Highway Safety Improvement Program

Data Driven Decisions

Maine
Highway Safety Improvement Program
2014 Annual Report

Prepared by: ME

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."

Table of Contents

Executive Summary

Maine has a data driven approach for HSIP project selection, assessing various aspects of crash performance. Before and After crash results comparsion have consistently shown performance improvement over the years. HSIP selection process is re-evaluated each year to see if there opportunities for enhancement and for improved alignment for the state's SHSP.

Supplemental safety projects that are more systemic in nature, like centerline rumble strips are also funded.

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.

Local roads are included with the state-wide project candidates. Maine does capture crash and roadway data for Local roads and so is able to evaluate all locations within the state based on similar crash performance comparisons. Local requests are also receieved based on crash concerns and are reviewed as part of the candidate screening process.

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

☒Design

☒Planning

☒Maintenance

☒Operations

☐Governors Highway Safety Office

☐Other:

Briefly describe coordination with internal partners.

Executive, Planning (including local roads and bike/ped), Traffic Engineering, Project Development, all play a part in safety planning. MaineDOT continues to enhance its Work Plan approach to integrate safety into the planning process, looking to get safety in the planning thought process early on to consider not just stand-alone safety needs, but also opportunities that would complement upcoming paving and construction projects. Safety Office is able to review corridor project candidates in advance to identify safety needs that might align with other work.

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

☒Metropolitan Planning Organizations

☐Governors Highway Safety Office

☒Local Government Association

☐Other:

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

☐ Multi-disciplinary HSIP steering committee

☒ Other: Other-Continuing adjustments to improve approach.

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

None

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-Median Barriers funded through MaineDOT capital pr		

Program: **Intersection**

Date of Program Methodology: **8/1/2014**

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-MaineDOT's Highway Corridor Priority classifications

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-Benefit to Cost

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	1
☒ Available funding	2
☐ Incremental B/C	

☐ Ranking based on net benefit

☐ Other

Program: **Horizontal Curve**

Date of Program Methodology: **8/1/2014**

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-Benefit to Cost ranking

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 1

☒ Available funding 2

☐ Incremental B/C

☐ Ranking based on net benefit

☐ Other

Program: **Bicycle Safety**

Date of Program Methodology: **8/1/2014**

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

Program: **Rural State Highways**

Date of Program Methodology: **8/1/2014**

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-Benefit to Cost ranking

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

Program: **Skid Hazard**

Date of Program Methodology: **8/1/2014**

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

Program: **Crash Data**

Date of Program Methodology: **8/1/2014**

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	2
☐Incremental B/C	
☒Ranking based on net benefit	1
☐Other	

Program: **Roadway Departure**

Date of Program Methodology: **8/1/2014**

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	2
☐Incremental B/C	
☒Ranking based on net benefit	1
☐Other	

Program: **Low-Cost Spot Improvements**

Date of Program Methodology: **8/1/2014**

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 2
- ☐ Incremental B/C
- ☐ Ranking based on net benefit

☒Cost Effectiveness 1

Program: **Sign Replacement And Improvement**

Date of Program Methodology: **8/1/2014**

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 2

☐ Incremental B/C

☒ Ranking based on net benefit 1

☐ Other

Program: **Local Safety**

Date of Program Methodology: **8/1/2014**

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-Usually work with MaineDOT's Local Roads unit

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

☐ Relative Weight in Scoring

☒ Rank of Priority Consideration

- ☐ Ranking based on B/C
- ☒ Available funding 2
- ☐ Incremental B/C
- ☒ Ranking based on net benefit 1
- ☐ Other

Program: **Pedestrian Safety**

Date of Program Methodology: **8/1/2014**

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-These projects are normally coordinated through MaineDOT's Bike/Ped coordinator

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

☐ Relative Weight in Scoring

☒ Rank of Priority Consideration

- ☐ Ranking based on B/C
- ☒ Available funding 2
- ☐ Incremental B/C
- ☒ Ranking based on net benefit 1
- ☐ Other

Program: **Right Angle Crash**

Date of Program Methodology: **8/1/2014**

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-Benefit to Cost ranking

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

Program: **Left Turn Crash**

Date of Program Methodology: **8/1/2014**

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-Benefit to Cost prioritization

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

Program: **Shoulder Improvement**

Date of Program Methodology: **8/1/2014**

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-Benefit to Cost ranking

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

Program: **Segments**

Date of Program Methodology: **8/1/2014**

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-Benefit to Cost ranking

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

☐ Other

Program: **Other-Median Barriers funded through MaineDOT capital pr**

Date of Program Methodology: **8/1/2010**

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-Divided limited access Highways - mostly interstate	☐ 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-Systemic approach for all narrow medians - less than 50' wide

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

☐ Yes

☒ No

How are highway safety improvement projects advanced for implementation?

☐ Competitive application process

☐ Selection committee

☐ Other

☒ Other-Only one pending median section remains for treatment - to be completed in 2014

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

☐ Relative Weight in Scoring

☒ Rank of Priority Consideration

☐ Ranking based on B/C

☒ Available funding 2

☐ Incremental B/C

☒ Ranking based on net benefit 1

☐ Other

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

10

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

☒ Cable Median Barriers

☒ Rumble Strips

☒ Traffic Control Device Rehabilitation

☐ Pavement/Shoulder Widening

☒ Install/Improve Signing

☒ Install/Improve Pavement Marking and/or Delineation

☒ Upgrade Guard Rails

☐ Clear Zone Improvements

☐ Safety Edge

☐ Install/Improve Lighting

☒ Add/Upgrade/Modify/Remove Traffic Signal

☒ Other Other-Wrong Way Driver interstate ramp improvements, rapid flashing beacons for ped crossings,

What process is used to identify potential countermeasures?

☒Engineering Study

☒Road Safety Assessment

☐Other:

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

☒Highway Safety Manual

☐Road Safety audits

☒Systemic Approach

☒Other: Other-Have HSM calibration work completed for sections, now working on intersections; work underway on prioritizing additional centerline rumble strip needs.

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

Coordination between MaineDOT project planning and safety continue to deepen, as we look to coordinate construction and paving projects with appropriate safety mitigation needs.

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)	9673563	95 %	10988274.6	92 %
HRRRP (SAFETEA-LU)	0	0 %	279578.33	2 %
HRRR Special Rule	0	0 %	0	0 %
Penalty Transfer - Section 154	0	0 %	0	0 %
Penalty Transfer – Section 164	0	0 %	0	0 %
Incentive Grants - Section 163	0	0 %	0	0 %
Incentive Grants (Section 406)	0	0 %	0	0 %
Other Federal-aid Funds (i.e. STP, NHPP)	0	0 %	0	0 %
State and Local Funds	0	0 %	0	0 %

Other Safe Routes to School	461105.4	5 %	639264.34	5 %
Totals	10134668.4	100%	11907117.27	100%

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

0 %

How much funding is obligated to local safety projects?

0 %

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

5 %

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

5 %

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

period?

0 %

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

0 %

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

No impediments seen. Safety Office continues to work with Exec., Planning and Regions to improve safety planning corrdination/integration.

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

Continue to focus more on Lane Departure needs. Maine experiences 70% of fatalities in this category. Looking to achieve a better funding balance that is reflective of SHSP priorities - median cable barrier needs already met; increasing installations on centerline rumble strips.

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
12757	Intersection geometry Intersection geometry - other	1 Numbers	577016	654463	HSIP (Section 148)	Rural Major Collector	10542	50	State aid	Intersections	
16336.1	Non-infrastructure Data/traffic records	1 Numbers	35000	70000	HSIP (Section 148)	NA	0	0		Data	
17057.3	Roadside Removal of roadside objects (trees, poles, etc.)	0	35303	39225	HSIP (Section 148)	varied	0	0		Lane Departure	
17057.5	Roadside Removal of roadside objects (trees, poles, etc.)	0	36120	40133	HSIP (Section 148)	varied	0	0		Lane Departure	
17237	Intersection traffic control Pavement markings - miscellaneous/other/unspecified	0	5867.69	6519.66	HSIP (Section 148)	Urban Major Collector	5650	25	State aid	Intersections	

17239	Intersection geometry Intersection geometry - other	0	58500	140000	HSIP (Section 148)	Rural Principal Arterial - Other	18500	50	State Highway Agency	Intersections	
17241	Intersection geometry Intersection geometry - other	0	697923.07	806245.83	HSIP (Section 148)	Urban Minor Arterial	6161	50	State Highway Agency	Intersections	
17258	Intersection geometry Intersection geometry - other	0	93406	1148901	HSIP (Section 148)	Rural Major Collector	1764	35	State Highway Agency	Intersections	
17259	Intersection geometry Intersection geometry - other	0	131222	522972	HSIP (Section 148)	Urban Principal Arterial - Other	7989	40	State Highway Agency	Intersections	
17261	Intersection geometry Intersection geometry - other	0	225404	1336902	HSIP (Section 148)	Rural Major Collector	2067	35	State aid	Intersections	
17294.1	Roadway signs and traffic control Roadway signs (including post) - new or updated	1 Numbers	12752.62	15940.77	HSIP (Section 148)	Varied	0	0	Varied	Lane Departure	
17334	Intersection traffic control Modify traffic signal - modernization/replaceme	0	25835	115000	HSIP (Section 148)	Urban Major Collector	10480	25	State aid	Intersections	

	nt										
17516.03	Roadway Roadway - other	0	123092	136769	HRRRP (SAFETEA-LU)	Rural Minor Arterial	0	0	State Highway Agency	Lane Departure	
19000	Roadside Roadside - other	1 Miles	65642	72936	HSIP (Section 148)	Rural Major Collector	0	0	State aid	Lane Departure	
19001	Intersection geometry Intersection geometry - other	0	2700	3000	HSIP (Section 148)	Urban Minor Arterial	13660	50	State Highway Agency	Intersections	
19007	Intersection traffic control Modify traffic signal timing - signal coordination	3 Miles	99000	878503	HSIP (Section 148)	Rural Principal Arterial - Other	0	0	State Highway Agency	Intersections	
19009	Intersection geometry Intersection geometry - other	0	24579.14	46703.87	HSIP (Section 148)	Urban Minor Arterial	21768	30	State Highway Agency	Intersections	
19010	Intersection geometry Intersection geometry - other	0	71100	79000	HSIP (Section 148)	Rural Minor Arterial	11081	50	State Highway Agency	Intersections	
19011	Roadway signs and traffic control Curve-related warning signs and flashers	3 Miles	12366	13741	HSIP (Section 148)	Rural Local Road or Street	0	0	Town or Township Highway	Lane Departure	

									Agency		
19012	Roadway signs and traffic control Curve-related warning signs and flashers	0	9446	10496	HSIP (Section 148)	Rural Major Collector	0	0	State Highway Agency	Lane Departure	
19016	Roadway signs and traffic control Curve-related warning signs and flashers	2 Miles	125700	139666	HSIP (Section 148)	Rural Major Collector	0	0	State aid	Lane Departure	
19021	Interchange design Interchange design - other	0	103647	115163	HSIP (Section 148)	Urban Principal Arterial - Interstate	0	0		Intersections	
19036	Roadway signs and traffic control Curve-related warning signs and flashers	2 Miles	4036	63239	HSIP (Section 148)	Rural Minor Arterial	0	0	State aid	Lane Departure	
19070	Roadway delineation Longitudinal pavement markings - remarking	0	1778322.78	14544788.85	HSIP (Section 148)	Rural Principal Arterial - Interstate	0	0		Lane Departure	
19085	Intersection traffic control Intersection traffic control - other	0	13691	16712	HSIP (Section 148)	Rural Minor Arterial	18630	40	State Highway Agency	Intersections	
19119	Intersection traffic control Modify traffic signal - modernization/replaceme	0	366458.84	469291.06	HSIP (Section 148)	Urban Principal Arterial -	0	0	State Highway Agency	Intersections	

	nt					Other					
19431	Intersection traffic control Modify traffic signal - modernization/replacement	0	33642.93	145835.31	HSIP (Section 148)	Urban Principal Arterial - Other	11250	35	State Highway Agency	Intersections	
19435	Intersection traffic control Modify traffic signal - modernization/replacement	1 Numbers	32385.6	216992.51	HSIP (Section 148)	Urban Principal Arterial - Other	4419	25	State Highway Agency	Intersections	
19515	Roadside Barrier- metal	0	2700	92276	HSIP (Section 148)	Rural Principal Arterial - Interstate	0	0	State Highway Agency	Lane Departure	
20442.1	Pedestrians and bicyclists Install sidewalk	1 Numbers	10000	20000	HSIP (Section 148)	Rural Principal Arterial - Other	0	0	State Highway Agency	Pedestrians	
20541.14	Work Zone	0	31500	35000	HSIP (Section 148)	Varied	0	0		Work Zones	

