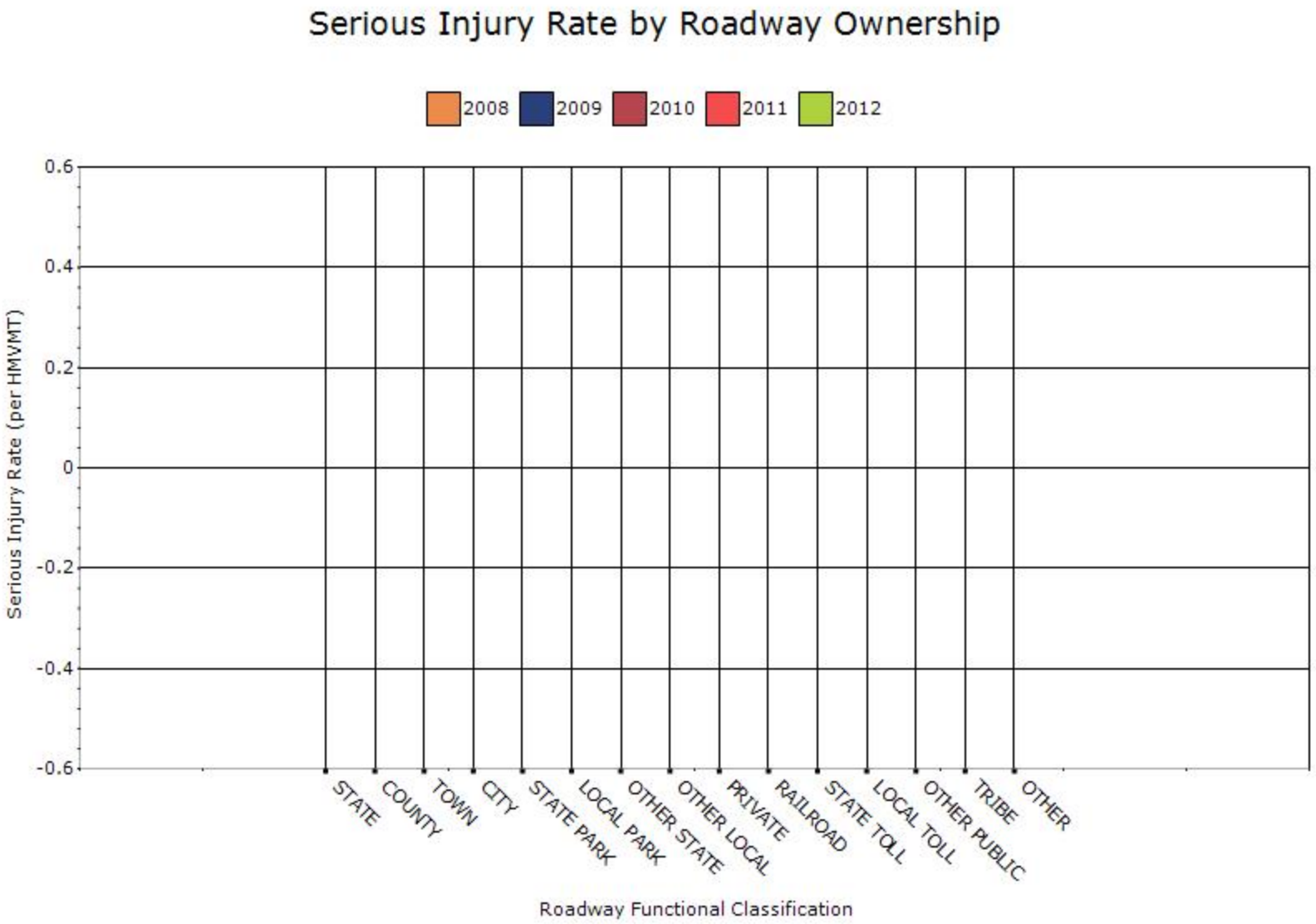
Roadway Ownership	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
STATE HIGHWAY AGENCY	204	764	0	0
COUNTY HIGHWAY AGENCY	0	0	0	0
TOWN OR TOWNSHIP HIGHWAY AGENCY	0	0	0	0
CITY OF MUNICIPAL HIGHWAY AGENCY	0	0	0	0
STATE PARK, FOREST, OR RESERVATION AGENCY	0	0	0	0
LOCAL PARK, FOREST OR RESERVATION AGENCY	0	0	0	0
OTHER STATE AGENCY	0	0	0	0
OTHER LOCAL AGENCY	194	891	0	0
PRIVATE (OTHER THAN RAILROAD)	0	0	0	0

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


Number of Fatalities by Roadway Ownership
2008
2009
2010
2011
2012
300
250
200
150
100
50
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
1200
1000
800
600
400
200
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.

Overall, based on five-year averages, fatalities are down eight percent from 2008 to 2012. On the State Highway System fatalities are down 18 percent. However, on locally-owned roads fatalities are UP six percent. The trend on locally-owned roads is discouraging and indicates more attention should be focused on the 93 percent of our public roads owned by cities, counties, and townships.

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)	31	30	31	29	31
Serious injury rate (per capita)	97	95	90	92	92
Fatality and serious injury rate (per capita)	2.63	2.58	2.63	2.6	2.66

