



Highway Safety Improvement Program  
*Data Driven Decisions*

New Mexico  
Highway Safety Improvement Program  
2016 Annual Report

Prepared by: NM

## Disclaimer

### **Protection of Data from Discovery & Admission into Evidence**

23 U.S.C. 148(h)(4) states “Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for any purpose relating to this section [HSIP], shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location identified or addressed in the reports, surveys, schedules, lists, or other data.”

23 U.S.C. 409 states “Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.”

---

## Table of Contents

Disclaimer.....	ii
2. Executive Summary.....	1
Introduction .....	3
Program Structure .....	3
Program Administration .....	3
Program Methodology.....	5
Progress in Implementing Projects .....	9
Funds Programmed.....	9
General Listing of Projects .....	12
Progress in Achieving Safety Performance Targets .....	17
Overview of General Safety Trends .....	17
Application of Special Rules .....	32
Assessment of the Effectiveness of the Improvements (Program Evaluation) .....	34
SHSP Emphasis Areas .....	36
Groups of similar project types.....	41
Systemic Treatments.....	42
Project Evaluation .....	44
Glossary.....	46

## 2. Executive Summary

The Highway Safety Improvement Program (HSIP) report is an annual update prepared by the Statewide Planning Bureau (SPB), housed under the New Mexico Department of Transportation (NMDOT) Asset Management and Planning Division (AMPD). The report is based on the best available data and information collected. To facilitate a transparent stakeholder process, the NMDOT SPB is coordinating with its internal and external safety partners through a comprehensive communication process. The preparation of the Highway Safety Improvement Program (HSIP), Strategic Highway Safety Plan (SHSP), Highway Safety Plan (HSP), and the Commercial Vehicle Safety Plan (CVSP), are also being coordinated to provide consistency of data, integrated safety initiatives, and consistent identification of performance trends and safety performance assessment. This coordinated safety planning effort is allowing NMDOT to direct limited safety dollars to areas with the greatest safety needs and to develop effective goals, safety strategies, and performance targets.

Overall, in New Mexico, from 2010 to 2014 there has been a 10 percent increase in fatalities from 349 to 383. Serious incapacitating injuries (A) declined by 35 percent from 1,922 to 1,249 during the same reporting period.

With respect to consideration of the five year rolling average, there has been a general downward trend in fatalities with a slight increase in the 2014 of the Five Year Rolling Average. Compared to 2010, in 2014 there was a decrease of over 10 percent in the rolling average for fatalities. For serious injuries (A) there has been a consistent reduction in New Mexico for the past five plus years. Similar decreases in the five year rolling average have been noted for rates, a decline for the serious (A) injury rate.

In 2016, NMDOT continued to make significant progress on programming and obligation of HSIP funds, as well as continued implementation of a systematic process for funding and completion of a backlog of projects. This included further development of a structured list of Road Safety Audits (assessments) (RSAs) planned and performed, and a comprehensive and organized process of communication with internal and external project stakeholders.

Other accomplishments include improvements in crash data reporting and analysis as evidenced in the level of detail in this year's report. Over the past several years, there has been progress in the location of crashes, an improved ability to identify crash occurrence by functional class and ownership, and the ability to calculate associated crash rates to assess trends. This year's HSIP also includes an update of SHSP Emphasis Area data. Local safety road projects are a key component in the HSIP with \$2.1 million obligated for Federal Fiscal Year (FFY) reporting period of 2015. NMDOT will implement an updated SHSP this year that will provide a more detailed and extensive analysis of safety performance, additional Emphasis Areas, and guidance on strategies to reduce severe crashes on all roads in New Mexico.



## 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 administered in the State?

Central

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

Under the NM HSIP program all public roadways are eligible for participation. For the current program (FFY 2015), 9% of NM HSIP funds are obligated for local road projects, and 89% are obligated for Statewide DOT projects. With the exception of the District let projects, all HSIP projects programmed in the FFY 2015 STIP were approved by the Safety Committee using the previous application process where applications were submitted on a quarterly basis through the MPOs and RTPOs and then reviewed and prioritized by the NMDOT HSIP Committee, regardless of the project location. In other words, proposed HSIP projects on local roads were handled in the same manner as proposed projects on DOT roads.

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

Design  
Planning  
Maintenance  
Operations  
Governors Highway Safety Office  
Other-NMDOT Districts

#### 6. Briefly describe coordination with internal partners.

The internal NMDOT Safety Committee meets on a monthly basis to review the HSIP and ensure the program is meeting the goals and objectives of the NMDOT HSIP Plan. The Safety Committee is composed of the following:

- Acting HSIP Coordinator
- State Traffic Engineer
- STIP Coordinator
- Chief Engineer
- Field Operations Division Director
- Program Management Division Director
- Asset Management and Planning Division Director
- Rail Bureau Chief
- Data Management Bureau Chief
- Office of Safety Programs Director
- Representatives from other NMDOT Departments, including Project Oversight Division, Traffic Safety Division and others.

The Acting HSIP Coordinator also coordinates closely with the three regional Design Centers on project tracking and oversight. In addition, the Acting HSIP Coordinator, in overseeing the SHSP, coordinates closely with NMDOT Office of Safety Programs which is responsible for the Highway Safety Plan. The NMDOT representative to the Governors Highway Safety Commission is the Director of the Highway Safety Office in the Office of Safety Programs.

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

Metropolitan Planning Organizations  
Governors Highway Safety Office  
Other-Regional Transportation Planning Organizations

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

Other-\*see optional description

Administration of HSIP Funds and program continues to be under the auspices of the Statewide Planning Bureau, which facilitates internal and external coordination, program management, and project tracking. The past program administration practices entailed a quarterly call for applications submitted through the MPOs and RTPOs. This practice is temporarily suspended in an effort to: program all previously selected projects; ensure

that all programmed projects in FFY2015 are obligated (or moved to outer years of the STIP, as appropriate); facilitate follow up on completed RSA reports; and schedule needed RSAs and program “shelf projects” selected through the Section 130 program, as well as the Districts/Maintenance projects program.

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

NMDOT made significant progress in 2015-2016 to program and obligate HSIP funds and to provide a systematic process for funding a backlog of projects. This includes the development a structured list of RSAs planned and performed, and a more comprehensive and organized process of communication with internal and external stakeholders.

### Program Methodology

**10. Select the programs that are administered under HSIP.**

Median Barrier

Roadway Departure

**11. Program: Median Barrier**

**Date of Program Methodology: 8/31/2012**

**What data types were used in the program methodology?**

<i>Crashes</i>	<i>Exposure</i>	<i>Roadway</i>
All crashes	Traffic	Median width
	Volume	Functional classification
	Lane miles	Roadside features

**What project identification methodology was used for this program?**

Crash frequency  
Crash rate  
Other-\*see optional description

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

No

**How are highway safety improvement projects advanced for implementation?**

Other-See optional description



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).

Available funding 1

### 11. Program: Roadway Departure

Date of Program Methodology: 8/12/2012

#### What data types were used in the program methodology?

<i>Crashes</i>	<i>Exposure</i>	<i>Roadway</i>
All crashes	Traffic	Roadside features
	Volume	
	Lane miles	

#### What project identification methodology was used for this program?

Crash frequency  
Crash rate  
Other-\*see optional description

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

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

#### How are highway safety improvement projects advanced for implementation?

Other-See optional description

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).

Available funding -1

#### What project identification methodology was used for this program?

The Median Barrier Program is based on the application of proven countermeasures and documented by national research from the AASHTO HSM. For example, the AASHTO HSM Table 13-23, indicates the installation of a Median Barrier will reduce all fatal crashes by 43% (CMF = 0.57), and all types of injuries by 30% (CMF=0.70).

The Roadway Departure Program is based on the application of proven countermeasures and is documented by national research from the HSM. There are a variety of strategies used to reduce Roadway Departure fatalities and serious (A) injuries. For example, strategies include: installation of shoulder rumble strips (CMF rural freeways SVROR crashes = 0.79); CMF multi-lane highways SVROR injury crashes = 0.78; Installation of centerline rumble strips (CMF rural two lane roads head-on and opposing direction sideswipe injury crashes = 0.75).

How are the highway safety improvement projects advanced for implementation?

For the Median Barrier Program, the NMDOT State Traffic Engineer reviews and approves the use of proven median treatments for freeways and forwards to FHWA NM Division for concurrence.

For the Roadway Departure Program, the NMDOT State Traffic Engineer reviews and approves proven countermeasures to address Roadway Departure Safety needs that are consistent with the SHSP (CTSP) such as shoulder rumble strips and forwards to FHWA NM Division for concurrence.

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

2%

**Highway safety improvement program funds are used to address which of the following systemic improvements?**

Other-Vehicle-pedestrian crashes

*New Mexico is a Pedestrian Safety Focus State due to an increase in the trend of pedestrian fatalities and serious (A) injuries from vehicle-pedestrian crashes. Pedestrian safety is identified as an emphasis area in the current update effort for the NM SHSP. The SHSP includes key objectives and strategies for the pedestrian crash emphasis area and vetted by a large group of stakeholders. The draft SHSP recommends a comprehensive set of planning guidelines for pedestrian safety programs and strategies on a statewide basis for all roads.*

*In 2015-2016 there has been improved coordination of pedestrian safety program efforts. The SPB is collaborating with Traffic Safety Bureau, which manages the NMDOT NHTSA-funded programs, on several initiatives.*

*The Program Management Team (PMT), responsible for overseeing the SHSP initiated discussions for development of pedestrian systemic countermeasures to reduce pedestrian fatalities and incapacitating (A) injuries in the State. For example, both the SPB Chief/Acting HSIP Coordinator and the Bicycle, Pedestrian, Equestrian (BPE)*

*Coordinator are on the SHSP PMT and are actively engaged in ongoing collaborations and discussions to develop and implement systemic safety improvements for the Pedestrian Safety focus area (emphasis area).*

**13. What process is used to identify potential countermeasures?**

Engineering Study  
Road Safety Assessment

(Engineering Study): Initial Evaluation of alternatives (I-A) and Detailed Evaluation of alternatives (I-B) as outlined in the Location Study Procedures (LSP) process. The alignment and corridor study process includes a safety evaluation component when developing, screening, and determining the preferred alternatives in an alignment or corridor study.

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

Road Safety audits

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

NMDOT now uses a more formal process for managing the state Road Safety Audit (RSA program), as follows:

1. District offices submit the RSA Application to the HSIP Coordinator requesting an RSA. Crash data and other information is required.
2. The NMDOT Safety Committee and FHWA-NM review and prioritize the applications, taking into consideration crash data, as well as other information provided.
3. Selected applications are added to the RSA tracking spreadsheet and addressed through an on-call engineering services contract.
4. RSAs are completed within 90 days and Districts have 30 days from completion of the final report to submit an application for projects identified in the RSA report.
5. The RSA program includes monitoring and tracking systems to identify which RSAs result in HSIP projects.

The NMDOT conducted two training sessions in 2013 for staff in the use of the AASHTO Highway Safety Manual (HSM) and another is scheduled for October 2016. These training sessions were provided for NMDOT staff in the background and use of the HSM with the intent for future adoption and use of the Highway Safety Manual by

the NMDOT for Planning, Design and Operations. The SPB for 2016-2017 intends to conduct additional efforts to expand use of the HSM for safety performance assessment for planning, design and evaluation.