Progress in Achieving Safety Performance Targets

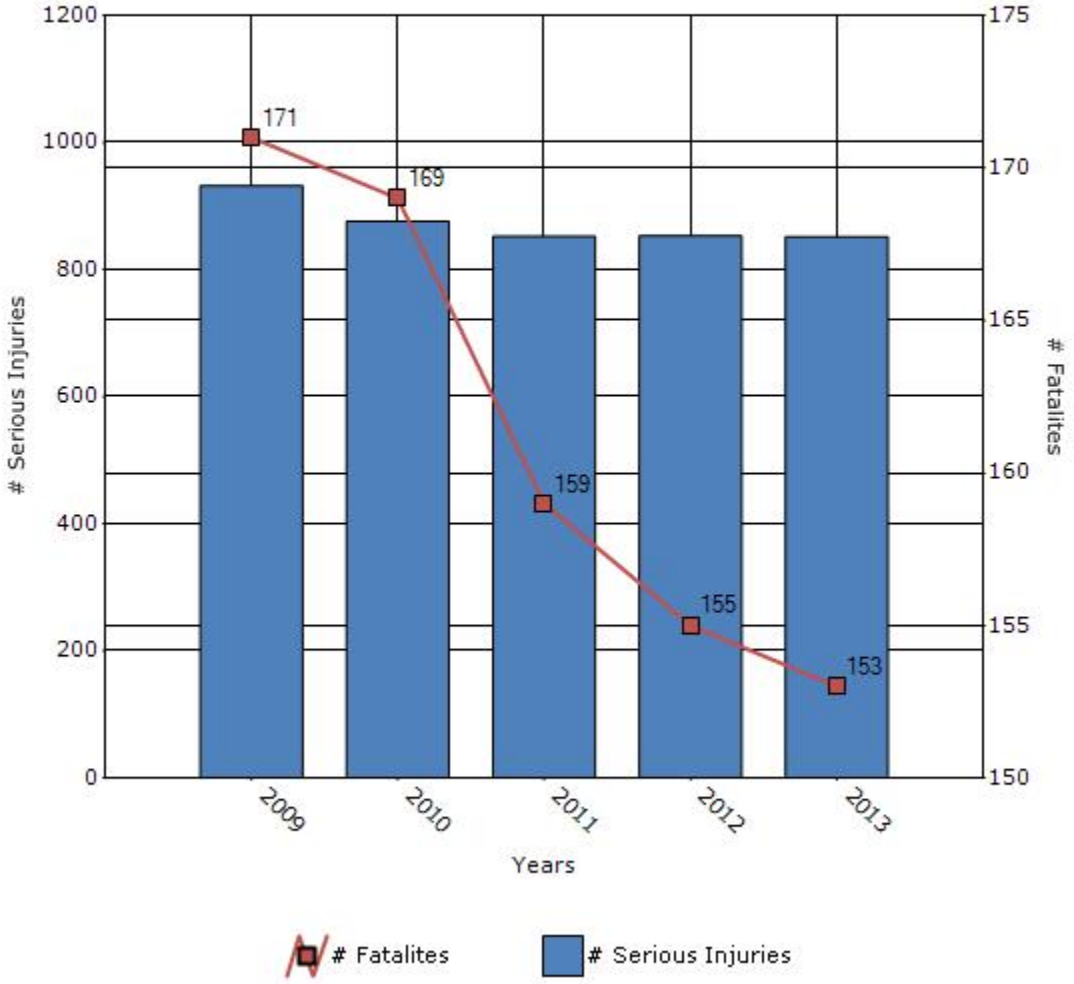
Overview of General Safety Trends

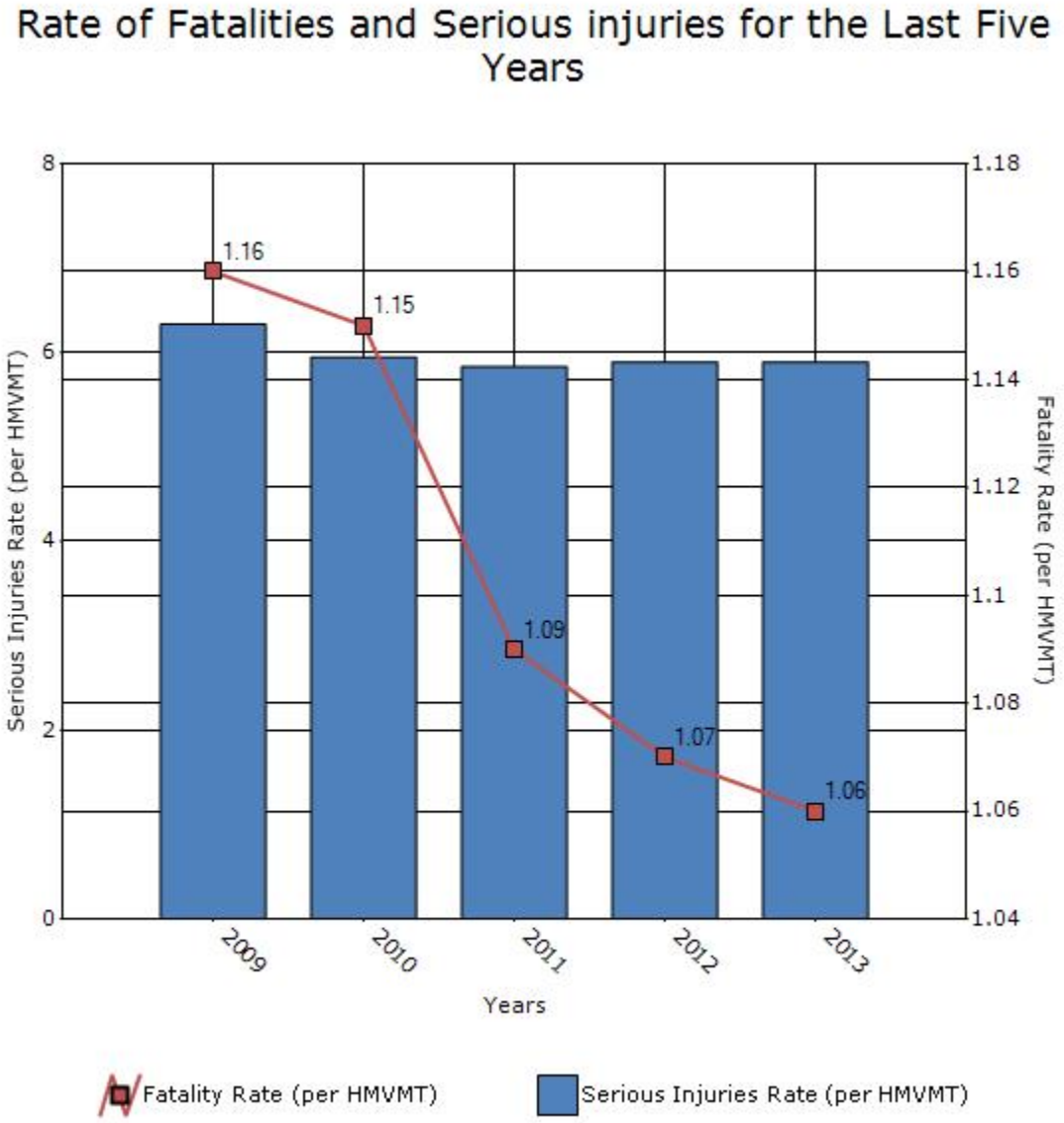
Present data showing the general highway safety trends in the state for the past five years.

Performance Measures*	2009	2010	2011	2012	2013
Number of fatalities	171	169	159	155	153
Number of serious injuries	931.6	875.6	852	852.8	851.2
Fatality rate (per HMVMT)	1.16	1.15	1.09	1.07	1.06
Serious injury rate (per HMVMT)	6.3	5.95	5.85	5.9	5.9

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

Number of Fatalities and Serious injuries for the Last Five Years



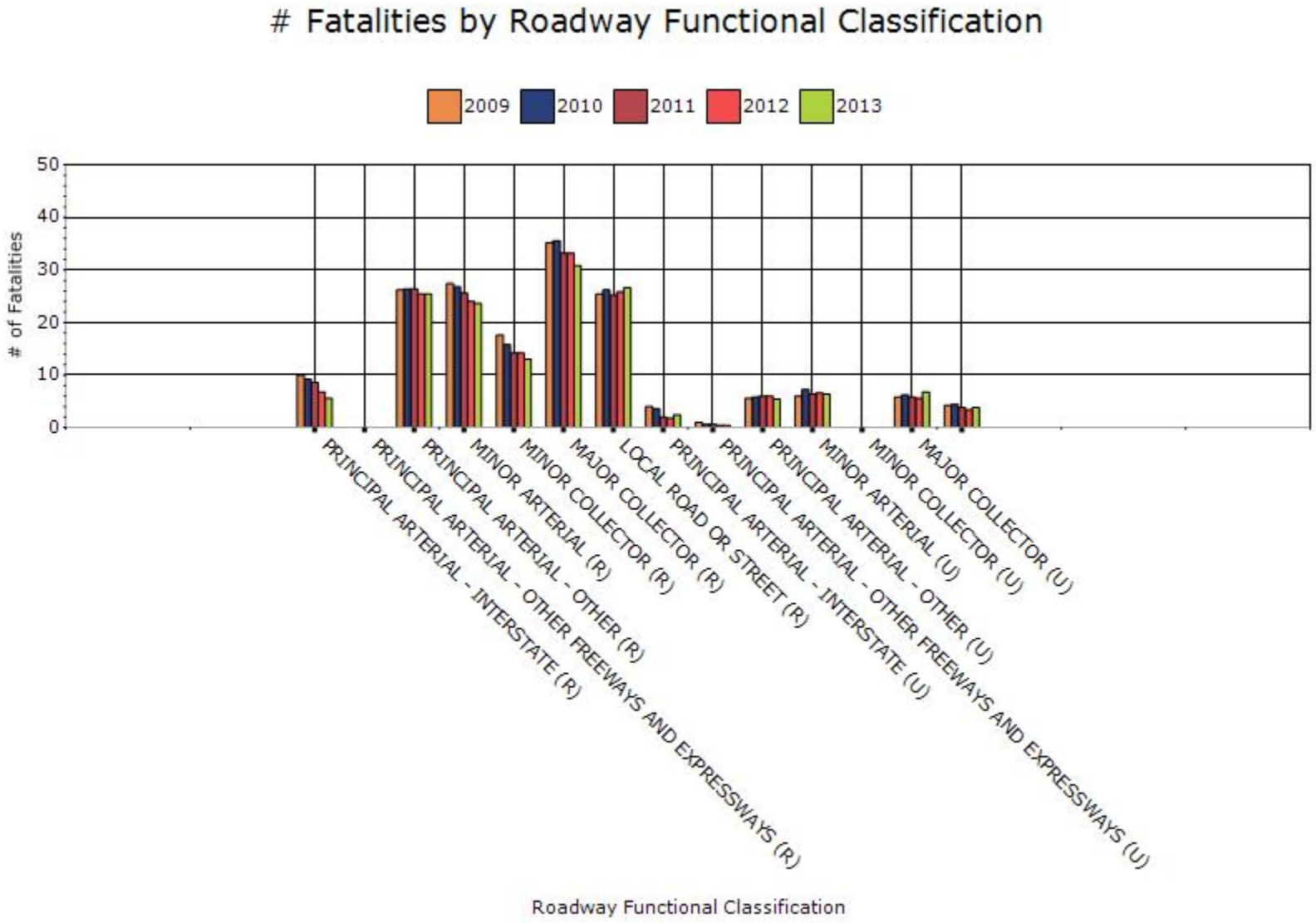

Rate of Fatalities and Serious injuries for the Last Five Years
Serious Injuries Rate (per HMVMT)
Fatality Rate (per HMVMT)
Years
1.16
1.15
1.09
1.07
1.06
2009
2010
2011
2012
2013
Fatality Rate (per HMVMT)
Serious Injuries Rate (per HMVMT)

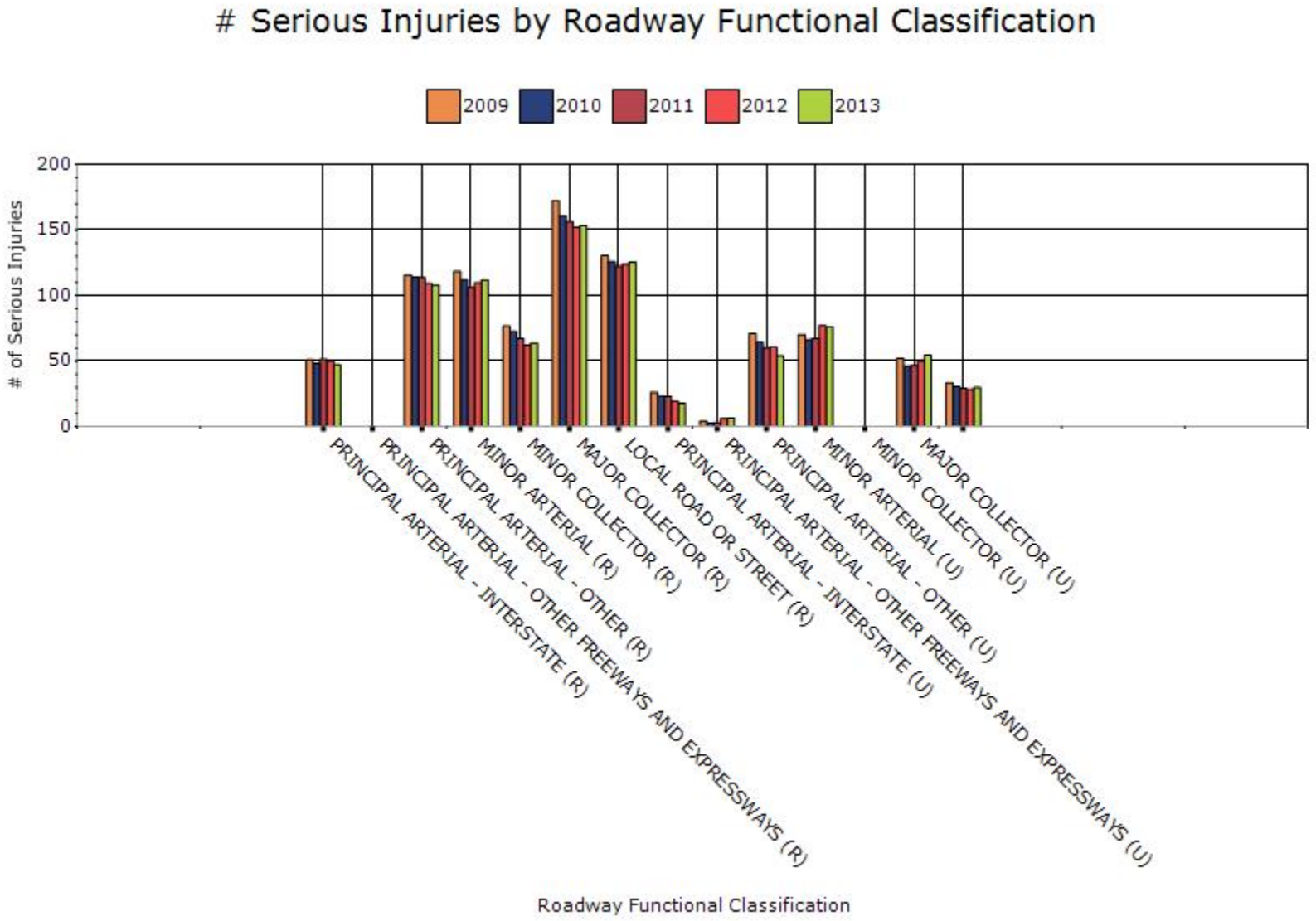
To the maximum extent possible, present performance measure* data by functional classification and ownership.

