Highway Safety Improvement Program
Data Driven Decisions

Connecticut
Highway Safety Improvement Program
2015 Annual Report

Prepared by: CT

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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2. Executive Summary

The reporting period for 2015 is from October 1, 2013 to September 30, 2014.

The HSIP is administrated and managed by the Safety Engineering Section located within the Division of Traffic Engineering, Bureau of Engineering and Construction.

This reporting period, ConnDOT has obligated more systemic and systematic safety improvements in the HSIP program compared to past reporting periods. While ConnDOT's traditional site analysis approach, known as the suggested List of Surveillance Study Sites (SLOSSS), results in safety investments at specific locations, the systemic and systematic approach leads to widespread implementation of projects to reduce the potential for fatalities and/or serious injuries, whether or not crashes have occurred at any given site. Because many of CT's fatal and serious injury crashes are spread out across all public roads, the systematic/systemic approach provides an alternate method to identify and implement low-cost safety countermeasure addressing specific risk factors across the entire roadway network. Systematic/systemic analysis is a compliment to site-specific analysis, and can be very effective in implementing low-cost safety improvements.

CT is currently updating its SHSP and it is likely that additional emphasis will be placed on systematic and systemic improvements.

Introduction

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

Program Structure

Program Administration

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

☒ Central

☐ District

☐ Other

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

Local Roads are addressed by the Local Road Accident Reduction Program (LRARP). The LRARP provides federal funding for safety-related improvements not on the state-numbered highway system, to address hazardous elements identified at specific locations and along roadway sections. The Crash Data and Analysis Office commenced coding all local road accidents effective with 2007 accidents and complete local road accident information is now available through December 2014. Since traffic volume data for the majority of local roads is not available, an analytical analysis of crashes on non-state maintained roadways to determine project selection has not been possible. Therefore, the Department annually solicits the Regional Planning Organizations (RPO) for recommended improvements on behalf of their member towns, to address identified hazardous elements. These improvements may include signal enhancements, minor geometric improvements, roadside obstacles, sight line conditions, hazards to pedestrians and poor or unmarked roadways. In the future when more local road data is available, the methodology for selection of improvements under the LRARP will be reevaluated. In the interim, the Department has expanded the Local Road Program in order to consider system-wide improvement projects designed to address run-off-road fixed-object collisions on local roads. The project cost eligible for federal participation is currently capped at $500,000 per location. All locations are reviewed and investigated by the Division of Traffic Engineering and the Division of Highway Design.

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

☒Design

☒Planning

☐Maintenance

☐Operations

☒Governors Highway Safety Office

☒Other: Other-Traffic Engineering

6. Briefly describe coordination with internal partners.

Responsibility for carrying out the administration of the HSIP within the Department is assigned to the Division of Traffic Engineering and the Bureau of Policy and Planning-Crash Data and Analysis Section. The Department actively collects and compiles crash data with the intent of addressing problematic conditions that are identified. Identification and surveillance of locations displaying higher than expected accident rates on the state highway system are accomplished primarily through a computerized surveillance system utilizing traffic record files maintained by the Bureau of Policy and Planning. Those files consist of (1) a crash record file, (2) an average daily traffic file, (3) an inventory of certain roadway characteristics. The inventory file identifies locations as being either rural or urban, as either a section of highway, section of expressway, intersection with another state highway, intersection with a town road (or signalized drive) or expressway interchange and further by number of lanes and control of access. Some groups having few locations are merged with similar groups. The Bureau of Policy and Planning runs a computer program utilizing the three files described above. The results are lists of locations that have a higher than expected crash rate. These lists are referred to as SLOSSS lists (Suggested List of Surveillance Study Sites). In that computer program, average crash rates and number of crashes are computed for the various groups of locations described in the preceding paragraph. Based upon those average values, a threshold of abnormally high numbers and rates is developed for each location. Locations equaling or exceeding the threshold are reviewed. The thresholds are changed occasionally based upon prior experience with these lists. The process described above is not intended to be the sole determinant in identifying locations having problematic characteristics. Many locations with crash rates not abnormally high will demonstrate crash type or severity patterns symptomatic of the problematic characteristic for a particular location. An example would be a pattern of run-off-the-road crashes at a curve. Some other locations may have design characteristics similar to a design

characteristic determined to be problematic (e.g., rigid sign posts, poor sight line). These may also be considered for safety improvement.

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

☒Metropolitan Planning Organizations

☒Governors Highway Safety Office

☐Local Government Association

☒Other: Other-Safety Circuit Rider Program

8. 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-The Department has begun investigating low cost systematic proven safety countermeasures to enhance the HSIP program

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

Projects can qualify for the Department's HSIP funds and placement on the HSIP Safety Project Plan when they are initiated from the following sources:

-Suggested List of Surveillance Study Sites (SLOSSS)
-Local Road Accident Reduction Program (LRARP)
-Railway-Highway Grade Crossing Program (RHGCP)
-Projects supporting SHSP Emphasis Areas

-Section 402/405 Safety Programs (NHTSA)
-Section 154 (Open Container Requirements)
-High Risk Rural Roads

Program Methodology

10. 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-spot improvement (SLOSSS)		

11. Program: **Local Safety**

Date of Program Methodology: **7/1/2008**

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-As supplied by the applicant

☐ Lane miles

☐ Roadside features

☐ Other

☐ Other

What project identification methodology was used for this program?

☒ Crash frequency

☐ Expected crash frequency with EB adjustment

☐ Equivalent property damage only (EPDO Crash frequency)

☐ EPDO crash frequency with EB adjustment

☐ Relative severity index

☐ Crash rate

☐ Critical rate

☐ Level of service of safety (LOSS)

☐ Excess expected crash frequency using SPFs

☐ Excess expected crash frequency with the EB adjustment

☐ Excess expected crash frequency using method of moments

☐ Probability of specific crash types

☐ Excess proportions of specific crash types

☐ Other

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

☒ Yes

☐ No

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

☐ Yes

☒ No

If no, describe the methodology used to identify local road projects as part of this program.

Submittals by the regional planning organizations. The submittals that meet the program's criteria are funded.

How are highway safety improvement projects advanced for implementation?

☐ Competitive application process

☐ selection committee

☐ Other

☒ Other-Submittals are checked for accuracy and if the improvement yields a b/c ratio greater than 1.0, the submittals are forwarded to financial to obtain funding

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

☒ Relative Weight in Scoring

☐ Rank of Priority Consideration

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

11. Program: **Other-spot improvement (SLOSSS)**

Date of Program Methodology: **1/1/1967**

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 100

☐ Ranking based on net benefit

☐ Other

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

41

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

13. What process is used to identify potential countermeasures?

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

14. 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:

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

Projects can qualify for the ConnDOT's HSIP funds and placement on the HSIP Safety Project Plan when they are initiated from the following sources:

Suggested List of surveillance Study Sites (SLOSSS)

Local Road Accident Reduction Program (LRARP)

Projects supporting SHSP Emphasis

Section 402 Safety Projects (Highway Safety Programs-NHTSA)

23 USC 154 (Open Container Requirements)

High Risk Rural Roads (23 USC 148(g)(1))

Progress in Implementing Projects

Funds Programmed

16. Reporting period for Highway Safety Improvement Program funding.

☐ Calendar Year

☐ State Fiscal Year

☒ Federal Fiscal Year

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

Funding Category	Programmed*		Obligated	
HSIP (Section 148)	16322000	76 %	21097501	80 %
HRRRP (SAFETEA-LU)				
HRRR Special Rule	3123580	15 %	3123580	12 %
Penalty Transfer - Section 154	1990661	9 %	1990661	8 %
Penalty Transfer – Section 164				
Incentive Grants - Section 163				
Incentive Grants (Section 406)				
Other Federal-aid Funds (i.e. STP, NHPP)				
State and Local Funds				
Totals	21436241	100%	26211742	100%

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

$5,840,660.00

How much funding is obligated to local safety projects?

$6,090,798.00

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

$1,095,000.00

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

$1,302,500.00

20. 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?

$14,055,615.00

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

There are numerous needs and deficiencies in CT and the HSIP is just one of ConnDOT's priorities. In some cases, safety projects are funded with NHPP & STPA monies because of the flexibility associated with those programs.

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

The State's SHSP is currently be updated to meet the requirements of MAP-21.

General Listing of Projects

23. 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
0170-3269PL	Non-infrastructure Educational efforts	1 Numbers	459000	510000	HSIP (Section 148)	N/A	0	0	Town or Township Highway Agency	Data	
0170-3230PE	Intersection traffic control Modify traffic signal - modernization/replacement	20 Numbers	1000000	1000000	HSIP (Section 148)	Districtwide	0	0	State Highway Agency	Spot safety improvement	improving the design and operation of hwy intersections
0012-0095RW	Roadway Roadway widening - curve	1 Numbers	166500	185000	HSIP (Section 148)	Urban Minor Arterial	0	0	State Highway Agency	Spot safety improvement	improving the design and operation of hwy intersections
0170-3294P	Pedestrians and bicyclists Miscellaneous pedestrians	1106 Numbe	40000	40000	HSIP (Sectio	Districtwid	0	0	Town or Township	Pedestrian	enhancing pedestria

E	and bicyclists	rs			n 148)	e			Highway Agency	s	n amenities
0170-3295PE	Pedestrians and bicyclists Miscellaneous pedestrians and bicyclists	1053 Numbers	40000	40000	HSIP (Section 148)	Districtwide	0	0	Town or Township Highway Agency	Pedestrians	enhancing pedestrian amenities
0093-0197PL	Non-infrastructure Data/traffic records	1 Numbers	300000	300000	HSIP (Section 148)	N/A	0	0	Non-infrastructure	Data	
0093-0198PL	Non-infrastructure Data/traffic records	1 Numbers	285000	285000	HSIP (Section 148)	N/A	0	0	Non-infrastructure	Data	
0153-0118CN	Roadway Roadway widening - curve	1 Numbers	1252674	1391860	HSIP (Section 148)	Urban Principal Arterial - Other	0	0	State Highway Agency	Roadway Departure	improving the design and operation of hwy intersections
0172-0402CN	Intersection traffic control Modify traffic signal - modernization/replacement	3 Numbers	849480	849480	HSIP (Section 148)	Districtwide	0	0	State Highway Agency	Intersections	improving the design and operation of hwy intersecti

											ons
0017-0183RW	Roadway Roadway widening - travel lanes	1 Numbers	189000	210000	HSIP (Section 148)	Urban Minor Arterial	0	0	State Highway Agency	Spot safety improvement	improving the design and operation of hwy intersections
0171-0356CN	Intersection traffic control Modify traffic signal - modernization/replacement	3 Numbers	338120	338120	HSIP (Section 148)	Districtwide	0	0	State Highway Agency	Spot safety improvement	improving the design and operation of hwy intersections
0173-0418CN	Intersection traffic control Modify traffic signal - modernization/replacement	8 Numbers	1859120	1859120	HSIP (Section 148)	Districtwide	0	0	State Highway Agency	Spot safety improvement	improving the design and operation of hwy intersections
0170-3294PE	Pedestrians and bicyclists Miscellaneous pedestrians and bicyclists	1106 Numbers	10000	10000	HSIP (Section 148)	Districtwide	0	0	Town or Township Highway Agency	Pedestrians	enhancing pedestrian amenities

0170-3295PE	Pedestrians and bicyclists Miscellaneous pedestrians and bicyclists	1053 Numbers	10000	10000	HSIP (Section 148)	Districtwide	0	0	Town or Township Highway Agency	Pedestrians	enhancing pedestrian amenities
0174-0387PE	Intersection traffic control Modify traffic signal timing - adjust clearance interval (yellow change and/or all-red)	395 Numbers	760500	845000	HSIP (Section 148)	Districtwide	0	0	State Highway Agency	Spot safety improvement	improving the design and operation of hwy intersections
0170-3294CN	Pedestrians and bicyclists Miscellaneous pedestrians and bicyclists	1053 Numbers	1265740	1265740	HSIP (Section 148)	Districtwide	0	0	Town or Township Highway Agency	Pedestrians	enhancing pedestrian amenities
0171-0383CN	Roadway signs and traffic control Sign sheeting - upgrade or replacement	220 Numbers	2704300	2704300	HSIP (Section 148)	Districtwide	0	0	State Highway Agency	Intersections	systematic approach to reduce wrong way driving
0148-0202CN	Intersection geometry Auxiliary lanes - add auxiliary through lane	1 Numbers	1035720	1150800	HSIP (Section 148)	Urban Principal Arterial - Other	14300	30	State Highway Agency	Spot safety improvement	improving the design and operation of hwy

											intersections
0170-3295CN	Pedestrians and bicyclists Miscellaneous pedestrians and bicyclists	1053 Numbers	1206340	1206340	HSIP (Section 148)	Districtwide	0	0	Town or Township Highway Agency	Pedestrians	enhancing pedestrian amenities
0172-0427CN	Roadway signs and traffic control Sign sheeting - upgrade or replacement	155 Numbers	1536460	1536460	HSIP (Section 148)	Districtwide	0	0	State Highway Agency	Spot safety improvement	improving the design and operation of hwy intersections
0102-0346RW	Intersection geometry Auxiliary lanes - add left-turn lane	1 Numbers	526500	585000	HSIP (Section 148)	Urban Principal Arterial - Other	0	0	State Highway Agency	Spot safety improvement	improving the design and operation of hwy intersections
0093-0193PL	Non-infrastructure Data/traffic records	1 Numbers	1244161	1244161	Penalty Transfer - Section 154	N/A	0	0	Non-infrastructure	Data	

0170-3262PL	Non-infrastructure Data/traffic records	1 Numbers	308000	308000	Penalty Transfer - Section 154	N/A	0	0	Non-infrastructure	Data	
0170-3270PL	Non-infrastructure Data/traffic records	1 Numbers	438500	438500	Penalty Transfer - Section 154	N/A	0	0	Non-infrastructure	Data	
0170-3232CN	Intersection traffic control Systemic improvements - stop-controlled	1462 Numbers	2102220	2102220	HRRR Special Rule	Rural Major Collector	0	0	Town or Township Highway Agency	Intersections	systematic appr. to impr. visibility of STOP signs on local rds
0170-3233CN	Intersection traffic control Systemic improvements - stop-controlled	823 Numbers	1021360	1021360	HRRR Special Rule	Rural Major Collector	0	0	Town or Township Highway Agency	Intersections	systematic appr. to impr. visibility of STOP signs on local rds