## Progress in Implementing Projects

### Funds Programmed

#### 16. Reporting period for Highway Safety Improvement Program funding.

Federal Fiscal Year

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

Funding Category	Programmed*		Obligated	
	Amount	Percentage	Amount	Percentage
<b>HSIP (Section 148)</b>	\$23,433,565.00	84 %	\$22,854,675.00	84 %
<b>HRRRP (SAFETEA-LU)</b>	\$0.00	0 %	\$0.00	0 %
<b>HRRR Special Rule</b>	\$0.00	0 %	\$0.00	0 %
<b>Penalty Transfer - Section 154</b>	\$3,134,868.00	11 %	\$3,040,126.00	11 %
<b>Penalty Transfer – Section 164</b>	\$1,174,588.00	4 %	\$1,400,000.00	5 %
<b>Incentive Grants - Section 163</b>	\$0.00	0 %	\$0.00	0 %
<b>Incentive Grants (Section 406)</b>	\$0.00	0 %	\$0.00	0 %
<b>Other Federal-aid Funds (i.e. STP, NHPP)</b>	\$0.00	0 %	\$0.00	0 %
<b>State and Local Funds</b>	\$0.00	0 %	\$0.00	0 %
<b>Totals</b>	\$27,743,021.00	100%	\$27,294,801.00	100%

The Acting HSIP Coordinator improved tracking of local and state funds (non-federal) used for highway safety improvements on a comprehensive basis. The intent is to implement a more comprehensive and focused approach towards leveraging local, state, and federal funds to better target high-risk emphasis areas and strategies identified in the NM Strategic Highway Safety Plan (SHSP). This will allow New Mexico to more effectively achieve performance goals and targets towards a reduction in fatalities, serious (A) injuries and associated fatality and serious (A) injury rates.

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

\$2,942,250.00

**How much funding is obligated to local safety projects?**

\$2,146,541.00

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

\$0.00

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

\$0.00

**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?**

\$0.00

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

In 2015, since assuming management of the HSIP, the SPB focused on expediting the planning, programming and obligation of projects to eliminate the backlog of HSIP funds and projects. In addition, the Acting HSIP Coordinator and NMDOT State Traffic Engineer coordinated efforts to plan the execution of RSAs in a more expeditious manner to facilitate a more efficient project development process for future HSIP projects. Program improvements include restructuring the HSIP by working closely with MPOs and RTPOs, as well as NMDOT Districts to develop a more data driven program.

For current statewide programs, Road Departure and Median Barriers, a greater emphasis on a data driven approach can be initiated using techniques outlined in the AASHTO Highway Safety Manual (HSM). NMDOT is initiating an effort to evaluate the safety performance of programs, starting with Median Barrier effectiveness using HSM evaluation techniques. For these programs it is envisioned that using HSM techniques can be used to develop enhanced approaches to prioritize projects for implementation;

assess the need for other programs based on fatalities and severe injury data; and use more robust project identification methodologies such as Equivalent Property Damage Only (EPDO Crash Frequency) and/or Relative Severity Index approaches.

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

This year's HSIP success is highlighted through the improvements made at programming and obligation of all NM HSIP funds on safety improvements, including proven safety countermeasures, such as median barrier; safety improvements at nearly 20 rail crossings; more than 20 local lead projects; intersection related improvements, pedestrian related projects, signing/delineation projects, and several statewide programs including roadway departure related improvements, RSAs, and Intelligent Transportation System (ITS) improvements particularly for incident management.

The HSIP is also linked to and consistent with the update of the NM SHSP. Both the HSIP and draft SHSP have an increased emphasis on pedestrian safety. Consistent with the SHSP crash data findings which identified road departure crashes as the highest of any Emphasis Area related to infrastructure crashes, over 49 percent of the FFY 2015 HSIP program is obligated to strategies that mitigate this crash type. Over 13 per cent of the 2014-2015 HSIP program is obligated to median barrier improvements. Both roadway departure and median barrier projects are core programs under the HSIP.

### General Listing of Projects

#### 23. List the projects obligated using HSIP funds for 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
<b>1100940</b>	Access management Access management - other	0.18 Miles	193215	214683	HSIP (Section 148)	Urban Minor Arterial			City of Municipal Highway Agency	Intersections	Implement geometric improvements
<b>2101050</b>	Railroad grade crossings and Intersection Improvements	1 Numbers	1137121	1263468	Penalty Transfer - Section 154	Rural Major Collector			State Highway Agency	Rail	Enhance safety for public at-grade crossings
<b>2101140</b>	Alignment Horizontal curve realignment	12 Miles	2005570	2164907	HSIP (Section 148)	Rural Minor Arterial			State Highway Agency	Roadway Departure	Keep vehicles from encroaching onto roadside
<b>4100890</b>	Roadway signs and delineation	2 Miles	138600	154000	HSIP (Section 148)	Rural Local Road or Street			County Highway Agency	Roadway Departure	Keep vehicles from encroaching onto roadside
<b>4100900</b>	Roadway signs and delineation		254700	283000	HSIP (Section 148)	Rural Local Road or Street			County Highway Agency	Roadway Departure	Keep vehicles from encroaching onto roadside

<b>5100640</b>	Roadside Barrier-metal	4.3 Miles	561982	624424	HSIP (Section 148)	Rural Minor Arterial			State Highway Agency	Roadway Departure	Upgrade design & application of roadside hardware
<b>6100850</b>	Intersections	1.3 Miles	306900	341000	HSIP (Section 148)	Urban Principal Arterial - Other			State Highway Agency	Intersections	
<b>9900361</b>	Roadside Barrier - cable	24.05 Miles	2525542	2726190	HSIP (Section 148)	Rural Principal Arterial - Interstate			State Highway Agency	Roadway Departure	Keep vehicles from encroaching onto roadside
<b>9900362</b>	Lighting Site lighting - interchange	0.74 Miles	787440	850000	HSIP (Section 148)	Rural Principal Arterial - Interstate			State Highway Agency	Intersections	Improve visibility of interchange by lighting
<b>9900365</b>	Roadway delineation		3224820	3481023	HSIP (Section 148)	Urban Principal Arterial - Interstate			State Highway Agency	Roadway Departure	Provide enhanced pavement markings
<b>9900366</b>	Roadway delineation		3789414	4090473	HSIP (Section 148)	Rural Principal Arterial - Interstate			State Highway Agency	Roadway Departure	Provide enhanced pavement markings
<b>9900367</b>	Roadside Barrier - concrete	0.5 Miles	1296960	1400000	HSIP (Section 148)	Rural Principal Arterial - Interstate			State Highway Agency	Roadway Departure	Install proven treatment to reduce head-on crashes
<b>9900368</b>	Roadway signs and traffic control Roadway	22.5 Miles	437400	486000	HSIP (Section 148)	Rural Minor Arterial			State Highway Agency	Roadway Departure	Multiple



	signs (including post) - new or updated										
<b>A30008 1</b>	Railroad grade crossings		45000	50000	HSIP (Section 148)	Rural Major Collector			Other (Rio Metro Regional Transit Authority)	Rail	Enhance safety at public at- grade crossings
<b>A30037 4</b>	Roadway	5 Miles	291816	315000	HSIP (Section 148)	Rural Principal Arterial - Interstate			State Highway Agency	Roadway Departure	Install high- friction surface treatment
<b>A30065 2</b>	Intersection geometry Intersection geometrics - modify skew angle	1 Number s	476340	529267	HSIP (Section 148)	Rural Minor Arterial			County Highway Agency	Intersection s	Re-align intersection and install traffic signal
<b>A30065 6</b>	Intersection traffic control	1 Number s	108000	120000	HSIP (Section 148)	Rural Principal Arterial - Other			Indian Tribe Nation	Intersection s	Implement signal timing/detecti on modifications
<b>A30065 7</b>	Alignment Horizontal curve realignment	2.15 Miles	128700	143000	HSIP (Section 148)	Rural Major Collector			City of Municipal Highway Agency	Roadway Departure	Provide improved geometry for horizontal curves
<b>A30124 1</b>	Intersection geometry, traffic control, and pedestrian	1 Number s	163800	182000	HSIP (Section 148)	Rural Principal Arterial - Other and Rural Minor			County Highway Agency	Pedestrians , Intersection s	Multiple intersection, pedestrian, traffic control

	access					Arterial					
<b>A301750</b>	Roadway signs and traffic control Roadway signs (including post) - new or updated		13500	15000	HSIP (Section 148)	Rural Major Collector			City of Municipal Highway Agency		Federal: update signs per MUTCD retro-reflectivit
<b>A301810</b>	Pedestrians and bicyclists	1 Number s	40500	45000	HSIP (Section 148)	Varies			State Highway Agency	Pedestrians and bicyclists	Maintain a Robust RSA Program
<b>F100200</b>	Intersection traffic control	1 Number s	328872	355000	HSIP (Section 148)	Rural Minor Arterial			City of Municipal Highway Agency	Intersection s	
<b>LC00130</b>	Intersection traffic control	1.72 Miles	356670	396300	HSIP (Section 148)	Urban Minor Arterial			City of Municipal Highway Agency	Roadway Departure and Intersection s	Multiple
<b>S100270</b>	Pedestrians and bicyclists Pedestrian signal - modify existing		270000	300000	HSIP (Section 148)	Rural-Varies			City of Municipal Highway Agency	Pedestrians and Intersection s	upgrade ped signals based upon the identified need
<b>S100370</b>	Intersection traffic control Modify control -	Number s	180000	200000	HSIP (Section 148)	Urban Minor Arterial			City of Municipal Highway Agency	Intersection s	Install roundabout at appropriate locations

	modification s to roundabout										
<b>990050 1</b>	Training		810000	900000	Penalty Transfer – Section 164	N/A			Various	Multiple	Multiple
<b>990050 2</b>	Training		90000	10000	Penalty Transfer – Section 164	N/A			Various	Multiple	Multiple
<b>990050 3</b>	Safety		360000	400000	Penalty Transfer – Section 164	N/A			Various	Multiple	Multiple

