Highway Safety Improvement Program

Data Driven Decisions

Ohio
Highway Safety Improvement Program
2016 Annual Report

Prepared by: OH

Disclaimer

Protection of Data from Discovery & Admission into Evidence

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

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

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Executive Summary

One of the greatest challenges facing Ohio is reducing the number of fatalities and injuries and the costs associated with traffic crashes statewide. In 2015, Ohio had 1,110 traffic deaths and 9,079 serious injuries, representing a 10% and 3% increase respectively compared to 2014. While deaths rose across all crash categories, Ohio saw significant increases in deaths involving Older Drivers, Young Drivers, Commercial Motor Vehicles, Pedestrians, and Bicycles. Work Zone related deaths nearly doubled.

Despite these numbers, Ohio has made significant improvements in highway safety over the past several years. Since 2006, Ohio fatalities have decreased 10%; serious injuries decreased 15%; all injuries decreased 12%; and all crashes decreased 10%.

In addition to the emotional impact, the economic cost to Ohio is about $16 billion per year in lost wages, increased health care and other related costs. To reduce crashes and injuries, and save lives, the Ohio Department of Transportation is working with the Department of Public Safety, the public and local, state and federal agencies to: identify and improve high-crash and severe-crash locations through engineering; enforce traffic laws; and promote safe driving behavior through public education.

To reduce crashes and injuries, and save lives, the Ohio Department of Transportation routinely works with local, state and federal safety advocates to:
• Identify and improve locations with potential for safety improvement (physical construction projects)
• Enforce traffic laws
• Promote safe driving behavior through public education

Many fatalities are preventable. Hundreds of lives could be saved each year if all motorists used a seatbelt, drove sober and traveled at appropriate speeds.

Ohio Updates Strategic Highway Safety Plan (SHSP)
Ohio has also been fully engaged in updating the state's Strategic Highway Safety Plan, which was completed and approved by FHWA in 2015.

The SHSP is a comprehensive statewide plan that identifies the greatest causes of serious injuries and deaths on Ohio roads. It establishes common goals, priorities and strategies using data; identifies and tracks investments across organizations; and helps Ohio leverage and maximize its resources to prevent injuries and save lives.

The plan was developed in collaboration with local, state, federal and private sector organizations from a variety of traffic safety disciplines, including engineering, education, enforcement and emergency response. These stakeholders developed a comprehensive plan

that focuses on existing and emerging crash trends, and safety for all road users, including cars, trucks, trains, motorcyclists, pedestrians and bicyclists.

Based on this stakeholder input, Ohio identified four emphasis areas and 15 subareas where multi-agency coordination and collaboration is critical to saving lives. Over the next several years, Ohio organizations are committed to making investments that:

• *Improve the quality, accuracy, timeliness and availability of crash, roadway and emergency care data;*
• *Reduce the occurrence and severity of roadway departure, intersection, rear end collisions and highway/railroad crossing crashes;*
• *Address high-risk drivers and behaviors such as young and older drivers, impaired driving, low seat belt use, distracted driving and excessive speed; and*
• *Address motorcycle and bicycle riders, pedestrians and commercial vehicles, which are more likely to be involved in serious crashes.*

These emphasis areas represent the greatest threat to safety and are the cause of most serious injuries and deaths on Ohio roads.

Ohio Creates Statewide Action Team to Combat Rise in Older Driver Deaths
In 2015, Ohio experienced a 23% increase in older-driver related deaths compared to 2014. There were 259 deaths involving drivers over the age of 64, which is the highest level in a decade.

Nationally, demographers estimate that 10,000 people a day will turn 60 between 2011 and 2029. These people will likely live and drive longer than their predecessors, and many will do so with visual, cognitive and physical impairments.

Ohio has already seen an increase in licensed drivers over the age of 60. Over a five-year period, the number of licensed drivers over the age of 60 grew by 30%. It was the largest increase among any other age group in the state.

As a result, ODOT is working with MPOs, the Ohio Department of Aging and other organizations to convene an action team this fall to examine older driver safety issues. The committee will likely meet about four times to review historical crash trends and other data, discuss best practices and prioritize strategies for implementation.

Ohio Kicks Off New Award Program
Ohio's Strategic Highway Safety Plan Steering Committee has established a new awards program called "The Safetys" to recognize the hard work and collaboration necessary to reach "Toward Zero Deaths."

The award will recognize the efforts of regional traffic safety teams that are collaborating to drive down traffic deaths and serious injuries across Ohio. Winners will be selected by a multi-

disciplinary team that will consider the effectiveness of the activity or program, and how well it contributes to Ohio's SHSP and TZD efforts.

Awards will be given on a quarterly basis at regional "TZD Network" meetings, which will feature a speaker. Winners will receive $3,000 that they can use to promote traffic safety issues in their region. Ohio will have to use state safety funds to support these efforts.

Ohio Using Freeway and Portable Signs to Publicize Traffic Deaths
In the summer of 2015, Ohio expanded its use of freeway and portable message signs to make the public and media aware of the significant increase in traffic deaths.

Each week, the department posted a message regarding the number or percentage increase in traffic deaths, and paired it with a NHTSA or state-supported message, such as "Drive Sober or Get Pulled Over." ODOT also sent a statewide email to ODOT staff, Metropolitan Planning Agencies, Safe Communities, and other traffic safety partners that encouraged them to share the message across multiple platforms (Facebook, Twitter, etc.) and provided statistics and information to build on the weekly message.

While it's difficult to prove the effort made a difference in reducing traffic deaths, our tracking shows we made significant progress in slowing the overall increase in 2015. We started the freeway and portable message campaign in July with 19% more traffic deaths than in 2014. We finished the year at 10% more.

A multi-disciplinary committee met recently and decided that Ohio will continue this campaign in 2016. In addition, Ohio has taken the following steps:
• Established a multi-agency committee to review and develop campaign messages 3-6 months in advance.
• Ohio will continue to support established messages, such as "Click It or Ticket." But, we plan to include a few creative messages to generate "buzz."
• Messages will be posted twice a month (one weekday and a full weekend), instead of each week, to avoid excessive repetition.
• We are establishing a website to support the campaign, so our partners can download materials for distribution through their own outreach networks.
• We plan to provide more detailed guidance on when and where to use portable signs in support of statewide or local traffic safety messages.

ODOT Forms Statewide Committee to Combat Rise in Pedestrian Deaths
In 2015, Ohio experienced a 26.5% increase in pedestrian-related deaths compared to 2014. There were 119 pedestrian-related traffic deaths, which tied with 2012 for the highest number of pedestrian-related traffic deaths in the past decade.

As a result, ODOT and the Ohio Department of Health convened a statewide committee to examine pedestrian and bicycle safety issues. The committee included about 40 representatives from major bicycle advocacy groups, the Ohio Department of Aging, and local

transportation and planning agencies from across the state. The committee met three times in the past six months to review historical crash trends and other data, discuss best practices and prioritize strategies.

Some of the committee's recommendations include:
• Work with government agencies to adopt policies that encourage building sidewalks, crosswalks and other infrastructure that provides safe places for people to walk.
• Improve data collection techniques to better pinpoint where infrastructure is needed or populations are under served.
• Educate the public on the rules of the road – yielding to pedestrians, walking against traffic, appropriate places to cross, etc. Anecdotally, we think pedestrian travel is on the rise, and we need to develop a culture of mutual respect.

Over the past decade, ODOT and other government agencies have been increasing the amount of money spent on building and improving pedestrian infrastructure.
• Between 2010 and 2014, ODOT spent about $36M on sidewalks and $105M on bikeways/paths, which are also used by pedestrians.
• The department spends millions more on countdown pedestrian displays, sign upgrades, special crossing beacons and enhanced crosswalks that also improve pedestrian safety.

ODOT Takes Another Step in Integrating the HSM into Project Development
ODOT is revising the project development, design exception and resurfacing accident analysis processes to incorporate HSM principles and practices. The goal is to encourage ODOT staff and local partners to consider safety improvements in all project planning from minor resurfacing to major new projects.

To advance this goal, ODOT has created Safety Integrated Project Maps for each county. These maps identify Priority Safety Locations, where safety improvements should be considered when programming a project that overlaps one or more of these areas. (Note: The maps include all local and state roads except for low volume municipal roads.)

Locations are prioritized in red and blue. Red has a high priority and may qualify for Safety funding to make improvements. Blue has a lower priority, and districts are encouraged to explore low-cost safety improvements with their own forces and funds.

If a project qualifies for safety funds, an ODOT district office may request funding up to $500,000 by submitting an abbreviated safety application. These applications can be submitted and reviewed anytime throughout the year. Requests under $500,000 will be reviewed by ODOT Safety Staff to weigh the relative benefits of the safety improvement versus the cost. Requests in excess of $500,000 may be required to follow the bi-annual safety funding application process. This determination will be made by the Safety Program Manager on a case-by-case basis.

Introduction

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

Program Structure

Program Administration

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

Central

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

Local road safety improvements are a focus of both Ohio's SHSP and HSIP. Through our close collaboration with the Local Technical Assistance Program, County Engineers Association and Metropolitan Planning Organizations, we have been expanding training, technical assistance, and funding opportunities available to our local partners.

This collaboration begins with local involvement in developing and implementing Ohio's SHSP. Our plan focuses on the safety of all public roads and all road users, including cars, trucks, trains, motorcycles, pedestrians and bikes.

Ohio has formed a statewide steering committee with local government representation and involvement. This committee meets quarterly to 1) review crash trends and 2) discuss key strategies being implemented across agencies and jurisdictions to reduce fatalities and serious injuries on all Ohio roads. These agencies are then tasked with sharing information and resources with other safety organizations throughout Ohio.

Ohio has identified four emphasis areas in the plan based on crash data:
1. Serious Crash Types.
2. High Risk Drivers and Behaviors
3. Special Vehicles and Roadway Users.
4. Data.

These emphasis areas were chosen because they represent the greatest causes of serious injuries and deaths on Ohio roads. A complete listing of target areas and strategies are elaborated in the Highway Safety Improvement Program implementation section of this report, prior to the project listings.

Local governments can qualify for funding and technical assistance to address emphasis areas through HSIP programs administered by ODOT and the County Engineers Association.

ODOT uses the SHSP as a basis for developing its HSIP. ODOT has one of the largest programs in the country, dedicating about $102 million annually for engineering improvements at high-crash and severe-crash locations across the state. We also dedicate a portion of the funding for low-cost, systematic and systemic safety improvements that prevent roadway departure and intersection crashes identified in the SHSP.

This funding can be used by ODOT District Offices or local governments to improve safety on any public roadway. While the majority of HSIP investments focus on engineering improvements, ODOT uses a portion of the state funding to supplement education (zerodeaths.ohio.gov) and enforcement programs that encourage safer driving (Federal HSIP funding is no longer available for education).

To qualify for funding, local governments identify and study high-crash or serious injury crash locations within their own jurisdiction. To determine the best countermeasures for these locations, local governments typically conduct an engineering analysis that includes a review of existing roadway conditions and crash reports. This analysis will help identify common crash patterns and determine the best strategies to reduce crashes.

Projects sponsors are encouraged to examine a full range of options from short-term, low-cost strategies, such as new signs, pavement markings and drainage improvements to mid-cost, mid-term strategies such as new traffic signals, turn lanes and realignments.

Local governments may pay for these improvements through their annual budget or they can seek money each spring (April 30) and fall (September 30) through ODOT's Highway Safety Improvement Program. A multi-discipline committee at ODOT headquarters reviews all applications and supporting safety studies. The committee can approve a proposal, select a different safety strategy or request further study before allocating money. ODOT spends approximately $85 million dollars in safety funds annually through this program.

Once funding is secured, safety projects are scheduled for construction. How quickly projects proceed to construction depends on the available funding and complexity of the project. Short-term, low-cost projects can be implemented within a few months. Other projects that require environmental mitigation, complex engineering design and/or utility and right of way relocation may take several years. In all cases, ODOT encourages sponsors to act as quickly as possible. Upon project completion, the department monitors locations to make sure the improvements are reducing crashes as designed.

ODOT also provides an additional $12 million, separate from $102 million, annually to the County Engineers Association of Ohio (CEAO) to make safety improvements on county-maintained roads. This funding can be used to make spot and systemic improvements tied to the SHSP. Applications are accepted once a year and scored using criteria developed in conjunction with ODOT.

The CEAO subdivides the $12 million in to several smaller funding categories. Each county is permitted to program eligible construction projects up to $5 million overall for spot safety improvements. In addition to spot safety improvements, CEAO provides up to $300,000 per county for each guardrail project, $150,000 per county for each pavement marking project, $75,000 per county for each raised pavement marker project, and $15,000 per county for curve signage upgrade projects.

ODOT continues to look for opportunities for deployment of safety improvements. With a data driven focus, we have been able to use innovative contracting practices and partnerships through LTAP and CEAO to improve safety performance on local maintained roads. We have developed creative methods to quickly produce signage for local governments and allow them to install them with their own forces. This methodology is being used to upgrade signage in curves to prevent roadway departure crashes and around schools to make walking and biking safer for kids.

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

Design
Planning
Maintenance
Operations
Other-Local Technical Assistance Program (LTAP)

Briefly describe coordination with internal partners.

ODOT's Office of Program Management accepts applications – accompanied by safety studies – from ODOT District Offices and local governments twice a year. Applications must be submitted through the District Offices, which have a multi-disciplinary committee that reviews and approves them for Central Office consideration. Projects are then reviewed and selected for funding by the Safety Review Committee in Central Office, which includes expertise in safety, planning, geometric design, and traffic operations.

Priority is given to any project that improves safety at a roadway location with high frequency, severity and rate of crashes. Projects are scored based on:
• Expected Crash Frequency
• Ratio of Observed Fatal and Serious Injuries to Observed Total Crashes
• Relative Severity Index
• Equivalent Property Damage Only Index
• Volume to Capacity Ratio
• Benefit-Cost Ratio (anticipated savings in crash costs, property damage, injuries and fatalities relative to the cost of the improvement plus cost of maintenance for the life of the project).
• Highway Safety Improvement Program Funding Percentage

Funding awarded through the program is used to make traditional safety improvements at spot locations, such as intersections, and along sections or corridors throughout the state. Consideration is also given to lower-volume, lower-crash local roads with identified needs and cost-effective countermeasures.

Ohio's program also works collaboratively with other local, state and federal agencies to develop multi-agency safety initiatives through the Strategic Highway Safety Plan. These efforts allow ODOT to pair engineering expertise with education and enforcement initiatives that play a key role in reducing injuries and deaths.

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

Metropolitan Planning Organizations
Governors Highway Safety Office
Local Government Association
Other-Rural Transportation Planning Organizations

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

Other-Abbreviated HSIP Application Process

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

Ohio uses a focused approach to safety that targets resources based on the greatest need and greatest opportunity for improvements. We also promote the use of proven, cost-effective, systemic and systematic safety solutions that target critical, severe-crash types such roadway departure and intersections crashes. These focus areas are embodied in both the HSIP and the state's Strategic Highway Safety Plan.

We advanced the HSIP through the balanced deployment and implementation of a host of traditional spot safety investments and a host of systemic and systematic safety investments.

ODOT's Highway Safety Improvement Program and Safety Analyst Implementation
Each year, ODOT staff reviews the top safety locations in Ohio. Ohio is one of the first states in the country to fully implement Safety Analyst and use it to prioritize safety locations across Ohio. Safety Analyst uses state-of-the-art statistical methodologies to identify roadway locations and safety improvements with the highest potential for reducing crashes. The software systems flags spot locations

and road segments that have higher-than-predicted crash frequencies. It also flags locations for review based on crash severity. This methodology is more efficient and cost effective and will allow the department to study fewer locations yet address more crashes each year.

ODOT has developed six priority lists based on rural and urban roadway types. . The urban system covers all streets, roads, and highways located within urban boundaries designated by the U.S. Census Bureau. The Bureau defines two types of urban areas based on population. Small urban areas are urban places with a population or 5,000 or more and not located within any urbanized area. An urbanized area is an area with a population of 50,000 or more. As might be expected, the rural functional classification system covers all other streets, roads, and highways that are not located within the boundaries of small urban and urbanized areas. Approximately, $80 million is used to fund projects through this program.

The priority lists are:

1. Rural Intersection Peak Searching Excess Locations: These locations were selected because they have a higher-than-predicted crash frequency for each intersection. Approximately, the Top 50 locations will be studied.
2. Rural Non-Freeway Peak Searching Excess Segment Locations: These locations were selected because they have a higher-than-predicted crash frequency for this roadway type. Approximately, the Top 50 locations will be studied. Only crashes indicated on the OH-1 as being non-intersection crashes were included in this analysis.
3. Rural Freeway Peak Searching Excess Locations: These locations were selected because they have a higher-than-predicted crash frequency for this roadway type or interchange location. Approximately, the Top 50 locations will be studied.
4. Urban Intersection Peak Searching Excess Locations: These locations were selected because they have a higher-than-predicted fatal and injury crash frequency for each intersection. Approximately, the Top 50 locations will be studied.
5. Urban Non-Freeway Peak Searching Excess Segment Locations: These locations were selected because they have a higher-than-predicted fatal and injury crash frequency for this roadway type. Approximately, the Top 50 locations will be studied. Only crashes indicated on the OH-1 as being non-intersection crashes were included in this analysis.
6. Urban Freeway Peak Searching Excess Locations: These locations were selected because they have a higher-than-predicted fatal and injury crash frequency for this roadway type or interchange location. Approximately, the Top 50 locations will be studied.

Highway Safety Improvement Program Abbreviated Application

In 2016, ODOT began a process to implement low cost safety improvements faster. These requests are less than $500,000 that are either standalone projects or existing projects located on a priority location. This is part of an initiative to make safety improvements on all programmed projects. We anticipate spending approximately $5 million annually for these types of improvements.

Systemic and Systematic Safety Program

The Ohio Department of Transportation spends approximately $15 million annually of the $102 million program on systemic and systematic safety improvements. These are safety improvements that can be installed across hundreds of road miles for a relatively small public investment. Systematic safety improvements are low cost improvements that are complete at similar locations to address a specific type of crash pattern. Systemic safety improvements are those improvements that are constructed

system-wide to reduce the likelihood of a crash of occurring based on roadway features, traffic volumes or other features such as speed limit or land use type.