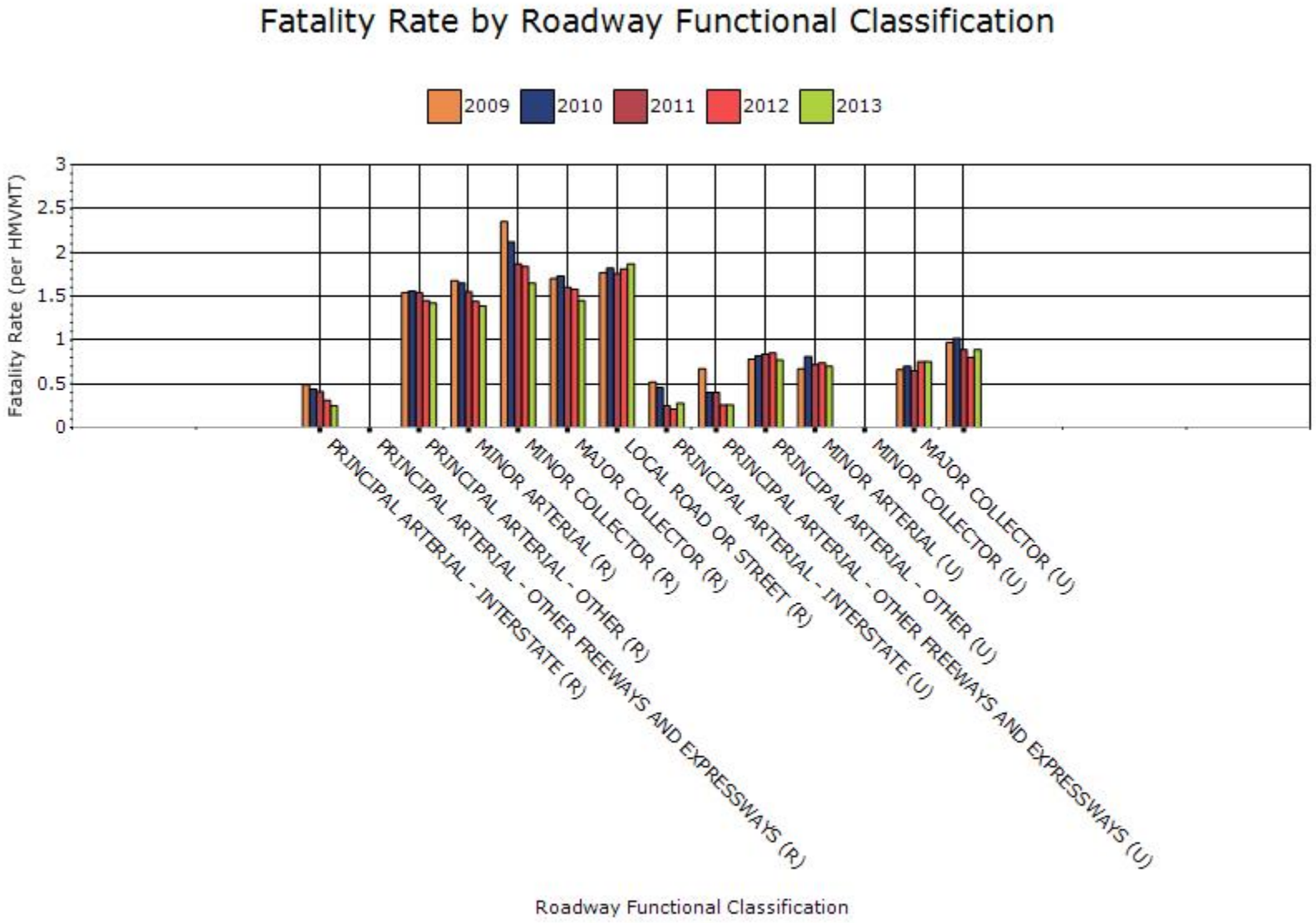
Year - 2013

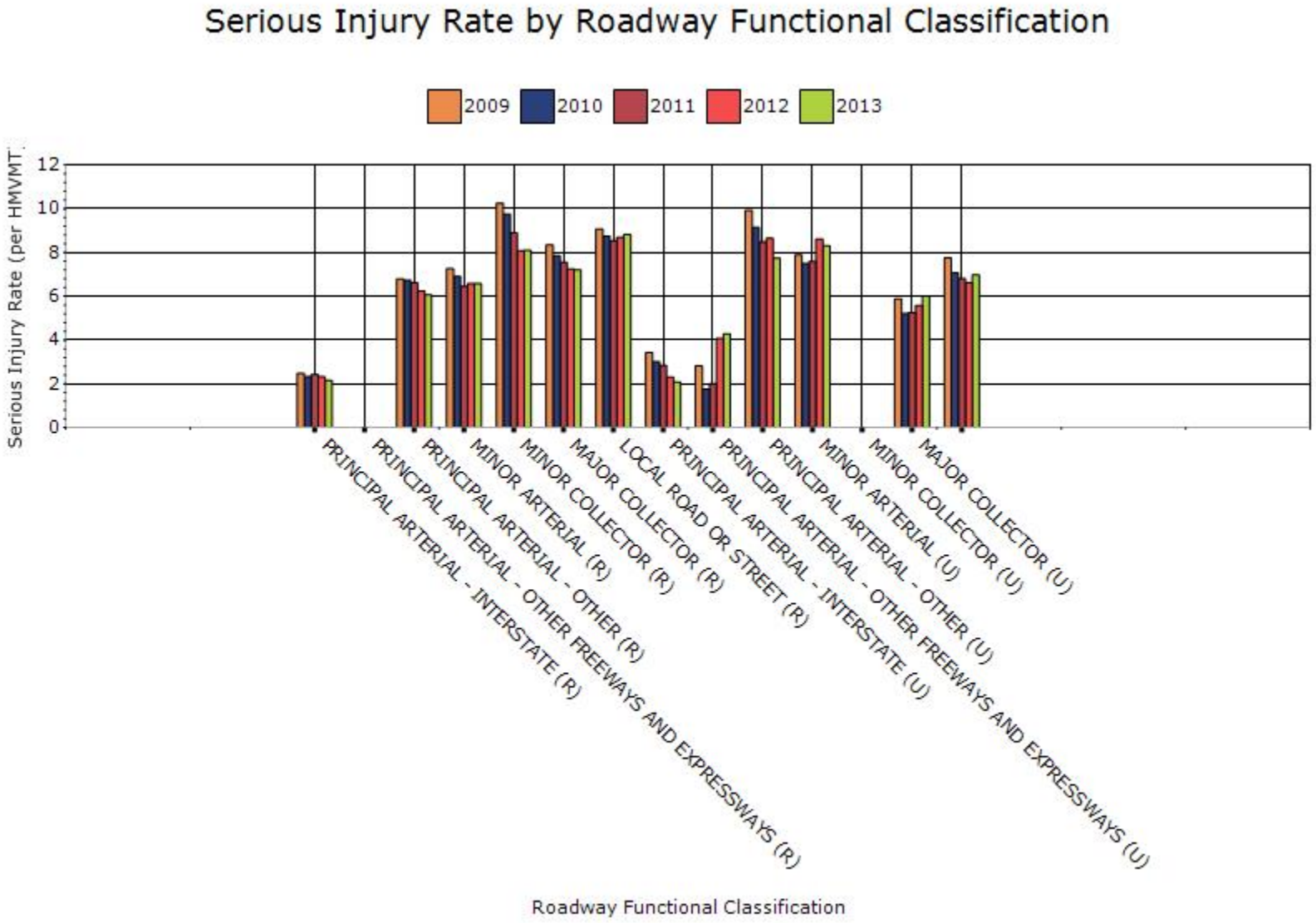
Function Classification	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
RURAL PRINCIPAL ARTERIAL - INTERSTATE	5.6	47.2	0.25	2.15
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	0	0	0	0
RURAL PRINCIPAL ARTERIAL - OTHER	25.4	108.2	1.42	6.06
RURAL MINOR ARTERIAL	23.6	111.8	1.39	6.58
RURAL MINOR COLLECTOR	13	63.8	1.65	8.09
RURAL MAJOR COLLECTOR	30.8	153.2	1.45	7.2
RURAL LOCAL ROAD OR STREET	26.6	125.6	1.87	8.81
URBAN PRINCIPAL	2.4	18	0.28	2.08

ARTERIAL - INTERSTATE				
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	0.4	6.6	0.26	4.28
URBAN PRINCIPAL ARTERIAL - OTHER	5.4	54	0.77	7.74
URBAN MINOR ARTERIAL	6.4	76.2	0.7	8.31
URBAN MINOR COLLECTOR	0	0	0	0
URBAN MAJOR COLLECTOR	6.8	54.6	0.75	6
URBAN LOCAL ROAD OR STREET	3.8	29.8	0.89	6.97


Fatalities by Roadway Functional Classification
2009
2010
2011
2012
2013
# of Fatalities
50
40
30
20
10
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)
Roadway Functional Classification


Serious Injuries by Roadway Functional Classification
2009
2010
2011
2012
2013
# of Serious Injuries
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)
Roadway Functional Classification

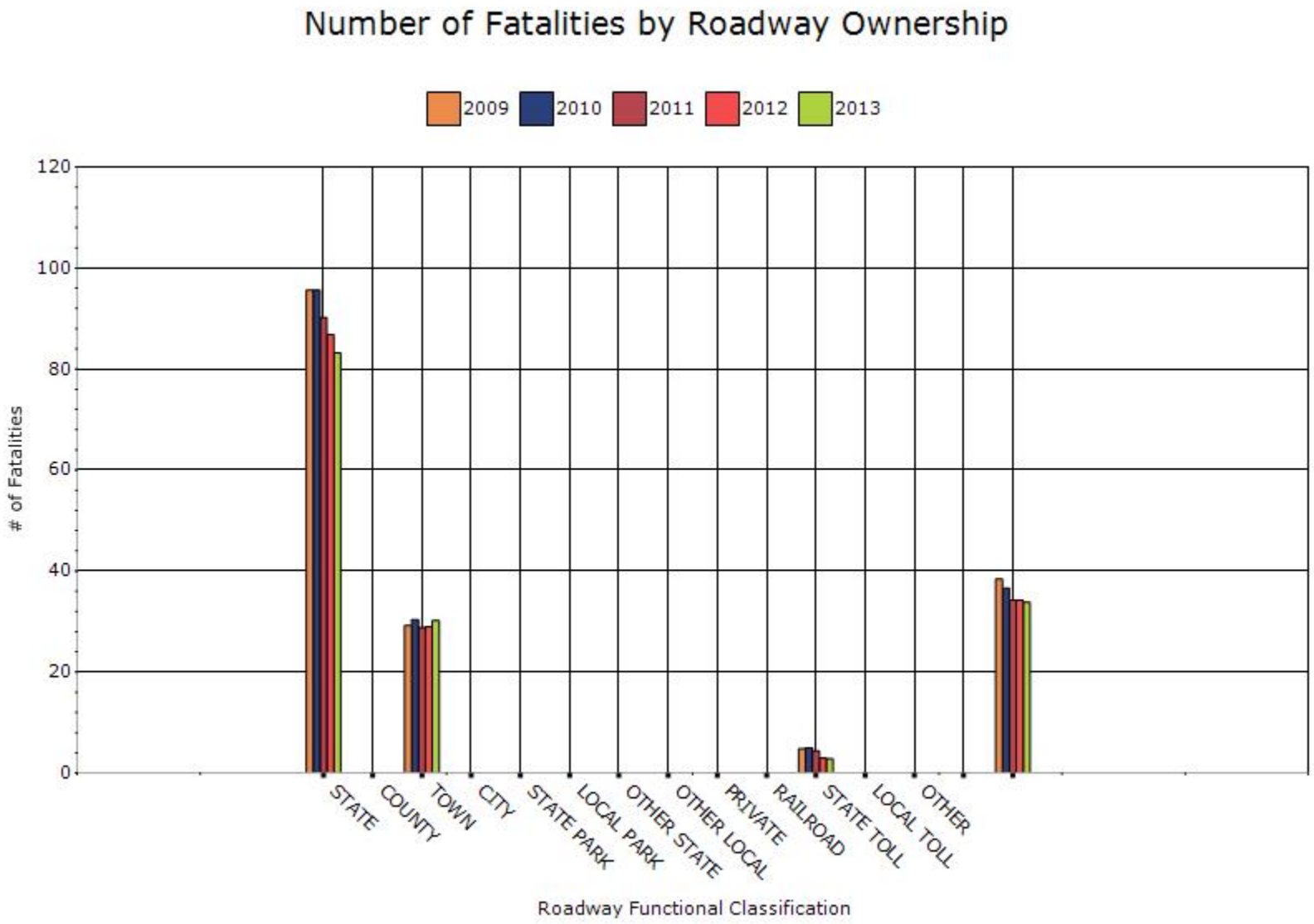

Fatality Rate by Roadway Functional Classification
2009
2010
2011
2012
2013
Fatality Rate (per HMVMT)
3
2.5
2
1.5
1
0.5
0
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)
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)
Roadway Functional Classification