## Progress in Achieving Safety Performance Targets

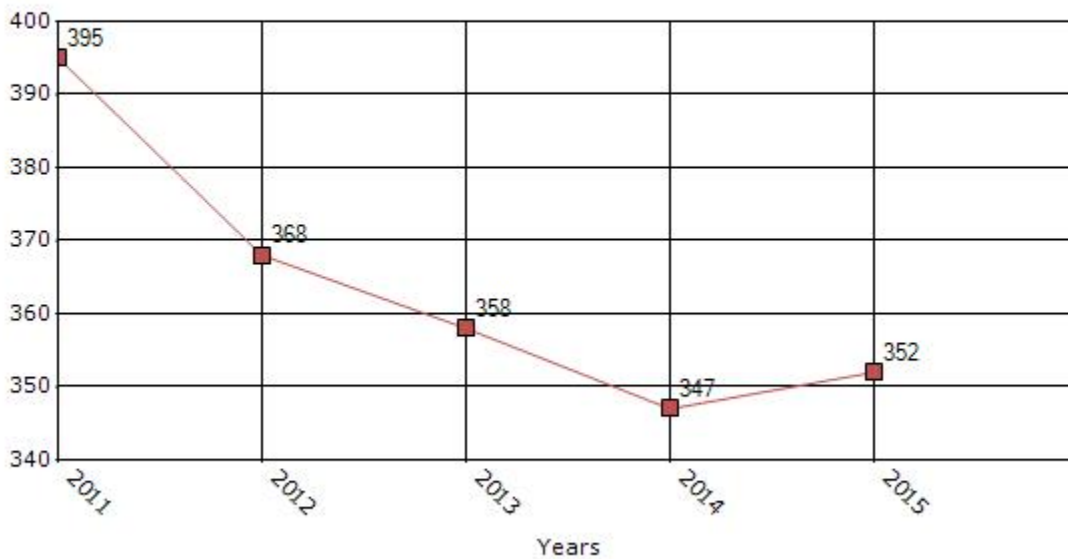
### Overview of General Safety Trends

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

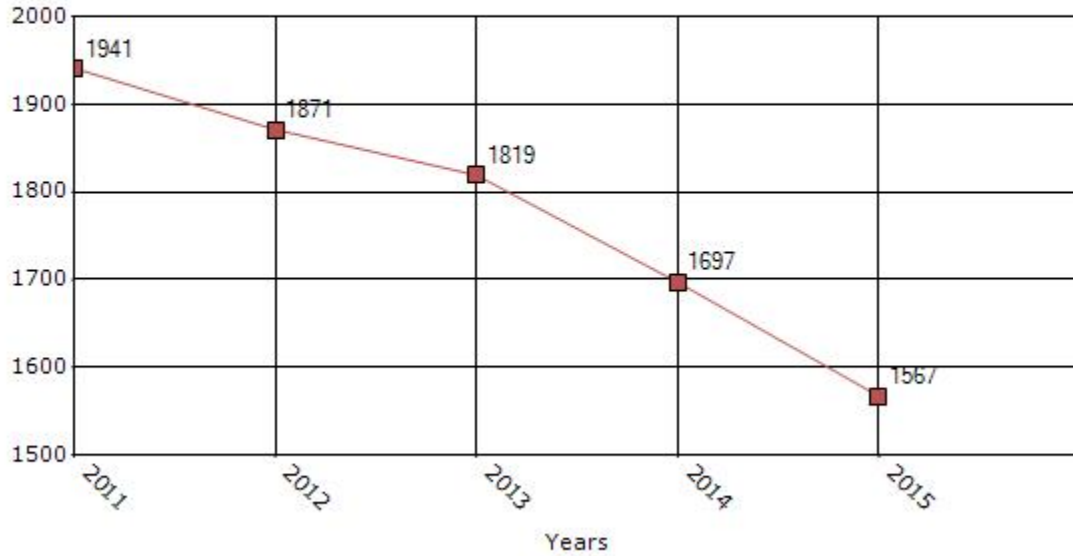
Performance Measures*	2011 (5-yr avg)	2012 (5-yr avg)	2013 (5-yr avg)	2014 (5-yr avg)	2015 (5-yr avg)
Number of fatalities	395	368	358	347	352
Number of serious injuries	1941	1871	1819	1697	1567
Fatality rate (per HMVMT)	1.52	1.41	1.39	1.36	1.39
Serious injury rate (per HMVMT)	7.45	7.19	7.06	6.65	6.17

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

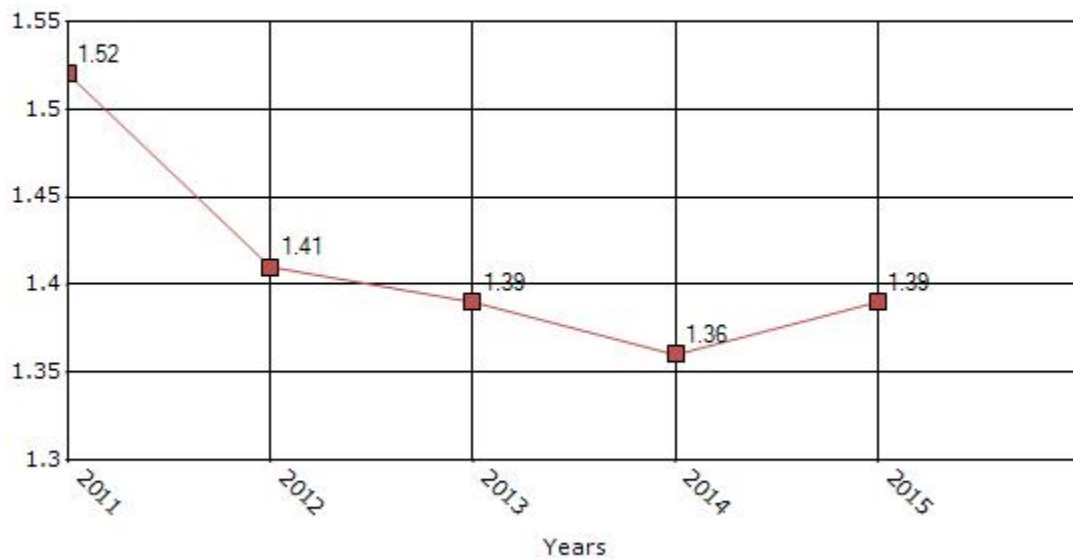
Number of Fatalities for the Last Five Years  
5-yr Average Measure Data



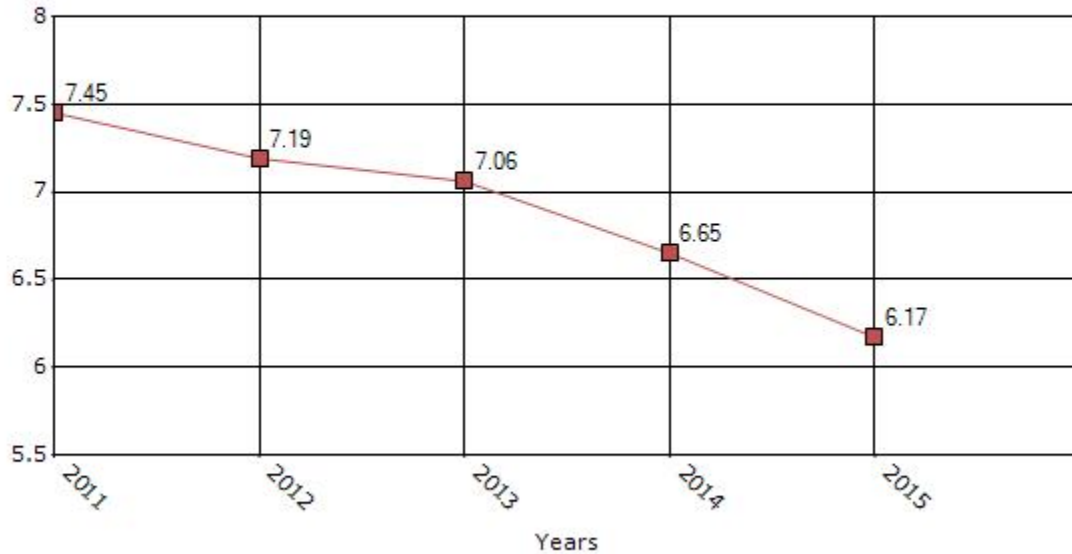
### Number of Serious Injuries for the Last Five Years 5-yr Average Measure Data



### Rate of Fatalities for the Last Five Years 5-yr Average Measure Data



### Rate of Serious Injuries for the Last Five Years 5-yr Average Measure Data



1. Source for Fatalities and Fatality Rate: 2017 Highway Safety Plan (HSP) Common Measures\_20160504.doc C-1 and C-3.
2. Source for Serious (A) Injuries (2010-2013): 2017 Highway Safety Plan (HSP) Common Measures\_20160504.doc C-2.
3. Source for Serious (A) Injuries (2014): NMDOT Crash Database Query: Crash\_DataAsOf6.21.2016.xlsx.
4. Source for Serious (A) Injury Rate (2011-2013) 2017 Highway Safety Plan (HSP) Common Measures\_20160504.doc C-2.1.
5. Source for 2014 HMVMT: <http://www.fhwa.dot.gov/policyinformation/statistics>.
6. Source for 2014 Serious (A) Injury Rate: Number 3 and Number 5 above.
7. Data reported are five year rolling averages for years (2010-2014)