Examples of systemic and systematic project types are Curve Signing Upgrade, Edge Line Rumble Stripes, Cable Barrier, Signal Upgrade, Intersection Signing Upgrade, Wider Pavement Markings, and Guardrail End Treatment Upgrade Projects.

Safe Routes to School Program

ODOT's use $4 million from the Transportation Alternatives Program to fund Ohio's Safe Routes to School Program. Again, this is separate and in addition to the $102 million ODOT HSIP program. Funds can be used on any public roadway as long as the school has completed a School Travel Plan. The School Travel Plan outlines where investments should be made for a specific school district.

Other Programs

Small portions of ODOT's state funding ($102 million) are used for work zone enforcement, OVI checkpoints, and other educational opportunities (Federal HSIP funding is no longer available for education or enforcement activities). Although money is not specifically set aside for the High Risk Rural Roads Program in Ohio at this time, we still encourage agencies to apply for funding through our traditional application process. Any projects that are prioritized based on the HRRR Program are funded through the ODOT's HSIP Program ($102 million).

ODOT also combines HSIP funding with other funding sources (such as MPO and ORDC) to make safety improvements.

Program Methodology

Select the programs that are administered under the HSIP.

Other-State HSIP Program	Other-CEAO HSIP Program	Other-State High Risk Rural Road
Other-State Abbreviated HSIP Application		

Program: **Other-State HSIP Program**
Date of Program Methodology: **3/1/2016**

What data types were used in the program methodology?

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

What project identification methodology was used for this program?
Expected crash frequency with EB adjustment
EPDO crash frequency with EB adjustment
Relative severity index
Excess expected crash frequency with the EB adjustment
Other-Volume to Capacity Ratio
Other-(Total Fatal and Serious Inuries) / Total Crashes

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?
Competitive application process
selection committee

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	1
Available funding	3
Cost Effectiveness	2

Program: **Other-CEAO HSIP Program**
Date of Program Methodology: **7/1/2011**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
All crashes	Traffic	Other-Rural County Highway System
Fatal and serious injury crashes only		

What project identification methodology was used for this program?
Crash frequency
Equivalent property damage only (EPDO Crash frequency)
Relative severity index
Crash rate
Other-Amount of Funding Requested

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?
Competitive application process
selection committee

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	1
Available funding	3
Cost Effectiveness	2

Program: **Other-State High Risk Rural Road**
Date of Program Methodology: **6/1/2008**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
Other-Fatal and All Injury Crashes Only	Volume	Functional classification

What project identification methodology was used for this program?
Expected crash frequency with EB adjustment
EPDO crash frequency with EB adjustment
Relative severity index
Excess expected crash frequency with the EB adjustment
Other-(Fatal and Serious Injuries) / Total Crashes

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?
selection committee

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	1
Available funding	3
Cost Effectiveness	2

Program: **Other-State Abbreviated HSIP Application**
Date of Program Methodology: **5/1/2016**

What data types were used in the program methodology?

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

What project identification methodology was used for this program?
Crash frequency
Expected crash frequency with EB adjustment

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?
selection committee

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).

Ranking based on B/C	1
Available funding	3
Cost Effectiveness	2

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

15%

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

Cable Median Barriers
Upgrade Guard Rails
Add/Upgrade/Modify/Remove Traffic Signal
Other-ODOT - Roadway Departure
Other-ODOT - Wet Pavement Locations
Other-ODOT - Intersection Signage
Other-CEAO - Upgrade / Install Guardrail
Other-CEAO - Upgrade Pavement Markings
Other-CEAO - Upgrade / Install RPMs
Other-CEAO - Upgrade / Install Curve Signage
Other-LTAP - Township Signage Program

What process is used to identify potential countermeasures?

Engineering Study
Road Safety Assessment
Other-AASHTOWare Safety Analyst

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

Highway Safety Manual

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

Reporting period for Highway Safety Improvement Program funding.

State Fiscal Year

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

Funding Category	Programmed*		Obligated	
HSIP (Section 148)	$79,073,036.00	32 %	$86,126,865.00	49 %
Penalty Transfer - Section 154	$14,008,899.00	6 %	$14,008,899.00	8 %
Penalty Transfer – Section 164	$14,574,191.00	6 %	$14,574,191.00	8 %
Other Federal-aid Funds (i.e. STP, NHPP)	$86,415,470.00	35 %	$5,122,524.00	3 %
State and Local Funds	$56,365,095.00	23 %	$56,365,095.00	32 %
Totals	$250,436,691.00	100%	$176,197,574.00	100%

How much funding is programmed to local (non-state owned and operated) safety projects?
$27,216,129.00
How much funding is obligated to local safety projects?
$24,464,929.00

How much funding is programmed to non-infrastructure safety projects?
$392,055.00
How much funding is obligated to non-infrastructure safety projects?
$178,405.00

How much funding was transferred in to the HSIP from other core program areas during the reporting period?
$0.00
How much funding was transferred out of the HSIP to other core program areas during the reporting period?
$0.00

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

In FFY 2014, Ohio obligated 98% of its HSIP funds. For FFY 2015, Ohio has obligated approximately 98.5%. ODOT's safety program is making great progress working with our SHSP partners to reduce fatal and serious injury crashes in Ohio.

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

Ohio uses the Strategic Highway Safety Plan to guide project selection for the HSIP Program. The following contains a complete list of Emphasis Areas, Targets Areas, and Strategies contained in the current plan posted at the following link: zerodeaths.ohio.gov

A connection to the SHSP has been provided at the end of each SHSP Strategy field in the project listing table in the following section. An example of improve signage or install warning signs for a fixed object crash location would be coded as “II-A-4”.

Emphasis Area I: Serious Crash Types

Target Area A: Roadway Departure
Strategy 1: Advance the use of new technology and roadway designs to address roadway departure crashes.
Strategy 2: Implement proven and low-cost systemic and systematic safety countermeasures to reduce roadway departure crashes (e.g., improved signage on curves, friction treatments in spot locations and centerline and edge line rumble stripes).

Strategy 3: Design roadside to include appropriate hardware (e.g., cable median, crash cushions and guardrail end treatments) or manage trees, road shoulders and other objects along the roadway to minimize the severity of crashes.
Strategy 4: Conduct high visibility enforcement, media campaigns and public outreach on selected corridors with a significant number of severe roadway departure crashes.

Target Area B: Intersection
Strategy 1: Advance the use of new technology and roadway designs that make intersections safer.
Strategy 2: Implement proven and low cost systemic and systematic safety improvements to reduce intersection crashes (e.g., enhancing signs and pavement markings, modifying signals and signal timing, adding turn lanes and controlling access through medians).
Strategy 3: Educate roadway users on the types of crashes that occur at intersections, new intersection types, signals and laws.
Strategy 4: Conduct high visibility enforcement, media campaigns and public outreach at selected locations with a significant number of intersection crashes.

Target Area C: Rear-End Collision
Strategy 1: Advance the use of new technologies and roadway designs that reduce rear end crashes.
Strategy 2: Apply proven and low-cost safety countermeasures to reduce rear end crashes and their severity. Examples include improving the visibility and timing of signals, removing unwarranted signals, installing turn lanes and building medians to control access.
Strategy 3: Provide real-time travel information to motorists so they can make informed decisions about travel routes.
Strategy 4: Remove minor incidents, crashes and debris from the roadway quickly to avoid congestion and secondary crashes.

Target Area D: Highway Railroad Crossings
Strategy 1: Expand the use of new and proven crash prevention methods at grade crossings.
Strategy 2: Establish or expand multi-disciplinary teams to examine railroad corridors for improvements and fatal crash locations for quick corrective action.
Strategy 3: Expand the marketing and adoption of Ohio's Grade Crossing Upgrade Programs (e.g., Federal and State Light and Gate projects, Supplemental Enhancements and Crossing Consolidation Programs).
Strategy 4: Expand railroad crossing safety educational opportunities through continued involvement and financial support of highway safety education and enforcement programs (e.g., Operation Lifesaver).
Strategy 5: Develop or expand the County Task Force Program to encourage grass roots interest in railroad safety and to identify problem locations.
Strategy 6: Encourage accurate and timely data reporting for database updates by all stakeholders.

Emphasis Area II: High Risk Drivers and Behaviors

Target Area A: Impaired Driver
Strategy 1: Encourage accurate and timely data reporting for database updates by all stakeholders.
Strategy 2: Expand earned media and outreach of impaired driving beyond the traditional mass media campaign by using innovative and unique delivery methods that reach specific segments of the targeted population.
Strategy 3: Sustain a data-driven and high visibility impaired driving enforcement program.

Strategy 4: Increase publicity of “trace back” investigations so sellers, servers, providers and the public understand the consequences of over serving or illegally serving alcohol.
Strategy 5: Coordinate impaired driving safety messages developed by multi-agency communication committee.

Target Area B: Seat Belt
Strategy 1: Encourage high visibility seat belt-related enforcement in jurisdictions with a disproportionate number of unrestrained occupant-related fatalities and serious injuries.
Strategy 2: Expand earned media and outreach of seat belt use beyond the traditional mass media campaign by using innovative and unique delivery methods that reach specific segments of the targeted population.
Strategy 3: Expand reach of earned media seat belt use messages to high-risk populations (i.e., teens, rural, and 18-34 year old males).
Strategy 4: Coordinate seat belt safety messages developed by multi-agency communication committee.

Target Area C: Speed
Strategy 1: Encourage high visibility speed-related enforcement in jurisdictions with a disproportionate number of speed-related fatalities and serious injuries.
Strategy 2: Use peer-to-peer programs to reduce speeding and other risky behaviors that contribute to injuries and fatalities among young drivers.
Strategy 3: Set appropriate speed limits and deploy other speed management techniques. (ODOT, locals)

Target Area D: Young Driver
Strategy 1: Use a statewide peer-to-peer program to increase seat belt use and reduce speeding, impaired driving, distracted driving, underage drinking, and other risky behaviors that contribute to injuries and fatalities among teens.
Strategy 2: Implement enforcement programs to reduce risky teen driving behavior.
Strategy 3: Implement community outreach programs to reduce risky teen driving behavior.
Strategy 4: Strengthen the Graduated Driver’s Licensing (GDL) law.
Strategy 5: Coordinate young driver safety messages developed by multi-agency communication committee.

Target Area E: Older Driver
Strategy 1: Establish a new emphasis area (EA) team to examine the crash data, develop strategies and make recommendations for older driver related program and project investments.
Strategy 2: Create a comprehensive and coordinated outreach effort that educates older drivers and their caregivers on driving risks and remedies.
Strategy 3: Encourage roadway design and engineering measures that reduce the risks of traffic crashes for older drivers.
Strategy 4: Coordinate older driver messages developed by multi-agency communication committee.

Target Area F: Distracted Driver
Strategy 1: Encourage high visibility enforcement in jurisdictions with a disproportionate number of distracted driving-related fatalities and serious injuries.
Strategy 2: Expand earned media and outreach of distracted driving beyond the traditional mass media campaign by using innovative and unique delivery methods that reach specific segments of the targeted audience.

Strategy 3: Collect distracted driver information/data.
Strategy 4: Collaborate with the public and private sectors on new ideas to reduce distracted driving crashes.
Strategy 5: Coordinate distracted driver messages developed by multi-agency communication committee.

Emphasis Area III: Special Vehicles and Roadway Users

Target Area A: Bicycle Riders

Strategy 1: Educate transportation partners, engineers and local governments on how to incorporate bicycle facilities and accommodations into community projects.
Strategy 2: Implement proven countermeasures to reduce bicycle crashes.
Strategy 3: Conduct education and outreach to increase law enforcement's and all roadway users' understanding of bicycle laws.
Strategy 4: Advance use of new technology and roadway designs that make travel safer for bicyclists
Strategy 5: Improve bicycle usage and problem identification data.
Strategy 6: Coordinate bicyclist safety messages developed by multi-agency communication committee.

Target Area B: Pedestrians

Strategy 1: Educate transportation partners, engineers and local governments on how to incorporate pedestrian facilities and accommodations in community projects.
Strategy 2: Implement proven countermeasures to reduce pedestrian crashes.
Strategy 3: Conduct education and outreach to increase understanding and enforcement of pedestrian laws for law enforcement and all roadway users.
Strategy 4: Advance use of technology and roadway designs that make travel safer for pedestrians.
Strategy 5: Increase the knowledge of safety practices for target populations that are likely to walk and use transit.
Strategy 6: Improve pedestrian usage and problem identification data.
Strategy 7: Coordinate pedestrian safety messages developed by multi-agency communication committee.

Target Area C: Commercial Motor Vehicles

Strategy 1: Engage in high visibility traffic enforcement in and around commercial motor vehicles.
Strategy 2: Conduct driver/vehicle inspections to ensure commercial motor vehicles are in proper working order and drivers are properly credentialed, experienced and fit for duty.
Strategy 3: Review company operations to ensure compliance with state and federal safety and hazardous materials regulations.
Strategy 4: Educate and review new motor carrier operations to ensure proper understanding and compliance with motor carrier and hazardous materials safety regulations.
Strategy 5: Provide education and outreach to the public and industry on how to safely operate in and around commercial motor vehicles.
Strategy 6: Identify high-crash corridors and initiate appropriate engineering and enforcement interventions.
Strategy 7: Coordinate commercial motor vehicle safety messages developed by multi-agency communication committee.

Target Area D: Motorcycles

Strategy 1: Conduct high visibility enforcement to address speeding and impaired riding in jurisdictions whose problem identification indicates a motorcycle fatal/serious injury crash problem.
Strategy 2: Develop and implement initiatives and programs to increase training of untrained and unendorsed riders on skills related to crash causation.
Strategy 3: Implement Ride SMART (Sober, Motorcycle endorsed, Alert, Right gear and Trained) paid media and outreach programs to motorcyclists and to motorists using Share the Road messages.
Strategy 4: Coordinate motorcycle safety messages developed by multi-agency communication committee

Emphasis Area IV: Data

Target Area A: Data

Strategy 1: Improve crash data collection.
Strategy 2: Improve the accuracy and completeness of crash location information for all public roads.
Strategy 3: Broaden data collection practices to include all roadway users (pedestrians, bicyclists, motorcyclists, older drivers, etc.).
Strategy 4: Maintain and link data systems from different stakeholders and improve access to linked data.
Strategy 5: Develop data analysis methods and tools for use at state, regional and local levels across all stakeholders and analysis skill levels.
Strategy 6: Implement analysis tools that support data-driven decision-making.

General Listing of Projects

List each highway safety improvement project obligated during the reporting period.

Project	Improvement Category	Output	HSIP Cost	Total Cost	Funding Category	Functional Classification	AADT	Speed	Roadway Ownership	Relationship to SHSP	
										Emphasis Area	Strategy
80665 - SUM Lauby Road	Roadway Roadway widening - travel lanes	1.13 Miles	387000	3899876.56	HSIP (Section 148)	Urban Minor Collector	10240	45	City of Municipal Highway Agency	Roadway Departure	Widening travel lanes to address issue of roadway
94717 - WAR CR 23 0.26	Intersection geometry Auxiliary lanes - add left-turn lane	1 Numbers	651491.56	693410.4	HSIP (Section 148)	Urban Local Road or Street	7883	40	County Highway Agency	Intersections	Constructing turn lanes to rear end and left turn
95174 - LIC CR VAR PM FY2015	Roadway delineation Longitudinal pavement markings - new	121.5 Miles	122145	122145	HSIP (Section 148)	Rural Minor Collector	0	55	County Highway Agency	Roadway Departure	Adding pavement markings to reduce roadway departu
76282 - FRA US 40 4.69	Roadway Roadway widening - add lane(s) along segment	2.05 Miles	4806610.05	17873528.06	State and Local Funds	Urban Principal Arterial - Other	30728.43	45	City of Municipal Highwa	Intersections	Constructing traveled lanes to

									y Agency		reduce angle and re
93306 - ATB/TRU TSG FY2015 (UPS)	Intersection traffic control Modify traffic signal - miscellaneous/other/unspecified	58 Numbers	380588.8	380588.8	HSIP (Section 148)	Urban Principal Arterial - Interstate	29903.9	70	City of Municipal Highway Agency	Intersections	Installing battery backup units to reduce intersec
95450 - FRA CR11 (ALKIRE RD) AT DEMOREST	Intersection traffic control Modify control - traffic signal to roundabout	1 Numbers	1802108.91	2003343.23	HSIP (Section 148)	Urban Minor Arterial	11310	45	County Highway Agency	Intersections	Constructing a roundabout to reduce angle and rear
92910 - CUY SR 252 04.11 HSP	Roadway Roadway widening - add lane(s) along segment	0.31 Miles	564295.01	1249719	State and Local Funds	Urban Principal Arterial - Other	20098.67	35	City of Municipal Highway Agency	Intersections	Constructing traveled lanes to reduce angle and re
96344 - LUC SR 25 7.01 Reconstr/ Sfty	Intersection traffic control Modify traffic signal - modernization/replacement	18 Numbers	3596373	8201541.77	State and Local Funds	Urban Principal Arterial - Other	26078.1	50	City of Municipal Highway Agency	Intersections	Improving signal operation and visibility to reduc
91024 - TRU Pavement Markings FY15	Roadway delineation Longitudinal pavement markings - new	37.95 Miles	108105.54	108105.54	HSIP (Section 148)	Urban Minor Collector	0	55	City of Municipal Highway	Roadway Departure	Adding pavement markings to reduce