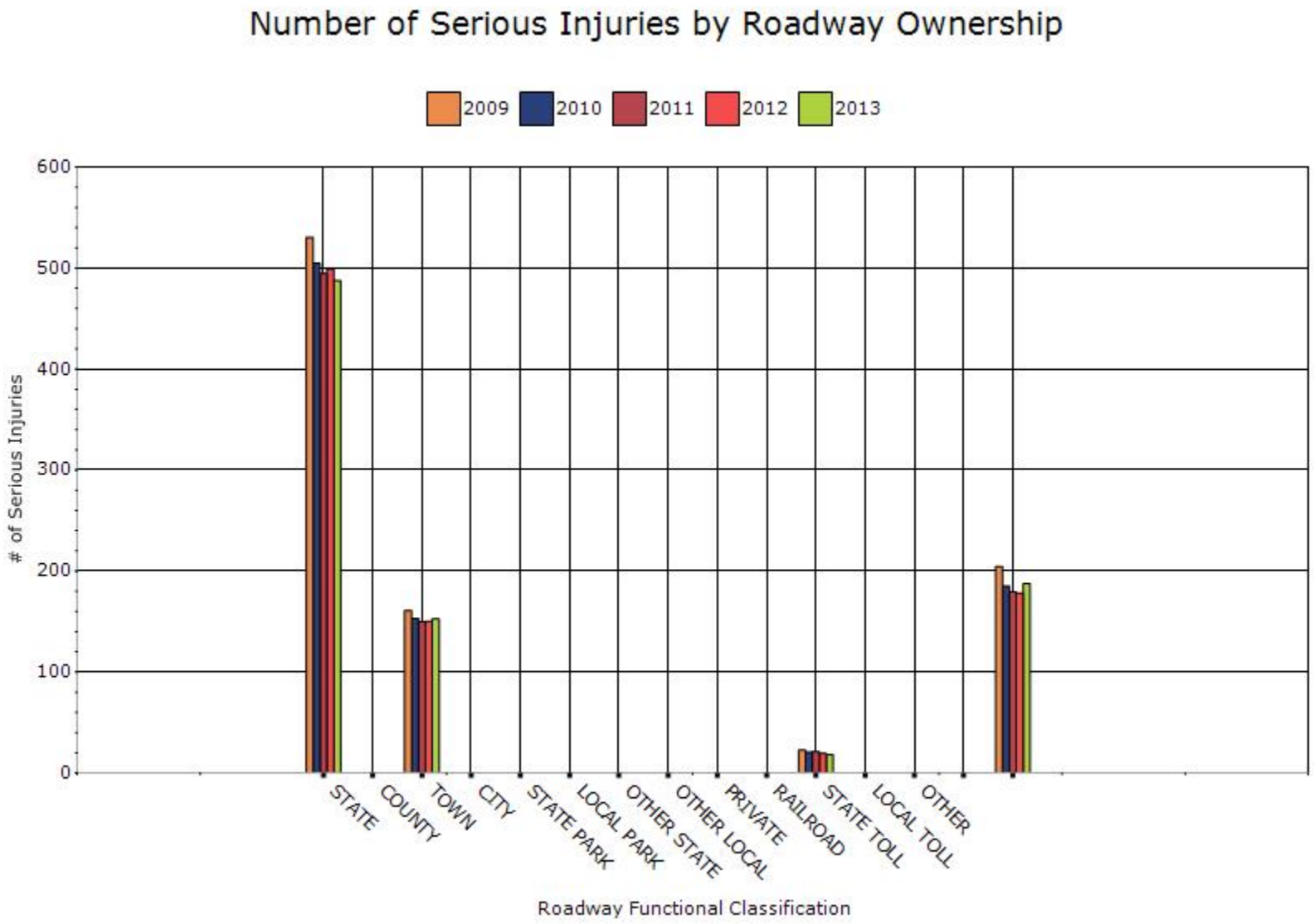

Serious Injury Rate by Roadway Functional Classification
2009
2010
2011
2012
2013
Serious Injury Rate (per HMVMT)
0
2
4
6
8
10
12
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (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)
Roadway Functional Classification

Year - 2013

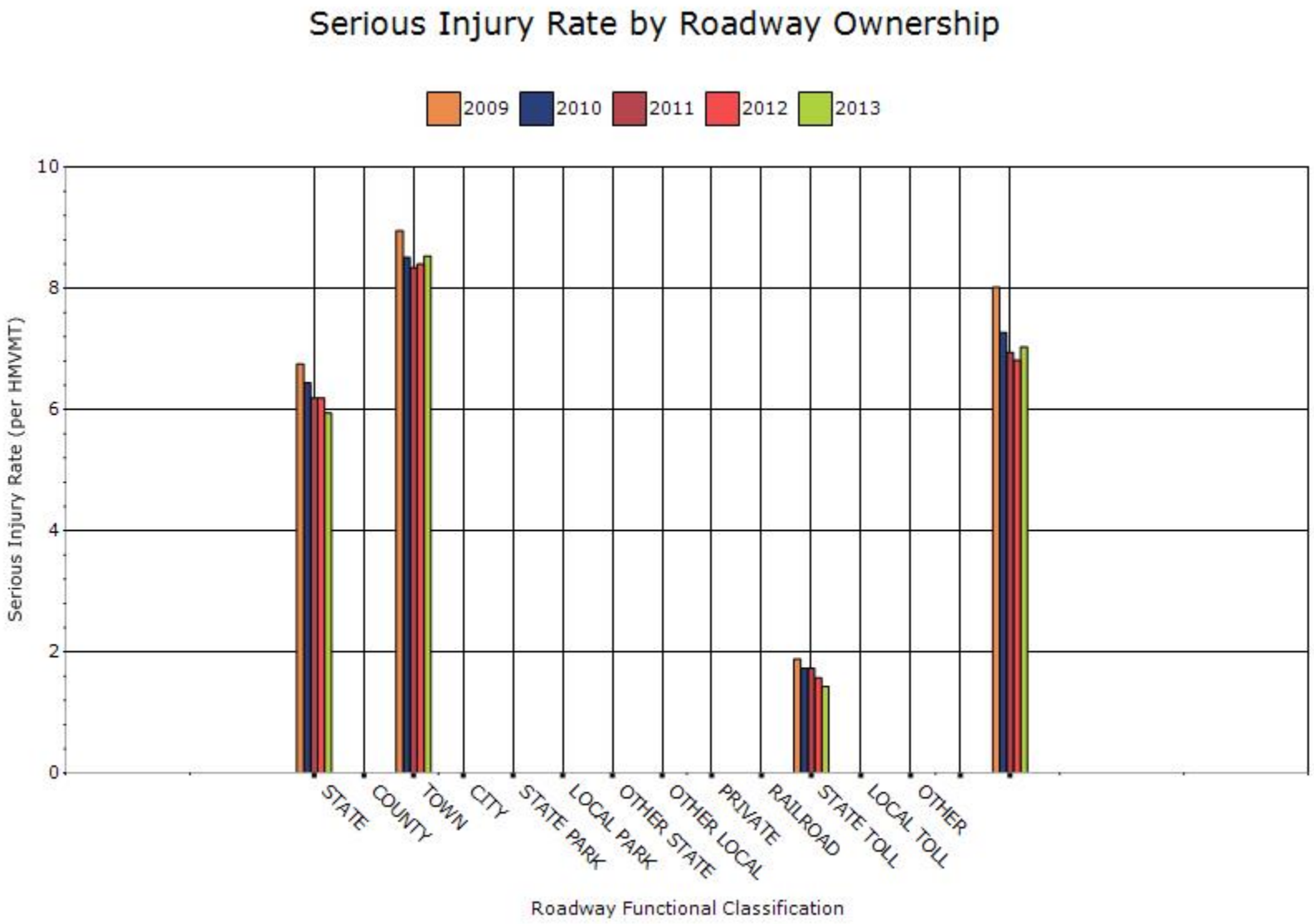
Roadway Ownership	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
STATE HIGHWAY AGENCY	83.2	487.8	1.01	5.94
COUNTY HIGHWAY AGENCY	0	0	0	0
TOWN OR TOWNSHIP HIGHWAY AGENCY	30.2	152.6	1.69	8.53
CITY OF MUNICIPAL HIGHWAY AGENCY	0	0	0	0
STATE PARK, FOREST, OR RESERVATION AGENCY	0	0	0	0
LOCAL PARK, FOREST OR RESERVATION AGENCY	0	0	0	0
OTHER STATE AGENCY	0	0	0	0
OTHER LOCAL AGENCY	0	0	0	0
PRIVATE (OTHER THAN RAILROAD)	0	0	0	0
RAILROAD	0	0	0	0
STATE TOLL AUTHORITY	2.8	18.2	0.22	1.43
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

STATE AID	33.8	187.6	1.27	7.03


Number of Fatalities by Roadway Ownership
2009
2010
2011
2012
2013
120
100
80
60
40
20
0
# of Fatalities
STATE
COUNTY
TOWN
CITY
STATE PARK
LOCAL PARK
OTHER STATE
OTHER LOCAL
PRIVATE
RAILROAD
STATE TOLL
LOCAL TOLL
OTHER
Roadway Functional Classification


Number of Serious Injuries by Roadway Ownership
2009
2010
2011
2012
2013
600
500
400
300
200
100
0
# of Serious Injuries
STATE
COUNTY
TOWN
CITY
STATE PARK
LOCAL PARK
OTHER STATE
OTHER LOCAL
PRIVATE
RAILROAD
STATE TOLL
LOCAL TOLL
OTHER
Roadway Functional Classification


Fatality Rate by Roadway Ownership
2009
2010
2011
2012
2013
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
Roadway Functional Classification


Serious Injury Rate by Roadway Ownership
2009
2010
2011
2012
2013
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
Roadway Functional Classification

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

Overall fatality trends have been positive and continue to improve. Maine has agressively worked with Police agencies to make sure there has been complete reporting submissions. We have identified limited departments that have had issues with successful electronic report exporting.

Maine's lead crash concern is lane departure. While overall numbers are trending down, it still represents 70% of the state's fatalities.

