Highway Safety Improvement Program

Data Driven Decisions

Indiana
Highway Safety Improvement Program
2013 Annual Report

Prepared by: IN

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

As required under 23 U.S.C. § 148(h), the following is the annual report to the Federal Highway Administration (FHWA) from the Indiana Department of Transportation (INDOT) for fiscal year 2013. The content of this report combines information regarding the implementation status of the Highway Safety Improvement Program (HSIP) and associated sub-programs such as the High Risk Rural Roads Program (HRRRP). This combined HSIP Report, does not include the annual *Rail-Highway Crossing Safety Report* as required under 23 U.S.C. § 130(g). INDOT is exercising the option provided to the states by 23 U.S.C. § 148 guidance, of preparing and submitting to FHWA separate reports.

The format of the *Annual HSIP Report* is in accordance with the FHWA Online Reporting Tool. This report focuses on development and implementation of the core federal aid safety program, and associated safety spending in the State of Indiana for federal fiscal year (FFY) 2013, beginning October 1, 2012 and ending on September 30, 2013. In addition to the core safety programs, this report discusses the ongoing evolution of the INDOT Asset Management Program mechanism for setting spending priorities for all projects on roads under INDOT Jurisdiction.

The estimated FFY 2013 obligation of safety program funds is $24,866,492.39. The amount is somewhat lower than in FFY 2012 at $27,576,308. This result was expected given changing program priorities under the INDOT Asset Management System.

In response to the passage of MAP-21, INDOT is working to increase the size and scope of its safety program. Two major changes in safety funding occurred in FFY 2013. First, the annual HSIP apportionment rose from $29 million in FFY 2012 to $51 million is FFY 2013. Second, Indiana was encumbered with a $20.2 million penalty transfer to the 164-HE program, resulting in $18.7 million of additional apportionment to the safety program.

All projects approved for funding in HSIP or HRRRP programs are required to address at least one of the emphasis areas defined in the *Indiana Strategic Highway Safety Plan* (SHSP) document. Asset management processes are used in the selection and prioritization of all safety projects on roads under INDOT jurisdiction, including those funded with HSIP and HRRRP funds. The submission of the documents that describe INDOT's countermeasure selection methodology originally took place in September of 2008 with the submission of the FFY 2008

HSIP/HRRRP Report.

For Roads under jurisdiction of INDOT, an established selection process for safety projects regardless of funding program, prioritizes locations of highest need in terms of reducing the severity and frequency of crashes, and to select the most appropriate and cost effective countermeasures available. The INDOT Office of Traffic Safety (OTS) ensures that each candidate safety project has a cost effective choice of proposed solution(s), the eligibility for HSIP (or HRRRP) funding is determined and the relative priority of the candidate project's needs is established.

For Local HSIP projects, the selection methodology is described in the document titled *Highway Safety Improvement Program Local Project Selection Guidance*, issued on December 1, 2010 and *Special Rules for Eligibility of Highway Safety Improvement Projects*, issued August 1, 2013. INDOT fiscal policy is to make one-third of its total FHWA apportionment from HSIP available to local public agencies for safety projects on local system roads. MAP-21 caused overall HSIP apportionment growth in FY 2013, and as a result, the total allocated to Local HSIP projects in FFY 2013 also grew to approximately $17 million dollars. The annual apportionment of obligation authority is assigned to each Metropolitan Planning Organization (MPO), as well as predetermined amounts of obligation authority that are identified for the use of rural Group III and Group IV public agencies. The *Highway Safety Improvement Program Local Project Selection Guidance,* provides local agencies guidance on the structure and content of applications for HSIP and HRRRP project funding. INDOT maintains a web-based information source on the various state and local safety programs, which is accessible at, http://www.in.gov/indot/2357.htm.

In 2012, the estimated vehicle miles of travel increased 2.83% above 2011, yet the number of police reported crashes in Indiana remained at a low level, of 188,765 reported events. This number of crash events is only slightly higher than the historic low of 188,179 events reported in 2011. These two years comprise the lowest recorded number of reported crashes since the inception of Indiana's electronic crash reporting system in 2003. Severe crashes on rural roads experienced unexpectedly higher numbers spring and early summer of 2012, while severe crashes in urban areas continued the long term downward trend. Data from the first half of 2013 indicates that crash patterns on both urban and rural roadways have returned to a downward trend.

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.

In the State of Indiana, Local Public Agencies (LPAs) operate and maintain all local public roads. INDOT policy is to make one third of its total annual apportionment of HSIP funding available to local public agencies for safety projects on local system roads. An annual apportionment of obligation authority is assigned to each Metropolitan Planning Organization (MPO) serving Group 1 and Group 2 urban areas. A standardized population formula is used to determine the assigned funding made available to individual MPOs. Predetermined amounts of HSIP funds assigned to two accounts for the use of rural public agencies in Group 3 (incorporated cities and

towns) and rural Group 4 (counties and un-incorporated towns). The aforementioned population formula is used to determine the amounts of the HSIP apportionment to be reserved for the use of safety improvement projects located in rural areas.

Rules have been established allowing LPAs to apply to INDOT for determination of project eligibility to utilized HSIP funds. These rules are contained in the INDOT guidance document titled, *Highway Safety Improvement Program Local Project Selection Guidance*. The latest INDOT version of this guidance document was approved by INDOT's Highway Safety Advisory Committee on December 10, 2010, and is on file at the FHWA Indiana Division Office. This document is also posted on the INDOT web site at: http://www.in.gov/indot/files/LocalHSIPProjectSelectionGuidance.pdf

Guidance and outreach efforts are routinely made by INDOT and the Local Technical Assistance Program (LTAP), in regard to selection of HSIP and HRRRP projects. INDOT's guidance to LPAs advocates the value of low cost systemic safety improvements to proactively address the risk of severe crashes on their entire roadway system, along with the treatment of locations with high risk of frequent severe crashes involving fatality or incapacitating (Class A) injury. Systemic projects are gaining increasing acceptance by LPAs. Notably, many applications have been submitted by LPAs to assist them in funding systemic projects to upgrade the retro-reflectivity of local regulatory and warning signs.

In urban areas, the MPOs serving Group 1 and 2 urban areas are tasked to perform initial screening of proposed safety improvements and select candidate projects subject to INDOT eligibility determination. To provide a similar level of planning support to rural group 3 and group 4 areas, INDOT has collaborated with the Indiana LTAP. INDOT sponsors an ongoing program with LTAP called the *Hazard Elimination Project for Local Roads and Streets* (HELPERS) Program. The HELPERS Program coordinates with rural planning organizations (RPOs), counties, rural area smaller cities and towns to assist them in to determine their highest priority needs in regard to severe crash reduction, screening of candidate projects, and assisting the LPAs in submitting project level funding proposals to INDOT for determination of HSIP project eligibility. The OTS performs eligibility evaluations for all applications to utilize HSIP or HRRRP funding.

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

☒Design

☒Planning

☐Maintenance

☒Operations

☐Governors Highway Safety Office

☒Other: Other-Local Agency Assistance Divison and Budget & Project Accounting Division

☒Other: Other-Capital Asset Management

☒Other: Other-Research

Briefly describe coordination with internal partners.

The INDOT Office of Traffic Safety (OTS) leads INDOT's coordinated efforts to identify locations with safety needs, plan improvements, prioritize and program traffic safety improvement projects on the Indiana State system of highways. OTS works with each of INDOT's district offices, and the divisions of Design, Planning, Operations, LPA & Grant Administration, Capital Asset Management Office and Budget Divisions.

In the areas of finance, budget and project prioritization/programming, the Manager of the OTS acts as the chair to the INDOT Traffic Safety Asset Management Team to prioritize all proposed safety projects located on the INDOT system of highways. The six INDOT district traffic engineering offices act as voting members of the team and the INDOT Office of Capital Project Funds Management provides coordination with INDOTs other asset teams and upper management. The Traffic Safety Asset Management Team acts to deliberate the relative need and priority of proposed traffic safety projects on INDOT managed roadways. The overall budgeting of obligation authority for safety projects on both the state and local road systems is coordinated with the Division of Budget and Project Accounting.

For approved safety projects on the state highway system, the relevant INDOT district office is responsible for project programming and entry of the project into the State Transportation Improvement Plan (STIP) and any relevant local Transportation Improvement Plan (TIP). They also manage design and construction projects in

coordination with INDOT Design and Construction Divisions, via a project manager assigned to the project to coordinate all project development tasks.

Regarding internal coordination of local safety projects, the Office of Traffic Safety performs review of all proposed projects that have first been screened for compliance with INDOT's HSIP Local Project Selection Guidance. Approved projects are programmed and turned over to the INDOT Division of LPA & Grant Administration for inclusion in the STIP and relevant TIP document. This division also develops an interagency agreement with the LPA to guide project development. The relevant INDOT district then assigns a project manager to coordinate development of the constriction project.

In addition, OTS consults with Design Division regarding new safety improvement design practices, Operations Division regarding new Standards and Specifications. OTS also coordinates with the Research Division regarding the approval of safety related research efforts under the Joint Transportation Research Project (JTRP) and to implement successful research results.

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 Technical Assistance Program

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-INDOT has expanded the number of eligible systemic project types from 10 to 18 this year.

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

In response to the increased HSIP apportionments under MAP-21, INDOT has engaged in new strategies to increase the obligation of funds to construct worthy safety improvement projects. The number of systemic improvement types has been expanded along with expanded selection of hot spot safety improvement projects. One third of the total percentage of HSIP funds is made available to local agencies, resulting in more opportunity to combat severe crash risk in both urban and rural areas.

Regarding HSIP eligibility review of local safety projects, urban LPAs must first submit to their local Metropolitan Planning Organizations (MPOs) for funding prioritization and preliminary selection. Rural group 3 and group 4 LPAs first submitted their proposed projects to the LTAP HELPERS Program for compliance review, prior to INDOT determination of eligibility for HSIP or HRRRP funding.

INDOT determines eligibility in accordance with the emphasis area defined in the Indiana SHSP and HSIP Local Project Selection Guidance documents. If a proposed local project is found to be eligible for HSIP/HRRRP funding, the Division of LPA and Grant Administration provides oversight of project agreements between INDOT and the LPA to govern project development. The LPA and Grant Administration Division also provides programming support by administering inclusion of projects on Local and State Transportation Improvement Plans, scheduling of plan development and construction contract letting. Once a project is placed in Active status on the INDOT scheduling system, the INDOT district office assigns a project manager to coordinate the design and environmental documentation of the project with the project sponsor agency, designer, and various INDOT Divisions and offices in order to bring the project to a construction contract letting.

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-Centerline and Edgeline Rumble Stripes	☒ Other: Other-Traffic Signal Visibility Improvement	

Program: **Median Barrier**

Date of Program Methodology: **10/1/2010**

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

☐ Lane miles

☐ Roadside features

☐ Other

☐ Other

What project identification methodology was used for this program?

☒ Crash frequency

☐ Expected crash frequency with EB adjustment

☐ Equivalent property damage only (EPDO Crash frequency)

☐ EPDO crash frequency with EB adjustment

☒ Relative severity index

☐ Crash rate

☐ Critical rate

☐ Level of service of safety (LOSS)

☐ Excess expected crash frequency using SPFs

☐ Excess expected crash frequency with the EB adjustment

☐ Excess expected crash frequency using method of moments

☐ Probability of specific crash types

☒ Excess proportions of specific crash types

☐ Other

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

☒ Yes

☐ No

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

☐ Yes

☐ No

How are highway safety improvement projects advanced for implementation?

☐ Competitive application process

☒ selection committee

☐ Other

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

☒ Relative Weight in Scoring

☐ Rank of Priority Consideration

☐ Ranking based on B/C	
☐ Available funding	
☐ Incremental B/C	
☐ Ranking based on net benefit	
☒ Cost Effectiveness	50
☒ Weighted ranking factors including safety need, roadway geometry and cost effectivness	50

Program: **Intersection**

Date of Program Methodology: **10/1/2010**

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	☐ Lane miles	☐ Roadside features
	☐ Other	☒ Other-roadway conditions and sight distance

What project identification methodology was used for this program?

☒ Crash frequency

☐ Expected crash frequency with EB adjustment

☐ Equivalent property damage only (EPDO Crash frequency)

☐ EPDO crash frequency with EB adjustment

☒ Relative severity index

☐ Crash rate

☐ Critical rate

☐ Level of service of safety (LOSS)

☐ Excess expected crash frequency using SPFs

☐ Excess expected crash frequency with the EB adjustment

☐ Excess expected crash frequency using method of moments

☒ Probability of specific crash types

☒ Excess proportions of specific crash types

☐ Other

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

☒Yes

☐No

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

☒Yes

☐No

How are highway safety improvement projects advanced for implementation?

☒Competitive application process

☒selection committee

☐Other

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

☒Relative Weight in Scoring

☐Rank of Priority Consideration

☐Ranking based on B/C

☐Available funding

☐Incremental B/C

☐Ranking based on net benefit

☒Cost Effectiveness 50

☒Weighted factors addressing safety need and cost effectivness 50

Program: **Rural State Highways**

Date of Program Methodology: **10/1/2010**

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	☐ 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

☐ Incremental B/C

☐ Ranking based on net benefit

☒ Cost Effectiveness 50

☒Weighted factors based on safety need and cost effectivness	50

Program: **Crash Data**

Date of Program Methodology: **10/1/2010**

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	☐Lane miles	☐Roadside features
	☐Other	☐Other

What project identification methodology was used for this program?

☒Crash frequency

☐Expected crash frequency with EB adjustment

☐Equivalent property damage only (EPDO Crash frequency)

☐EPDO crash frequency with EB adjustment

☐Relative severity index

☒Crash rate

☐Critical rate

☐ Level of service of safety (LOSS)

☐ Excess expected crash frequency using SPFs

☐ Excess expected crash frequency with the EB adjustment

☐ Excess expected crash frequency using method of moments

☒ Probability of specific crash types

☒ Excess proportions of specific crash types

☐ Other

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

☒ Yes

☐ No

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

☒ Yes

☐ No

How are highway safety improvement projects advanced for implementation?

☐ Competitive application process

☒ selection committee

☐ Other

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

☐ Relative Weight in Scoring

☒ Rank of Priority Consideration

☐ Ranking based on B/C

☒ Available funding 50

☐ Incremental B/C

☐ Ranking based on net benefit

☒ Cost Effectiveness 50

Program: **Roadway Departure**

Date of Program Methodology: **10/1/2010**

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	☐ Lane miles	☒ Roadside features
	☐ Other	☐ Other

What project identification methodology was used for this program?

☒ Crash frequency

☐ Expected crash frequency with EB adjustment

☐ Equivalent property damage only (EPDO Crash frequency)

☐ EPDO crash frequency with EB adjustment

☒ Relative severity index

☐ Crash rate

☐ Critical rate

☐ Level of service of safety (LOSS)

☐ Excess expected crash frequency using SPFs

☐ Excess expected crash frequency with the EB adjustment

☐ Excess expected crash frequency using method of moments

☒ Probability of specific crash types

☒ Excess proportions of specific crash types

☐ Other

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

☒ Yes

☐ No

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

☒ Yes

☐ No

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☒ selection committee

☐ Other

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

☒Relative Weight in Scoring

☐Rank of Priority Consideration

☐Ranking based on B/C

☐Available funding

☐Incremental B/C

☐Ranking based on net benefit

☒Cost Effectiveness 50

☒Weighted factors based on safety need and cost effectivness 50

Program: **Sign Replacement And Improvement**

Date of Program Methodology: **10/1/2010**

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	☐Lane miles	☒Roadside features
	☐Other	☒Other-Geometric Features

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-Retroreflectivity of Existing Signs

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

☒ Yes

☐ No

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

☒ Yes

☐ No

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☒ selection committee

☐ Other

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

☒ Relative Weight in Scoring

☐ Rank of Priority Consideration

- ☐ Ranking based on B/C
- ☐ Available funding
- ☐ Incremental B/C
- ☐ Ranking based on net benefit
- ☒ Cost Effectiveness 100

Program: **Local Safety**

Date of Program Methodology: **10/1/2010**

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

☐ Lane miles

☒ Roadside features

☐ Other

☒ Other-Geometric Features, marking and signs

What project identification methodology was used for this program?

☒ Crash frequency

☐ Expected crash frequency with EB adjustment

☐ Equivalent property damage only (EPDO Crash frequency)

☐ EPDO crash frequency with EB adjustment

☒ Relative severity index

☐ Crash rate

☐ Critical rate

☐ Level of service of safety (LOSS)

☐ Excess expected crash frequency using SPFs

☐ Excess expected crash frequency with the EB adjustment

☐ Excess expected crash frequency using method of moments

☒ Probability of specific crash types

☒ Excess proportions of specific crash types

☐ Other

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

☒ Yes

☐ No

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

☒ Yes

☐ No

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☒ selection committee

☐ Other

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

☒ Relative Weight in Scoring

☐ Rank of Priority Consideration

☐ Ranking based on B/C	
☐ Available funding	
☐ Incremental B/C	
☐ Ranking based on net benefit	
☒ Cost Effectiveness	50
☒ Weighted scoring based on safety need and cost effectivness	50

Program: **Pedestrian Safety**

Date of Program Methodology: **10/1/2010**

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	☐ Lane miles	☒ Roadside features
	☐ Other	☒ Other-Geometrics features and land use

What project identification methodology was used for this program?

☒ Crash frequency

☐ Expected crash frequency with EB adjustment

☐ Equivalent property damage only (EPDO Crash frequency)

☐ EPDO crash frequency with EB adjustment

☒ Relative severity index

☐ Crash rate

☐ Critical rate

☐ Level of service of safety (LOSS)

☐ Excess expected crash frequency using SPFs

☐ Excess expected crash frequency with the EB adjustment

☐ Excess expected crash frequency using method of moments

☐ Probability of specific crash types

☒ Excess proportions of specific crash types

☐ Other

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

☒Yes

☐No

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

☒Yes

☐No

How are highway safety improvement projects advanced for implementation?

☒Competitive application process

☒selection committee

☐Other

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

☒Relative Weight in Scoring

☐Rank of Priority Consideration

☐Ranking based on B/C

☐Available funding

☐Incremental B/C

☐Ranking based on net benefit

☒Cost Effectiveness 50

☒Weighted factors using safety need and cost effectivness 50

Program: **Other-Centerline and Edgeline Rumble Stripes**

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

What data types were used in the program methodology?

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

What project identification methodology was used for this program?

☒ Crash frequency

☐ Expected crash frequency with EB adjustment

☐ Equivalent property damage only (EPDO Crash frequency)

☐ EPDO crash frequency with EB adjustment

☒ Relative severity index

☐ Crash rate

☐ Critical rate

☐ Level of service of safety (LOSS)

☐ Excess expected crash frequency using SPFs

☐ Excess expected crash frequency with the EB adjustment

☐ Excess expected crash frequency using method of moments

☐ Probability of specific crash types

☒ Excess proportions of specific crash types

☐ Other

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

☒ Yes

☐ No

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

☒ Yes

☐ No

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☐ selection committee

☐ Other

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

☒ Relative Weight in Scoring

☐ Rank of Priority Consideration

☐ Ranking based on B/C

☐ Available funding

☐ Incremental B/C

☐ Ranking based on net benefit

☒ Cost Effectiveness 50

☒ Weighted factors using safety need and cost effectivness 50

Program: **Other-Traffic Signal Visibility Improvement**

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

What data types were used in the program methodology?