									Agency		roadway departu
96359 - SUM CR 0015 08.44 (Waterloo)	Intersection geometry Auxiliary lanes - modify free-flow turn lane	4 Numbers	692663.1	1258411.5	HSIP (Section 148)	Urban Minor Arterial	10620	35	City of Municipal Highway Agency	Intersections	Removing right turn slip ramps to reduce rear end
88008 - CLA CR 316 1.71 Lower Valley Pk	Shoulder treatments Widen shoulder - paved or other	5.12 Miles	6336457.68	8752607.78	HSIP (Section 148)	Urban Minor Collector	5580	45	City of Municipal Highway Agency	Roadway Departure	Widening shoulder to address issue of roadway depa
89125 - LOG CR VAR GR FY15	Roadside Barrier- metal	2.38 Miles	281298	282298	HSIP (Section 148)	Rural Local Road or Street	0	55	County Highway Agency	Roadway Departure	Installing guardrail to address issue of roadway d
89242 - LUC Dorr/King Roundabout	Intersection traffic control Modify control - two-way stop to roundabout	1 Numbers	41012.81	1095756.91	HSIP (Section 148)	Urban Minor Arterial	6600	50	City of Municipal Highway Agency	Intersections	Constructing a roundabout to reduce angle and rear
89484 - DAR CR VAR PM FY16	Roadway delineation Longitudinal pavement markings - remarking	315.29 Miles	129688	130688	HSIP (Section 148)	Rural Minor Collector	0	55	County Highway Agency	Roadway Departure	Adding pavement markings to reduce

											roadway departu
90521 - STA Fohl / Shepler Roundabout	Intersection traffic control Modify control - two-way stop to roundabout	1 Numbers	22188.8	954509.99	HSIP (Section 148)	Urban Minor Collector	1940	45	City of Municipal Highway Agency	Intersections	Constructing a roundabout to reduce angle crashes
95175 - LIC CR VAR GR FY2015	Roadside Barrier- metal	2 Miles	279150.97	279150.97	HSIP (Section 148)	Rural Minor Collector	0	55	County Highway Agency	Roadway Departure	Installing guardrail to address issue of roadway d
95491 - LOR CR GR FY2015	Roadside Barrier- metal	1 Miles	196033.29	196033.29	HSIP (Section 148)	Rural Minor Collector	400	55	County Highway Agency	Roadway Departure	Installing guardrail to address issue of roadway d
95927 - STA US 0062 38.04/39.50 Signals	Intersection traffic control Modify traffic signal - modernization/replacement	2 Numbers	202987.75	220018.94	HSIP (Section 148)	Urban Principal Arterial - Other	25124	35	City of Municipal Highway Agency	Intersections	Improving signal operation and visibility to reduc
96394 - TRU Howland Township SRTS	Intersection traffic control Modify traffic signal - modernization/replacement	16 Numbers	50000	440400.8	State and Local Funds	Urban Minor Arterial	13910	40	City of Municipal Highway	Intersections	Improving signal operation and visibility

									Agency		to reduc
97369 - GRE VAR Guardrail FY2015	Roadside Barrier- metal	2.42 Miles	283830.6	283830.6	HSIP (Section 148)	Rural Major Collector	0	45	County Highway Agency	Roadway Departure	Installing guardrail to address issue of roadway d
97586 - TUS VAR PM Phase 2	Roadway delineation Longitudinal pavement markings - remarking	147.82 Miles	150000	160881.33	HSIP (Section 148)	Rural Local Road or Street	0	55	County Highway Agency	Roadway Departure	Adding pavement markings to reduce roadway departu
98706 - HEN CR Var PM FY2015	Roadway delineation Longitudinal pavement markings - remarking	194.1 Miles	104838.9	107298.13	HSIP (Section 148)	Rural Local Road or Street	0	55	County Highway Agency	Roadway Departure	Adding pavement markings to reduce roadway departu
76266 - HOL US 62 26.06	Intersection geometry Auxiliary lanes - add two-way left-turn lane	1 Numbers	2138129.38	6431927.43	State and Local Funds	Rural Minor Arterial	8982.18	35	State Highway Agency	Intersections	Constructing a Two Way Left Turn Lane to reduce th
86893 - MED US 0042 18.98	Intersection geometry Through lanes - add additional through lane	0.36 Miles	3360600	6479632.9	HSIP (Section 148)	Rural Principal Arterial - Other	12086.67	45	State Highway Agency	Intersections	Constructing additional through lanes to

											reduce re
84556 - ERI US 0250 01.14	Roadway Roadway widening - add lane(s) along segment	0.75 Miles	2657043	6495901.09	State and Local Funds	Urban Principal Arterial - Other	19062	40	City of Municipal Highway Agency	Intersections	Constructing traveled lanes to reduce angle and re
91888 - BUT SR 748 3.35	Intersection traffic control Modify control - two-way stop to roundabout	1 Numbers	795177.27	811464.27	HSIP (Section 148)	Rural Major Collector	1160	55	State Highway Agency	Intersections	Constructing a roundabout to reduce angle crashes
87249 - SCI SR 139/335 0.52/10.30	Shoulder treatments Widen shoulder - paved or other	7.5 Miles	1162629.3	5502902.87	State and Local Funds	Urban Minor Arterial	7850	25	City of Municipal Highway Agency	Roadway Departure	Constructing wider shoulders to reduce roadway dep
89046 - LAK AUBURN-CRILE CONNECTOR RD	Roadway Roadway - other	0.23 Miles	2935836	11740994.61	State and Local Funds	Urban Principal Arterial - Other	15098.58	55	City of Municipal Highway Agency	Intersections	Constructing connector roadway to reduce angle and
86661 - FRA US 23	Roadway Roadway narrowing (road diet,	1.28 Miles	900000	7589419.79	State and	Urban Principal	29370	35	City of Municip	Bicyclists	Constructing a

10.83 Part 1&2	roadway reconfiguration)				Local Funds	Arterial - Other			al Highway Agency		road diet to decrease travel lanes
93654 - ATH Richland Ave Corridor Rehab	Roadway Roadway narrowing (road diet, roadway reconfiguration)	1.07 Miles	450000	4295026	State and Local Funds	Urban Principal Arterial - Other	15360	25	City of Municipal Highway Agency	Bicyclists	Constructing a road diet to decrease travel lanes
86482 - CUY US 006 12.20 Pavement	Roadway Roadway narrowing (road diet, roadway reconfiguration)	2 Miles	1000000	44310075.46	State and Local Funds	Urban Principal Arterial - Other Freeways and Expressways	36681.21	50	City of Municipal Highway Agency	Roadway Departure	Constructing a road diet to decrease travel lanes
87032 - D08 TSG FY2015	Intersection traffic control Modify traffic signal - modernization/replacement	79 Numbers	292790	1945039.9	HSIP (Section 148)	Urban Principal Arterial - Interstate	128258.54	65	City of Municipal Highway Agency	Intersections	Improving signal operation and visibility to reduc
78278 - POR SR 0014 12.55	Intersection geometry Intersection geometrics - miscellaneous/other/unspecified	1 Numbers	551250	8416371	State and Local Funds	Urban Principal Arterial - Other	20603.76	50	City of Municipal Highway Agency	Intersections	Remove an intersection approach to reduce rear end

84063 - ALL SR 117/501-10.76/4.34	Intersection geometry Intersection geometrics - modify skew angle	1 Numbers	1520685.9	2589197.95	HSIP (Section 148)	Urban Minor Arterial	5806	55	City of Municipal Highway Agency	Intersections	Realigning intersection to reduce skew angle and r
89478 - LIC CR 804 00.90 (30th & Church)	Intersection traffic control Modify traffic signal - modernization/replacement	8 Numbers	182500	1153455	State and Local Funds	Urban Local Road or Street	0	35	City of Municipal Highway Agency	Intersections	Improving signal operation and visibility to reduc
89485 - LOG CR VAR PM FY16	Roadway delineation Longitudinal pavement markings - new	431.97 Miles	150000	163504.64	HSIP (Section 148)	Rural Major Collector	0	55	County Highway Agency	Roadway Departure	Adding pavement markings to reduce roadway departu
90538 - STA Long line PM FY 2016	Roadway delineation Longitudinal pavement markings - new	236.28 Miles	150000	191880.8	HSIP (Section 148)	Urban Principal Arterial - Other	0	35	City of Municipal Highway Agency	Roadway Departure	Adding pavement markings to reduce roadway departu
92861 - MED CR PM FY2016	Roadway delineation Longitudinal pavement markings - remarking	387.71 Miles	150000	205297.59	HSIP (Section 148)	Urban Minor Collector	0	45	County Highway Agency	Roadway Departure	Adding pavement markings to reduce roadway

											departu
96793 - GAL CR 3 VAR PM FY2016	Roadway delineation Longitudinal pavement markings - new	176.21 Miles	150000	164724	HSIP (Section 148)	Urban Minor Collector	0	45	County Highway Agency	Roadway Departure	Adding pavement markings to reduce roadway departu
97128 - LOR SR 0018 06.41 (Signal)	Intersection traffic control Modify traffic signal - modernization/replacement	12 Numbers	180000	319710	HSIP (Section 148)	Rural Principal Arterial - Other	5265	25	State Highway Agency	Intersections	Improving signal operation and visibility to reduc
97971 - LIC CR VAR PM FY2016	Roadway delineation Longitudinal pavement markings - remarking	214.59 Miles	150000	166610	HSIP (Section 148)	Urban Minor Collector	0	55	County Highway Agency	Roadway Departure	Adding pavement markings to reduce roadway departu
98577 - BUT VAR Guardrail FY 2016	Roadside Barrier- metal	0.83 Miles	346580.9	347681.9	HSIP (Section 148)	Urban Local Road or Street	0	55	County Highway Agency	Roadway Departure	Installing guardrail to address issue of roadway d
98583 - BUT VAR Pavement Markings FY 16	Roadway delineation Longitudinal pavement markings - remarking	59.99 Miles	116646.69	116646.69	HSIP (Section 148)	Urban Local Road or Street	0	55	County Highway Agency	Roadway Departure	Adding pavement markings to reduce

											roadway departu
98919 - CLI VAR Pavement Markings FY 16	Roadway delineation Longitudinal pavement markings - new	233.47 Miles	150000	167426.09	HSIP (Section 148)	Rural Local Road or Street	0	45	County Highway Agency	Roadway Departure	Adding pavement markings to reduce roadway departu
99236 - SEN CR Var GR FY16	Roadside Barrier- metal	2.21 Miles	400000	556522	HSIP (Section 148)	Urban Local Road or Street	0	45	County Highway Agency	Roadway Departure	Installing guardrail to address issue of roadway d
95416 - HIG Guardrail Various Routes	Roadside Barrier- metal	2.5 Miles	365197.28	365197.28	HSIP (Section 148)	Rural Major Collector	0	55	County Highway Agency	Roadway Departure	Installing guardrail to address issue of roadway d
86149 - DEL SR 3 1.380/5.41	Intersection traffic control Modify traffic signal - modernization/replacement	1 Numbers	223623	3280717.6	State and Local Funds	Urban Principal Arterial - Other	12256.57	55	City of Municipal Highway Agency	Intersections	Improving signal operation and visibility to reduc
76462 - PIC US 23 0.00 Part 1 & 2	Intersection traffic control Modify traffic signal - miscellaneous/other/unspecified	10 Numbers	556200	4899258.24	State and Local Funds	Urban Principal Arterial - Other	27860	60	City of Municipal Highway	Intersections	Add dilemma zone detection to reduce

									Agency		rear end cras
95414 - HIG PM Various Routes	Roadway delineation Longitudinal pavement markings - remarking	4.6 Miles	150000	302827.9	State and Local Funds	Rural Local Road or Street	0	55	County Highway Agency	Roadway Departure	Adding pavement markings to reduce roadway departu
95244 - SHE SR 47 13.74	Intersection geometry Intersection geometrics - realignment to align offset cross streets	1 Numbers	868454.46	1524237.68	HSIP (Section 148)	Urban Minor Arterial	16436.46	35	City of Municipal Highway Agency	Intersections	Realign intersections to reduce angle and rear end
97306 - D06 GR End Treat	Roadside Barrier end treatments (crash cushions, terminals)	3.32 Miles	166020	761660.65	HSIP (Section 148)	Rural Principal Arterial - Interstate	39130	70	State Highway Agency	Roadway Departure	Installing guardrail end treatments to address iss
93044 - GAL CR 6 0.000	Roadway Roadway widening - travel lanes	1.85 Miles	245920	962118	HSIP (Section 148)	Urban Minor Collector	0	45	County Highway Agency	Roadway Departure	Widening travel lanes to address issue of roadway
92781 - MEG CR VAR GR FY2016	Roadside Barrier- metal	1.5 Miles	192825.65	204474.52	HSIP (Section 148)	Urban Minor Collector	0	55	County Highway Agency	Roadway Departure	Installing guardrail to address issue of

											roadway d
98079 - WAR Lebanon Ped Improvements	Intersection traffic control Modify traffic signal - miscellaneous/other/unspecified	3 Numbers	69000	75812	HSIP (Section 148)	Urban Principal Arterial - Other	17768	35	City of Municipal Highway Agency	Pedestrians	Installation of pedestrian signal equipment (III-B
90589 - MRG CR 4 Var GR FY2016	Roadside Barrier- metal	1.77 Miles	265040	280037.95	HSIP (Section 148)	Rural Major Collector	0	45	County Highway Agency	Roadway Departure	Installing guardrail to address issue of roadway d
99435 - CUY SR 082 03.54 Safety	Intersection geometry Auxiliary lanes - add right-turn lane	1 Numbers	1149169.71	1300707	HSIP (Section 148)	Urban Principal Arterial - Other	28670	35	City of Municipal Highway Agency	Intersections	Constructing turn lanes to rear end crashes (I-B-2
79366 - DEL US 23 8.770	Intersection geometry Intersection geometrics - realignment to increase cross street offset	1 Numbers	1756138.23	3754472.59	State and Local Funds	Urban Principal Arterial - Other	33264.72	55	City of Municipal Highway Agency	Intersections	Realign intersections to reduce rear end and angle
98592 - VIN US 50 17.440	Intersection traffic control Modify traffic signal - modernization/replacement	8 Numbers	509471.1	731893.85	HSIP (Section 148)	Rural Minor Arterial	5970	25	State Highway Agency	Intersections	Improving signal operation and visibility to reduc

97676 - CUY IR 271 10.87 Safety	Intersection geometry Auxiliary lanes - add left-turn lane	1 Numbers	2545662	3440809	HSIP (Section 148)	Urban Principal Arterial - Interstate	98158	60	State Highway Agency	Intersections	Constructing turn lanes to reduce rear end and lef
16319 - LOR Lear Nagle Road	Roadway Roadway widening - add lane(s) along segment	1.8 Miles	2313802.42	1870086.23	HSIP (Section 148)	Urban Minor Arterial	18010	35	City of Municipal Highway Agency	Intersections	Constructing traveled lanes to reduce angle and re
92647 - ERI SR 0004 08.60	Intersection geometry Auxiliary lanes - add left-turn lane	2 Numbers	1336896	1833160.72	HSIP (Section 148)	Urban Principal Arterial - Other	14228	55	City of Municipal Highway Agency	Intersections	Constructing turn lanes to reduce rear end and lef
85076 - SUM Cleve-Mass Road Phase 1	Roadway Roadway widening - add lane(s) along segment	0.4 Miles	404956.55	3360618.38	State and Local Funds	Urban Minor Arterial	19720	30	City of Municipal Highway Agency	Intersections	Constructing traveled lanes to reduce angle and re
99452 - CAR VAR GR Phase 1	Roadside Barrier- metal	2.03 Miles	259564.95	274367.26	HSIP (Section 148)	Rural Minor Collector	0	55	County Highway Agency	Roadway Departure	Installing guardrail to address issue of roadway d

99087 - BEL SR 7 18.070	Intersection traffic control Modify traffic signal - modernization/replacement	7 Numbers	1061920.42	1595814	HSIP (Section 148)	Urban Principal Arterial - Other Freeways and Expressways	26366	50	City of Municipal Highway Agency	Intersections	Improving signal operation and visibility to reduc
99779 - CLA US 40 10.11	Interchange design Extend existing lane on ramp	1 Numbers	1642232.2	2599589.58	HSIP (Section 148)	Urban Principal Arterial - Other	27266	50	City of Municipal Highway Agency	Intersections	Lengthening acceleration lane to reduce the number
98689 - HAM CR 67 2.19 Duck Creek Rd Ext	Roadway Roadway - other	0.2 Miles	4837961.74	8674790	HSIP (Section 148)	Urban Principal Arterial - Other	0	35	City of Municipal Highway Agency	Intersections	Constructing connector roadway to reduce angle and
95706 - DEL Gemini Parkway Ext	Roadway Roadway - other	0.6 Miles	3072000	13639053.82	State and Local Funds	Urban Major Collector	0	35	City of Municipal Highway Agency	Intersections	Constructing connector roadway to reduce angle and
79662 - FRA US 33 26.120	Intersection geometry Auxiliary lanes - extend existing left-turn lane	2 Numbers	455400	2385278.09	State and Local	Urban Principal Arterial -	56620.67	60	City of Municipal	Intersections	Construct an extended

					Funds	Other Freeways and Expressways			Highway Agency		left turn lane and close the
92747 - WOO US 20 4.63 Resurf/Bridge	Intersection geometry Auxiliary lanes - add left-turn lane	1 Numbers	288900	4277230.72	State and Local Funds	Urban Principal Arterial - Other	12974	55	City of Municipal Highway Agency	Intersections	Constructing turn lanes to reduce rear end and lef