Application of Special Rules

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

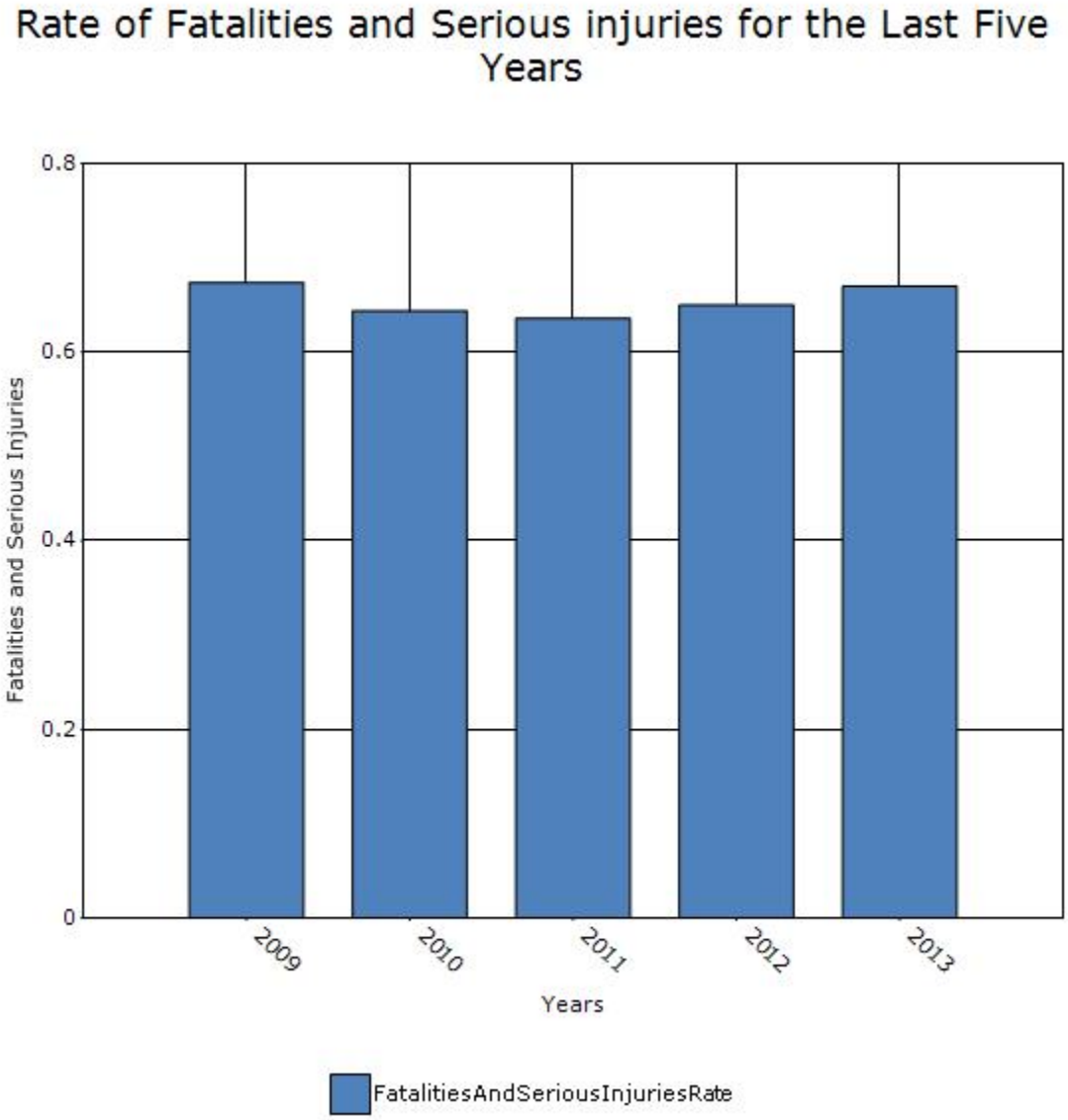
Older Driver Performance Measures	2009	2010	2011	2012	2013
Fatality rate (per capita)	0.174	0.178	0.16	0.152	0.156
Serious injury rate (per capita)	0.5	0.468	0.476	0.498	0.514
Fatality and serious injury rate (per capita)	0.674	0.644	0.636	0.65	0.67

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

Methodology:
Queried in Maine's Crash Reporting database all crashes resulting in fatality or serious injury when fatality occurred to Crash Report Person Type: *Driver, Driver Owner or Pedestrian* over 65 years old.

Using those crash ID's, summed all resulting crash serious injuries by year. Obtained fatal numbers through Maine's FARS analyst.

Developed rates based on Section 148: Older Drivers and Pedestrians Special Rule Interim Guidance; Attachment 2: Number of People 65 Years of Age and Older (Per 1,000 Total Population)
Maine population #s .



Does the older driver special rule apply to your state?

Yes

If yes, describe the approach to include respective strategies to address the increase in those rates in the State SHSP.

<p style="text-align: left;">Main focus will be working with Maine's Mature Driver Safety working group that is looking to enhance public outreach to mature drivers, family members, clinicians and other support services to emphasize importance of driver assessments and provide guidance on appropriate driver interventions when demonstrated skills are diminishing. Mature Drivers is a focus area

in Maine's current SHSP and has been updated in the upcoming 2014 SHSP edition. </p>

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-Maine's new SHSP, due out in 60 days now also references serious injuries

☒ Other: Other-MaineDOT's safety office now reports to MaineDOT's Employee Development Office

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

No significant changes in Maine's program. Here are some items currently underway:

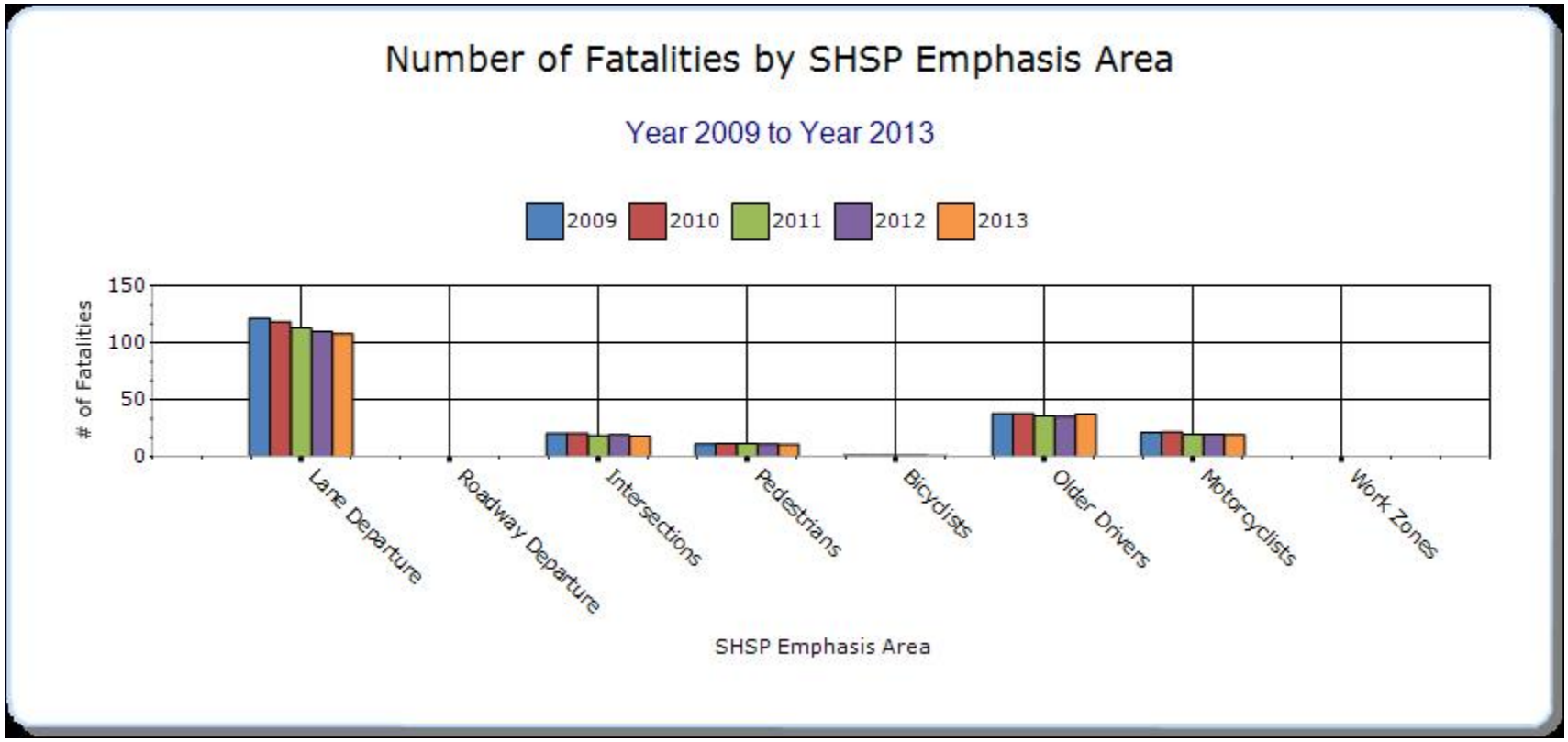
We are in the process of updating the State's SHSP that is more closely coordinated with HSP and other safety efforts.
Expanding installation of centerline rumble strips.
Coodination of planning (Paving and construction work) with safety needs continues to see process improvement.

