Highway Safety Improvement Program

Data Driven Decisions

Connecticut
Highway Safety Improvement Program
2013 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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Executive Summary

The reporting period for 2013 is October 1, 2011 to September 30, 2012.

ConnDOT has obligated more systematic improvements in the HSIP program this reporting period as compared to previous years. 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 approach leads to widespread implementation of projects to reduce the potential for severe crashes, whether or not crashes have occurred at any given site. Because many of CT's fatal and severe injury crashes are spread out, the systematic approach provides an alternative method to identify and implement low-cost safety countermeasures addressing specific risk factors across the transportation network. Systematic analysis is a complement to site-specific analysis, and can be very effective in implementing low-cost safety countermeasures. As Connecticut prepares to update its SHSP to be compliant with MAP-21 requirements, it is likely that additional emphasis will be placed on systematic 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

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 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 June 2011. Property damage only crashes from July 2011 forward has not been coded to order to help reduce the backlog of crash records for the entire State. 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.

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

☐ Design

☒ Planning

☐ Maintenance

☐ Operations

☒ Governors Highway Safety Office

☒ Other: Other-Traffic Engineering

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 appear to have an unusually high 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.

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

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 Safety Program (NHTSA)
-High Risk Rural Roads

Program Methodology

Select the programs that are administered under the HSIP.

☐ Median Barrier	☐ Intersection	☐ Safe Corridor
☐ Horizontal Curve	☐ Bicycle Safety	☐ Rural State Highways
☐ Skid Hazard	☐ Crash Data	☐ Red Light Running Prevention
☐ Roadway Departure	☐ Low-Cost Spot Improvements	☐ Sign Replacement And Improvement
☒ Local Safety	☐ Pedestrian Safety	☐ Right Angle Crash
☐ Left Turn Crash	☐ Shoulder Improvement	☐ Segments

☐ Other:

Program: **Local Safety**

Date of Program Methodology: **10/1/2008**

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 agencies

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 50

☒ Available funding 50

☐ Incremental B/C

☐ Ranking based on net benefit

☐ Cost Effectiveness

Local Road Accident Reduction Program methodology is attached.

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

28

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

☐ Cable Median Barriers

☒ Traffic Control Device Rehabilitation

☒ Install/Improve Signing

☒ Upgrade Guard Rails

☐ Safety Edge

☒ Add/Upgrade/Modify/Remove Traffic Signal

☐ Rumble Strips

☐ Pavement/Shoulder Widening

☐ Install/Improve Pavement Marking and/or Delineation

☐ Clear Zone Improvements

☐ Install/Improve Lighting

☐ Other

What process is used to identify potential countermeasures?

☒ Engineering Study

☐ Road Safety Assessment

☐ Other:

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

☐ Highway Safety Manual

☐ Road Safety audits

☒ Systemic Approach

☐ Other:

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

Project 170-3055 is a low-cost systematic approach to reduce the number of fatal and severe injuries on rural major collector state-maintained roadways that exceed the accident severity rate. Recent research based on data collected from Connecticut and Washington (Publication

No. FHWA-HRT-10-019) indicates that improved curve delineation has the potential to reduce crashes and crash severity on rural roads particularly at sharp horizontal curves where the radius is less than 492 feet (11.65 degrees). The research for Connecticut indicated significant crash reductions; 25 percent reduction for injury & fatal accidents and over 34 percent reduction in lane departure accidents (dark conditions). Further, an economic analysis revealed that improving curve delineation with signing improvements is a very cost-effective treatment with the benefit-cost ratio exceeding 8:1. The Department is implementing a project to systematically sign horizontal curves located on just those rural major collector roadways where the actual accident rate for fatal and severe injuries exceeds the average rate for this roadway classification. Based on the anticipated success of this project, other systematic improvement projects are being explored.

Progress in Implementing Projects

Funds Programmed

Reporting period for Highway Safety Improvement Program funding.

☐ Calendar Year

☐ State Fiscal Year

☒ Federal Fiscal Year

Reporting period for 2013 is October 1, 2011 to September 30, 2012.

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

Funding Category	Programmed*		Obligated	
HSIP (Section 148)	6285050	50 %	9468982	57 %
HRRRP (SAFETEA-LU)	796320	6 %	796320	5 %
HRRR Special Rule				

Penalty Transfer - Section 154	5552870	44 %	6266059	38 %
Penalty Transfer – Section 164				
Incentive Grants - Section 163				
Incentive Grants (Section 406)				
Other Federal-aid Funds (i.e. STP, NHPP)	0	0 %	0	0 %
State and Local Funds				
Totals	12634240	100%	16531361	100%

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

$644,850.00

How much funding is obligated to local safety projects?

$733,332.00

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

$146,050.00

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

$296,050.00

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

$0.00

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

$0.00

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

There are numerous needs and deficiencies in CT and the HSIP is just one of ConnDOT's priorities. Measures are being taken to provide additional resources moving forward and the Department hopes to increase the HSIP obligation rate in future years.

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

CT's Strategic Highway Safety Plan (SHSP) was updated in May 2013 and a new SHSP is being developed to meet the requirements of MAP-21.

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
0042-0315PE (Rte 44 between Rte 5 and Mary St)	Pedestrians and bicyclists Miscellaneous pedestrians and bicyclists	1 Numbers	145800	162000	HSIP (Section 148)	Urban Principal Arterial - Other			State Highway Agency	Making walking and street crossing easier	Pedestians and Bicycles
0057-0116CN (Stone Hill Rd at Roode Rd)	Alignment Vertical alignment or elevation change	1 Numbers	312120	346800	HSIP (Section 148)	Rural Local Road or Street			Town or Township Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0076-0215CN (I-84/I-291/I-384 Frontage	Roadway signs and traffic control Roadway signs	150 Numbers	87500	87500	Penalty Transfer - Section 154	Urban Principal Arterial - Other Freeways and			State Highway Agency	Enhancing emergency medical capabilities to increase	Incident Management

Roads)	(including post) - new or updated					Expressways				survivability	
0084-0108PE (Rte 110 @ Rte 111)	Intersection traffic control Modify control - modifications to roundabout	1 Numbers	450000	450000	HSIP (Section 148)	Urban Minor Arterial			State Highway Agency	Improving the design and operation of highway intersections	Spot Intersection Improvement
0094-0245CN (Bank St @ Howard St & Blinman St)	Intersection traffic control Intersection traffic control - other	1 Numbers	332730	410600	HSIP (Section 148)	Urban Local Road or Street			Town or Township Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0120-0086CN (Rte 82 @ Rte 85)	Intersection traffic control Modify control - traffic signal to roundabout	1 Numbers	5319320	5319320	Penalty Transfer - Section 154	Rural Principal Arterial - Other			State Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement

0148-0202RW (Rte 68 @ Rte 150)	Intersection geometry Auxiliary lanes - add auxiliary through lane	1 Numbers	76500	85000	HSIP (Section 148)	Urban Principal Arterial - Other			State Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0170-3055CN (Statewide HRRR Curve Signing Project)	Roadway signs and traffic control Roadway signs (including post) - new or updated	150 Numbers	796320	830980	HRRRP (SAFETEA-LU)	Rural Major Collector			State Highway Agency	Keeping vehicles in the roadway	Roadway Departure
0170-3077PE (Statewide Design of SLOSSS Traffic Signals)	Intersection traffic control Intersection traffic control - other	16 Numbers	1400000	1400000	HSIP (Section 148)	Various locations statewide			State Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0170-3067PL (NHTSA-Fatality Accident	Non-infrastructure		98350	98350	Penalty Transfer - Section 154	various locations statewide			State & local roads	Creating more effective processes and safety	Traffic Records and Information Systems

Reporting System)										management systems	
0170-3167PL (UConn Crash Records Pilot Program--OCR & data entry)	Non-infrastructure		47700	47700	Penalty Transfer - Section 154	statewide			State and local roads	Creating more effective processes and safety management systems	Traffic Records and Information Systems
0171--0352CN (District 1 SLOSSS Traffic Signals)	Intersection traffic control Intersection traffic control - other	2 Numbers	379260	379260	HSIP (Section 148)	Various locations in District 1			State Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0172-0383CN (Upgrade guiderail in District 2)	Roadside Barrier-metal	5 Miles	1777980	1777980	HSIP (Section 148)	Various locations in District 2			State Highway Agency	Minimizing the consequences of leaving the road	Roadway Departure
0172-0398CN (District 2 SLOSSS	Intersection traffic control Intersection	2 Numbers	558860	558860	HSIP (Section 148)	Various locations in District 2			State Highway Agency	Improving the design and operation of	Spot Safety Improvement

Traffic Signals)	traffic control - other									highway intersections	
0173-0412RW (District 3 SLOSSS Traffic Signals)	Intersection traffic control Intersection traffic control - other	1 Numbers	50000	50000	HSIP (Section 148)	Various locations in District 3			State Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0174-0355CN (District 4 SLOSSS Traffic Signals)	Intersection traffic control Intersection traffic control - other	3 Numbers	801800	801800	HSIP (Section 148)	Vaious locations in District 4			State Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0012-0095PE (Project Mod) SR 533 @ Box Mountain Rd	Alignment Horizontal curve realignment	1 Numbers	180000	200000	HSIP (Section 148)	Urban Minor Arterial			State Highway Agency	Keeping vehicles in the roadway	Roadway Departure
0015-0240CN (Proj Mod)	Intersection traffic control	1 Number	3698	3698	HSIP (Section	Urban Minor			City of Municipal Highway	Improving the design and	Spot Safety Improveme

Main St @ Frank St	Intersection traffic control - other	s			148)	Arterial			Agency	operation of highway intersections	nt
0018-0126CN (Proj Mod) Candlewood Lake Rd @ Nabby Rd	Intersection traffic control Intersection traffic control - other	1 Numbers	5204	5782	HSIP (Section 148)	Urban Collector			Town or Township Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0018-0126PE (Proj Mod) Candlewood Lake Rd @ Nabby Rd	Intersection traffic control Intersection traffic control - other	1 Numbers	11198	12442	HSIP (Section 148)	Urban Collector			Town or Township Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0042-0297CN (Proj Mod) SR 502 @ Forbes St	Intersection geometry Auxiliary lanes - add left-turn lane	1 Numbers	28012	28012	Penalty Transfer - Section 154	Urban Minor Arterial			State Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0047-0116CN (Proj Mod)	Intersection traffic control	1 Number	184495	184495	HSIP (Section	Urban Minor			State Highway	Improving the design and	Spot Safety Improveme

Rte 74 @ 5 corners	Modify control - all-way stop to roundabout	s			148)	Arterial			Agency	operation of highway intersections	nt
0047-0116RW (Proj Mod) Rte 74 @ 5 corners	Intersection traffic control Modify control - all-way stop to roundabout	1 Numbers	180000	180000	HSIP (Section 148)	Urban Minor Arterial			State Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0076-201CN (Proj Mod) Broad St @ Middle Turnpike West	Intersection geometry Auxiliary lanes - add left-turn lane	1 Numbers	7610	8455	HSIP (Section 148)	Urban Minor Arterial			Town or Township Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0076-206PE (Proj Mod) West Middle Turnpike @ Adams St	Intersection geometry Auxiliary lanes - add left-turn lane	1 Numbers	12665	14072	HSIP (Section 148)	Urban Minor Arterial			Town or Township Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0076-0215CN	Roadway signs and	150 Number	16996	16996	Penalty Transfer	Urban Principal			State Highway	Enhancing emergency	Incident Manageme

(Proj Mod) I-84/I-291/I-384 Frontage Roads	traffic control Roadway signs and traffic control - other	s			- Section 154	Arterial - Other Freeways and Expressways			Agency	medical capabilities to increase survivability	nt
087-0141PE (Proj Mod) Rubber Ave @ Andrew Ave	Intersection traffic control Intersection traffic control - other	1 Numbers	4186	4651	HSIP (Section 148)	Urban Minor Arterial			Town or Township Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0087-0144CN (Proj Mod) Maple St @ Firehouse Rd	Intersection traffic control Intersection traffic control - other	1 Numbers	43921	48801	HSIP (Section 148)	Urban Minor Arterial			Town or Township Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0093-0191PL (Proj Mod) Durational Accident Record	Non-infrastructure		150000	150000	Penalty Transfer - Section 154	Statewide			State and Town roads	Creating more effective processes and safety managemen	Traffic Records and Informational Systems

Coders										t systems	
0098-0103PE (Proj Mod) Rte 139 vicinity of Marbar St and Valley Rd	Alignment Horizontal curve realignment	1 Numbers	252000	280000	HSIP (Section 148)	Urban Minor Arterial			State Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0120-0086PE (Proj Mod) Rte 82 @ Rte 85	Intersection traffic control Modify control - traffic signal to roundabout	1 Numbers	205000	205000	HSIP (Section 148)	Rural Principal Arterial - Other			State Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0120-0086CN (Proj Mod) Rte 82 @ Rte 85	Intersection traffic control Modify control - traffic signal to roundabout	1 Numbers	518181	518181	Penalty Transfer - Section 154	Rural Principal Arterial - Other			State Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0120-0087CN	Miscellaneo	1 Number	92474	115592	HSIP (Section	Rural Principal			State Highway	Improving the design	Spot Safety Improveme