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

What project identification methodology was used for this program?

☒ Crash frequency

☐ Expected crash frequency with EB adjustment

☐ Equivalent property damage only (EPDO Crash frequency)

☐ EPDO crash frequency with EB adjustment

☒ Relative severity index

☐ Crash rate

☐ Critical rate

☐ Level of service of safety (LOSS)

☐ Excess expected crash frequency using SPFs

☐ Excess expected crash frequency with the EB adjustment

☐ Excess expected crash frequency using method of moments

☐ Probability of specific crash types

☒ Excess proportions of specific crash types

☐ Other

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

☒ Yes

☐ No

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

☒ Yes

☐ No

How are highway safety improvement projects advanced for implementation?

☒ Competitive application process

☐ selection committee

☐ Other

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

☒Relative Weight in Scoring

☐Rank of Priority Consideration

☐Ranking based on B/C

☐Available funding

☐Incremental B/C

☐Ranking based on net benefit

☒Cost Effectiveness 50

☒Weighted factors using safety need and cost effectivness 50

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

25

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

☒Cable Median Barriers

☐Traffic Control Device Rehabilitation

☒Install/Improve Signing

☒Upgrade Guard Rails

☐Safety Edge

☒Add/Upgrade/Modify/Remove Traffic Signal

☒Rumble Strips

☐Pavement/Shoulder Widening

☐Install/Improve Pavement Marking and/or Delineation

☐Clear Zone Improvements

☐Install/Improve Lighting

☐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.

INDOT is seeking to achieve a balance between obligation of HSIP funds towards systemic improvements and still supporting safety improvements at individual locations with high incidence or risk of severe crash outcomes. Project identification methods

include conducting system wide analysis to identify both individual locations with high potential for severe crashes or wide spread needs for systemic improvements. Also, projects may be programmed as a result of identification by other means such as public complaints filtered through one of the INDOT district offices.

Candidate locations on roads under INDOT jurisdiction are subject to an initial engineering review process similar to a road safety assessment (RSA), in order to identify safety needs and appropriate countermeasures. The OTS conducts these reviews with support of the INDOT district offices.

The process used to program traffic safety projects on INDOT system roads requires selection and prioritization by state fiscal year. Traffic Safety Asset Management (TSAM) Team produces a proposed list of safety improvement projects for programming in each fiscal year. A uniform scoring process is utilized to provide proposed projects with weighted scores that utilize the history of crashes and their severity, traffic volume and road inventory data to a uniform set of criteria in order to assess the relative intensity of safety needs. The process also considers the cost effectiveness of the proposed solution and other factors to generate a weighted score that encompasses the relative need and effectiveness of a proposed safety improvement project. The TSAM team then reviews and deliberates the relative priority of each proposed project and assigns a priority grade for targeted fiscal year of construction. An Executive Finance Committee later considers the proposed projects and then ratifies the safety program for the target year of the TSAM Team.

In regard to candidate projects on the local road system, INDOT OTS makes all eligibility determinations for HSIP and HRRRP funding. The necessary information to determine eligibility for HSIP/HRRRP funding typically consists of an RSA report. An exception is the submission of eligibility information for certain approved systemic project types, that may be provided via an INDOT form. Projects located in metropolitan planning areas must first be selected by the relevant MPO prior to INDOT review. For rural Group III and Group IV areas, LPAs are asked to first work with the LTAP HELPERS Program that acts to prescreen the applications for compliance with federal and state regulations. The HELPERS Program often provides valuable advice to the LPAs regarding best safety practices and conducting appropriate RSA procedures.

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)	32732635	93 %	5475335	23 %
HRRRP (SAFETEA-LU)	1877488	5 %	184787.9	1 %
HRRR Special Rule				
Penalty Transfer - Section 154	458000	1 %	458000	2 %
Penalty Transfer – Section 164	0	0 %	18129818.5	75 %
Incentive Grants - Section 163				
Incentive Grants (Section 406)				
Other Federal-aid Funds (i.e. STP, NHPP)				
State and Local Funds				

Totals	35068123	100%	24247941.4	100%

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

33 %

How much funding is obligated to local safety projects?

$5,871,493.00

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

$0.00

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

$0.00

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?

$25,500,000.00

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

Both SAFTEA-LU and MAP-21 make it clear that cost effectiveness should be considered in project selection decisions, and it's recognized that this may become a future requirement for all federal aid funding decisions. However, guidance under MAP-21 is currently unclear as to how the risk of future crashes can be accommodated under current cost effectiveness methodologies. Often based on past history of crashes, safety improvement projects that are seemingly promising candidates for HSIP funding are rejected due to an inability to meet cost effectiveness criteria. While there are useful predictive functions in the Highway Safety Manual, they are limited to specific situations. The lack of guidance regarding the application of risk factors has had the effect of stifling innovation in regard to trying new types of crash countermeasures.

The High Risk Rural Roads Program is ineffective and should be abandoned. It's far more likely that HSIP funds are used to make safety improvements on rural local roads. The requirement to tie safety improvement funds to roadway functional class makes it very difficult for rural local agencies to qualify their typical types of projects for this fund. In addition, many local roads lack accurate volume data making a comparison of crash rate averages a difficult task. Analysis of current severe crash trends has not indicated a difference that can be directly attributed to the HRRRP. A suggestion, or requirements in the HSIP that a minimum of 5% of program funds be directed to safety improvements on low volume rural roads would likely be just as effective in combating severe crash outcomes on these road types.

INDOT plans to engage with interested LPA and MPO entities to look for new project alternatives to address risk on mid to high speed local roads, and new methodologies to address cost effectiveness analysis. In addition we are hopeful that new guidance regarding the application of crash risk will result in more flexibility regarding project eligibility.

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

INDOT has developed an Asset Management system to address the need for safety improvement actions, the cost effectiveness and relative priority of projects that should greatly improve the selection and production of high value safety projects moving forward. Candidate safety projects undergo weighted scoring that emphasizes the elimination of high severity crash types and construction of a cost effective solution.

Reduction of severe crashes (fatal and incapacitating injury) are primary program goals but the current available analysis tools are designed to consider all injury crashes to be severe so fatal and injury crashes are used for prioritization of countermeasure proposals. For most crash studies conducted at specific locations (sites) property damage data is also used to reveal a complete picture of prevailing crash patterns. For sites on the INDOT system and in most local urban areas, traffic volume data is available to establish nominal and substantive crash rates. Unfortunately, most rural local roads lack recent volume data so a crash loss index was developed under a joint transportation research project with Purdue University. Socioeconomic data and road characteristics are used to develop a local expected road crash loss and crash loss density that is compared to existing crash history to determine relative safety need at a site or road segment. Prior to project programming an “On-site” investigation is performed for all crash studies using Road Safety Audit principles to determine if or how the road’s design and maintenance characteristics influence crashes and to establish an appropriate and effective set of countermeasures.

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
0902207 US 150 At Cross Street	Intersection geometry Auxiliary lanes - modify left-turn lane offset	1 Numbers	811104	965798	HSIP (Section 148)	Rural Major Collector	14120	55	State Highway Agency	Improving the design and operation of highway intersections	Collisions at signalized intersections
100867 SR 56, .8 Miles E of Thuermer Hollow Road.	Alignment Horizontal curve realignment	1 Numbers	3725691	4574156	HSIP (Section 148)	Rural Principal Arterial - Other	7310	55	State Highway Agency	Keeping vehicles in the roadway	Collisions on Horizontal curves
101253 US 50, At George	Intersection geometry Auxiliary lanes - miscellaneous/other/uns	1 Numbers	437217	480721.45	HSIP (Section 148)	Urban Principal Arterial -	13700	55	State Highway	Improving the design and	Collisions at signalized intersectio

Street	pecified					Other			Agency	operation of highway intersections	ns
400458 US 50, George Street at CSX and US 50	Railroad grade crossings Railroad grade crossing gates	1 Numbers	674000	674000	HSIP (Section 148)	Urban Principal Arterial - Other	15210	55	State Highway Agency	Reducing vehicle-train crashes	Collisions involving Trains at Railroad-Highway Grade Crossings
1005693 US 52, CR 700 W	Intersection geometry Auxiliary lanes - miscellaneous/other/unspecified	1 Numbers	702828	1044208	HSIP (Section 148)	Urban Principal Arterial - Other	9960	55	State Highway Agency	Improving the design and operation of highway intersections	Collisions at un-signalized intersections
1005695 US 52, CR 700 W	Intersection traffic control Modify traffic signal - add additional signal heads	1 Numbers	110021	110021	HSIP (Section 148)	Urban Principal Arterial - Other	13060	55	State Highway Agency	Improving the design and operation of	Collisions at un-signalized intersections

										highway intersections	
710609 SR 61, 0.70 mi N of N jct SR 241	Alignment Horizontal and vertical alignment	1 Numbers	1113777	125611	HSIP (Section 148)	Rural Major Collector	2590	55	State Highway Agency	Keeping vehicles in the roadway	Run Off Road Collisions
810061 SR 8, From 1.05 miles E of I-69 to 2.32 miles E of I-69 in Auburn. See logs.	Intersection traffic control Modify traffic signal - modernization/replacement	1 Numbers	472397	475148	HSIP (Section 148)	Urban Principal Arterial - Other	9740	55	State Highway Agency	Improving the design and operation of highway intersections	Collisions at signalized intersections
1006219 Various Locations in the Fort Wayne District	Roadway delineation Raised pavement markers	1434 Miles	366682	366682	HSIP (Section 148)	multiple	0	0	State Highway Agency	Keeping vehicles in the roadway	Run Off Road Collisions
1297095 SR 38, SR 38 signals at (12th and Main	Intersection traffic control Modify traffic signal - modernization/replacem	2 Numbers	85272	85272	HSIP (Section 148)	Urban Principal Arterial - Other	8710	55	State Highway Agency	Improving the design and operation	Collisions at signalized intersectio

Street) New Castle	ent									of highway intersections	ns
0201343 SR 3, From Smith Street to US 50	Roadway Roadway widening - add lane(s) along segment	1 Miles	3452064.0222	4136166	HSIP (Section 148)	Urban Principal Arterial - Other	26200	55	State Highway Agency	Keeping vehicles in the roadway	Run Off Road Collisions
0810157 Various locations in the Crawfordsville District	Roadway delineation Raised pavement markers	813 Miles	207878	207878	HSIP (Section 148)	multiple	0	0	State Highway Agency	Keeping vehicles in the roadway	Run Off Road Collisions
0902207 US 150, At Cross Street	Intersection traffic control Modify traffic signal - modernization/replacement	1 Numbers	965197	965798	HSIP (Section 148)	Rural Major Collector	14120	55	State Highway Agency	Improving the design and operation of highway intersections	Collisions at signalized intersections
1005799 IR 1001,	Roadway signs and traffic control Roadway	332 Numb	36900	41000	HSIP (Sectio	Multiple	0	0	County Highwa	Increasing driver	Collisions at un-

Sign Replacements in Elkhart County	signs (including post) - new or updated	ers			n 148)				y Agency	safety awareness	signalized intersections
1173451 IR 1001, Sign Inventory, Various Locations in Lawrence County	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	45000	50000	HSIP (Section 148)	Multiple	0	0	County Highway Agency	Increasing driver safety awareness	Collisions at un-signalized intersections
1173395 VA VARI, Multiple locations in Brazil sign inventory	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	45000	50000	HSIP (Section 148)	Multiple	0	0	City of Municipal Highway Agency	Increasing driver safety awareness	Collisions at un-signalized intersections
1173523 IR 1001, Sign Inventory Shelby County	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	45000	50000	HSIP (Section 148)	Multiple	0	0	County Highway Agency	Increasing driver safety awareness	Collisions at un-signalized intersections

1006791 IR 1001, Update regulatory, warning & guide signs to meet MUTCD requirements	Roadway signs and traffic control Roadway signs (including post) - new or updated	2875 Numbers	376992	418881	HSIP (Section 148)	Multiple	0	0	County Highway Agency	Increasing driver safety awareness	Collisions at un-signalized intersections
1173450 IR 1001, Sign Inventory, Various Locations in Knox County	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	45000	50000	HSIP (Section 148)	Multiple	0	0	County Highway Agency	Increasing driver safety awareness	Collisions at un-signalized intersections
1172355 VA VARI, Various locations in Pike County	Roadway signs and traffic control Roadway signs (including post) - new or updated	4336 Numbers	549521	610580	HSIP (Section 148)	Multiple	0	0	County Highway Agency	Increasing driver safety awareness	Collisions at un-signalized intersections
1006022 VA VARI,	Roadway signs and traffic control Roadway	2945 Numb	498463	553848	HSIP (Sectio	Multiple	0	0	County Highwa	Increasing driver	Collisions at un-

Various systematic sign replacements on Johnson County Roads	signs (including post) - new or updated	ers			n 148)				y Agency	safety awarenes s	signalized intersectio ns
1006041 VA 1019, Various Systematic Sign Replacements	Roadway signs and traffic control Roadway signs (including post) - new or updated	1005 Numb ers	259027	287809	HSIP (Sectio n 148)	Multiple	0	0	City of Municip al Highwa y Agency	Increasin g driver safety awarenes s	Collisions at un-signalized intersectio ns
1173485 ST 1001, Sign Inventory in Bluffton	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numb ers	20250	22500	HSIP (Sectio n 148)	Multiple	0	0	City of Municip al Highwa y Agency	Increasin g driver safety awarenes s	Collisions at un-signalized intersectio ns
1173735 ST 1007, Various locations within the City of	Roadway signs and traffic control Roadway signs (including post) - new or updated	450 Numb ers	89640	99600	HSIP (Sectio n 148)	Multiple	0	0	City of Municip al Highwa y Agency	Increasin g driver safety awarenes s	Collisions at un-signalized intersectio ns

Salem											
1173545 IR 1001, Sign Inventory Blackford County	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	42120	46800	HSIP (Section 148)	Multiple	0	0	County Highway Agency	Improving the design and operation of highway intersections	Improving information and decision support systems
1006061 ST 1071, 206th St. at Overdorf Rd. intersection, 0.97 mi. W. of 206th/SR 37 intersection	Intersection geometry Intersection geometrics - miscellaneous/other/unspecified	1 Numbers	541996	602218	HSIP (Section 148)	Rural Major Collector	0	0	County Highway Agency	Improving the design and operation of highway intersections	Collisions at un-signalized intersections
1298004 VA VARI, City of Aurora,	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	0	25000	HSIP (Section 148)	Multiple	0	55	County Highway Agency	Improving the design and	Improving information and decision

Sign Inventory										operation of highway intersections	support systems
1173497 IR 1001, Sign Inventory in Huntington County	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	45000	50000	HSIP (Section 148)	Multiple	0	0	City of Municipal Highway Agency	Improving the design and operation of highway intersections	Improving information and decision support systems
1173106 ST 1033, 56th Street and Franklin Road	Roadside Barrier- metal	1 Numbers	22499	19000	HSIP (Section 148)	Urban Principal Arterial - Other	12400	55	City of Municipal Highway Agency	Keeping vehicles in the roadway	Minimizing the consequences of leaving the roadway
1297198 ST 1007, Sign inventory for the Town of	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	21465	23850	HSIP (Section 148)	Multiple	0	0	County Highway Agency	Improving the design and operation of	Increasing driver safety awareness

Gosport										highway intersections	
1173494 ST 1001, Sign Inventory in Montpelier	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	31500	35000	HSIP (Section 148)	Multiple	0	45	City of Municipal Highway Agency	Improving the design and operation of highway intersections	Improving information and decision support systems
1173642 ST 1001, Sign Inventory in Converse	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	27000	30000	HSIP (Section 148)	Multiple	0	0	Town or Township Highway Agency	Improving the design and operation of highway intersections	Improving information and decision support systems
1006383 VA 1033, Upgrade regulatory, warning & guide	Roadway signs and traffic control Roadway signs (including post) - new or updated	896 Numbers	89626	99584	HSIP (Section 148)	Multiple	0	0	City of Municipal Highway Agency	Improving the design and operation of	Increasing driver safety awareness

signs to meet MUTCD requirements										highway intersections	
1173449 ST 1001, Sign Inventory, Various Locations in the City of Vincennes	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	36900	41000	HSIP (Section 148)	Multiple	0	0	City of Municipal Highway Agency	Improving the design and operation of highway intersections	Improving information and decision support systems
1173466 ST 1001, Sign Inventory, Various Locations, City of Sullivan	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	18000	20000	HSIP (Section 148)	Multiple	0	0	Town or Township Highway Agency	Improving the design and operation of highway intersections	Improving information and decision support systems
1173548 VA VARI, Sign inventory,	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	45000	50000	HSIP (Section 148)	Multiple	0	0	City of Municipal Highwa	Improving the design and	Improving information and decision

multiple locations in Lebanon									y Agency	operation of highway intersections	support systems
1005900 ST 1001, Various city streets in Bicknell	Roadway signs and traffic control Roadway signs (including post) - new or updated	994 Numbers	148636	165152	HSIP (Section 148)	Multiple	0	0	City of Municipal Highway Agency	Improving the design and operation of highway intersections	Increasing driver safety awareness
1172004 ST 1001, Sign Replacements at various locations in City of Auburn	Roadway signs and traffic control Roadway signs (including post) - new or updated	1189 Numbers	181161	201291	HSIP (Section 148)	Multiple	0	0	City of Municipal Highway Agency	Improving the design and operation of highway intersections	Increasing driver safety awareness
1297182 IR 1006, Various locations	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	45000	50000	HSIP (Section 148)	Multiple	0	0	City of Municipal Highwa	Improving the design and	Improving information and decision

within Scott County									y Agency	operation of highway intersections	support systems
1173459 VA 1012, Various locations within the City of Madison	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	45000	50000	HSIP (Section 148)	Multiple	0	0	City of Municipal Highway Agency	Improving the design and operation of highway intersections	Improving information and decision support systems
1173675 ST 1009, Various locations within the City of Batesville	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	45000	50000	HSIP (Section 148)	Multiple	0	0	City of Municipal Highway Agency	Improving the design and operation of highway intersections	Improving information and decision support systems
1006068 VA 0037, Various locations	Roadway signs and traffic control Roadway signs (including post) - new or updated	257 Numbers	36999	41110	HSIP (Section 148)	Multiple	0	0	County Highway Agency	Improving the design and	Increasing driver safety awareness

throughout the Town of Battle Ground										operation of highway intersections	
1006567 ST 1030, 7th Street (IR311) & Davis Dr. (IR158) in Terre Haute	Intersection geometry Auxiliary lanes - miscellaneous/other/unspecified	1 Numbers	294738	327487	HSIP (Section 148)	Urban Local Road or Street	0	45	Town or Township Highway Agency	Improving the design and operation of highway intersections	Collisions at un-signalized intersections
1172484 IR 1019, Roundabout construction at the intersection of CR 625E and CR 150S.	Intersection traffic control Modify control - all-way stop to roundabout	1 Numbers	844309	938123	HSIP (Section 148)	Urban Major Collector	0	55	County Highway Agency	Improving the design and operation of highway intersections	Collisions at un-signalized intersections
1173167 ST 1001, Pedestrian	Pedestrians and bicyclists Install new crosswalk	2 Numbers	137159	152400	HSIP (Section 148)	Multiple	0	0	City of Municipal	Making walking and	Collisions involving Pedestrian

