Highway Safety Improvement Program

Data Driven Decisions

Arizona
Highway Safety Improvement Program
2016 Annual Report

Prepared by: AZ

Disclaimer

Protection of Data from Discovery & Admission into Evidence

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

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

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2. Executive Summary

This annual report has been prepared by Arizona Department of Transportation (ADOT) Traffic Safety Section (TSS) based on best available data and information collected from various internal and external sources.

Arizona DOT is continuing to make progress in the HSIP implementation on all public roads statewide. ADOT-TSS has been leading the efforts to deliver the HSIP program. ADOT Local Public Agency (LPA) Section tracks local HSIP funded projects and works with stakeholders to ensure successful project delivery. Apart from core HSIP funded projects, High Risk Rural Roads Program (HRRRP) was implemented to the extent projects were eligible and justified. Road Safety Assessment (RSA) program is very well established with several successful RSAs conducted within State, city/town, county and tribal jurisdictions. Many of the safety projects funded through HSIP were developed based on the RSA recommendations.

Arizona SHSP has been updated in October 2014 to reflect MAP-21 requirements and FHWA guidance. The formal kick-off of the SHSP implementation phase began in early 2015. This annual report reflects Arizona 2007 SHSP emphasis areas and performance measures.

NOTE: Data are presented by different reporting periods, e.g. funding data or project listing is given by Federal Fiscal Year whereas annual fatality and serious injury data is by Calendar Year. Several fatality and serious injury tables and charts in the output report are given in 5-year rolling average.

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.

Eighty percent (80%) of Arizona's HSIP funds are set aside for statewide safety projects and twenty percent (20%) for local governments after 10% Flex funds has been removed per MAP-21. This 80/20 split was adopted to address traffic safety on all public roads with both ADOT and local public agencies (i.e. cities, towns, counties, tribal agencies). This split was re-evaluated as part of the Arizona SHSP update process followed by revision in the Arizona HSIP Manual published in May 2015. As ADOT and local public agencies identify high crash locations using any acceptable screening method and develop safety improvement projects, ADOT reviews them on a statewide basis and prioritize projects for funding. ADOT LPA, in consultation with MPOs and COGs, provides assistance to local agencies throughout the process of identifying and developing the projects.

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

Other-ADOT Traffic Safety Section (TSS) and Local Public Agency Section (LPAS)

6. Briefly describe coordination with internal partners.

Safety analyses begin with the compilation and correlation of data elements on a statewide system. Coordination takes place within ADOT including the State Engineer's Office, the Director's Office, Project Managers, District Engineers and others involved in safety projects as well as the Department of Public Safety (State enforcement agency). Once the project is identified, depending on the nature of the

project, justification of HSIP funding through evaluation and formal eligibility process is established by ADOT and FHWA Arizona Division Office.

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

Metropolitan Planning Organizations
Other-Council of Governments

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

Other-None

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

None.

Program Methodology

10. Select the programs that are administered under HSIP.

Roadway Departure	Shoulder Improvement	Other-RSA
Other-Tree Removal		

11. Program: Roadway Departure

Date of Program Methodology: 6/29/2012

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
All crashes		
Fatal and serious injury crashes only		

What project identification methodology was used for this program?
Crash frequency
Relative severity index

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?
No
If no, describe the methodology used to identify local road projects as part of this program.
Local public agencies develop systemic safety projects - (1) shoulder/edge line rumble strips and (2) delineation - based on pavement condition, proximity to urban areas and bicycle community input.

How are highway safety improvement projects advanced for implementation?
Other-Based on B/C Ratio and systemic projects based on crash type.

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).
Rank of Priority Consideration

Ranking based on B/C	2
Available funding	1

11. Program: Shoulder Improvement

Date of Program Methodology: 4/30/2010

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
Fatal and serious injury crashes only	Volume	Functional classification

What project identification methodology was used for this program?
Relative severity index

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-Based on B/C Ratio and systemic projects based on crash type.

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).

Rank of Priority Consideration

Ranking based on B/C	2
Available funding	1

11. Program: Other-RSA

Date of Program Methodology: 1/10/2006

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
All crashes	Volume	Median width
		Horizontal curvature
		Roadside features

What project identification methodology was used for this program?

Crash frequency

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-Based on B/C Ratio and systemic projects based on crash type.

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).

Rank of Priority Consideration

Ranking based on B/C	2
Available funding	1

11. Program: Other-Tree Removal

Date of Program Methodology: 6/15/2010

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
Fatal and serious injury crashes only		

What project identification methodology was used for this program?
Crash frequency

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-Based on B/C Ratio and systemic projects based on crash type.

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).
Rank of Priority Consideration

Ranking based on B/C	2
Available funding	1

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

38%

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

Cable Median Barriers
Rumble Strips
Traffic Control Device Rehabilitation
Pavement/Shoulder Widening
Install/Improve Signing
Install/Improve Pavement Marking and/or Delineation
Upgrade Guard Rails
Clear Zone Improvements
Install/Improve Lighting
Add/Upgrade/Modify/Remove Traffic Signal

13. What process is used to identify potential countermeasures?

Engineering Study
Road Safety Assessment

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

Other-None

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

None

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
HSIP (Section 148)	$44,000,000.00	100 %	$46,574,814.00	92 %
HRRRP (SAFETEA-LU)	$0.00	0 %	$4,014,130.00	8 %
Totals	$44,000,000.00	100%	$50,588,944.00	100%

18. How much funding is programmed to local (non-state owned and operated) safety projects?
$8,167,769.00
How much funding is obligated to local safety projects?
$15,780,804.00

19. How much funding is programmed to non-infrastructure safety projects?
$0.00
How much funding is obligated to non-infrastructure safety projects?
$1,545,575.00

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.

None to Report

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

None

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
H5460SR77MP364 TO 372 SHOW LOW-HOLBROOK HIGHWAY	Roadway Roadway - other	2.76 Miles	19803	19803	HSIP (Section 148)	Rural Principal Arterial - Other Freeways and Expressways	7551	65	State Highway Agency	Other	Minimizing the consequences of leaving the road
H5818 US60 OAK FLAT TO MIAMI,MP227	Shoulder treatments Widen shoulder - paved or other	13 Miles	2509944	2509944	HSIP (Section 148)	Rural Minor Arterial	7059	50	State Highway Agency	Roadway Departure	Minimizing the consequences of leaving the road
H7130 SR89A,ANDANTE DR DRY CREEK RD TO AIRPORT RD	Lighting Continuous roadway lighting	2.15 Miles	27347	27347	HSIP (Section 148)	Urban Minor Arterial	27309	35	State Highway Agency	Intersections	Reduce the No. of intersection related fatalities
H7475 SR80 Fremont Street TOMBSTONE,MP317.17	Lighting Continuous roadway lighting	0.35 Miles	882441	1501582	HSIP (Section 148)	Urban Principal Arterial - Other	7106	45	State Highway Agency	Pedestrians	Making walking and street crossing easier

H7705 SR 260 HEBER TO SHOW LOW MP 317.33 to MP 331	Roadway Roadway - other	14.57 Miles	124802.73	124802.73	HSIP (Section 148)	Rural Major Collector	3233	65	State Highway Agency	Roadway Departure	Making walking and street crossing easier
H8052 I10 Marsh Station to Pima/Cochise County	Alignment Horizontal curve realignment	2 Numbers	943400	943400	HSIP (Section 148)	Rural Principal Arterial - Interstate	28207	0	State Highway Agency	Roadway Departure	Minimizing the consequences of leaving the road
H8102 I-8: ARABY ROAD TI MP7	Intersection geometry Intersection geometry - other	2 Numbers	10377	23360.95	HSIP (Section 148)	Urban Principal Arterial - Interstate	42040	65	State Highway Agency	Intersections	Reduce fatalities through geometric configuration
H8125 I40 WALNUT CANYON,TWIN ARROWS MP204.87	Roadway delineation Longitudinal pavement markings - new	12.98 Miles	1279575	1279575	HSIP (Section 148)	Rural Principal Arterial - Interstate	20673	75	State Highway Agency	Roadway Departure	Minimizing the consequences of leaving the road
H8133 SR264; Fish Wash to Cross Canyon MP450	Shoulder treatments Widen shoulder - paved or other	9.02 Miles	8553273	15715101	HSIP (Section 148)	Rural Minor Arterial	4819	0	State Highway Agency	Roadway Departure	Minimizing the consequences of leaving the road
H8207 SR 87 NB SLATE CREEK MP221.2-MP228.52	Alignment Alignment - other	7.32 Miles	416391	416391	HSIP (Section 148)	Rural Principal Arterial - Other Freeways and	11085	65	State Highway Agency	Roadway Departure	Minimizing the consequences of leaving the road

						Expressways					
H8230 I-10; MP318.08-MP319.91, Dragoon to Johnson	Roadway Roadway - other	1.83 Miles	1648881	1648881	HSIP (Section 148)	Rural Principal Arterial - Interstate	14944	75	State Highway Agency	Lane Departure	Minimizing the consequences of leaving the road
H8246 SR 264 BURNSIDE - FISH WASH MP441.19-M450.02	Shoulder treatments Widen shoulder - paved or other	8.83 Miles	943000	943000	HSIP (Section 148)	Rural Minor Arterial	5247	65	State Highway Agency	Roadway Departure	Minimizing the consequences of leaving the road
H8258 SR64 GRAND CANYON AIPORT MP234.24-MP237.05	Shoulder treatments Widen shoulder - paved or other	2.81 Miles	159367	159367	HSIP (Section 148)	Rural Principal Arterial - Other Freeways and Expressways	6140	65	State Highway Agency	Roadway Departure	Minimizing the consequences of leaving the road
H8278 SR89 ROAD 4 NORTH , ROUNDABOUT MP329	Intersection geometry Intersection geometry - other	1 Numbers	670286	670286	HSIP (Section 148)	Rural Minor Arterial	19687	55	State Highway Agency	Intersections	Reduce fatalities through geometric configuration
H8285 SR86;MP114.7-MP115.5, Town fo Sells	Pedestrians and bicyclists Pedestrian signal - Pedestrian Hybrid	1 Numbers	284000	897893	HSIP (Section 148)	Rural Minor Arterial	2720	50	State Highway Agency	Pedestrians	Making walking and street crossing easier