(Proj Mod) Rte 85--Water treatment relocation breakout from Project 120-0086	us	s			148)	Arterial - Other			Agency	and operation of highway intersections	nt
0144-0188PE (Proj Mod) Rte 127 @ Reservoir Ave	Intersection geometry Auxiliary lanes - add left-turn lane	1 Numbers	350000	350000	HSIP (Section 148)	Urban Minor Arterial			State Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0146-0169CN (Proj Mod) Rte 83 vic I-84 EB off-ramps	Access management Change in access - close or restrict existing access	1 Numbers	46085	51205	HSIP (Section 148)	Urban Principal Arterial - Other			State Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0148-0202PE (Proj Mod) Rte 68 @	Intersection geometry Auxiliary lanes - add	1 Numbers	300000	300000	HSIP (Section 148)	Urban Principal Arterial - Other			State Highway Agency	Improving the design and operation of	Spot Safety Improvement

Rte 150	auxiliary through lane									highway intersections	
0166-0099CN (Proj Mod) Rte 69 @ Woodtick Rd	Intersection geometry Auxiliary lanes - add left-turn lane	1 Numbers	424059	471177	HSIP (Section 148)	Urban Principal Arterial - Other			State Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0172-0383PE (Proj Mod) Upgrade guiderail in District 2	Roadside Barrier-metal	Miles	100000	100000	HSIP (Section 148)	Various locations in District 2			State Highway Agency	Minimizing the consequences of leaving the road	Roadway Departure
0173-0375CN (Proj Mod) District 3 SLOSSS Traffic Signals	Intersection traffic control Intersection traffic control - other	5 Numbers	189144	189144	HSIP (Section 148)	Various locations in District 3			State Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0174-0403CN (Proj Mod) District 3 SLOSSS Traffic	Intersection traffic control Intersection traffic control -	20 Numbers	54081	54081	HSIP (Section 148)	Various locations in District 3			State Highway Agency	Improving the design and operation of highway	Spot Safety Improvement

Signals	other									intersections	
0174-0317CN (Proj Mod) Upgrade guiderail in District 4	Roadside Barrier-metal	5 Miles	298391	313391	HSIP (Section 148)	Various locations in District 4			State Highway Agency	Minimizing the consequences of leaving the road	Roadway Departure
0174-0347CN (Proj Mod) District 4 SLOSSS Traffic Signals	Intersection traffic control Intersection traffic control - other	2 Numbers	95321	95321	HSIP (Section 148)	Various locations in District 4			State Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement
0170-2855PE (Proj Mod) Statewide Design of SLOSSS Traffic Signals	Intersection traffic control Intersection traffic control - other	24 Numbers	144400	144400	HSIP (Section 148)	Various locations Statewide			State Highway Agency	Improving the design and operation of highway intersections	Spot Safety Improvement

Progress in Achieving Safety Performance Targets

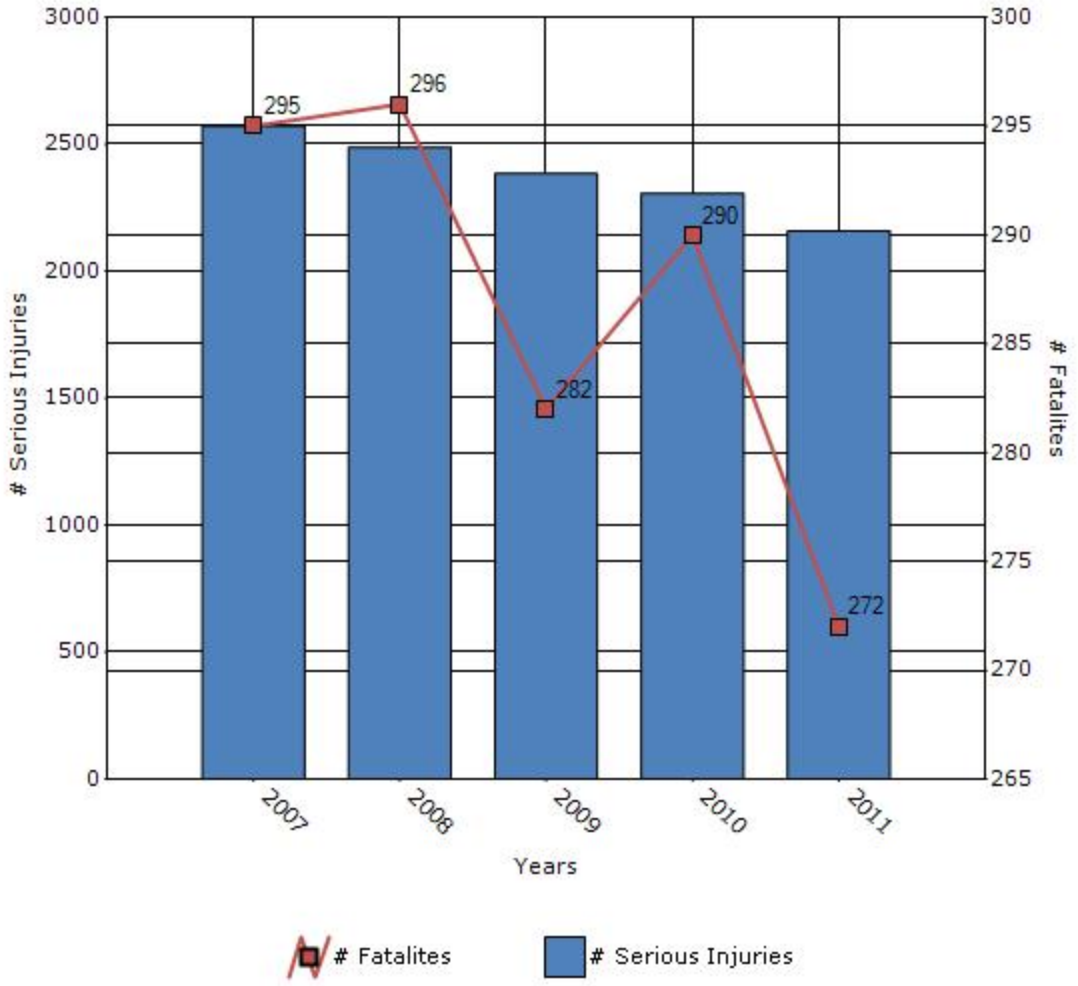
Overview of General Safety Trends

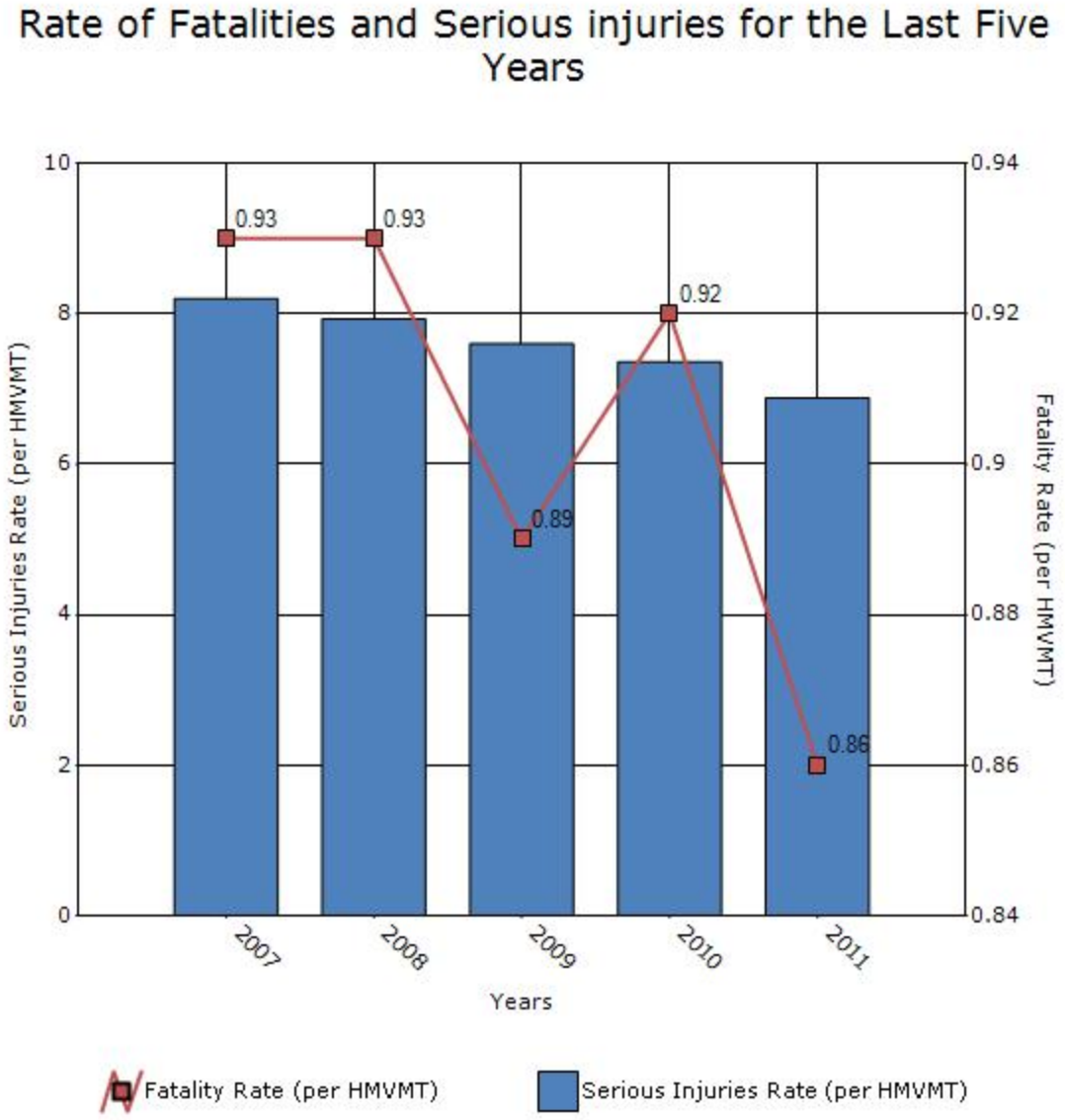
Present data showing the general highway safety trends in the state for the past five years.

Performance Measures*	2007	2008	2009	2010	2011
Number of fatalities	295	296	282	290	272
Number of serious injuries	2572	2488	2384	2307	2159
Fatality rate (per HMVMT)	0.93	0.93	0.89	0.92	0.86
Serious injury rate (per HMVMT)	8.2	7.93	7.6	7.36	6.88

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

Number of Fatalities and Serious injuries for the Last Five Years





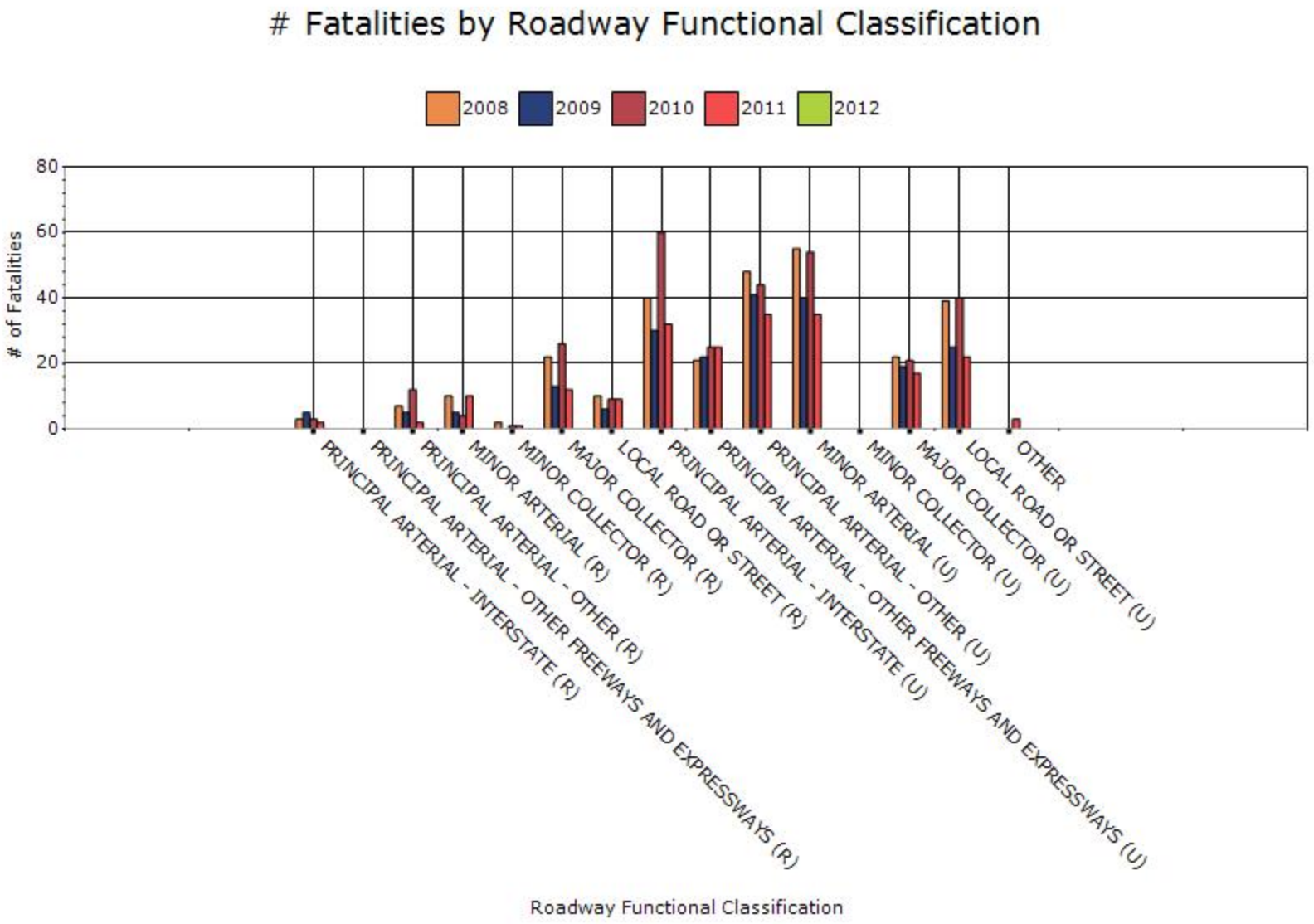
The data source is FARS and all the data provided is a 5-year moving average. Serious injury data for 2012 is not available.