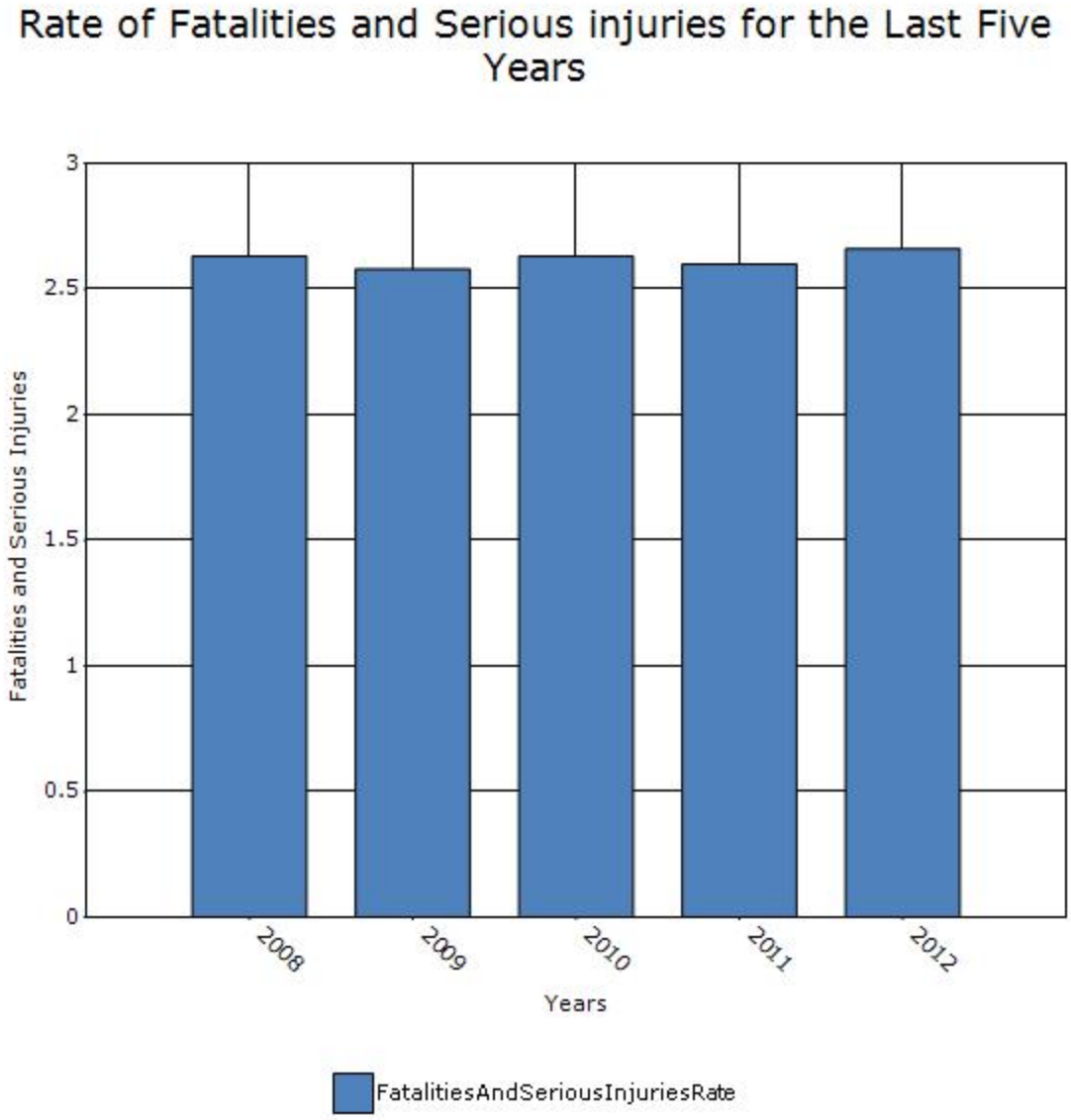
*Performance measure data is presented using a five-year rolling average.

The question is not allowing entry of more than one new performance measure. The five-year average for serious injuries dating back to 2008 are: 262, 255, 262, 264, 265.

The numbers represent those killed or seriously injured in a crash when at least one of the drivers was 65 years or older; they do not represent the number of older drivers or older passengers killed or injured, nor do they indicate the older driver was at fault.

The "fatality rate" and "serious injury rate" are calculated based on the number of fatalities/serious injuries divided by the state population multiplied by one-million; that is, fatalities/serious injuries per 1,000,000 million people. The 2000 census was used for 2008-2009; the 2010 census was used for 2010-2012.

The "fatality and serious injury rate" is calculated based on the instructions in the interim guidance and used to determine if the special rule applies. (Please note: Kansas is addressing older drivers in the SHSP regardless of the special rule.)



Does the older driver special rule apply to your state?

No

Assessment of the Effectiveness of the Improvements (Program Evaluation)

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

☒ None

☐ Benefit/cost

☐ Policy change

☐ Other:

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

☐ Shift Focus to Fatalities and Serious Injuries

☒ Include Local Roads in Highway Safety Improvement Program

☐ Organizational Changes

☐ None

☒ Other: Other-General Safety Improvement Program

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

MAP-21 eliminated the HRRR set-aside and gave states the option to include local roads in the HSIP program. Kansas elected to continue a HRRR sub-program as part of the HSIP program (regardless of the outcome of the local road special rule.)

The General Safety Improvement Program was created to involve our field personnel more in matters pertaining to safety project selection.