	Beacon										
H8492 SR95 Cienega Springs Rd MP 149.2	Intersection geometry Auxiliary lanes - add left-turn lane	1 Numbers	2448240	2448240	HSIP (Section 148)	Rural Principal Arterial - Other Freeways and Expressways	5806	55	State Highway Agency	Intersections	Reduce fatalities through geometric configuration
H8661 I-10, SR83 - MP 288	Alignment Horizontal curve realignment	3 Numbers	1805668	9178626	HSIP (Section 148)	Urban Principal Arterial - Interstate	27778	75	State Highway Agency	Roadway Departure	Minimizing the consequences of leaving the road
H8744 I40 WEST KINGMAN MP49	Intersection geometry Auxiliary lanes - add left-turn lane	1 Numbers	46207	46207	HSIP (Section 148)	Urban Principal Arterial - Interstate	37485	75	State Highway Agency	Intersections	Reduce fatalities through geometric configuration
H8838 SR87 Ruins Drive	Intersection traffic control Intersection traffic control - other	1 Numbers	231978	231978	HSIP (Section 148)	Rural Principal Arterial - Other Freeways and Expressways	16000	0	State Highway Agency	Intersections	Reduce fatalities through geometric configuration
H8859 US70 San Carlos High School - MP270.30-MP270	Intersection geometry Auxiliary lanes - add left-turn	0.56 Miles	145738	145738	HSIP (Section 148)	Rural Minor Arterial	4403	65	State Highway Agency	Intersections	Reduce fatalities through geometric configuratio

	lane										n
HS003 Statewide Road Safety Assessment Program	Miscellaneous	1 Numbers	5658	5658	HSIP (Section 148)	Various	0	0	State Highway Agency	Roadway Departure	Reduce fatalities through geometric configuration
HS012 STRATEGIC HIGHWAY SAFETY PLAN	Non-infrastructure Transportation safety planning	1 Numbers	8487	8487	HSIP (Section 148)	Various	0	0	State Highway Agency	Roadway Departure	Reduce fatalities through geometric configuration
HX253 SR69 Prescott Lakes Pkwy	Intersection traffic control Modify traffic signal timing - left-turn phasing (permissive to protected-only)	4 Numbers	393753	393753	HSIP (Section 148)	Urban Principal Arterial - Other	35706	0	State Highway Agency	Intersections	Reduce fatalities through geometric configuration
M5120 GLENDALE ELECTRONIC CRASH DATA RECORDING	Non-infrastructure Data/traffic records	1 Numbers	47150	47150	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Data Improvement	More effective processes and safety management sys

M5123 SCOTTSDALE ELECTRONIC CRASH DATA RECORDING	Non-infrastructure Data/traffic records	1 Numbers	47150	47150	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Data Improvement	More effective processes and safety managemen t sys
M5129 YUMA ELECTRONIC CRASH DATA RECORDING	Non-infrastructure Data/traffic records	1 Numbers	49790	49790	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Data Improvement	More effective processes and safety managemen t sys
M5162 PRESCOTT ELECTRONIC CRASH DATA RECORDING	Non-infrastructure Data/traffic records	1 Numbers	47150	47150	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Data Improvement	More effective processes and safety managemen t sys
M5166 SAFFORD ELECTRONIC CRASH DATA RECORDING	Non-infrastructure Data/traffic records	1 Numbers	23575	23575	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Data Improvement	More effective processes and safety managemen t sys
M5168 FLORENCE ELECTRONIC CRASH DATA RECORDING	Non-infrastructure Data/traffic records	1 Numbers	23575	23575	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Data Improvement	More effective processes and safety managemen t sys
M5889 STATEWIDE HSIP EFFECTIVENESS EVALUATION	Non-infrastructure Non-infrastructu	12 Numbers	377200	377200	HSIP (Section 148)	Various	0	0	City of Municipal Highway	Data Improvement	More effective processes and safety

	re - other								Agency		management sys
PCAHS CAG REGIONAL SAFETY PLAN	Non-infrastructure Transportation safety planning	1 Numbers	141790	141790	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Data Improvement	More effective processes and safety management sys
PLHHS LAKE HAVASU SAFETY PLAN	Non-infrastructure Transportation safety planning	1 Numbers	300015	300015	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Data Improvement	More effective processes and safety management sys
PMHSP MAG Safety Plan	Non-infrastructure Transportation safety planning	1 Numbers	125851	125851	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Data Improvement	More effective processes and safety management sys
PSHSP SEAGO Safety Plan	Non-infrastructure Transportation safety planning	1 Numbers	330050	330050	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Data Improvement	More effective processes and safety management sys
PYMHS YMPO Safety Plan	Non-infrastructure Transportation safety planning	1 Numbers	18134	18134	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Data Improvement	More effective processes and safety management sys
SH475 Town of	Intersectio	1	74494	74494	HSIP	Urban	0	35	Town or	Intersectio	Reduce

Safford Central Ave & 6th Ave	n geometry Intersection geometrics - modify intersection corner radius	Numbers			(Section 148)	Minor Arterial			Township Highway Agency	ns	fatalities through geometric configuration
SH504 City of Flagstaff-Various Locations-Citywide	Roadside Barrier-metal	76 Numbers	420078	420078	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Roadway Departure	Reduce fatalities through geometric configuration
SH511 City of Flagstaff; Lonetree & Zuni	Intersection traffic control Modify control - all-way stop to roundabout	1 Numbers	52000	52000	HSIP (Section 148)	Urban Local Road or Street	0	25	City of Municipal Highway Agency	Intersections	Reduce fatalities through geometric configuration
SH516 Bull Head City; PWY/SLVR CRK,ADOBE,MIRACLE	Intersection geometry Intersection geometry - other	3 Numbers	172699	172699	HSIP (Section 148)	Urban Major Collector	0	35	City of Municipal Highway Agency	Intersections	Reduce fatalities through geometric configuration
SH527 Mohave County; Various Rural Roads	Shoulder treatments Shoulder treatments - other	12 Miles	786996	786996	HRRRP (SAFETEA-LU)	Rural Major Collector	0	0	County Highway Agency	Roadway Departure	Minimizing the consequences of leaving the road

SH532 BIA Rts 3,12,46 & 55, WHITE MOUNTAIN	Roadway Roadway - other	56.8 Miles	2256200	2256200	HRRRP (SAFETEA-LU)	Rural Local Road or Street	0	0	State Park, Forest, or Reservation Agency	Roadway Departure	Minimizing the consequences of leaving the road
SH535 City of Peoria; 75th Ave, Cactus Rd	Intersection geometry Auxiliary lanes - add left-turn lane	2 Numbers	907920	907920	HSIP (Section 148)	Urban Principal Arterial - Other	0	45	City of Municipal Highway Agency	Intersections	Reduce fatalities through geometric configuration
SH536 City of Peoria; 75th Ave,Peoria Rd	Intersection geometry Auxiliary lanes - add left-turn lane	2 Numbers	622400	622400	HSIP (Section 148)	Urban Principal Arterial - Other	0	45	City of Municipal Highway Agency	Intersections	Reduce fatalities through geometric configuration
SH575 BIA Route 6, SAN CARLOS APACHE	Roadway Roadway - other	12.2 Miles	970934	970934	HRRRP (SAFETEA-LU)	Rural Local Road or Street	0	0	State Park, Forest, or Reservation Agency	Roadway Departure	Minimizing the consequences of leaving the road
SH576 Ironwood Dr,Elliot Ave,Baseline Ave,Phase I	Shoulder treatments Shoulder treatments - other	1 Numbers	232805	232805	HSIP (Section 148)	Rural Principal Arterial - Other	0	50	Town or Township Highway Agency	Roadway Departure	Minimizing the consequences of leaving the road
SH591 Ironwood Dr,Elliot Ave,Baseline	Shoulder treatments Shoulder	1 Numbers	299903	299903	HSIP (Section 148)	Rural Principal Arterial -	0	50	Town or Township	Roadway Departure	Minimizing the consequenc