Progress in Achieving Safety Performance Targets

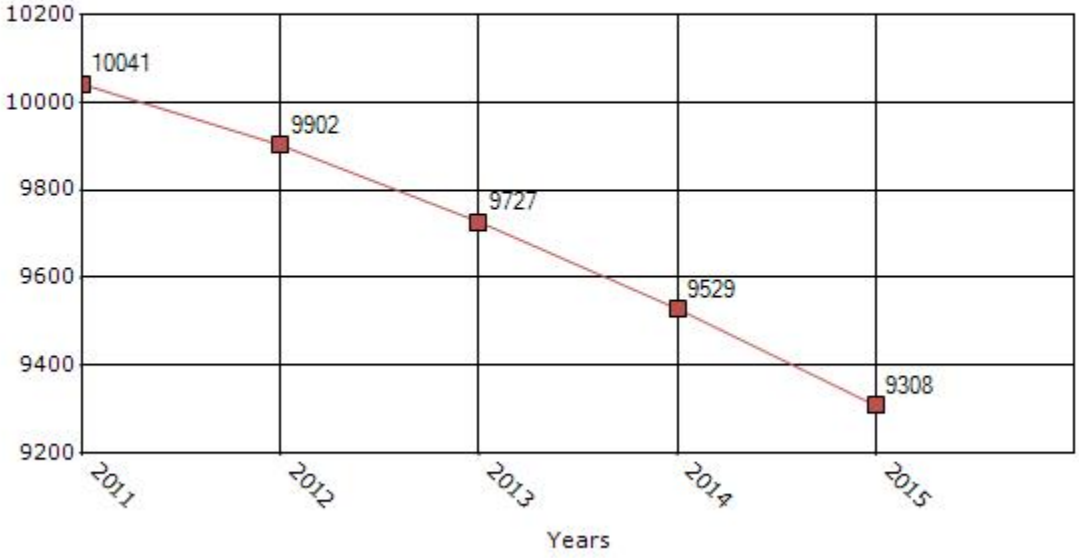
Overview of General Safety Trends

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

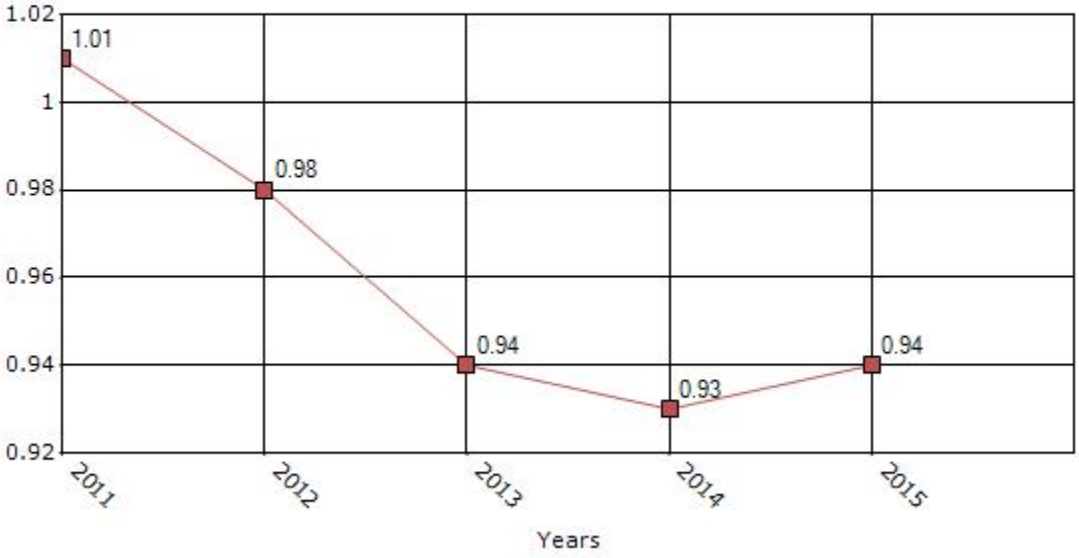
Performance Measures*	2011	2012	2013	2014	2015
Number of fatalities	1114	1087	1047	1044	1050
Number of serious injuries	10041	9902	9727	9529	9308
Fatality rate (per HMVMT)	1.01	0.98	0.94	0.93	0.94
Serious injury rate (per HMVMT)	9.04	8.91	8.68	8.48	8.28

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

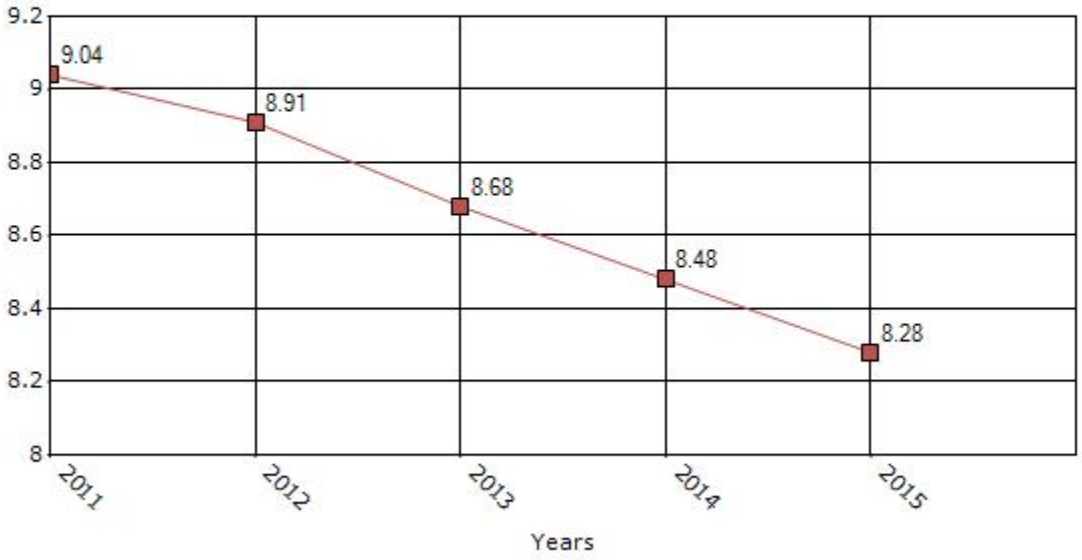
Number of Serious Injuries for the Last Five Years
5-yr Average Measure Data



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

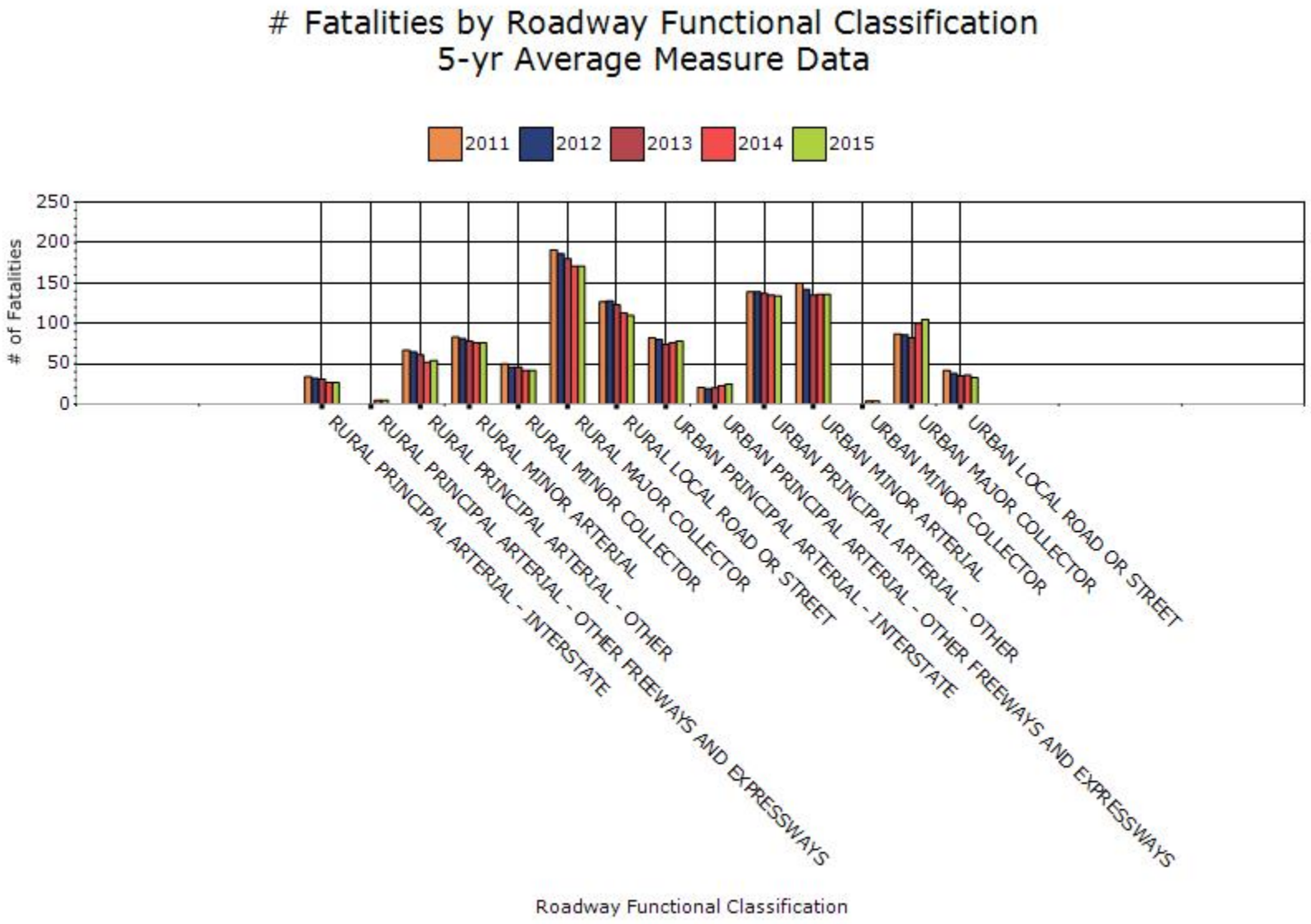


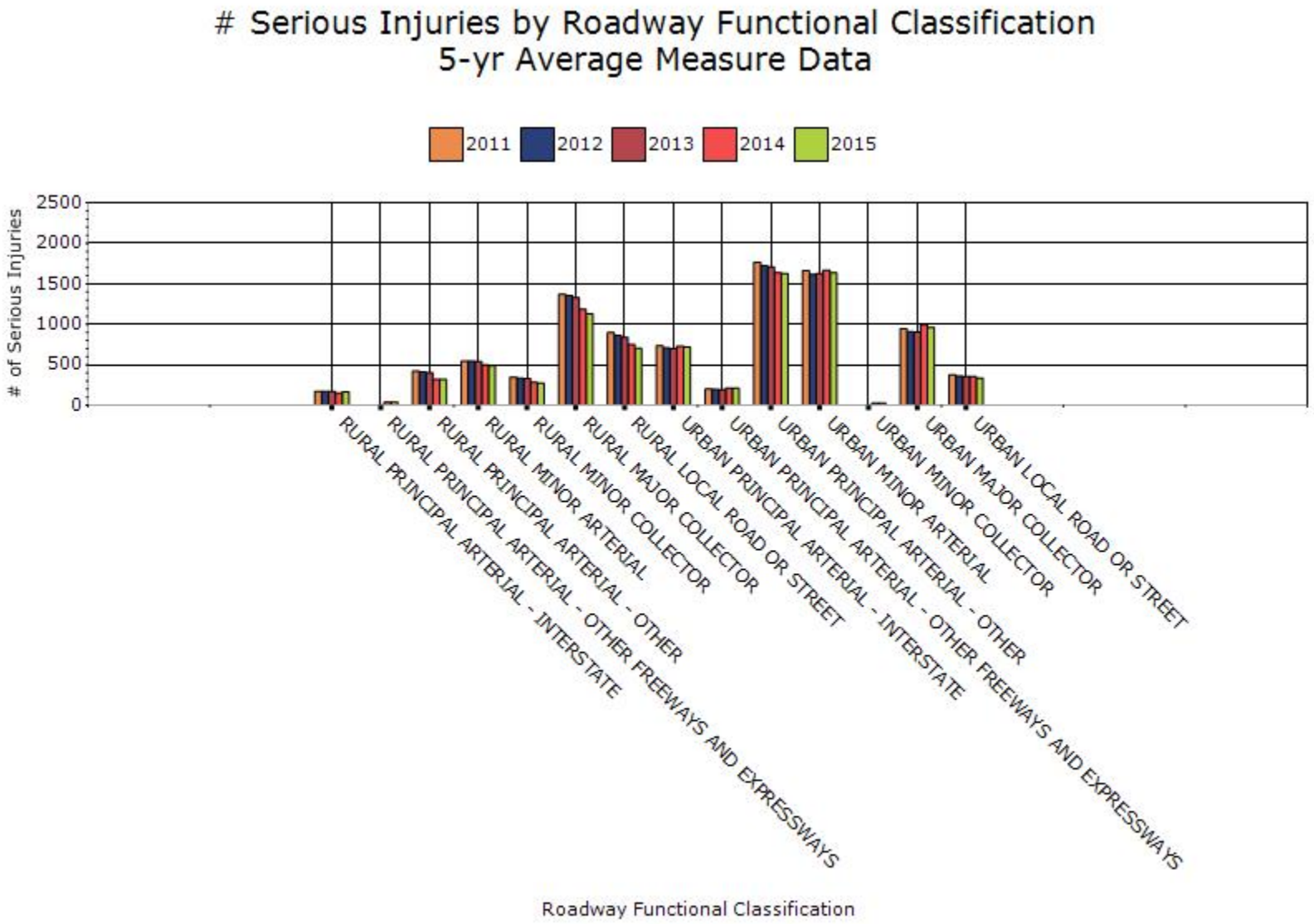
To the maximum extent possible, present performance measure* data by functional classification and ownership.