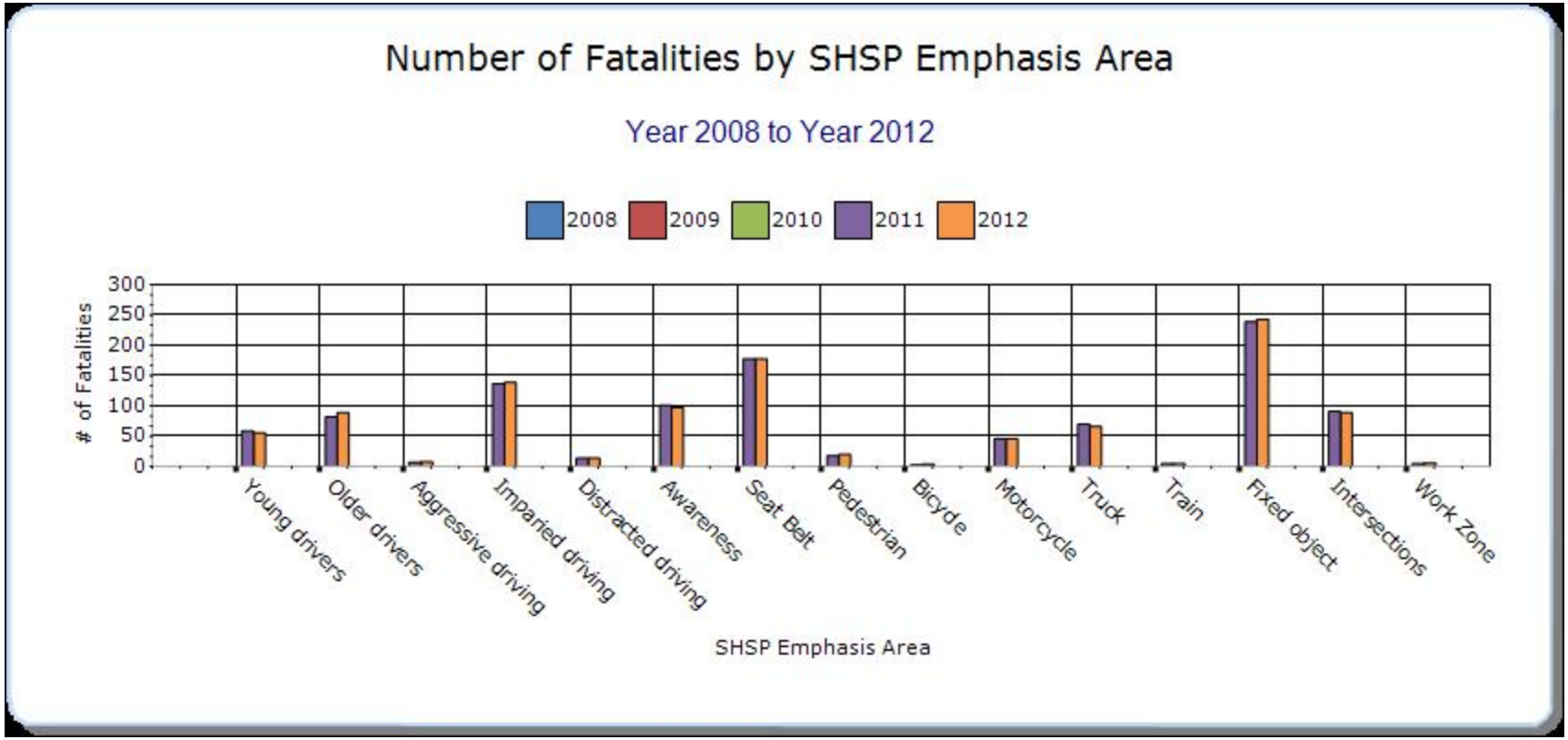
SHSP Emphasis Areas

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

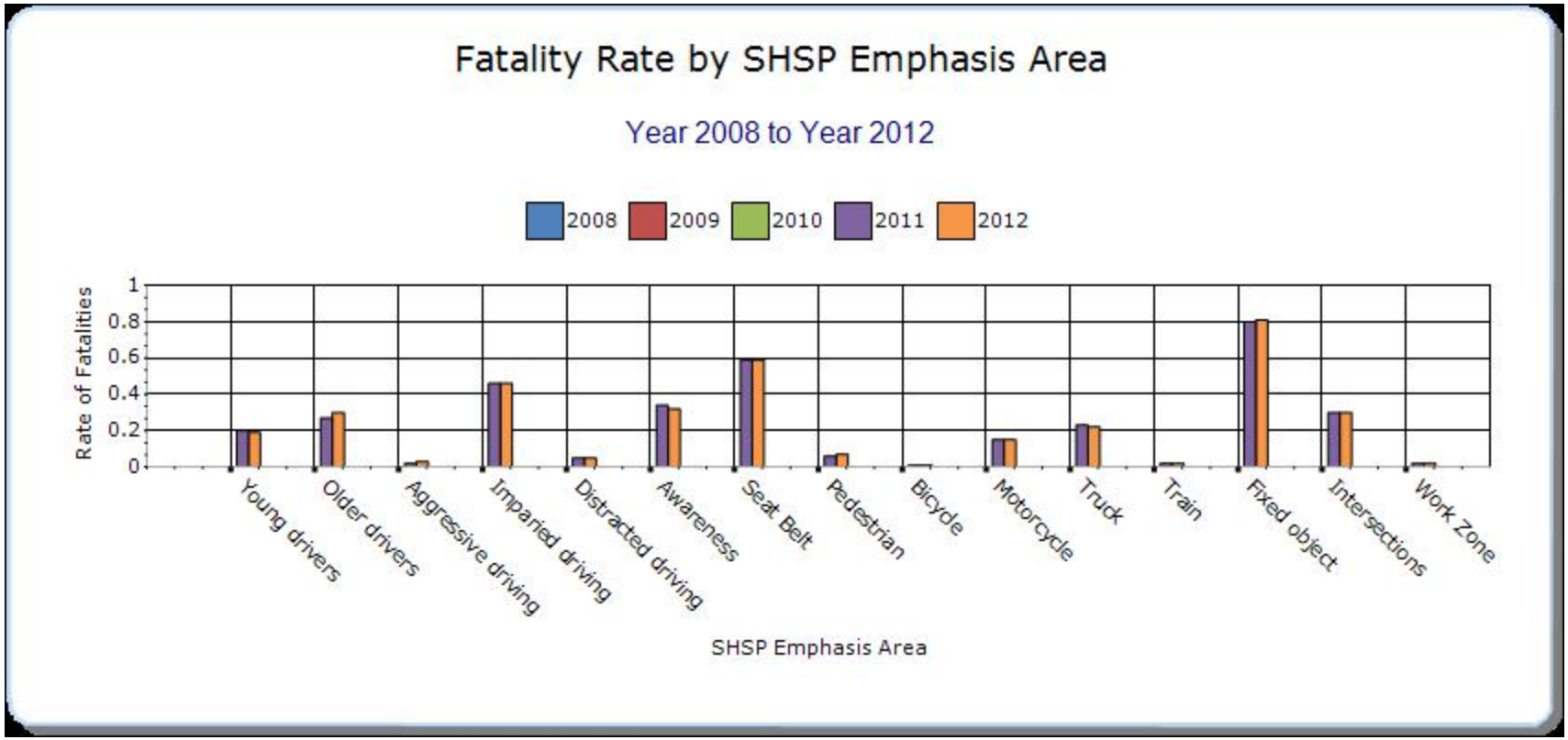
Year - 2012

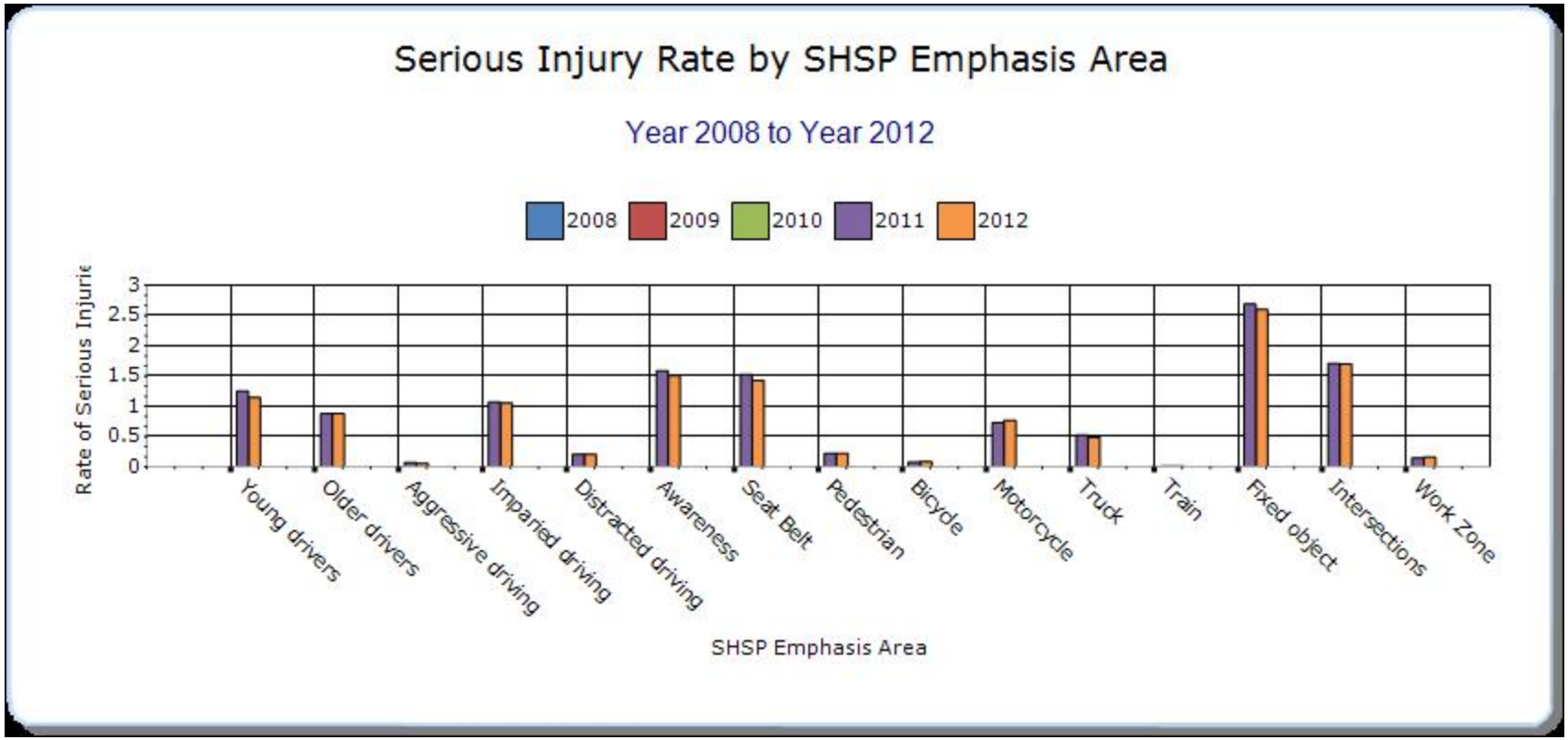
HSIP-related SHSP Emphasis Areas	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3
Instituting graduated licensing for younger drivers	**Involving Teen Drivers (14-19)**	**56**	**346**	**0.19**	**1.15**	**0**	**0**	**0**
Sustaining proficiency in older drivers	Involving Older Drivers (65+)	89	265	0.3	0.88	0	0	0
Curbing aggressive driving	Aggressive	8	19	0.03	0.06	0	0	0
Reducing impaired driving	Impaired (drug or alcohol)	139	318	0.46	1.06	0	0	0
Keeping drivers alert	Asleep or fatigued	14	62	0.05	0.21	0	0	0
Increasing driver safety awareness	Inattention or distraction	97	454	0.32	1.51	0	0	0
Increasing seat belt use and improving airbag effectiveness	Unbelted (Motor vehicle occupants)	178	429	0.59	1.43	0	0	0