Ave,Phase II	treatments - other					Other			Highway Agency		es of leaving the road
SH592Ironwood Dr,Elliot Ave,Baseline Ave,Phase II	Shoulder treatments Shoulder treatments - other	1 Numbers	301068	301068	HSIP (Section 148)	Rural Principal Arterial - Other	0	50	Town or Township Highway Agency	Roadway Departure	Minimizing the consequences of leaving the road
SH595 City of Flagstaff-Various Locations	Roadway signs and traffic control Sign sheeting - upgrade or replacement	6867 Numbers	36891	36891	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Older Drivers	Improve retroreflectivity and visibility
SH597 City of Flagstaff; Various locations	Roadway signs and traffic control Sign sheeting - upgrade or replacement	3126 Numbers	36891	36891	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Older Drivers	Improve retroreflectivity and visibility
SH599 CYMPO; Various Locations	Roadway signs and traffic control Sign sheeting - upgrade or replacement	999 Numbers	100000	100000	HSIP (Section 148)	Various	0	0	Other Local Agency	Older Drivers	Improve retroreflectivity and visibility
SH601 Town of Safford; Various Locations	Roadway signs and traffic	874 Numbers	50400	50400	HSIP (Section 148)	Various	0	0	Town or Township	Older Drivers	Improve retroreflectivity and

	control Sign sheeting - upgrade or replacement								Highway Agency		visibility
SH602 City of Nogales; Various Locations	Roadway signs and traffic control Sign sheeting - upgrade or replacement	896 Numbers	52585	52585	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Older Drivers	Improve retroreflectivity and visibility
SH606 Town of Clifton; Various Locations	Roadway signs and traffic control Sign sheeting - upgrade or replacement	546 Numbers	40345	40345	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Older Drivers	Improve retroreflectivity and visibility
SH608 City of Glendale; Various Locations	Roadway signs and traffic control Sign sheeting - upgrade or replacement	1000 Numbers	120000	120000	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Older Drivers	Improve retroreflectivity and visibility
SH610 Apache County; Various Locations	Roadway delineation Longitudinal pavement markings -	14.4 Miles	90000	90000	HSIP (Section 148)	Various	0	0	County Highway Agency	Lane Departure	Minimizing the consequences of leaving the road

	remarking										
SH614 Coconino County: Various Locations	Roadway signs and traffic control Sign sheeting - upgrade or replacement	940 Numbers	94000	94000	HSIP (Section 148)	Various	0	0	County Highway Agency	Older Drivers	Improve retroreflectivity and visibility
SH627 City of Avonale: Sign Mgt System	Roadway signs and traffic control Sign sheeting - upgrade or replacement	4734 Numbers	222000	222000	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Older Drivers	Improve retroreflectivity and visibility
SH630 NACOG Region; Various Locations	Roadway signs and traffic control Sign sheeting - upgrade or replacement	4500 Numbers	589396	589396	HSIP (Section 148)	Various	0	0	Other Local Agency	Older Drivers	Improve retroreflectivity and visibility
SH633 Town of Paradise Valley	Roadway signs and traffic control Sign sheeting - upgrade or replacement	2348 Numbers	30000	30000	HSIP (Section 148)	Various	0	0	Town or Township Highway Agency	Older Drivers	Improve retroreflectivity and visibility

SH638 Pima County Old Spanish Trail and Cactus	Intersection geometry Auxiliary lanes - add left-turn lane	1 Numbers	59769	59769	HSIP (Section 148)	Various	0	0	County Highway Agency	Intersections	Reduce fatalities through geometric configuration
SH641 City of Maricopa,Various Locations	Roadway signs and traffic control Sign sheeting - upgrade or replacement	3730 Numbers	173500	173500	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Older Drivers	Improve retroreflectivity and visibility
SH645 Pinal County, Various Locations	Roadway signs and traffic control Sign sheeting - upgrade or replacement	1849 Numbers	75000	75000	HSIP (Section 148)	Various	0	0	County Highway Agency	Older Drivers	Improve retroreflectivity and visibility
SH646 Town of Eloy; Various Locations	Roadway signs and traffic control Sign sheeting - upgrade or replacement	797 Numbers	30000	30000	HSIP (Section 148)	Various	0	0	Town or Township Highway Agency	Older Drivers	Improve retroreflectivity and visibility
SH647 Town of Eloy; Various Locations	Roadway signs and traffic control Sign	34.5 Miles	30000	30000	HSIP (Section 148)	Various	0	0	Town or Township Highway	Older Drivers	Improve retroreflectivity and visibility

	sheeting - upgrade or replacement								Agency		
SH648 Casa Grande	Pedestrians and bicyclists Pedestrian signal - audible device	123 Numbers	30000	30000	HSIP (Section 148)	Various	0	0	Town or Township Highway Agency	Pedestrians	Improve retroreflectivity and visibility
SH649 Yuma Co; Old Hwy 80; Various Locations	Shoulder treatments Shoulder treatments - other	41 Miles	399745	399745	HSIP (Section 148)	Various	0	0	County Highway Agency	Roadway Departure	Minimizing the consequences of leaving the road
SH650 Lake Havasu; Various Locations	Roadway signs and traffic control Roadway signs and traffic control - other	7517 Numbers	30000	30000	HSIP (Section 148)	Various	0	0	City of Municipal Highway Agency	Older Drivers	Improve retroreflectivity and visibility
SH651 Town of Winkelman	Roadway signs and traffic control Roadway signs and traffic control - other	1 Numbers	105000	105000	HSIP (Section 148)	Various	0	0	Town or Township Highway Agency	Older Drivers	Improve retroreflectivity and visibility

SH652 Pima Co; Speedway Blvd	Shoulder treatments Shoulder treatments - other	1.6 Miles	225074	225074	HSIP (Section 148)	Various	0	45	County Highway Agency	Roadway Departure	Minimizing the consequences of leaving the road

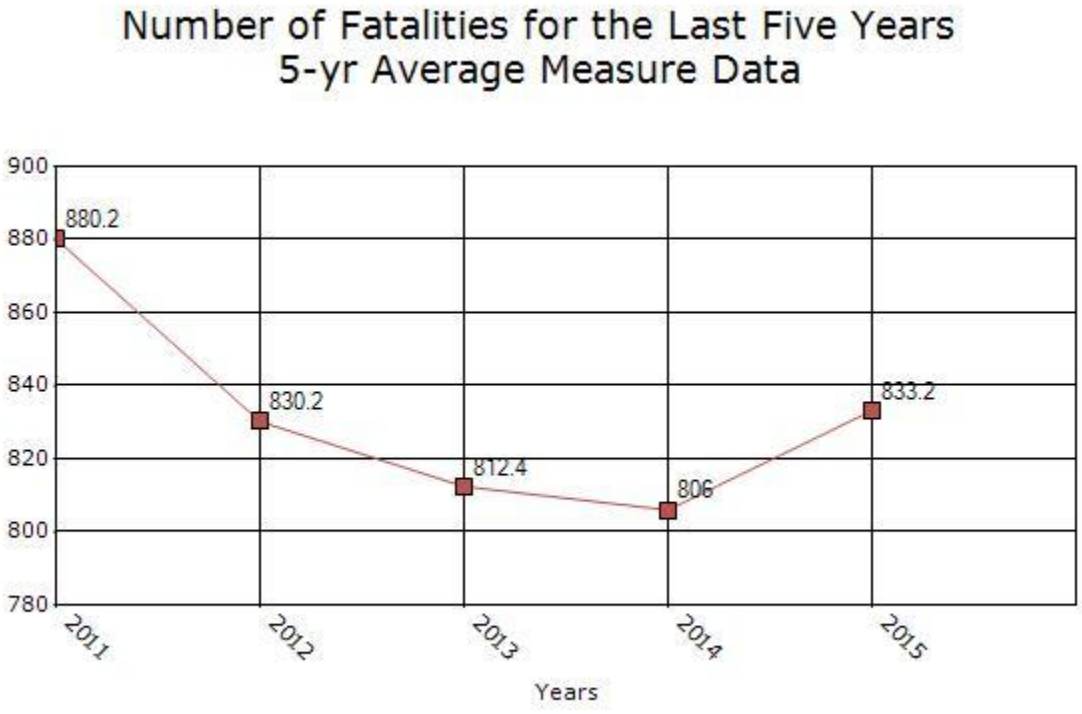
Progress in Achieving Safety Performance Targets

Overview of General Safety Trends

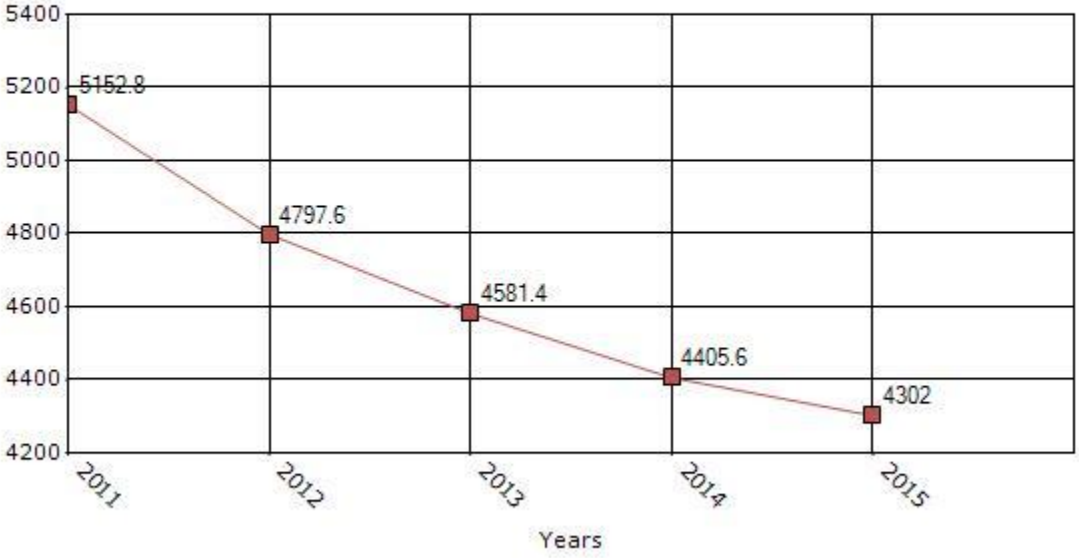
24. Present data showing the general highway safety trends in the state for the past five years.