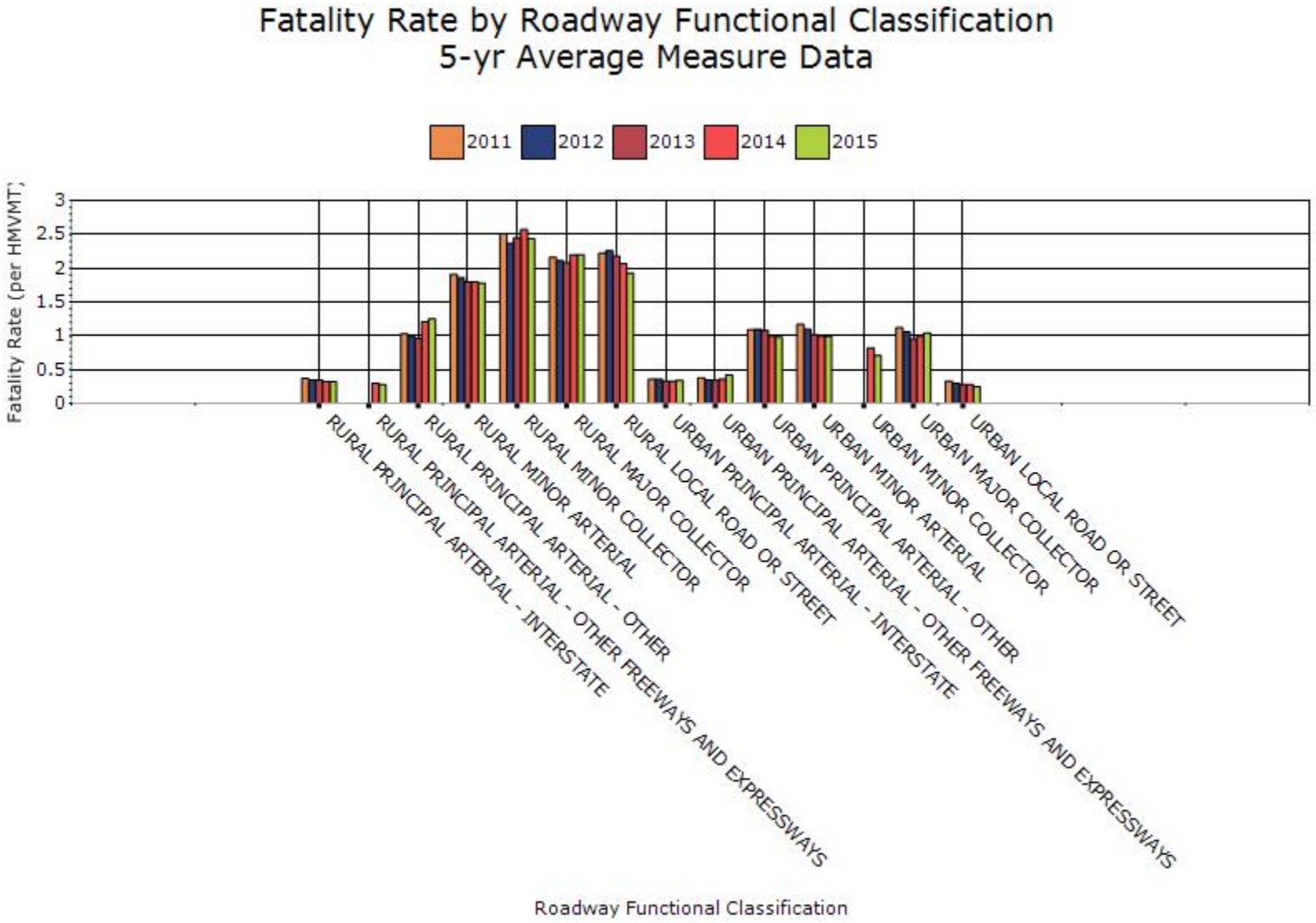
Year - 2015

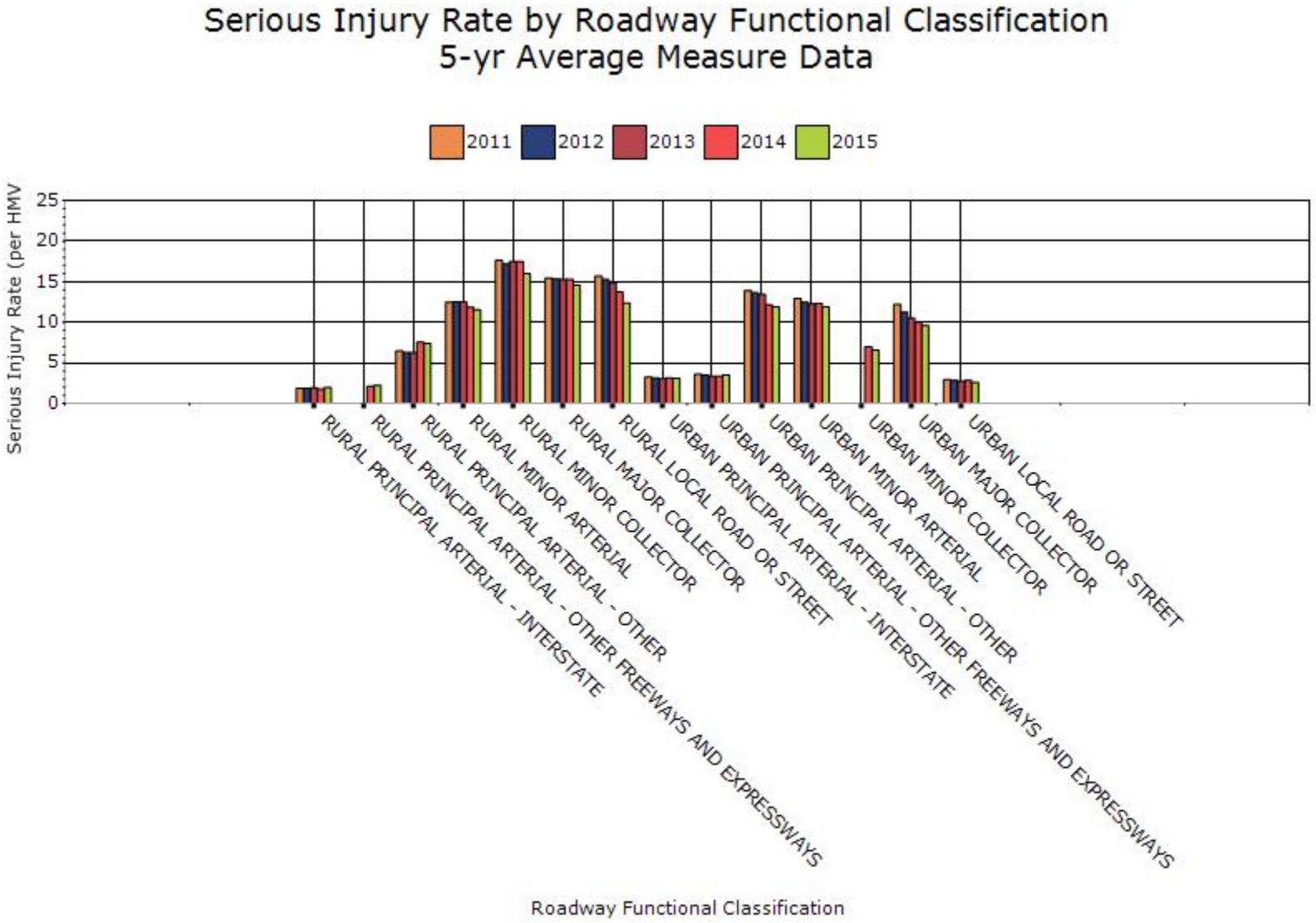
Function Classification	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
RURAL PRINCIPAL ARTERIAL - INTERSTATE	27	165	0.32	1.97
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	5	39	0.28	2.24
RURAL PRINCIPAL ARTERIAL - OTHER	54	319	1.25	7.38
RURAL MINOR ARTERIAL	76	491	1.78	11.54
RURAL MINOR COLLECTOR	42	273	2.44	16
RURAL MAJOR COLLECTOR	171	1130	2.2	14.55
RURAL LOCAL ROAD OR STREET	110	705	1.93	12.37
URBAN PRINCIPAL ARTERIAL - INTERSTATE	78	720	0.34	3.12

URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS	25	211	0.42	3.51
URBAN PRINCIPAL ARTERIAL - OTHER	134	1625	0.98	11.89
URBAN MINOR ARTERIAL	136	1638	0.99	11.92
URBAN MINOR COLLECTOR	4	30	0.71	6.59
URBAN MAJOR COLLECTOR	105	963	1.04	9.63
URBAN LOCAL ROAD OR STREET	33	338	0.25	2.59


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

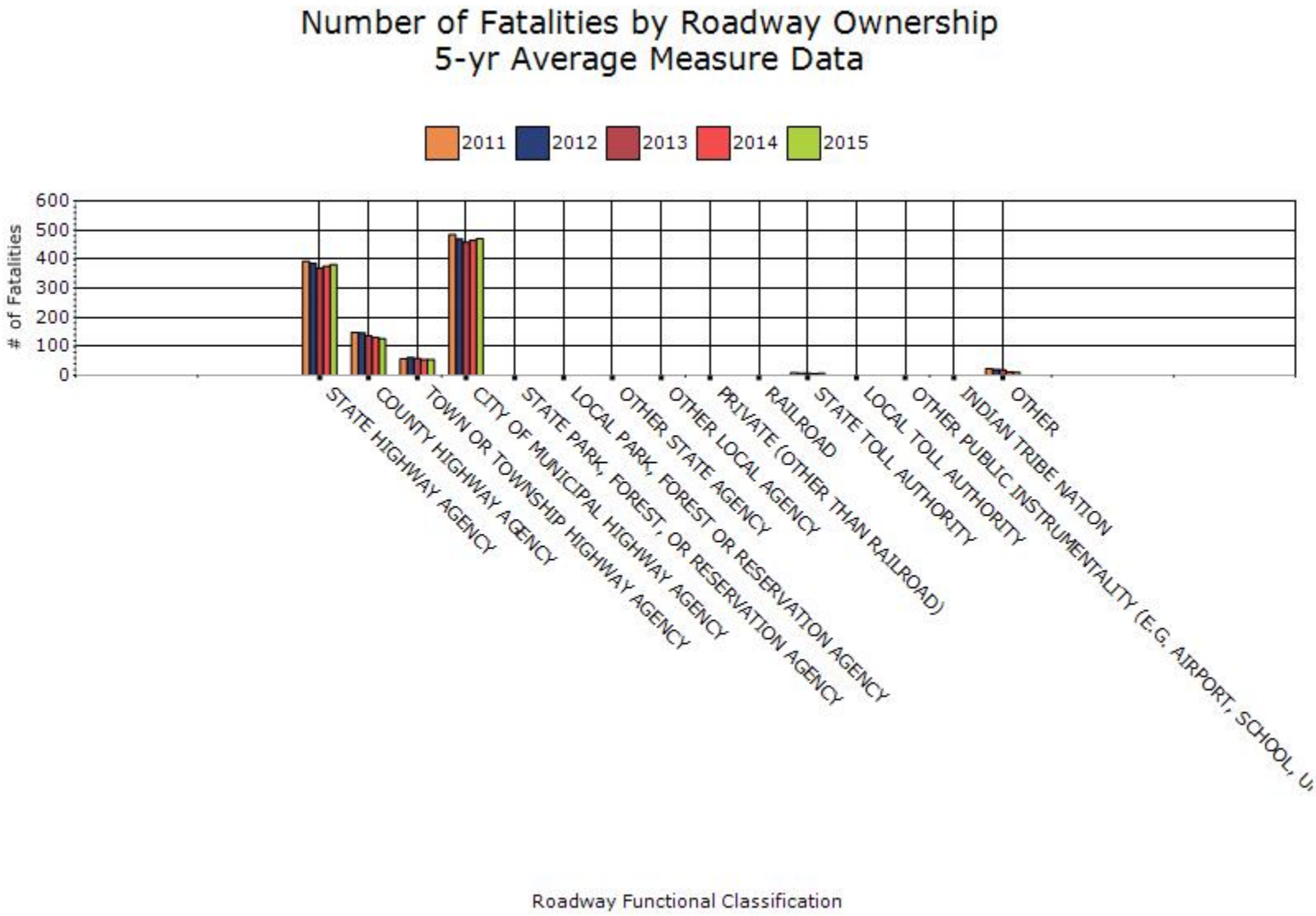

Serious Injuries by Roadway Functional Classification
5-yr Average Measure Data
2011
2012
2013
2014
2015
# of Serious Injuries
2500
2000
1500
1000
500
0
RURAL PRINCIPAL ARTERIAL - INTERSTATE
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
RURAL PRINCIPAL ARTERIAL - OTHER
RURAL MINOR ARTERIAL
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

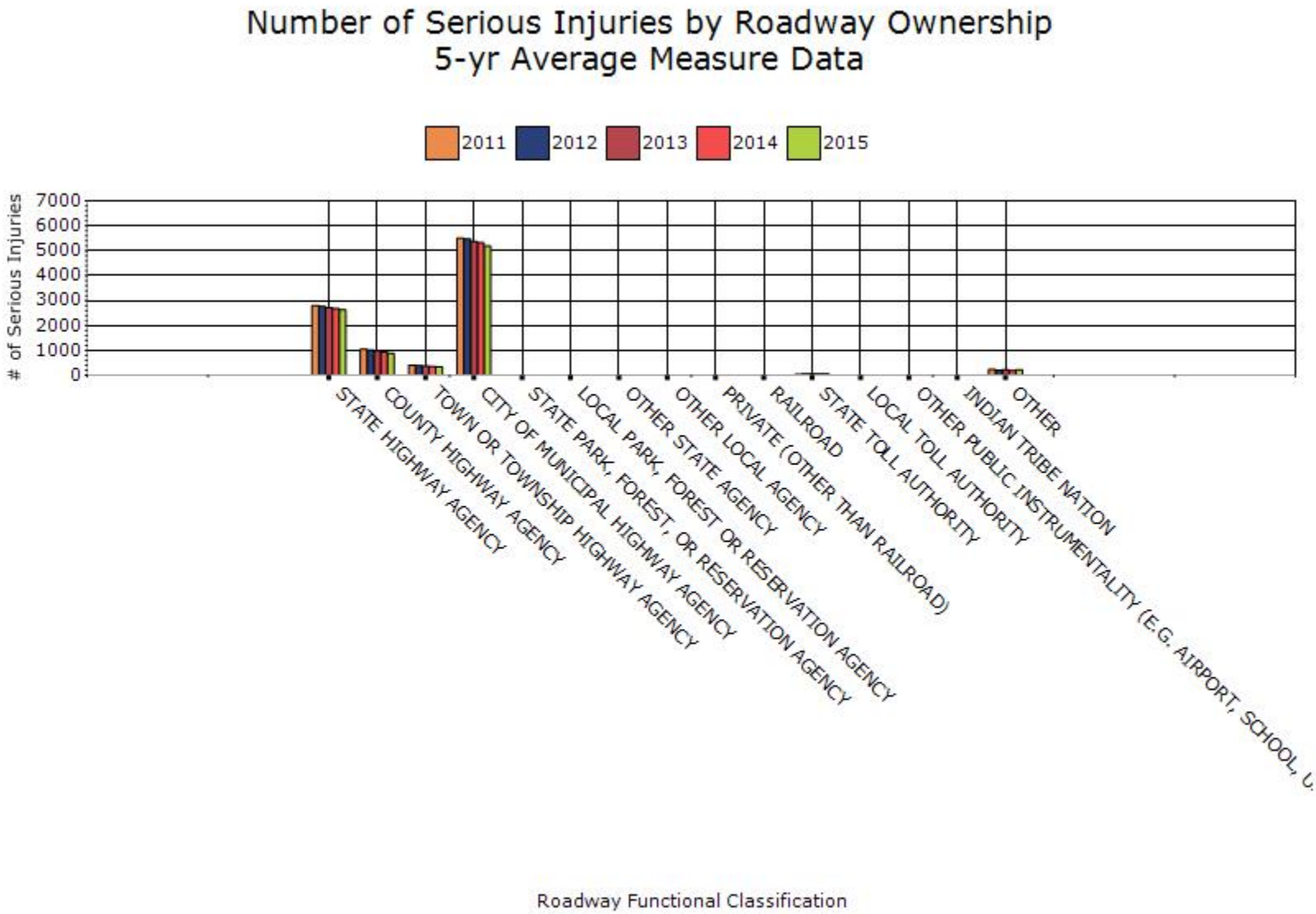

Fatality Rate by Roadway Functional Classification
5-yr Average Measure Data
2011
2012
2013
2014
2015
Fatality Rate (per HMVMT)
3
2.5
2
1.5
1
0.5
0
RURAL PRINCIPAL ARTERIAL - INTERSTATE
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
RURAL PRINCIPAL ARTERIAL - OTHER
RURAL MINOR ARTERIAL
RURAL 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
25
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

Year - 2015

Roadway Ownership	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)
STATE HIGHWAY AGENCY	382	2633		
COUNTY HIGHWAY AGENCY	126	884		
TOWN OR TOWNSHIP HIGHWAY AGENCY	55	332		
CITY OF MUNICIPAL HIGHWAY AGENCY	470	5186		
STATE TOLL AUTHORITY	8	56		
OTHER	11	219		


Number of Fatalities by Roadway Ownership
5-yr Average Measure Data
2011
2012
2013
2014
2015
# of Fatalities
600
500
400
300
200
100
0
STATE HIGHWAY AGENCY
COUNTY HIGHWAY AGENCY
TOWN OR TOWNSHIP HIGHWAY AGENCY
CITY OF MUNICIPAL HIGHWAY AGENCY
STATE PARK, FOREST, OR RESERVATION AGENCY
LOCAL PARK, FOREST OR RESERVATION AGENCY
OTHER STATE AGENCY
OTHER LOCAL AGENCY
PRIVATE (OTHER THAN RAILROAD)
RAILROAD
STATE TOLL AUTHORITY
LOCAL TOLL AUTHORITY
OTHER PUBLIC INSTRUMENTALITY (E.G. AIRPORT, SCHOOL, U
INDIAN TRIBE NATION
OTHER
Roadway Functional Classification


Number of Serious Injuries by Roadway Ownership
5-yr Average Measure Data
2011
2012
2013
2014
2015
# of Serious Injuries
7000
6000
5000
4000
3000
2000
1000
0
STATE HIGHWAY AGENCY
COUNTY HIGHWAY AGENCY
TOWN OR TOWNSHIP HIGHWAY AGENCY
CITY OF MUNICIPAL HIGHWAY AGENCY
STATE PARK, FOREST, OR RESERVATION AGENCY
LOCAL PARK, FOREST OR RESERVATION AGENCY
OTHER STATE AGENCY
OTHER LOCAL AGENCY
PRIVATE (OTHER THAN RAILROAD)
RAILROAD
STATE TOLL AUTHORITY
LOCAL TOLL AUTHORITY
OTHER PUBLIC INSTRUMENTALITY (E.G. AIRPORT, SCHOOL, U
INDIAN TRIBE NATION
OTHER
Roadway Functional Classification

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

Note: Data for 2015 **CAN ONLY** be compared to 2014 data. In 2014, the functional class system was updated to new codes (1-7) from the legacy codes (1-19). Additionally, the functional class designation was updated based on the 2010 census.

The Functional Class conversion should have little to no impacted on the Special Rule for High Risk Rural Roads. However, when looking at the Special Rule for High Risk Rural Road, crash rates were impacted as well due to changing of the urban and rural boundary limits.

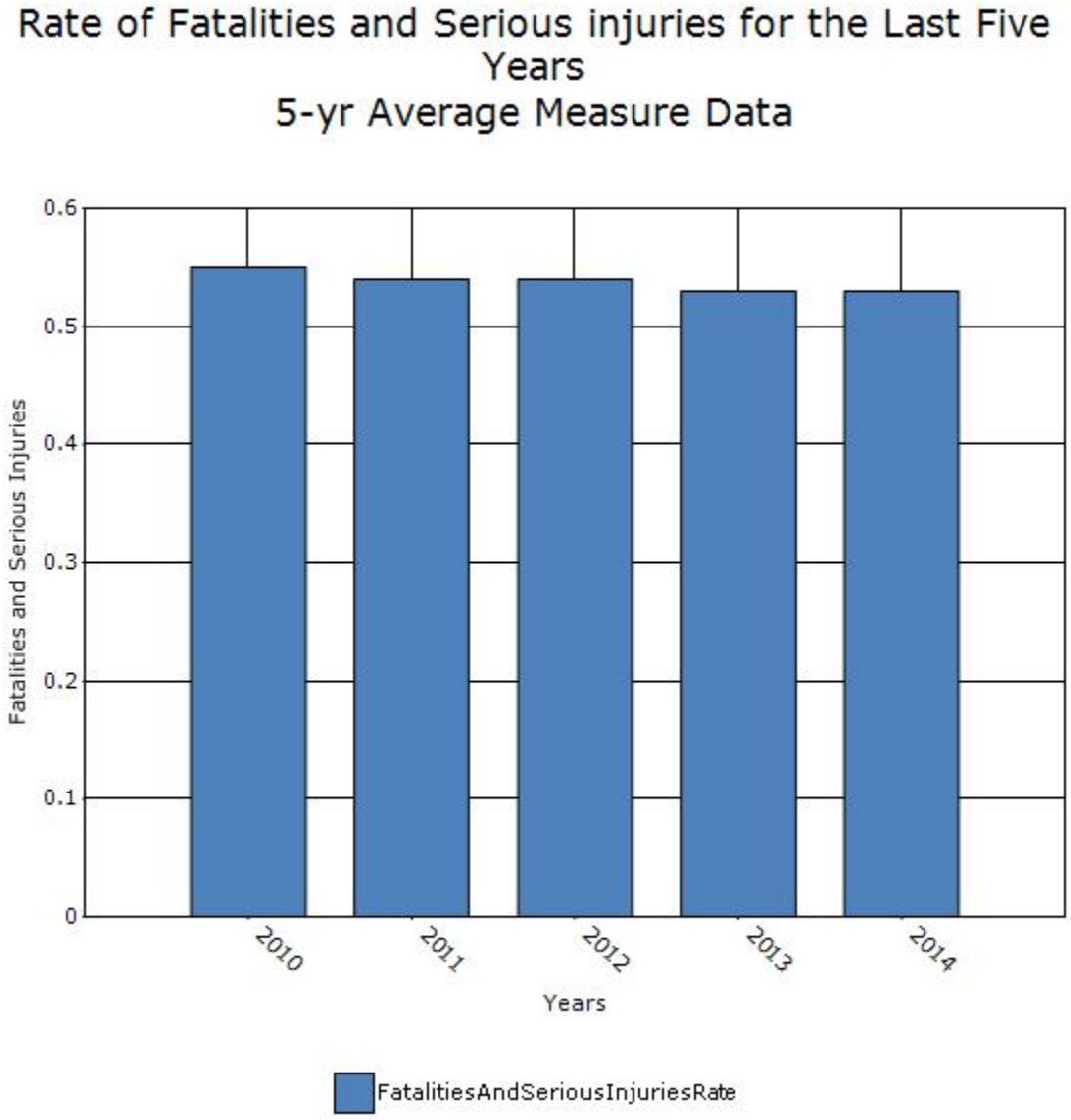
Application of Special Rules

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

Older Driver Performance Measures	**2010**	**2011**	**2012**	**2013**	**2014**
Fatality rate (per capita)	0.09	0.09	0.09	0.09	0.09
Serious injury rate (per capita)	0.46	0.45	0.45	0.45	0.45
Fatality and serious injury rate (per capita)	0.55	0.54	0.54	0.53	0.53

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

Example calculation for 2014:
[(F+SI 2014 Drivers and Pedestrians 65 years of age and older/2014 Population Figure) + (F+SI 2013 Drivers and Pedestrians 65 years of age and older/2013 Population Figure) + (F+SI 2012 Drivers and Pedestrians 65 years of age and older/2012 Population Figure) + (F+SI 2011 Drivers and Pedestrians 65 years of age and older/2011 Population Figure) + (F+SI 2010 Drivers and Pedestrians 65 years of age and over/2010 Population Figure)]/5



Does the older driver special rule apply to your state?