Making walking and street crossing easier	Involving pedestrian	20	66	0.07	0.22	0	0	0
Ensuring safer bicycle travel	Involving bicycle	4	27	0.01	0.09	0	0	0
Improving motorcycle safety and increasing motorcycle awareness	Involving Motorcycle/Moped	46	231	0.15	0.77	0	0	0
Making truck travel safer	Involving LCV	66	148	0.22	0.49	0	0	0
Reducing vehicle-train crashes	Collision with Train	5	2	0.02	0.01	0	0	0
Minimizing the consequences of leaving the road	Roadway Departure	243	781	0.81	2.6	0	0	0
Improving the design and operation of highway intersections	Intersection or Intersection-related	89	510	0.3	1.7	0	0	0
Designing safer work zones	Work Zones (on road C, M, U)	6	47	0.02	0.16	0	0	0


Number of Fatalities by SHSP Emphasis Area
Year 2008 to Year 2012
2008
2009
2010
2011
2012
# of Fatalities
300
250
200
150
100
50
0
Young drivers
Older drivers
Aggressive driving
Impaired driving
Distracted driving
Awareness
Seat Belt
Pedestrian
Bicycle
Motorcycle
Truck
Train
Fixed object
Intersections
Work Zone
SHSP Emphasis Area


Number of Serious Injuries by SHSP Emphasis Area
Year 2008 to Year 2012
2008
2009
2010
2011
2012
# of Serious Injuries
1000
800
600
400
200
0
Young drivers
Older drivers
Aggressive driving
Impaired driving
Distracted driving
Awareness
Seat Belt
Pedestrian
Bicycle
Motorcycle
Truck
Train
Fixed object
Intersections
Work Zone
SHSP Emphasis Area


Fatality Rate by SHSP Emphasis Area
Year 2008 to Year 2012
2008
2009
2010
2011
2012
Rate of Fatalities
1
0.8
0.6
0.4
0.2
0
Young drivers
Older drivers
Aggressive driving
Impaired driving
Distracted driving
Awareness
Seat Belt
Pedestrian
Bicycle
Motorcycle
Truck
Train
Fixed object
Intersections
Work Zone
SHSP Emphasis Area

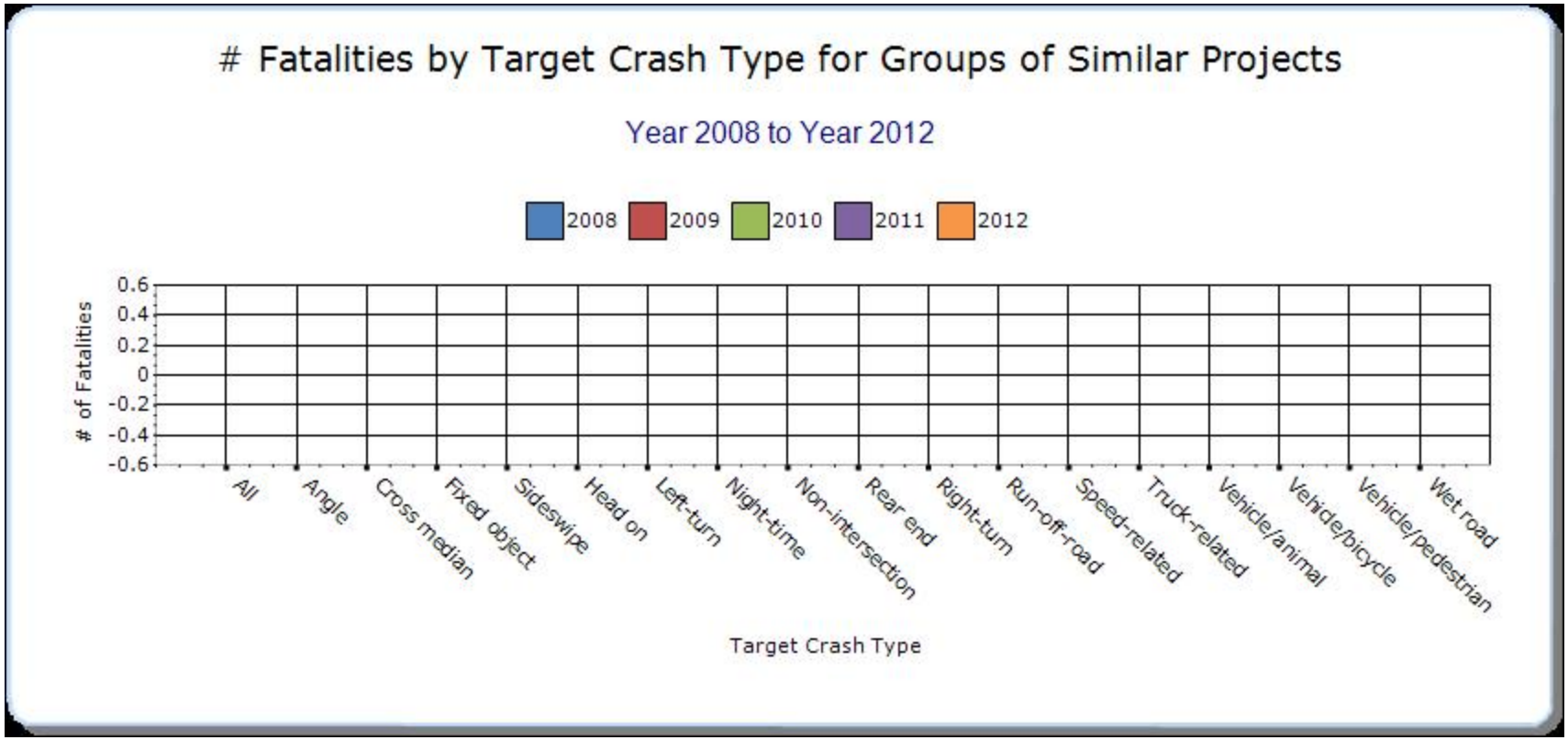

Serious Injury Rate by SHSP Emphasis Area
Year 2008 to Year 2012
2008
2009
2010
2011
2012
Rate of Serious Injurie
3
2.5
2
1.5
1
0.5
0
Young drivers
Older drivers
Aggressive driving
Impaired driving
Distracted driving
Awareness
Seat Belt
Pedestrian
Bicycle
Motorcycle
Truck
Train
Fixed object
Intersections
Work Zone
SHSP Emphasis Area

