
Highway Safety Improvement Program

*Data Driven Decisions*

# Kansas
# Highway Safety Improvement Program
# 2016 Annual Report

Prepared by: KS

## 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

In Kansas we continue to spend our HSIP dollars in a variety of independently managed sub-programs, including intersections, signing, pavement markings, lighting, rail, HRRR, and general safety improvements. The rail program is reported with the RHGCP report. This is the fourth year HRRR is reported with the HSIP report. We are working with our sub-program managers to develop program manuals specific to each sub-program in a manner consistent with the requirements of this report and related strategies in our Strategic Highway Safety Plan.

# 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**.

Our HSIP program is made up of seven sub-programs: lighting, pavement marking, signing, rail, intersections, HRRR, and general safety improvements. Lighting, pavement marking, signing, and general safety improvement projects are exclusive to the State Highway System, although projects may impact intersecting non-state roads. Intersections and rail projects may include local roads, that is, public roads

not a part of the State Highway System. HRRR is exclusive to local roads. The rail program is addressed in the Rail-Highway Grade Crossing Program report.

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

Design
Planning
Maintenance
Operations

**Briefly describe coordination with internal partners**.

Lighting sub-program: Projects are selected with input from the structural engineer in our State Bridge Office responsible for foundations for lighting, as well as field information from our Area Offices, and road safety audits performed by our Traffic Engineering Section.

Signing sub-program: This blanket replacement program was programmed to cover the entire state highway system in ten years. Our Area Offices complete a sign inventory for each project. Projects that are primarily on conventional roads the Area Offices typically install the new signs and posts. Projects that are on urban expressways and freeways are typically contractor let. Area Offices then administer the construction engineering duties.

Pavement Marking sub-program: Our pavement marking technician works closely with our district maintenance engineers to identify recommended routes. Works also with Traffic Engineering Section to identify locations in need of improved markings for safety.

Intersections sub-program: Projects are identified through solicitation to cities and their recommendations. Additionally, projects may be identified through studies such as Traffic Engineering Assistance Program reports (TEAP) and road safety audits. When the intersection is located on the State Highway System, our District and Area Offices are made part of the discussion as well. Once locations are identified a competitive process for funding begins.

HRRR sub-program: District Offices provide construction oversight.

General Safety Improvements sub-program: Projects are selected and scoped in partnership with District and Area Offices.

All sub-programs: The Crash Data Unit in our Bureau of Transportation Safety & Technology manage and report on crash data as needed.

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

Metropolitan Planning Organizations
Local Government Association
Other-Kansas Association of Counties
Other-Local Roads Emphasis Area Team (SHSP)

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

Other-Continuing transition to data-based allocation of funds to each sub-program.

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

**A total of $23,575,167 in safety funds (HSIP and Rail) was apportioned for FFY 2016, distributed to each sub-program as follows:**

Lighting: $266,000 HSIP

Pavement Marking: $2,400,000 HSIP

Signing: $8,000,000 HSIP

Highway-Railway Grade Crossing and Rail: $8,963,254 ($8,963,254 Rail & $0 HSIP)

Intersection Safety: $1,015,735 HSIP

High Risk Rural Roads: $2,930,178 HSIP

General Safety Improvements: $0 HSIP

**The following dollars were obligated for SFY 2016 in each program:**

Lighting: $672,878.90 HSIP

Pavement Marking: $1,650,911.26 HSIP

Signing: $652,858.47 HSIP

Highway-Railway Grade Crossing and Rail: $6,179,260.28 ($2,864,762.59 Rail; $3,314,497.69 HSIP)

Intersection Safety: $487,200.00 HSIP

High Risk Rural Roads: $3,990,428.53 ($120,659.76 HRRR & $3,869,768.77 HSIP)

General Safety Improvements: $380,655.84 HSIP

Each of the programs discussed further in this report are consistent with our SHSP. It is our intent that strategies identified or developed as part of the SHSP process will contribute to the continued success of these programs. A portion of our HSIP funding is programmed as part of our RHGCP. See RHGCP report for more information.

## Program Methodology

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

| | | |
|---|---|---|
| Intersection | Sign Replacement And Improvement | Local Safety |
| Other-Pavement Marking | Other-Lighting | Other-General Safety Improvements |

**Program:** **Intersection**
**Date of Program Methodology:** **8/25/2016**

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

| *Crashes* | *Exposure* | *Roadway* |
|---|---|---|
| All crashes | Traffic Volume | Functional classification |
| | Population | |
| Other-Fatal and SI crashes | Lane miles | Other-Turn lanes |

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

Crash frequency
Equivalent property damage only (EPDO Crash frequency)
Crash rate

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

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

No
If no, describe the methodology used to identify local road projects as part of this program.
State: consider only pattern and crash rate; The method for local road projects is more time-consuming to validate counter-measures, including information such as EPDO, CMFs and BC.