No

Assessment of the Effectiveness of the Improvements (Program Evaluation)

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

Policy change

if 'policy change', list the policy changes made.

ODOT has revised the project development, design exception and resurfacing accident analysis processes to incorporate principles and practices from the Highway Safety Manual (HSM). The HSM uses state-of-the-art analysis and tools to help planners, designers and project managers estimate the cost and benefits of various safety treatments when incorporated into transportation projects.

The goal is to encourage ODOT staff and local partners to consider safety improvements in all project planning from minor resurfacing to major new projects. ODOT has created Safety Integrated Project Maps for each county. These maps identify Priority Safety Locations, where safety improvements should be considered when programming a project that overlaps one or more of these areas.

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

Include Local Roads in Highway Safety Improvement Program
Other-Crash analysis on all projects

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

ODOT has made changes in the safety program based on past experiences and new research. We strive to increase our systemic and systematic safety programs (median barrier, LED signals & backplates, rumble stripes, guardrail upgrades, etc) to continue to reduce crashes. ODOT has also increased outreach efforts to other state, federal, and local agencies as a result of the SHSP. ODOT has also worked closely with MPOs and county engineers on local roadways as a result of the HSIP.

MPO / RTPO Peer Exchange
ODOT, FHWA and MORPC will be participating in a Transportation Safety Planning Peer Exchange for Ohio MPO and RTPO staff working with safety data, planning and project development. Two people from each MPO and RTPO are invited to attend.

The peer exchange will help MPOs and RTPOs develop a baseline understanding of the transportation safety planning process in Ohio. Participants will walk away with a better understanding of how their efforts compare to that of their peers, where areas of improvement may exist, and what resources are available to help agencies bridge any gaps. The secondary goal is to document minimum expectations, best practices, and available resources for both RTPOs and MPOs in the form of a report. The 2015

Strategic Highway Safety Plan update will be discussed. Performance measures and target setting are also discussion topics.

Safety Integrate Project (SIP) Maps

ODOT has revised the project development, design exception and resurfacing accident analysis processes to incorporate principles and practices from the Highway Safety Manual (HSM). The HSM uses state-of-the-art analysis and tools to help planners, designers and project managers estimate the cost and benefits of various safety treatments when incorporated into transportation projects.

The goal is to encourage ODOT staff and local partners to consider safety improvements in all project planning from minor resurfacing to major new projects. ODOT has created Safety Integrated Project Maps for each county. These maps identify Priority Safety Locations, where safety improvements should be considered when programming a project that overlaps one or more of these areas.

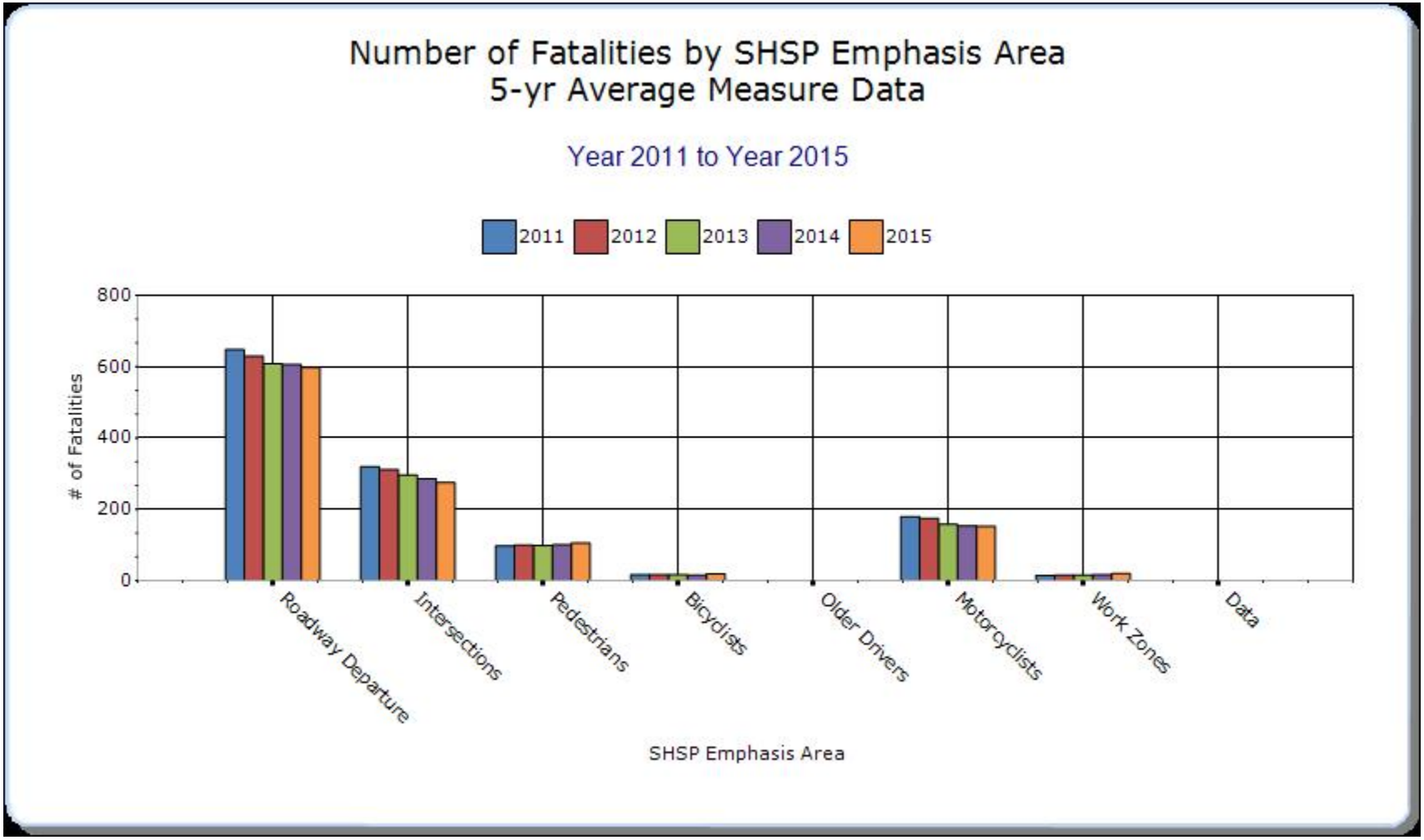
Locations are prioritized in red and blue. Red has a high priority and may qualify for Safety funding to make improvements. Blue has a lower priority, and districts are encouraged to explore low-cost safety improvements with their own forces and funds.

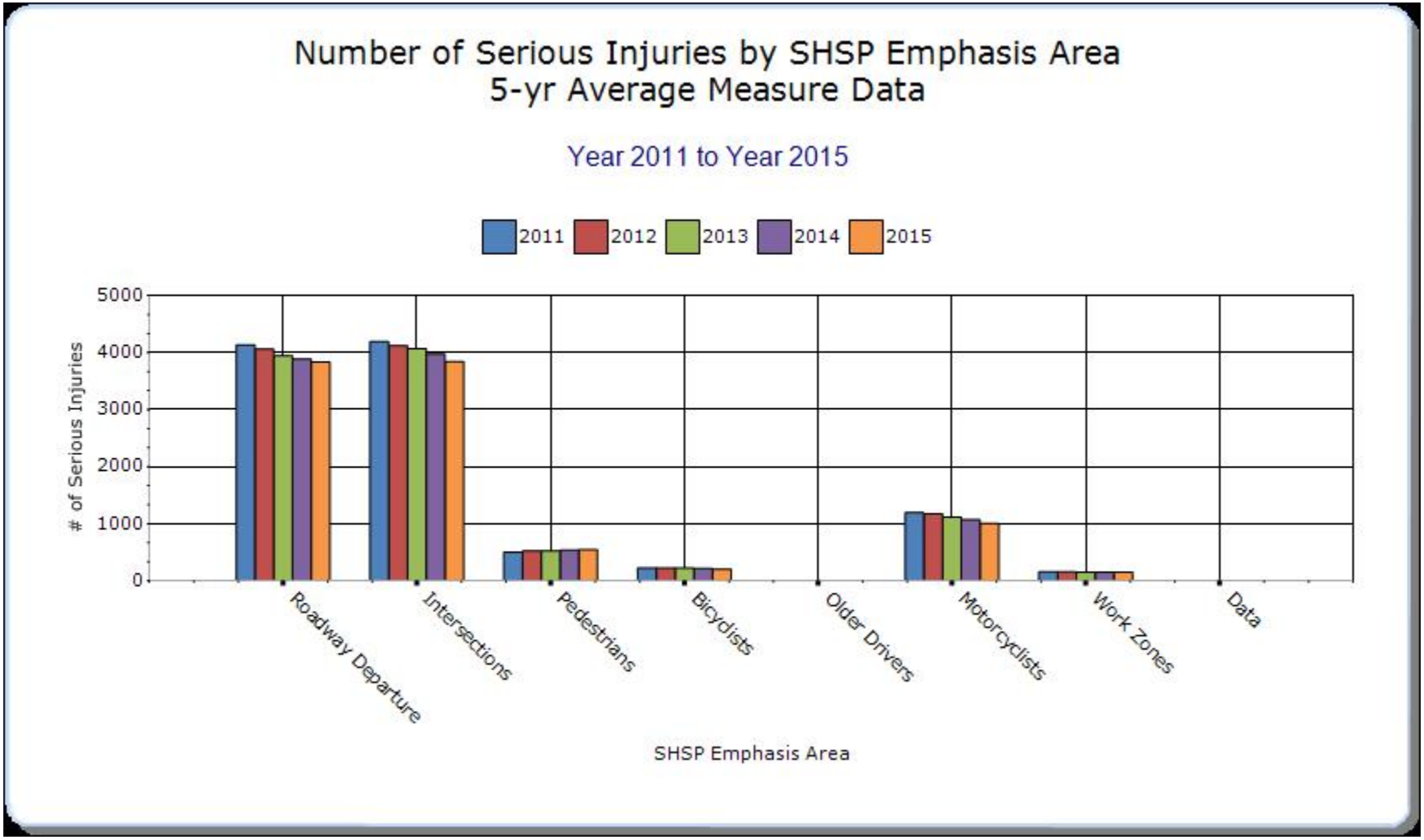
SHSP Emphasis Areas

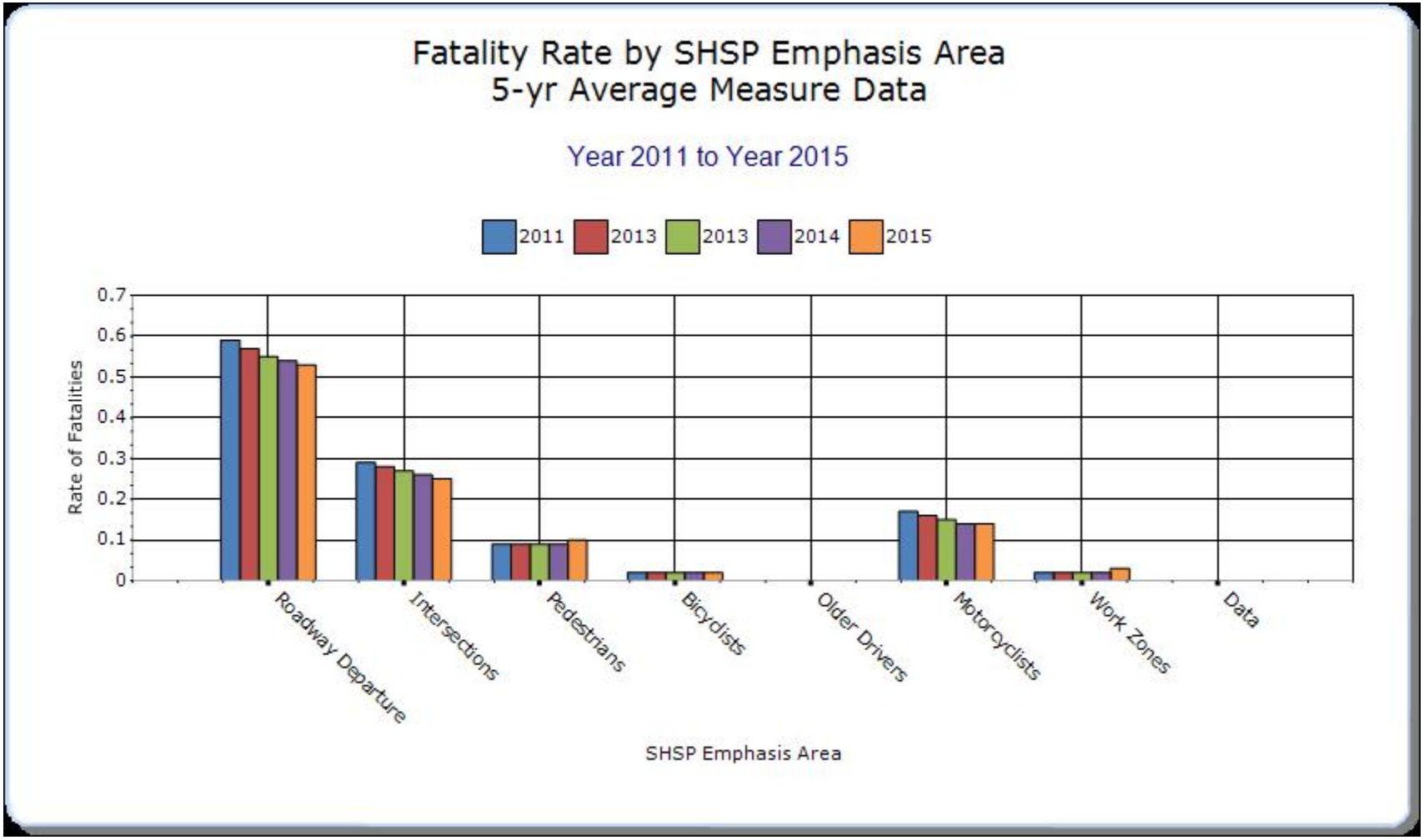
For each SHSP emphasis area that relates to the HSIP, present trends in emphasis area performance measures.

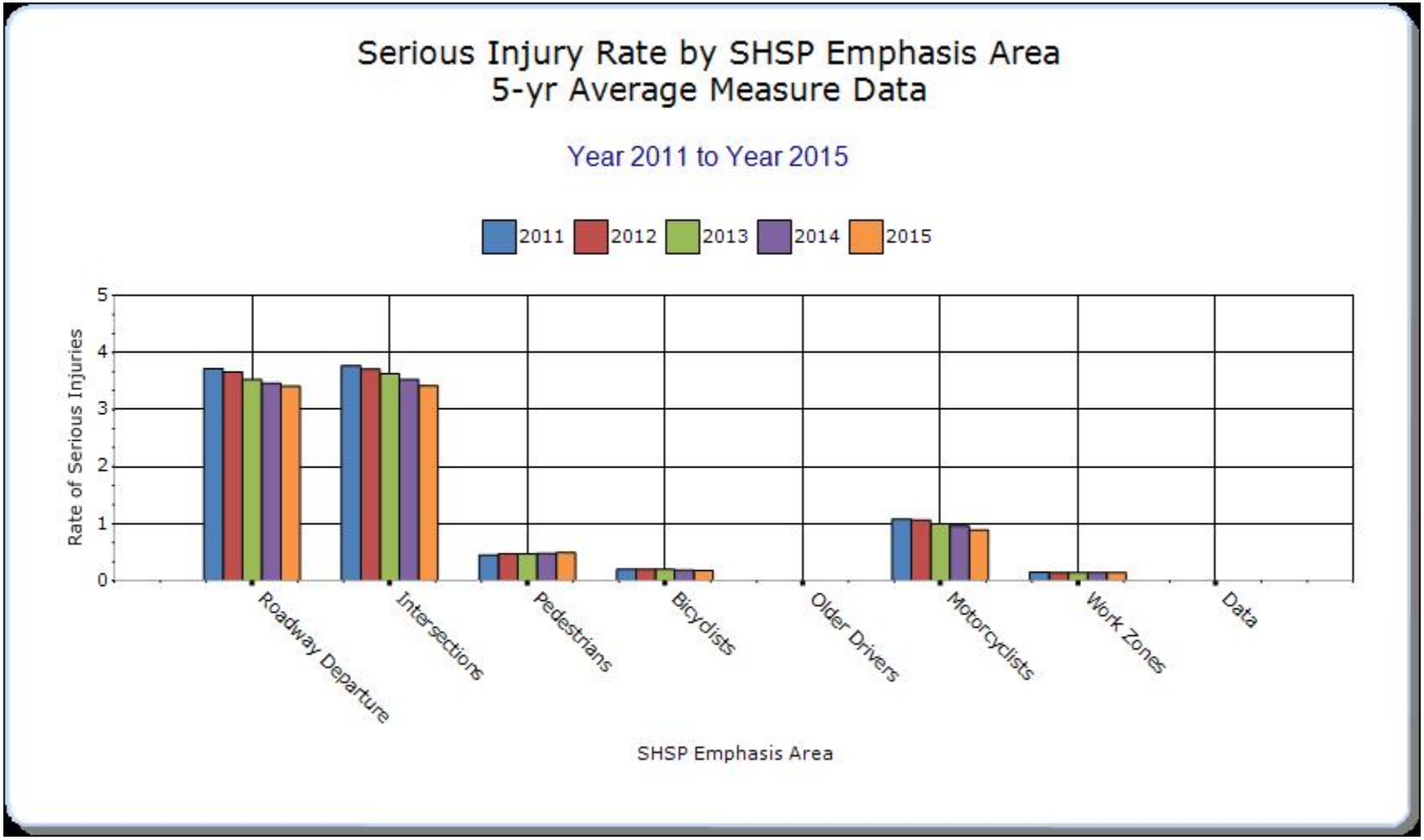
Year - 2015

HSIP-related SHSP Emphasis Areas	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3
Roadway Departure	Roadway Departure	598	3834	0.53	3.41			
Intersections	Intersections	275	3843	0.25	3.42			
Pedestrians	Vehicle/pedestrian	106	546	0.1	0.49			
Bicyclists	Vehicle/bicycle	19	204	0.02	0.18			
Motorcyclists	Motorcycle Involved	153	1003	0.14	0.89			
Work Zones	Work Zone Related	20	150	0.03	0.14			