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

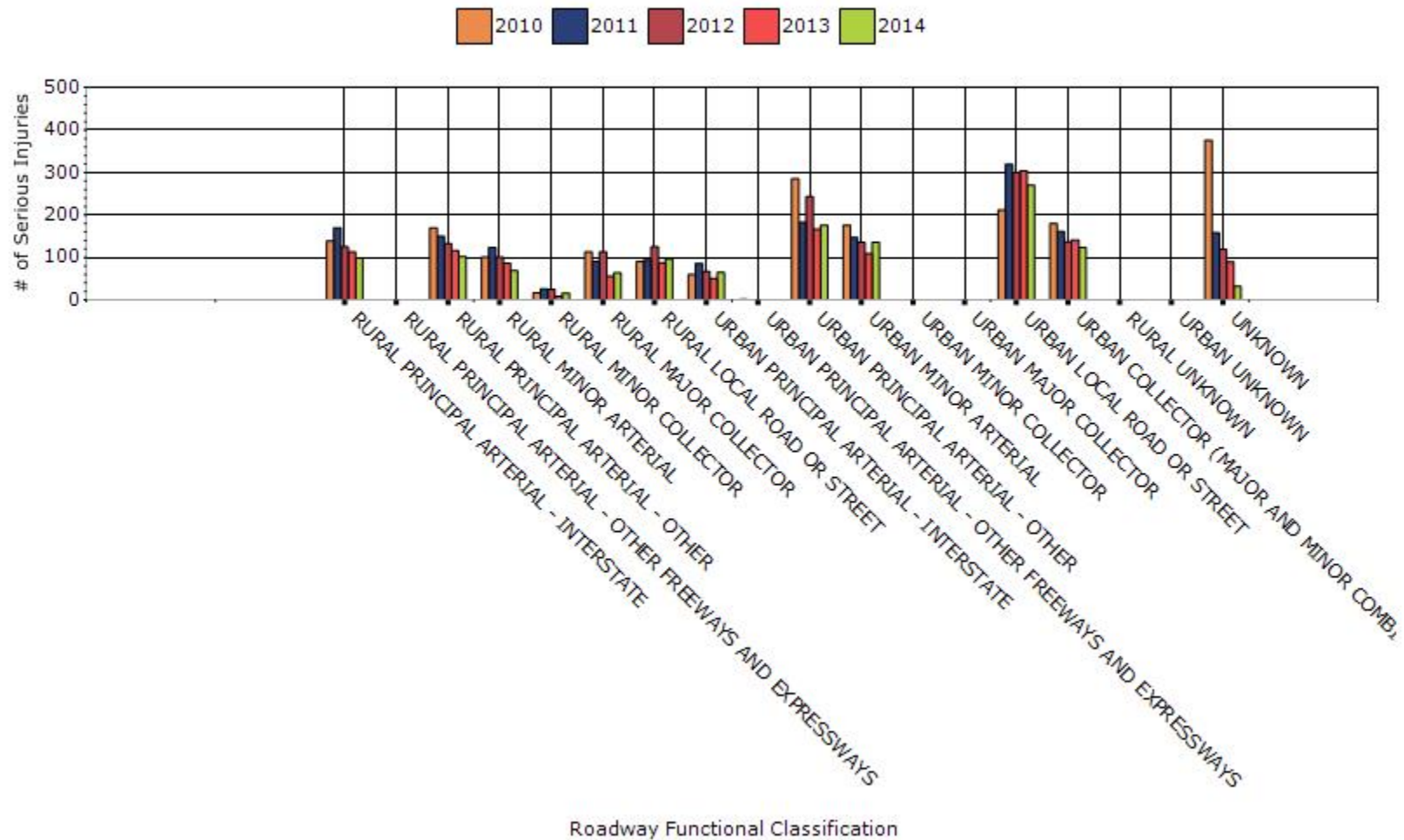
### Year - 2014

Function Classification	Number of fatalities (5-yr avg)	Number of serious injuries (5-yr avg)	Fatality rate (per HMVMT) (5-yr avg)	Serious injury rate (per HMVMT) (5-yr avg)
RURAL PRINCIPAL ARTERIAL - INTERSTATE	75	99	1.76	2.32
RURAL PRINCIPAL ARTERIAL - OTHER	65	102	2.06	3.23
RURAL MINOR ARTERIAL	30	69	2.12	4.88
RURAL MINOR COLLECTOR	11	16	2.05	2.99
RURAL MAJOR COLLECTOR	32	64	2.82	5.63
RURAL LOCAL ROAD OR STREET	19	97	0.49	2.51
URBAN PRINCIPAL ARTERIAL - INTERSTATE	11	65	0.43	2.52
URBAN PRINCIPAL ARTERIAL - OTHER	69	176	1.64	4.18
URBAN MINOR ARTERIAL	23	136	1.49	8.8
URBAN LOCAL ROAD OR STREET	12	270	0.75	16.78
URBAN COLLECTOR (MAJOR AND MINOR COMBINED)	17	123	1.65	11.93
RURAL UNKNOWN	14			
UNKNOWN	5	32		

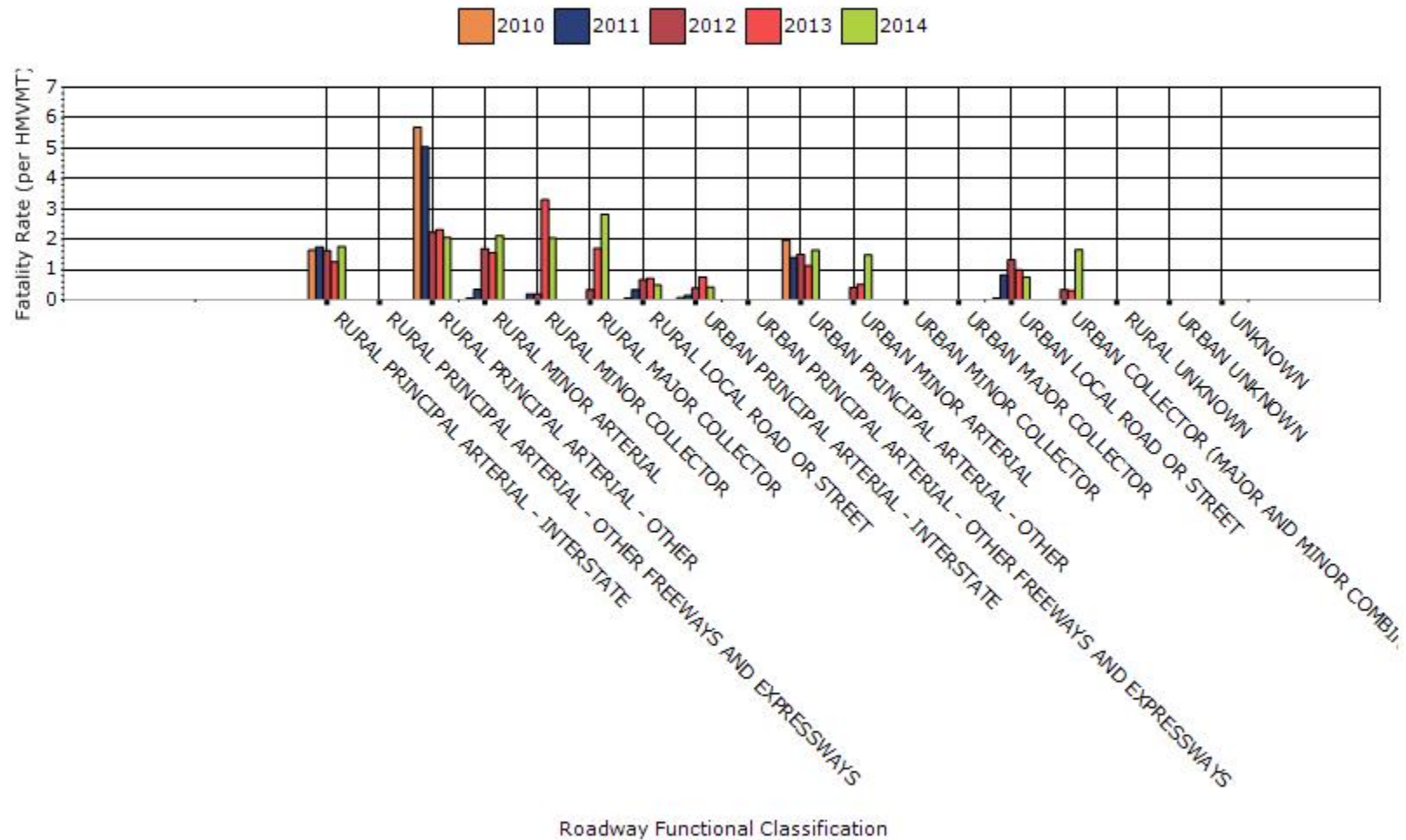




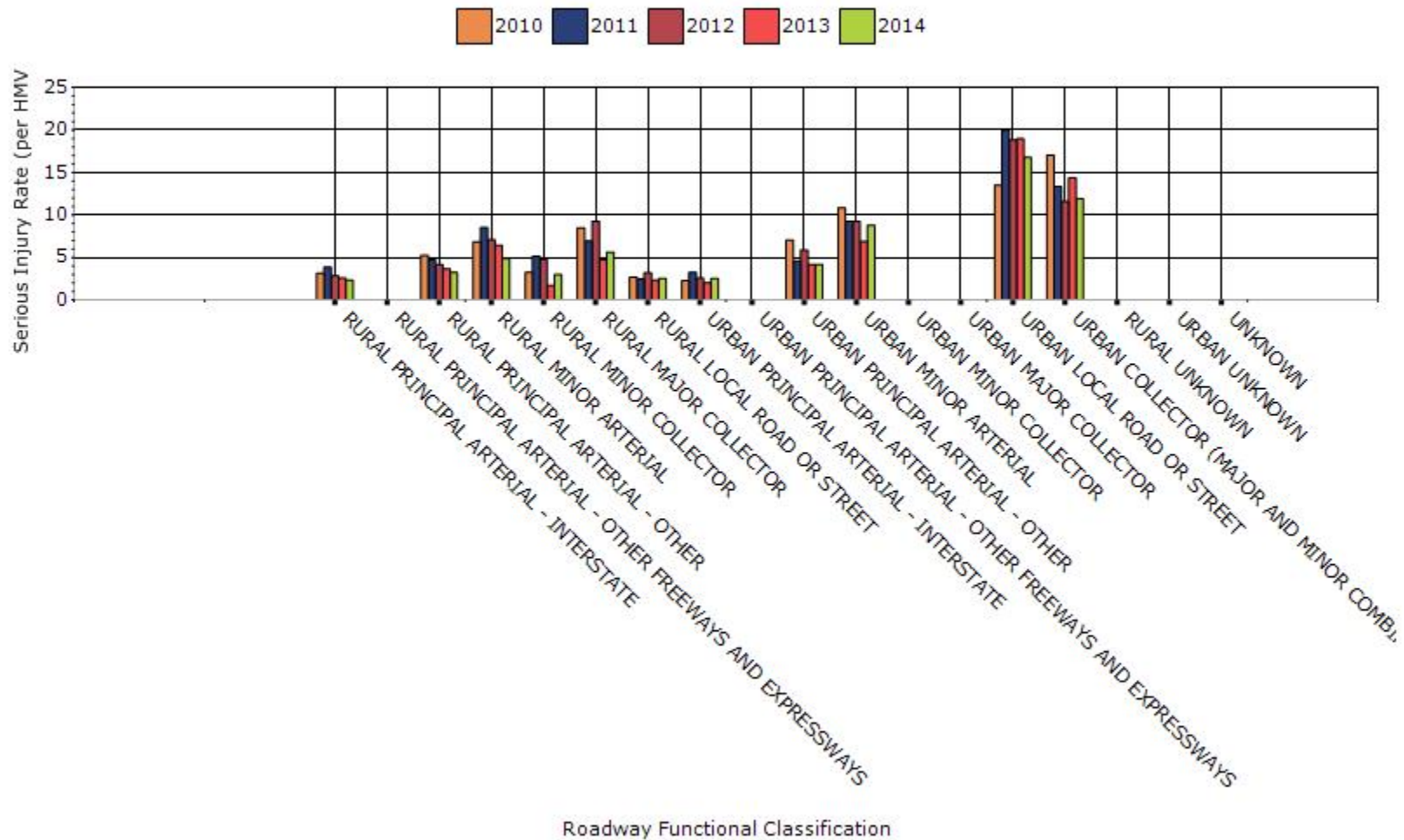
### # Serious Injuries by Roadway Functional Classification 5-yr Average Measure Data