0153-0118PE+	Roadway Roadway widening - curve	1 Numbers	200000	180000	HSIP (Section 148)	Urban Principal Arterial - Other	0	0	State Highway Agency	Spot safety improvement	improving the design and operation of hwy intersections
0088-0169CN+	Intersection traffic control Modify traffic signal - modernization/replacement	1 Numbers	13427	12084	HSIP (Section 148)	Urban Minor Collector	0	0	City of Municipal Highway Agency	Spot safety improvement	improving the design and operation of hwy intersections
0170-2873PE+	Non-infrastructure Data/traffic records	1 Numbers	4500	4500	HSIP (Section 148)	N/A	0	0	Non-infrastructure	Data	
0034-0305PE+	Intersection traffic control Intersection traffic control - other	1 Numbers	300000	270000	HSIP (Section 148)	Urban Minor Arterial	0	0	State Highway Agency	Spot safety improvement	improving the design and operation of hwy intersections
0034-0345P	Intersection geometry Auxiliary lanes - add left-	1 Numbe	200000	180000	HSIP (Sectio	Urban Minor	0	0	State Highway	Spot safety improvem	improving the design and

E+	turn lane	rs			n 148)	Arterial			Agency	ent	operation of hwy intersecti ons
0166-0099CN+	Intersection traffic control Intersection traffic control - other	1 Numbers	20836	18752	HSIP (Section 148)	Urban Principal Arterial - Other	0	0	State Highway Agency	Spot safety improvement	improving the design and operation of hwy intersections
0177-0352CN+	Intersection traffic control Modify traffic signal - modernization/replacement	2 Numbers	13323	13323	HSIP (Section 148)	Districtwide	0	0	State Highway Agency	Spot safety improvement	improving the design and operation of hwy intersections
0170-3186PL+	Non-infrastructure Transportation safety planning	1 Numbers	200000	180000	HSIP (Section 148)	Statewide	0	0	Non-infrastructure	Data	Review and update SHSP
0173-0403CN+	Intersection traffic control Modify traffic signal - modernization/replacement	19 Numbers	531408	531408	HSIP (Section 148)	Districtwide	0	0	State Highway Agency	Spot safety improvement	improving the design and operation of hwy

											intersections
0034-0344PE+	Intersection traffic control Intersection traffic control - other	1 Numbers	5000	4500	HSIP (Section 148)	Urban Minor Arterial	16000	30	City of Municipal Highway Agency	Spot safety improvement	improving the design and operation of hwy intersections
0034-0338PE+	Intersection traffic control Intersection traffic control - other	1 Numbers	3500	3500	HSIP (Section 148)	Urban Minor Arterial	12000	25	City of Municipal Highway Agency	Spot safety improvement	improving the design and operation of hwy intersections
0037-0101PE+	Roadway Roadway widening - curve	1 Numbers	20000	18000	HSIP (Section 148)	Rural Local Road or Street	0	25	Town or Township Highway Agency	Roadway Departure	keeping vehicles in the roadway
0092-0640CN+	Intersection traffic control Intersection traffic control - other	1 Numbers	168374	168374	HSIP (Section 148)	Urban Principal Arterial - Other	18100	35	State Highway Agency	Spot safety improvement	improving the design and operation of hwy intersecti

											ons
0170-3086CN+	Pedestrians and bicyclists Miscellaneous pedestrians and bicyclists	1668 Numbers	144305	144305	HSIP (Section 148)	Districtwide	0	0	State Highway Agency	Pedestrians	enhancing pedestrian amenities
0171-0372PE+	Pedestrians and bicyclists Pedestrian signal - audible device	125 Numbers	1000000	1000000	HSIP (Section 148)	Districtwide	0	0	State Highway Agency	Pedestrians	enhancing pedestrian amenities
0173-0442PE+	Roadside Barrier- metal	5 Numbers	200000	200000	HSIP (Section 148)	Districtwide	0	0	State Highway Agency	Roadway Departure	keeping vehicles in the roadway
0153-0118CN+	Intersection geometry Intersection geometrics - miscellaneous/other/unspecified	1 Numbers	4630	4630	HSIP (Section 148)	Urban Principal Arterial - Other	0	0	State Highway Agency	Spot safety improvement	improving the design and operation of hwy intersections
0017-0183PE+	Roadway Roadway widening - travel lanes	1 Numbers	400000	360000	HSIP (Section 148)	Urban Minor Arterial	0	0	State Highway Agency	Spot safety improvement	improving the design and operation of hwy intersecti

											ons
0098-0103CN+	Intersection geometry Auxiliary lanes - add left-turn lane	1 Numbers	398107	346886	HSIP (Section 148)	Urban Minor Arterial	8900	35	State Highway Agency	Spot safety improvement	improving the design and operation of hwy intersections
0048-0189CN+	Intersection traffic control Modify traffic signal - modernization/replacement	1 Numbers	12551.4	12551	HSIP (Section 148)	Urban Major Collector	0	0	Town or Township Highway Agency	Spot safety improvement	improving the design and operation of hwy intersections
0173-0418CN+	Intersection traffic control Modify traffic signal - modernization/replacement	8 Numbers	739880	739880	HSIP (Section 148)	Districtwide	0	0	State Highway Agency	Spot safety improvement	improving the design and operation of hwy intersections
0034-0338CN+	Intersection traffic control Intersection traffic control - other	1 Numbers	195660	195660	HSIP (Section 148)	Urban Principal Arterial - Other	0	0	City of Municipal Highway Agency	Spot safety improvement	improving the design and operation of hwy

											intersecti ons

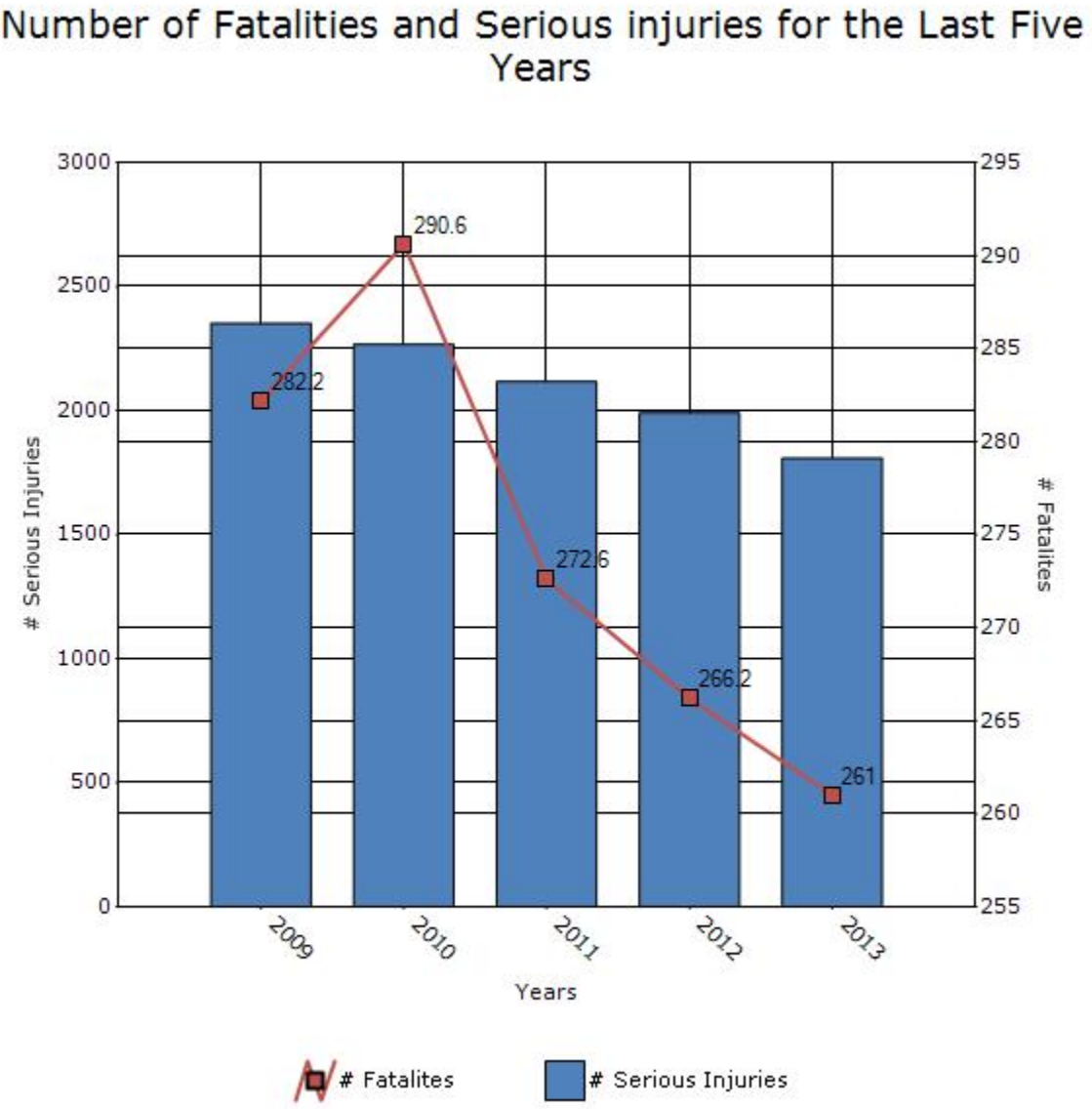
Progress in Achieving Safety Performance Targets

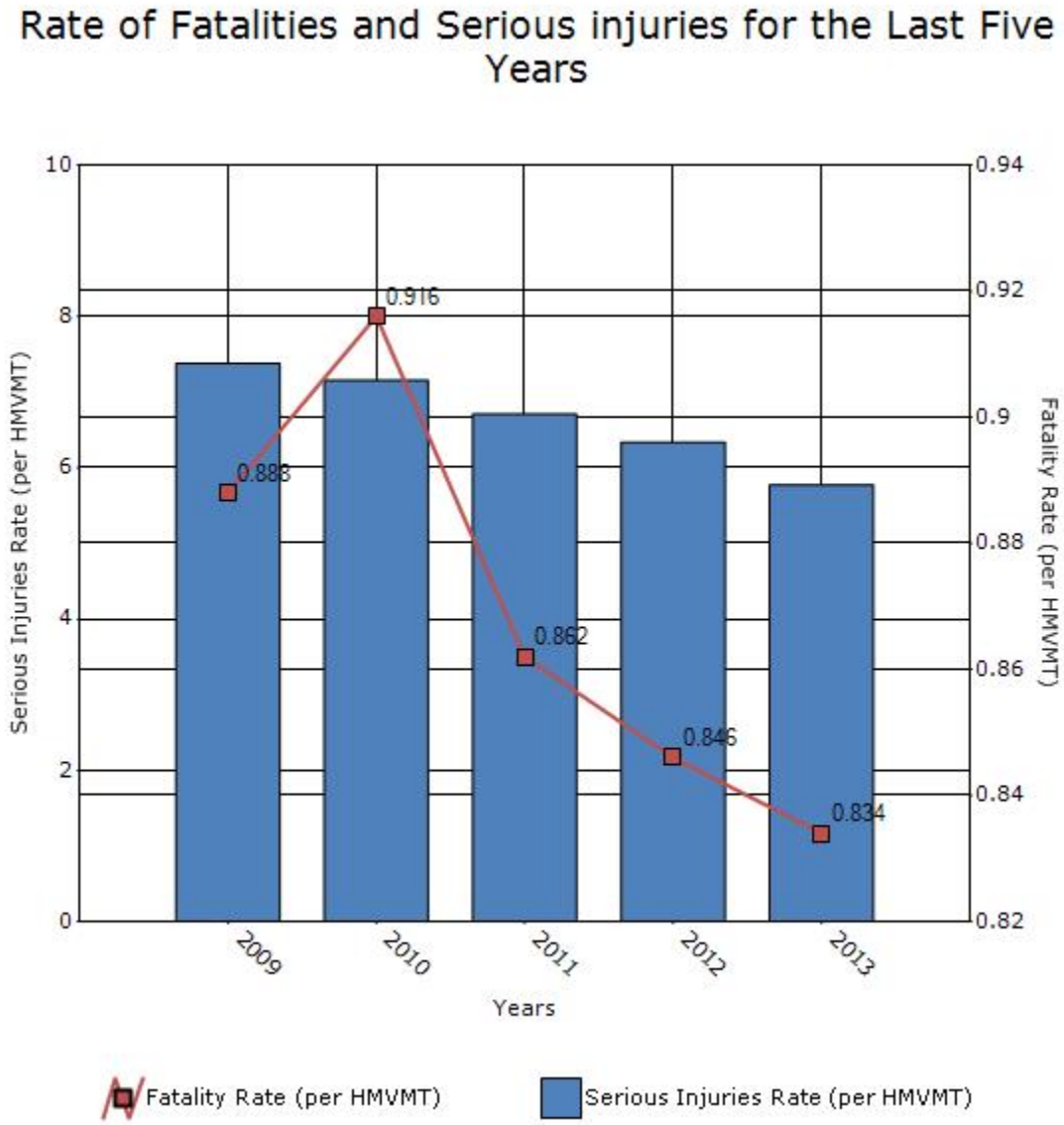
Overview of General Safety Trends

24. 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	282.2	290.6	272.6	266.2	261
Number of serious injuries	2352.2	2265.8	2117.4	1990.2	1808.8
Fatality rate (per HMVMT)	0.888	0.916	0.862	0.846	0.834
Serious injury rate (per HMVMT)	7.38	7.156	6.706	6.338	5.774

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


Number of Fatalities and Serious injuries for the Last Five Years
3000
2500
2000
1500
1000
500
0
Serious Injuries
295
290
285
280
275
270
265
260
255
Fatalites
290.6
282.2
272.6
266.2
261
2009
2010
2011
2012
2013
Years
Fatalites
Serious Injuries