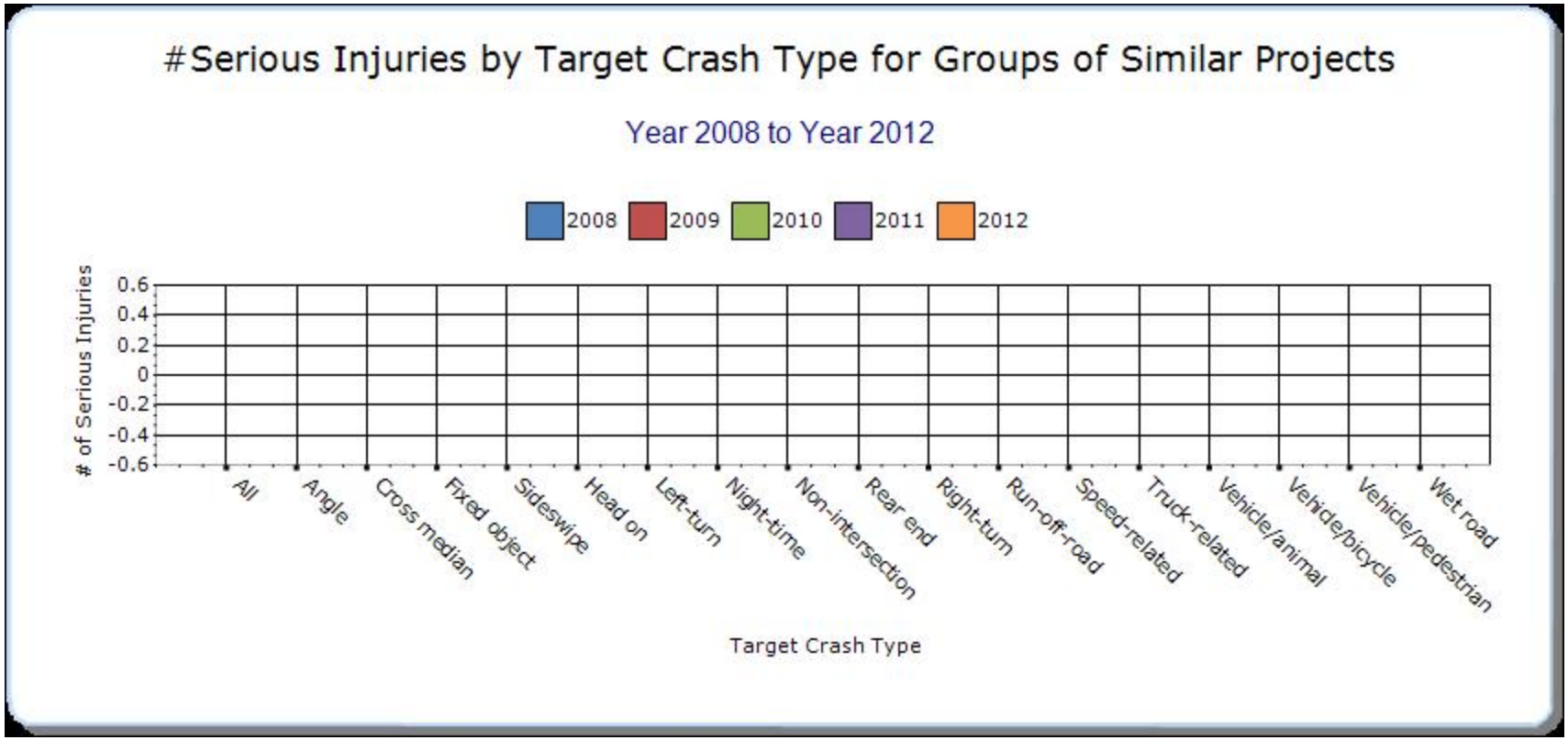
Groups of similar project types

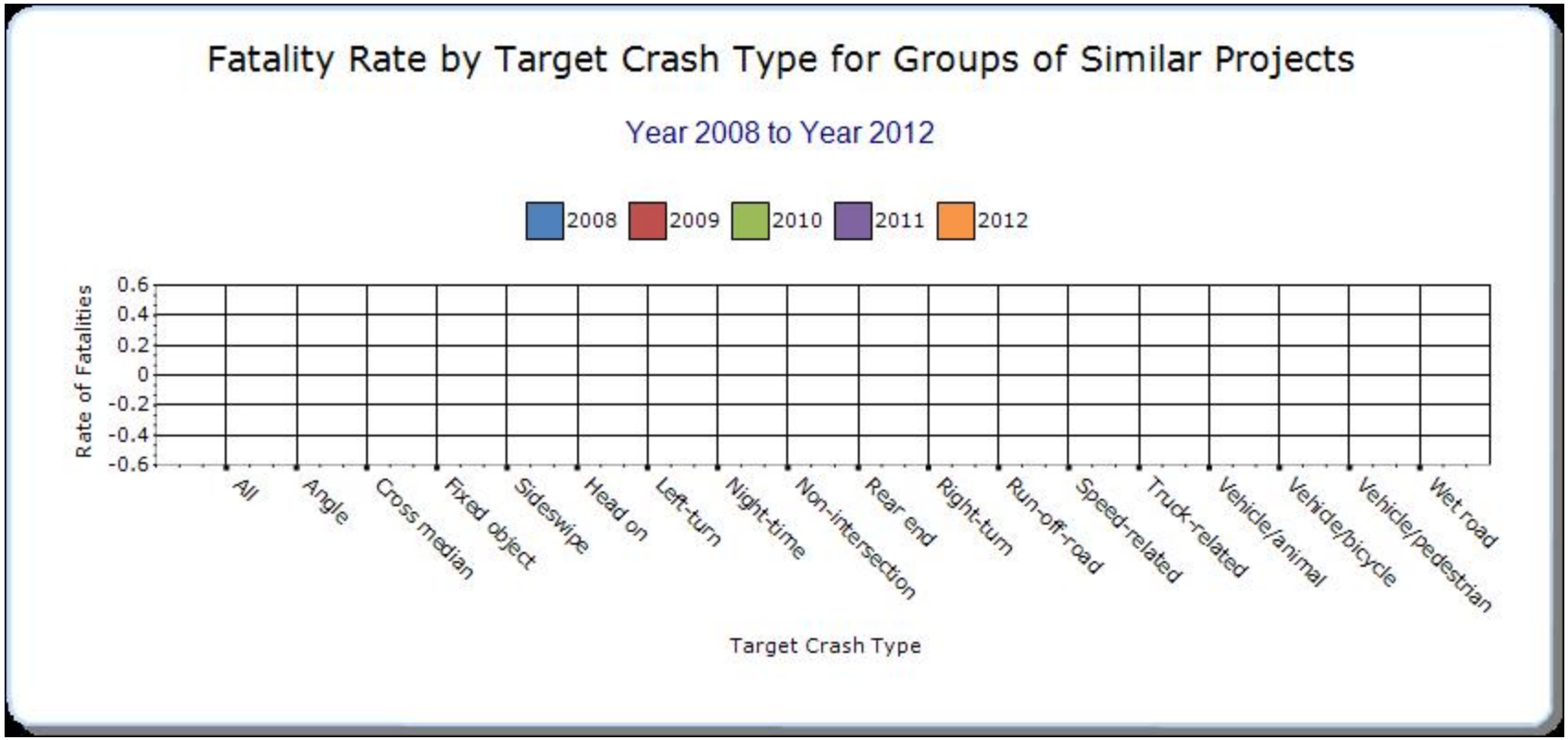
Present the overall effectiveness of groups of similar types of projects.