**How are highway safety improvement projects advanced for implementation?**
Competitive application process

**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 | 3 |
| Available funding | 4 |
| EPDO and crash rate | 1 |
| Project viability | 2 |

**Program:** **Sign Replacement And Improvement**
**Date of Program Methodology:** **7/1/2006**

**What data types were used in the program methodology?**
*Crashes* *Exposure* *Roadway*
Other-Sign inventory

**What project identification methodology was used for this program?**
Other-Pre-programmed blanket replacement program

**Are local roads (non-state owned and operated) included or addressed in this program?**
No

**How are highway safety improvement projects advanced for implementation?**
Other-Projects were pre-programmed based on a blanket replacement program.

**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

| | |
|---|---|
| Per established cyclical program | 1 |

**Program:** **Local Safety**
**Date of Program Methodology:** **2/11/2011**

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

| *Crashes* | *Exposure* | *Roadway* |
|---|---|---|
| All crashes | Traffic Volume | Horizontal curvature |
| | Population | |
| | Lane miles | Functional classification |
| | | Roadside features |
| | | Other-Shoulder width, sign sheeting type, percent in district, past projects, cost, road safety audit, county priority |

**What project identification methodology was used for this program?**
Crash frequency
Crash rate
Probability of specific crash types
Excess proportions of specific crash types

**Are local roads (non-state owned and operated) included or addressed in this program?**
Yes
If yes, are local road projects identified using the same methodology as state roads?
No
If no, describe the methodology used to identify local road projects as part of this program.
This program applies only to local roads (non-state owned and operated.)

**How are highway safety improvement projects advanced for implementation?**
Competitive application process
selection committee
Other-Scoring rubric

**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

| | |
|---|---|
| Available funding | 2 |
| Scoring rubric | 1 |

Geographical distribution 3

**Program:** **Other-Pavement Marking**
**Date of Program Methodology:** **7/1/2006**

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

| *Crashes* | *Exposure* | *Roadway* |
|---|---|---|
| All crashes | Volume<br>Population<br>Other-If we considered only traffic volumes, only high volume districts (1 and 5) would get funded, thus population is taken into account. At the district level, we then consider higher volume routes first and take into account retro-readings. | Other-Retro-reflectivity. |

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

**Are local roads (non-state owned and operated) included or addressed in this program?**
No

**How are highway safety improvement projects advanced for implementation?**
Other-Pavement Marking Specialist works closely with district maintenance engineers to select projects.

**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

Available funding 1

**Program:** **Other-Lighting**
**Date of Program Methodology:** **7/1/2006**

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

| *Crashes* | *Exposure* | *Roadway* |
|---|---|---|
| | Volume | Other-Road type: Interchanges |

**What project identification methodology was used for this program?**
Other-Locations are brought to our attention

**Are local roads (non-state owned and operated) included or addressed in this program?**
No

**How are highway safety improvement projects advanced for implementation?**
Other-Lighting Unit

**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

| | |
|---|---|
| Available funding | 1 |

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**Program:** **Other-General Safety Improvements**
**Date of Program Methodology:** **2/10/2012**

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

| *Crashes* | *Exposure* | *Roadway* |
|---|---|---|
| Fatal and serious injury crashes only | Volume | Median width |
| | Population | Horizontal curvature |
| | Lane miles | Functional classification |
| | | Roadside features |

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

**Are local roads (non-state owned and operated) included or addressed in this program?**
No

**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

| | |
|---|---|
| Available funding | 2 |
| Cost Effectiveness | 1 |

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

21%

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

Install/Improve Pavement Marking and/or Delineation
Install/Improve Lighting

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

Engineering Study
Road Safety Assessment
Other-Highway Safety Manual and CMF Clearinghouse
Other-Crash data analysis to identify systematic countermeasures

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

Other-None

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

Intersections sub-program:

Kansas chooses to devote a portion of its HSIP funding to intersection projects, as Intersections have been identified as one of the emphasis areas in our Strategic Highway Safety Plan. Recently, the majority of funds have been spent in the metro areas. Metropolitan and Urban jurisdictions are requested to submit three years of crash data for up to four high-crash locations on any system where the major street is not classified as a local street or rural minor collector within their areas. High-crash locations are determined and ranked by descending equivalent-property-damage-only (EPDO) accident rate. The top ranking projects are considered for funding. To determine if a location is a high-frequency location on Rural State Highways, a comparison is made between the actual crash rate and the statewide average rate for similar highways. KDOT conducts county-wide road safety audits. From these audits, city submittals and from traffic studies, high-crash locations are established. High-crash locations are ranked in descending EPDO crash rate order, with further analysis done on the top ten locations. Identified high-crash locations are prioritized on the basis of the average annual net return for each location. The average net return is a dollar amount found by subtracting the average annual costs from the average annual benefits. First priority is given to the location with the highest average annual net return. Remaining projects are selected in descending order until funds are exhausted. Exceptions to this practice might be caused by the unavailability of city matching funds, future projects that may encompass the selected location, a grouping of proximate locations into one project, or combining several smaller projects for a total net return larger than another single project. Projects on County Roads and other roadways are selected by local units of government. These projects are subject to approval by the Federal Highway Administration and are administered by KDOT.

Lighting sub-program:

Because lighting is beneficial to the safety and operation of the highway system, this set-aside program was established in FY 2000. Projects are selected by the Bureau of Transportation Safety & Technology (BTS&T) based on the roadway's volume and the potential for night-time crash history. This program is limited to projects which are not included under any other KDOT program. Projects are scheduled until the available lighting funds are exhausted. This is the 11th year KDOT has used HSIP funds to improve lighting.

Pavement Marking sub-program:

This set-aside program was established in FY 1996 to address pavement marking necessary due to pending new federal requirements for minimum retro-reflectivity of pavement markings. Improvements in this category utilize high-performance, long-life pavement marking materials. Efforts are also made to identify those marking materials with wet-weather retro-reflectivity. This program is limited to projects that do not have high-performance markings included under any other KDOT program. Projects are selected by the BTS&T based upon a roadway's traffic volumes, past performance of marking material, geometry, surface condition, surface type, crash history, and, in the case of new marking materials, the research benefit. This is the 11th year KDOT has used HSIP funds to improve pavement markings.

Signing sub-program:

This program was established in 1996 to address necessary sign replacements on the State Highway System due to pending (now final) federal requirements for minimum retro-reflectivity of highway signs. This program schedules sign replacements based upon highway route-mileage statewide and the total mileage of all the routes in each District Sub-Area with multiple Sub-Areas in each District being addressed each year. This program excludes signs on any other state project that include sign replacement for that highway route in the same year. This program also excludes any signs that were replaced within seven years of the scheduled date of the replacement project. This is the ninth year KDOT has used HSIP funds to improve permanent signing. The projects in the program are administered

using two separate methods. Sub-Areas comprised primarily of routes classified as freeways and expressways with interchanges are let to contract via normal letting procedures. Sub-Areas with routes that are classified as expressways and conventional roads are administered by releasing contracts to purchase the signs and posts with installation performed by KDOT maintenance crews. However, due to KDOT maintenance work force reductions, the program will rely on contractors to install the signs regardless of route classification within some Sub-Areas.

HRRR sub-program:

This program focuses on low-cost safety improvements at site-specific locations and systematiic improvements to signing, pavement marking, roadsides, and horizontal curves. A scoring rubric is used to rank applications.

General Safety Improvement sub-program:

Every year the FHWA provides funds for DOT's to make safety improvements to their system through the Highway Safety Improvement Program (HSIP). As a pilot KDOT developed a program that directed up to $6,000,000 of HSIP funds to projects that were selected using a new system that combines quantitative safety analysis and prediction (IHSDM) with District input. The goal was to distribute these funds throughout the state and address spot locations, like individual curves, intersections, or short tangent sections that were identified with tools developed for the Transparency Report. Moreover the hope is that the program can help address locations that demonstrate a potential safety issue but have not been addressed through traditional KDOT funding programs. This program has not received additional funding since the original $6,000,000 was allocated to it. However, projects in the program continue to be let to contract which is why the program continues to be included in this report.