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	880.2	830.2	812.4	806	833.2
Number of serious injuries	5152.8	4797.6	4581.4	4405.6	4302
Fatality rate (per HMVMT)	1.44	1.38	1.35	1.33	1.35
Serious injury rate (per HMVMT)	8.46	7.96	7.63	7.28	7

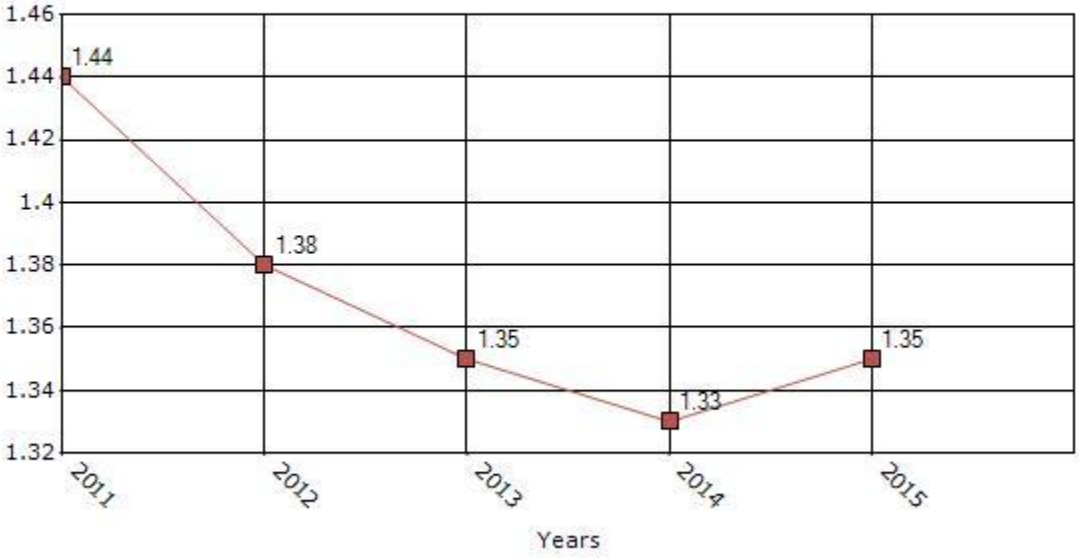
*Performance measure data is presented using a five-year rolling average.

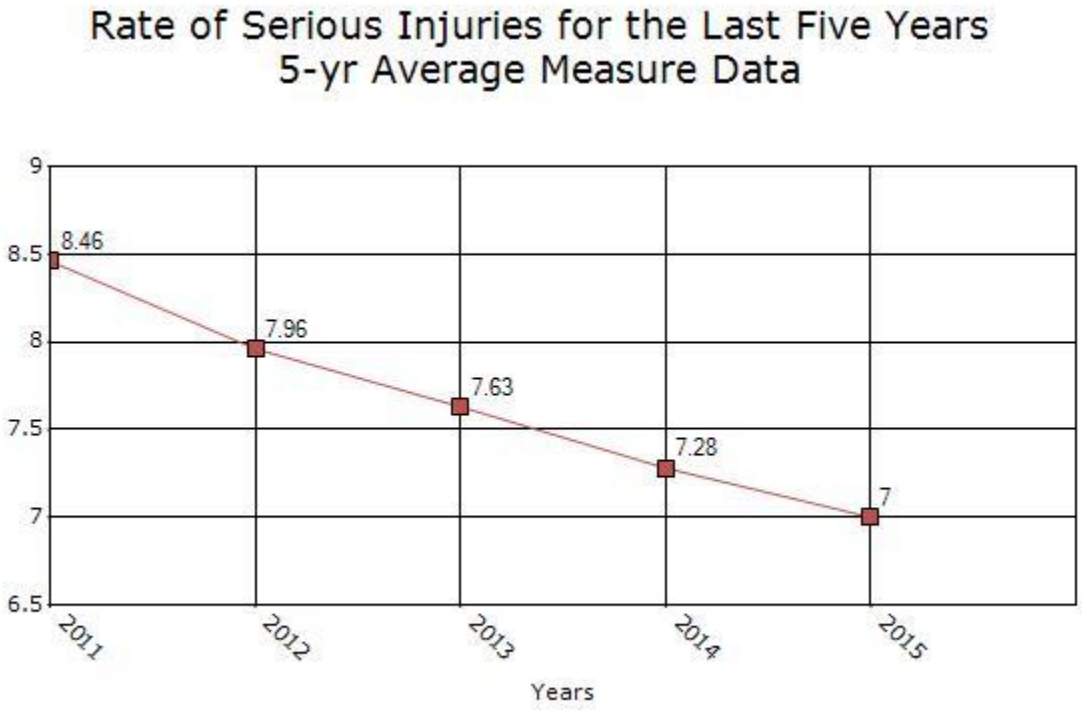


Number of Serious Injuries for the Last Five Years
5-yr Average Measure Data



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



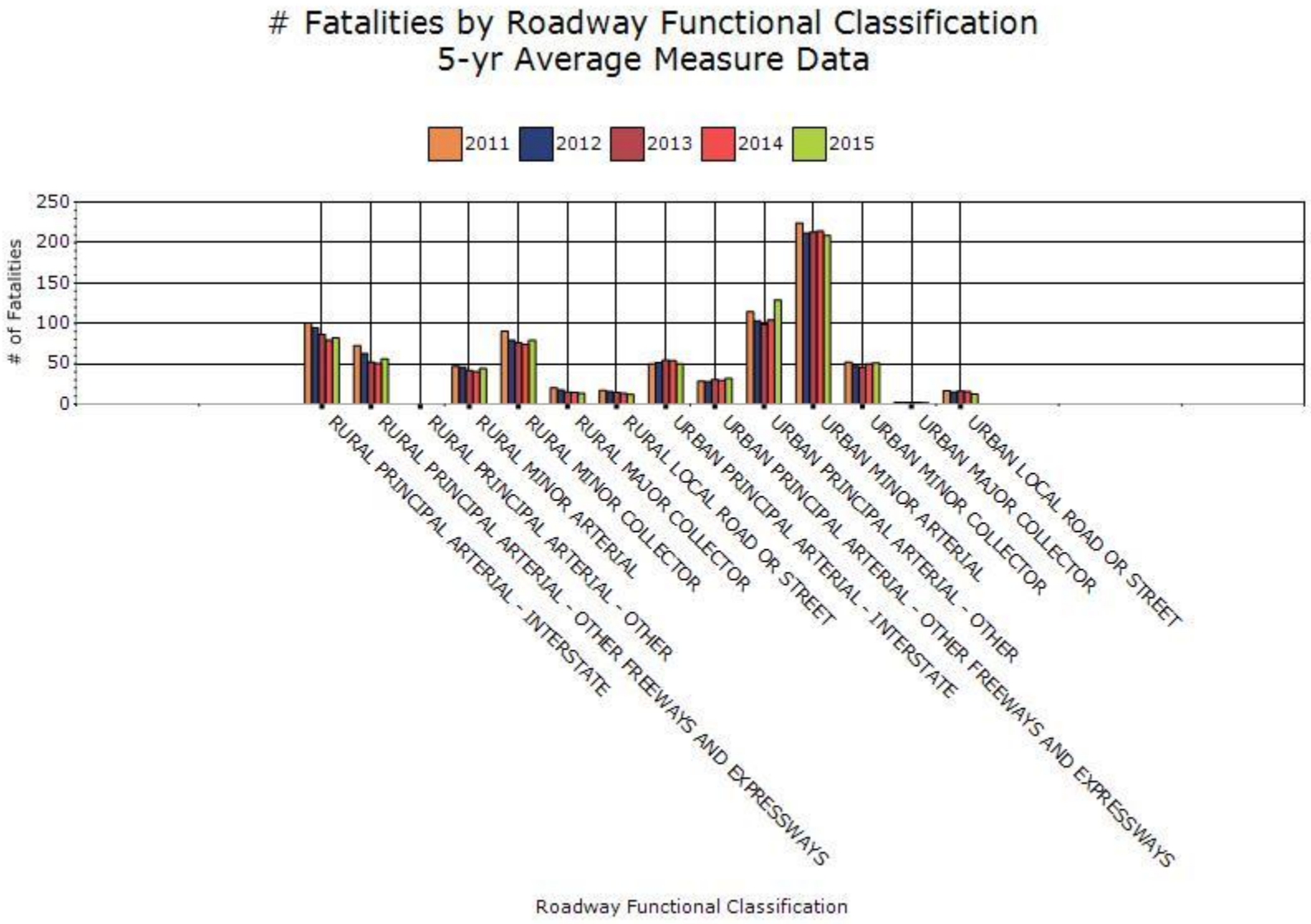

Rate of Serious Injuries for the Last Five Years
5-yr Average Measure Data
9
8.5
8
7.5
7
6.5
8.46
7.96
7.63
7.28
7
2011
2012
2013
2014
2015
Years