Crossings in Center and Washington Townships									Highway Agency	street crossing easier	s
1172485 VA VARI, Various	Roadway signs and traffic control Roadway signs (including post) - new or updated	900 Numbers	90000	100000	HSIP (Section 148)	Multiple	0	0	City of Municipal Highway Agency	Improving the design and operation of highway intersections	Increasing driver safety awareness
1005760 ST 1001, Citywide. The attached application lists all of the signs that will be replaced	Roadway signs and traffic control Roadway signs (including post) - new or updated	167 Numbers	16650	18500	HSIP (Section 148)	Multiple	0	0	Town or Township Highway Agency	Improving the design and operation of highway intersections	Increasing driver safety awareness
1173490	Roadway signs and	1	45000	50000	HSIP	Multiple	0	45	City of	Improvin	Improving

ST 1001, Union City sign inventory	traffic control Roadway signs (including post) - new or updated	Numbers			(Section 148)				Municipal Highway Agency	g the design and operation of highway intersections	information and decision support systems
1173510 VA 1033, Sign inventory for Town of Eaton	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	12150	13500	HSIP (Section 148)	Multiple	0	45	Town or Township Highway Agency	Improving the design and operation of highway intersections	Improving information and decision support systems
1173512 IR 1001, Sign inventory Randolph County	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	45000	50000	HSIP (Section 148)	Multiple	0	45	City of Municipal Highway Agency	Improving the design and operation of highway intersections	Improving information and decision support systems
1173521	Roadway signs and	1	27000	30000	HSIP	Multiple	0	0	County	Improvin	Improving

VA VARI, Sign Invetory Town of Centerville	traffic control Roadway signs (including post) - new or updated	Numbers			(Section 148)				Highway Agency	g the design and operation of highway intersections	information and decision support systems
1173487 ST 1001, Sign Inventory in Churubusco	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	27000	30000	HSIP (Section 148)	Multiple	0	0	City of Municipal Highway Agency	Improving the design and operation of highway intersections	Improving information and decision support systems
1173486 IR 1001, Fayette County sign inventory	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	45540	50600	HSIP (Section 148)	Multiple	0	0	City of Municipal Highway Agency	Improving the design and operation of highway intersections	Improving information and decision support systems
1005843	Intersection traffic	2	68128	75798	HSIP	Urban	0	0	County	Improvin	Collisions

IR 1027, CR 20 from CR 7 to Minuteman Drive, Signal upgrades	control Modify traffic signal - modernization/replacement	Numbers			(Section 148)	Minor Arterial			Highway Agency	g the design and operation of highway intersections	at signalized intersections
1006052 VA VARI, Various sign locations in the Town of Zionsville	Roadway signs and traffic control Roadway signs (including post) - new or updated	381 Numbers	38184	42426	HSIP (Section 148)	Urban Local Road or Street	0	45	Town or Township Highway Agency	Improving the design and operation of highway intersections	Increasing driver safety awareness
1006067 VA 0037, Various locations throughout the Town of Clarks Hill	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	12000	12000	HSIP (Section 148)	Urban Local Road or Street	0	55	City of Municipal Highway Agency	Improving the design and operation of highway intersections	Collisions at un-signalized intersections
1172159	Roadway signs and	900	90000	100000	HSIP	Multiple	0	0	Town or	Improvin	Increasing

IR 1001, Various Roads in Hancock County outside of the Indianapolis MPA & Anderson MPA	traffic control Roadway signs (including post) - new or updated	Numbers			(Section 148)				Township Highway Agency	g the design and operation of highway intersections	driver safety awareness
1173509 ST 1001, Sign Inventory in Hartford City	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	35280	39200	HSIP (Section 148)	Multiple	0	0	County Highway Agency	Improving the design and operation of highway intersections	Improving information and decision support systems
1173227 ST 1001, Various locations within the City of Greenwoo	Roadside Barrier- metal	3 Numbers	35100	39000	HSIP (Section 148)	Multiple	0	0	Town or Township Highway Agency	Improving the design and operation of highway intersecti	Minimizing the consequences of leaving the roadway

d										ons	

Progress in Achieving Safety Performance Targets

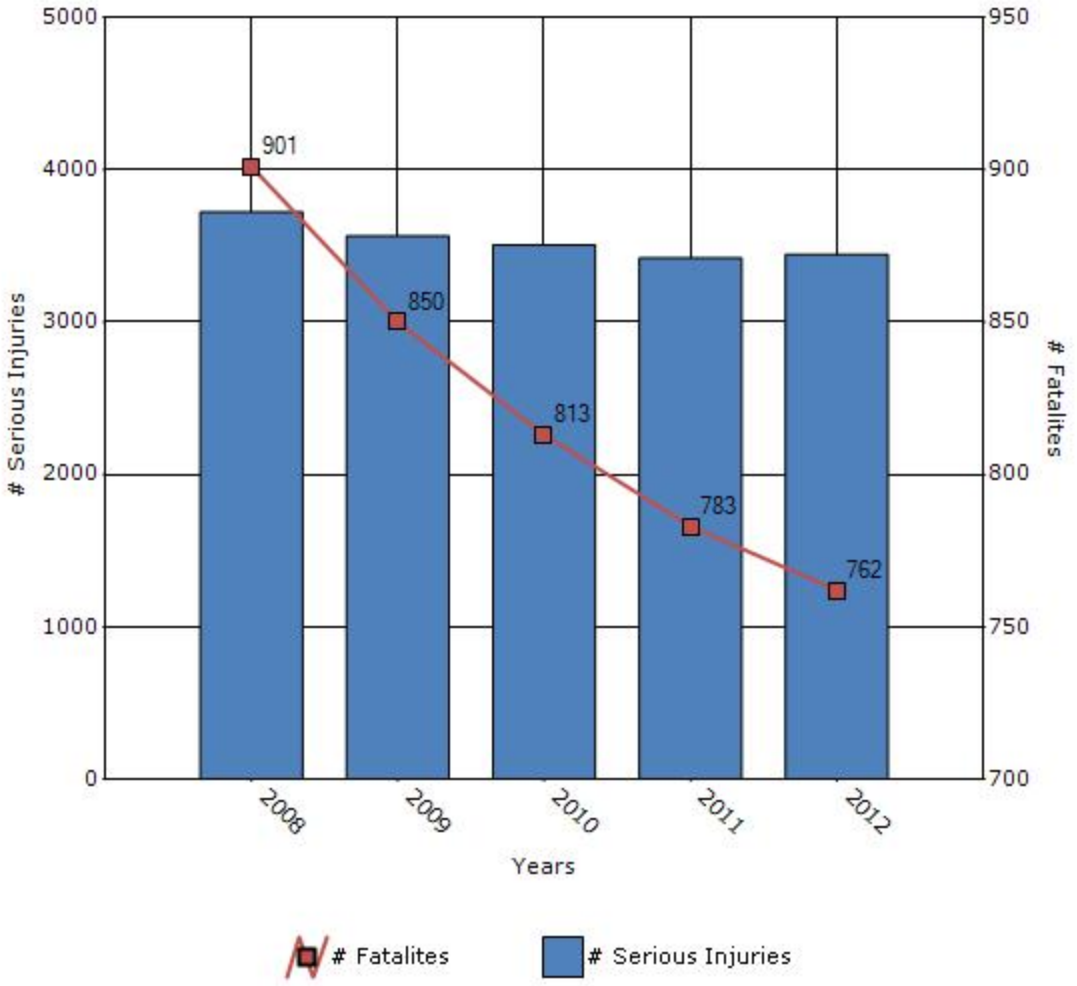
Overview of General Safety Trends

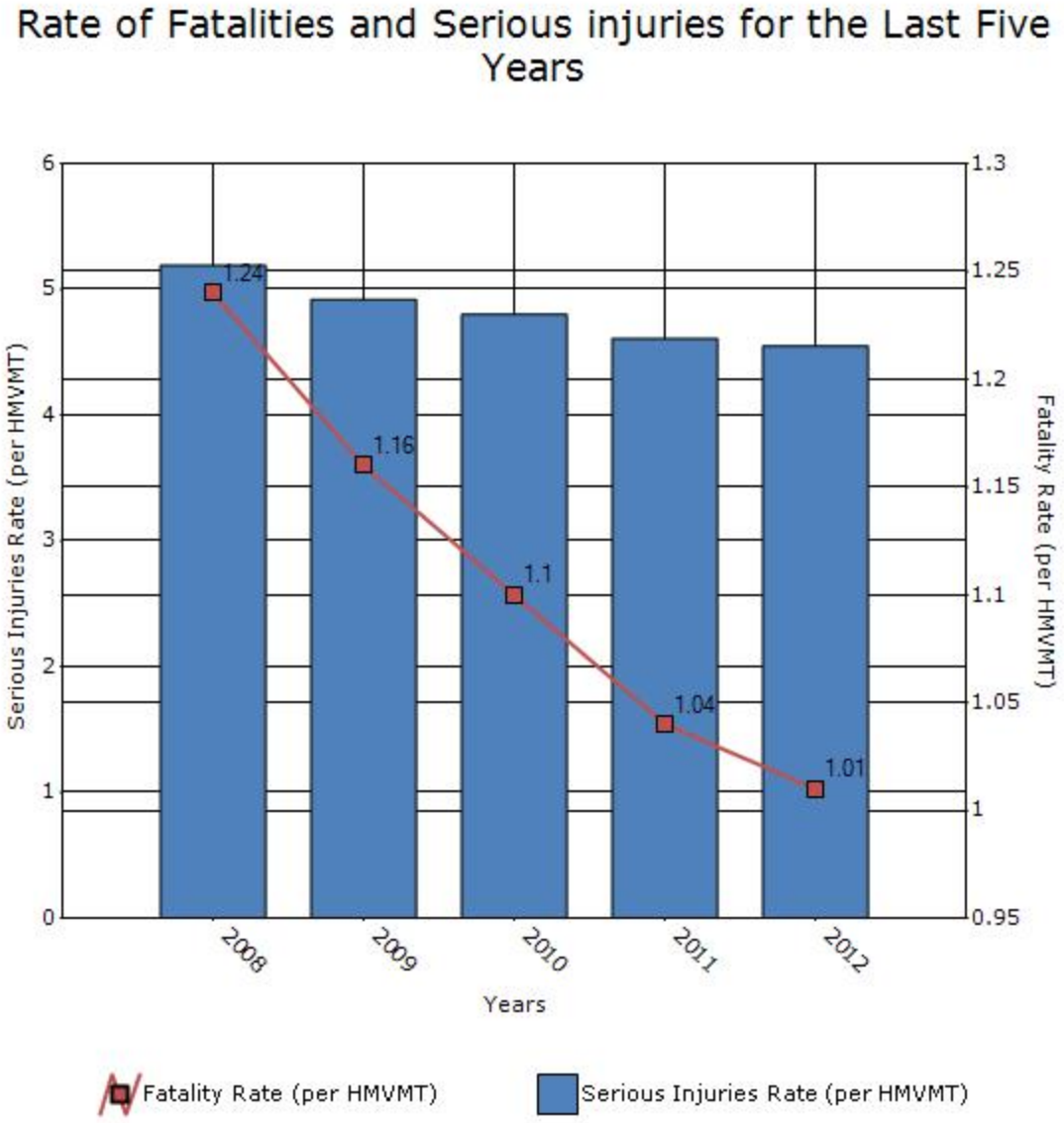
Present data showing the general highway safety trends in the state for the past five years.

Performance Measures*	2008	2009	2010	2011	2012
Number of fatalities	901	850	813	783	762
Number of serious injuries	3721	3563	3505	3419	3444
Fatality rate (per HMVMT)	1.24	1.16	1.1	1.04	1.01
Serious injury rate (per HMVMT)	5.19	4.92	4.8	4.61	4.55

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

Number of Fatalities and Serious injuries for the Last Five Years



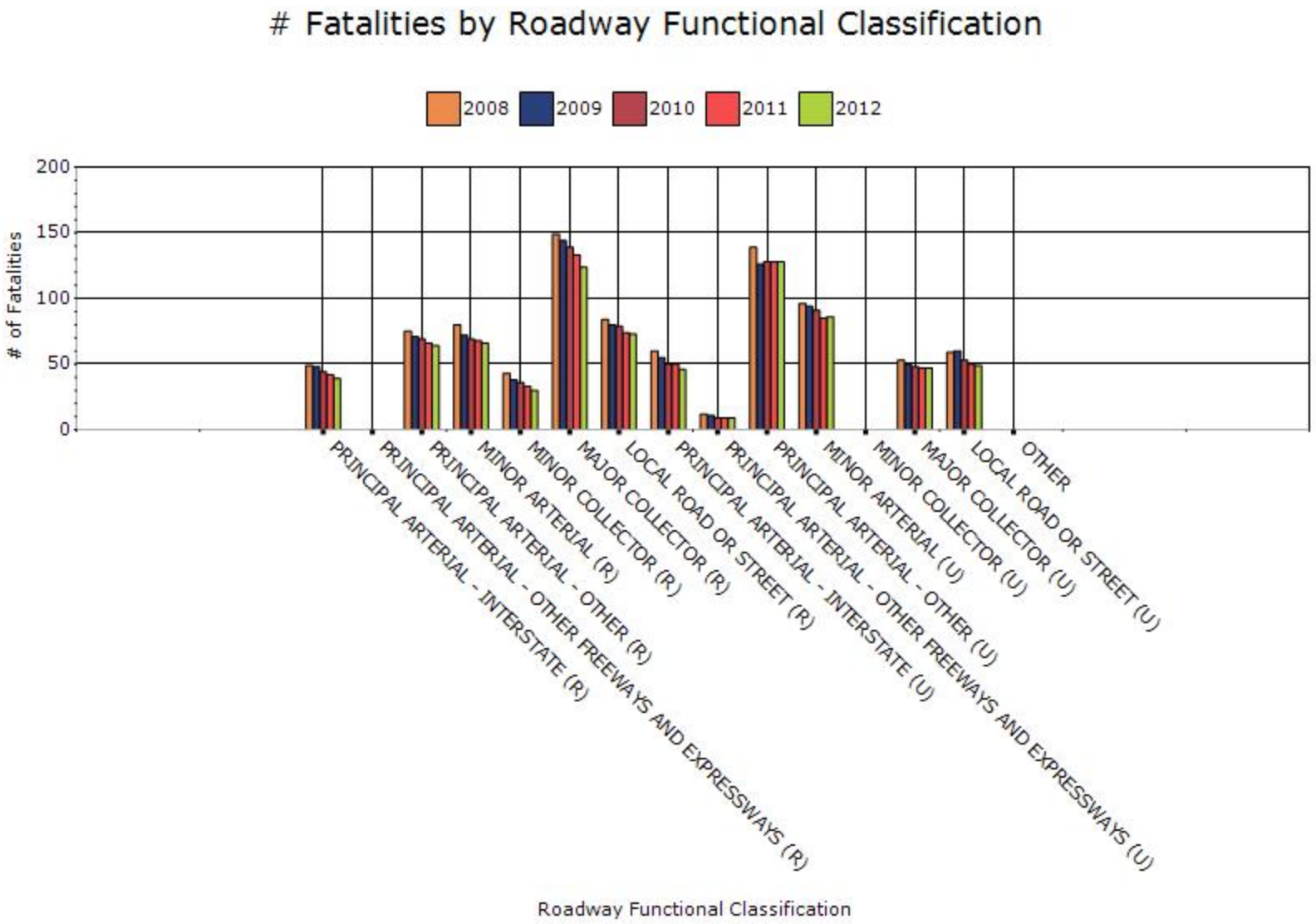

Rate of Fatalities and Serious injuries for the Last Five Years
Serious Injuries Rate (per HMVMT)
Fatality Rate (per HMVMT)
Years
1.24
1.16
1.1
1.04
1.01
2008
2009
2010
2011
2012
Fatality Rate (per HMVMT)
Serious Injuries Rate (per HMVMT)

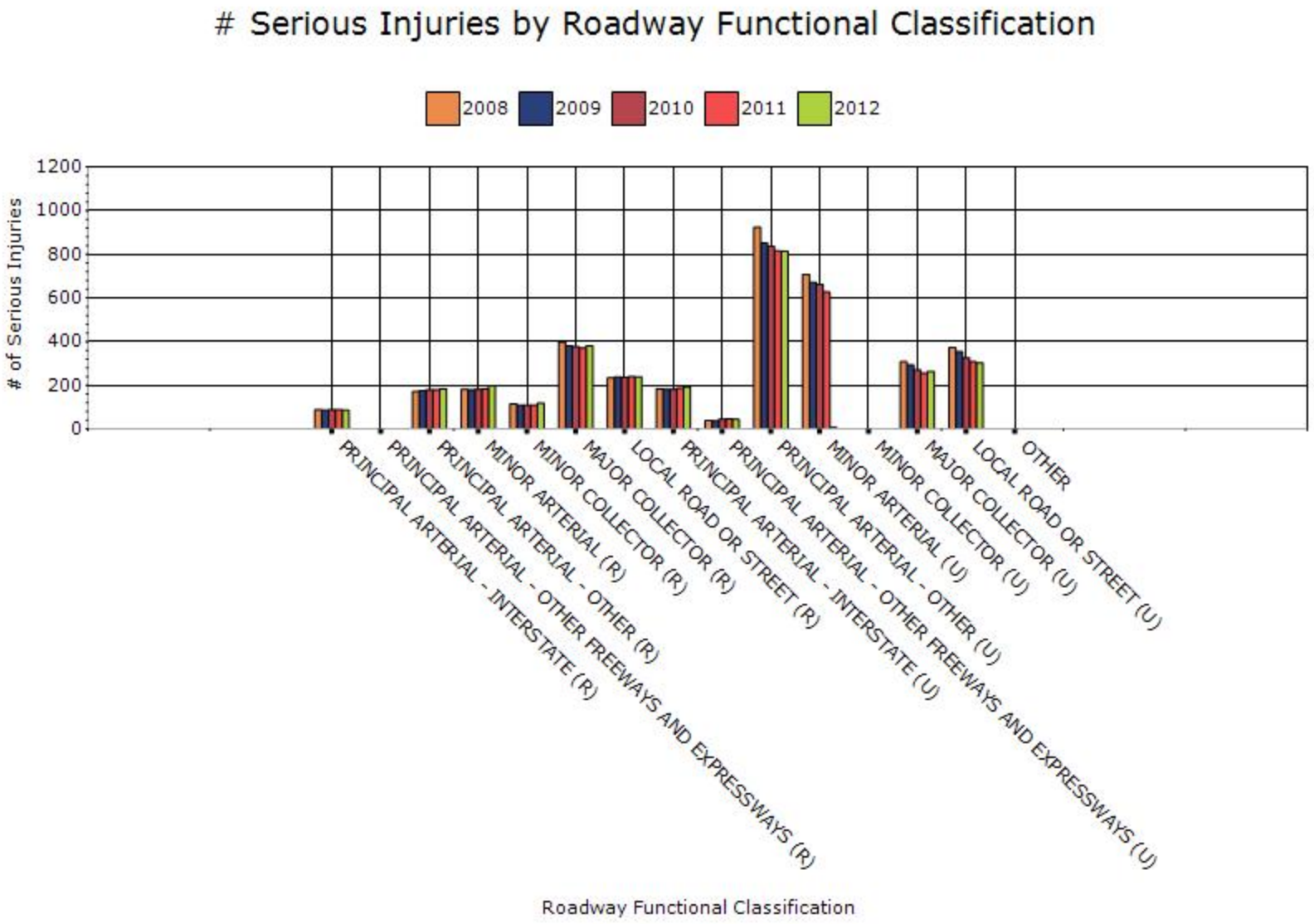
To the maximum extent possible, present performance measure* data by functional classification and ownership.