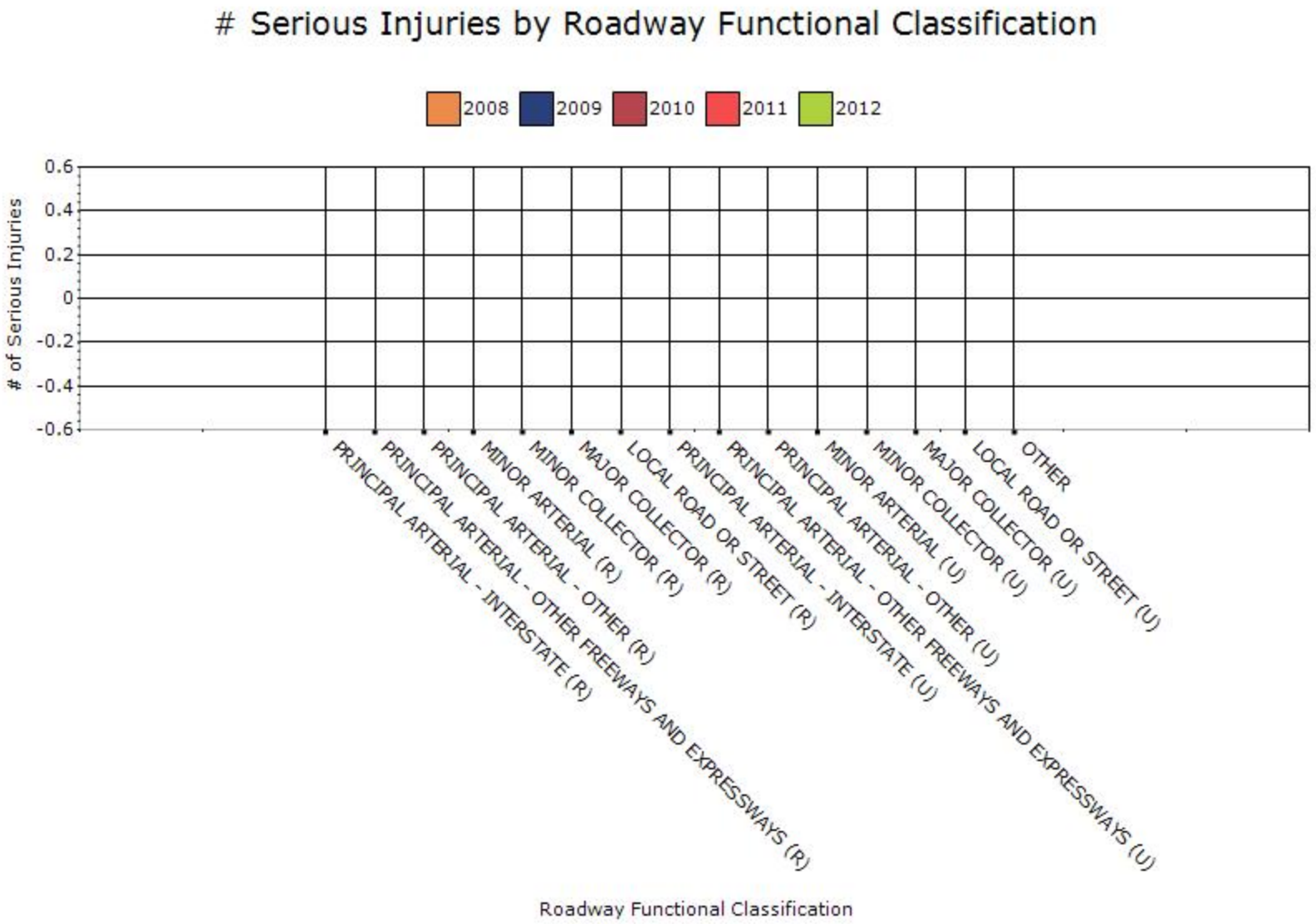
To the maximum extent possible, present performance measure* data by functional classification and ownership.

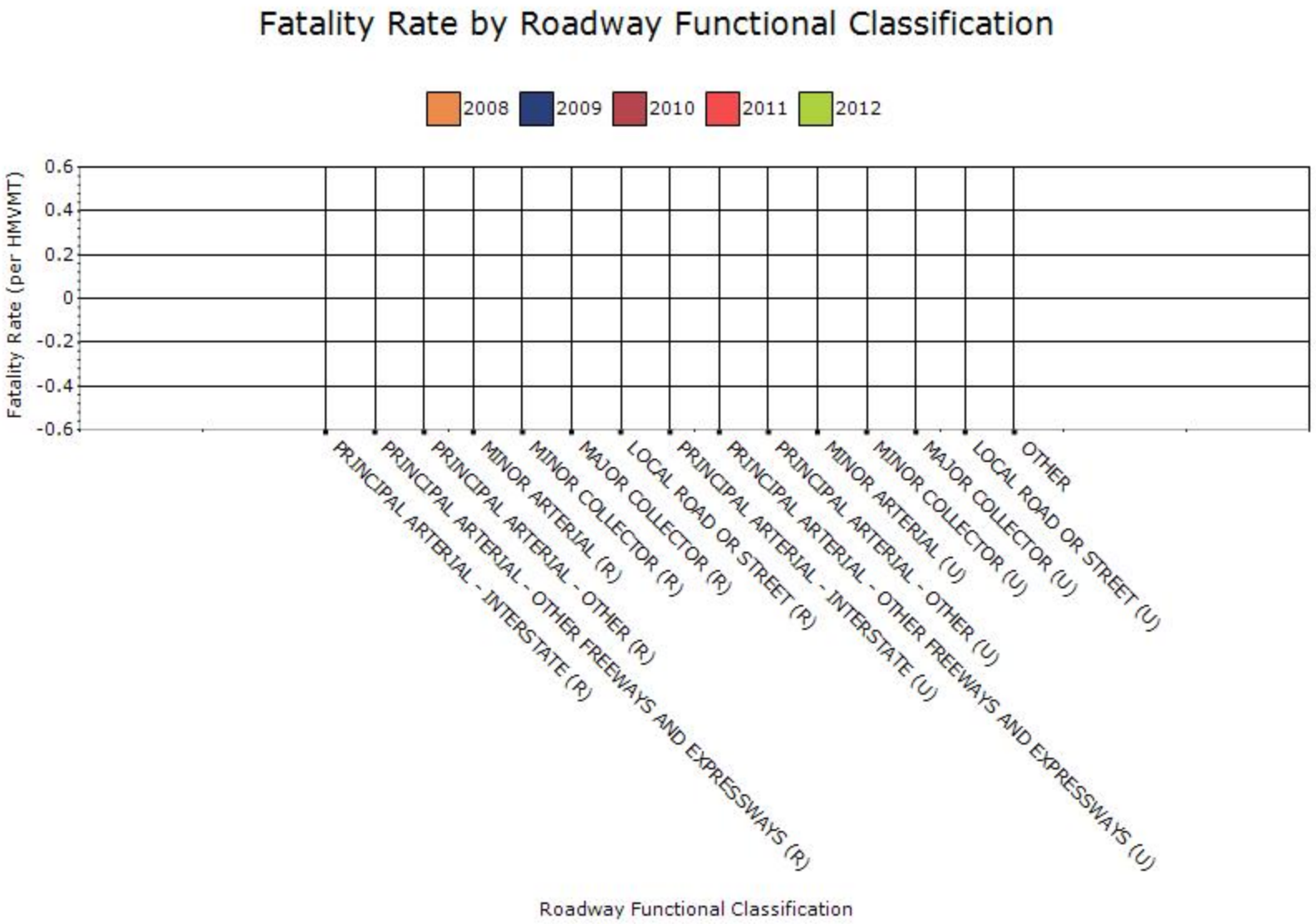
Year - 2012

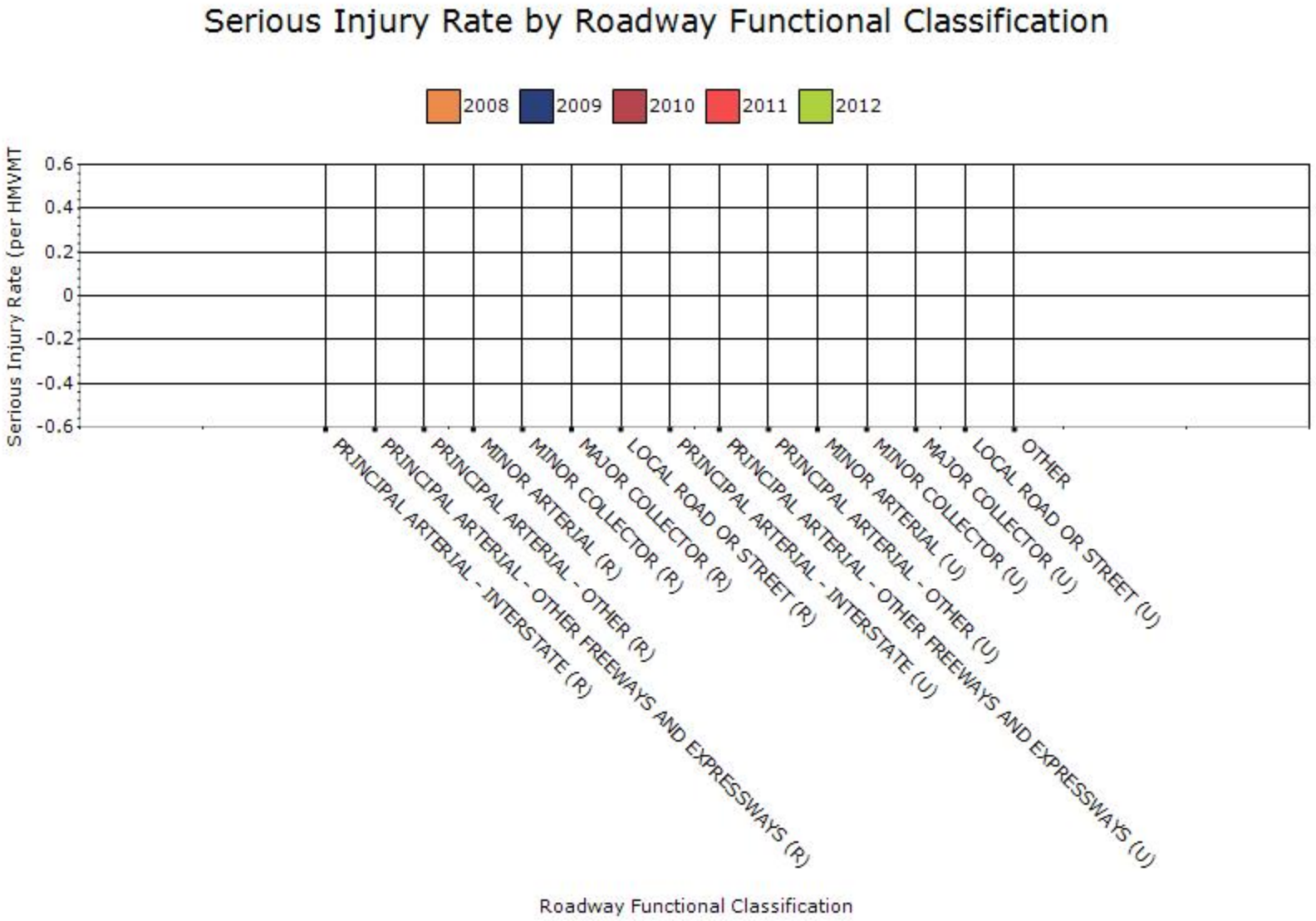
Function Classification	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
RURAL PRINCIPAL ARTERIAL - INTERSTATE	0	0	0	0
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	0	0	0	0
RURAL PRINCIPAL ARTERIAL - OTHER	0	0	0	0
RURAL MINOR ARTERIAL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

ARTERIAL - INTERSTATE				
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	0	0	0	0
URBAN PRINCIPAL ARTERIAL - OTHER	0	0	0	0
URBAN MINOR ARTERIAL	0	0	0	0
URBAN MINOR COLLECTOR	0	0	0	0
URBAN MAJOR COLLECTOR	0	0	0	0
URBAN LOCAL ROAD OR STREET	0	0	0	0
OTHER	0	0	0	0
OTHER	0	0	0	0


Fatalities by Roadway Functional Classification
2008
2009
2010
2011
2012
# of Fatalities
80
60
40
20
0
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (R)
LOCAL ROAD OR STREET (R)
PRINCIPAL ARTERIAL - INTERSTATE (U)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (U)
PRINCIPAL ARTERIAL - OTHER (U)
MINOR ARTERIAL (U)
MINOR COLLECTOR (U)
MAJOR COLLECTOR (U)
LOCAL ROAD OR STREET (U)
OTHER
Roadway Functional Classification