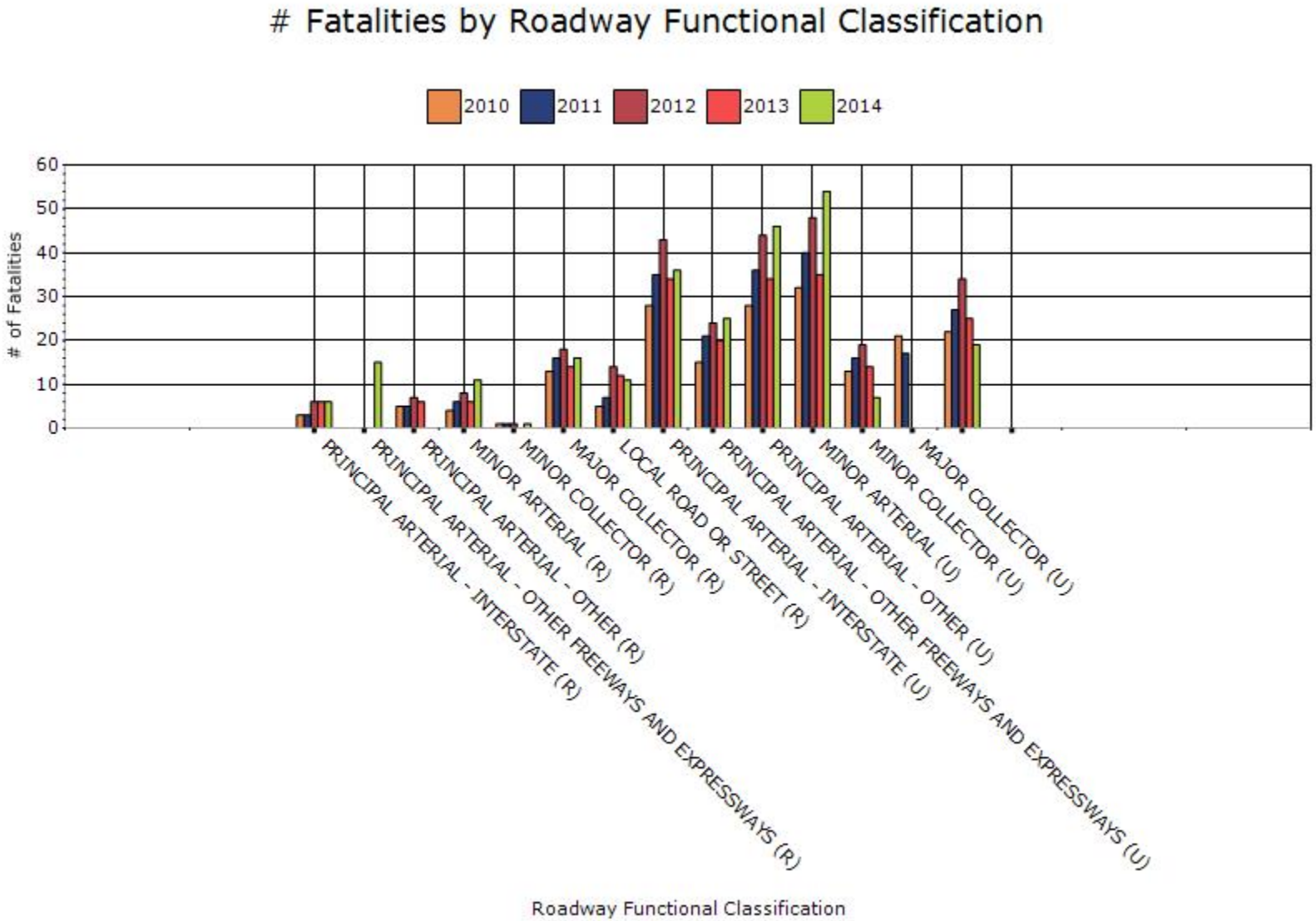

Rate of Fatalities and Serious injuries for the Last Five Years
Serious Injuries Rate (per HMVMT)
Fatality Rate (per HMVMT)
10
8
6
4
2
0
0.94
0.92
0.9
0.88
0.86
0.84
0.82
0.916
0.888
0.862
0.846
0.834
2009
2010
2011
2012
2013
Years
Fatality Rate (per HMVMT)
Serious Injuries Rate (per HMVMT)

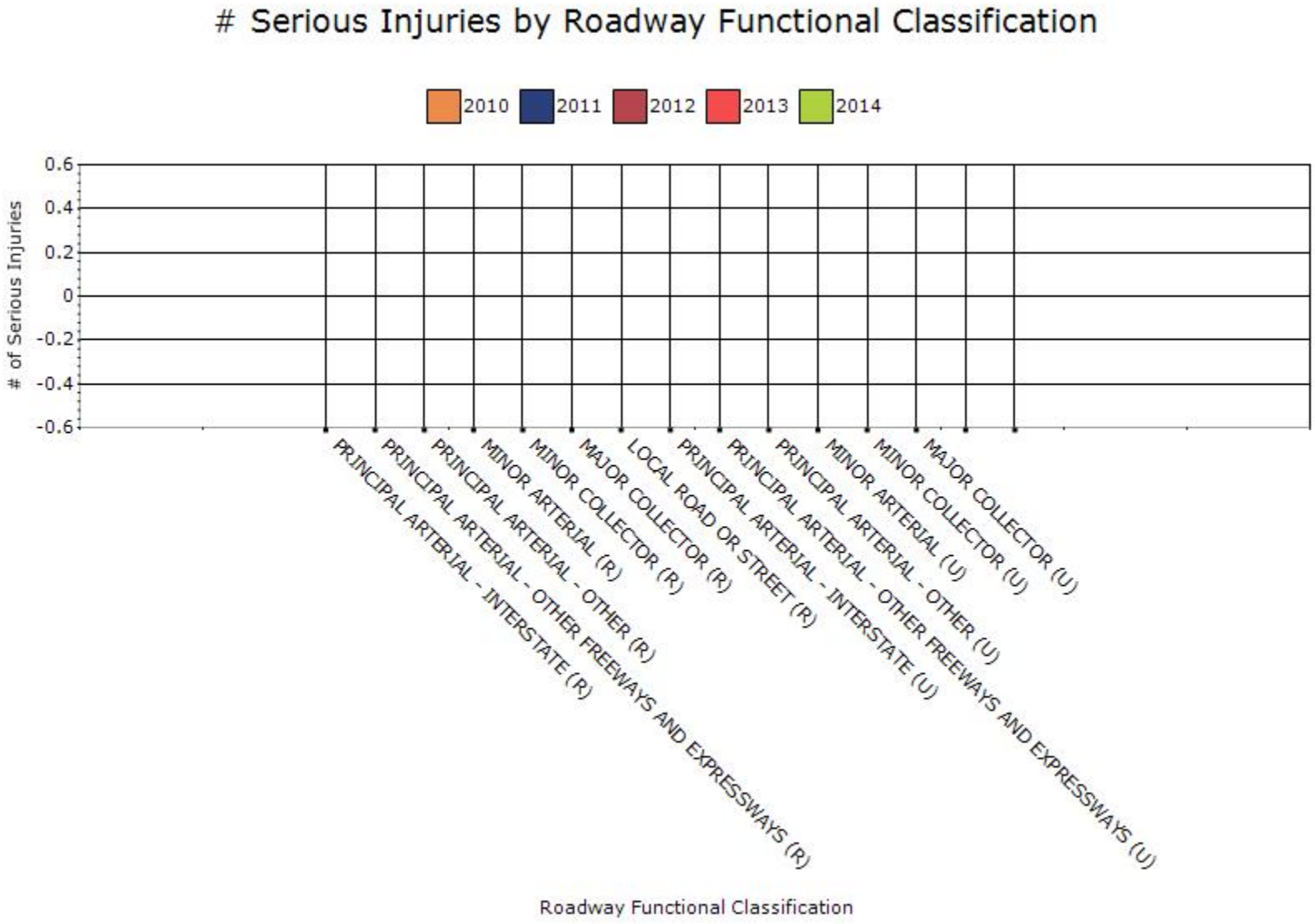
25. To the maximum extent possible, present performance measure* data by functional classification and ownership.

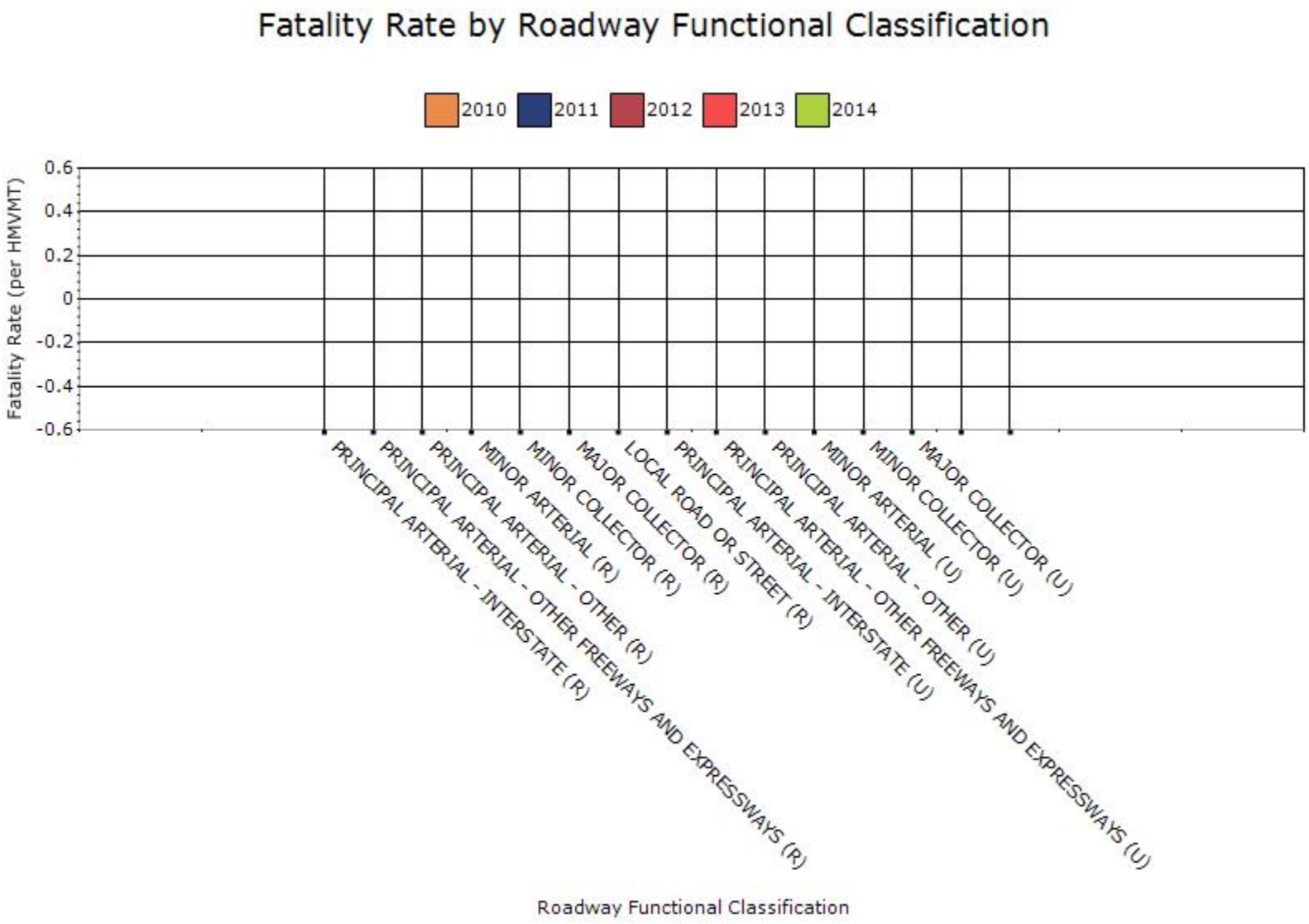
Year - 2014

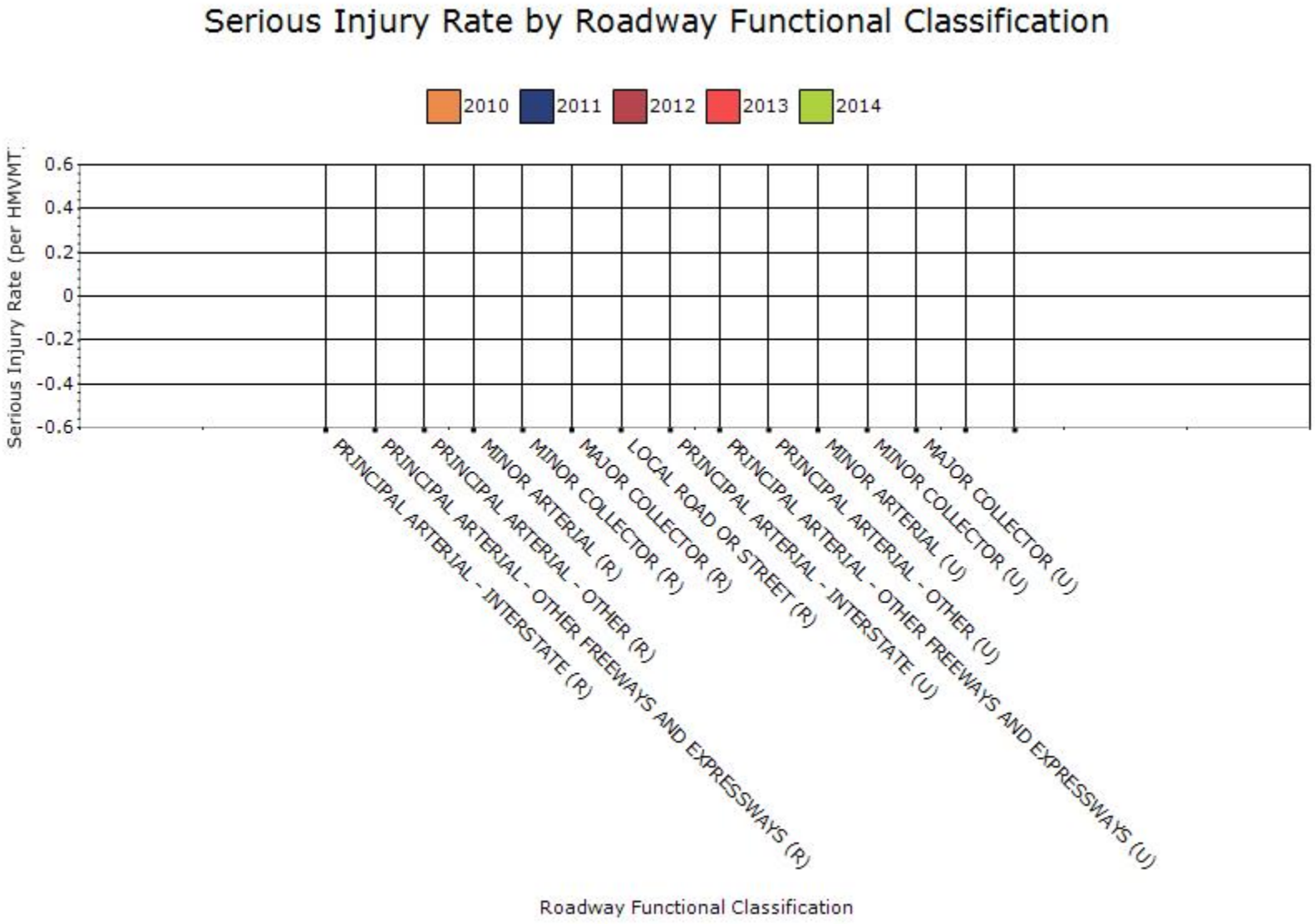
Function Classification	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
RURAL PRINCIPAL ARTERIAL - INTERSTATE	6	0	0	0
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	15	0	0	0
RURAL PRINCIPAL ARTERIAL - OTHER	0	0	0	0
RURAL MINOR ARTERIAL	11	0	0	0
RURAL MINOR COLLECTOR	1	0	0	0
RURAL MAJOR COLLECTOR	16	0	0	0
RURAL LOCAL ROAD OR STREET	11	0	0	0
URBAN PRINCIPAL	36	0	0	0