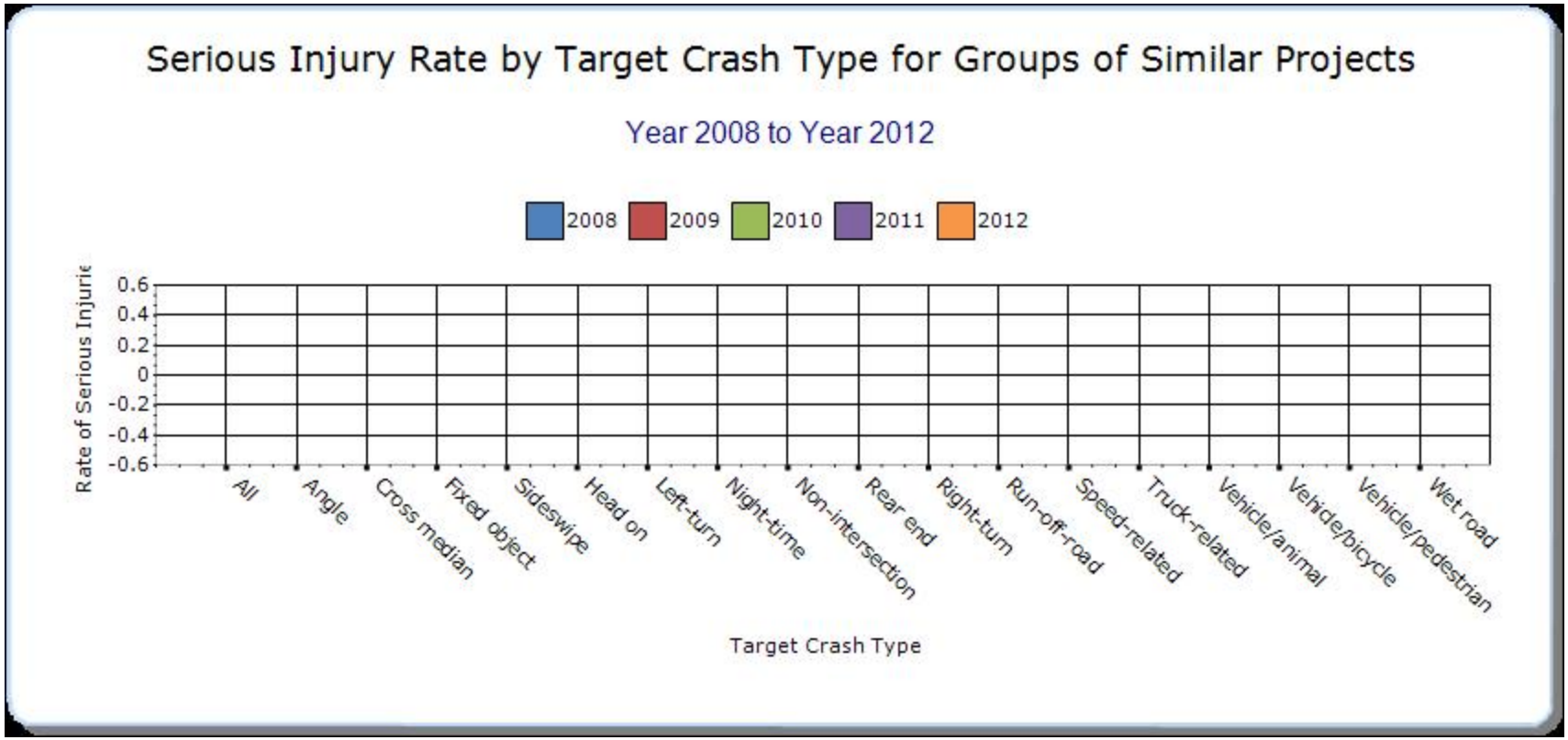
Year - 2012

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
Intersection	Intersection or Intersection-related	89	510	0.3	1.7	0	0	0


Fatalities by Target Crash Type for Groups of Similar Projects
Year 2008 to Year 2012
2008
2009
2010
2011
2012
# of Fatalities
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