Number of Fatalities by SHSP Emphasis Area
5-yr Average Measure Data
Year 2011 to Year 2015
2011
2012
2013
2014
2015
800
600
400
200
0
# of Fatalities
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Data
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
5000
4000
3000
2000
1000
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Data
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
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Data
SHSP Emphasis Area

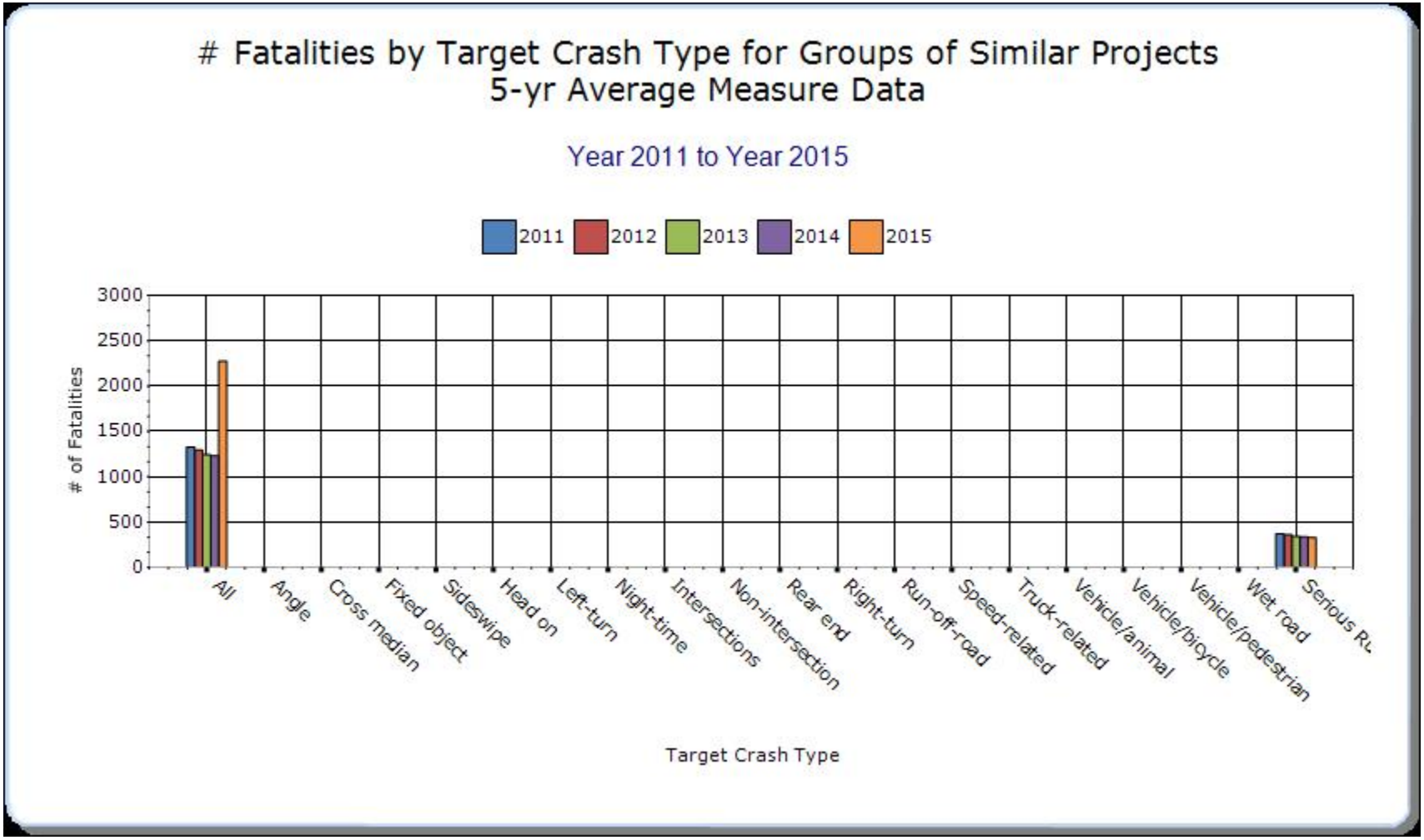


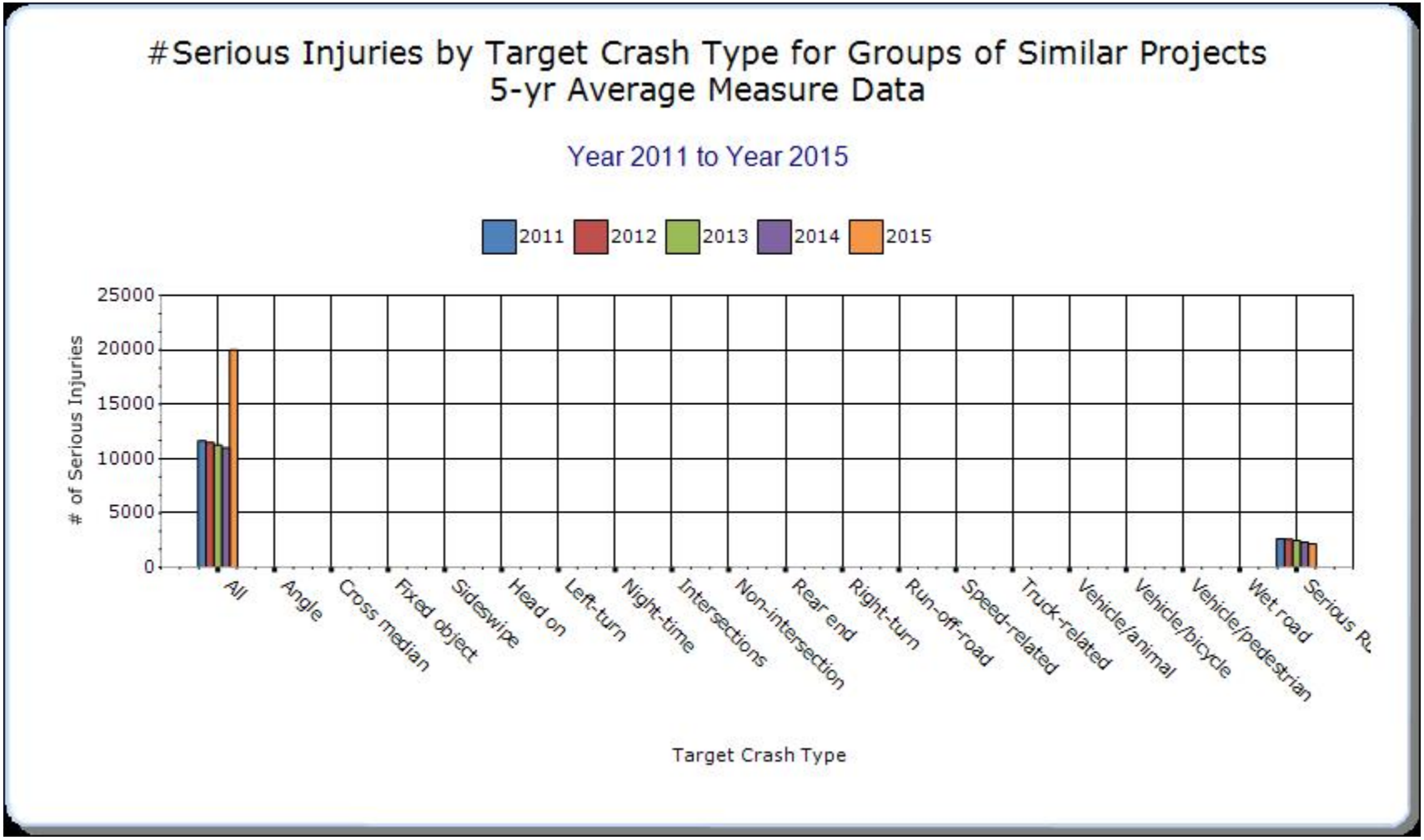
Groups of similar project types

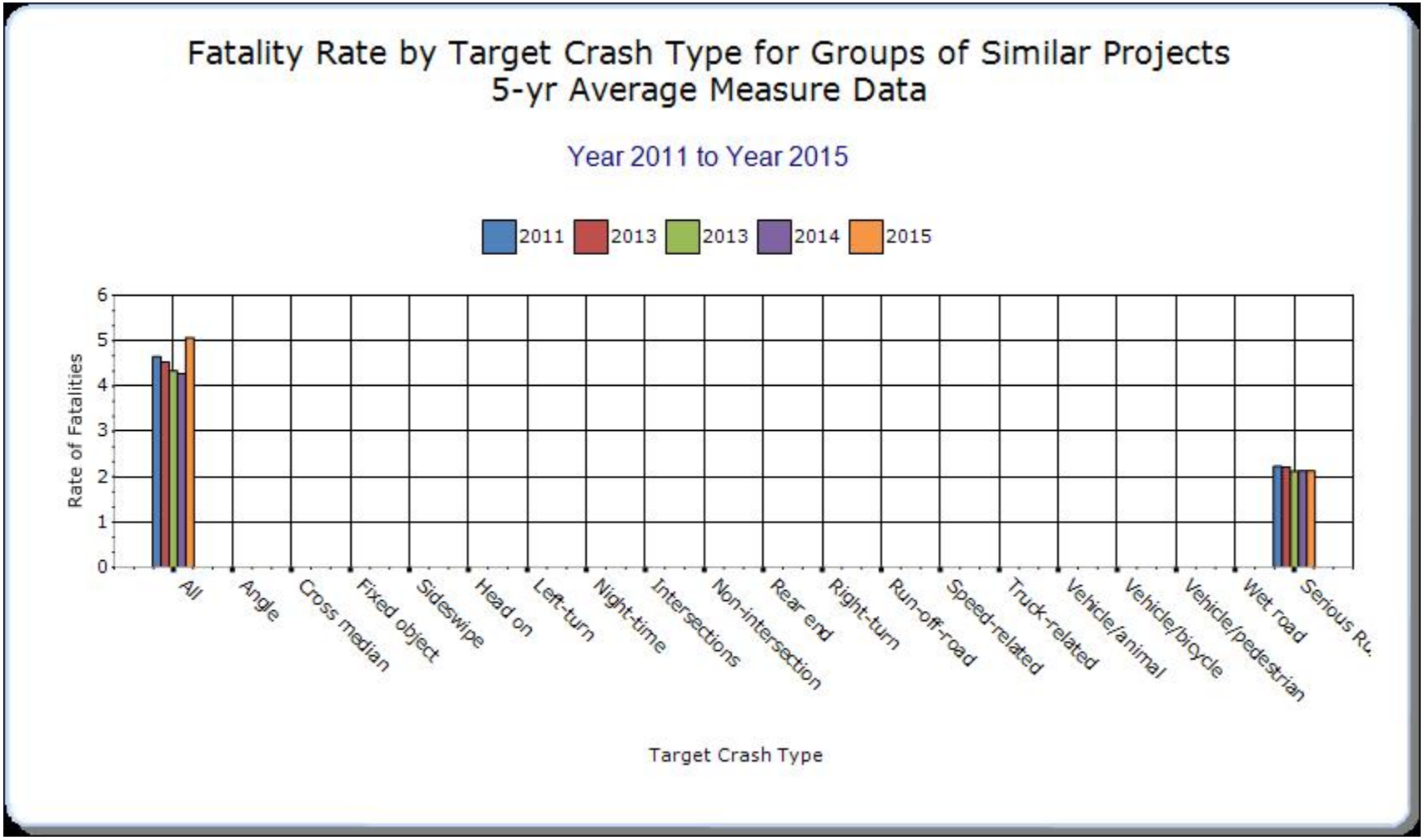
Present the overall effectiveness of groups of similar types of projects.

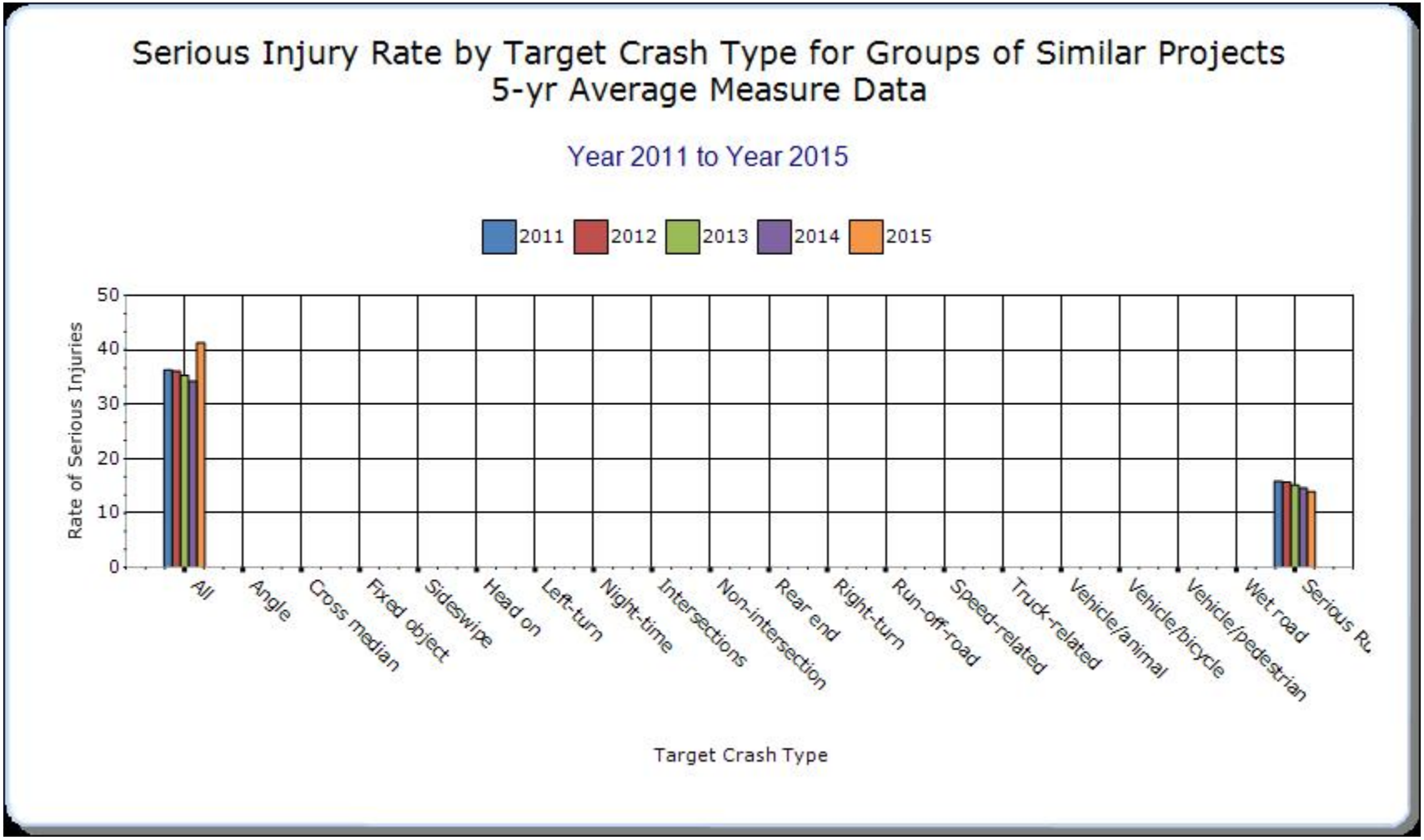
Year - 2015

HSIP Sub-program Types	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Total Injuries	Other-2	Other-3
Other-State Abbreviated HSIP Application	All	1050	9308	0.94	8.28	104511		
Other-CEAO HSIP Program	All	177	1372	3.19	24.73	12130		
Other-State High Risk Rural Road	Serious Rural Crashes	329	2166	2.13	13.94	18663		
Other-State HSIP Program	All	1050	9308	0.94	8.28	104511		


Fatalities by Target Crash Type for Groups of Similar Projects
5-yr Average Measure Data
Year 2011 to Year 2015
2011
2012
2013
2014
2015
# of Fatalities
3000
2500
2000
1500
1000
500
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Intersections
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Serious Ru
Target Crash Type


#Serious Injuries by Target Crash Type for Groups of Similar Projects
5-yr Average Measure Data
Year 2011 to Year 2015
2011
2012
2013
2014
2015
# of Serious Injuries
25000
20000
15000
10000
5000
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Intersections
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Serious Ru
Target Crash Type


Fatality Rate by Target Crash Type for Groups of Similar Projects
5-yr Average Measure Data
Year 2011 to Year 2015
2011
2013
2013
2014
2015
Rate of Fatalities
0
1
2
3
4
5
6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Intersections
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Serious Ru
Target Crash Type