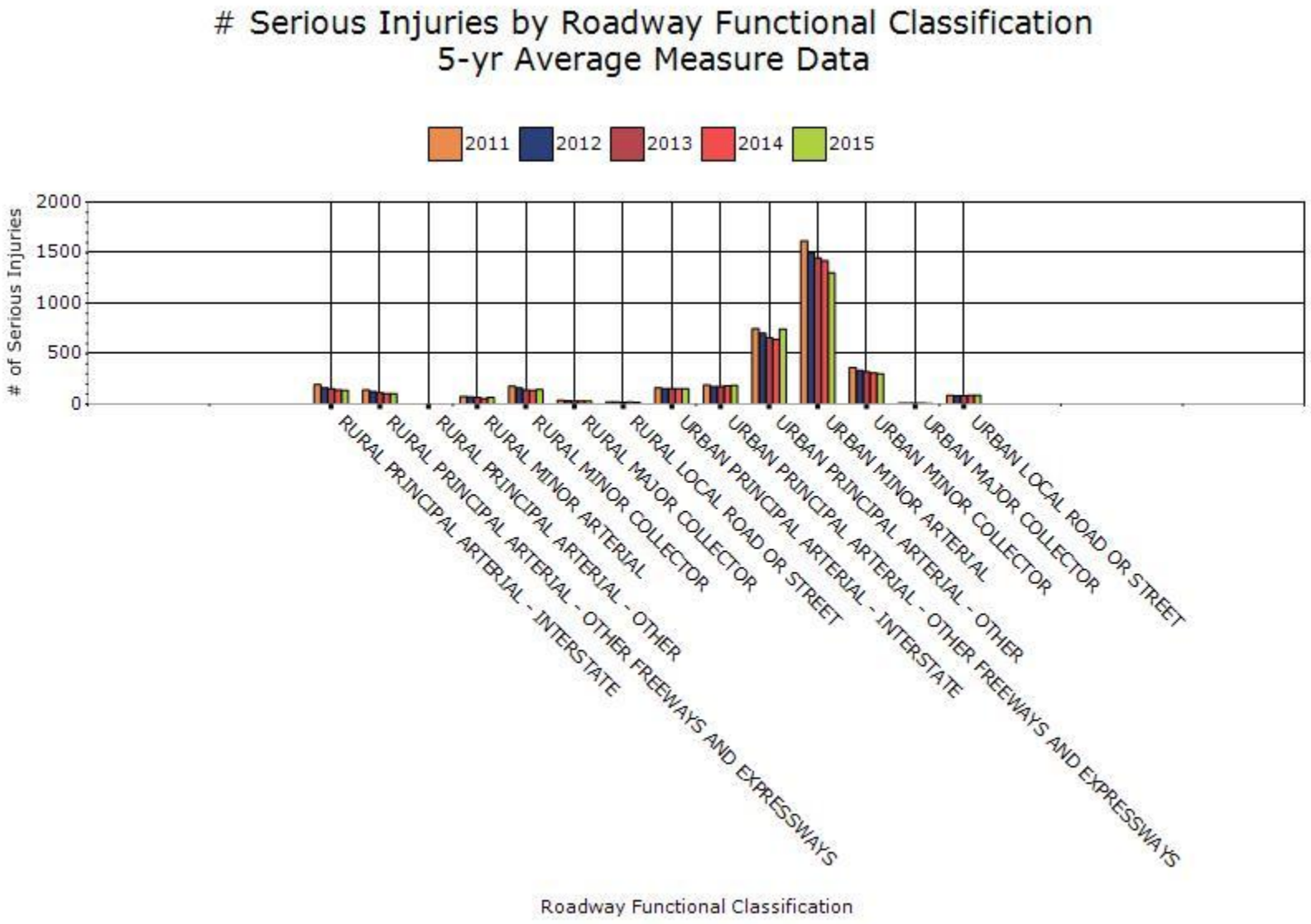
25. To the maximum extent possible, present performance measure data by functional classification and ownership.

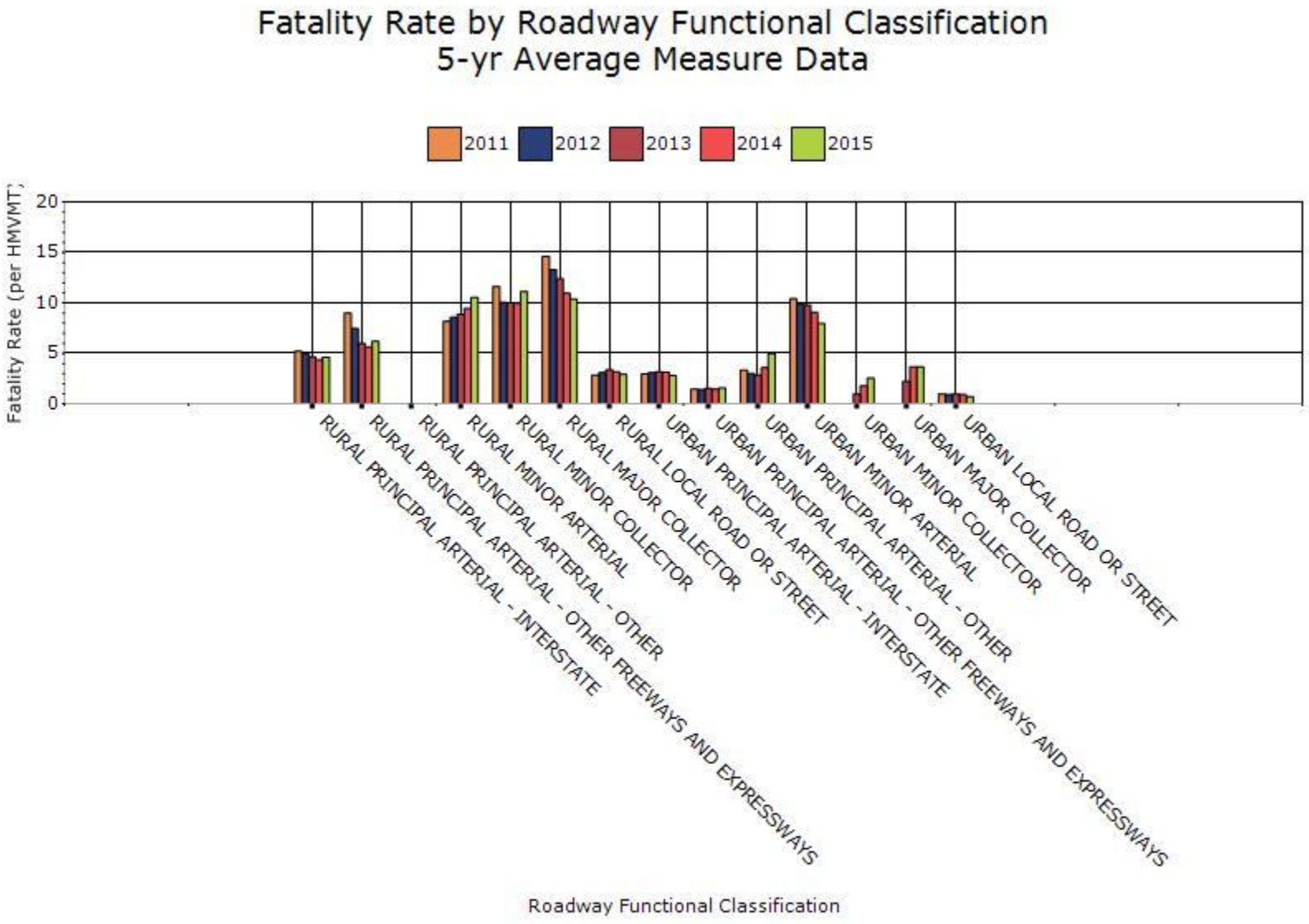
Year - 2015

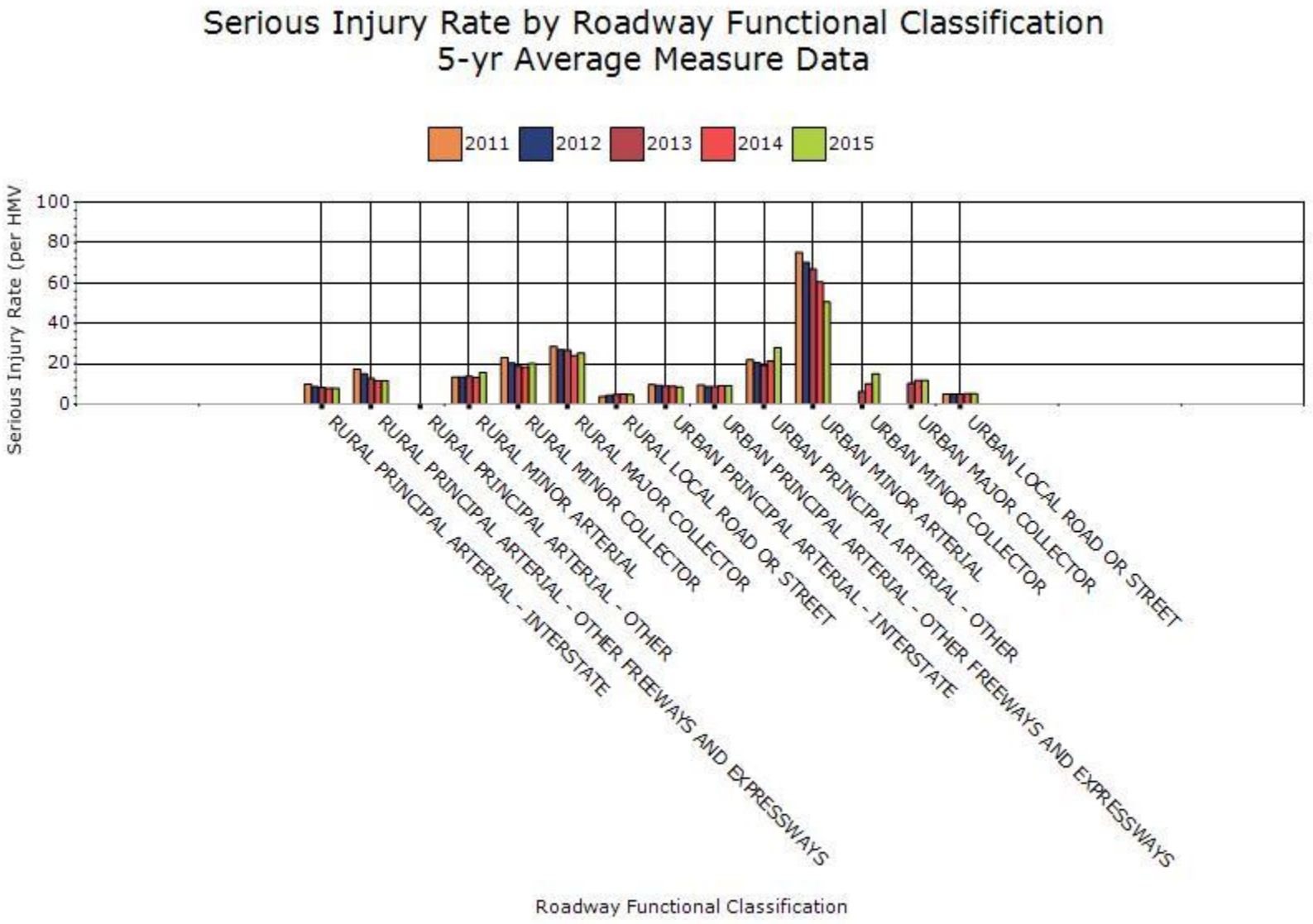
Function Classification	Number of fatalities (5-yr avg)	Number of serious injuries (5-yr avg)	Fatality rate (per HMVMT) (5-yr avg)	Serious injury rate (per HMVMT) (5-yr avg)
RURAL PRINCIPAL ARTERIAL - INTERSTATE	82.2	139.2	4.63	7.94
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	56	105.6	6.19	11.66
RURAL MINOR ARTERIAL	44.4	66.2	10.55	15.6
RURAL MINOR COLLECTOR	79.4	144	11.14	20.18
RURAL MAJOR COLLECTOR	13.4	30.8	10.37	25.37
RURAL LOCAL ROAD OR STREET	12.2	19.4	2.95	4.76
URBAN PRINCIPAL ARTERIAL - INTERSTATE	50	152	2.79	8.45
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	31.8	186.6	1.57	9.15
URBAN PRINCIPAL ARTERIAL - OTHER	129	744.6	4.98	28.02
URBAN MINOR ARTERIAL	209	1300.6	7.98	50.64
URBAN MINOR COLLECTOR	51	300.2	2.56	15.06