# 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)** | $11,149,431.00 | 100 % | $11,149,430.00 | 99 % |
| **HRRRP (SAFETEA-LU)** | $0.00 | 0 % | $120,660.00 | 1 % |
| **Totals** | $11,149,431.00 | 100% | $11,270,090.00 | 100% |

**How much funding is programmed to local (non-state owned and operated) safety projects?**
27 %
**How much funding is obligated to local safety projects?**
$7,304,927.00

**How much funding is programmed to non-infrastructure safety projects?**
0 %
**How much funding is obligated to non-infrastructure safety projects?**
$0.00

**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**.

Signing sub-program: The FY16 program experienced delays due to timing of the request for project data collection and the availability of field staff to collect the data. Several project lettings have been delayed to the next fiscal year and they are the significantly larger signing projects.

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

Nothing to note at this time.

## 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 |
| **C-0060-01** | Alignment Vertical alignment or elevation change | 0.37 Miles | 500000 | 880785 | HRRRP (SAFETEA-LU) | Rural Minor Arterial | 825 | 35 | County Highway Agency | | |
| **C-4593-01** | Alignment Vertical alignment or elevation change | 0.14 Miles | 311010 | 350008 | HRRRP (SAFETEA-LU) | Rural Major Collector | 2850 | 55 | County Highway Agency | | |
| **C-4673-01** | Roadway signs and traffic control Roadway signs (including post) - new or updated | 75 Miles | 150982 | 150982 | HSIP (Section 148) | Rural Major Collector | 0 | 0 | County Highway Agency | | |
| **C-4674-01** | Roadway signs and traffic control Roadway | 43 Miles | 84920 | 87307 | HSIP (Section 148) | Rural Major Collector | 0 | 0 | County Highway Agency | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | signs (including post) - new or updated | | | | | | | | | | |
| **C-4675-01** | Roadway signs and traffic control Roadway signs (including post) - new or updated | 44 Miles | 149565 | 149565 | HSIP (Section 148) | Rural Major Collector | 0 | 0 | County Highway Agency | | |
| **C-4676-01** | Roadway signs and traffic control Roadway signs (including post) - new or updated | 77 Miles | 97368 | 124600 | HSIP (Section 148) | Rural Major Collector | 0 | 0 | County Highway Agency | | |
| **C-4677-01** | Roadway signs and traffic control Roadway signs (including post) - new or updated | 92 Miles | 227200.62 | 229643.55 | HSIP (Section 148) | Rural Major Collector | 0 | 0 | County Highway Agency | | |
| **C-4678-01** | Roadway signs and traffic | 23.5 Miles | 47116.59 | 49596.42 | HSIP (Section 148) | Rural Major Collector | 0 | 0 | County Highway Agency | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | control Roadway signs (including post) - new or updated | | | | | | | | | | |
| **C-4679-01** | Roadway signs and traffic control Roadway signs (including post) - new or updated | 62 Miles | 106560.99 | 5608.48 | HSIP (Section 148) | Rural Major Collector | 0 | 0 | County Highway Agency | | |
| **C-4680-01** | Roadway signs and traffic control Roadway signs (including post) - new or updated | 74 Miles | 70915.47 | 85342.02 | HSIP (Section 148) | Rural Major Collector | 0 | 0 | County Highway Agency | | |
| **C-4681-01** | Roadway signs and traffic control Roadway signs (including post) - new or updated | 74 Miles | 202858.5 | 214281.68 | HSIP (Section 148) | Rural Major Collector | 0 | 0 | County Highway Agency | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **C-4682-01** | Roadway signs and traffic control Roadway signs (including post) - new or updated | 51 Miles | 96258.28 | 101383.49 | HSIP (Section 148) | Rural Major Collector | 0 | 0 | County Highway Agency | | |
| **C-4684-01** | Roadway signs and traffic control Roadway signs (including post) - new or updated | 49 Miles | 83347.71 | 83894.72 | HSIP (Section 148) | Rural Major Collector | 0 | 0 | County Highway Agency | | |
| **C-4685-01** | Roadway signs and traffic control Roadway signs (including post) - new or updated | 97 Miles | 117525 | 118113.21 | HSIP (Section 148) | Rural Major Collector | 0 | 0 | County Highway Agency | | |