### Fatality Rate by Roadway Functional Classification 5-yr Average Measure Data



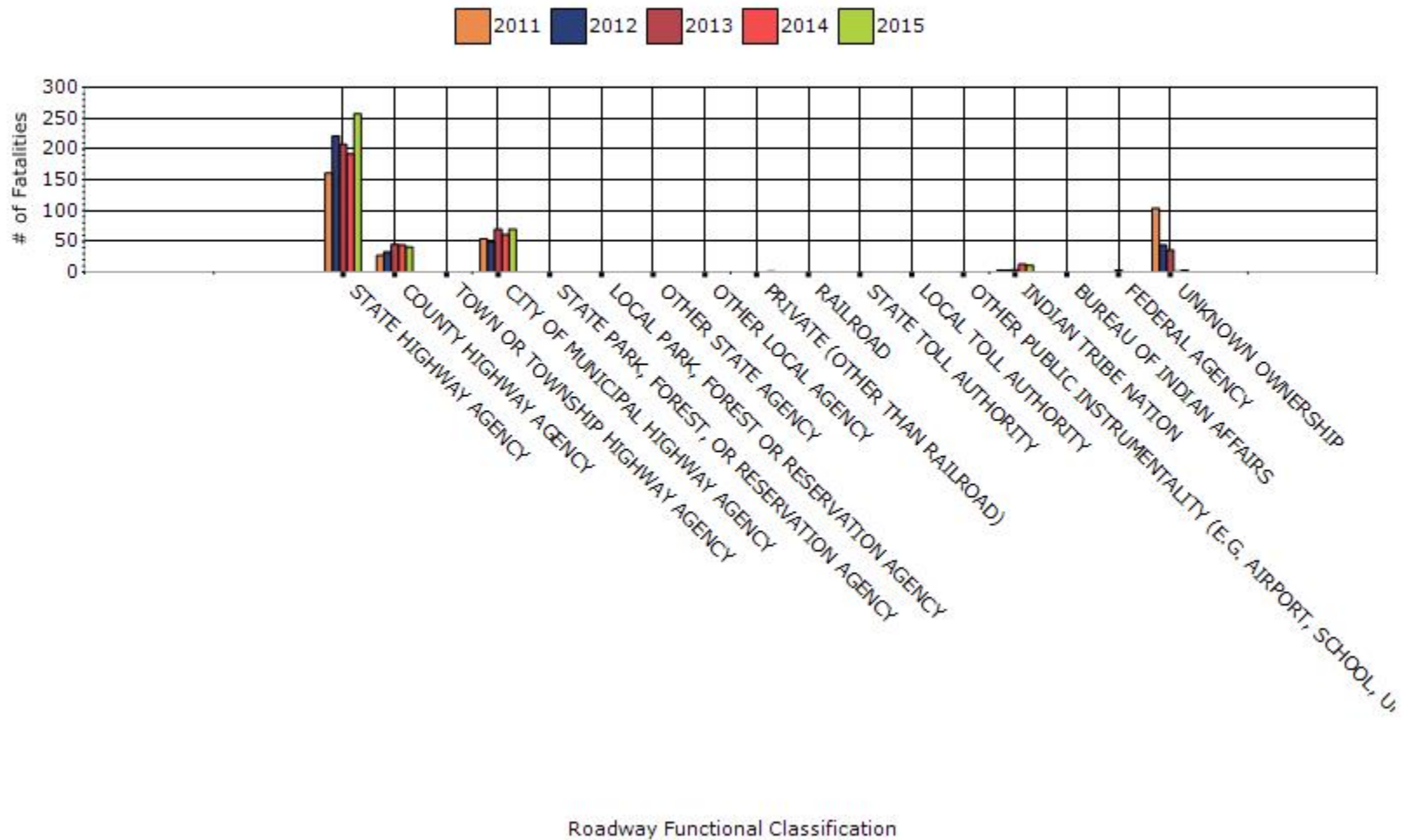
### Serious Injury Rate by Roadway Functional Classification 5-yr Average Measure Data



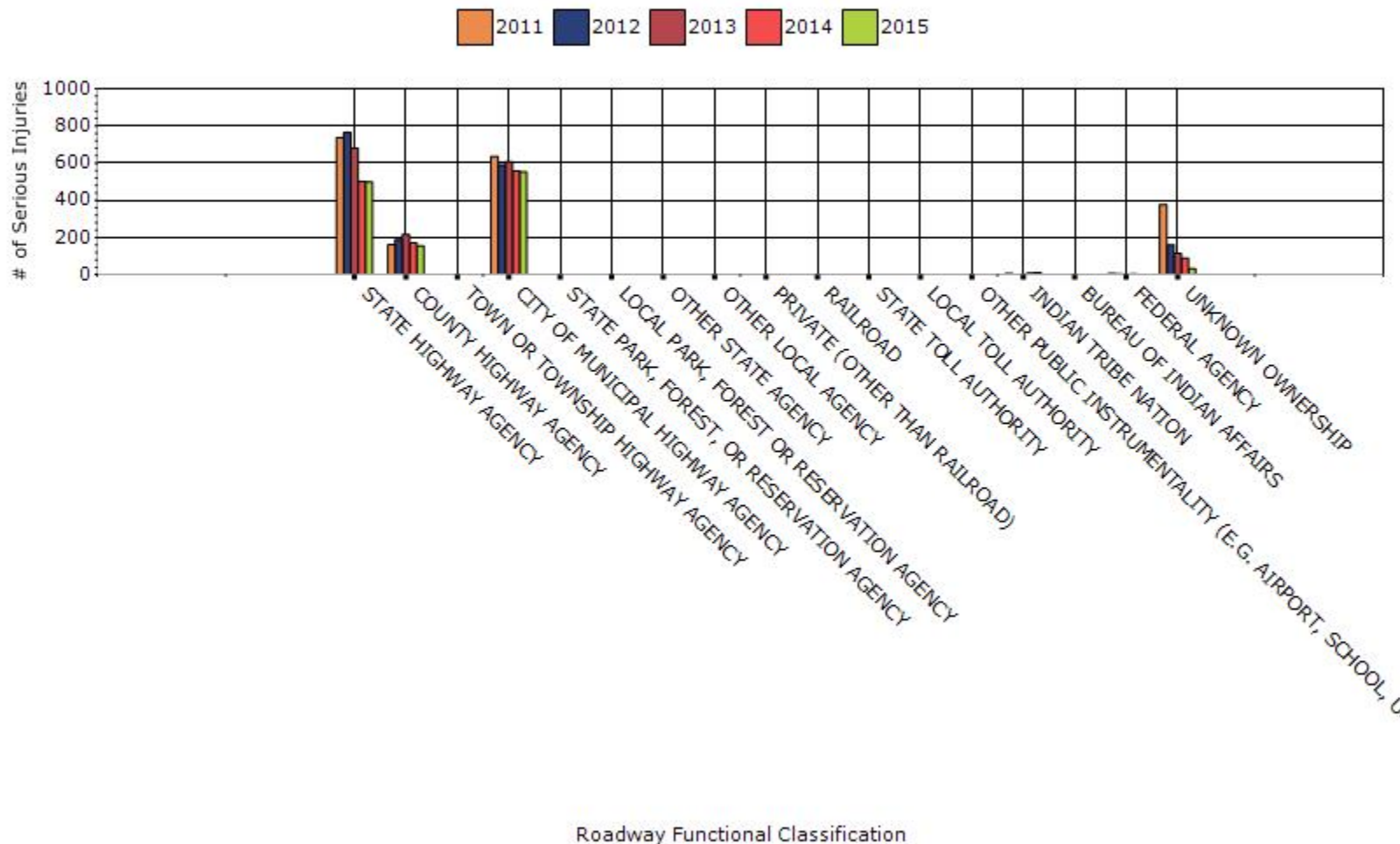
**Year - 2015**

<b>Roadway Ownership</b>	<b>Number of fatalities</b>	<b>Number of serious injuries</b>	<b>Fatality rate (per HMVMT)</b>	<b>Serious injury rate (per HMVMT)</b>
<b>STATE HIGHWAY AGENCY</b>	257	498	1.57	3.04
<b>COUNTY HIGHWAY AGENCY</b>	41	154	0.88	3.29
<b>CITY OF MUNICIPAL HIGHWAY AGENCY</b>	70	552	1.32	10.43
<b>PRIVATE (OTHER THAN RAILROAD)</b>	1	1		
<b>INDIAN TRIBE NATION</b>	11	10	1.81	1.65
<b>FEDERAL AGENCY</b>		2		
<b>UNKNOWN OWNERSHIP</b>	3	32		

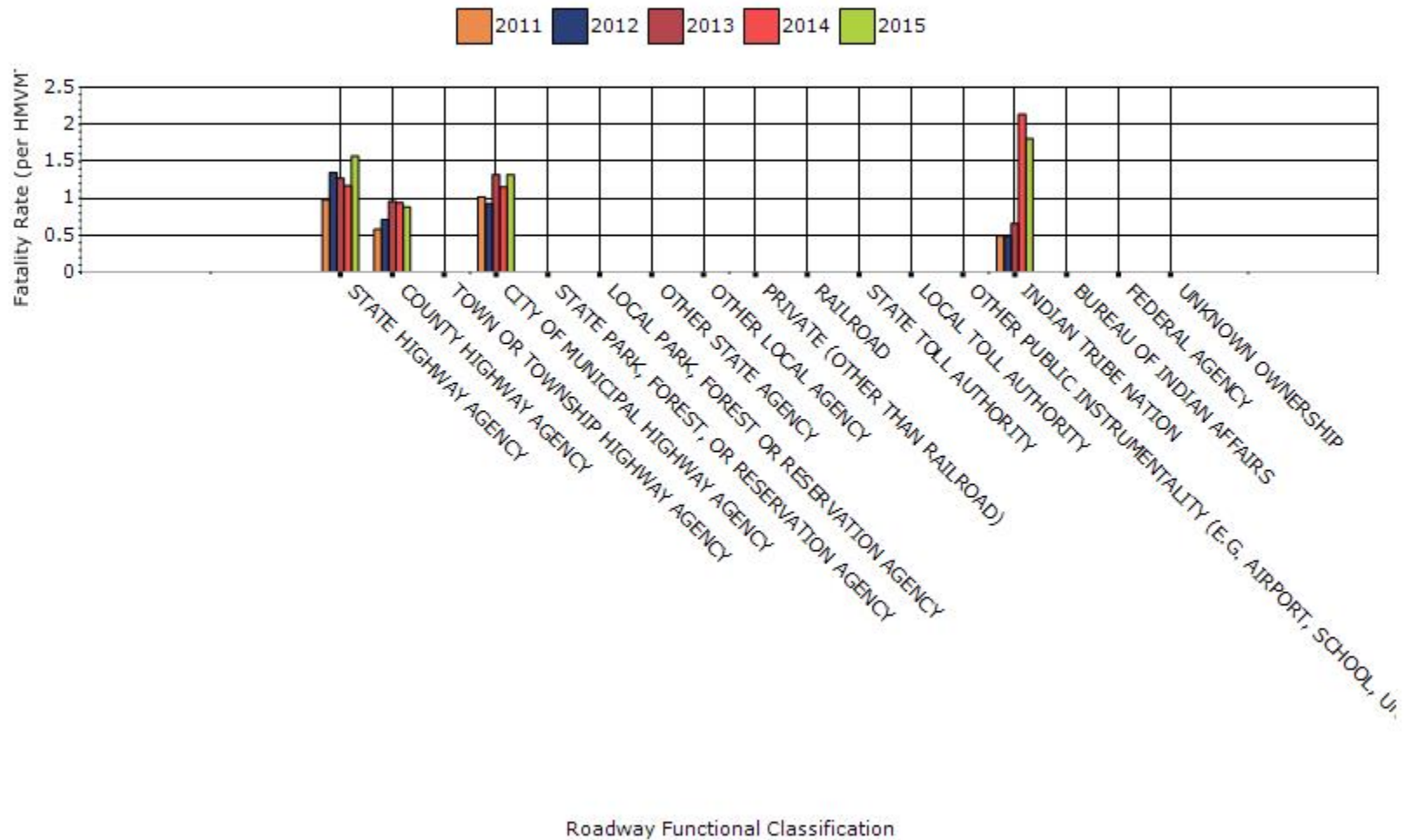
### Number of Fatalities by Roadway Ownership 5-yr Average Measure Data