URBAN MAJOR COLLECTOR	1.8	7.4	3.67	11.82
URBAN LOCAL ROAD OR STREET	12.4	89.6	0.72	5.2


Fatalities by Roadway Functional Classification
5-yr Average Measure Data
2011
2012
2013
2014
2015
# of Fatalities
250
200
150
100
50
0
RURAL PRINCIPAL ARTERIAL - INTERSTATE
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
RURAL PRINCIPAL ARTERIAL - OTHER
RURAL MINOR ARTERIAL
RURAL MINOR COLLECTOR
RURAL MAJOR COLLECTOR
RURAL LOCAL ROAD OR STREET
URBAN PRINCIPAL ARTERIAL - INTERSTATE
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
URBAN PRINCIPAL ARTERIAL - OTHER
URBAN MINOR ARTERIAL
URBAN MINOR COLLECTOR
URBAN MAJOR COLLECTOR
URBAN LOCAL ROAD OR STREET
Roadway Functional Classification


Serious Injuries by Roadway Functional Classification
5-yr Average Measure Data
2011
2012
2013
2014
2015
# of Serious Injuries
2000
1500
1000
500
0
RURAL PRINCIPAL ARTERIAL - INTERSTATE
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
RURAL PRINCIPAL ARTERIAL - OTHER
RURAL MINOR ARTERIAL
RURAL MINOR COLLECTOR
RURAL MAJOR COLLECTOR
RURAL LOCAL ROAD OR STREET
URBAN PRINCIPAL ARTERIAL - INTERSTATE
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
URBAN PRINCIPAL ARTERIAL - OTHER
URBAN MINOR ARTERIAL
URBAN MINOR COLLECTOR
URBAN MAJOR COLLECTOR
URBAN LOCAL ROAD OR STREET
Roadway Functional Classification


Fatality Rate by Roadway Functional Classification
5-yr Average Measure Data
2011
2012
2013
2014
2015
Fatality Rate (per HMVMT)
20
15
10
5
0
RURAL PRINCIPAL ARTERIAL - INTERSTATE
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
RURAL PRINCIPAL ARTERIAL - OTHER
RURAL MINOR ARTERIAL
RURAL MINOR COLLECTOR
RURAL MAJOR COLLECTOR
RURAL LOCAL ROAD OR STREET
URBAN PRINCIPAL ARTERIAL - INTERSTATE
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
URBAN PRINCIPAL ARTERIAL - OTHER
URBAN MINOR ARTERIAL
URBAN MINOR COLLECTOR
URBAN MAJOR COLLECTOR
URBAN LOCAL ROAD OR STREET
Roadway Functional Classification


Serious Injury Rate by Roadway Functional Classification
5-yr Average Measure Data
2011
2012
2013
2014
2015
Serious Injury Rate (per HMV
100
80
60
40
20
0
RURAL PRINCIPAL ARTERIAL - INTERSTATE
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
RURAL PRINCIPAL ARTERIAL - OTHER
RURAL MINOR ARTERIAL
RURAL MINOR COLLECTOR
RURAL MAJOR COLLECTOR
RURAL LOCAL ROAD OR STREET
URBAN PRINCIPAL ARTERIAL - INTERSTATE
URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
URBAN PRINCIPAL ARTERIAL - OTHER
URBAN MINOR ARTERIAL
URBAN MINOR COLLECTOR
URBAN MAJOR COLLECTOR
URBAN LOCAL ROAD OR STREET
Roadway Functional Classification

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

None

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)	0.05	0.07	0.08	0.08	0.08
Serious injury rate (per capita)	0.22	0.29	0.36	0.35	0.34
Fatality and serious injury rate (per capita)	0.27	0.36	0.44	0.43	0.42

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

Utilizing the Special Rule Calculation Formula and data shown in FHWA, MAP-21 Moving Ahead for Progress in the 21st Century, Section 148: Older Drvers and Pedestrians Special Rule Final Guidance, Date Issued, May 19, 2016, Attachments 1 and 2, the following rates were calculated for the State of Arizona.

K and A in table below are totals for Driver and Pedestrian

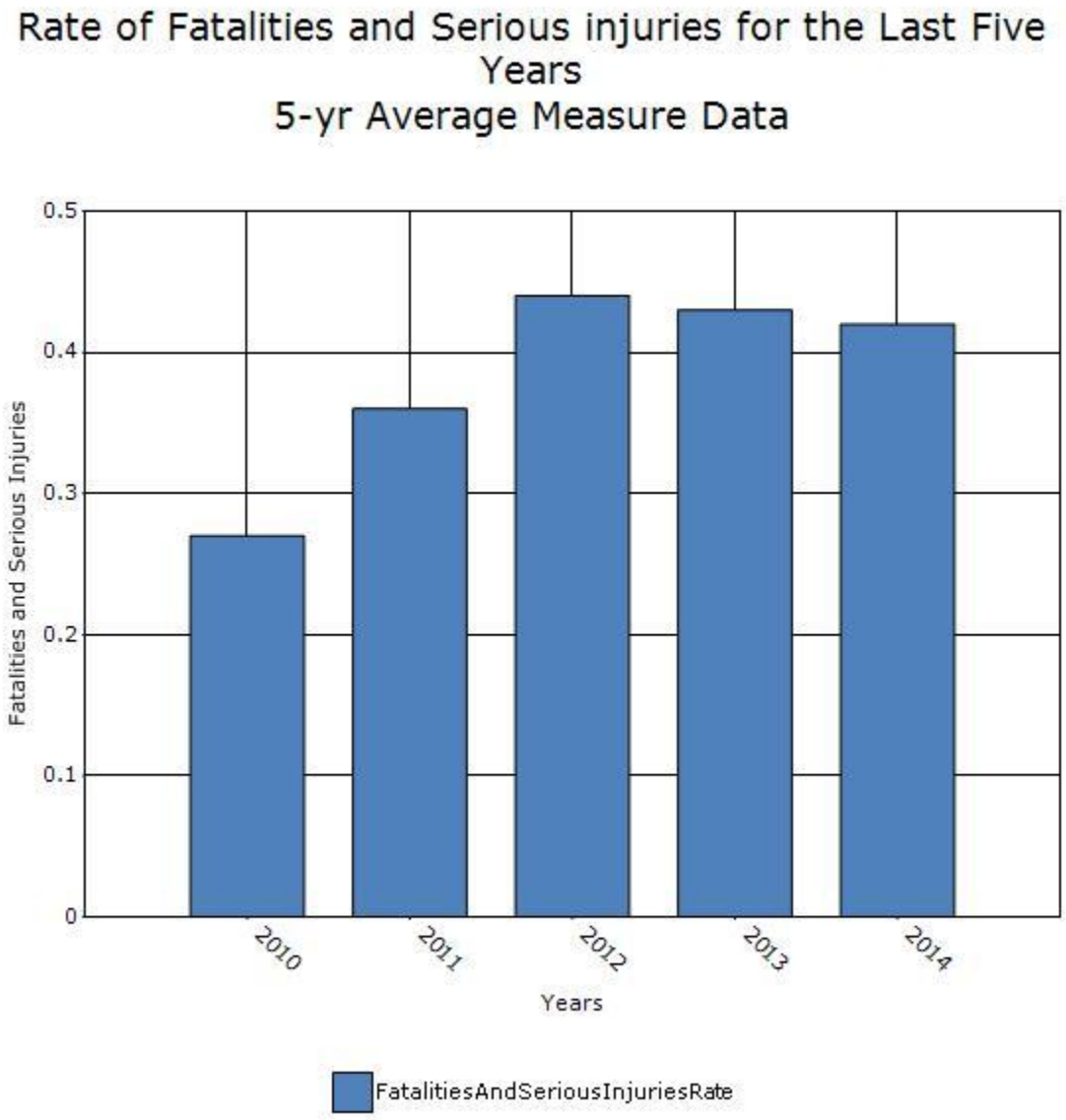
Year	K	A	Population (Thousands)
2008	104	372	864
2009	95	357	867
2010	100	321	887
2011	113	352	923
2012	90	349	971
2013	110	396	1,019
2014	105	328	974

2014 Value = (433/974 + 506/1019 + 439/971 + 465/923 + 421/887)/5 = 0.47

2012 Value = (439/971 + 465/923 + 421/887 + 452/867 + 476/864)/5 = 0.50

Change = -.03

The Special Rule does not apply to the State of Arizona for FFY 17.