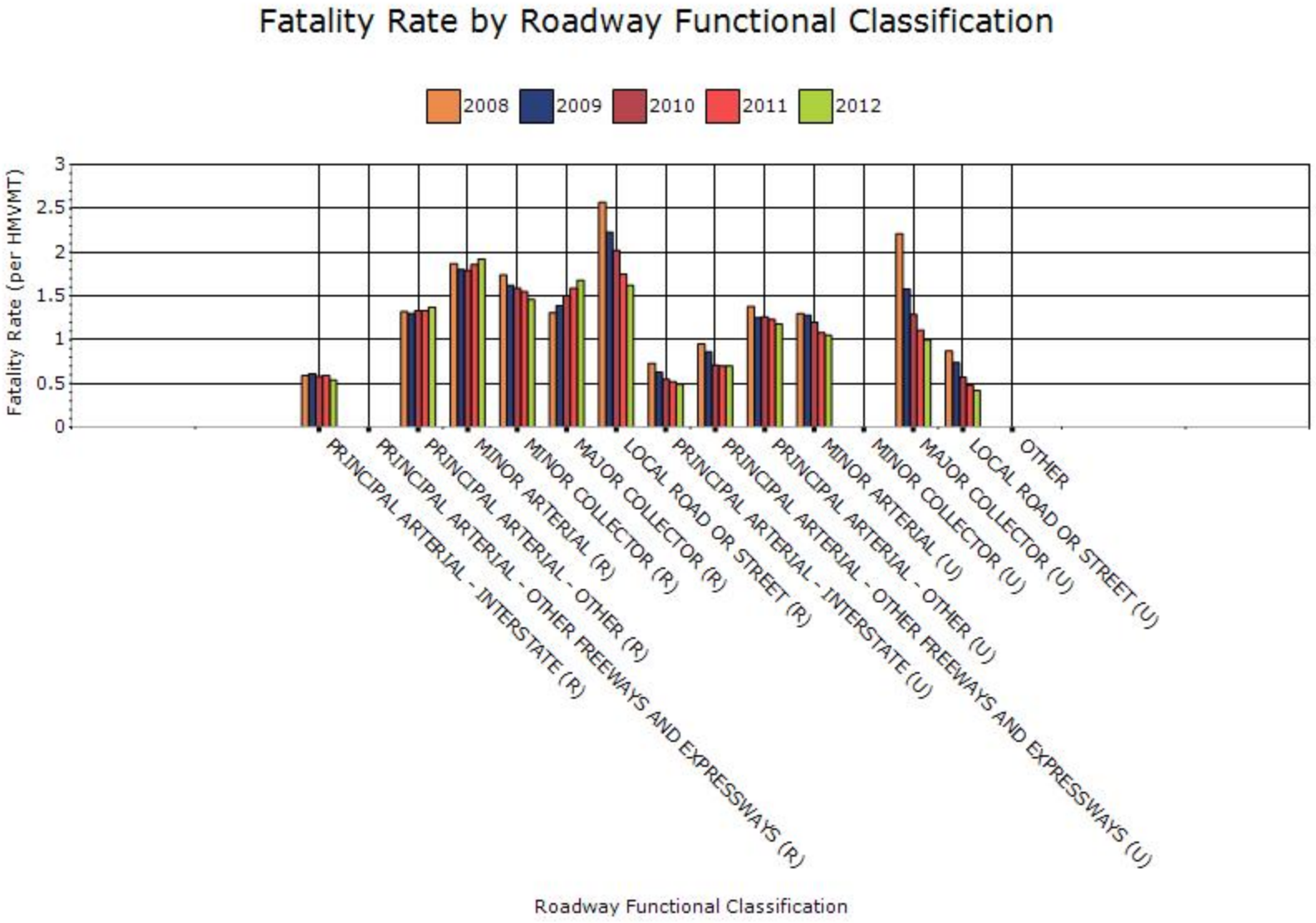
Year - 2012

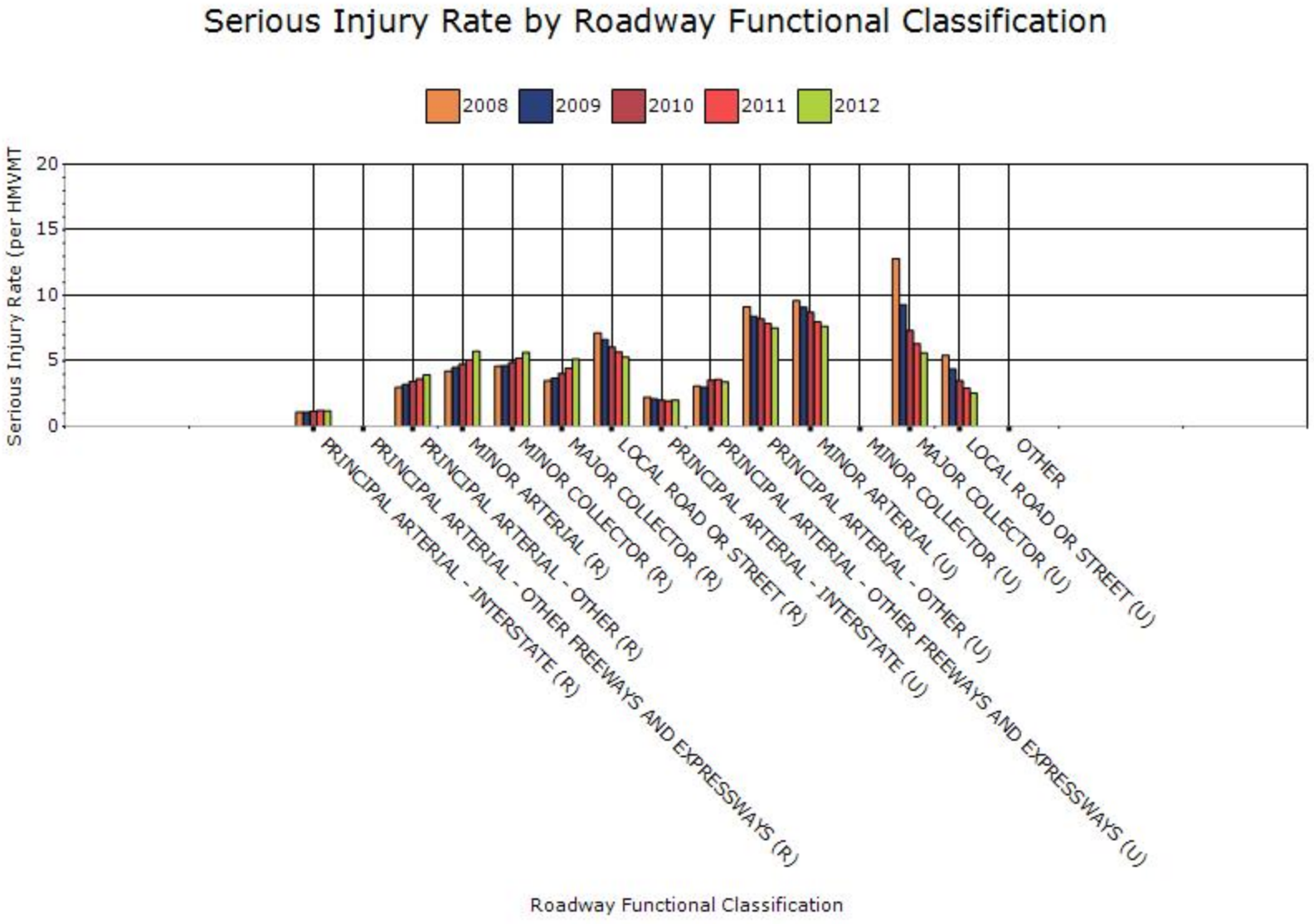
Function Classification	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
RURAL PRINCIPAL ARTERIAL - INTERSTATE	39	86	0.54	1.19
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	0	0	0	0
RURAL PRINCIPAL ARTERIAL - OTHER	64	184	1.37	3.94
RURAL MINOR ARTERIAL	66	198	1.92	5.74
RURAL MINOR COLLECTOR	30	118	1.46	5.66
RURAL MAJOR COLLECTOR	124	381	1.68	5.15
RURAL LOCAL ROAD OR STREET	73	239	1.62	5.3
URBAN PRINCIPAL	46	193	0.49	2.02

ARTERIAL - INTERSTATE				
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	9	45	0.7	3.41
URBAN PRINCIPAL ARTERIAL - OTHER	128	813	1.18	7.53
URBAN MINOR ARTERIAL	86	6	1.05	7.63
URBAN MINOR COLLECTOR	0	0	0	0
URBAN MAJOR COLLECTOR	47	263	1	5.61
URBAN LOCAL ROAD OR STREET	49	303	0.42	2.56
OTHER	0	0	0	0
OTHER	0	0	0	0


Fatalities by Roadway Functional Classification
2008
2009
2010
2011
2012
# of Fatalities
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
1200
1000
800
600
400
200
0
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)
LOCAL ROAD OR STREET (R)
PRINCIPAL ARTERIAL - INTERSTATE (U)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (U)
PRINCIPAL ARTERIAL - OTHER (U)
MINOR ARTERIAL (U)
MINOR COLLECTOR (U)
MAJOR COLLECTOR (U)
LOCAL ROAD OR STREET (U)
OTHER
Roadway Functional Classification

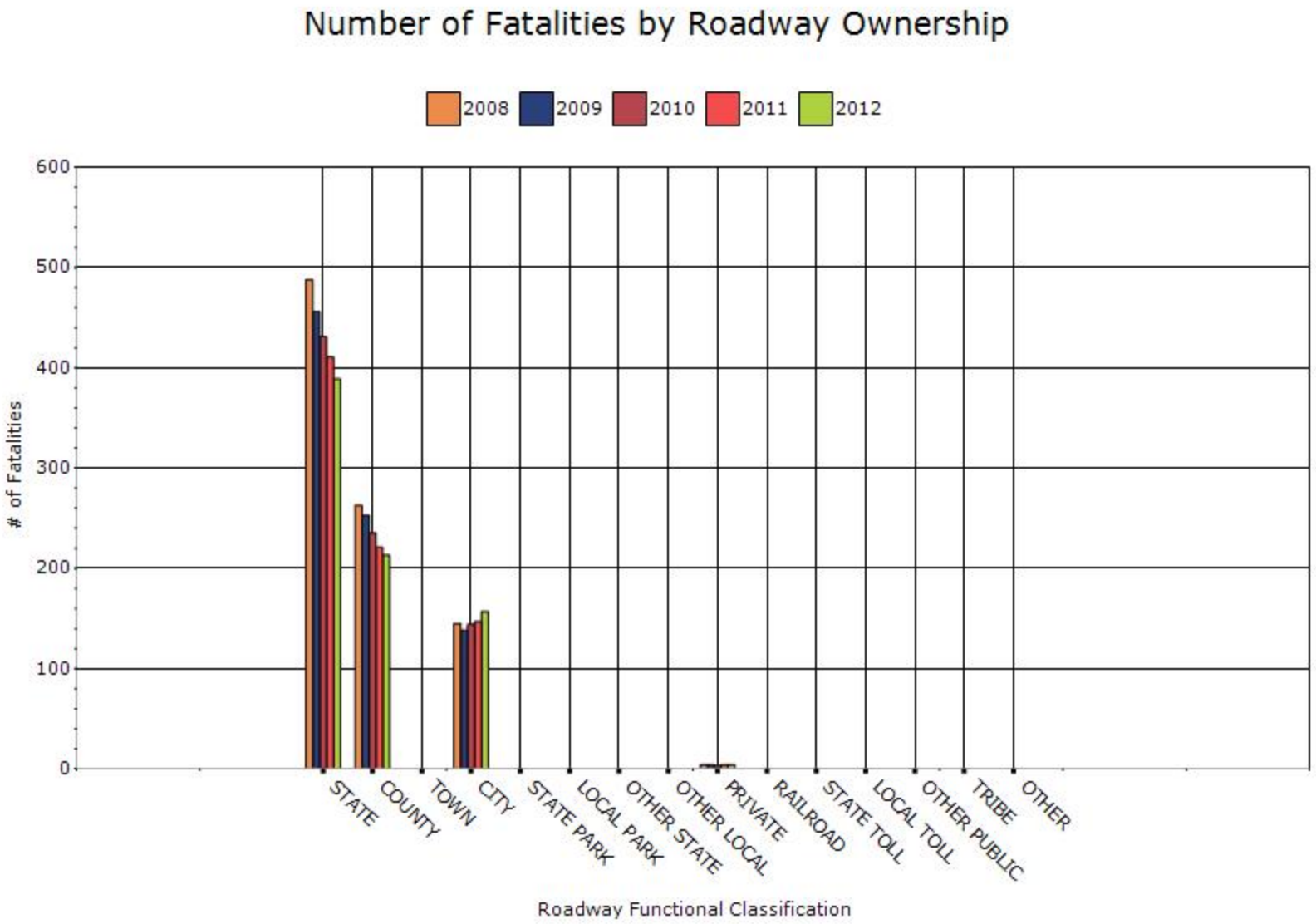

Fatality Rate by Roadway Functional Classification
2008
2009
2010
2011
2012
Fatality Rate (per HMVMT)
3
2.5
2
1.5
1
0.5
0
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)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

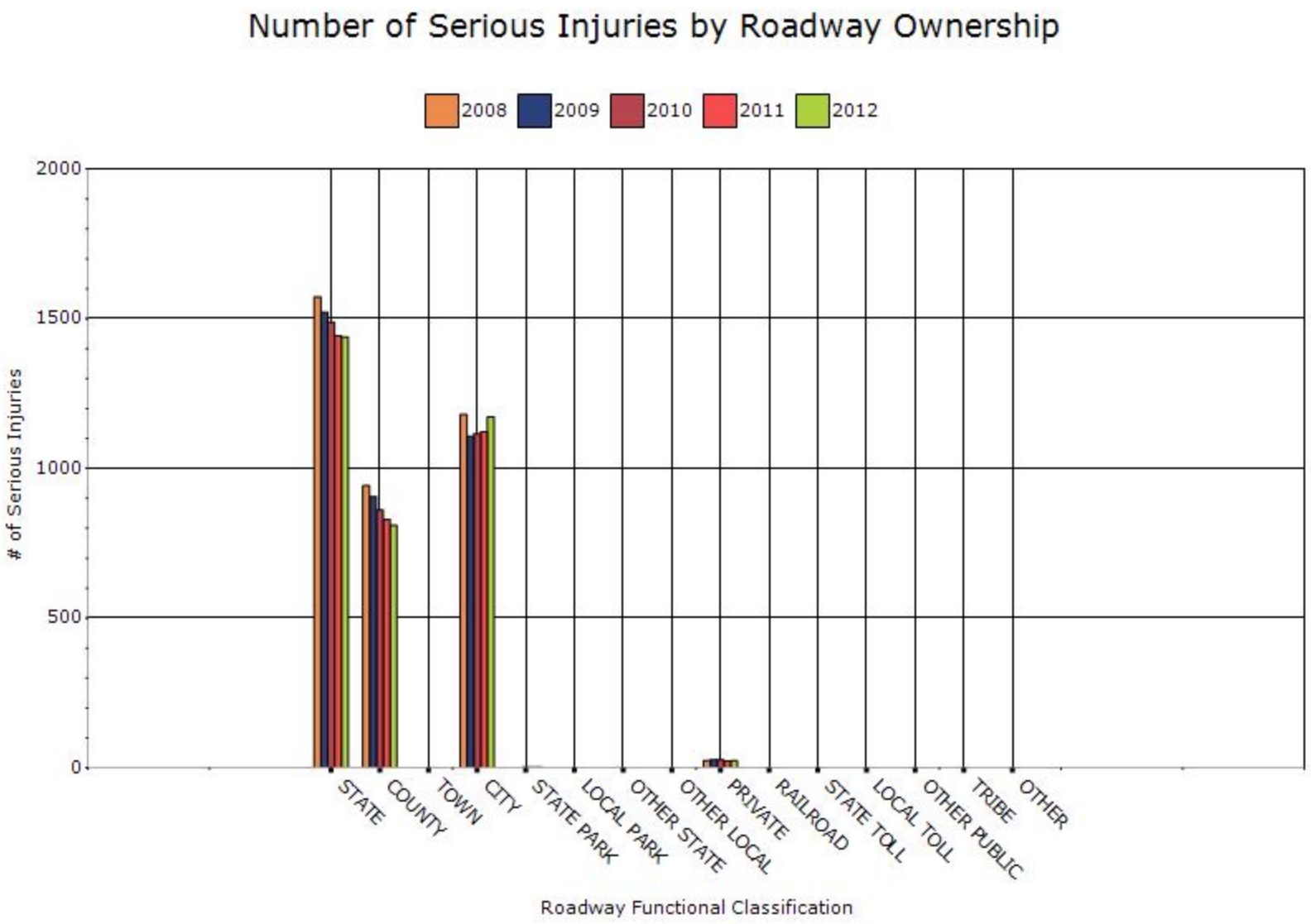

Serious Injury Rate by Roadway Functional Classification
2008
2009
2010
2011
2012
Serious Injury Rate (per HMVMT
20
15
10
5
0
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR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