Serious Injuries by Roadway Functional Classification
2008
2009
2010
2011
2012
# of Serious Injuries
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)
LOCAL ROAD OR STREET (U)
OTHER
Roadway Functional Classification

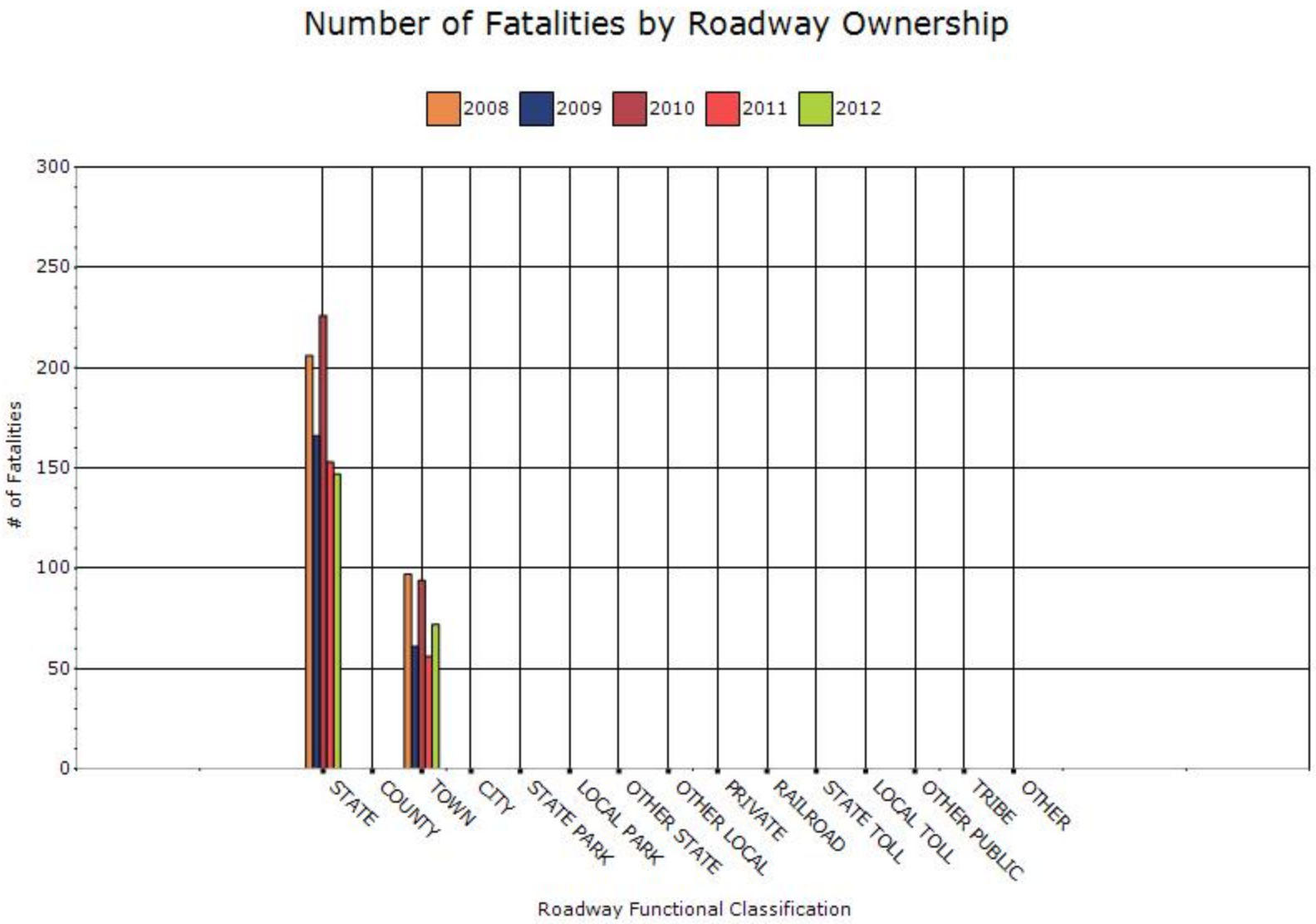

Fatality Rate by Roadway Functional Classification
2008
2009
2010
2011
2012
Fatality Rate (per HMVMT)
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
MAJOR COLLECTOR (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)
LOCAL ROAD OR STREET (U)
OTHER
Roadway Functional Classification

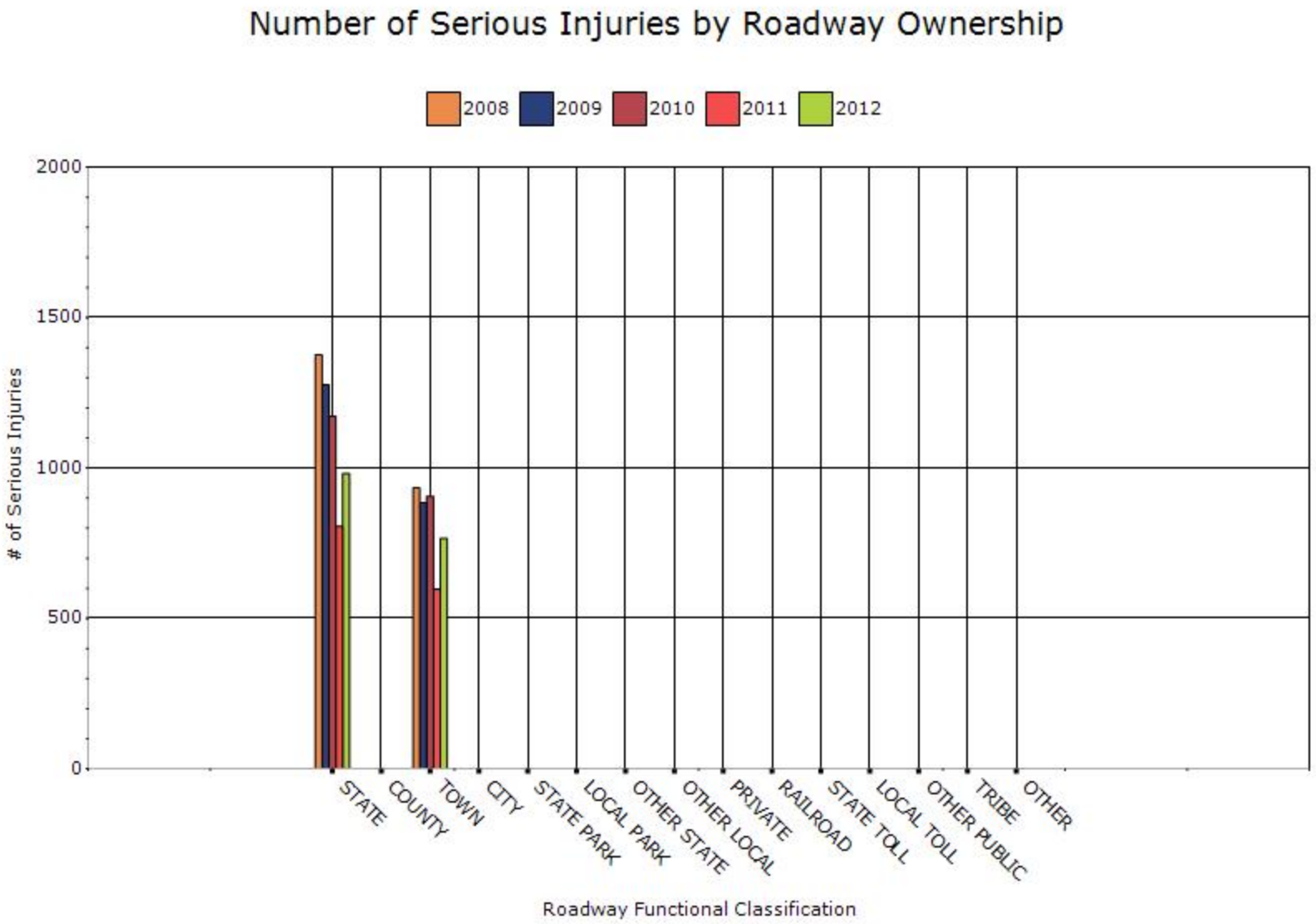

Serious Injury Rate by Roadway Functional Classification
2008
2009
2010
2011
2012
Serious Injury Rate (per HMVMT
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
PRINCIPAL ARTERIAL - INTERSTATE (R)
PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
PRINCIPAL ARTERIAL - OTHER (R)
MINOR ARTERIAL (R)
MINOR COLLECTOR (R)
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)
LOCAL ROAD OR STREET (U)
OTHER
Roadway Functional Classification