ARTERIAL - INTERSTATE				
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	25	0	0	0
URBAN PRINCIPAL ARTERIAL - OTHER	46	0	0	0
URBAN MINOR ARTERIAL	54	0	0	0
URBAN MINOR COLLECTOR	7	0	0	0
URBAN MAJOR COLLECTOR	0	0	0	0
URBAN LOCAL ROAD OR STREET	19	0	0	0
OTHER	0	0	0	0


Fatalities by Roadway Functional Classification
2010
2011
2012
2013
2014
# of Fatalities
60
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

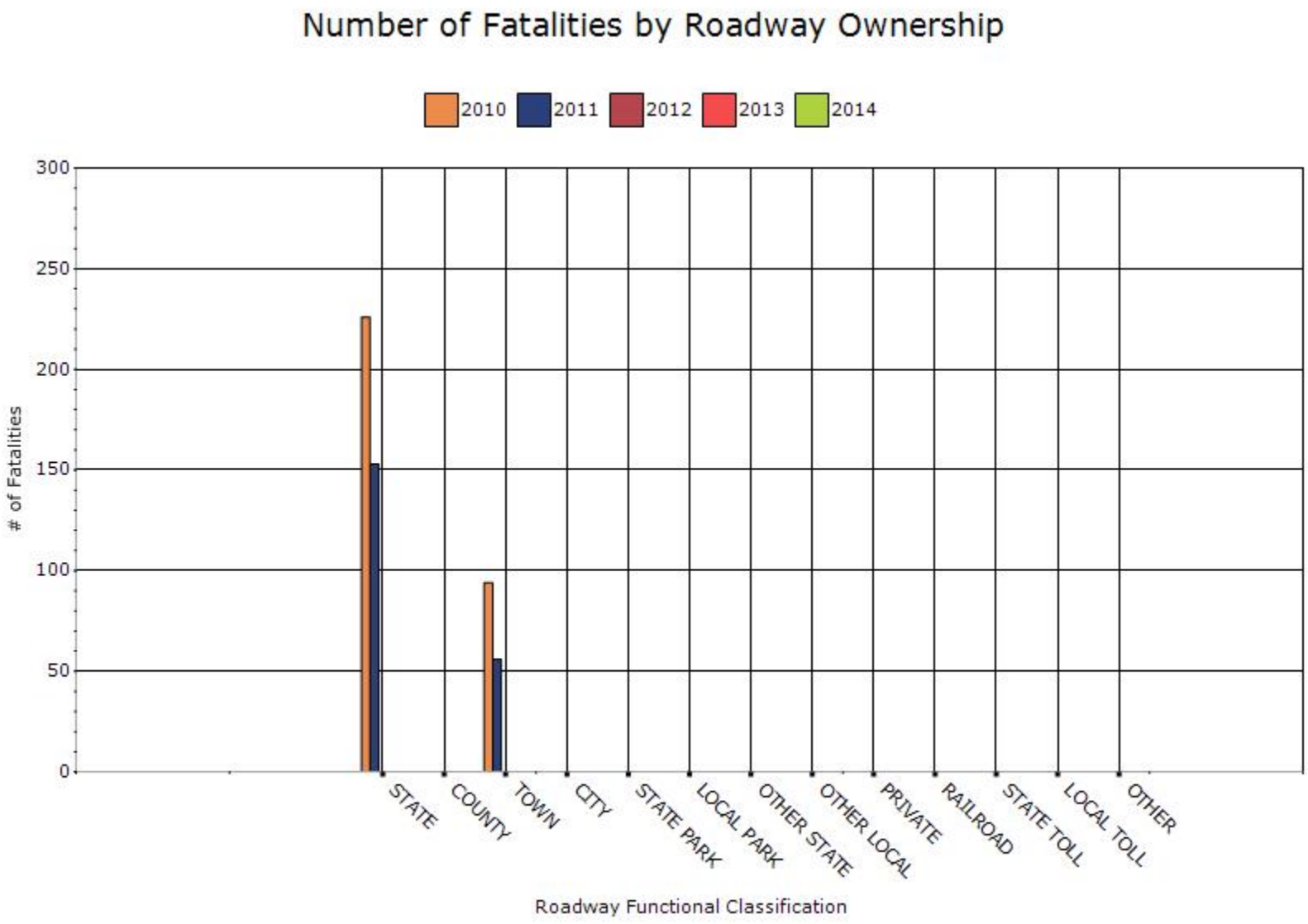

Serious Injuries by Roadway Functional Classification
2010
2011
2012
2013
2014
# of Serious Injuries
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)
LOCAL ROAD OR STREET (R)
PRINCIPAL ARTERIAL - INTERSTATE (U)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (U)
PRINCIPAL ARTERIAL - OTHER (U)
MINOR ARTERIAL (U)
MINOR COLLECTOR (U)
MAJOR COLLECTOR (U)
Roadway Functional Classification

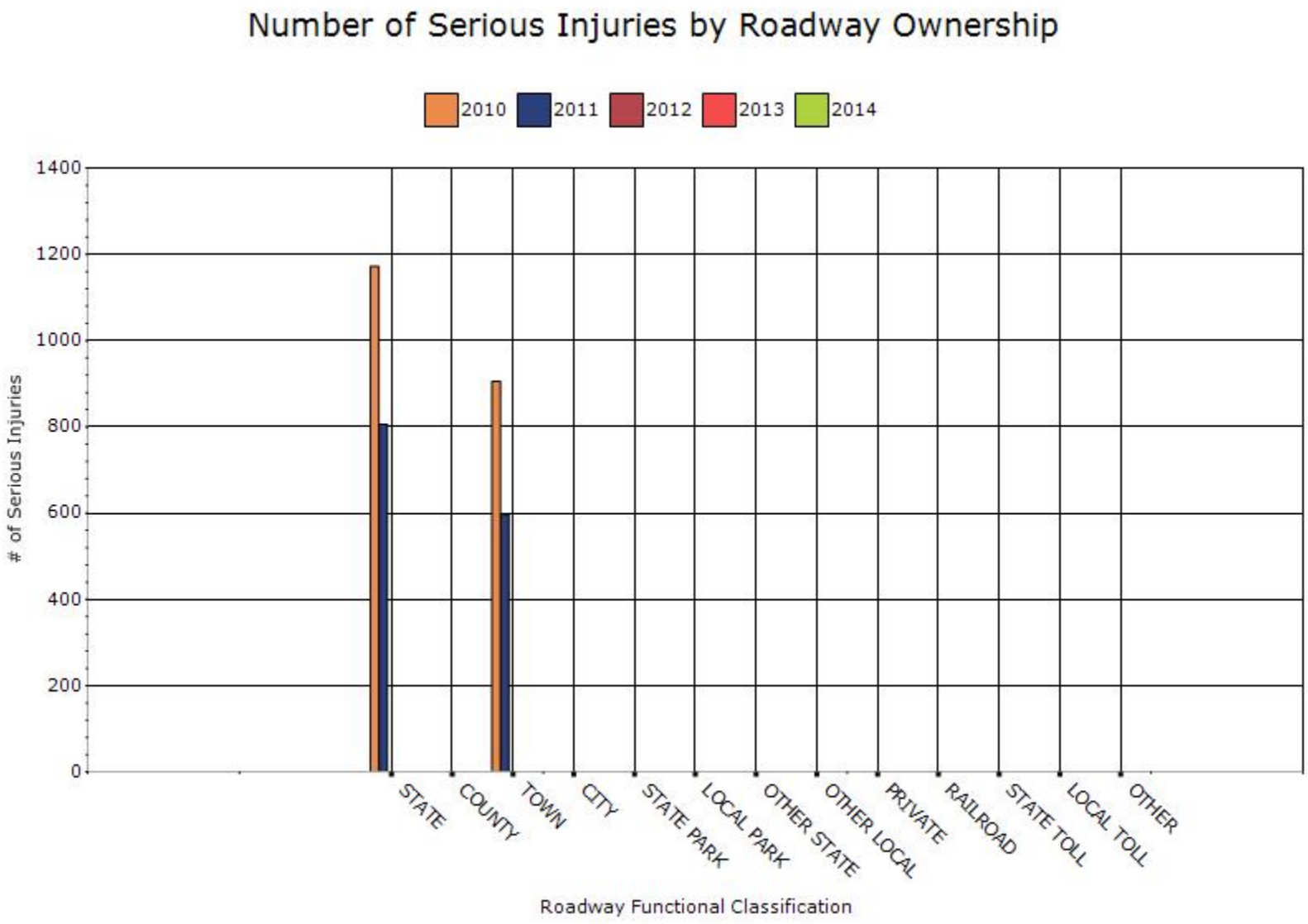

Fatality Rate by Roadway Functional Classification
2010
2011
2012
2013
2014
Fatality Rate (per HMVMT)
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)
LOCAL ROAD OR STREET (R)
PRINCIPAL ARTERIAL - INTERSTATE (U)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (U)
PRINCIPAL ARTERIAL - OTHER (U)
MINOR ARTERIAL (U)
MINOR COLLECTOR (U)
MAJOR COLLECTOR (U)
Roadway Functional Classification


Serious Injury Rate by Roadway Functional Classification
2010
2011
2012
2013
2014
Serious Injury Rate (per HMVMT)
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)
LOCAL ROAD OR STREET (R)
PRINCIPAL ARTERIAL - INTERSTATE (U)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (U)
PRINCIPAL ARTERIAL - OTHER (U)
MINOR ARTERIAL (U)
MINOR COLLECTOR (U)
MAJOR COLLECTOR (U)
Roadway Functional Classification