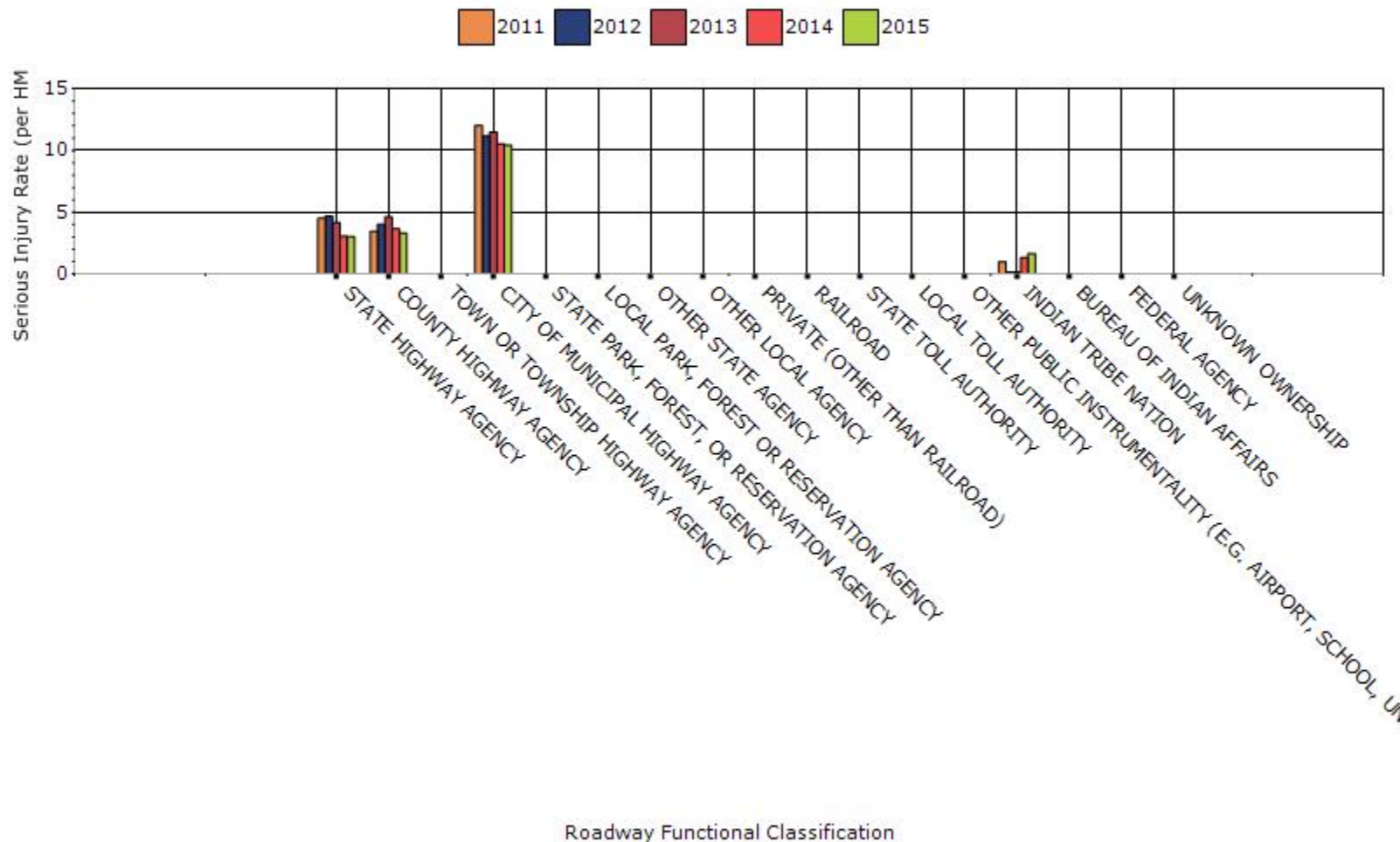
### Number of Serious Injuries by Roadway Ownership 5-yr Average Measure Data



### Fatality Rate by Roadway Ownership 5-yr Average Measure Data



### Serious Injury Rate by Roadway Ownership 5-yr Average Measure Data





Fatality and Serious (A) Injuries by Roadway Functional Classification notes:

Fatality and injury data by Roadway Functional Classification are reported on an annual basis instead of a five-year rolling average.

1. Data Source for fatalities by Roadway Functional Classification: Fatality Analysis Reporting System (FARS) website: <http://www-fars.nhtsa.dot.gov/QueryTool/QuerySection/SelectYear.aspx>

2. Source for Vehicle Miles Traveled (VMT) data used to calculate the fatality rate by Roadway Functional Classification: Highway Performance Monitoring System (HPMS)/FHWA Office of Policy and statistics website: <http://www.fhwa.dot.gov/policyinformation/quickfinddata/qftravel.cfm>

3. Source for Serious (A) Injuries by Roadway Functional Classification: All Roads Network of Linear Referenced Data (ARNOLD) and NMDOT crash data base Crash\_DataAsOf6.21.2016.xlsx.

5. FARS (2012-2014) reports Major and Minor Collector fatalities into one classification Urban Collector. Serious (A) Injuries (2010-2014) for Major and Minor Collector are combined into one classification Urban Collector because of limited VMT and abnormally high rate calculations.

6. FARS (2010 and 2011) No fatality reporting for Urban Collector Roadway Classification.

10. FARS and ARNOLD reported limited fatalities and Serious (A) Injuries on “Urban Principal Arterials-Other Expressways” in some years. No VMT, or serious (A) injuries are classified in the “Urban Principal Arterials-Other Expressways” classification.

11. No data are reported for “Rural Arterials-Other Expressways” for either fatalities or serious (A) injuries.

Fatality and Serious (A) Injuries by Roadway Ownership notes:

1. Fatality and injury data by Roadway Ownership are reported on an annual basis instead of a five-year rolling average.

2. Federal Agency includes National Park Service (NPS), US Fish and Wildlife Service, Bureau of Land Management (BLM) and US Forest Service jurisdictional routes.

3. City of Municipal Highway Agency category includes towns, villages, and small to large municipalities and cities.

4. Indian Tribe Nation includes Bureau of Indian Affairs (BIA) jurisdictional routes.

5. Fatality and Serious (A) Injury rates by Roadway Ownership are derived using year 2015 Vehicles Miles Traveled (VMT) from the NMDOT-All Roads Network of Linear Referenced Data (ARNOLD) for roadways in New Mexico.

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

None at this time.

### Application of Special Rules

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

Older Driver Performance Measures	2010 (5-yr avg)	2011 (5-yr avg)	2012 (5-yr avg)	2013 (5-yr avg)	2014 (5-yr avg)
Fatality rate (per capita)	0.072	0.096	0.13	0.128	0.118
Serious injury rate (per capita)	0.274	0.346	0.412	0.388	0.376
Fatality and serious injury rate (per capita)	0.346	0.442	0.542	0.516	0.494

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

1. Older Driver Fatalities were obtained from FARS: K Injury Severity, Age 65+, Person Type: Driver of motorized transport

2. Older Pedestrian Fatalities were obtained from FARS: K Injury Severity, Age 65+, Person Type: Pedestrian

3. Older Driver Serious (A) Injuries were obtained from NMDOT Crash Database: Vehicle File dated August 28, 2015 (2006-2011), and Vehicle File dated June 21, 2016 (2012-2014): **Driver Age** 65+, **Vehicle Type**=Passenger Car, Pick-up, Semi, Bus, Motorcycle, Other, Van/Four-wheel Drive, and unknown vehicle type; **Driver Injury** = A

4. Older Pedestrian Serious (A) Injuries were obtained from NMDOT Crash Database: Vehicle File dated August 28, 2015 (2006-2011), and Vehicle File dated June 21, 2016 (2012-2014): **Driver Age** 65+, **Vehicle Type**=Pedestrian, **Driver Injury** = A

5. Population Age 65 Years and older (in thousands) from MAP - 21 Older Driver and Older Pedestrian Special Rule Guidance

6. Fatality Rate Calculations: (Year: (K older driver + K older pedestrian)/(population age 65 years and older in thousands))

(2008: (23+5)/262), (2009: (34+3)/265), (2010: (25+6)/275), (2011: (31+4)/283), (2012: (43+7)/294), (2013: (24+6)/307), (2014: (19+9)/318)

7. Serious (A) Injury Rate Calculations: (Year: (A older driver + A older pedestrian)/(population age 65 years and older in thousands))

(2008: (114+7)/262), (2009: (104+3)/265), (2010: (133+6)/275), (2011: (100+2)/283), (2012: (94+4)/294), (2013: (98+7)/307), (2014: (99+9)/318)

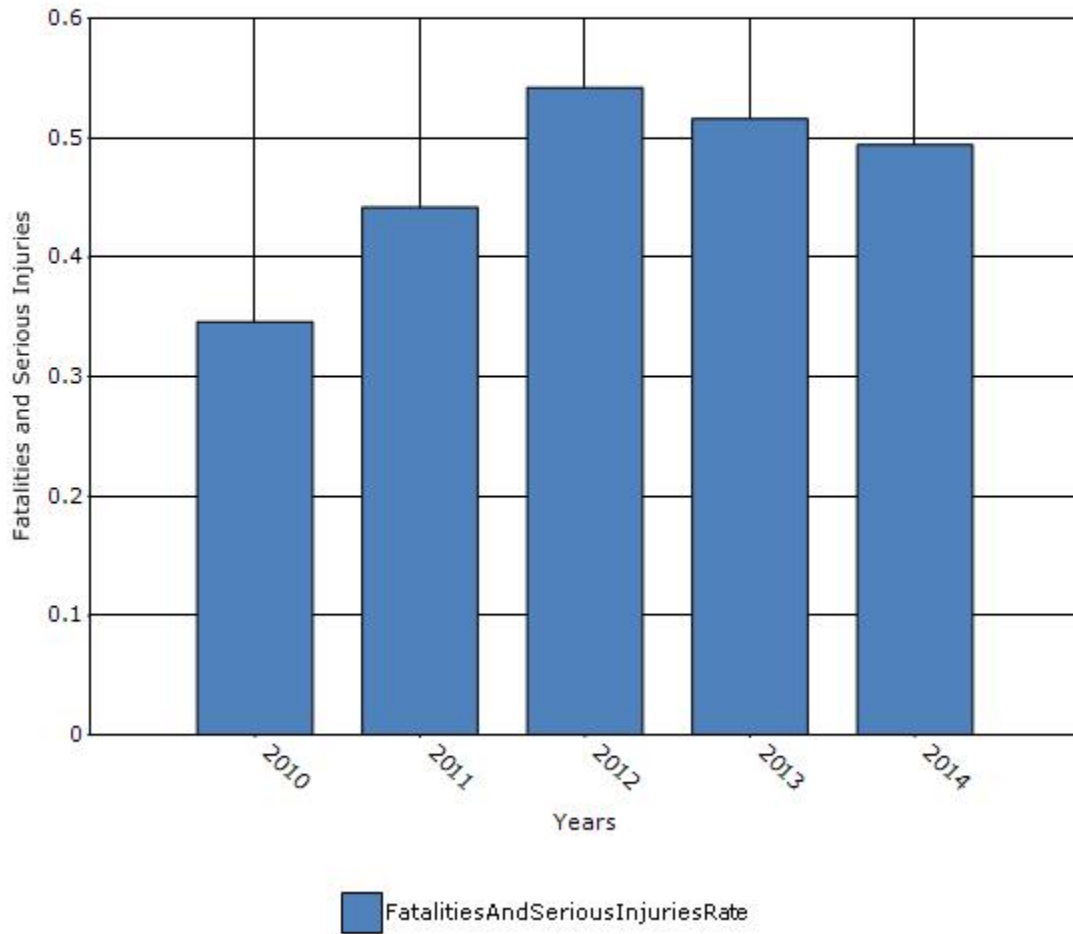
8. Fatality and Serious (A) Injury Rate Calculations: (Year: Fatality rate per population age 65 years and older in thousands + Serious (A) Injury rate per population age 65 years and older in thousands)

(2008: 0.11+0.46=0.57), (2009: 0.14+0.40=0.54), (2010: 0.11+0.51=0.62), (2011: 0.12+0.36=0.48), (2012: 0.17+0.33=0.50), (2013: 0.10+0.34=0.44), (2014: 0.09+0.34=0.43)

9. The Online Reporting Tool (ORT) calculated the five-year rolling average directly from the annual data entered in the ORT.