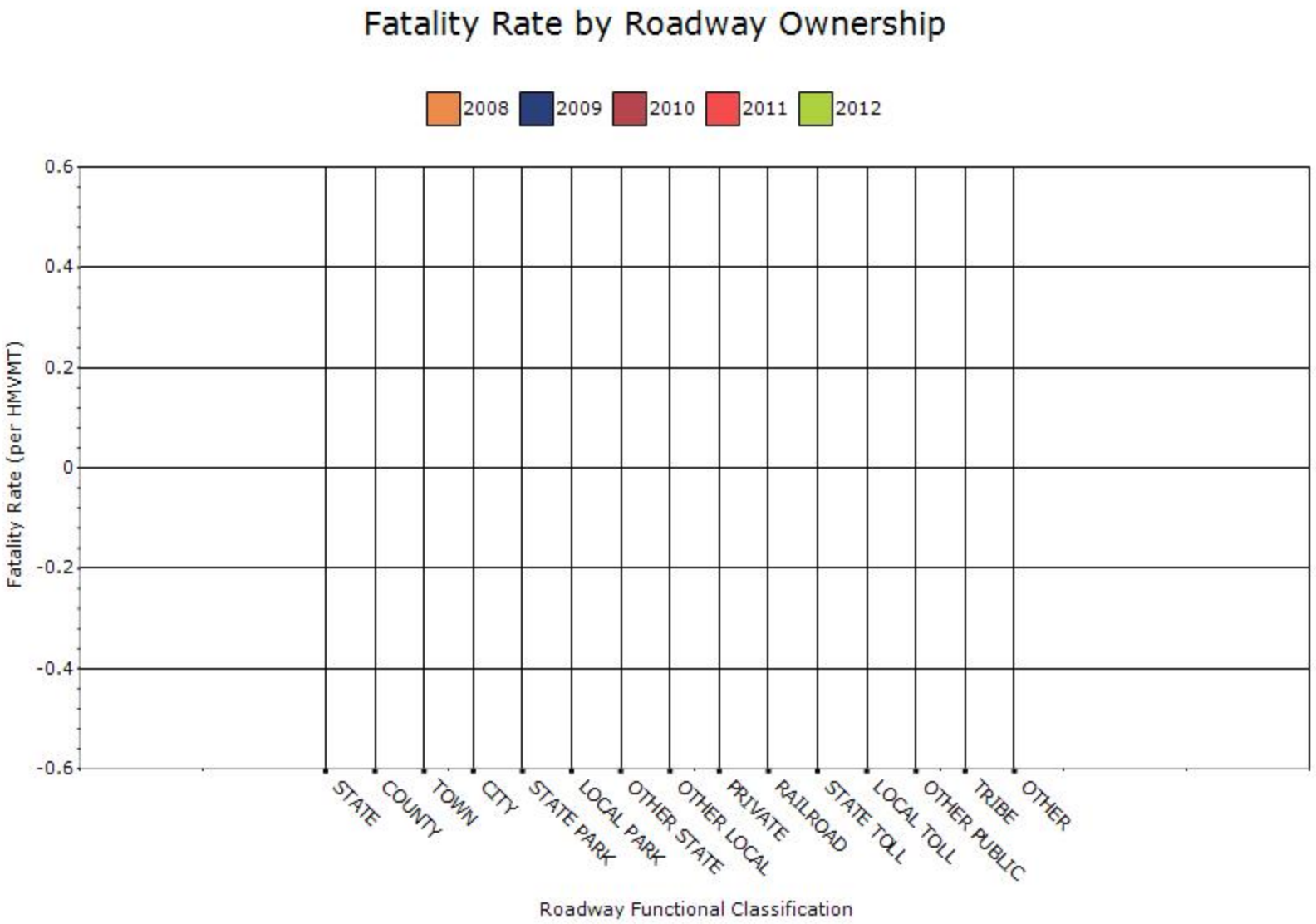
Year - 2012

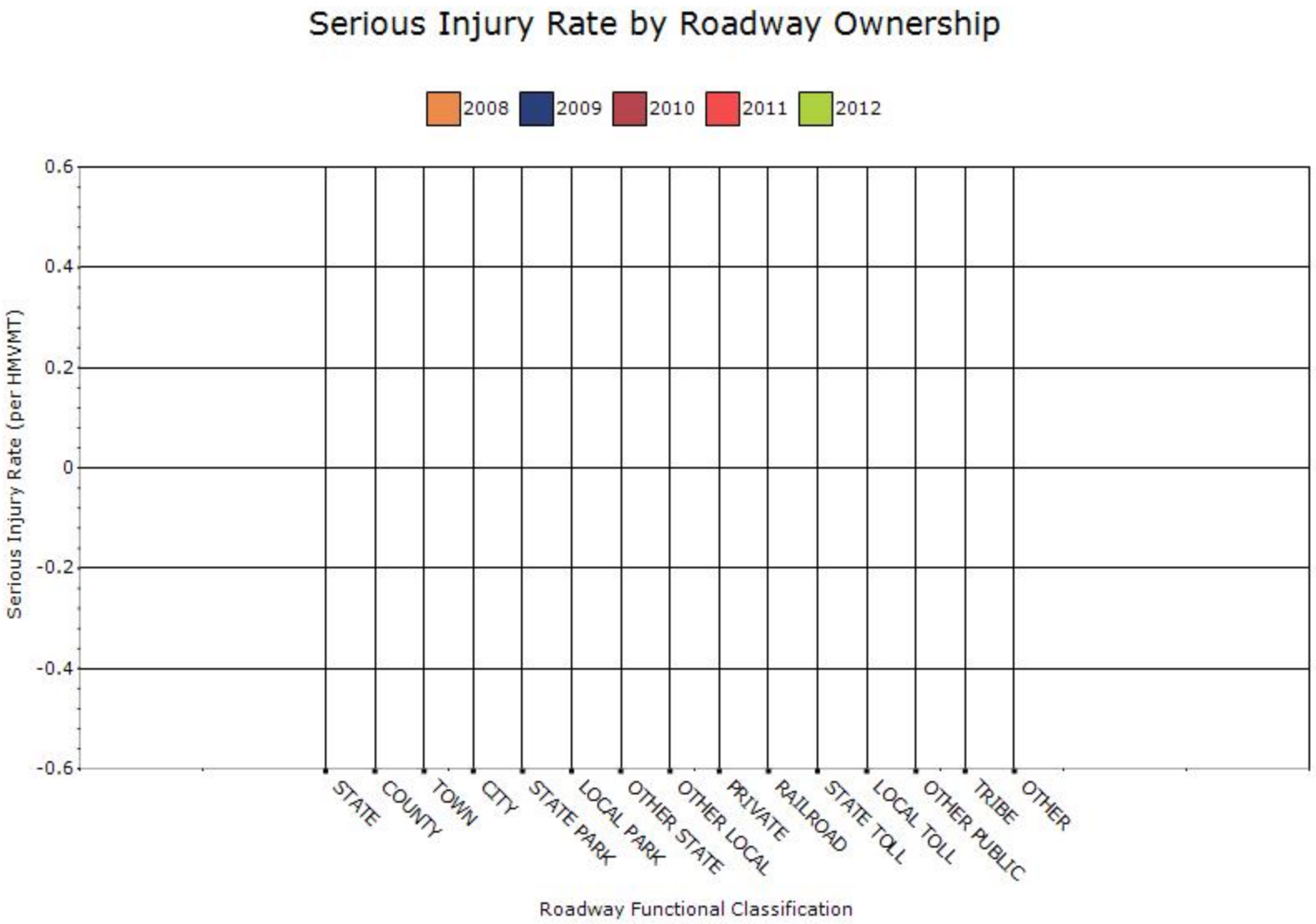
Roadway Ownership	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
STATE HIGHWAY AGENCY	147	982	0	0
COUNTY HIGHWAY AGENCY	0	0	0	0
TOWN OR TOWNSHIP HIGHWAY AGENCY	72	766	0	0
CITY OF MUNICIPAL HIGHWAY AGENCY	0	0	0	0
STATE PARK, FOREST, OR RESERVATION 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
INDIAN TRIBE NATION	0	0	0	0
OTHER	0	0	0	0
OTHER	0	0	0	0


Number of Fatalities by Roadway Ownership
2008
2009
2010
2011
2012
300
250
200
150
100
50
0
# of Fatalities
STATE
COUNTY
TOWN
CITY
STATE PARK
LOCAL PARK
OTHER STATE
OTHER LOCAL
PRIVATE
RAILROAD
STATE TOLL
LOCAL TOLL
OTHER PUBLIC
TRIBE
OTHER
Roadway Functional Classification


Number of Serious Injuries by Roadway Ownership
2008
2009
2010
2011
2012
2000
1500
1000
500
0
# of Serious Injuries
STATE
COUNTY
TOWN
CITY
STATE PARK
LOCAL PARK
OTHER STATE
OTHER LOCAL
PRIVATE
RAILROAD
STATE TOLL
LOCAL TOLL
OTHER PUBLIC
TRIBE
OTHER
Roadway Functional Classification


Fatality Rate by Roadway Ownership
2008
2009
2010
2011
2012
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
Fatality Rate (per HMVMT)
STATE
COUNTY
TOWN
CITY
STATE PARK
LOCAL PARK
OTHER STATE
OTHER LOCAL
PRIVATE
RAILROAD
STATE TOLL
LOCAL TOLL
OTHER PUBLIC
TRIBE
OTHER
Roadway Functional Classification


Serious Injury Rate by Roadway Ownership
2008
2009
2010
2011
2012
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
Serious Injury Rate (per HMVMT)
STATE
COUNTY
TOWN
CITY
STATE PARK
LOCAL PARK
OTHER STATE
OTHER LOCAL
PRIVATE
RAILROAD
STATE TOLL
LOCAL TOLL
OTHER PUBLIC
TRIBE
OTHER
Roadway Functional Classification

The source of the data for functional classification is FARS (2012 data is not available). FARS does not have data on the number of serious injuries. CT's crash file does not include functional classification, therefore, data on number of serious injuries, fatality rate and serious injury rate (per HMVMT) is not available.

The file only distinguishes between State-owned and Town-owned roadways.

The source of the data for roadway ownership is from the State's crash file. Data is not available to compute fatality and serious Injury Rate (per HMVMT) based on roadway ownership.

For those fields where data is available, the data is annual NOT rolling averages.

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

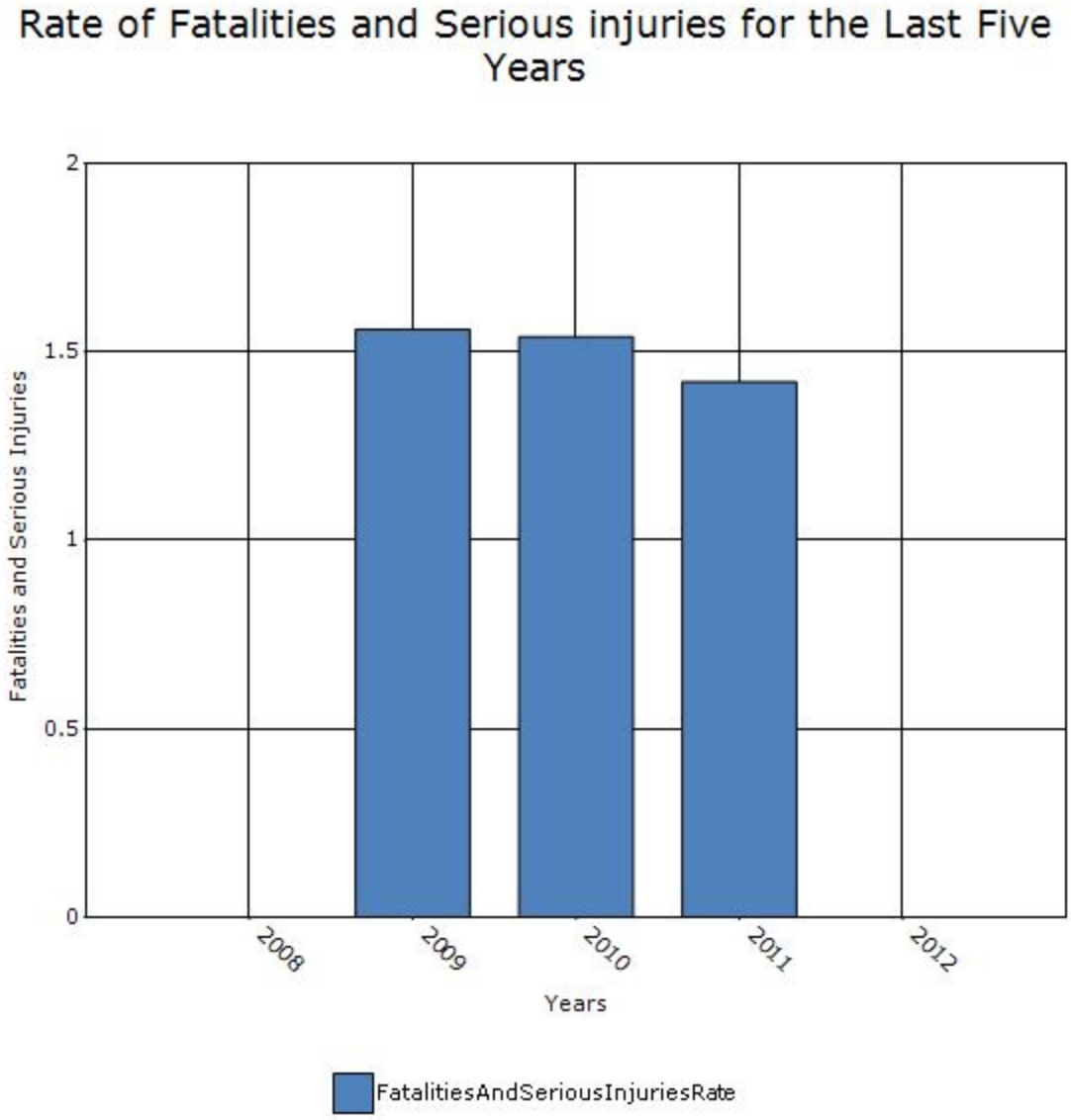
Present the rate of traffic fatalities and serious injuries per capita for drivers and pedestrians over the age of 65.

Older Driver Performance Measures	2008	2009	2010	2011	2012
Fatality rate (per capita)	0	0.22	0.23	0.21	0
Serious injury rate (per capita)	0	0.86	0.85	0.85	0
Fatality and serious injury rate (per capita)	0	1.56	1.54	1.42	0

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

See attachment. CT data not available for 2012.

Data is for age 65 and older.



Does the older driver special rule apply to your state?

No

Assessment of the Effectiveness of the Improvements (Program Evaluation)

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

☐ None

☐ Benefit/cost

☐ Policy change

☒ Other: Other-Downward trend of the number of fatalities in CT

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

☒ Shift Focus to Fatalities and Serious Injuries

☐ Include Local Roads in Highway Safety Improvement Program

☐ Organizational Changes

☐ None

☐ Other:

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

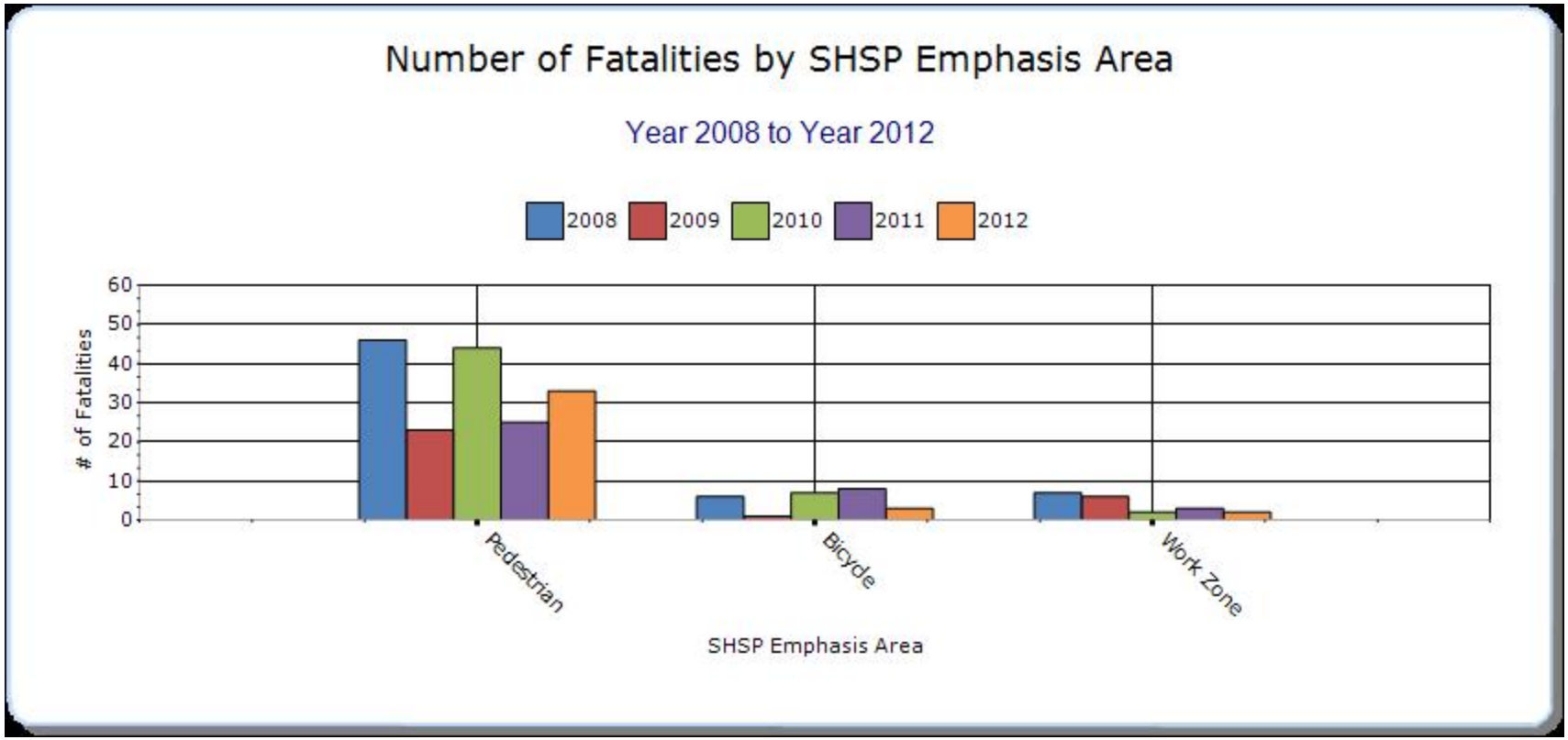
None.