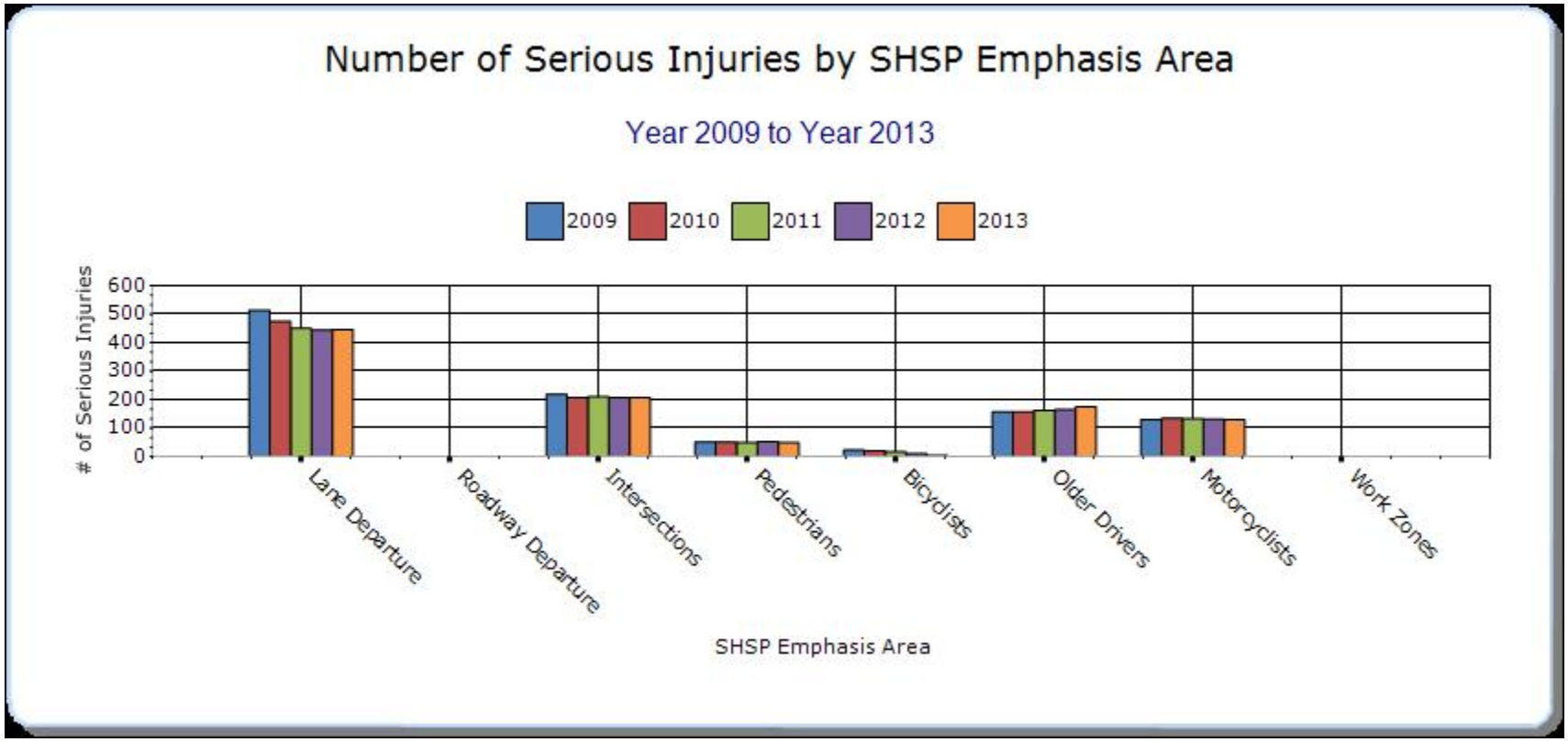
SHSP Emphasis Areas

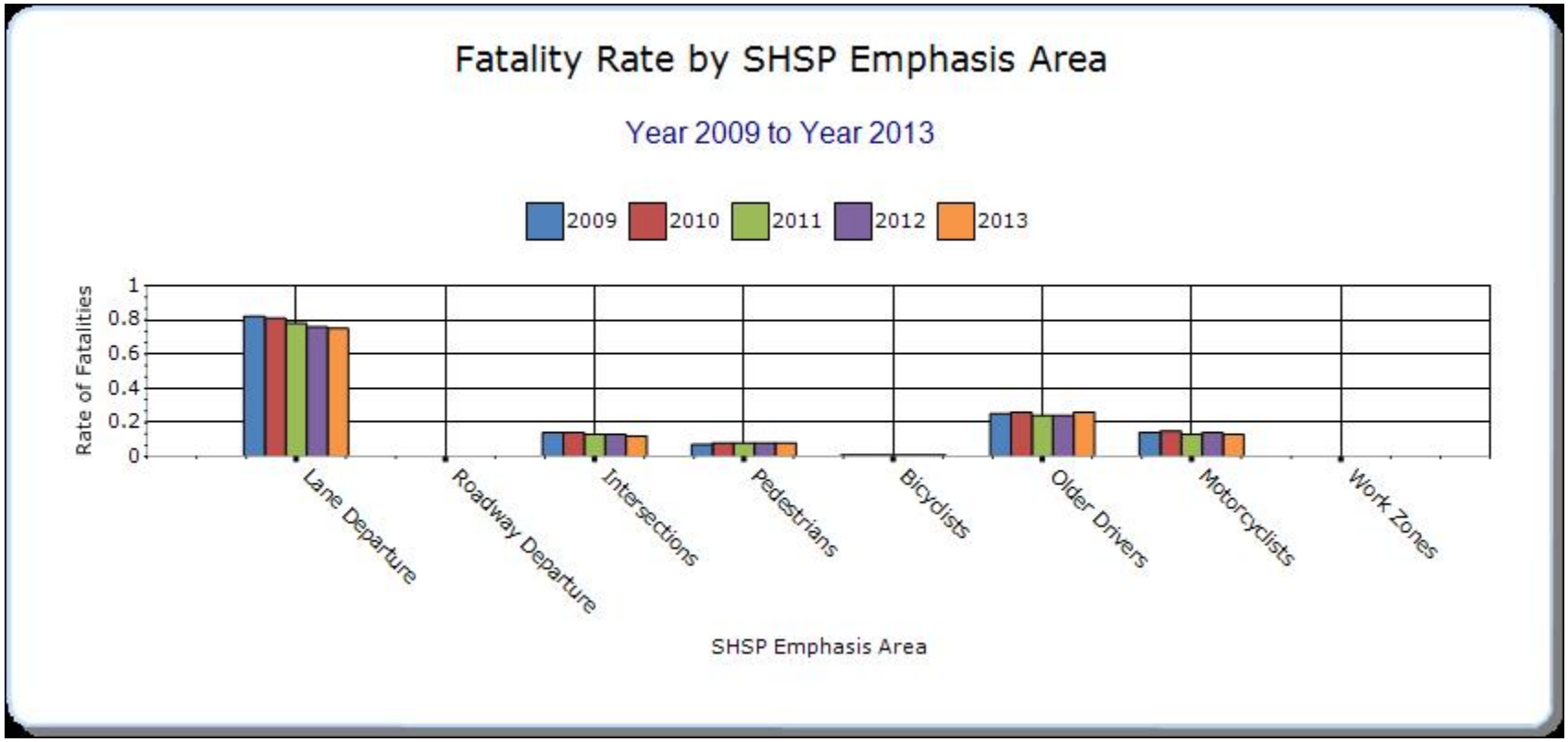
For each SHSP emphasis area that relates to the HSIP, present trends in emphasis area performance measures.

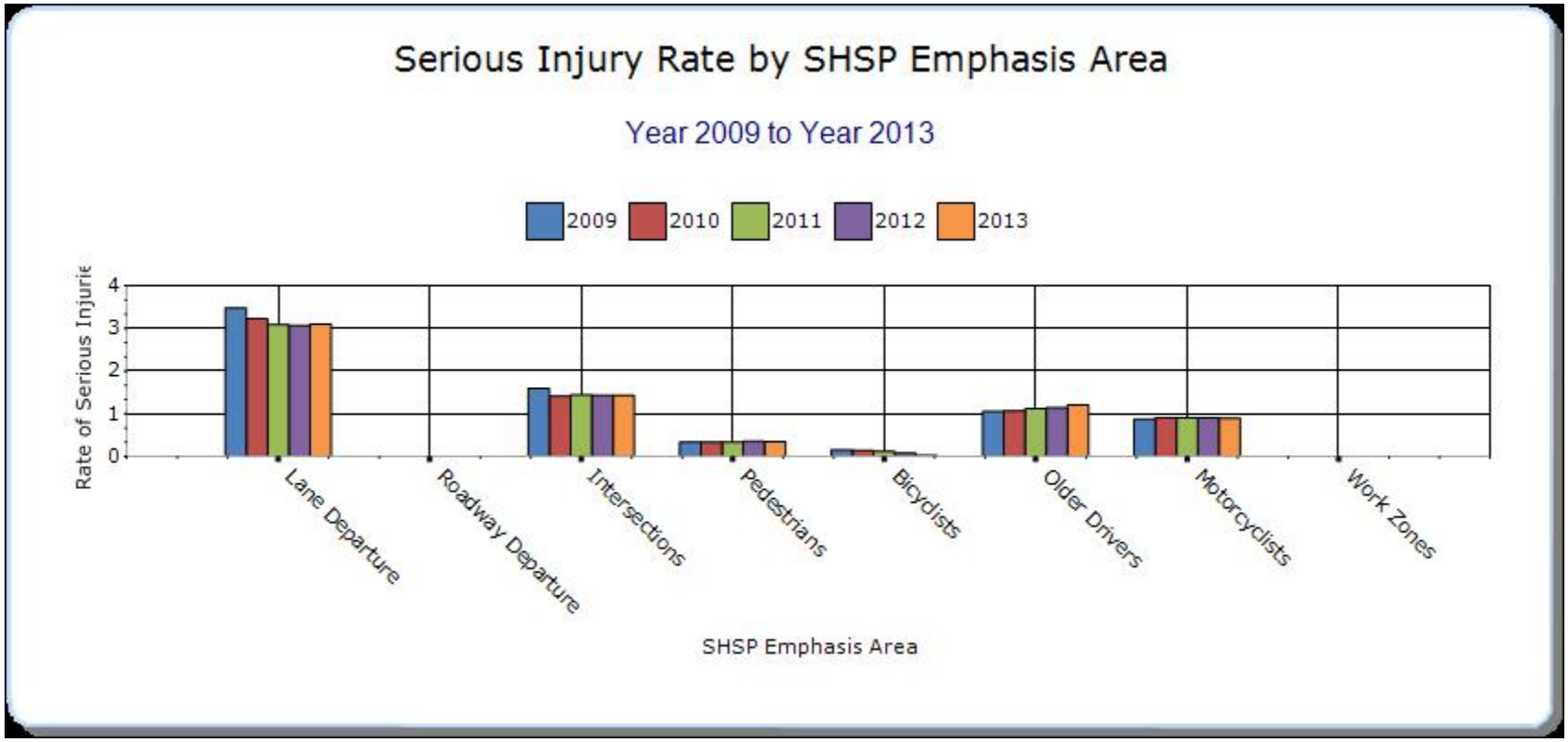
Year - 2013

HSIP-related SHSP Emphasis Areas	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3
Lane Departure	Head On + Went Off Road	107.8	446.6	0.75	3.1	0	0	0
Intersections	All	17.8	207.8	0.12	1.44	0	0	0
Pedestrians		10.8	49.8	0.08	0.35	0	0	0
Bicyclists		0.8	4.4	0.01	0.03	0	0	0
Older Drivers		37.2	174.4	0.26	1.21	0	0	0
Motorcyclists		19	130	0.13	0.9	0	0	0


Number of Fatalities by SHSP Emphasis Area
Year 2009 to Year 2013
2009
2010
2011
2012
2013
# of Fatalities
150
100
50
0
Lane Departure
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
SHSP Emphasis Area


Number of Serious Injuries by SHSP Emphasis Area
Year 2009 to Year 2013
2009
2010
2011
2012
2013
# of Serious Injuries
600
500
400
300
200
100
0
Lane Departure
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
SHSP Emphasis Area


Fatality Rate by SHSP Emphasis Area
Year 2009 to Year 2013
2009
2010
2011
2012
2013
Rate of Fatalities
1
0.8
0.6
0.4
0.2
0
Lane Departure
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
SHSP Emphasis Area

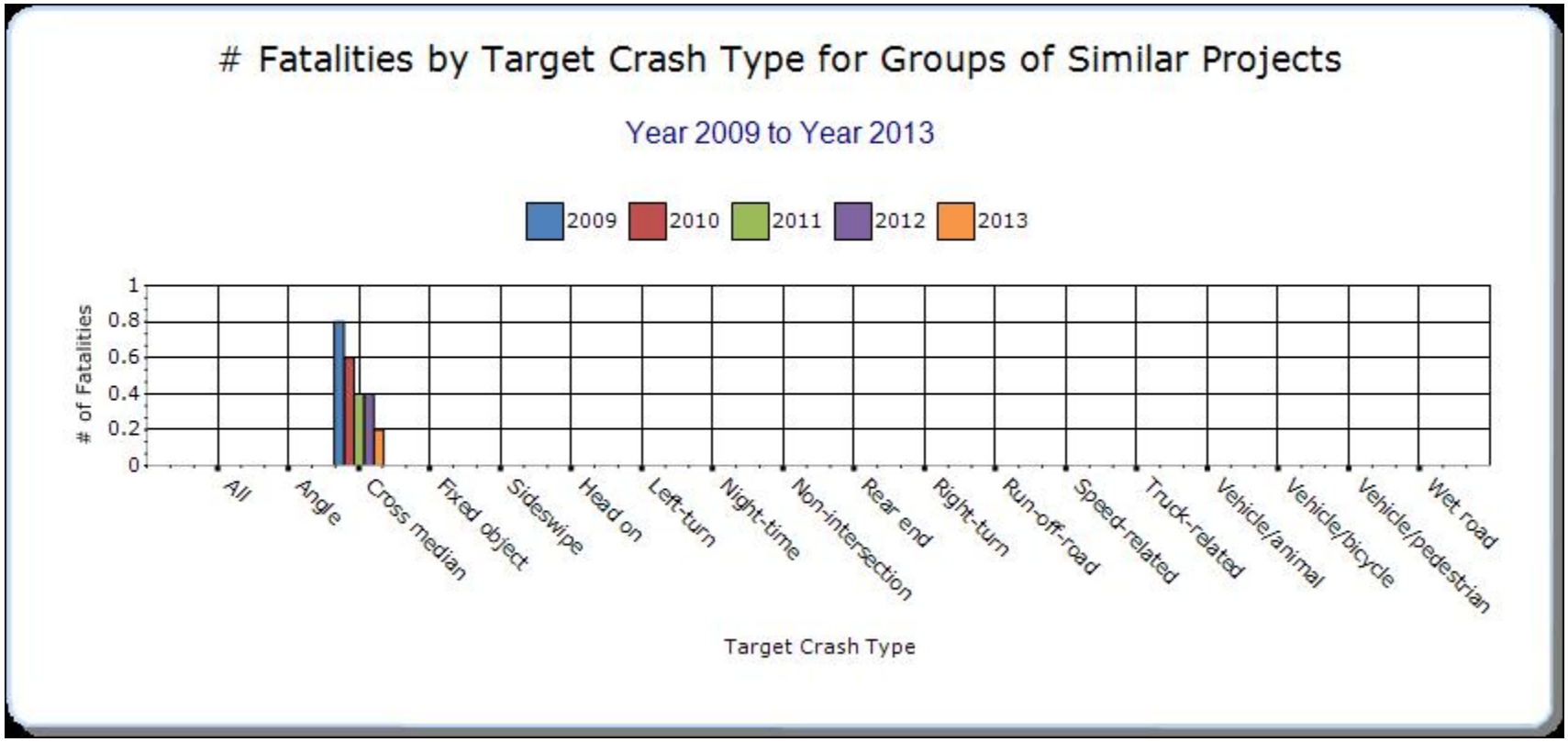

Serious Injury Rate by SHSP Emphasis Area
Year 2009 to Year 2013
2009
2010
2011
2012
2013
Rate of Serious Injurie
4
3
2
1
0
Lane Departure
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
SHSP Emphasis Area