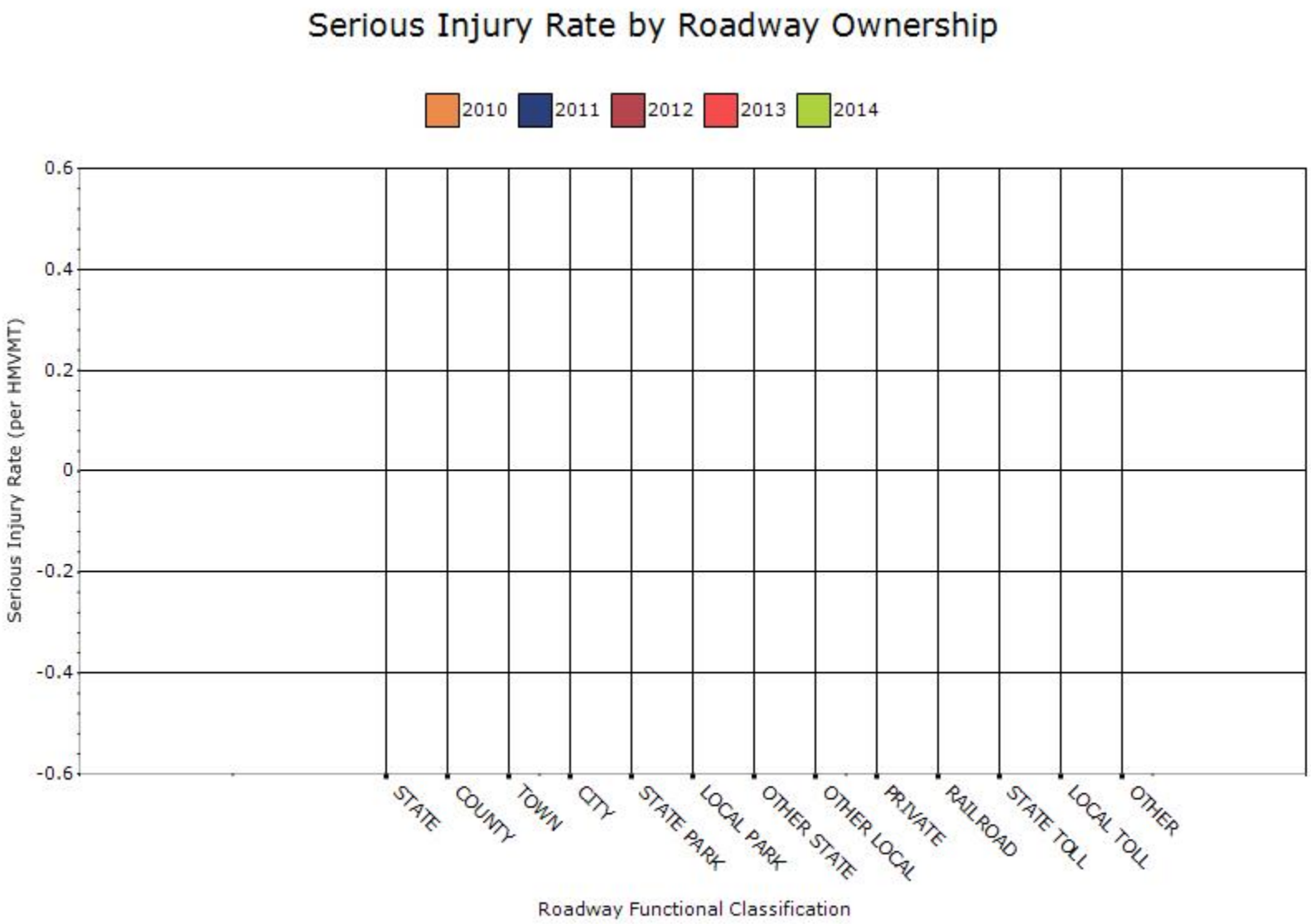
Year - 2011

Roadway Ownership	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
STATE HIGHWAY AGENCY	153	806	0	0
COUNTY HIGHWAY AGENCY	0	0	0	0
TOWN OR TOWNSHIP HIGHWAY AGENCY	56	597	0	0
CITY OF MUNICIPAL HIGHWAY AGENCY	0	0	0	0
STATE PARK, FOREST, OR RESERVATION AGENCY	0	0	0	0
LOCAL PARK, FOREST OR RESERVATION AGENCY	0	0	0	0
OTHER STATE AGENCY	0	0	0	0
OTHER LOCAL AGENCY	0	0	0	0
PRIVATE (OTHER THAN RAILROAD)	0	0	0	0
RAILROAD	0	0	0	0
STATE TOLL AUTHORITY	0	0	0	0
LOCAL TOLL AUTHORITY	0	0	0	0
OTHER PUBLIC INSTRUMENTALITY (E.G. AIRPORT, SCHOOL, UNIVERSITY)	0	0	0	0


Number of Fatalities by Roadway Ownership
2010
2011
2012
2013
2014
300
250
200
150
100
50
0
# of Fatalities
STATE
COUNTY
TOWN
CITY
STATE PARK
LOCAL PARK
OTHER STATE
OTHER LOCAL
PRIVATE
RAILROAD
STATE TOLL
LOCAL TOLL
OTHER
Roadway Functional Classification


Number of Serious Injuries by Roadway Ownership
2010
2011
2012
2013
2014
1400
1200
1000
800
600
400
200
0
# of Serious Injuries
STATE
COUNTY
TOWN
CITY
STATE PARK
LOCAL PARK
OTHER STATE
OTHER LOCAL
PRIVATE
RAILROAD
STATE TOLL
LOCAL TOLL
OTHER
Roadway Functional Classification

Fatality Rate by Roadway Ownership
2010
2011
2012
2013
2014
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
Fatality Rate (per HMVMT)
STATE
COUNTY
TOWN
CITY
STATE PARK
LOCAL PARK
OTHER STATE
OTHER LOCAL
PRIVATE
RAILROAD
STATE TOLL
LOCAL TOLL
OTHER
Roadway Functional Classification


Serious Injury Rate by Roadway Ownership
2010
2011
2012
2013
2014
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
Serious Injury Rate (per HMVMT)
STATE
COUNTY
TOWN
CITY
STATE PARK
LOCAL PARK
OTHER STATE
OTHER LOCAL
PRIVATE
RAILROAD
STATE TOLL
LOCAL TOLL
OTHER
Roadway Functional Classification

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

See attached report prepared by the Department's Highway Safety Office.

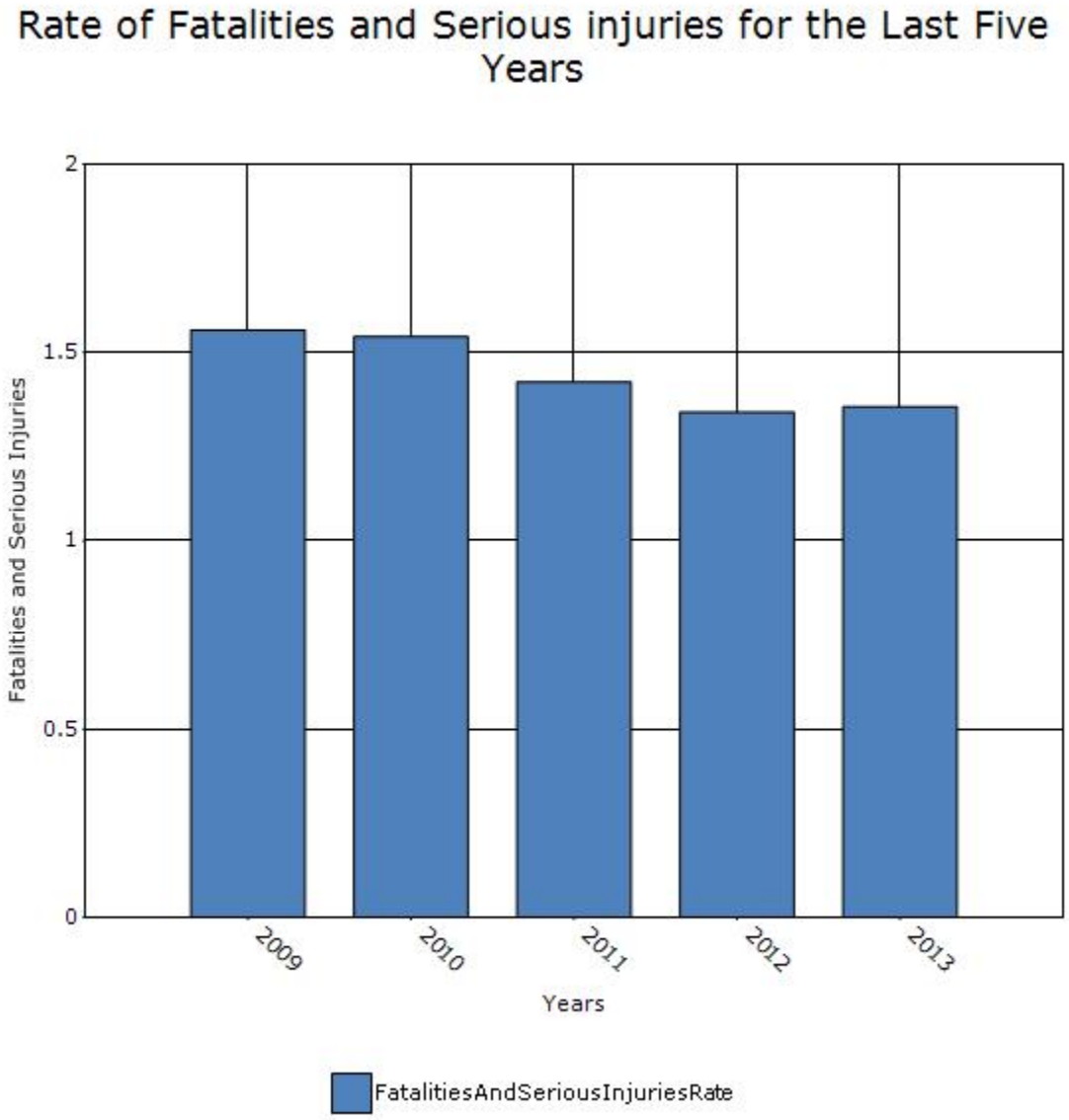
Application of Special Rules

27. 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)	0.218	0.226	0.206	0.214	0.21
Serious injury rate (per capita)	0.862	0.854	0.852	0.838	0.842
Fatality and serious injury rate (per capita)	1.56	1.542	1.422	1.342	1.356

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

Calculation and methodology used is consistent with Section 148: Older Drivers and Pedestrians Special rule Interim Guidance on 2/13/13 by the FHWA Office of Safety.



28. Does the older driver special rule apply to your state?

No

Assessment of the Effectiveness of the Improvements (Program Evaluation)

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

☒ None

☐ Benefit/cost

☐ Policy change

☐ Other:

30. 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:

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

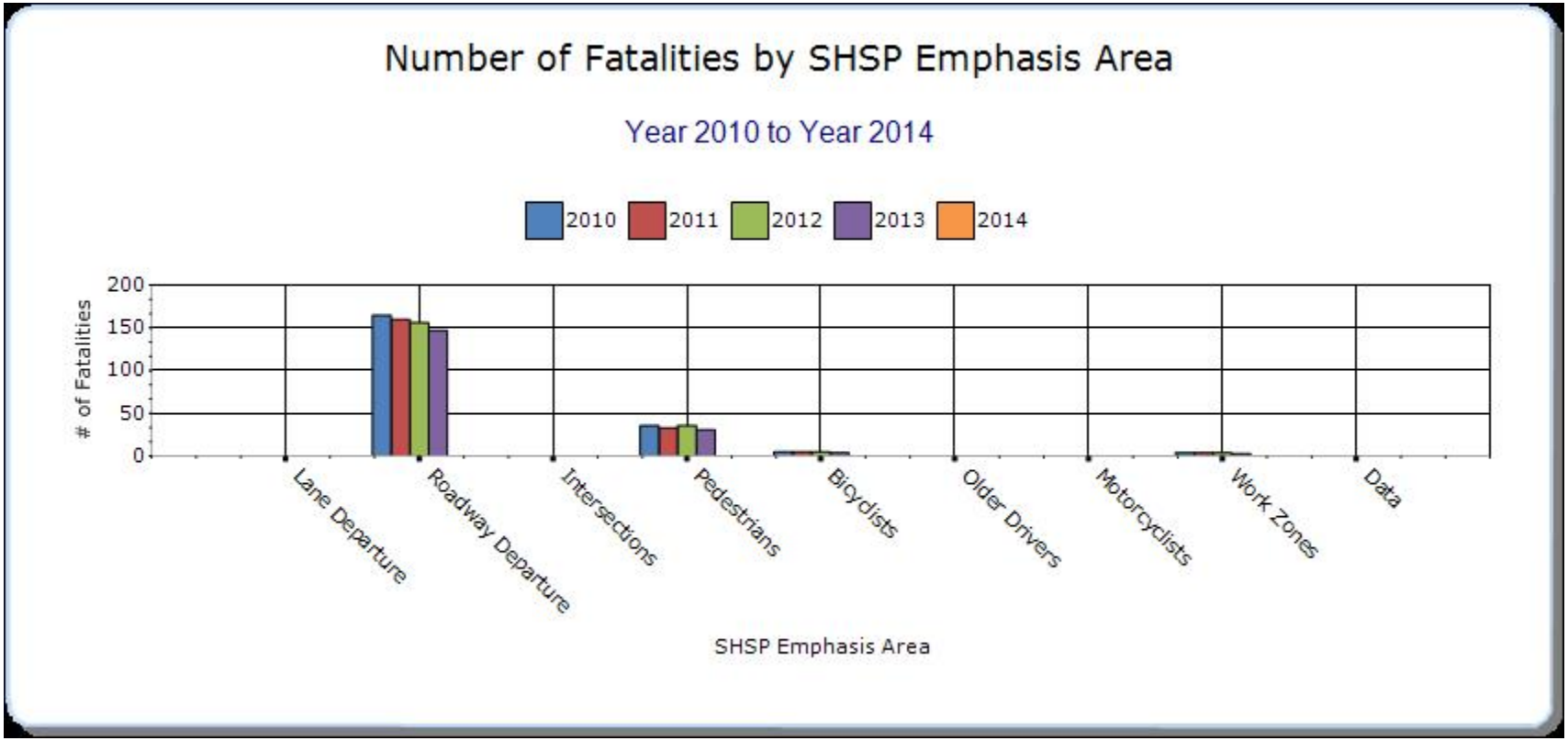
None.