10. The five-year rolling average for 2010 and 2011 are not completely provided because population age 65+ in thousands for 2006 and 2007 are not available.

### Rate of Fatalities and Serious injuries for the Last Five Years 5-yr Average Measure Data



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?**

Other-See optional description

There has been a general downward trend in fatalities with a slight increase in the 2014 of the Five Year Rolling Average. Compared to 2010, in 2014 there was a decrease of over 10 percent in the rolling average for fatalities. For serious injuries (A) there has been a consistent reduction in New Mexico for the past five plus years. Similar decreases in the five year rolling average have been noted for rates, a decline for the serious (A) injury rate. These trends are shown in data graphically illustrated for the performance measures for fatalities and serious injuries in Question 24.

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

Organizational Changes

Other-Increased coordination in planning efforts related to infrastructure and behavioral safety initiatives.

There has been increased coordination in planning efforts related to infrastructure and behavioral safety initiatives, and in coordination of data management and improvements in the quality and broader scope of crash data that are available.

Coupled with the NMDOT effort to update the SHSP and the efforts by the SPB relating to the administration of the HSIP and SHSP there has been a significant increase in safety stakeholder involvement which has led to a more transparent process and greater input in SHSP Emphasis Area and strategy development towards a more data driven approach. As shown in later data for SHSP analysis almost all Emphasis Areas are now based on a data-driven approach.

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

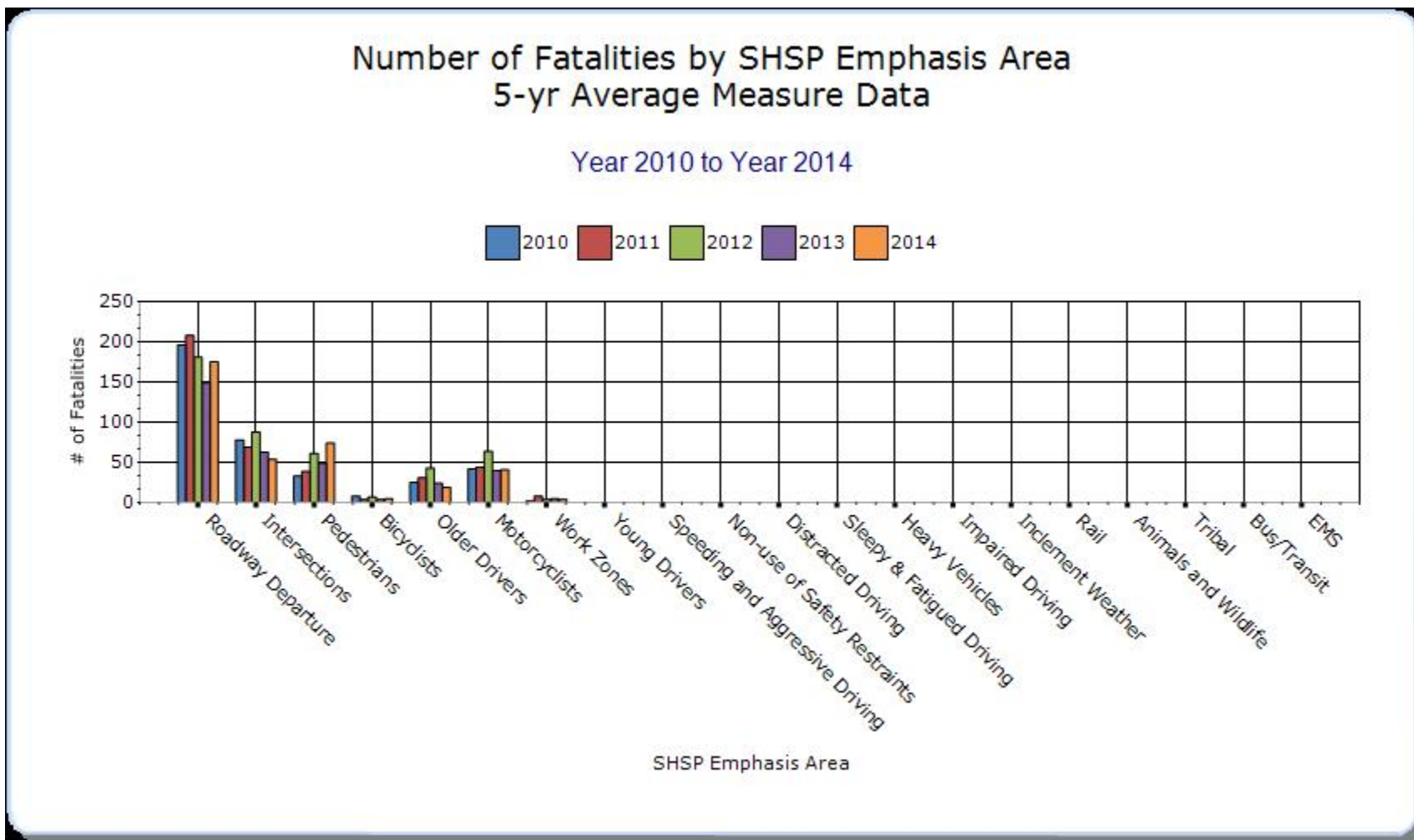
This was addressed in the prior question.

## SHSP Emphasis Areas

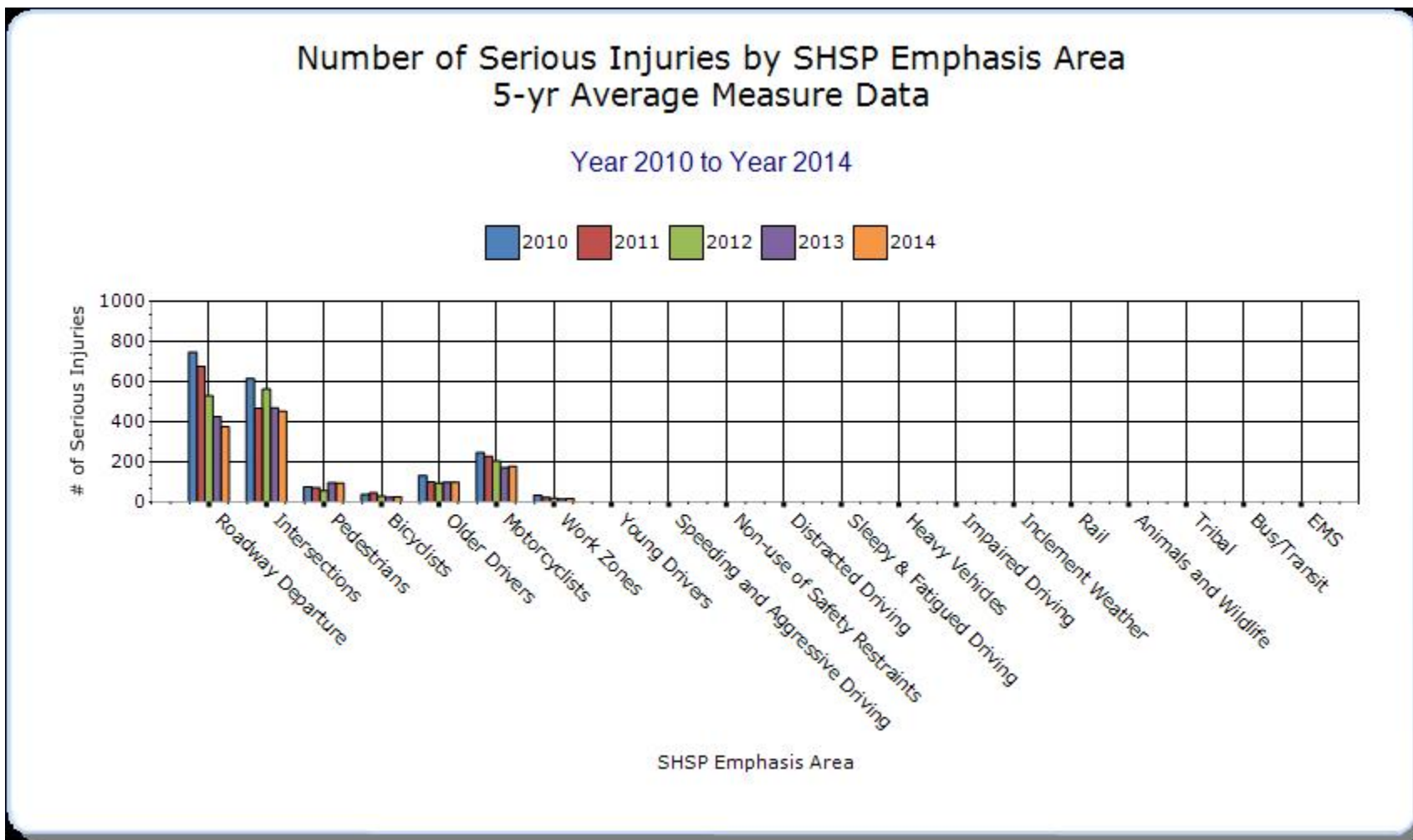
32. Present and describe trends in SHSP emphasis area performance measures.