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?

Benefit/cost

If 'benefit/cost', indicate the overall Highway Safety Improvement Program benefit/cost ratio.

1

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

Shift Focus to Fatalities and Serious Injuries

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

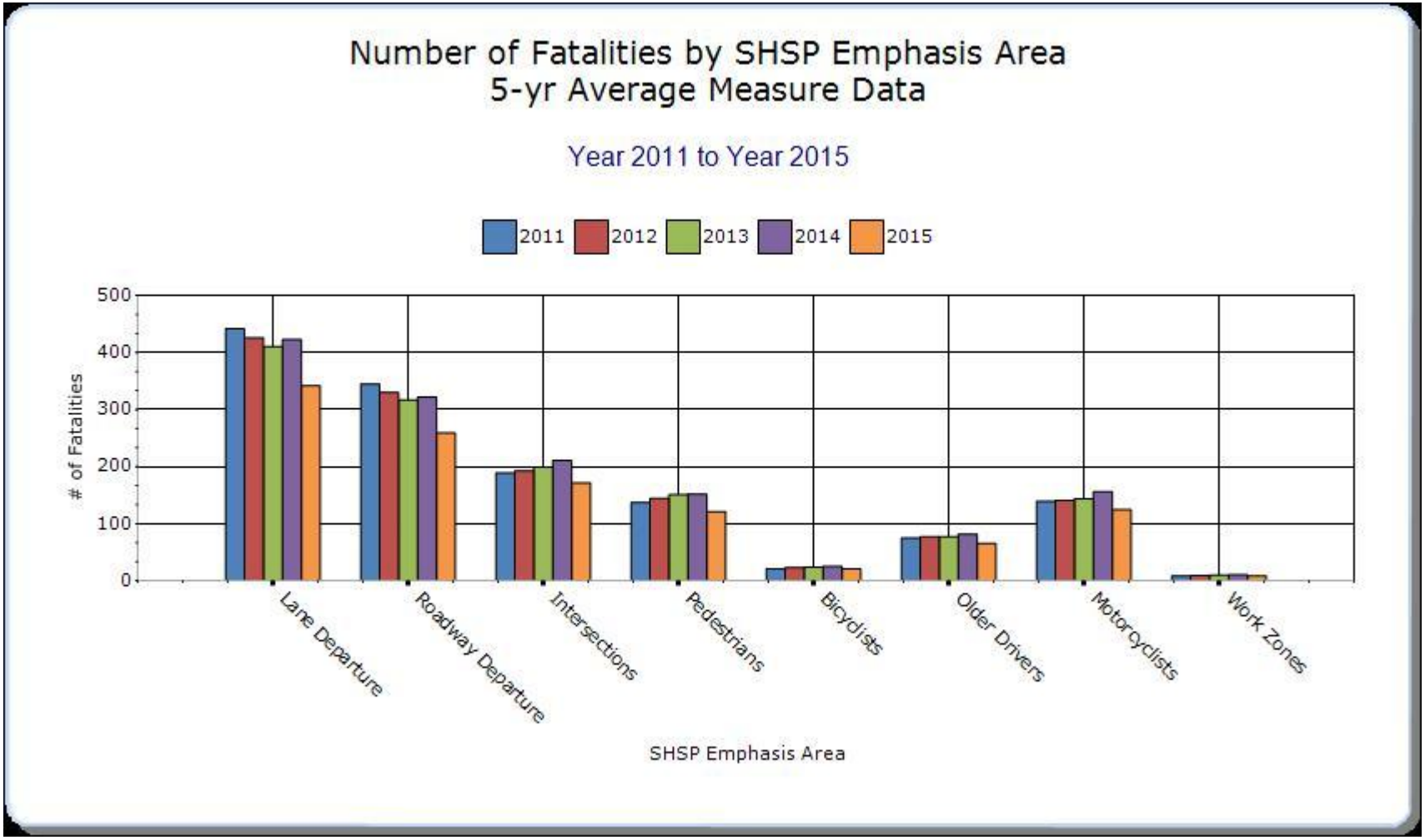
None to Report

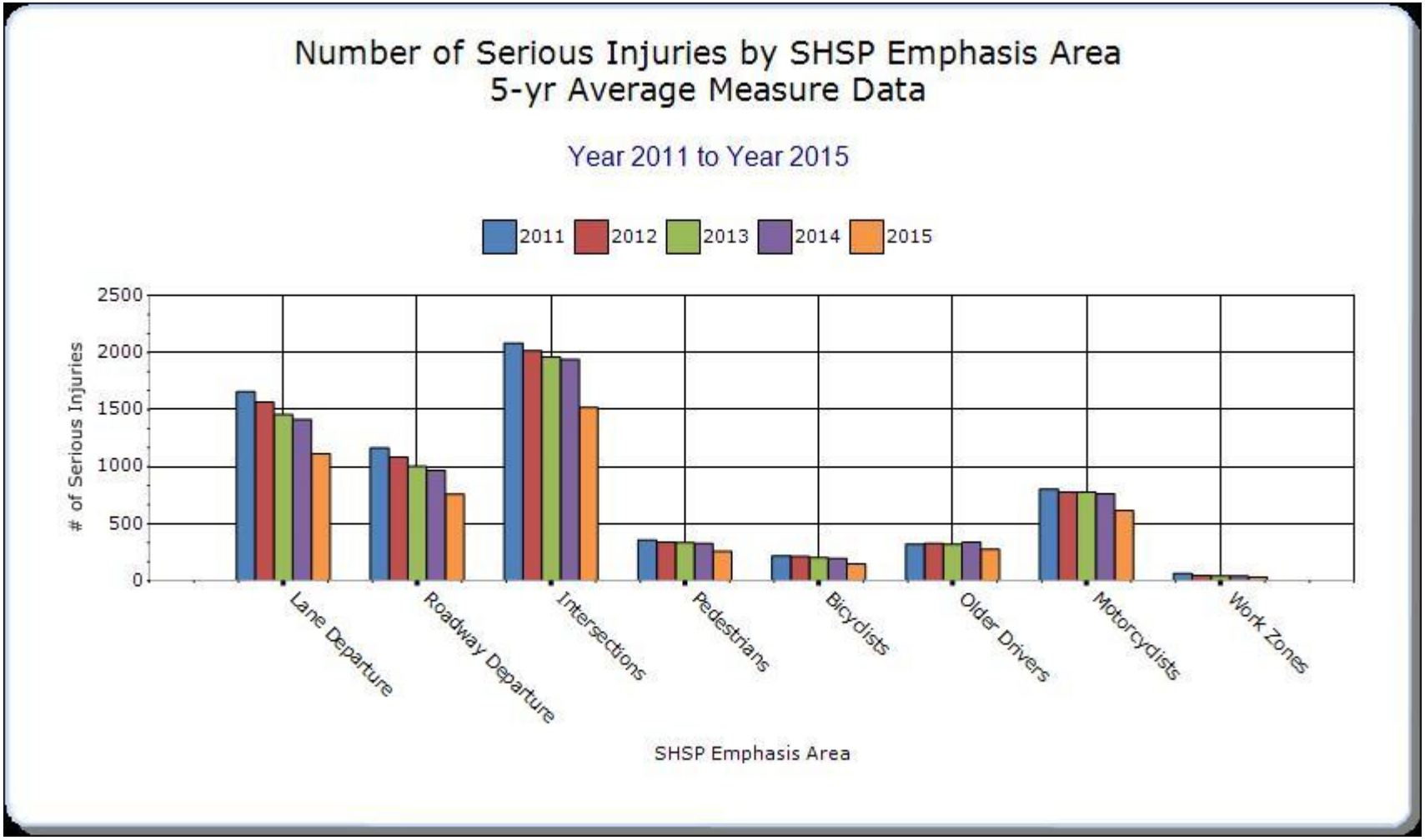
SHSP Emphasis Areas

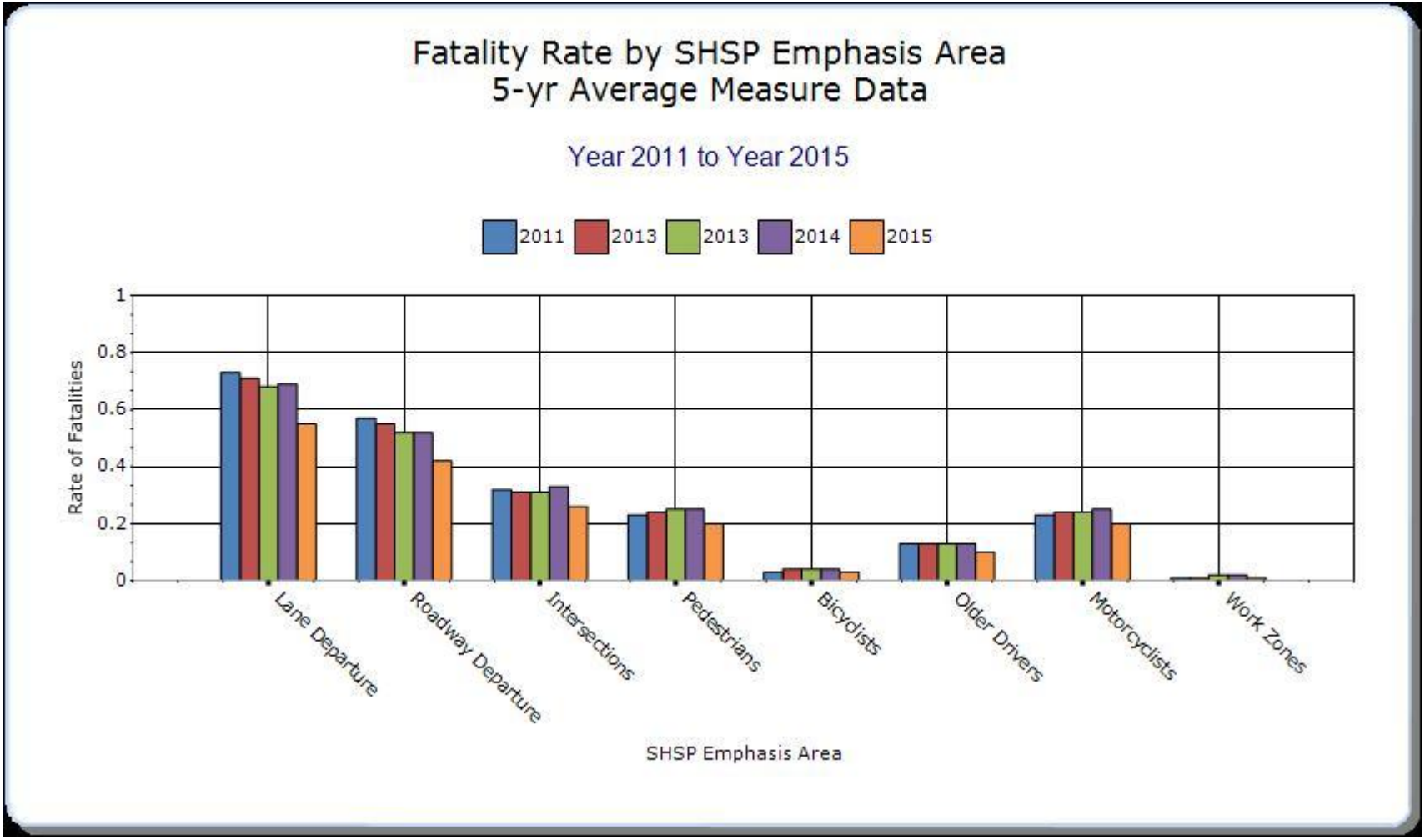
32. Present and describe trends in SHSP emphasis area performance measures.

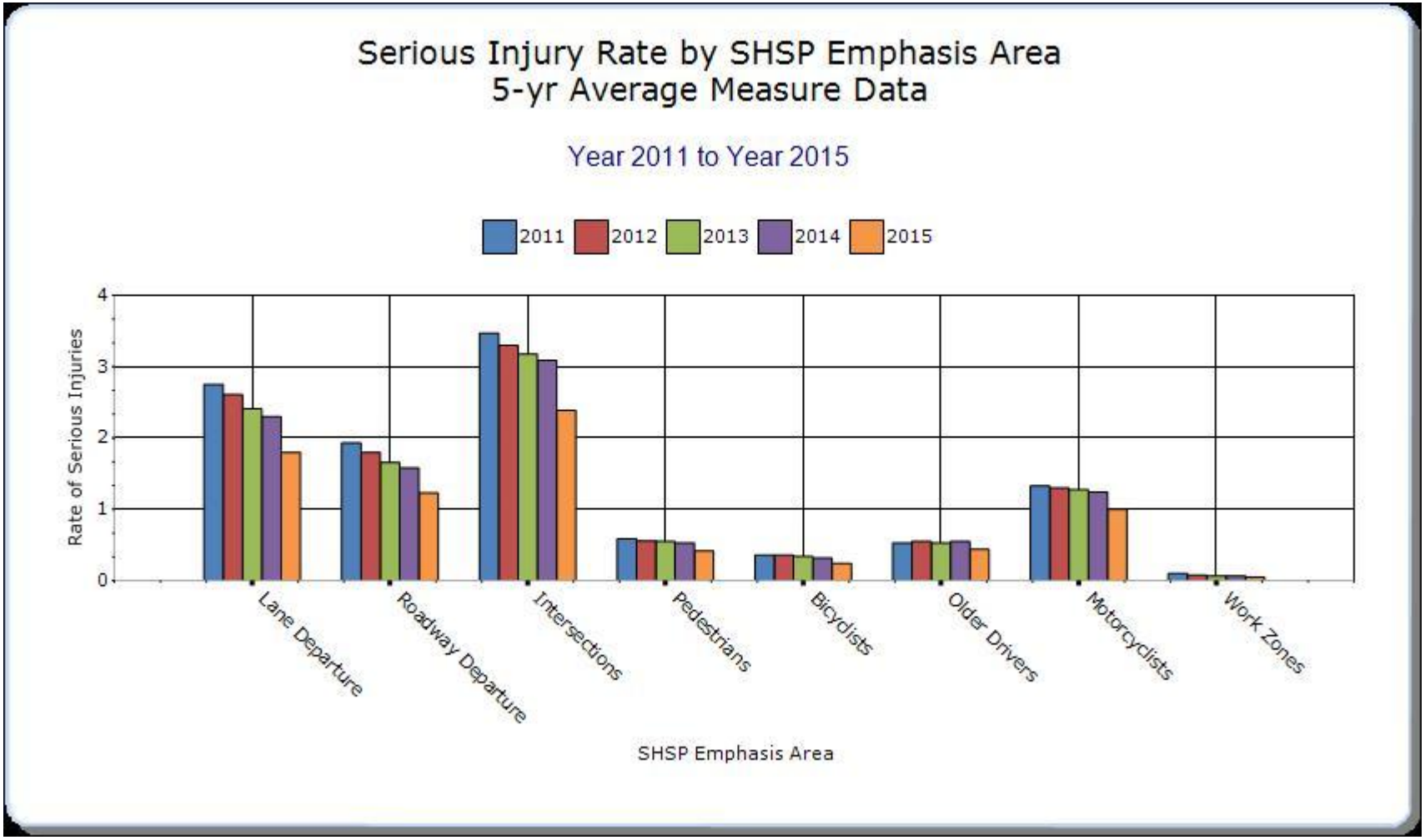
Year - 2015

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)
Lane Departure		341.6	1112	0.55	1.8			
Roadway Departure		258.8	759.2	0.42	1.23			
Intersections		171.6	1520	0.26	2.39			
Pedestrians		121.2	259.4	0.2	0.42			
Bicyclists		20.8	146.6	0.03	0.24			
Older Drivers		65.4	274.4	0.1	0.44			
Motorcyclists		124.6	616.8	0.2	1			
Work Zones		8.6	32.2	0.01	0.05			


Number of Fatalities by SHSP Emphasis Area
5-yr Average Measure Data
Year 2011 to Year 2015
2011
2012
2013
2014
2015
500
400
300
200
100
0
# of Fatalities
Lane Departure
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
SHSP Emphasis Area


Number of Serious Injuries by SHSP Emphasis Area
5-yr Average Measure Data
Year 2011 to Year 2015
2011
2012
2013
2014
2015
# of Serious Injuries
2500
2000
1500
1000
500
0
Lane Departure
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
SHSP Emphasis Area


Fatality Rate by SHSP Emphasis Area
5-yr Average Measure Data
Year 2011 to Year 2015
2011
2013
2013
2014
2015
Rate of Fatalities
1
0.8
0.6
0.4
0.2
0
Lane Departure
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
SHSP Emphasis Area



Groups of similar project types

33. Present the overall effectiveness of HSIP subprograms.

Year - 2015

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)
Roadway Departure		258.8	759.2	0.42	1.23			

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)
SKIP	Data not available.							

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