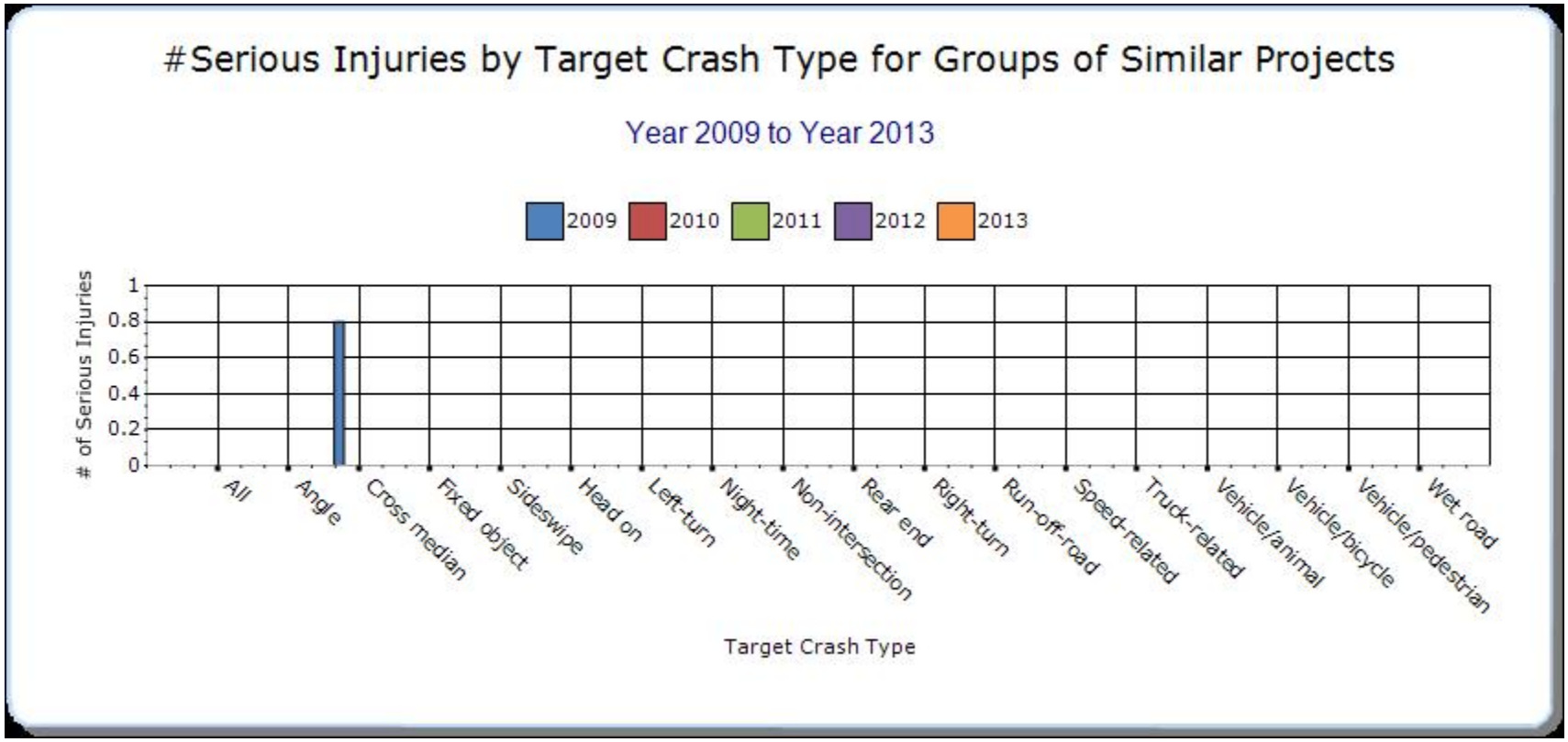
Groups of similar project types

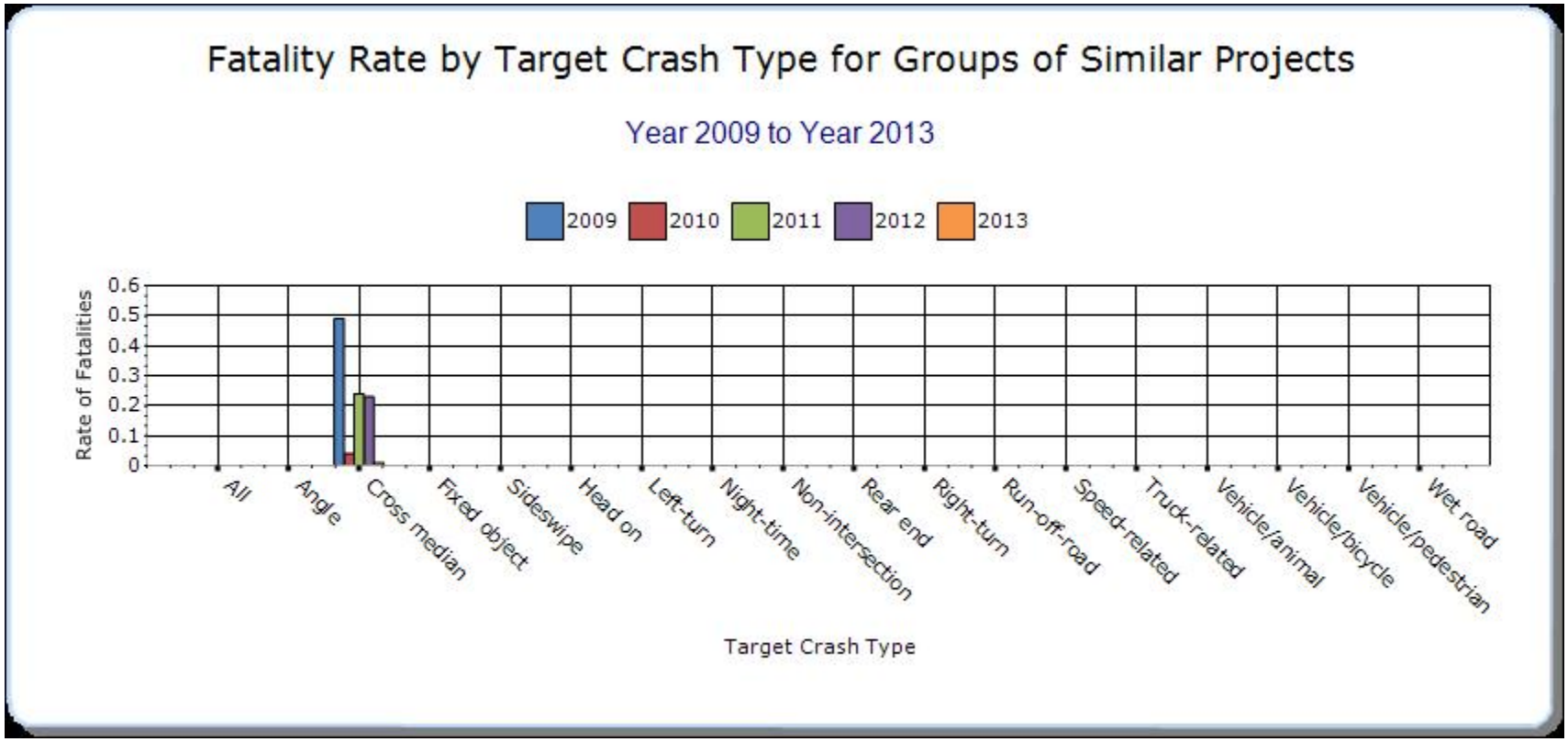
Present the overall effectiveness of groups of similar types of projects.

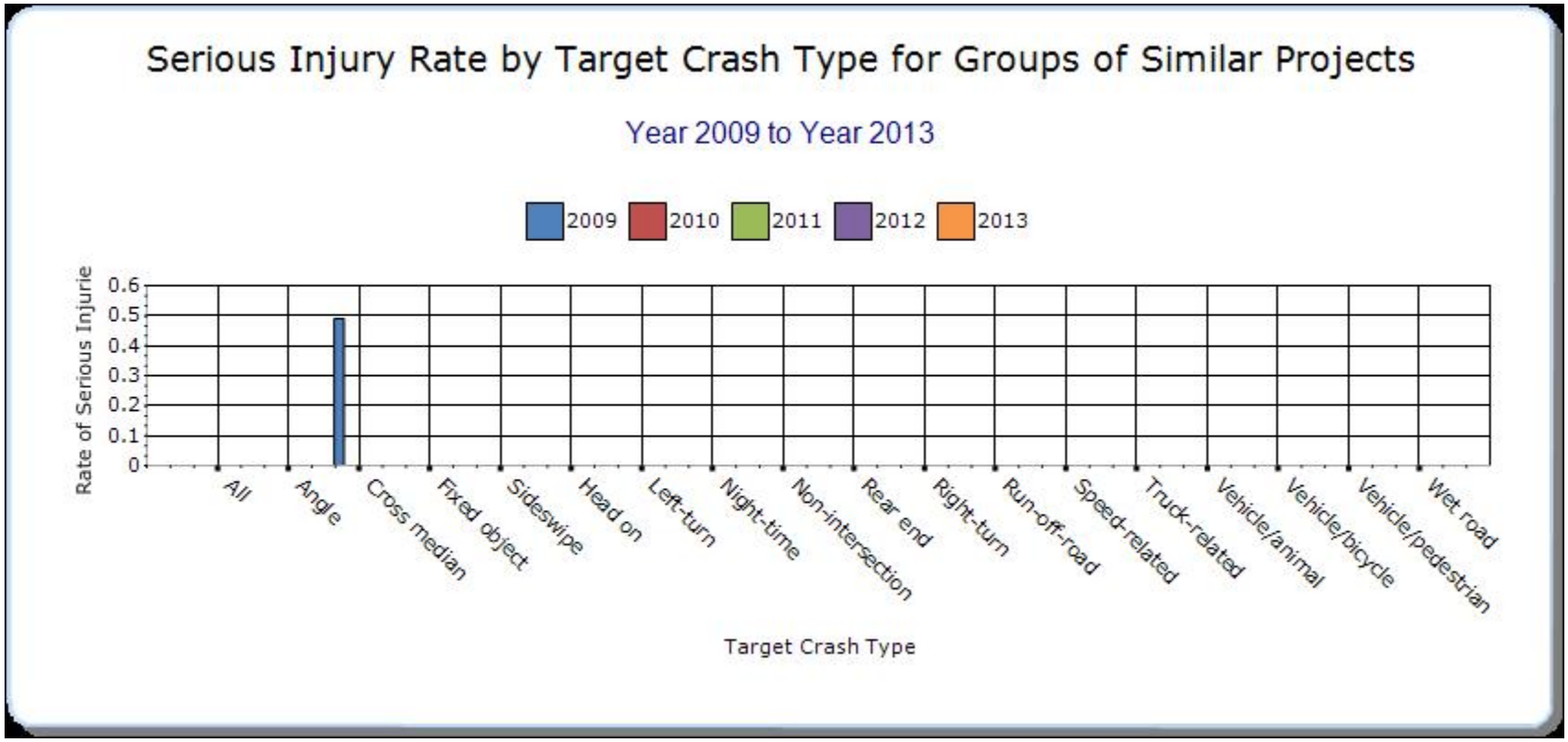
Year - 2013

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
Other-Median Barriers funded through MaineDOT capital pr	Cross median	0.2	0	0.01	0	0	0	0
Crash Data		0	0	0	0	0	0	0


Fatalities by Target Crash Type for Groups of Similar Projects
Year 2009 to Year 2013
2009
2010
2011
2012
2013
# of Fatalities
1
0.8
0.6
0.4
0.2
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 2009 to Year 2013
2009
2010
2011
2012
2013
# of Serious Injuries
1
0.8
0.6
0.4
0.2
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 2009 to Year 2013
2009
2010
2011
2012
2013
Rate of Fatalities
0.6
0.5
0.4
0.3
0.2
0.1
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type

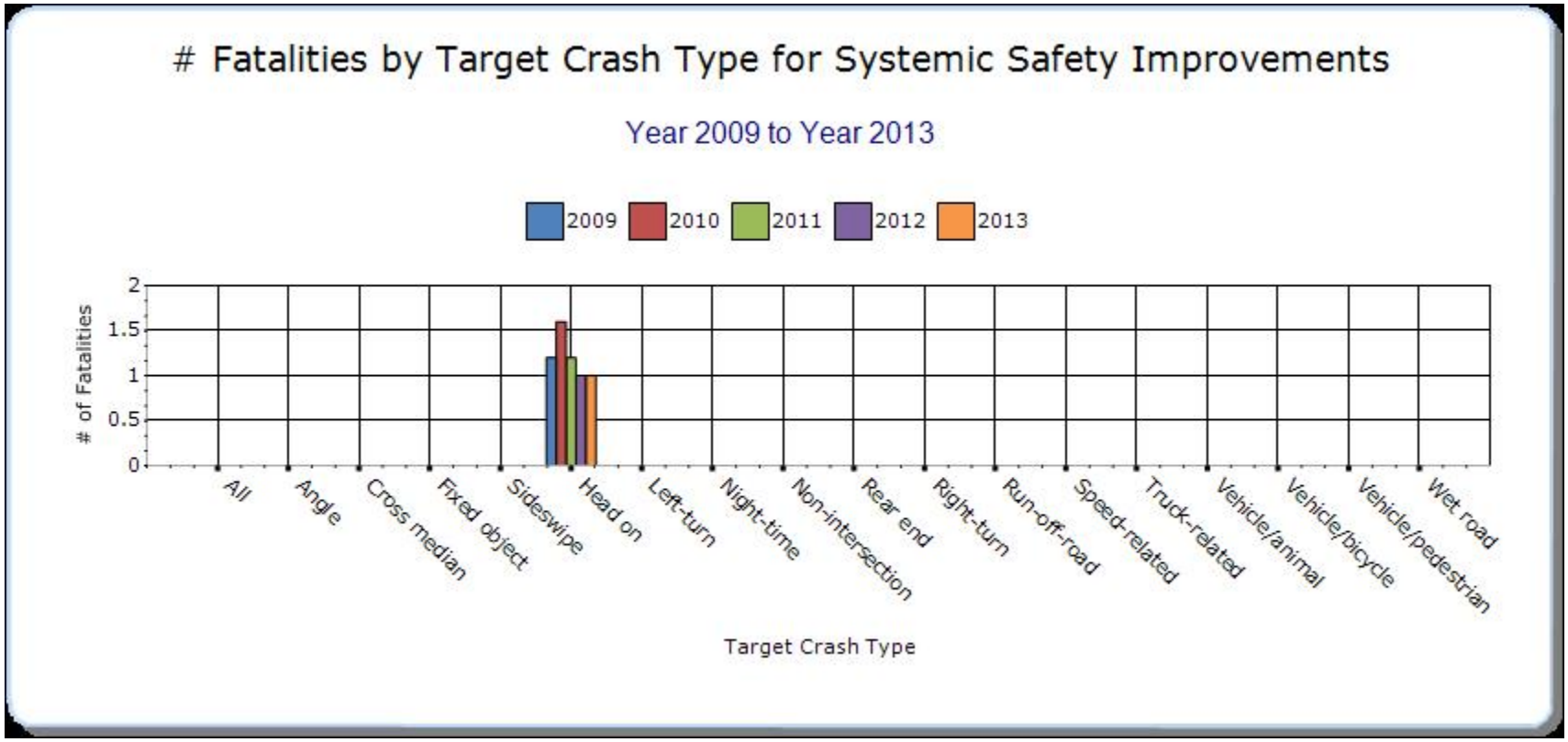

Serious Injury Rate by Target Crash Type for Groups of Similar Projects
Year 2009 to Year 2013
2009
2010
2011
2012
2013
Rate of Serious Injurie
0.6
0.5
0.4
0.3
0.2
0.1
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type