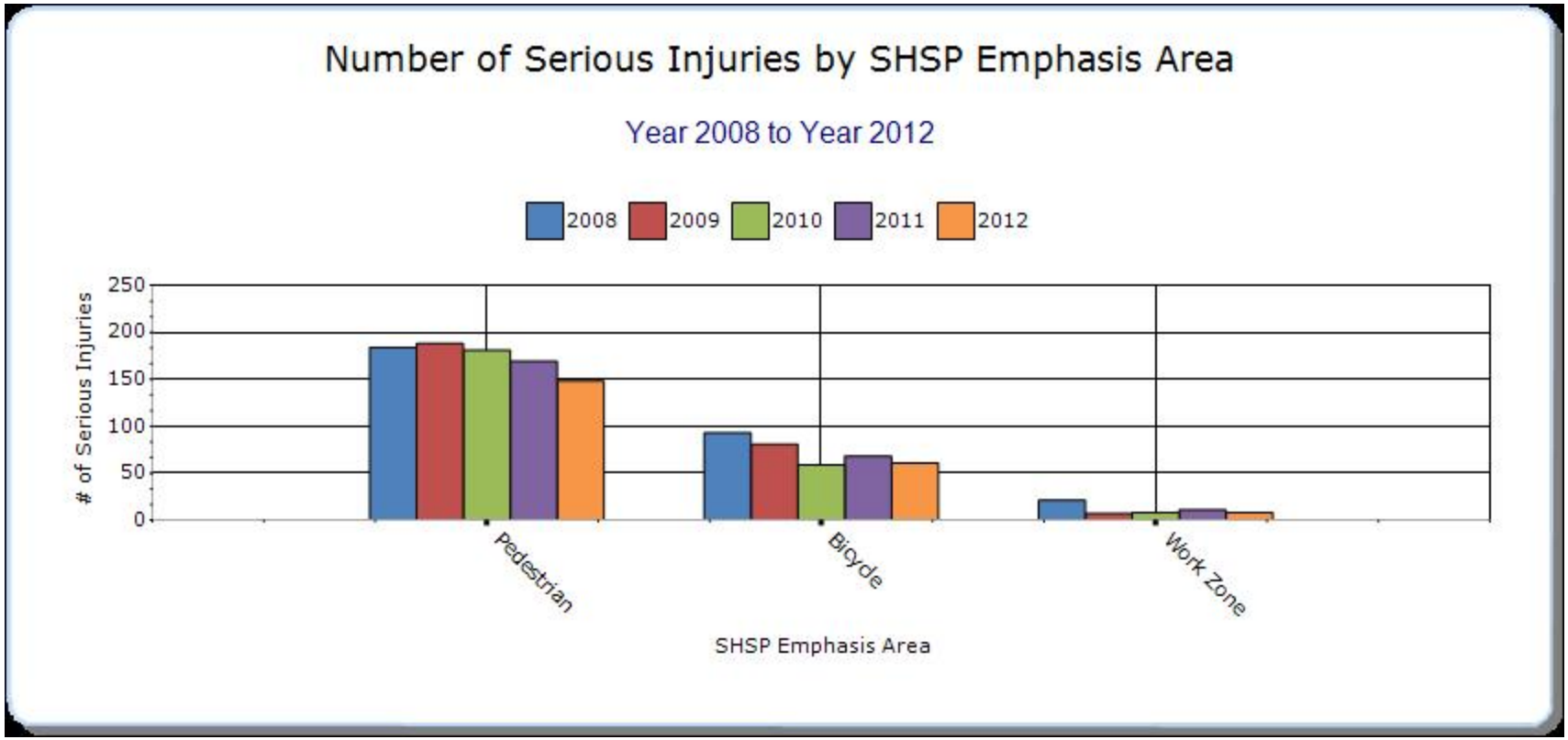
SHSP Emphasis Areas

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

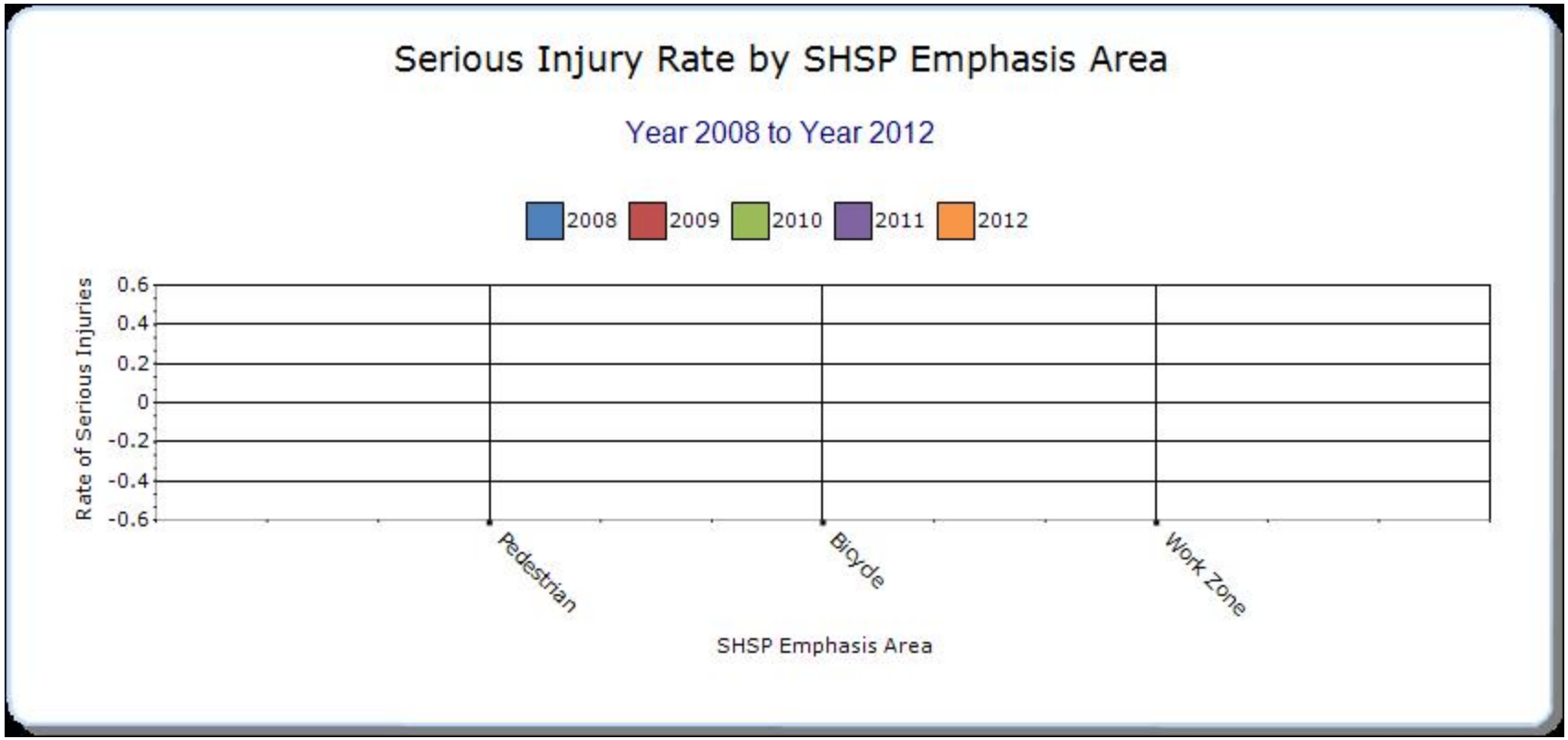
Year - 2012

HSIP-related SHSP Emphasis Areas	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3
Making walking and street crossing easier	**All**	**33**	**148**	**0**	**0**	**0**	**0**	**0**
Ensuring safer bicycle travel	All	3	61	0	0	0	0	0
Designing safer work zones	All	2	8	0	0	0	0	0


Number of Fatalities by SHSP Emphasis Area
Year 2008 to Year 2012
2008
2009
2010
2011
2012
# of Fatalities
60
50
40
30
20
10
0
Pedestrian
Bicycle
Work Zone
SHSP Emphasis Area


Number of Serious Injuries by SHSP Emphasis Area
Year 2008 to Year 2012
2008
2009
2010
2011
2012
# of Serious Injuries
250
200
150
100
50
0
Pedestrian
Bicycle
Work Zone
SHSP Emphasis Area


Fatality Rate by SHSP Emphasis Area
Year 2008 to Year 2012
2008
2009
2010
2011
2012
Rate of Fatalities
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
Pedestrian
Bicycle
Work Zone
SHSP Emphasis Area



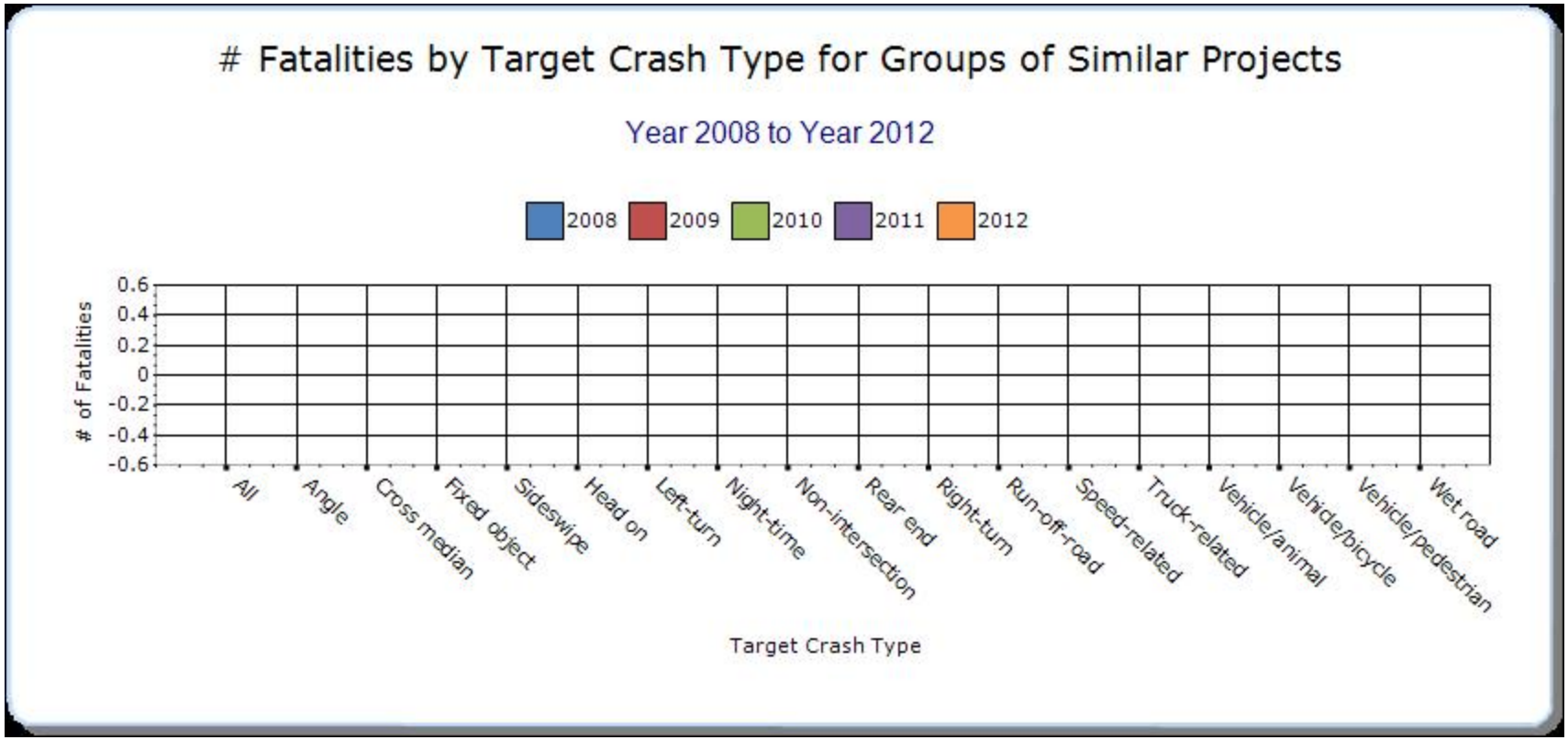
The source of the data is FARS and the data provided is annual. Fatality and serious injury rate data is not available.