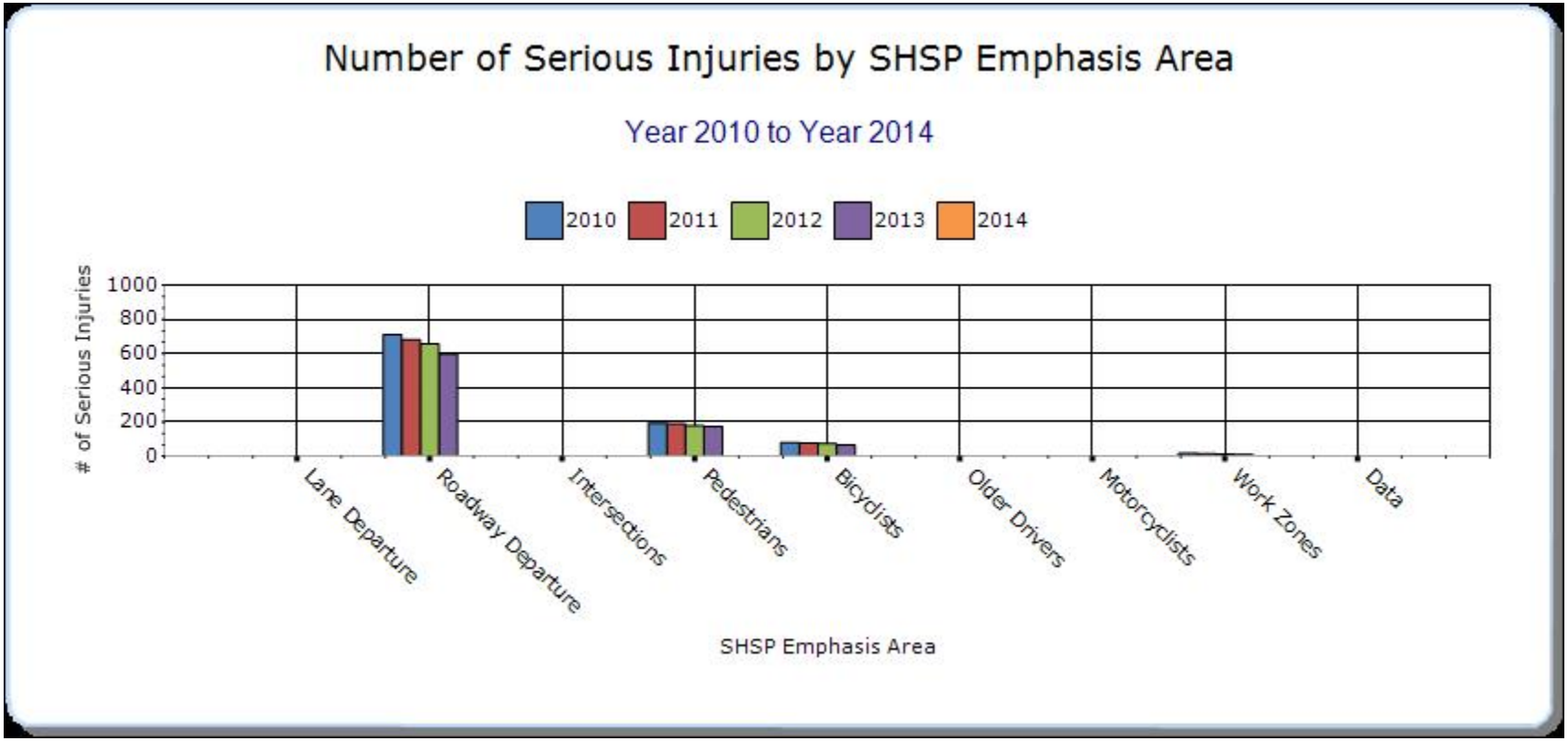
SHSP Emphasis Areas

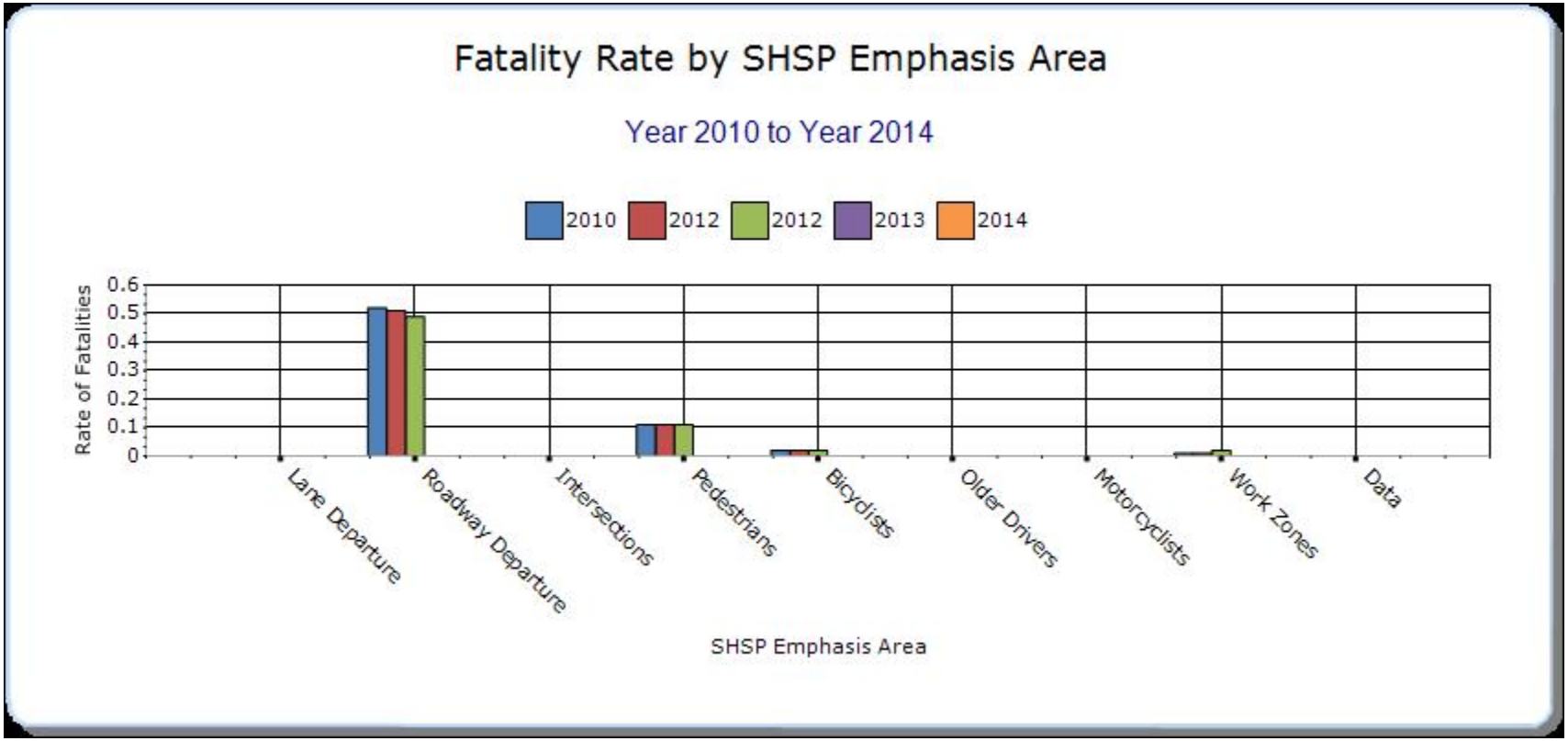
32. For each SHSP emphasis area that relates to the HSIP, present trends in emphasis area performance measures.

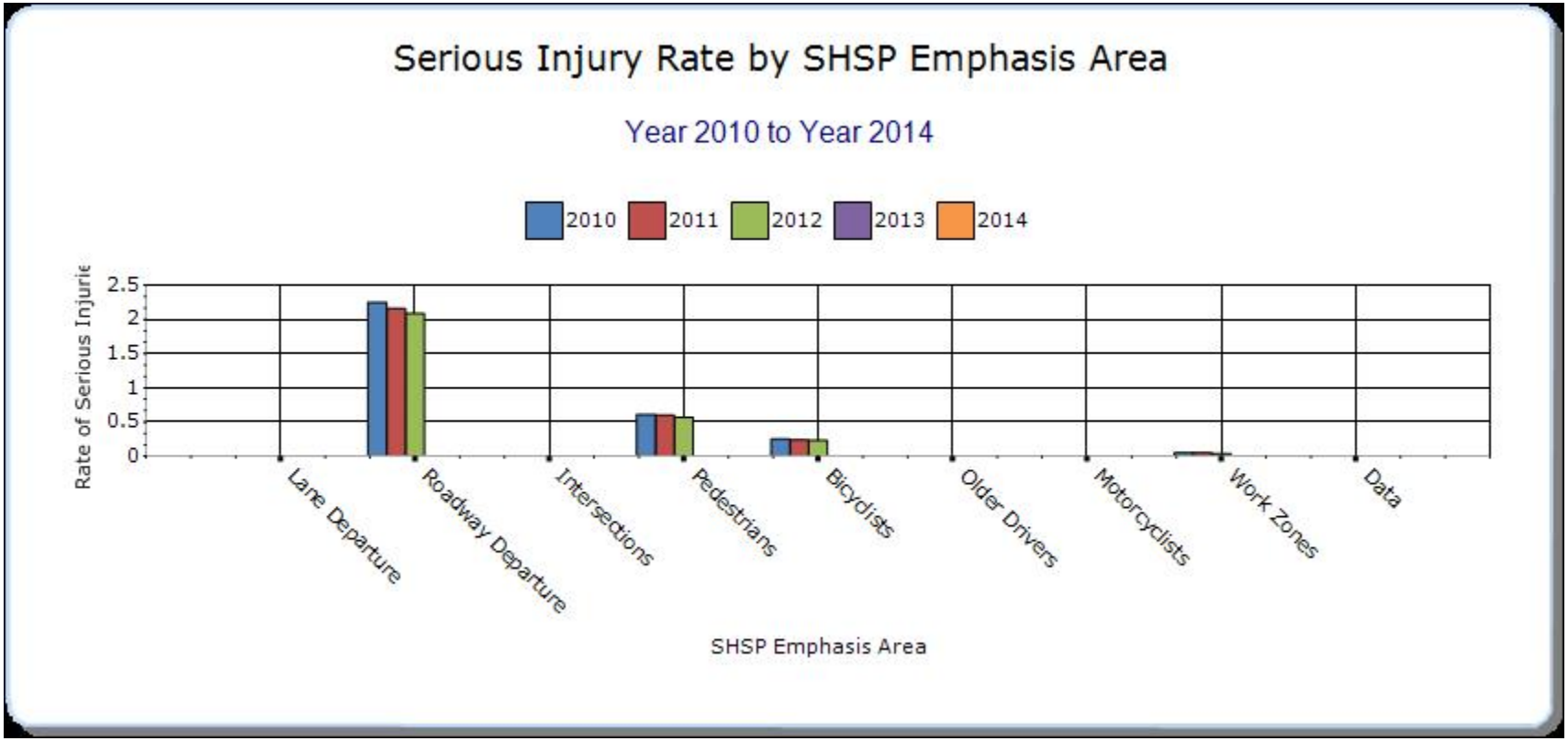
Year - 2013

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
Roadway Departure	All	147	598	0	0	0	0	0
Pedestrians	All	31	174	0	0	0	0	0
Bicyclists	All	4	65	0	0	0	0	0
Work Zones	All	3	9	0	0	0	0	0
Commercial Vehicles	All	18	0	0	0	0	0	0


Number of Fatalities by SHSP Emphasis Area
Year 2010 to Year 2014
2010
2011
2012
2013
2014
# of Fatalities
200
150
100
50
0
Lane Departure
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Data
SHSP Emphasis Area


Number of Serious Injuries by SHSP Emphasis Area
Year 2010 to Year 2014
2010
2011
2012
2013
2014
# of Serious Injuries
1000
800
600
400
200
0
Lane Departure
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Data
SHSP Emphasis Area


Fatality Rate by SHSP Emphasis Area
Year 2010 to Year 2014
2010
2012
2012
2013
2014
Rate of Fatalities
0.6
0.5
0.4
0.3
0.2
0.1
0
Lane Departure
Roadway Departure
Intersections
Pedestrians
Bicydists
Older Drivers
Motorcyclists
Work Zones
Data
SHSP Emphasis Area