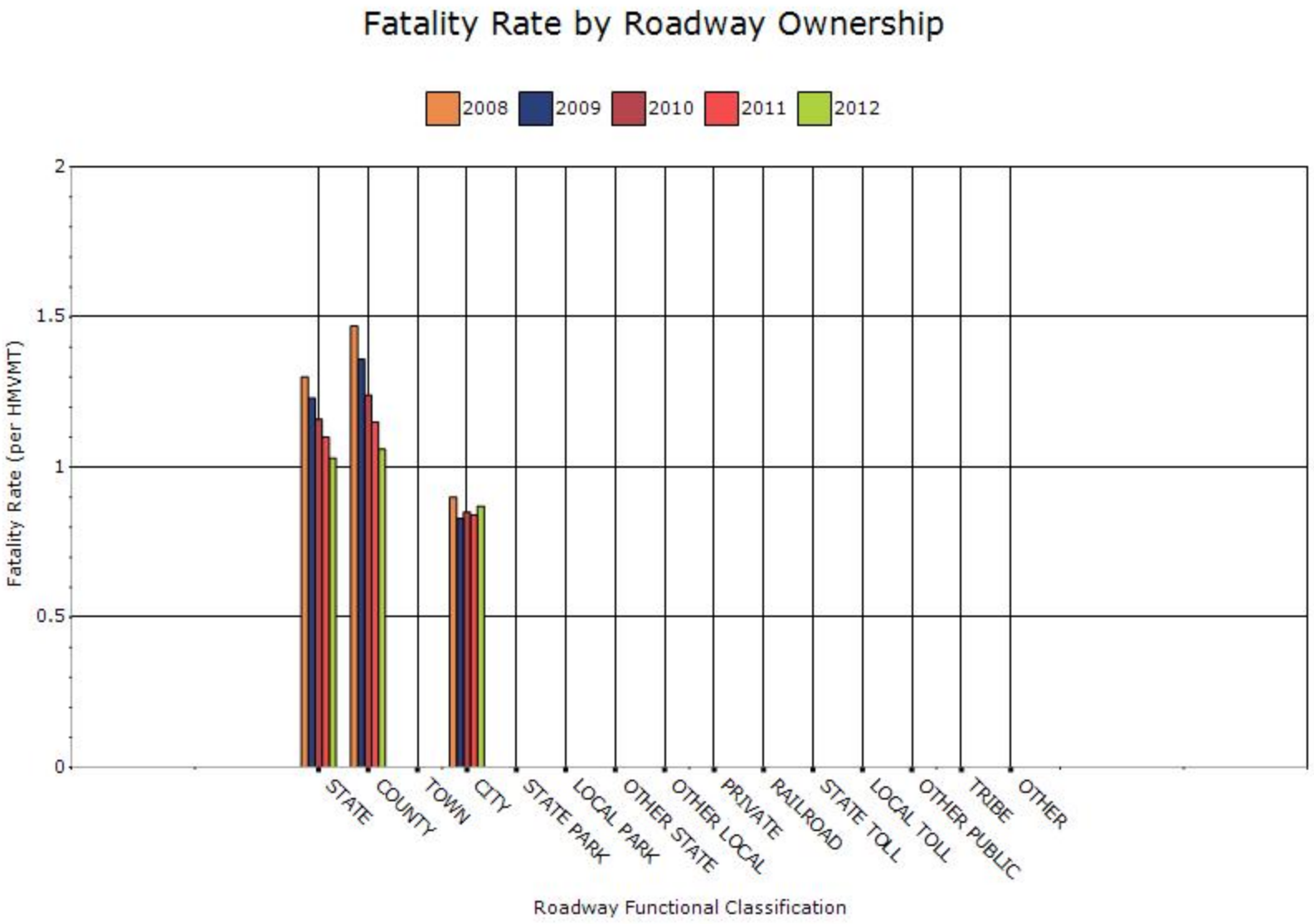
Year - 2012

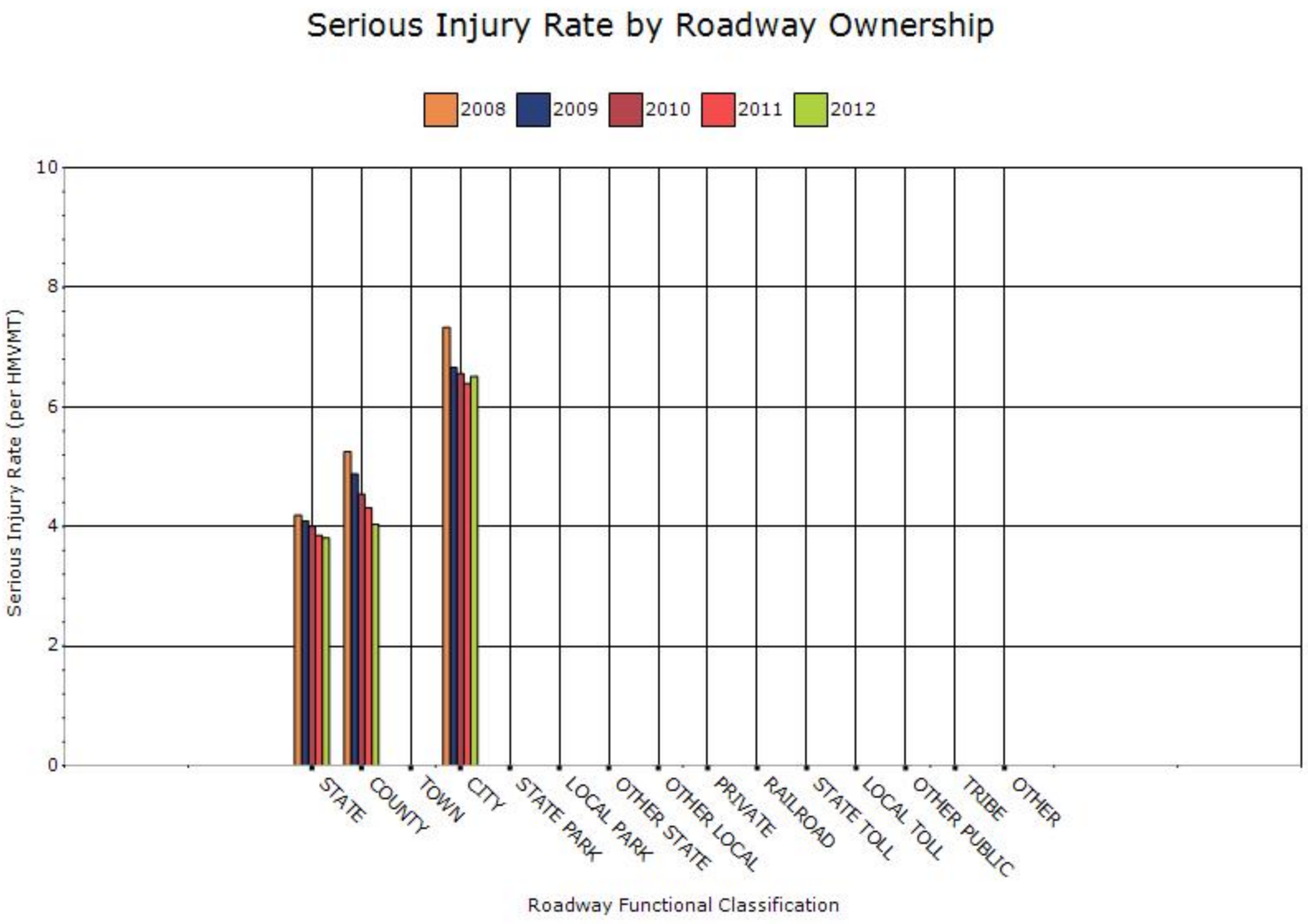
Roadway Ownership	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
STATE HIGHWAY AGENCY	389	1439	1.03	3.81
COUNTY HIGHWAY AGENCY	213	810	1.06	4.04
TOWN OR TOWNSHIP HIGHWAY AGENCY	0	0	0	0
CITY OF MUNICIPAL HIGHWAY AGENCY	157	1172	0.87	6.51
STATE PARK, FOREST, OR RESERVATION AGENCY	0	2	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)	4	24	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
600
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
2000
1500
1000
500
0
# of Serious Injuries
STATE
COUNTY
TOWN
CITY
STATE PARK
LOCAL PARK
OTHER STATE
OTHER LOCAL
PRIVATE
RAILROAD
STATE TOLL
LOCAL TOLL
OTHER PUBLIC
TRIBE
OTHER
Roadway Functional Classification


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


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

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

Statewide 2012 crash data shows that Indiana came close to meeting, but did not exceed the four performance goals outlined in the SHSP. Severe crashes on rural roads experienced a large spike in the spring and early summer of 2012, while severe crashes in urban areas continued on a downward trend. While there is no confirmed explanation for the one year increase, data from the first half of 2013 indicates that crash patterns in both urban and rural areas have returned to a more typical downward trend.

Crashes resulting from vehicle departure from the travel lanes, (including roadway departure, head-on and opposite direction sideswipe) continue to be the most harmful type of events. After discovery and correction of an error that caused an over count of head on events, the average percentage of fatalities resulting from single vehicle lane departures make up 46% of all 2012 Indiana motor vehicle fatalities, and the most recent 5 year rolling average is 49%. As a result, INDOT has developed several systemic improvement types aimed at reducing the incidence and consequences of lane departure crashes.

Fatalities as a result of intersection crashes make up the second worst type of harmful event. In 2012 intersection fatalities again contributed 22% of the 2012 traffic fatality total. In response, INDOT is advancing systemic improvements to increase the visibility of both signalized and unsignalized intersections. INDOT is also placing increased emphasis on timely modernization of traffic signals, and increased use of innovative intersection types to reduce traffic conflicts; such as Roundabouts, J Turns and Michigan Left Turn designs.

Indiana is also concerned with the incidence of fatalities involving vulnerable road users such as pedestrians, bicycle and motorcycle riders, and is working with our partners on education efforts. The percentage of pedestrian fatalities was at 8.9%, representing a 0.47% increase over the previous 5 year rolling average. The percentage of fatalities that involve bicyclists held steady 1.8% of the 5 year rolling average. Motorcycle and moped crashes in 2012 experienced an increase of 33 fatalities over 2011 totals. In terms of the 5 year rolling average, the percentage of all fatalities is 17.8%.

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	2008	2009	2010	2011	2012

Performance Measures					
Fatality rate (per capita)	0	0.69	0.86	0.8	0
Serious injury rate (per capita)	0	1.82	1.9	2.1	0
Fatality and serious injury rate (per capita)	0	2.73	2.66	2.67	0

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

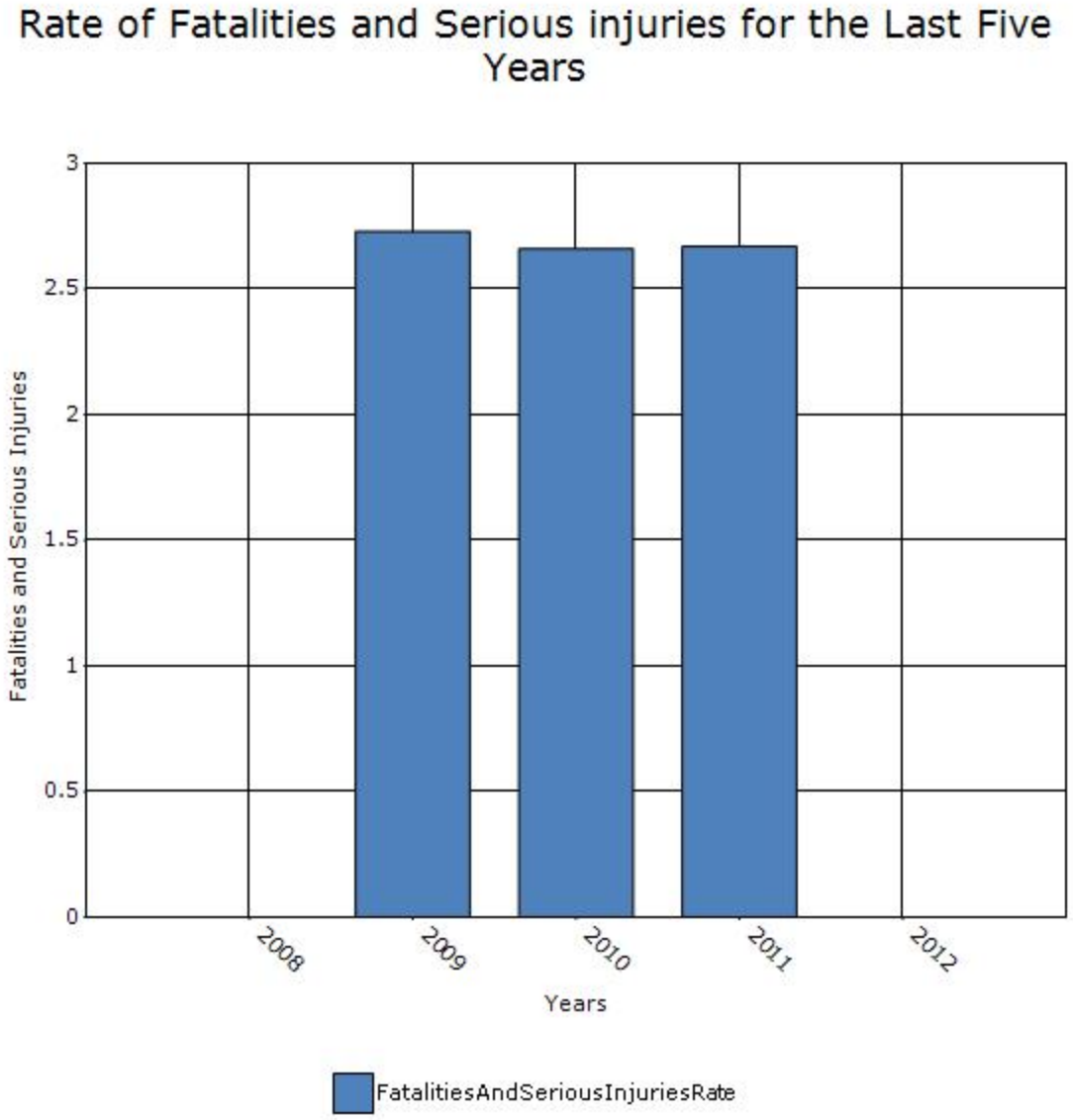
FARS Fatalities+Serious Injuries/FHWA Population Totals per capita per year averaged over 5 years = 5-Year Average of Fatalities and Serious Injuries for Drivers and Pedestrians 65+ years of age

CALCULATED RATE FOR 2011: ((100+269/131)+(112+247/130)+(89+235/129)+(77+249/128)+(112+229/125))/5=2.6723671 = 2.7

CALCULATED RATE FOR 2009: ((89+235/129)+(77+249/128)+(112+22

9/125)+(92+248/12
4)+(98+273/112))/5
= 2.7292171 = 2.7

2011 Rate Equals
the 2009 Rate



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-Encouragement for LPAs to increase programming of systemic improvements

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

Due to organizational changes at INDOT, that place administration of all local project under the Division of LPA & Grant Administration, greater emphasis has been placed on MPOs to make good choices in selecting safety improvements for HSIP funding. As a result INDOT has requested each of the Indiana MPOs to submit a document describing the data driven process that will be used by the MPO to select candidate projects. The submitted procedures are reviewed for approval by the multi-agency Highway Safety Advisory Committee (HSAC). These individual MPO developed process documents will give the local agencies a clear set of criteria when applying for funding, at the same time allowing for local input into the project selection process, and improving the ability of INDOT or FHWA to conduct future process reviews.

The HSIP program began with a strong emphasis on addressing hot spots, discovered during SAFETEA-LU through the Five Percent Transparency Report. Under MAP-21, the numbers of systemic safety improvements that have been programmed have increased to become a significant part of the planned safety capital asset project class on roads under the jurisdiction of INDOT. To further encourage the LPA community to improve safety on the local road systems, INDOT has recently released the following expanded list of low cost systemic safety improvement types:

1. Conduct inventory of traffic signs and upgrade warning & regulatory signs to meet MUTCD retroreflectivity requirements
2. Upgrade traffic signals to a minimum of one signal head per travel lane
3. Install black backing plates with reflective border on all traffic signal heads.
4. Make changes to yellow interval traffic signal timing or signal interconnect to improve safety
5. Install pedestrian push button and countdown heads on traffic signals
6. Install new pedestrian crosswalk warning signs, flashing beacons, special pavement markings
7. Upgrade guardrail end treatments to current standards
8. Install or upgrade passive or new active warning device at railroad crossings
9. Improve visibility of intersections by providing lighting
10. Install guardrails or median barrier at locations where none existed before
11. Install or upgrade pedestrian curb ramps and refuge areas at areas of high conflict between pedestrians and vehicular traffic
12. Improve visibility of unsignalized intersections by installing upgraded/new warning devices
13. Install new centerline or edgeline pavement markings on unmarked roadways
14. Add centerline and/or edgeline rumble stripes (pavement marking over rumble) to rural public roads with speed limit $\geq$ 50 mph

15. Add FHWA recommended High Friction Surface Treatments (HFST) to spot locations
16. Improve the visibility of curves by upgrading curve warning signs and markings
17. Install median cable barrier system on divided roads with grass median
18. Remove or shield permanent roadside safety obstructions