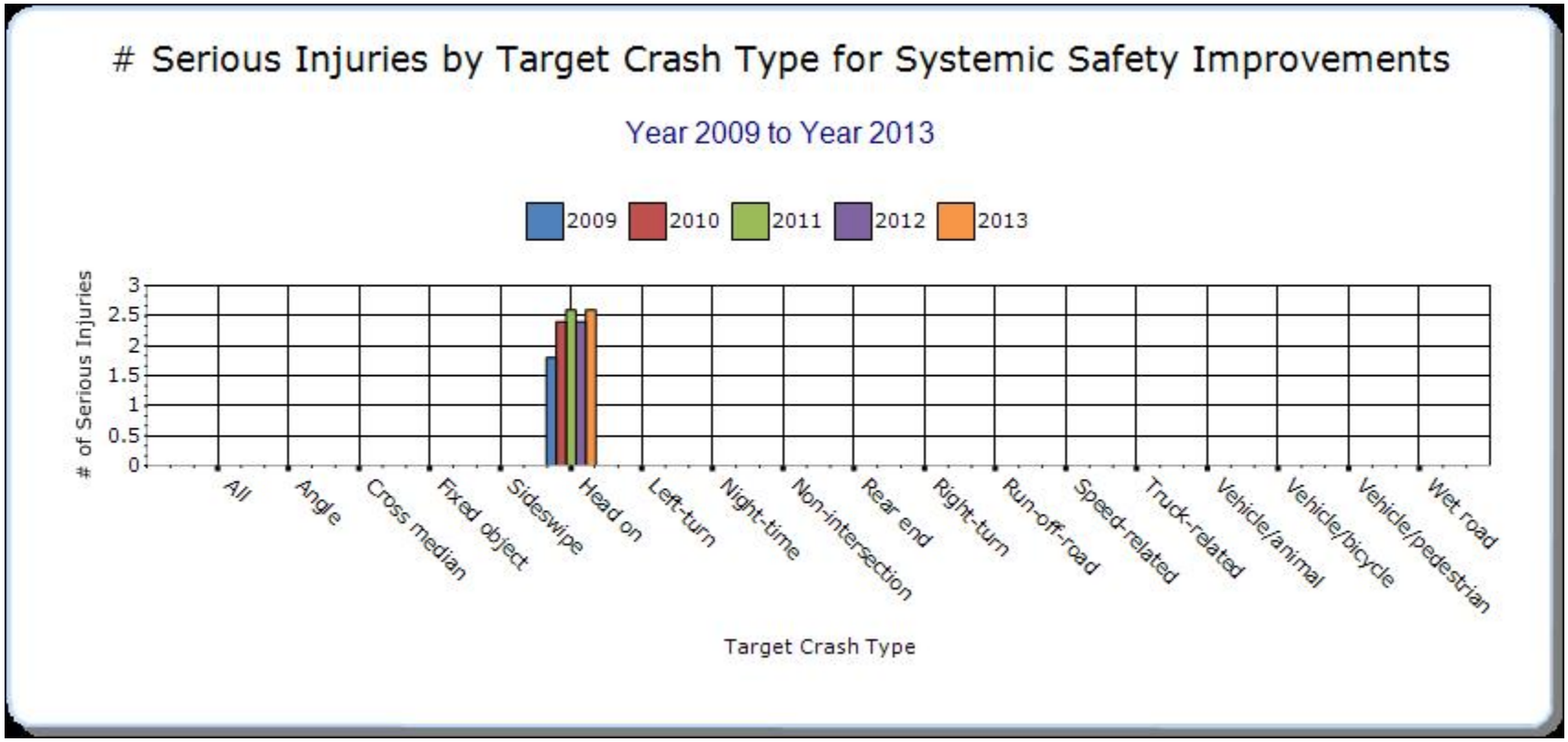
Systemic Treatments

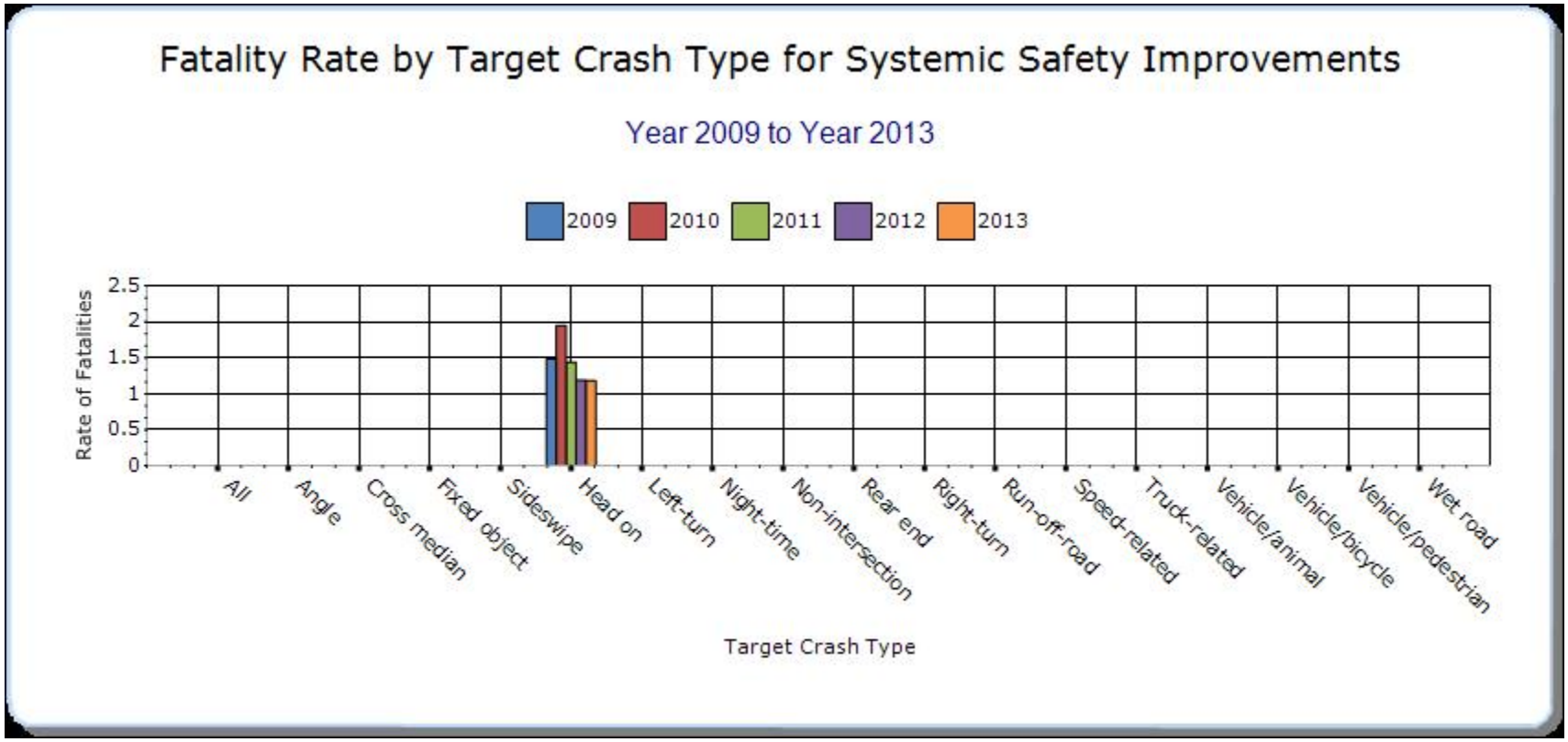
Present the overall effectiveness of systemic treatments.

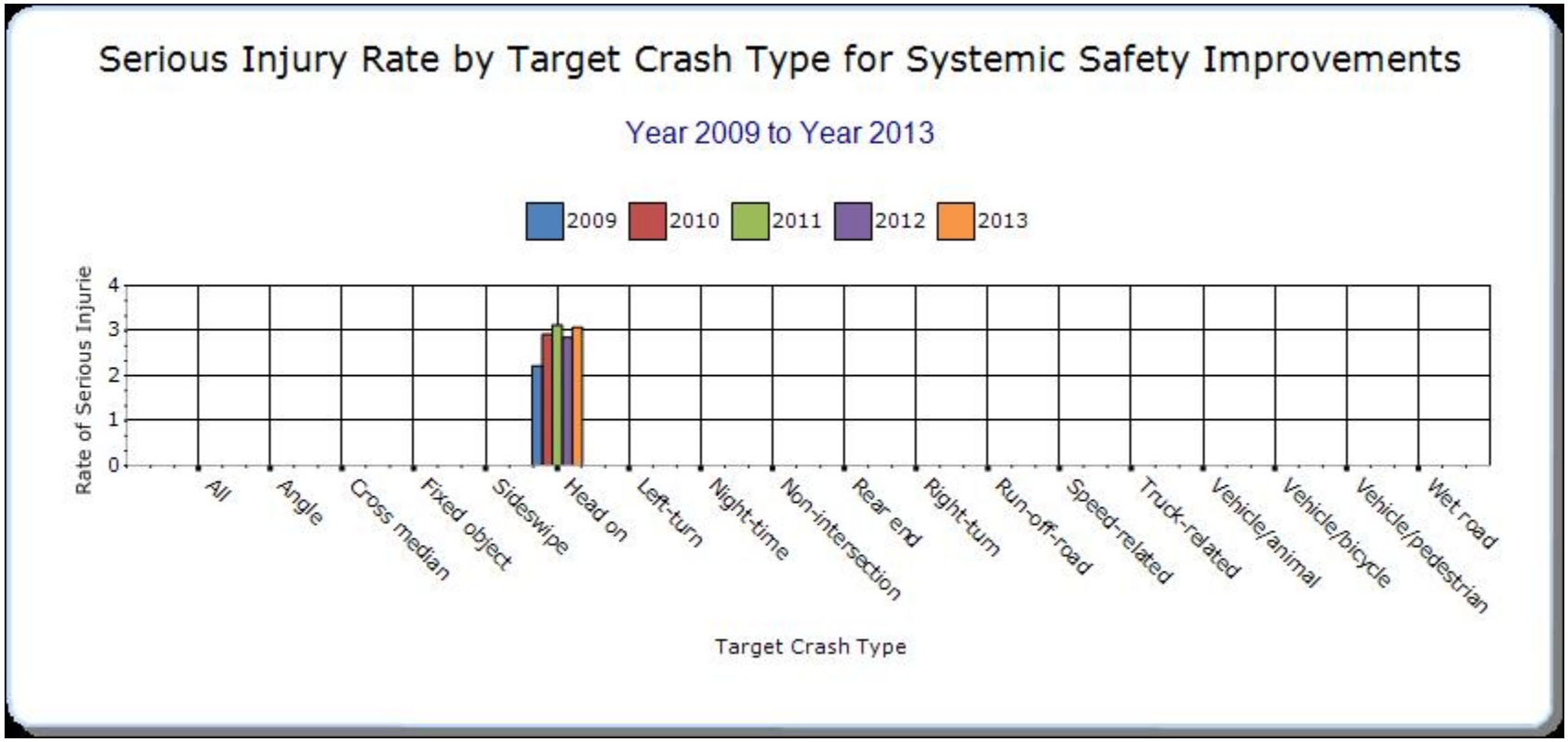
Year - 2013

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
Rumble Strips	Head on	1	2.6	1.18	3.08	0	0	0


Fatalities by Target Crash Type for Systemic Safety Improvements
Year 2009 to Year 2013
2009
2010
2011
2012
2013
# of Fatalities
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 Injuries by Target Crash Type for Systemic Safety Improvements
Year 2009 to Year 2013
2009
2010
2011
2012
2013
# of Serious Injuries
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


Fatality Rate by Target Crash Type for Systemic Safety Improvements
Year 2009 to Year 2013
2009
2010
2011
2012
2013
Rate of Fatalities
2.5
2
1.5
1
0.5
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type


Serious Injury Rate by Target Crash Type for Systemic Safety Improvements
Year 2009 to Year 2013
2009
2010
2011
2012
2013
Rate of Serious Injurie
4
3
2
1
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type

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

Maine has provided median cable barrier installations on almost all narrow (<50-60' wide) interstate medians. MaineDOT does plan to automate that feature in its inventory to be enable easier monitoring of performance in the future. Only one short section remains to be installed on I-195 - Saco, expected to be completed later in 2014. No fatalities have occured on sections where median cable barrier has been installed, but incidental barrier/guardrail hits have increased. Maine experienced 4 interstate median crossover fatalities from 2005 to 2009, none since

Centerline Rumble strips were added to three selected corridors in late 2013, two more are planned for later 2014 (which will bring Maine's total to 10 sections of non-interstate Centerline Rumble Strip installations), and new candidates are being considered for 2015-17. No head-on fatalities have occurred on corridors where installed.

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)
	See attached													

Optional Attachments

Sections	Files Attached
Assessment of the Effectiveness of the Improvements (Program Evaluation): Systemic Treatments	Completed Safety Projects CY 2010.xlsx

Glossary

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

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

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

HMVMT means hundred million vehicle miles traveled.

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

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

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

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

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

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

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

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