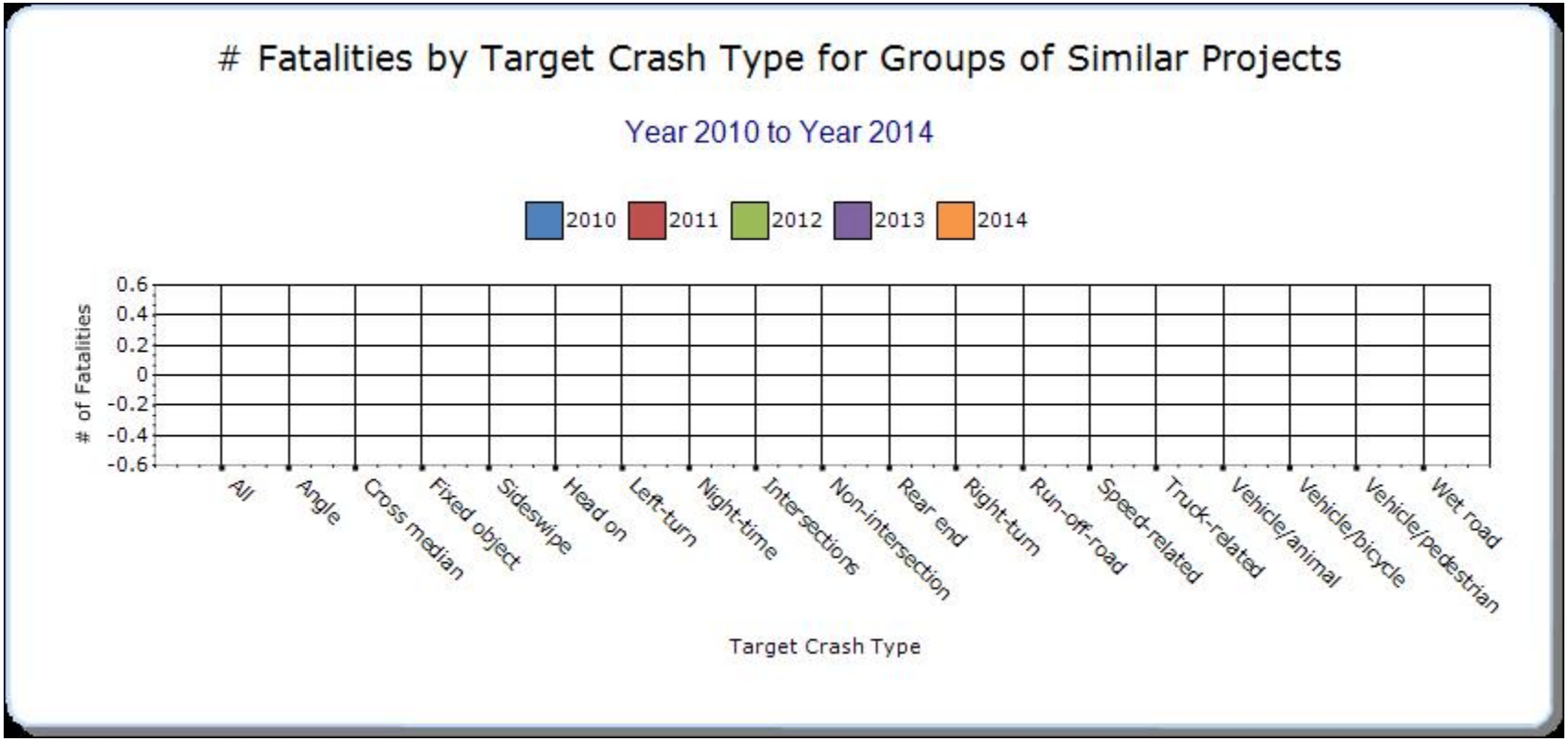


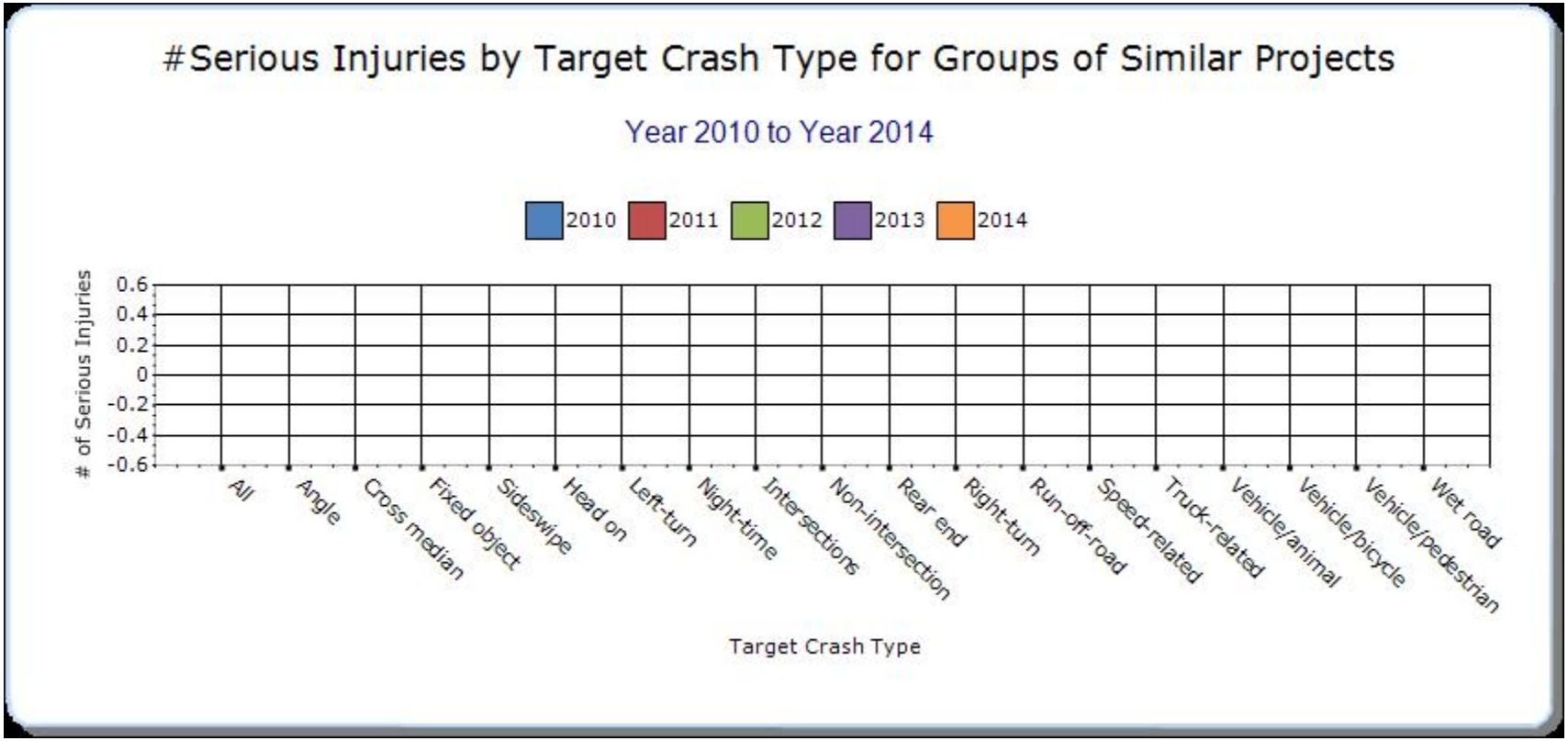
Groups of similar project types

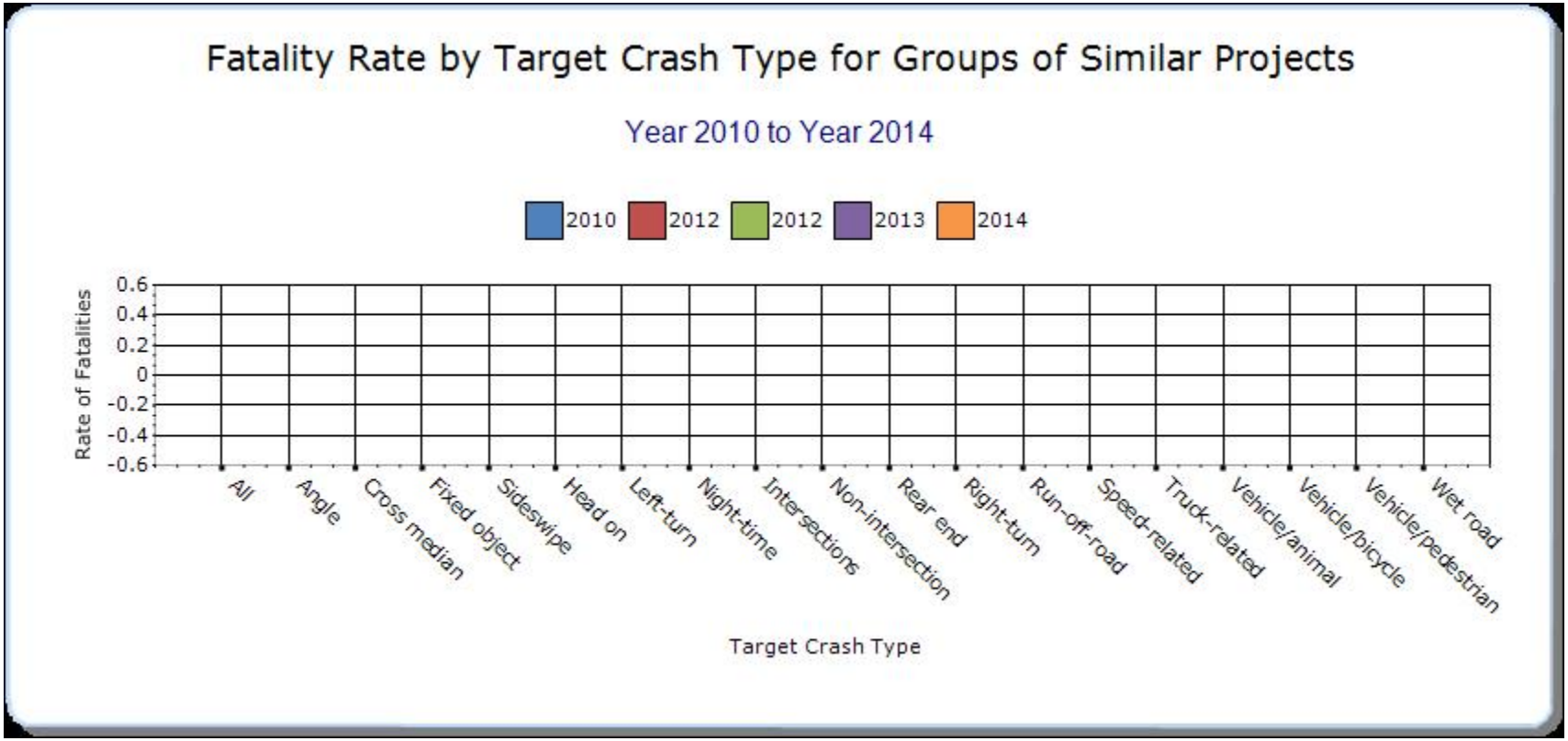
33. Present the overall effectiveness of groups of similar types of projects.

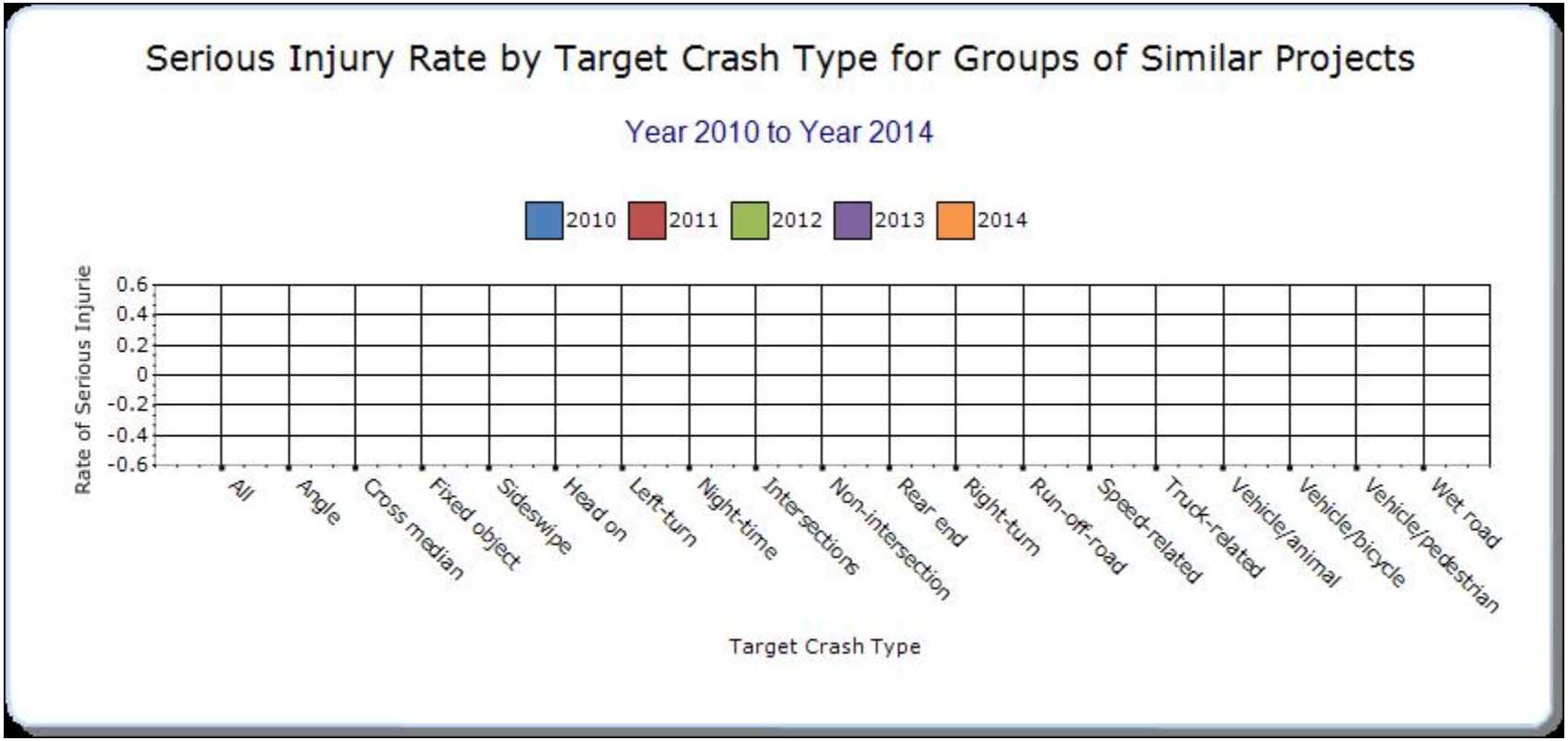
Year - 2014

HSIP Sub-program Types	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3


Fatalities by Target Crash Type for Groups of Similar Projects
Year 2010 to Year 2014
2010
2011
2012
2013
2014
# of Fatalities
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Intersections
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 2010 to Year 2014
2010
2011
2012
2013
2014
# of Serious Injuries
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Intersections
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 2010 to Year 2014
2010
2012
2012
2013
2014
Rate of Fatalities
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Intersections
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type