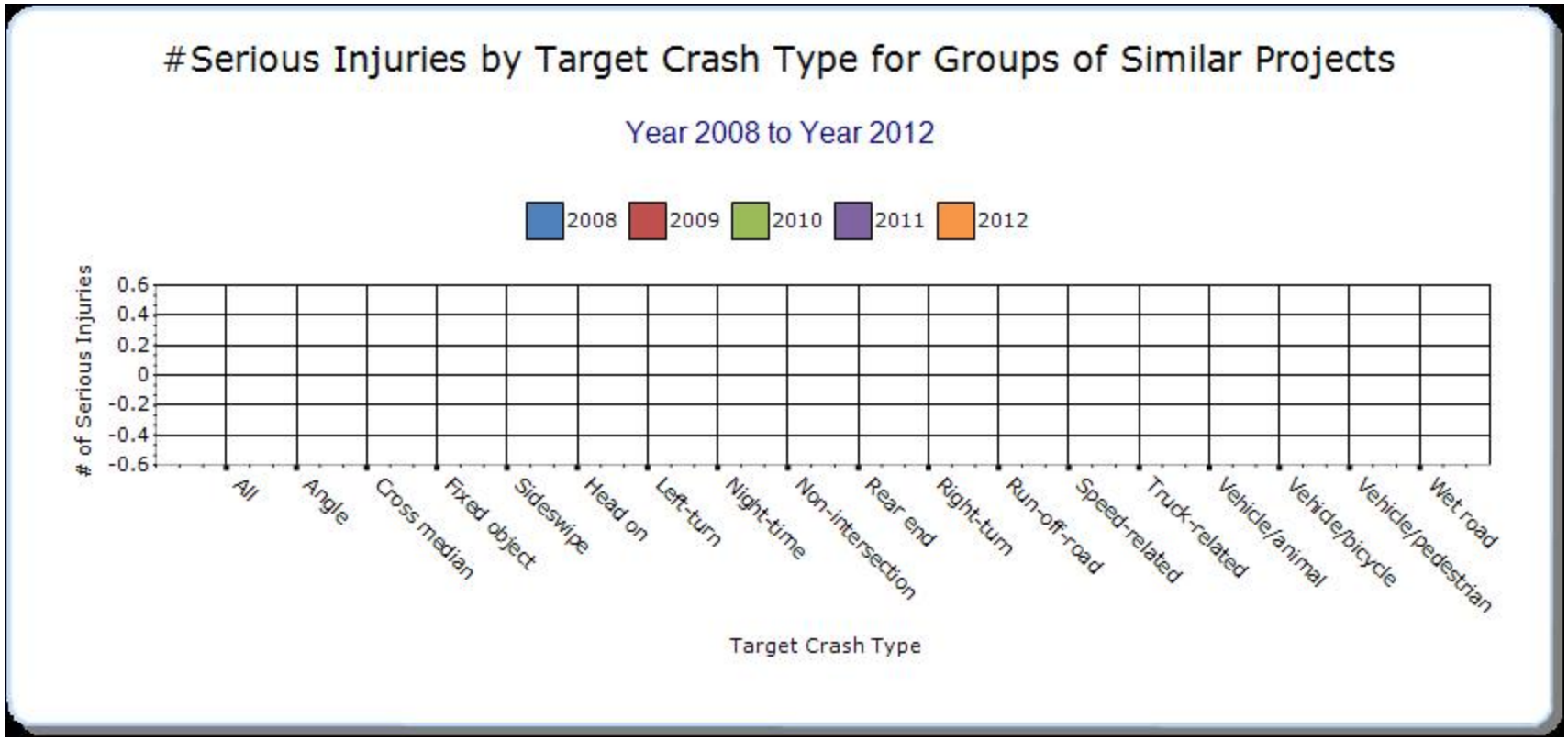
Groups of similar project types

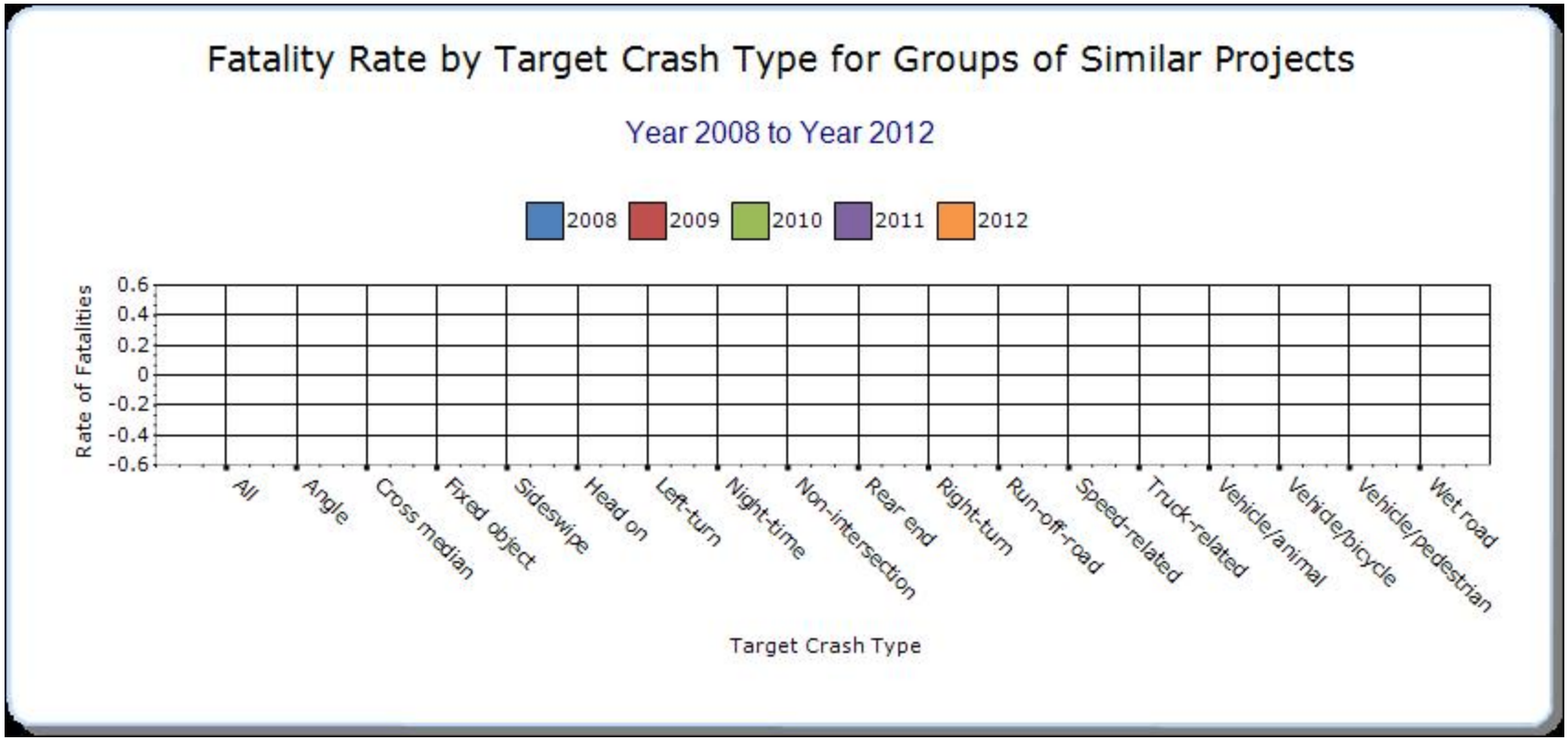
Present the overall effectiveness of groups of similar types of projects.

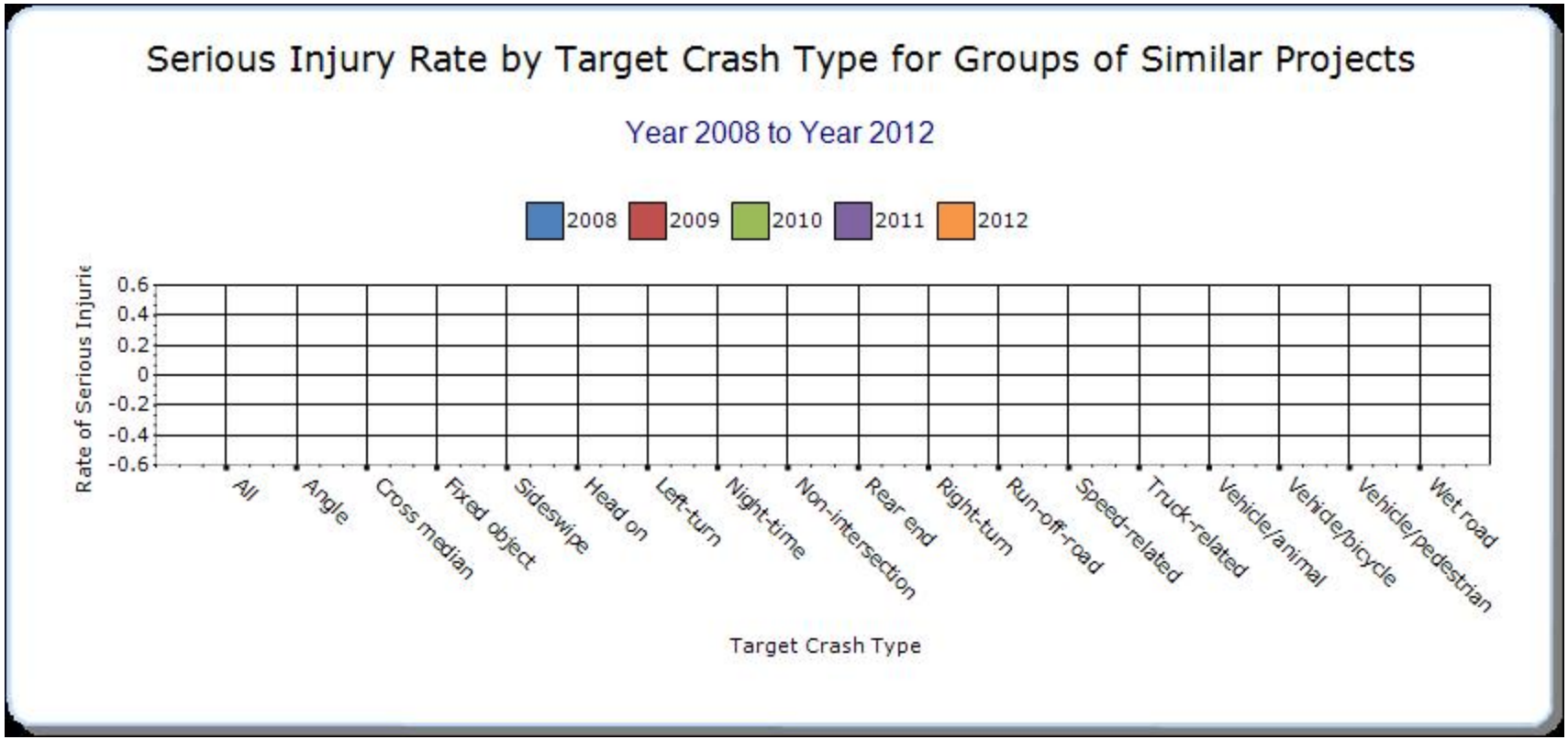
Year - 2012

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


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


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


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



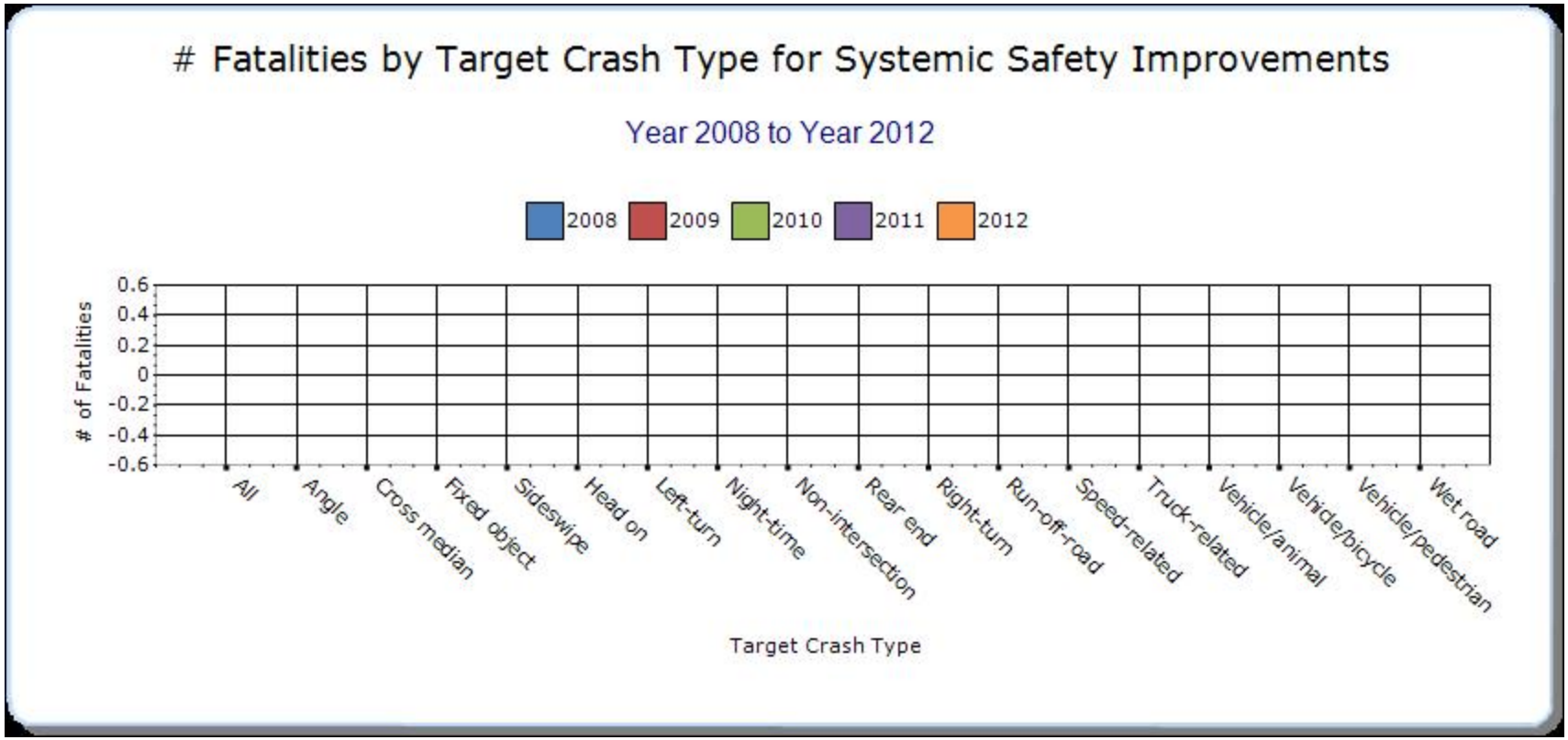
ConnDOT's crash database has limitations and data is not available to answer this question.