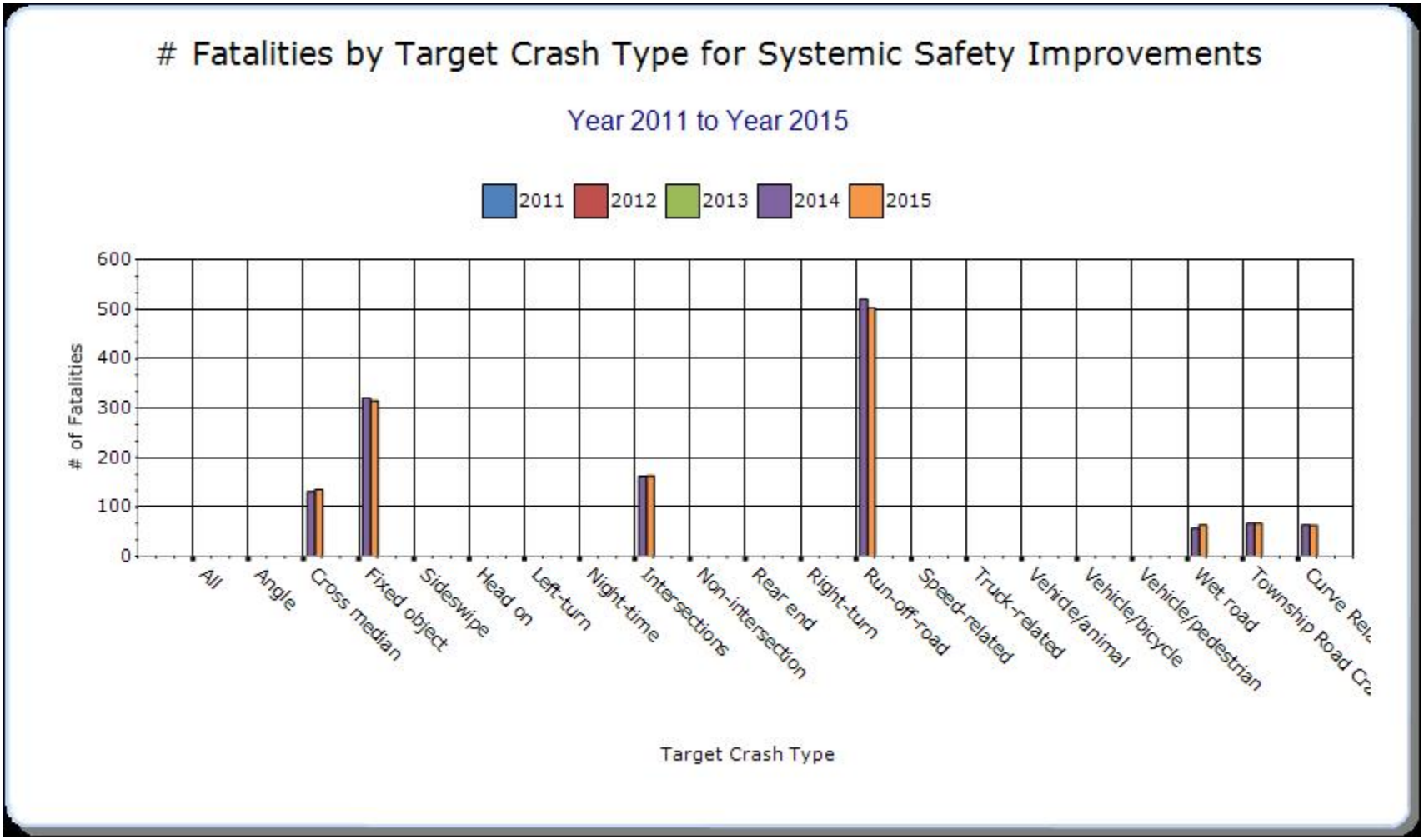


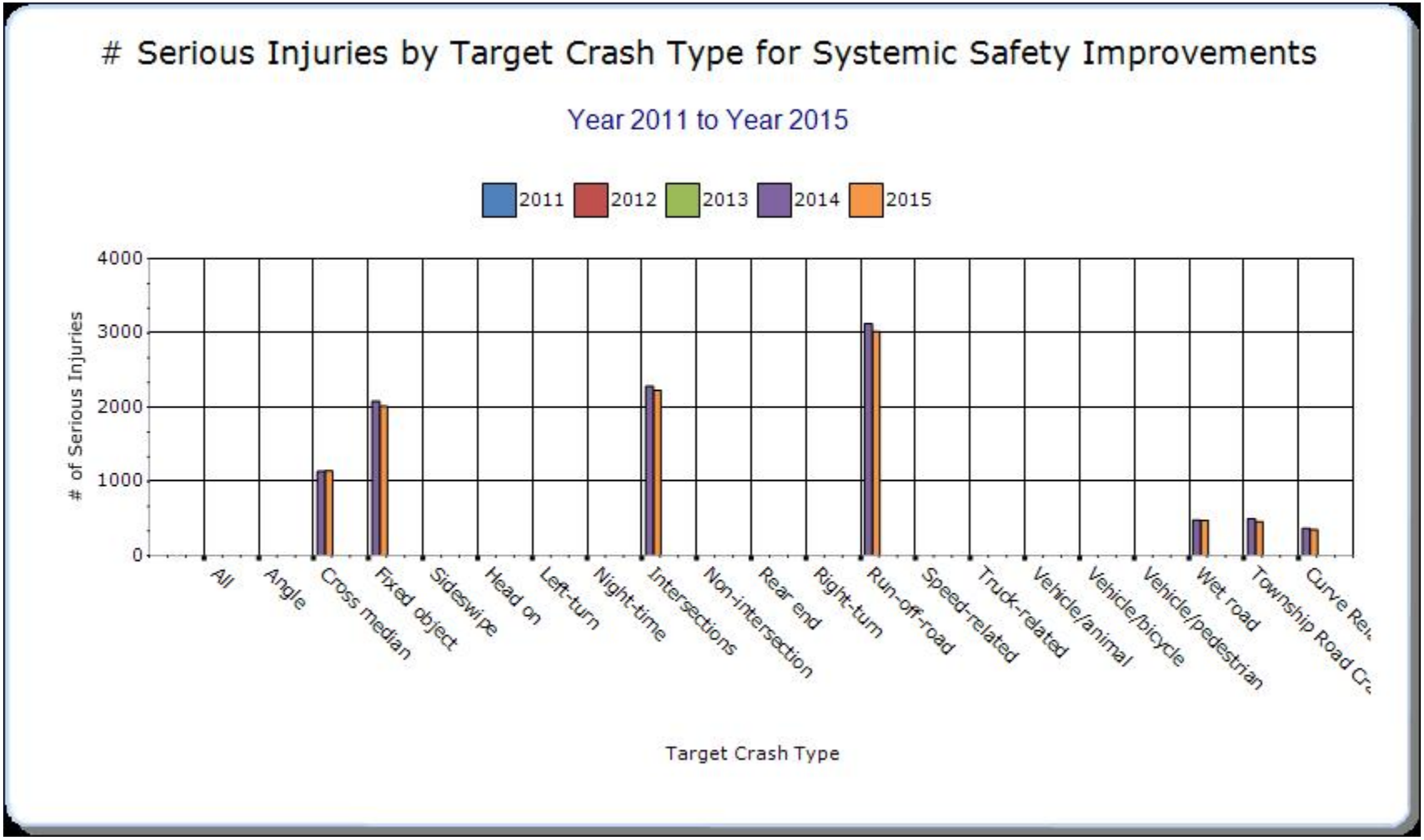
Systemic Treatments

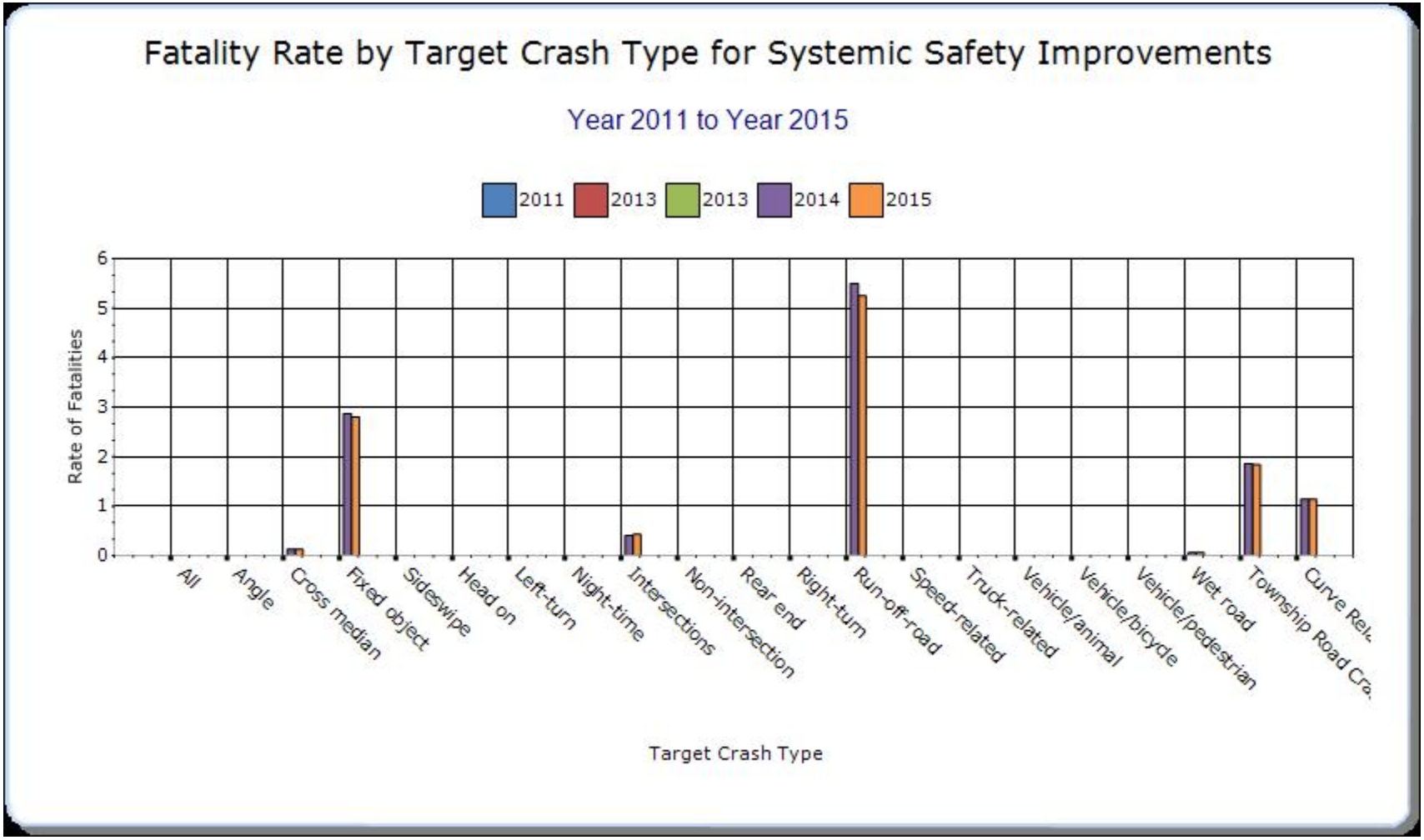
Present the overall effectiveness of systemic treatments.

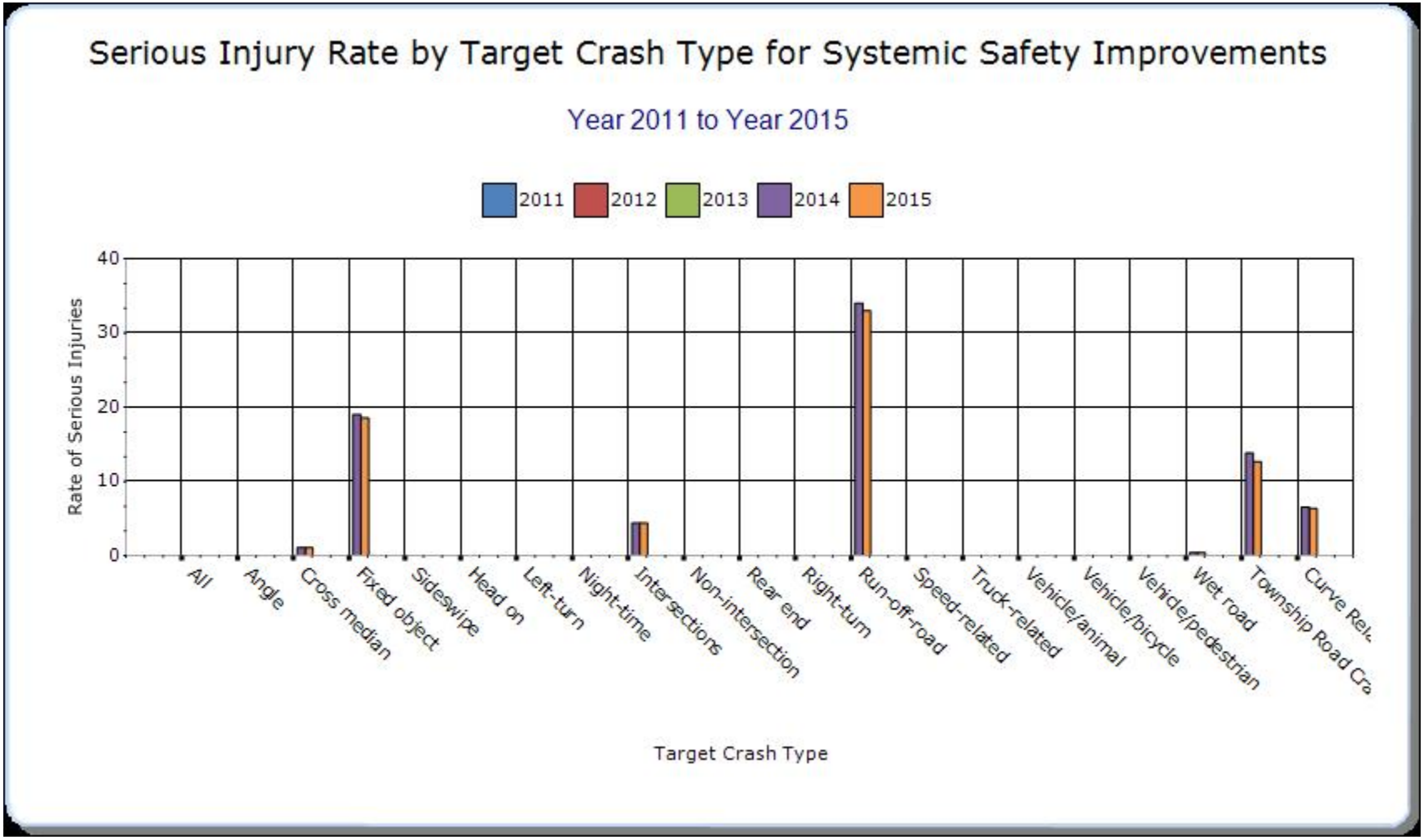
Year - 2015

Systemic improvement	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Total Injuries	Other-2	Other-3
Other-CEAO - Upgrade Pavement Markings	Run-off-road	116	746	2.08	13.44	4907		
Other-ODOT - Wet Pavement Locations	Wet road	64	475	0.06	0.43	4358		
Other-LTAP - Township Signage Program	Township Road Crashes	67	459	1.84	12.67	3776		
Other-ODOT - Intersection Signage	Intersections	88	775	0.36	3.11	6500		
Add/Upgrade/Modify/Remove Traffic Signal	Intersections	75	1454	0.07	1.3	25067		
Other-CEAO - Upgrade / Install RPMs	Run-off-road	116	746	2.08	13.44	4907		
Other-CEAO - Upgrade / Install Curve Signage	Curve Related	63	352	1.14	6.35	2424		
Upgrade Guard Rails	Fixed object	206	1264	0.83	5.07	7970		
Other-CEAO - Upgrade / Install Guardrail	Fixed object	109	748	1.97	13.47	5021		
Other-ODOT - Roadway Departure	Run-off-road	271	1529	1.09	6.13	9997		
Cable Median Barriers	Cross median	135	1143	0.13	1.1	13836		


Fatalities by Target Crash Type for Systemic Safety Improvements
Year 2011 to Year 2015
2011
2012
2013
2014
2015
# of Fatalities
600
500
400
300
200
100
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Intersections
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Township Road
Target Crash Type


Serious Injuries by Target Crash Type for Systemic Safety Improvements
Year 2011 to Year 2015
2011
2012
2013
2014
2015
# of Serious Injuries
4000
3000
2000
1000
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Intersections
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Township Road
Target Crash Type


Fatality Rate by Target Crash Type for Systemic Safety Improvements
Year 2011 to Year 2015
2011
2013
2013
2014
2015
Rate of Fatalities
0
1
2
3
4
5
6
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Intersections
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Township Road
Curve
Target Crash Type


Serious Injury Rate by Target Crash Type for Systemic Safety Improvements
Year 2011 to Year 2015
2011
2012
2013
2014
2015
Rate of Serious Injuries
40
30
20
10
0
All
Angle
Cross median
Fixed object
Sideswipe
Head on
Left-turn
Night-time
Intersections
Non-intersection
Rear end
Right-turn
Run-off-road
Speed-related
Truck-related
Vehicle/animal
Vehicle/bicycle
Vehicle/pedestrian
Wet road
Township Road
Curve Rel
Target Crash Type

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

Cable Barrier
Installed approximately 9 miles of cable median barrier in 2015 and 2016 based on policy changes.

Wet Pavement Locations
18 sites were investigated and countermeasures were installed as necessary as part of ODOT systemic program in 2015 and 2016.

6" Edge Line Pavement Marking
Installed approximately 5,100 miles of 6" edge line on the rural two lane system in 2015 and 2016 based on policy changes.

Edge Line Rumble Stripes
Installed 1,000 miles of edge line rumble stripes in 2015 and 2016 based on policy changes.

Signing Upgrade
In coordination with Ohio LTAP center, we installed curve and intersection warning signage in 55 townships around the state in 2016.

Project Evaluation

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)
None	None	Miscellaneous												0

Optional Attachments

Sections	Files Attached
Assessment of the Effectiveness of the Improvements (Program Evaluation): SHSP Emphasis Areas	2011-2015 SHSP Matrix.pdf
Assessment of the Effectiveness of the Improvements (Program Evaluation): SHSP Emphasis Areas	2006-2015 SHSP Annual Emphasis Area Tracker.pdf
Assessment of the Effectiveness of the Improvements (Program Evaluation): SHSP Emphasis Areas	2006-2015 SHSP Monthly Emphasis Area Tracker - Fatalities.pdf
Assessment of the Effectiveness of the Improvements (Program Evaluation): SHSP Emphasis Areas	2006-2015 SHSP Monthly Emphasis Area Tracker - Serious Injuries.pdf

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.