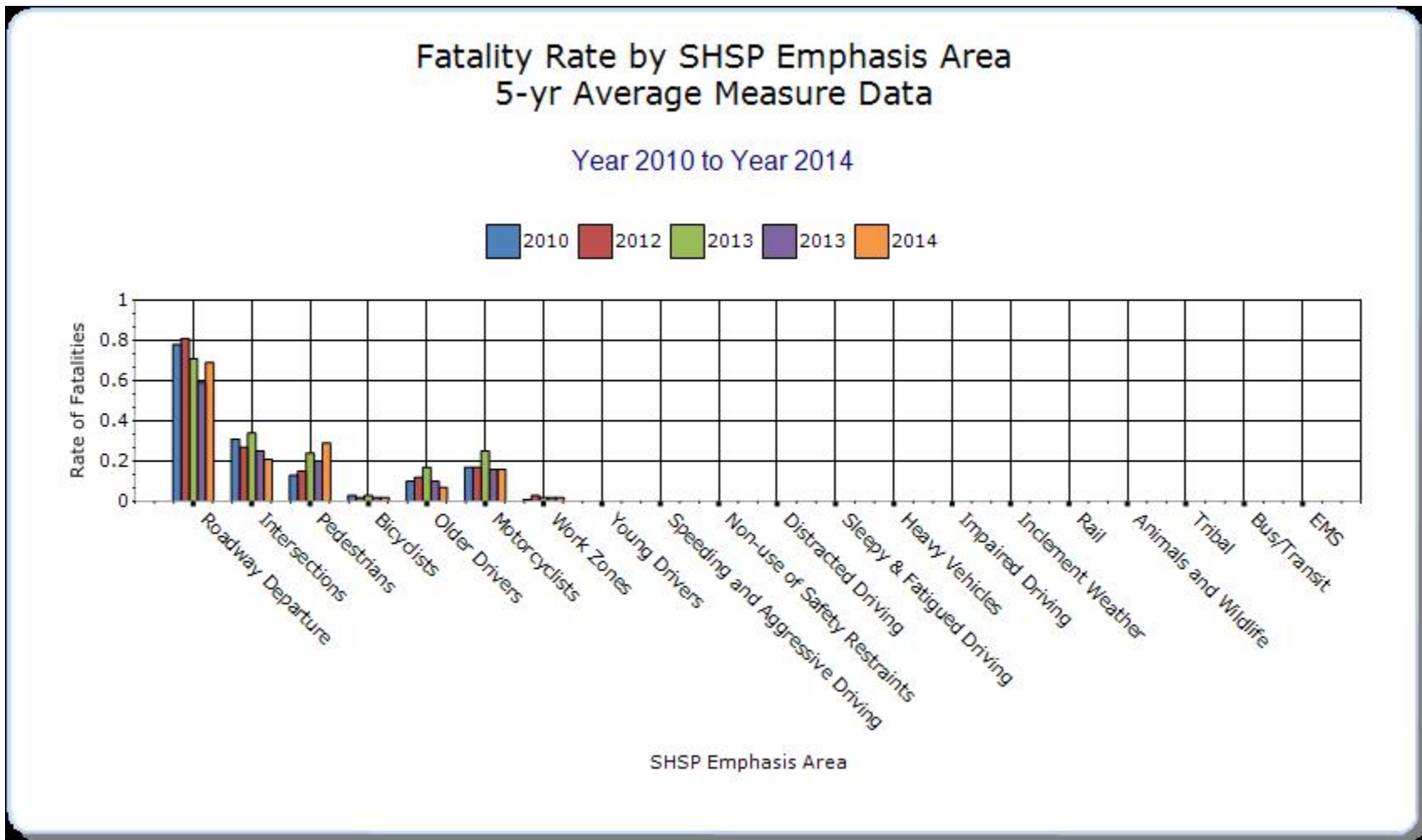
### Year - 2014

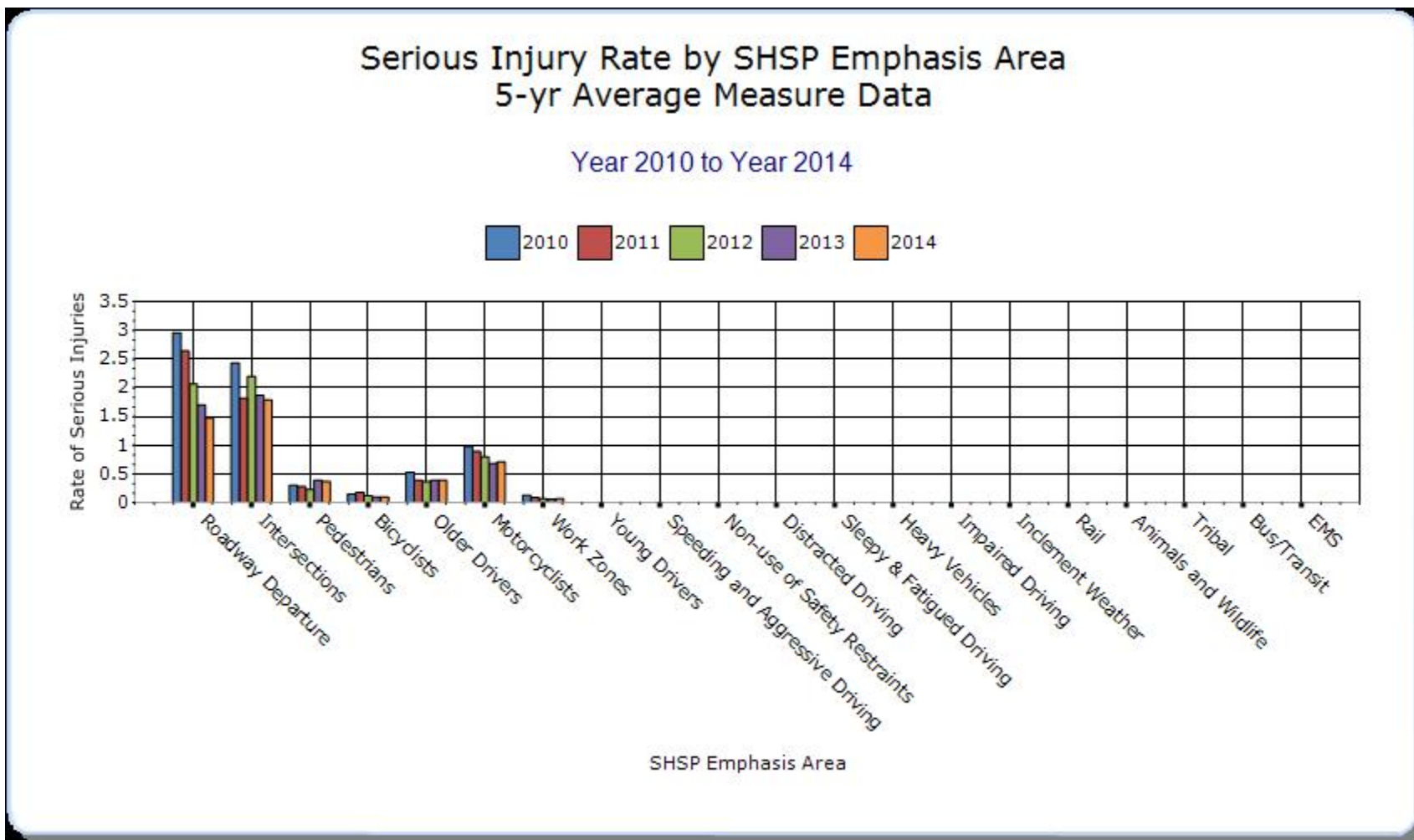
HSIP-related SHSP Emphasis Areas	Target Crash Type	Number of fatalities (5-yr avg)	Number of serious injuries (5-yr avg)	Fatality rate (per HMVMT) (5-yr avg)	Serious injury rate (per HMVMT) (5-yr avg)	Other-1 (5-yr avg)	Other-2 (5-yr avg)	Other-3 (5-yr avg)
Roadway Departure		175	375	0.69	1.48			
Intersections		54	453	0.21	1.79			
Pedestrians		74	94	0.29	0.37			
Bicyclists		5	26	0.02	0.1			
Older Drivers		19	99	0.07	0.39			
Motorcyclists		41	179	0.16	0.71			
Work Zones		4	18	0.02	0.07			











Sources:

1. FARS online Query Encyclopedia tool for emphasis area fatalities

<http://www-fars.nhtsa.dot.gov/QueryTool/QuerySection/selectYear.aspx>

2. NMDOT Crash Database (Crash, Vehicle(Detail), and Occupant files for Serious (A) Injuries:

Crash\_DataAsOf6.21.2016.xlsx, Vehicle\_DataAsOf6.21.2016.xlsx, and Occupant\_DataAsOf6.21.2016.xlsx

3. HMVMT for rate calculations: Highway Performance Monitoring System (HPMS)

<http://www.fhwa.dot.gov/policyinformation/statistics>

Notes:

4. Data presented are shown as annual values and not as five-year rolling averages.

### Groups of similar project types

**33. Present the overall effectiveness of HSIP subprograms.**

HSIP Sub-program Types	Target Crash Type	Number of fatalities (5-yr avg)	Number of serious injuries (5-yr avg)	Fatality rate (per HMVMT) (5-yr avg)	Serious injury rate (per HMVMT) (5-yr avg)	Other-1 (5-yr avg)	Other-2 (5-yr avg)	Other-3 (5-yr avg)
<b>SKIP</b>	Roadway departure crashes and resulting fatalities and injuries have been studied as part of the NM SHSP update effort and consequently this category is a designated Emphasis Area (EA). Crash data are presented in the section for SHSP EAs for number of fatalities, serious injuries (A), and rates. In general, for road departure crashes, there has been an overall downward trend in both fatal and severe injury crashes. The year 2013 represented the lowest annual frequency of these crashes for fatalities since at least 2010. The year 2014 had the lowest frequency of serious (A) injuries.							

## Systemic Treatments

### 34. Present the overall effectiveness of systemic treatments.

Systemic improvement	Target Crash Type	Number of fatalities (5-yr avg)	Number of serious injuries (5-yr avg)	Fatality rate (per HMVMT) (5-yr avg)	Serious injury rate (per HMVMT) (5-yr avg)	Other-1 (5-yr avg)	Other-2 (5-yr avg)	Other-3 (5-yr avg)
<b>SKIP</b>	At this time no crash data are available relating to the effectiveness of specific systemic measures implemented for pedestrian safety initiatives. However, measurable progress has been made as part of the SHSP update as Pedestrian Safety has been designated as an EA and 20 strategies have been developed based on input from stakeholder meetings. These strategies include systemic/programmatic strategies, data refinements, identification of key proven infrastructure strategies, enforcement strategies especially related to speed management in pedestrian areas, and improved educational programs. All of these countermeasures are designed for application at a system-wide level.							

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

The general continued long term downward trend in fatalities and serious injuries in New Mexico is a positive result of the efforts of state safety groups on many fronts. Examples include NMDOT public information campaigns such as DNTXT, BKLUP, ENDWI, Look for Me; improved local and state law enforcement training and education; and deployment of engineering countermeasures. While under the auspices of the HSP, these programs help support infrastructure based programs that are part of the NMDOT HSIP.

NMDOT's Data Management team meets periodically to assess the data collection process and initiatives. The data collection management team is providing oversight to the management of crash data. For example, the state is now geo-coding nearly all of the reported crashes. In 2014, NMDOT geo-coded 98% of all reported crashes and this has allowed for improved data reporting in this HSIP report. This significant improvement has greatly enhanced locating crashes and management of the statewide crash database through use of NMDOT's Geographic Information System (GIS).

## 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)
*	See optional	description												

Planning efforts are now underway by NMDOT HSIP team members to assess potential ways to develop and implement procedures to improve safety performance measurement techniques, data analysis, and safety effectiveness evaluation. NMDOT plans to evaluate the effectiveness of median barrier treatments on the upcoming year. This will allow for the conduct of project and countermeasure assessments.

## **Optional Attachments**

### **Sections**

**Program Structure: Program Administration**

### **Files Attached**

[Question 3 Supplement for HSIP Program Administration.docx](#)



## 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.

**Systematic** refers to an approach where an agency deploys countermeasures at all locations across a system.

**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.