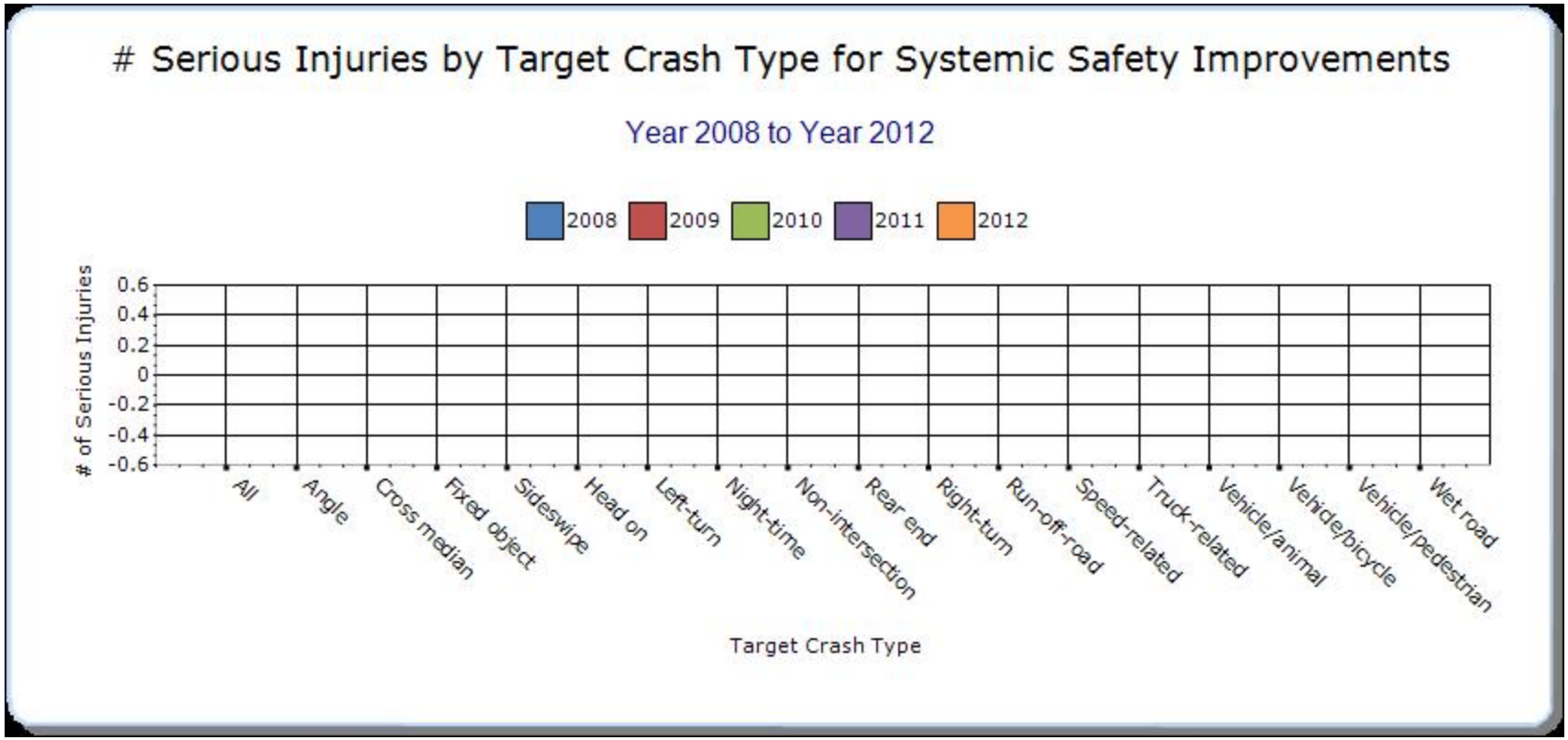
Systemic Treatments

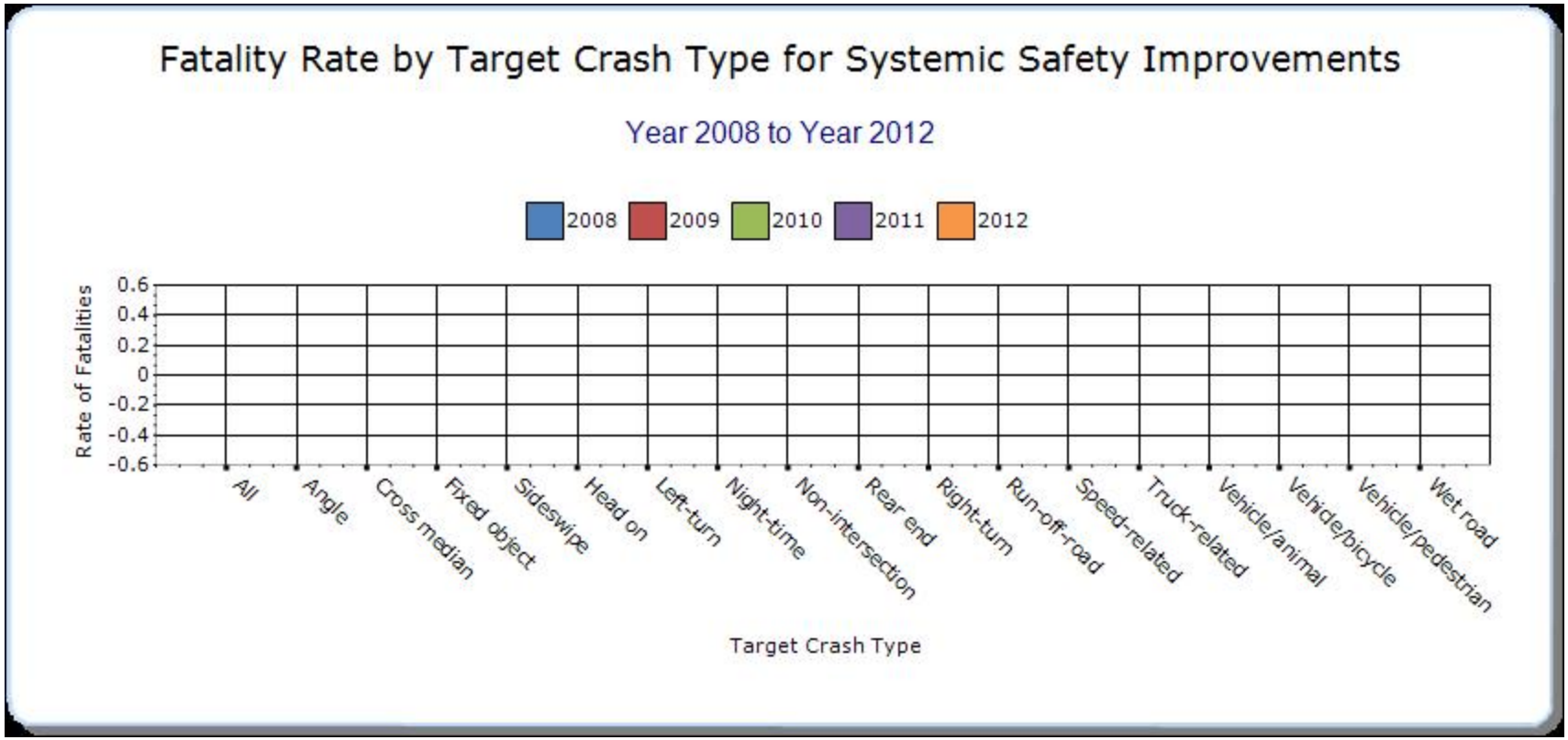
Present the overall effectiveness of systemic treatments..

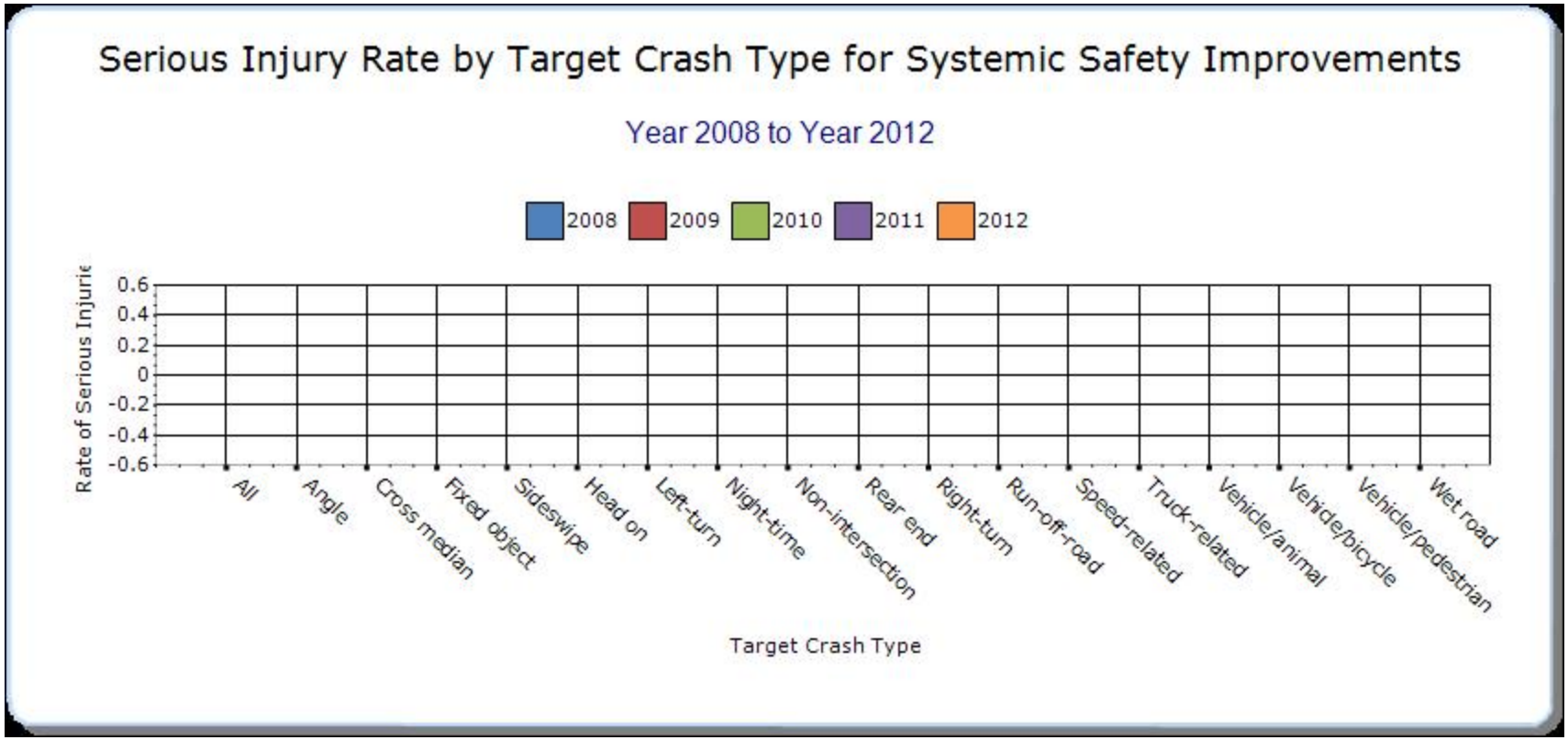
Year - 2012

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


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


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


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



ConnDOT's crash database has limitations and data is not available to answer this question.

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

The Department has recently established a performance measures working group for safety. The primary task of the working group will be to generate ConnDOT comments on upcoming MAP-21 rulemaking for safety performance measures and targets.

Provide project evaluation data for completed projects (optional).

Location	Functional Class	Improvement Category	Improvement Type	Bef-Fatal	Bef-Serious Injury	Bef-Other Injury	Bef-PDO	Bef-Total	Aft-Fatal	Aft-Serious Injury	Aft-Other Injury	Aft-PDO	Aft-Total	Evaluation Results (Benefit/ Cost Ratio)
none at this time														

Optional Attachments

Sections	Files Attached
Program Structure: Program Administration	Local Roads Accident Reduction Program - Revised - 2013.doc
Assessment of the Effectiveness of the Improvements: Overview of General Highway Safety Trends	NHTSA Highway Safety Plan 2013.pdf
Assessment of the Effectiveness of the Improvements: Description of Overall Effectiveness	Map 21 Section 146 special rule for older drivers annual safety report(1).xlsx

Glossary

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

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

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

HMVMT means hundred million vehicle miles traveled.

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

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

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

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

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

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

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

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