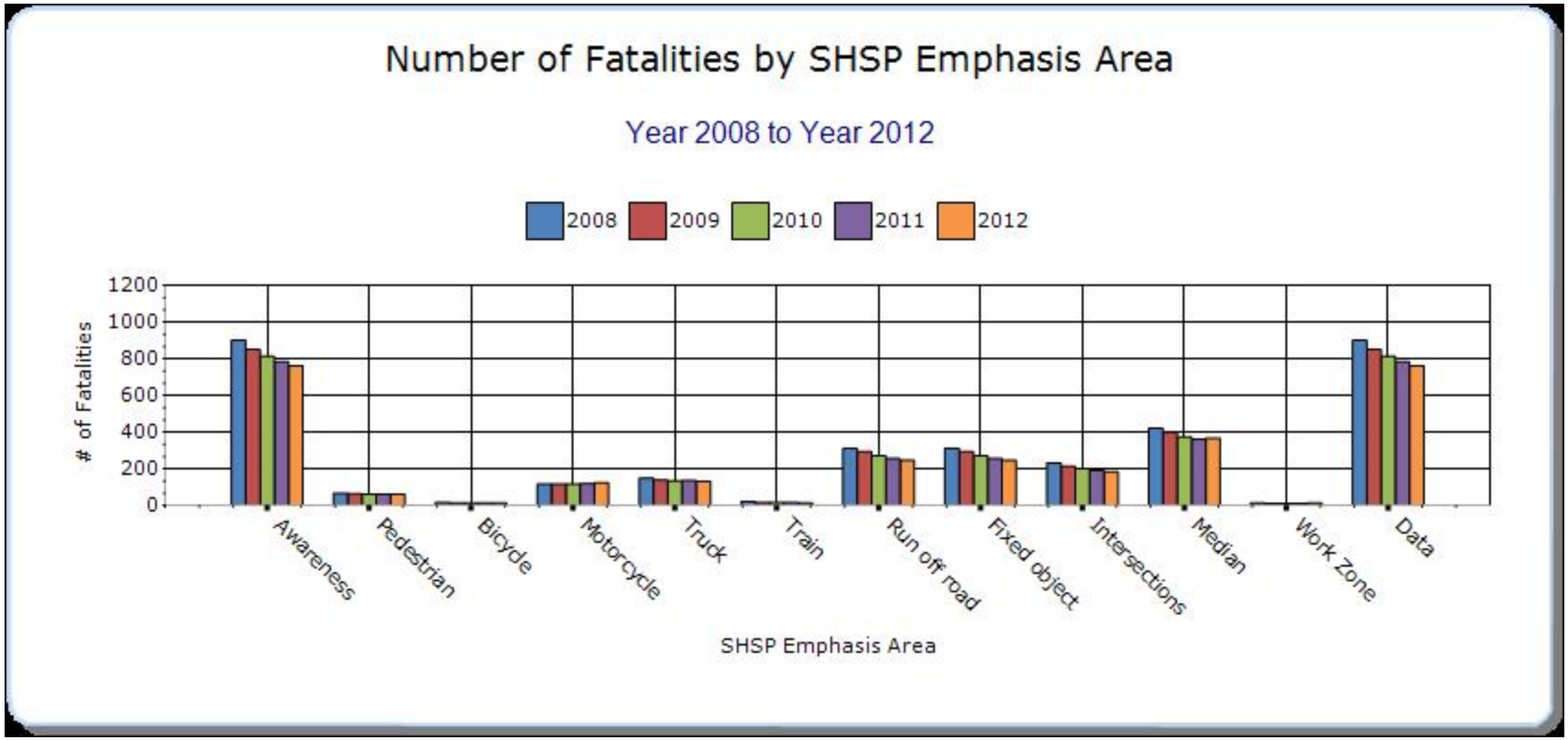
SHSP Emphasis Areas

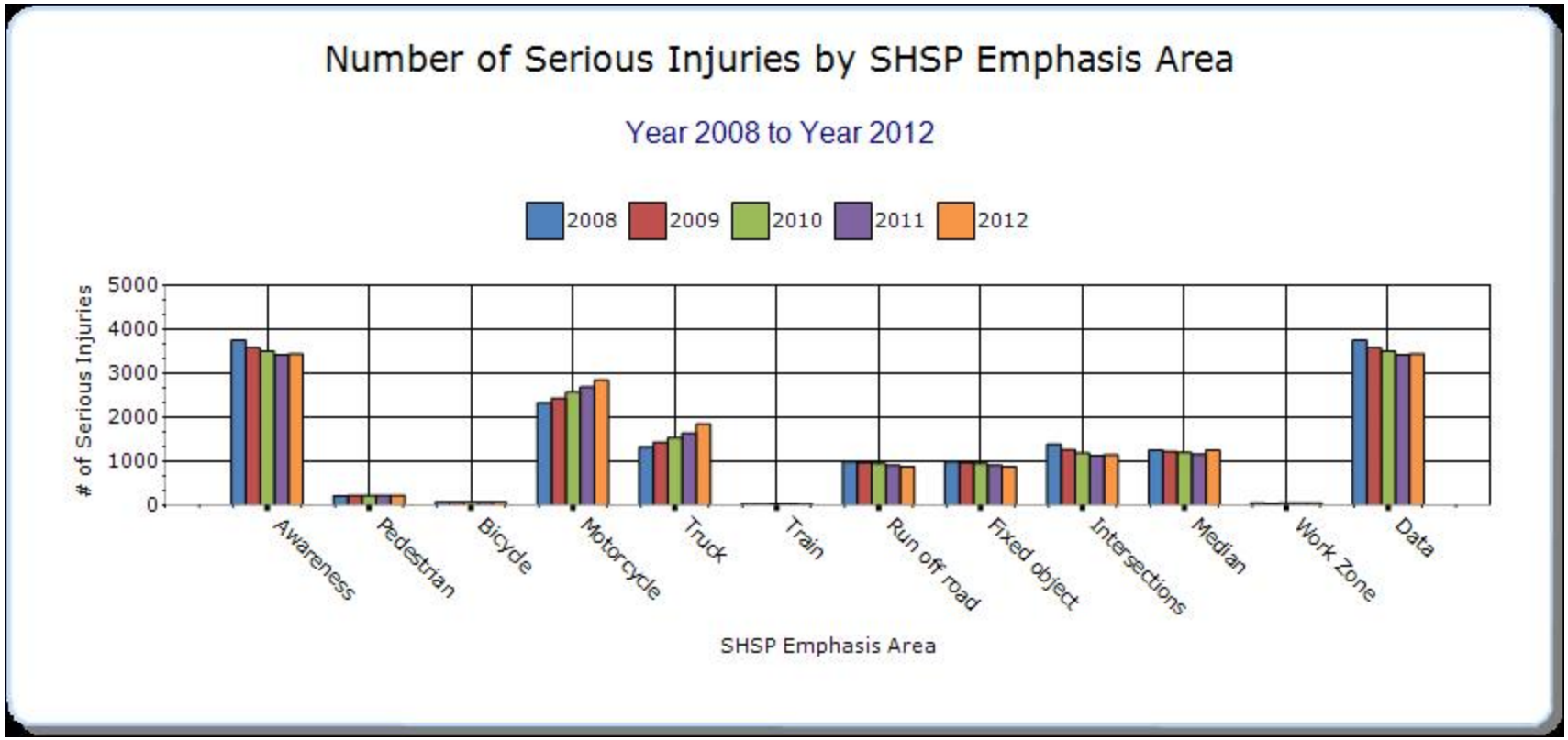
For each SHSP emphasis area that relates to the HSIP, present trends in emphasis area performance measures.

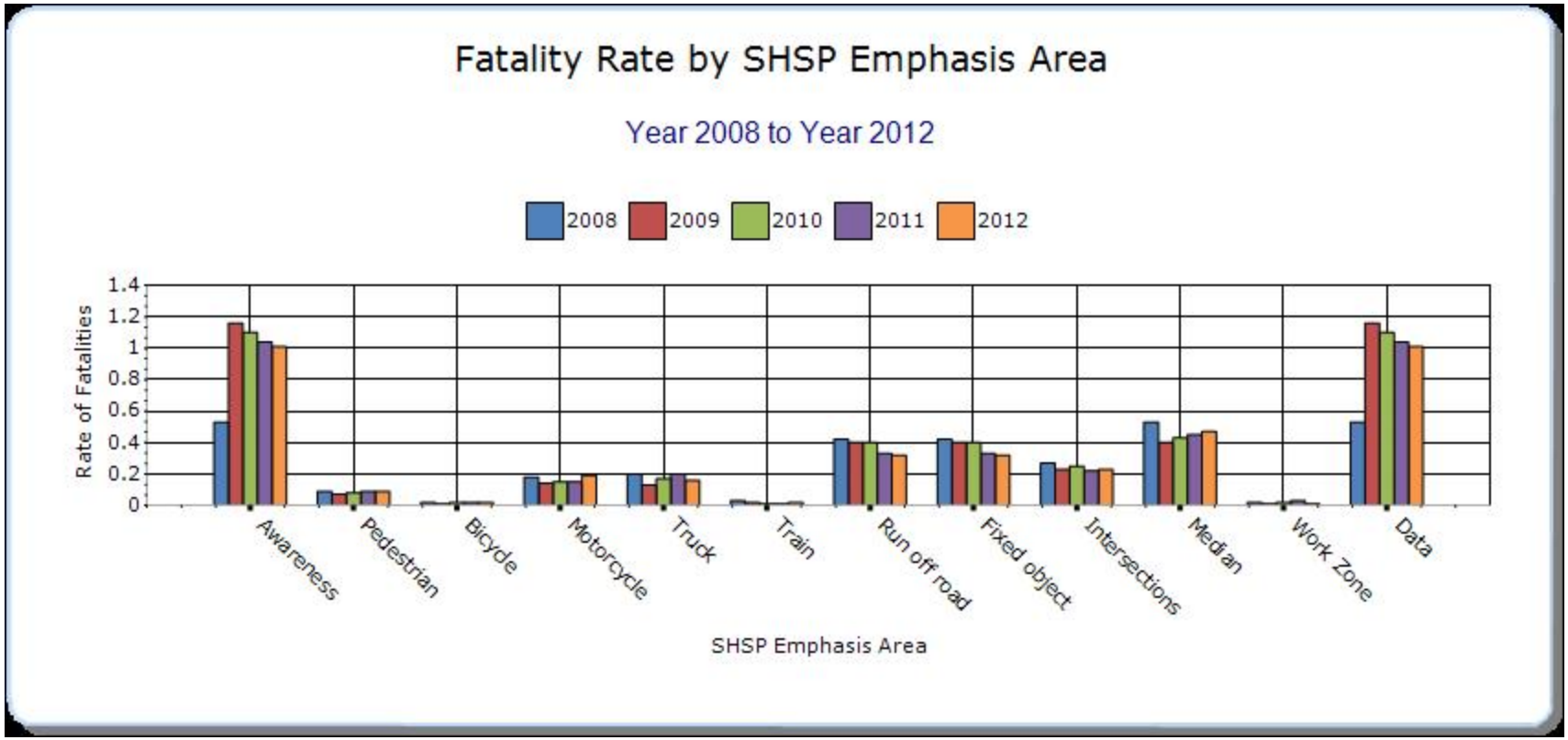
Year - 2012

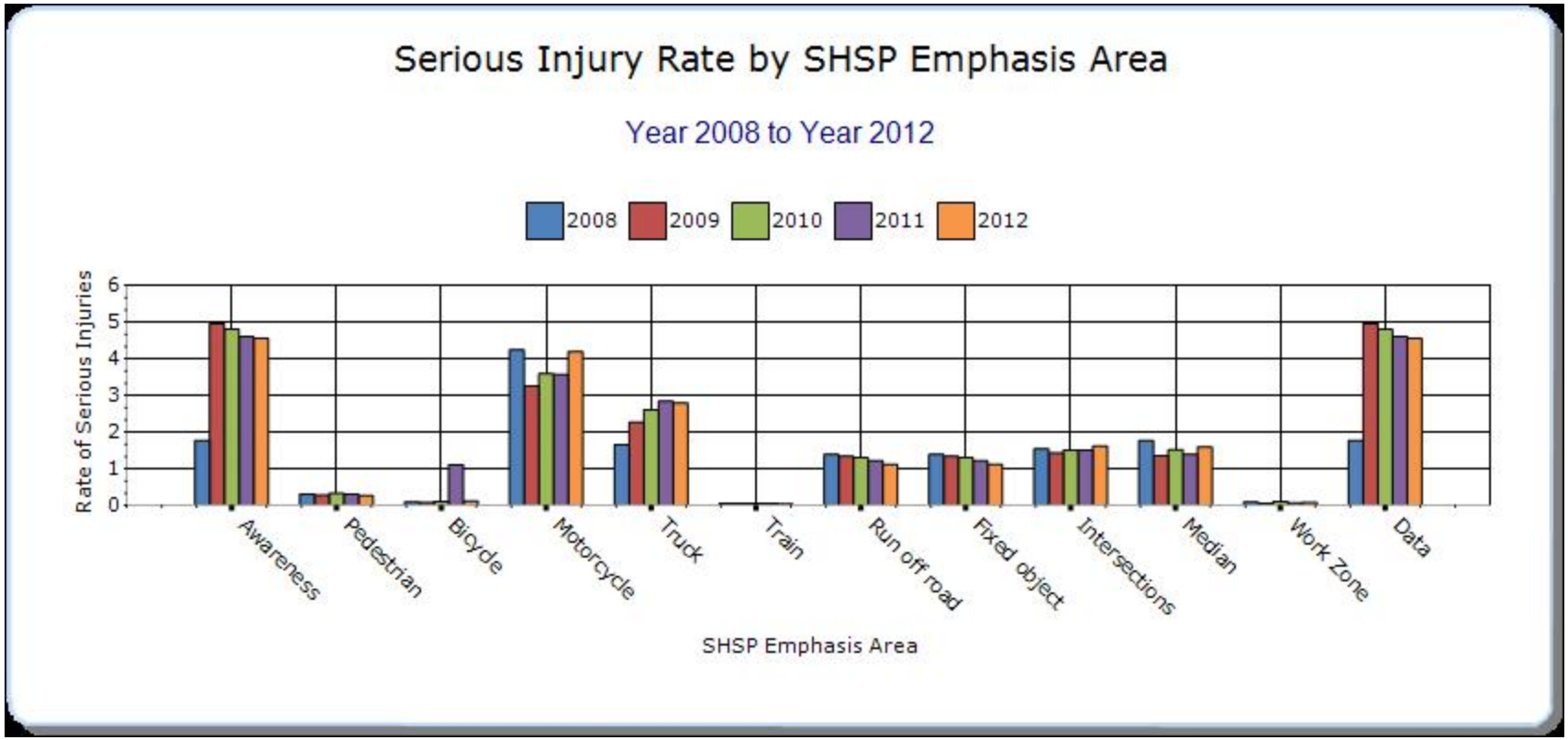
HSIP-related SHSP Emphasis Areas	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3
Increasing driver safety awareness	**All**	**762**	**3444**	**1.01**	**4.55**	**0**	**0**	**0**
Making walking and street crossing easier	Vehicle/pedestrian	62	227	0.09	0.27	0	0	0
Ensuring safer bicycle travel	Vehicle/bicycle	13	78	0.02	0.12	0	0	0
Improving motorcycle safety and increasing motorcycle awareness	Motorcycle & Moped	124	2850	0.19	4.19	0	0	0
Making truck travel safer	Truck-related	130	1853	0.16	2.79	0	0	0
Reducing vehicle-train crashes	Vehicle/Train	14	40	0.02	0.04	0	0	0
Keeping vehicles in the roadway	Run-off-road	246	884	0.32	1.12	0	0	0

Minimizing the consequences of leaving the road	Run-off-road	246	884	0.32	1.12	0	0	0
Improving the design and operation of highway intersections	Intersection	183	1150	0.23	1.62	0	0	0
Reducing head-on and across-median crashes	Run Off Road & Head On	366	1252	0.47	1.59	0	0	0
Designing safer work zones	Work Zone	13	60	0.01	0.08	0	0	0
Improving information and decision support systems	All	762	3444	1.01	4.55	0	0	0
Creating more effective processes and safety management systems	All	762	3444	1.01	4.55	0	0	0


Number of Fatalities by SHSP Emphasis Area
Year 2008 to Year 2012
2008
2009
2010
2011
2012
# of Fatalities
1200
1000
800
600
400
200
0
Awareness
Pedestrian
Bicycle
Motorcycle
Truck
Train
Run off road
Fixed object
Intersections
Median
Work Zone
Data
SHSP Emphasis Area


Number of Serious Injuries by SHSP Emphasis Area
Year 2008 to Year 2012
2008
2009
2010
2011
2012
# of Serious Injuries
5000
4000
3000
2000
1000
0
Awareness
Pedestrian
Bicycle
Motorcycle
Truck
Train
Run off road
Fixed object
Intersections
Median
Work Zone
Data
SHSP Emphasis Area


Fatality Rate by SHSP Emphasis Area
Year 2008 to Year 2012
2008
2009
2010
2011
2012
Rate of Fatalities
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Awareness
Pedestrian
Bicycle
Motorcycle
Truck
Train
Run off road
Fixed object
Intersections
Median
Work Zone
Data
SHSP Emphasis Area

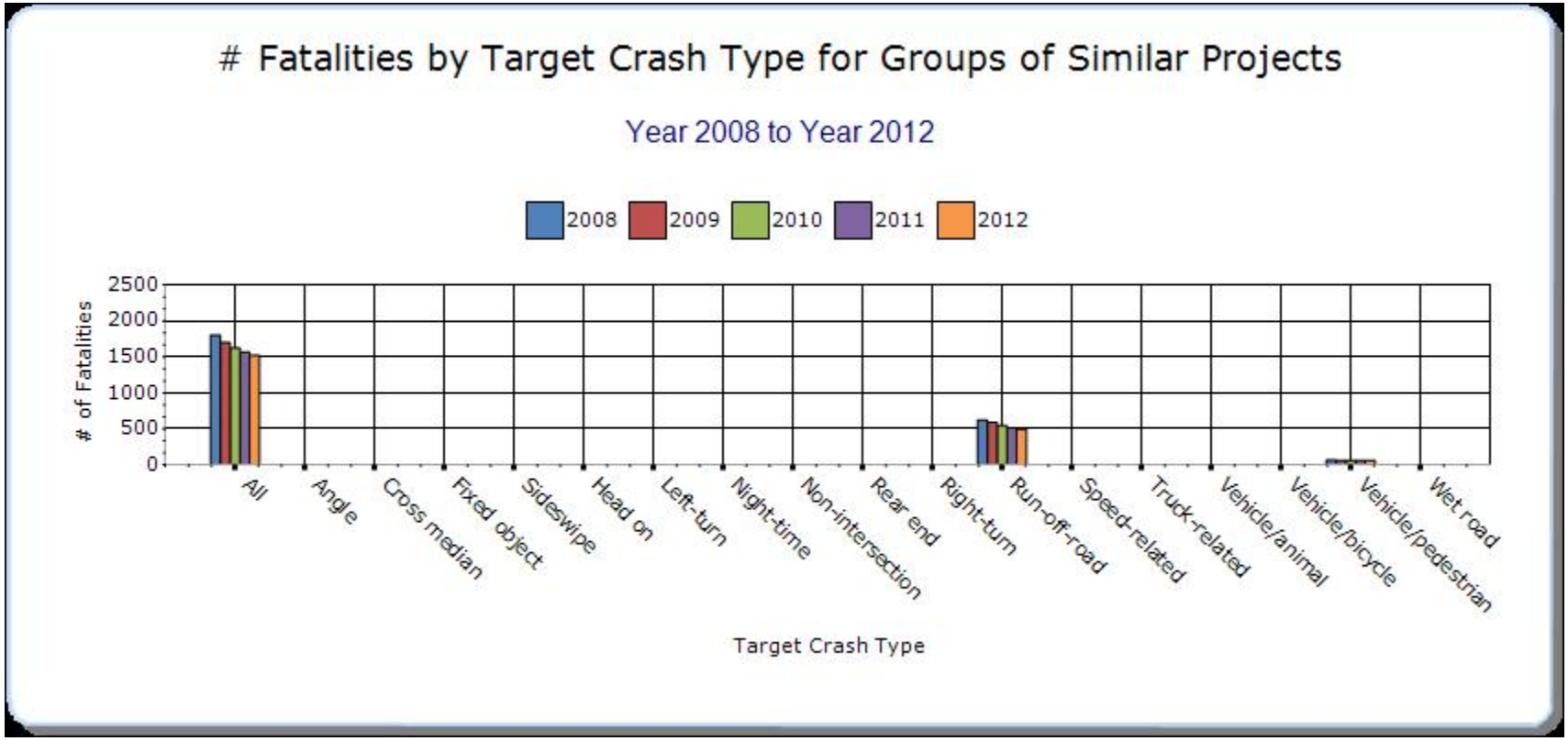

Serious Injury Rate by SHSP Emphasis Area
Year 2008 to Year 2012
2008
2009
2010
2011
2012
Rate of Serious Injuries
0
1
2
3
4
5
6
Awareness
Pedestrian
Bicycle
Motorcycle
Truck
Train
Run off road
Fixed object
Intersections
Median
Work Zone
Data
SHSP Emphasis Area