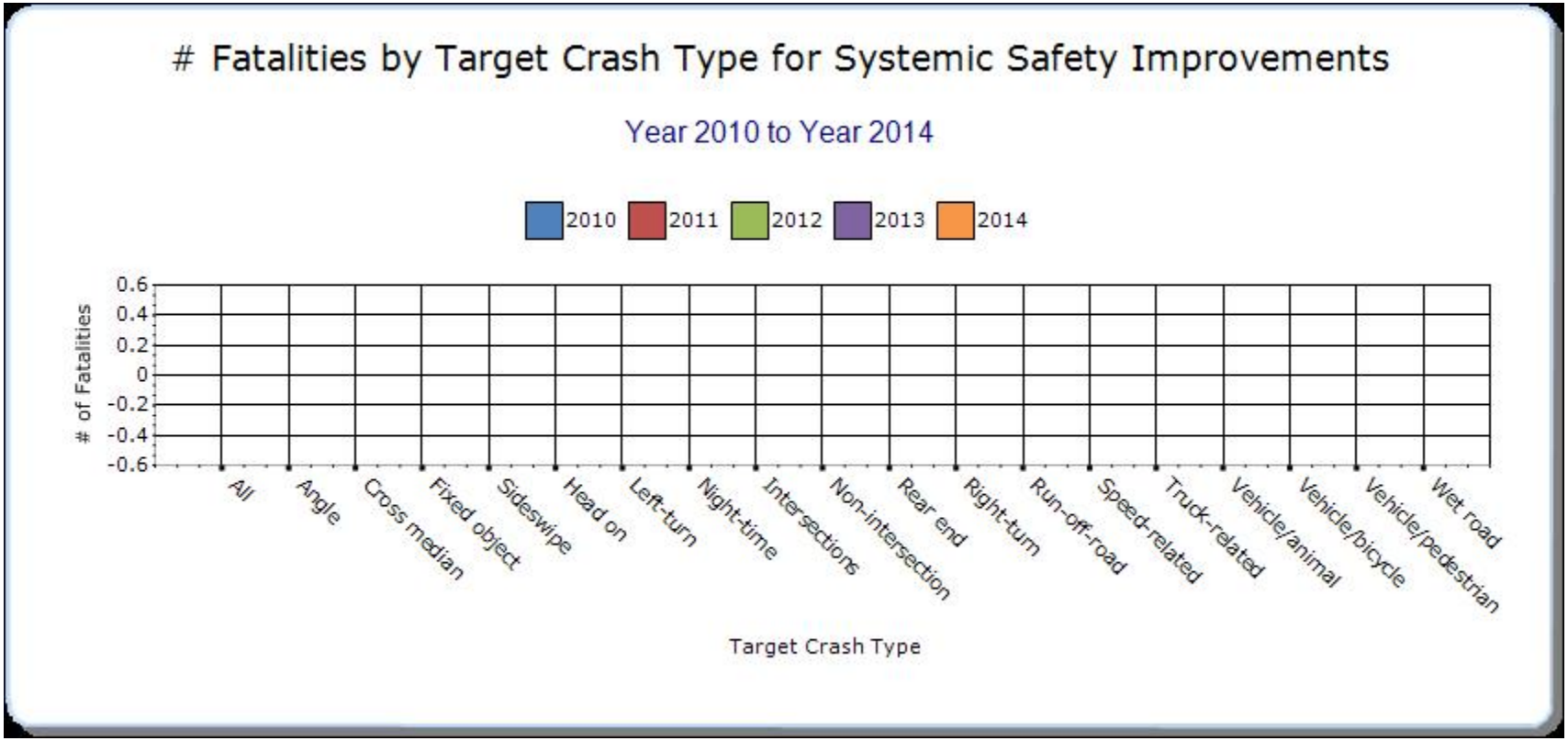
Systemic Treatments

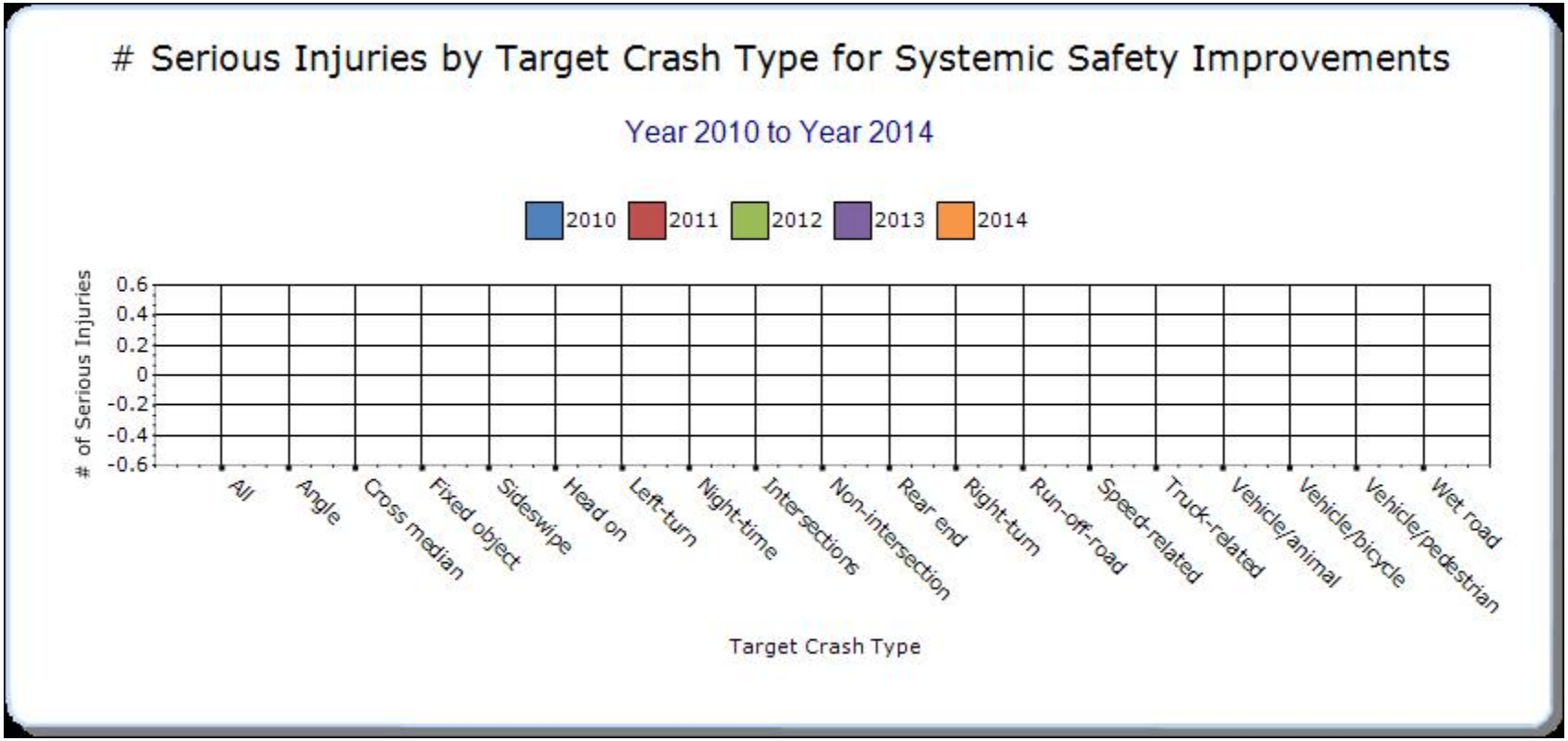
34. Present the overall effectiveness of systemic treatments.

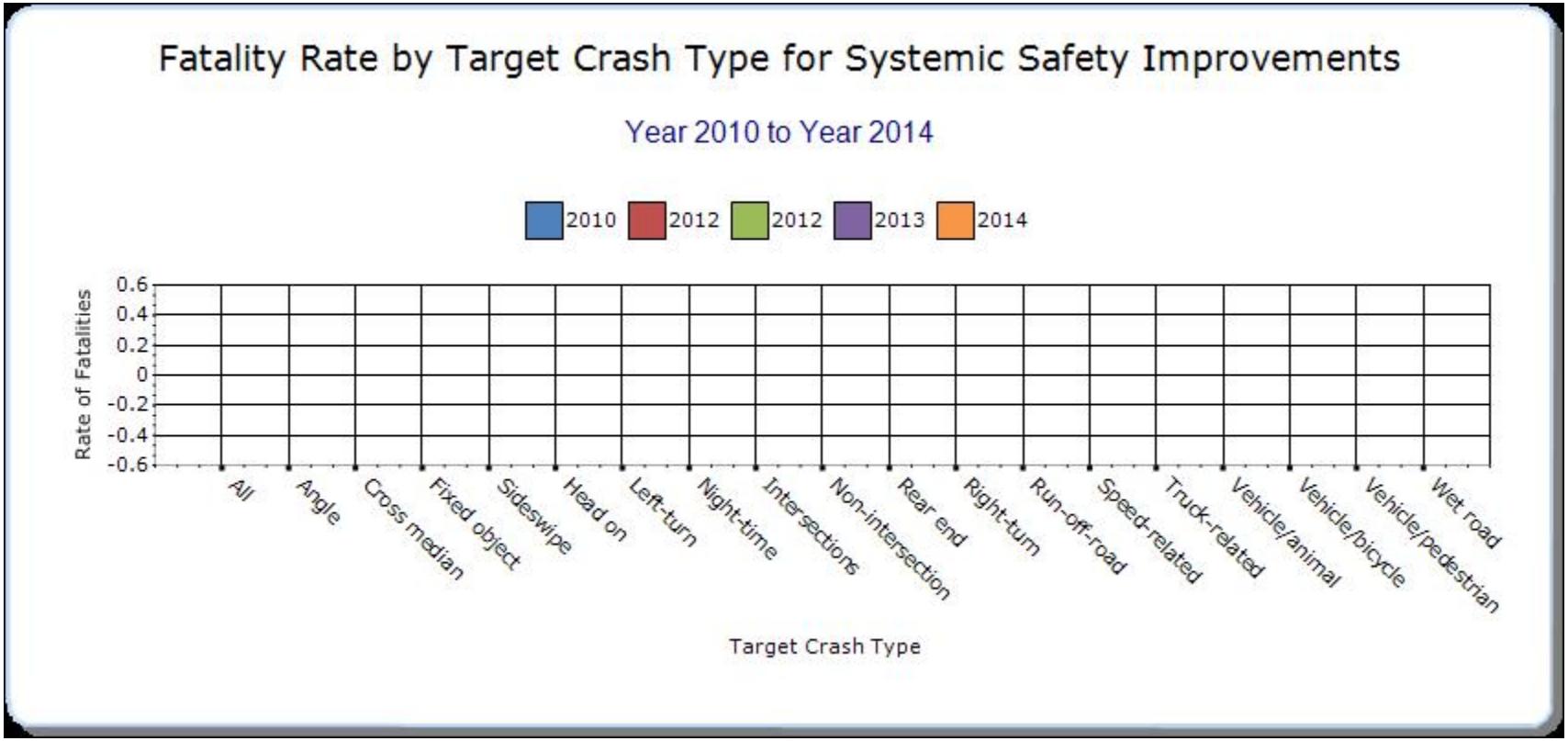
Year - 2013

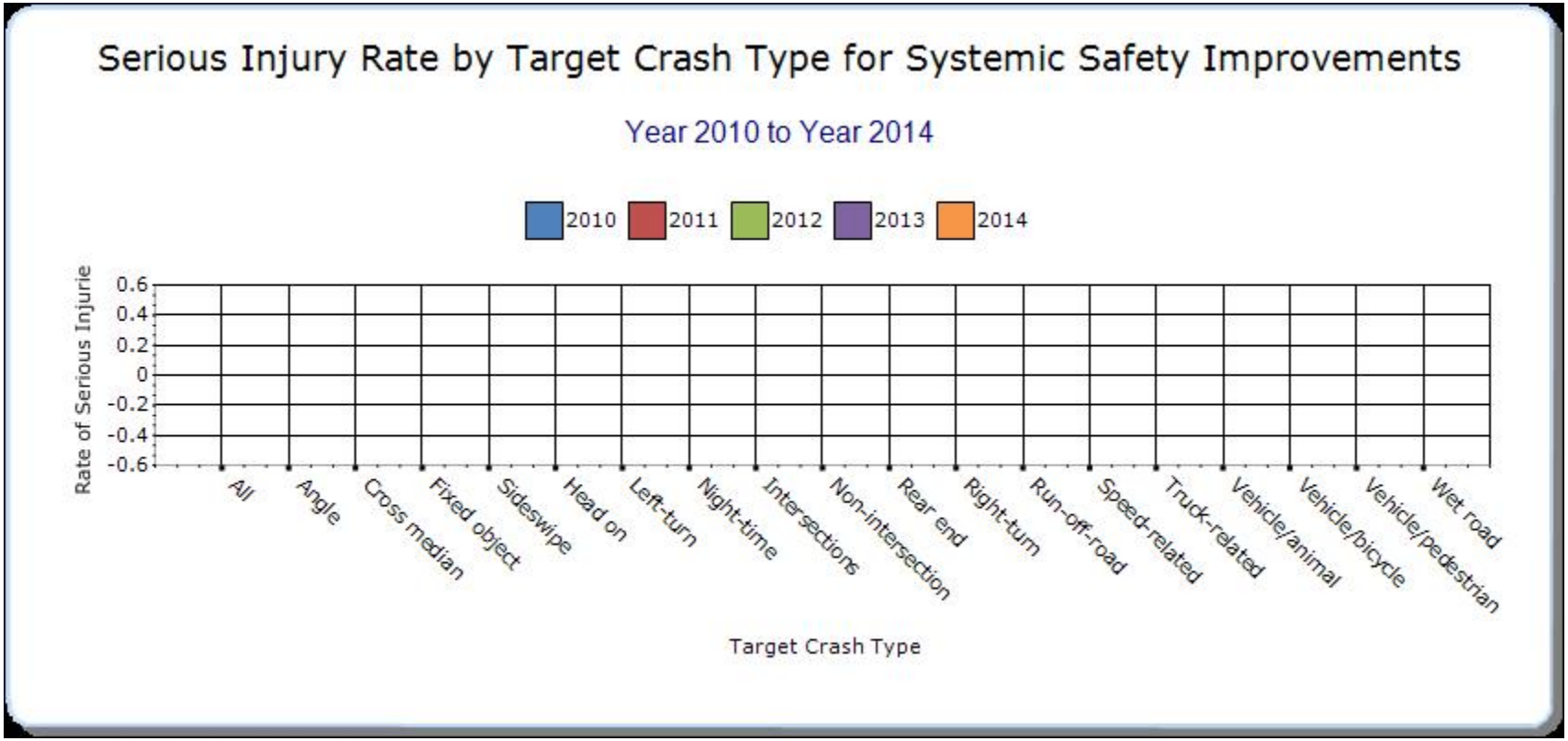
Systemic improvement	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3
Rumble Strips	Run-off-	0	0	0	0	0	0	0

	road							


Fatalities by Target Crash Type for Systemic Safety Improvements
Year 2010 to Year 2014
2010
2011
2012
2013
2014
# of Fatalities
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Intersections
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 2010 to Year 2014
2010
2011
2012
2013
2014
# of Serious Injuries
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Intersections
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 2010 to Year 2014
2010
2012
2012
2013
2014
Rate of Fatalities
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Intersections
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Target Crash Type



ConnDOT's crash file cannot be sorted based on crash type.

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

HSIP funding has helped CT see a decreasing trend in most crash types over the last few years, not just fatalities and serious injuries. With the help of sustained funding and a renewed focus by an updated SHSP, CT expects to meet or exceed its overall safety goal of reducing the number of fatalities and serious injuries.

Project Evaluation

36. Provide project evaluation data for completed projects (optional).

Location	Functional Class	Improvement Category	Improvement Type	Bef-Fatal	Bef-Serious Injury	Bef-All Injuries	Bef-PDO	Bef-Total	Aft-Fatal	Aft-Serious Injury	Aft-All Injuries	Aft-PDO	Aft-Total	Evaluation Results (Benefit/ Cost Ratio)
Town of Avon--U.S. Rte 44 from 500 feet east or Rte 10 to Avon/West Hartford Town Line	Urban Principal Arterial - Other	Roadway	Roadway - other	1	4	10	22	37	0	0	2	6	8	0.50

Optional Attachments

Sections	Files Attached
Progress in Achieving Safety Performance Targets: Overview of General Safety Trends	2015_ct_hsp.pdf
Progress in Achieving Safety Performance Targets: Application of Special Rules	revised special rules 65 and older for drivers and peds.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.