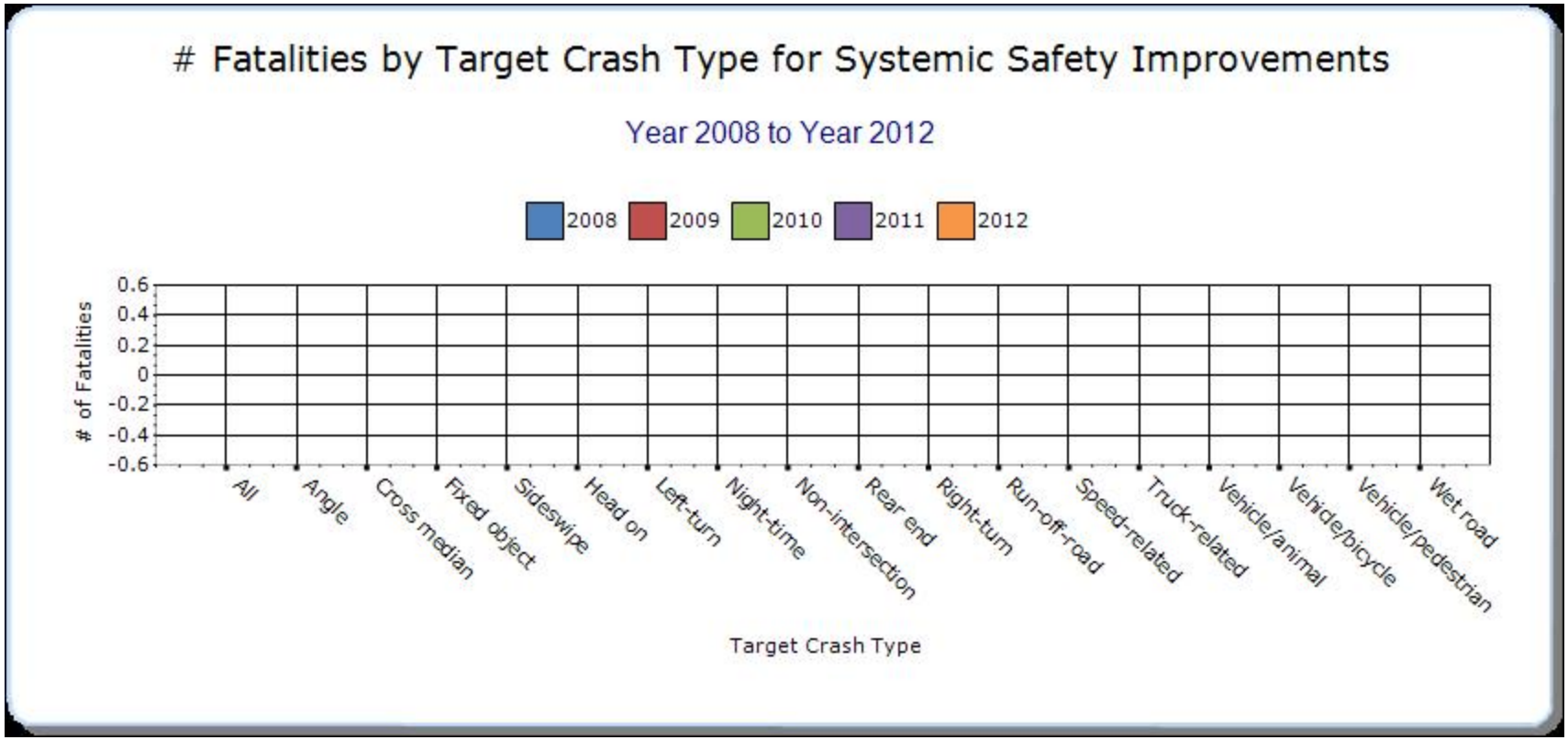

Serious Injury Rate by Target Crash Type for Groups of Similar Projects
Year 2008 to Year 2012
2008
2009
2010
2011
2012
Rate of Serious Injurie
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related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