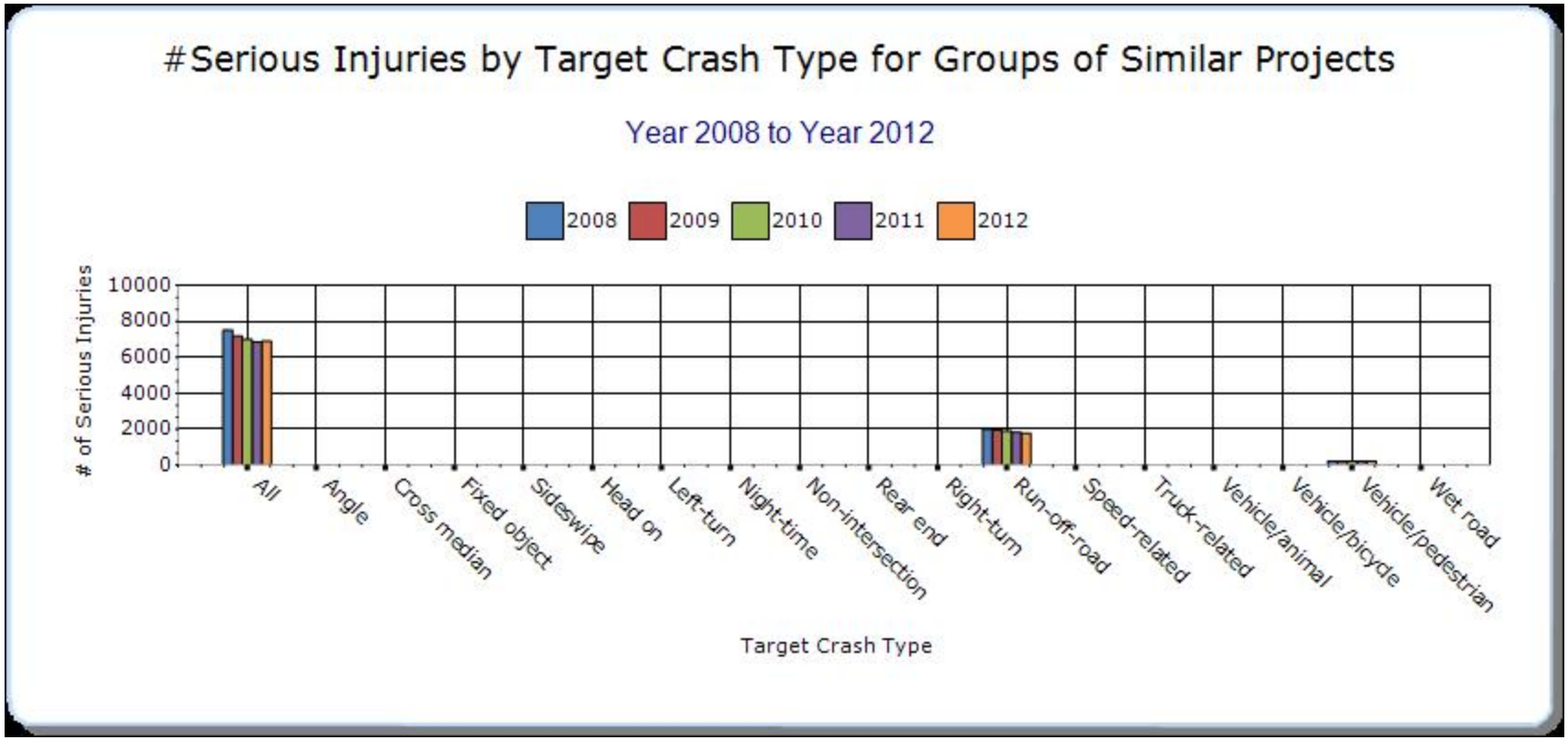
Groups of similar project types

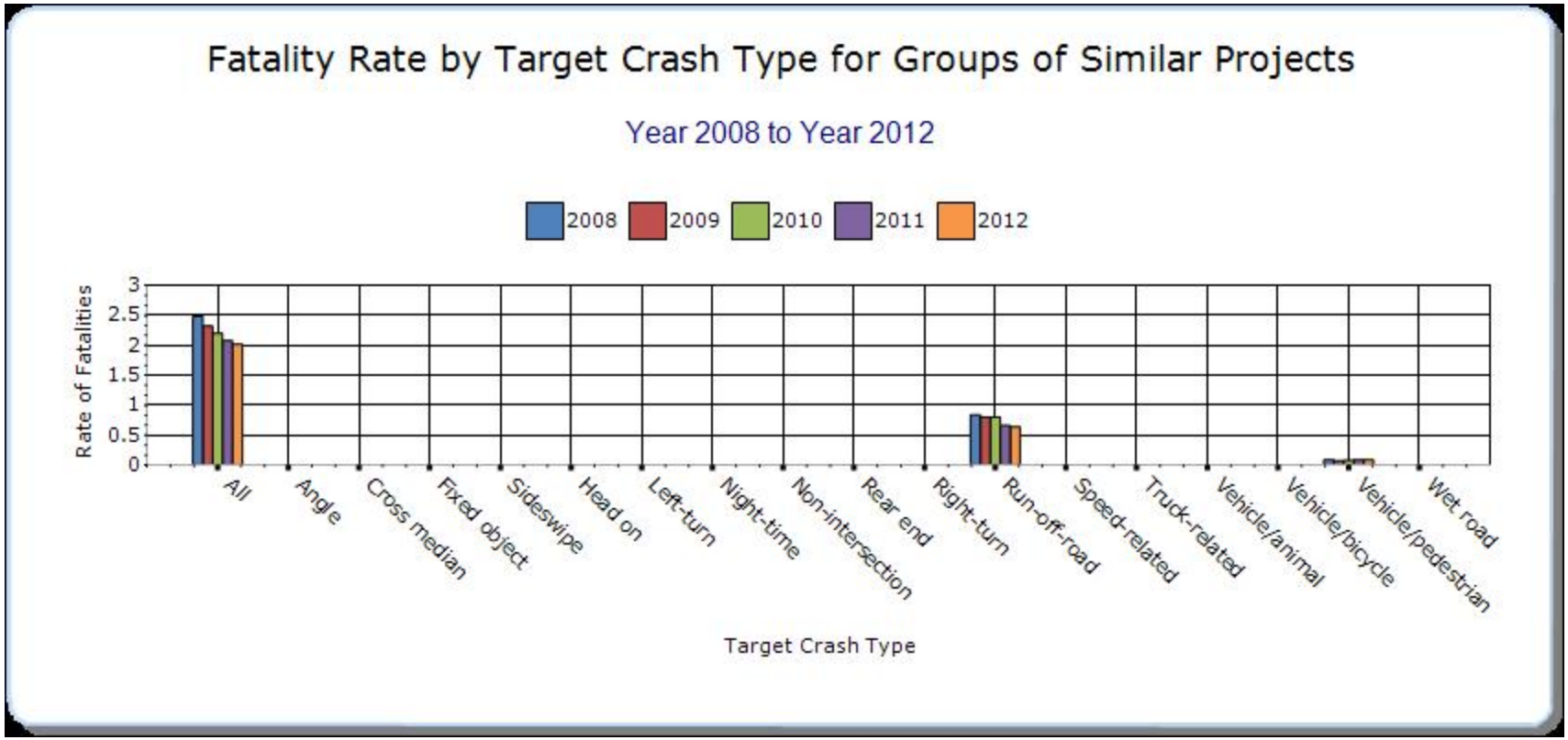
Present the overall effectiveness of groups of similar types of projects.

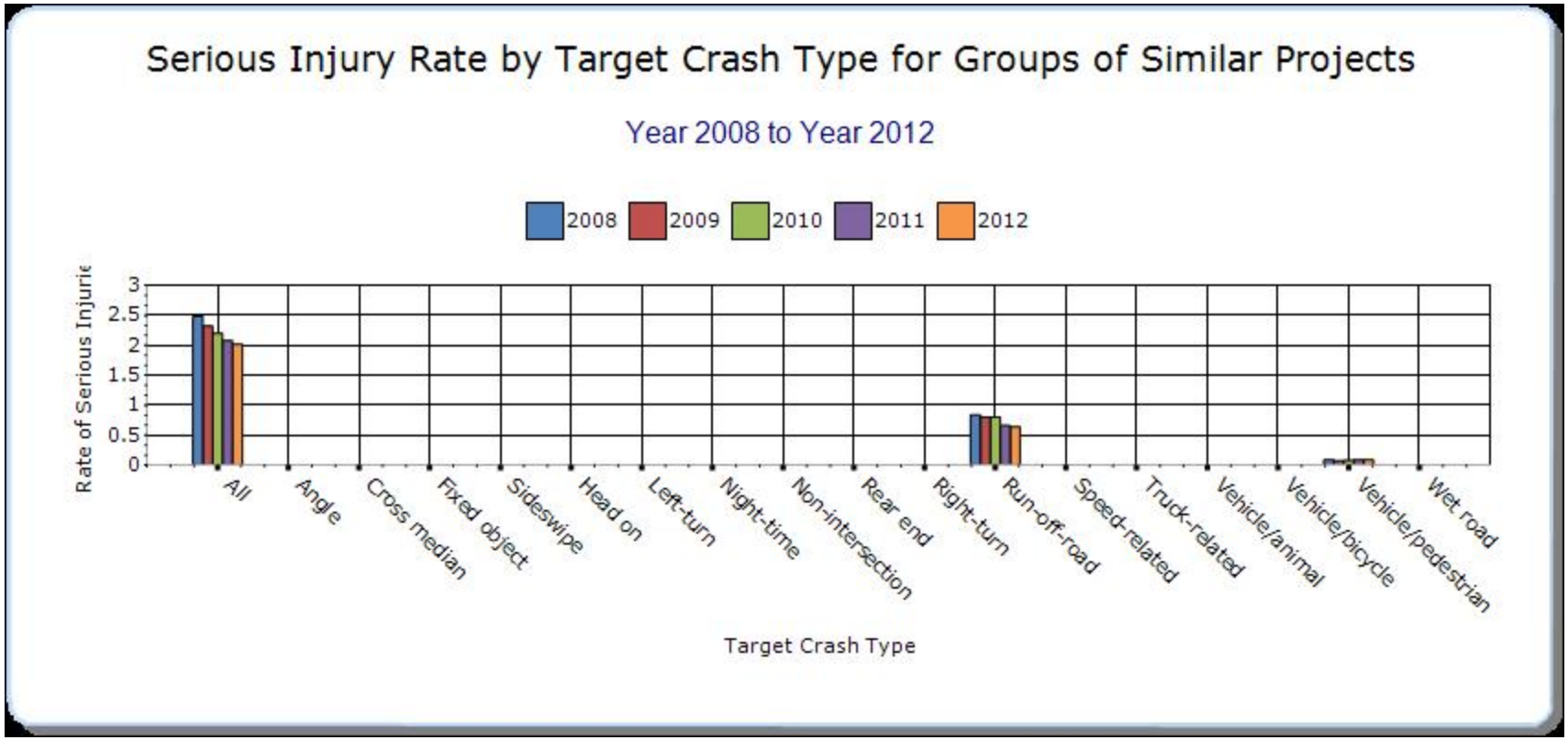
Year - 2012

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
Crash Data	**All**	**762**	**3444**	**1.01**	**4.55**	**0**	**0**	**0**
Pedestrian Safety	Vehicle/pedestrian	62	227	0.09	0.27	0	0	0
Sign Replacement And Improvement	All	762	3444	1.01	4.55	0	0	0
Other-Centerline and Edgeline Rumble Stripes	Run Off Road & Head On	366	1252	0.47	1.59	0	0	0
Rural State Highways	Rural State Roads	348	972	0.44	1.24	0	0	0
Roadway Departure	Run-off-road	246	884	0.32	1.12	0	0	0
Local Safety	Local Roads	347	2070	0.44	2.63	0	0	0
Median Barrier	Run-off-road	246	884	0.32	1.12	0	0	0
Intersection	Intersection Crashes	183	1150	0.23	1.62	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
2500
2000
1500
1000
500
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type


#Serious Injuries by Target Crash Type for Groups of Similar Projects
Year 2008 to Year 2012
2008
2009
2010
2011
2012
# of Serious Injuries
10000
8000
6000
4000
2000
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type


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

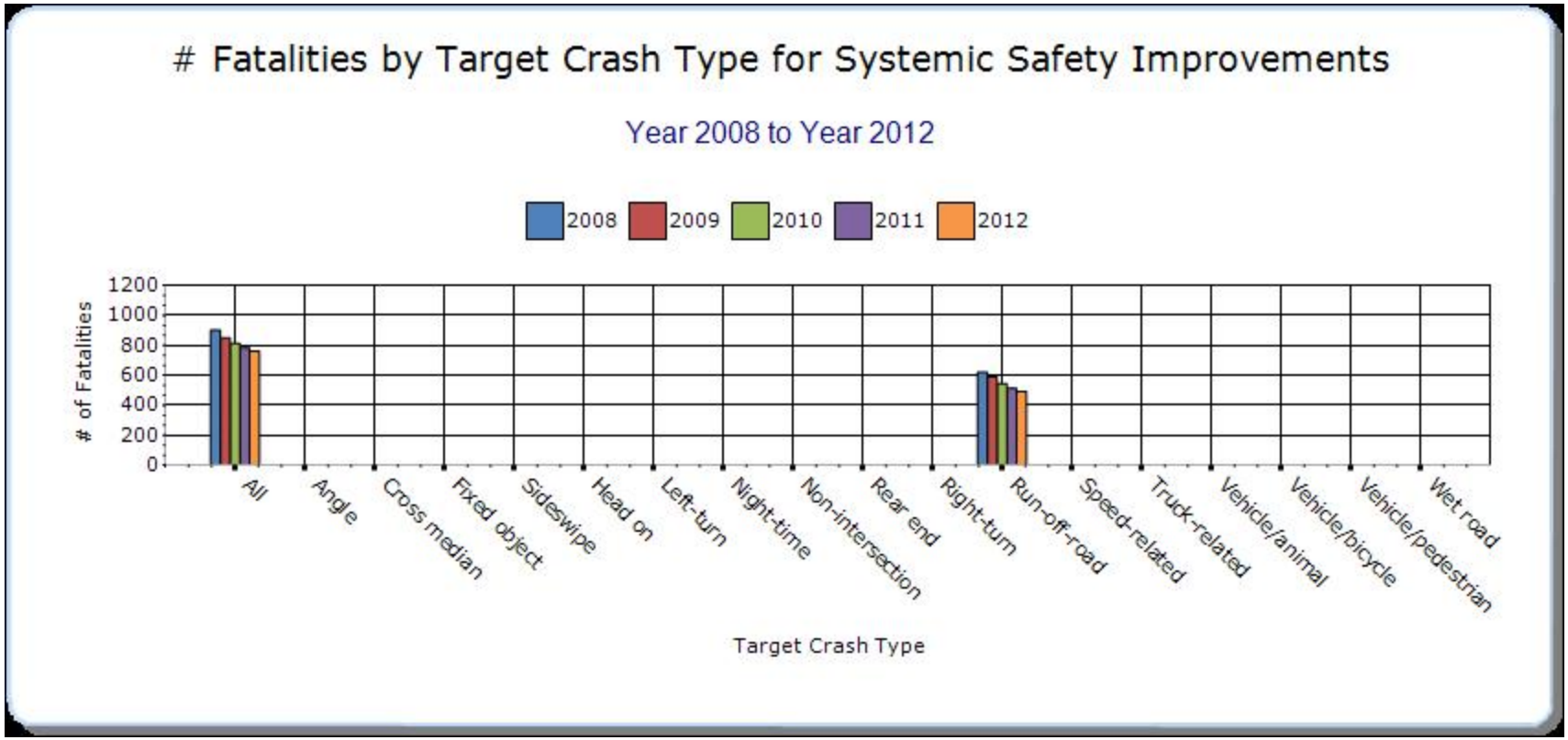

Serious Injury Rate by Target Crash Type for Groups of Similar Projects
Year 2008 to Year 2012
2008
2009
2010
2011
2012
Rate of Serious Injurie
3
2.5
2
1.5
1
0.5
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related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