None

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)
Data N/A														

Optional Attachments

Sections	Files Attached

Glossary

5 year rolling average means the average of five individual, consecutive annual points of data (e.g. annual fatality rate).
Emphasis area means a highway safety priority in a State's SHSP, identified through a data-driven, collaborative process.
Highway safety improvement project means strategies, activities and projects on a public road that are consistent with a State strategic highway safety plan and corrects or improves a hazardous road location or feature or addresses a highway safety problem.
HMVMT means hundred million vehicle miles traveled.
Non-infrastructure projects are projects that do not result in construction. Examples of non-infrastructure projects include road safety audits, transportation safety planning activities, improvements in the collection and analysis of data, education and outreach, and enforcement activities.
Older driver special rule applies if traffic fatalities and serious injuries per capita for drivers and pedestrians over the age of 65 in a State increases during the most recent 2-year period for which data are available, as defined in the Older Driver and Pedestrian Special Rule Interim Guidance dated February 13, 2013.
Performance measure means indicators that enable decision-makers and other stakeholders to monitor changes in system condition and performance against established visions, goals, and objectives.
Programmed funds mean those funds that have been programmed in the Statewide Transportation Improvement Program (STIP) to be expended on highway safety improvement projects.
Roadway Functional Classification means the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide.
Strategic Highway Safety Plan (SHSP) means a comprehensive, multi-disciplinary plan, based on safety data developed by a State Department of Transportation in accordance with 23 U.S.C. 148.
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.