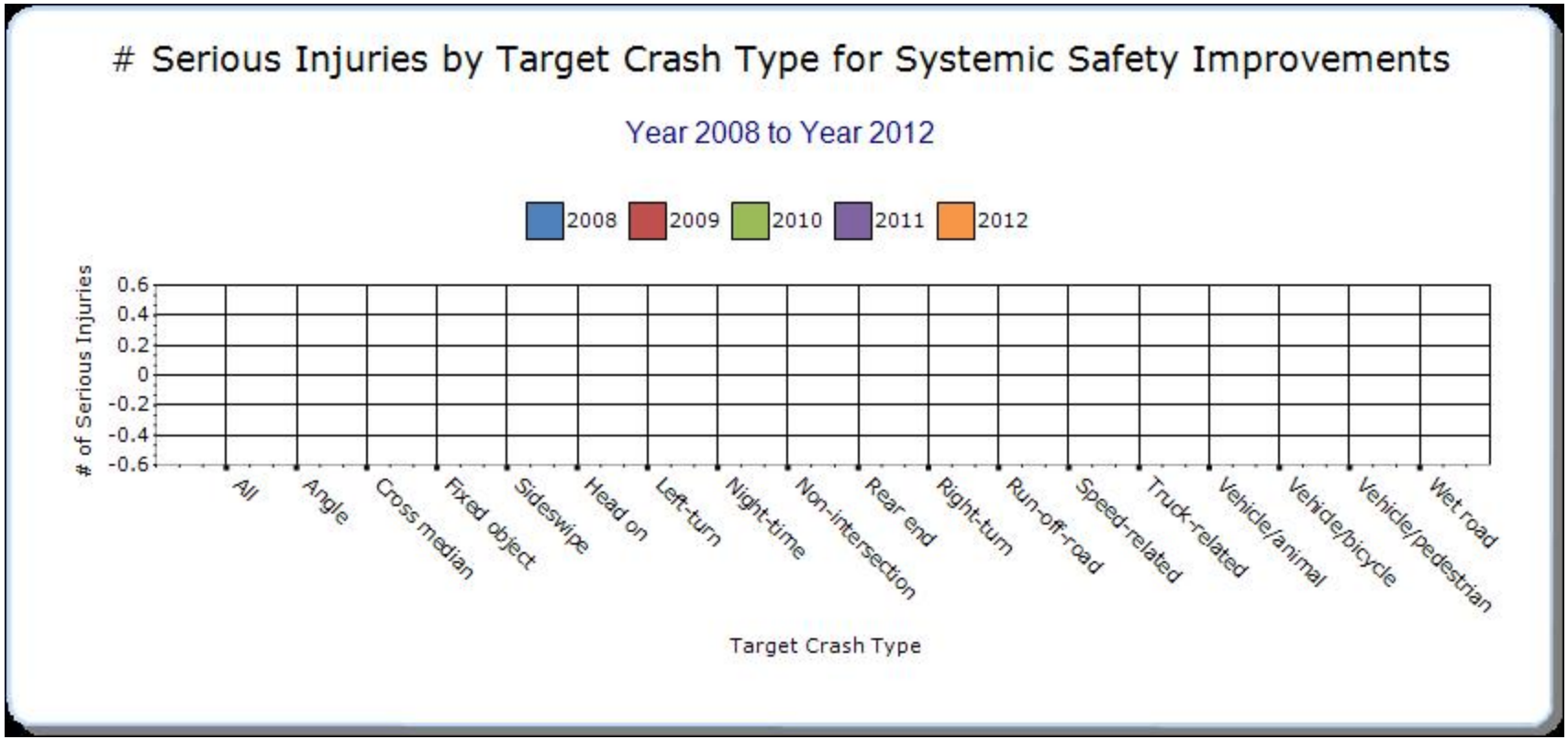
Systemic Treatments

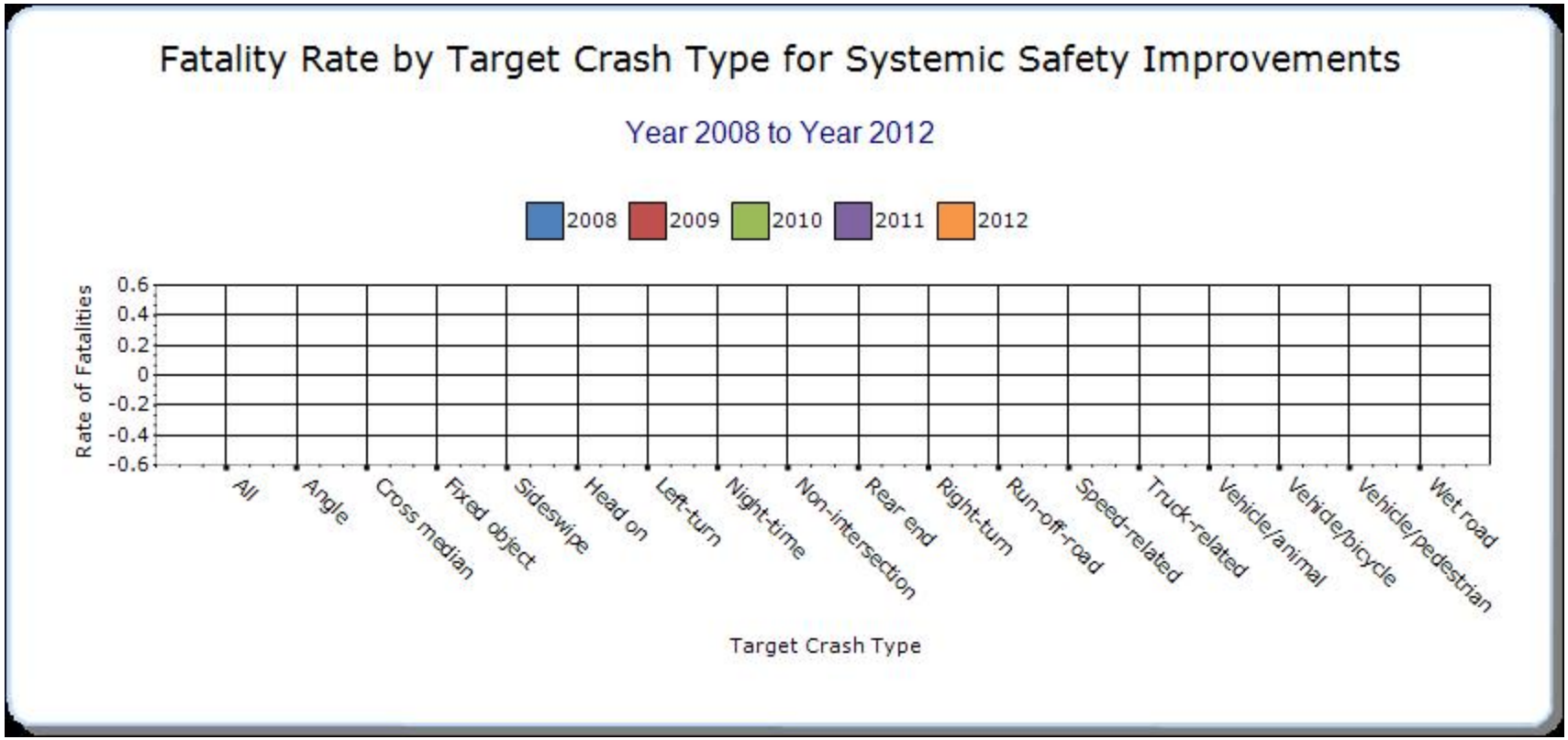
Present the overall effectiveness of systemic treatments..

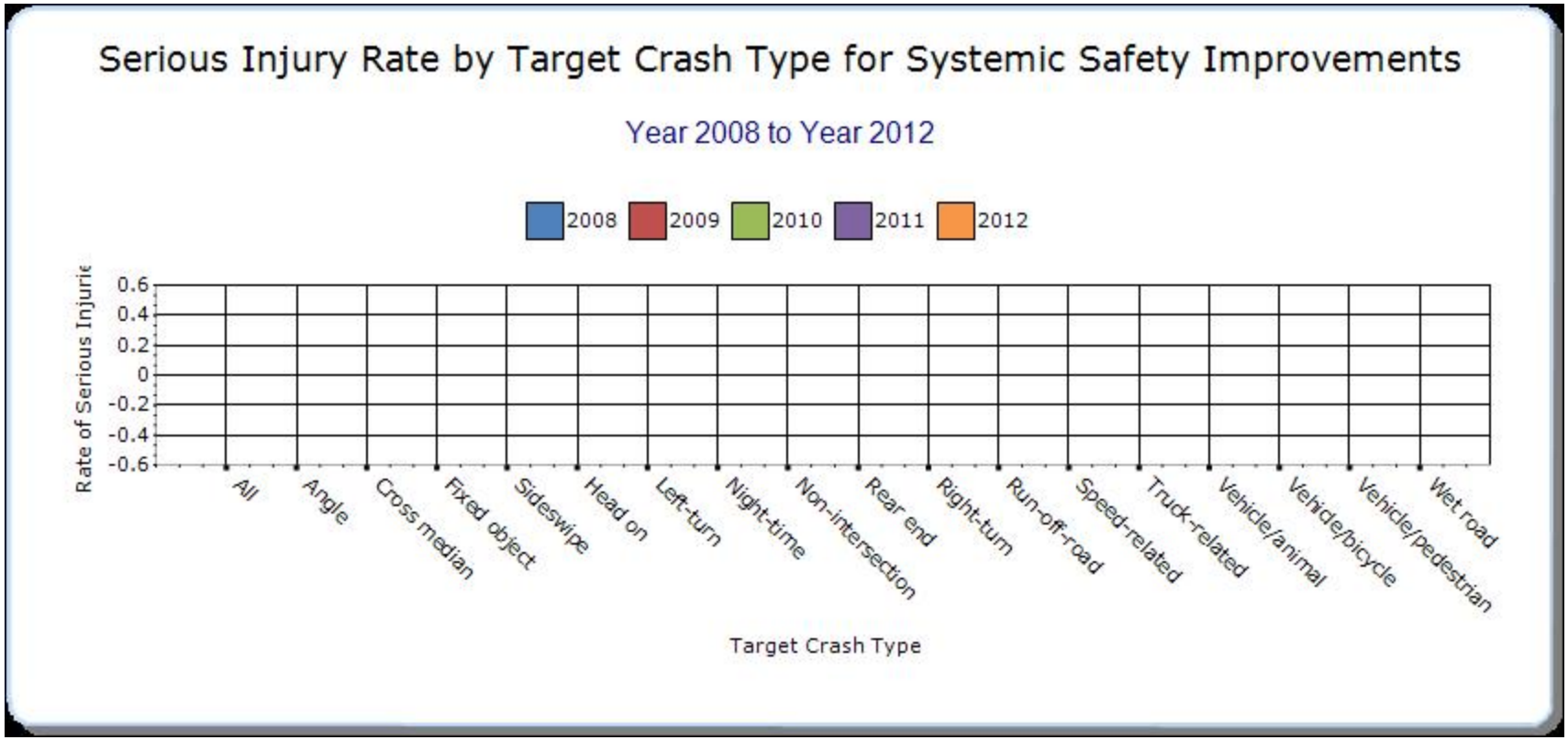
Year - 2012

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


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.

It is our intent to develop performance measures for each of these HSIP sub-programs in preparation for next year's report. This will be in concert with completing new "white papers" for each eligible sub-program, and be driven by our nearly complete revised SHSP which will include reallocation of HSIP funding as a key strategy for the emphasis areas intersections and roadway departure. As an example, three of these programs (lighting, pavement marking, and signing) can be measured by wet-weather and/or nighttime crashes. Data can be shown to demonstrate a positive trend in each of these areas.

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)
None														NA

Optional Attachments

Sections	Files Attached

Glossary

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

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

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

HMVMT means hundred million vehicle miles traveled.

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

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

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

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

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

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

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.