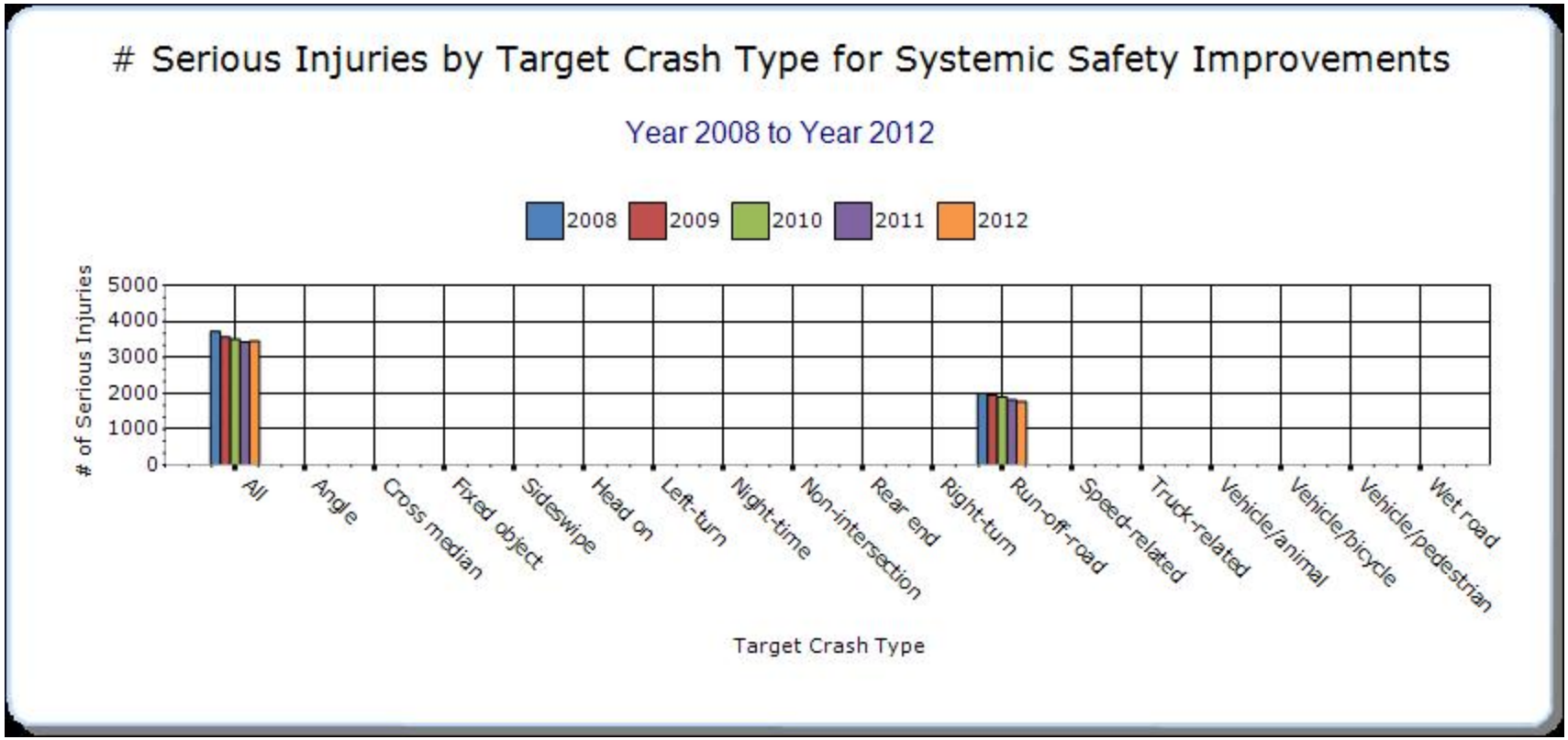
Systemic Treatments

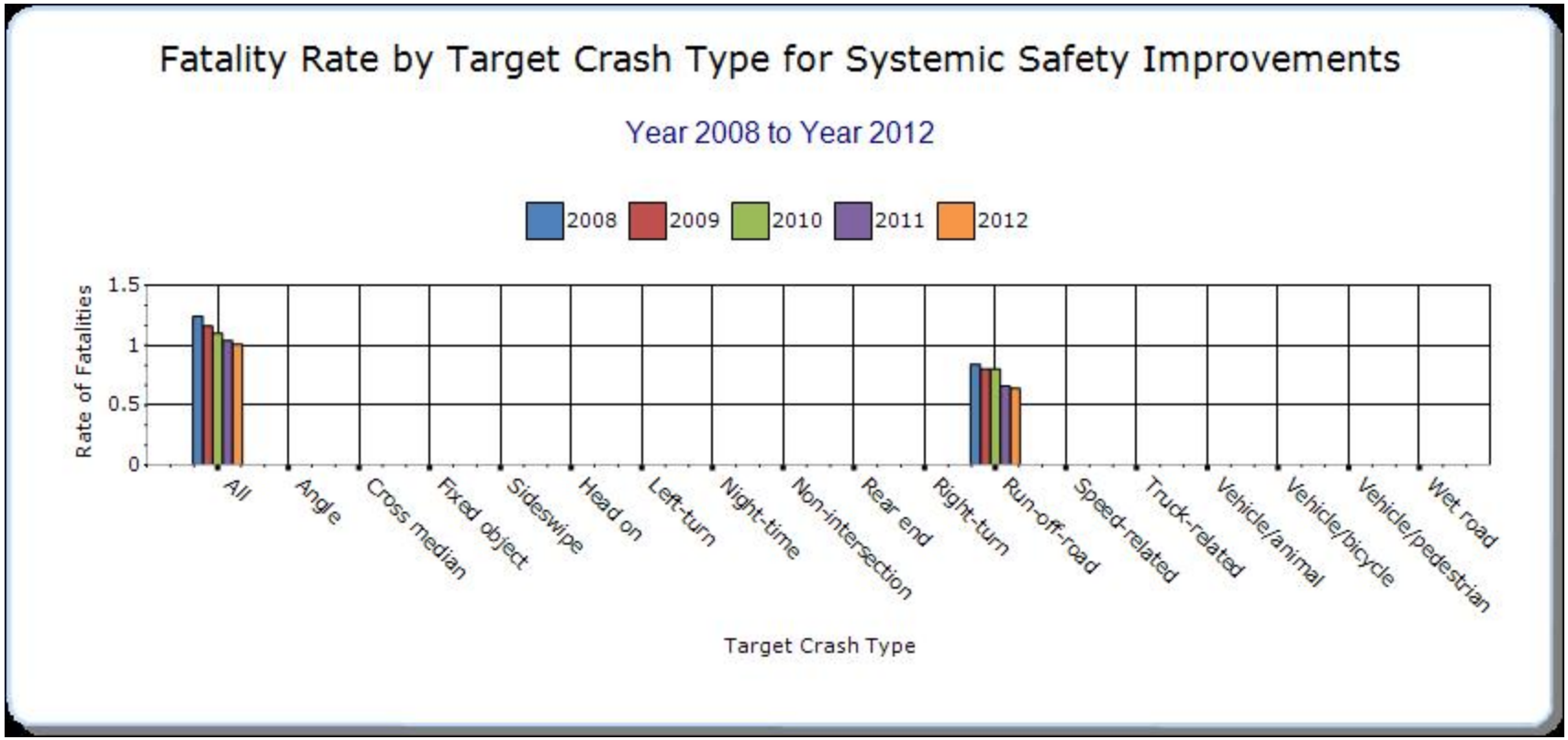
Present the overall effectiveness of systemic treatments..

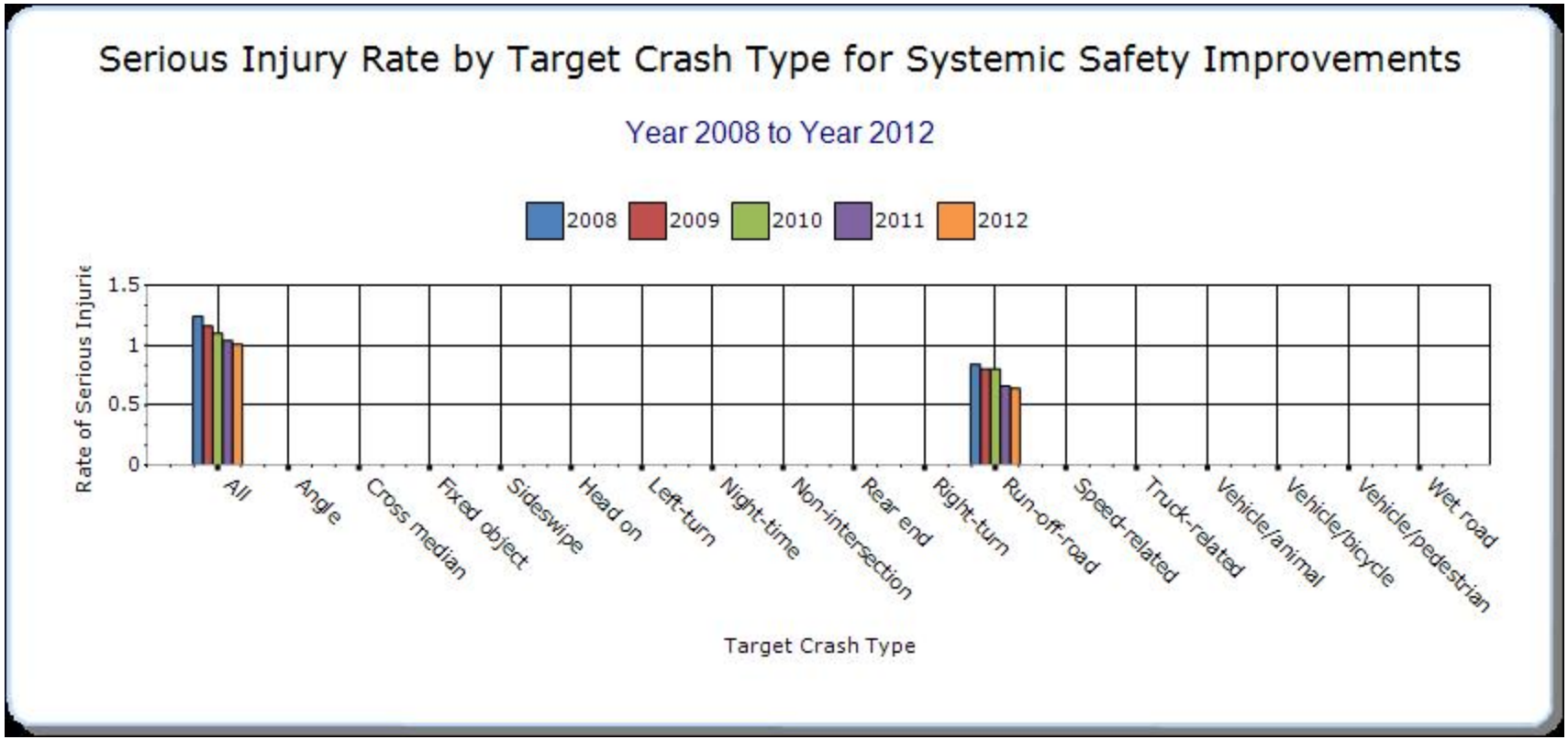
Year - 2012

Systemic improvement	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3
Cable Median Barriers	**Run-off-road**	**246**	**884**	**0.32**	**1.12**	**0**	**0**	**0**
Add/Upgrade/Modify/Remove Traffic Signal	Intersection Crashes	183	1150	0.23	1.62	0	0	0
Rumble Strips	Run Off Road & Head On	366	1252	0.47	1.59	0	0	0
Install/Improve Signing	All	762	3444	1.01	4.55	0	0	0
Upgrade Guard Rails	Run-off-road	246	884	0.32	1.12	0	0	0


Fatalities by Target Crash Type for Systemic Safety Improvements
Year 2008 to Year 2012
2008
2009
2010
2011
2012
# of Fatalities
1200
1000
800
600
400
200
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type


Serious Injuries by Target Crash Type for Systemic Safety Improvements
Year 2008 to Year 2012
2008
2009
2010
2011
2012
# of Serious Injuries
5000
4000
3000
2000
1000
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type


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


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

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

The combined efforts of Indiana's engineering, education, law enforcement, and emergency medical communities are contributing to an overall decline in serious crash outcomes. A trend of fewer severe crashes and increasing percentage of property damage crashes has occurred since the beginning of the HSIP. The extent of contribution by HSIP projects to improved safety is difficult to quantify with current data sources and analysis capabilities, but it's clear that safety programs are a factor influencing the downward trend in severe crash outcomes. Fatal and injury crash trends experienced a somewhat consistent rate between the start of SAFTEA-LU in 2005 through 2007 then experienced a larger downward trend in 2008 and 2009 as VMT declined. Since 2010 thru 2012, VMT has resumed its previous growth trends but a lower incidence of severe outcome crashes in most of the monitored emphasis areas continues in calendar year 2013.

In 2012, the estimated vehicle miles of travel increased 2.83% above 2011, yet the number of police reported crashes in Indiana remained at a low level, of 188,765 reported events. This number of crash events is only slightly higher than the historic low of 188,179 events reported in 2011. These two years comprise the lowest recorded number of reported crashes since the inception of electronic crash reporting in 2003.

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)
0600733 US 224, 1.7 miles E of US 27 (S jct) at Piqua Rd Code:3999 Parcel 3	Urban Principal Arterial - Other	Access management	Access management - other	0	0	2	8	10	0	0	1	0	1	27.86
0300964 SR 37, SR 37 From I-469 to Ohio State Line	Rural Minor Arterial	Roadway delineation	Longitudinal pavement markings - new	1	7	37	150	195	1	2	20	123	146	44.31
0401316 SR 930, Washington St., to I-69	Rural Principal Arterial - Other	Roadway delineation	Longitudinal pavement markings - new	1	0	18	45	64	0	1	10	92	103	12.83
0003500 SR 7, At	Rural Minor	Roadway signs and	Roadway signs and traffic	0	1	5	12	18	0	0	2	3	5	59.97

Legal Tender Rd	Arterial	traffic control	control - other												
0401341 US 31, At Base Rd	Urban Principal Arterial - Other	Roadway signs and traffic control	Roadway signs and traffic control - other	0	0	6	8	14	0	0	0	0	0	28.06
9902620 US 31, At Base Rd	Urban Principal Arterial - Other	Intersection geometry	Intersection geometrics - modify intersection corner radius	0	0	6	9	15	0	0	0	0	0	0.57
0003500 SR 7, At Legal Tender Rd	Rural Minor Arterial	Intersection traffic control	Intersection flashers - add miscellaneous/other/unspecified	0	1	5	12	18	0	0	2	3	5	59.97
0401176 US 24, At CR 600 E, 2.73 miles E of US 35	Rural Principal Arterial - Other	Intersection geometry	Intersection geometrics - modify intersection corner radius	2	2	11	56	71	0	0	8	36	44	71.69
0600215 SR 59, I-70 (EB On-Off) Ramps and I-70 (WB On- Off) Ramps	Rural Minor Arterial	Intersection traffic control	Modify traffic signal - modernization/replacement	0	0	1	10	11	0	0	0	5	5	2.63

0600217 SR 59, I-70 (EB On -Off) Ramp and I-70 (WB On- Off) Ramp	Rural Minor Arterial	Intersection traffic control	Modify traffic signal - modernization/replacement	0	0	1	9	10	0	0	0	5	5	4.62
0002410 US 50, At CR 900E, 7.4 km W of US 231	Rural Principal Arterial - Other	Intersection traffic control	Intersection flashers - modify existing	0	1	2	13	16	0	2	1	3	6	63.61
9800980 US 50, At CR 900E	Rural Principal Arterial - Other	Intersection geometry	Intersection geometry - other	0	1	2	13	16	0	2	1	3	6	1.18
9405840 SR 1, At Georgetow n Rd	Rural Minor Arterial	Intersection geometry	Intersection geometrics - miscellaneous/other/unspecifie d	0	0	1	31	32	0	1	1	22	24	0.16
0200417 US 6, At SR 427	Rural Principal Arterial - Other	Intersection traffic control	Modify traffic signal - modernization/replacement	0	0	0	5	5	0	0	0	3	3	1.2
9703210 US 6, At SR	Rural Principal	Intersection	Auxiliary lanes - add left-turn	0	0	0	5	5	0	0	0	3	3	0.1

427	Arterial - Other	geometry	lane											
0003690 SR 15, At 38th St/Adam St	Urban Principal Arterial - Other Freeways and Expressways	Intersection traffic control	Modify traffic signal - miscellaneous/other/unspecified	0	1	8	21	30	0	0	2	33	35	20.97
0013140 SR 26, From 3.0 to 3.2 miles E of I-69	Rural Major Collector	Intersection traffic control	Intersection flashers - add miscellaneous/other/unspecified	0	0	3	11	14	0	0	0	10	10	0.98
0500261 SR 26, At CR 950 E / CR 900 S	Rural Major Collector	Intersection traffic control	Intersection flashers - add miscellaneous/other/unspecified	0	0	3	11	14	0	0	0	10	10	20.99
0600071 SR 18, At NB (On-Off Ramp) I-69 and SB (On-Off Ramp) I-69	Rural Principal Arterial - Other	Intersection traffic control	Modify traffic signal - modernization/replacement	0	0	3	17	20	0	0	1	7	8	5.63

9900990 SR 15, At 38th St and Adams St	Urban Principal Arterial - Other Freeways and Expressways	Intersection geometry	Auxiliary lanes - add left-turn lane	0	1	6	21	28	0	0	2	33	35	1.86
0600181 SR 14, At Packerton Road (CR 200 E)	Rural Major Collector	Intersection traffic control	Intersection flashers - add miscellaneous/other/unspecified	0	0	1	4	5	0	0	0	3	3	8.6
0500814 US 231, At Delaware Street	Urban Principal Arterial - Other Freeways and Expressways	Intersection traffic control	Intersection traffic control - other	0	0	0	7	7	0	0	0	8	8	0.83
9703270 SR 38, At US 36/SR 67	Rural Major Collector	Intersection geometry	Auxiliary lanes - add right-turn lane	0	0	2	16	18	0	0	0	0	0	0.4
980327A SR 38, At	Rural Major	Intersection traffic	Modify traffic signal -	0	0	0	0	0	0	0	0	0	0	4.26

US 36/SR 67	Collector	control	modernization/replacement											
0400645 ST 1014, 86th Street at Michigan Road	Urban Principal Arterial - Other Freeways and Expressways	Intersection geometry	Auxiliary lanes - add left-turn lane	0	2	27	138	167	0	0	7	91	98	11.6
0500961 ST 1019, Bloomfield Dr at Basswood Dr	Urban Collector	Intersection geometry	Auxiliary lanes - miscellaneous/other/unspecified	0	0	3	12	15	0	0	3	14	17	4.44
9801030 SR 142, At Morgan CR 750 W (Herbemont RD), 4.14 miles E of SR 42	Rural Major Collector	Intersection geometry	Auxiliary lanes - miscellaneous/other/unspecified	0	0	1	3	4	0	0	0	8	8	0.4
9800910 SR 130, At	Rural Principal Arterial -	Intersection geometry	Intersection geometrics - miscellaneous/other/unspecifie	0	0	0	25	25	0	0	0	37	37	0.15

Laporte St	Other		d												
8571890 US 31, At SR 4	Rural Principal Arterial - Other	Intersection geometry	Intersection geometrics - miscellaneous/other/unspecified	0	5	3	19	27	0	2	4	25	31	5.54
8571900 US 31, At New Rd, 2.0 miles N of SR 4	Urban Principal Arterial - Other Freeways and Expressways	Intersection geometry	Intersection geometrics - miscellaneous/other/unspecified	0	5	3	19	27	0	2	4	25	31	8.53
9800810 US 224, 1.7 miles E of US 27 (S jct) at Piqua Rd	Rural Principal Arterial - Other	Intersection geometry	Intersection geometrics - miscellaneous/other/unspecified	0	0	2	8	10	0	0	1	1	2	0.65
000081A US 224, At Piqua Rd	Urban Principal Arterial - Other Freeways and Expressways	Intersection traffic control	Modify traffic signal - modernization/replacement	0	0	2	8	10	0	0	1	1	2	14.37

9902650 SR 62, At Decker Rd	Rural Minor Arterial	Intersection geometry	Intersection geometrics - miscellaneous/other/unspecified	1	0	15	44	60	0	0	12	43	55	5.89
0101052 US 33, From District Line to US 6, US 6 to I-69 and US 27 to Ohio State Line	Rural Principal Arterial - Other	Roadside	Barrier- metal	1	0	8	57	66	0	0	18	100	118	8.37
9801050 SR 159, At S jct with SR 246, 0.5 mile E of the Sullivan County Line	Rural Major Collector	Alignment	Horizontal curve realignment	0	0	0	2	2	0	0	0	11	11	0.02
0100609 SR 64, At SR 66 W jct	Rural Major Collector	Intersection geometry	Intersection geometrics - miscellaneous/other/unspecified	0	2	1	29	32	0	0	2	20	22	7.31

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.