| **C-4686-01** | Roadway signs and traffic control Roadway signs (including | 40 Miles | 78799.32 | 83046.27 | HSIP (Section 148) | Rural Major Collector | 0 | 0 | County Highway Agency | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | post) - new or updated | | | | | | | | | | |
| **C-4687-01** | Intersection geometry Intersection geometrics - modify skew angle | 0.342 Miles | 206783.14 | 22975.9 | HSIP (Section 148) | Rural Major Collector | 420 | 60 | County Highway Agency | | |
| **C-4688-01** | Roadway signs and traffic control Roadway signs (including post) - new or updated | 284 Miles | 64838.65 | 68361.43 | HSIP (Section 148) | Rural Major Collector | 0 | 0 | County Highway Agency | | |
| **C-4690-01** | Roadway signs and traffic control Roadway signs (including post) - new or updated | 252 Miles | 117465.02 | 117602.06 | HSIP (Section 148) | Rural Major Collector | 0 | 0 | County Highway Agency | | |
| **C-4691-01** | Shoulder treatments Widen shoulder - paved or other | 0.339 Miles | 214335.36 | 238464.73 | HSIP (Section 148) | Rural Major Collector | 1780 | 55 | County Highway Agency | | |
| **C-4692-** | Roadway signs and | 0 Miles | 41417.13 | 41417.13 | HSIP (Section | Rural Major Collector | 0 | 0 | County Highway | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **01** | traffic control Roadway signs (including post) - new or updated | | | | 148) | | | | Agency | | |
| **KA-4016-01** | Roadway signs and traffic control Sign sheeting - upgrade or replacement | 7.309 Miles | 44270 | 44270 | HSIP (Section 148) | Rural Minor Collector | 465 | 55 | State Highway Agency | Roadway Departure | |
| **KA-4110-01** | Roadway signs and traffic control Sign sheeting - upgrade or replacement | 142.062 Miles | 515563.45 | 523097.28 | HSIP (Section 148) | Rural Principal Arterial - Interstate | 0 | 75 | State Highway Agency | Roadway Departure | |
| **KA-4110-02** | Roadway signs and traffic control Sign sheeting - upgrade or replacement | 143.07 Miles | 51500 | 51500 | HSIP (Section 148) | Rural Principal Arterial - Interstate | 0 | 75 | State Highway Agency | Roadway Departure | |
| **KA-4110-03** | Roadway signs and traffic control Sign sheeting - upgrade or | 201.813 Miles | 181854.53 | 184303.13 | HSIP (Section 148) | Urban Principal Arterial - Interstate | 0 | 65 | State Highway Agency | Roadway Departure | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | replacement | | | | | | | | | | |
| **KA-4110-04** | Roadway signs and traffic control Sign sheeting - upgrade or replacement | 129.497 Miles | 76187.9 | 76912.94 | HSIP (Section 148) | Urban Principal Arterial - Other Freeways and Expressways | 0 | 70 | State Highway Agency | Roadway Departure | |
| **KA-4111-01** | Roadway signs and traffic control Sign sheeting - upgrade or replacement | 205.015 Miles | 182000 | 189960.42 | HSIP (Section 148) | Rural Principal Arterial - Interstate | 0 | 75 | State Highway Agency | Roadway Departure | |
| **KA-4111-02** | Roadway signs and traffic control Sign sheeting - upgrade or replacement | 34.198 Miles | 286900 | 287367.94 | HSIP (Section 148) | Mix of Rural Minor Arterial and Minor Collector | 0 | 65 | State Highway Agency | Roadway Departure | |
| **KA-4112-01** | Roadway signs and traffic control Sign sheeting - upgrade or replacement | 50.68 Miles | 84100 | 84582 | HSIP (Section 148) | Mix of Rural Major and Minor Collector | 0 | 65 | State Highway Agency | Roadway Departure | |
| **KA-4113-02** | Roadway signs and traffic control Sign | 88.606 Miles | 52455.27 | 52455.27 | HSIP (Section 148) | Mix of Rural Principal Arterial Other, Rural | 0 | 65 | State Highway Agency | Roadway Departure | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | sheeting - upgrade or replacement | | | | | Minor Arterial, Major Collector and Minor Collector | | | | | |
| **KA-4113-03** | Roadway signs and traffic control Sign sheeting - upgrade or replacement | 119.136 Miles | 102158.69 | 102158.69 | HSIP (Section 148) | Mix of Rural Principal Arterial Other, Rural Minor Arterial, Major Collector and Minor Collector | 0 | 65 | State Highway Agency | Roadway Departure | |
| **KA-4114-01** | Roadway signs and traffic control Sign sheeting - upgrade or replacement | 57.729 Miles | 87360 | 88318.07 | HSIP (Section 148) | Mix of Rural Minor Arterial and Major Collector | 0 | 65 | State Highway Agency | Roadway Departure | |
| **KA-4114-02** | Roadway signs and traffic control Sign sheeting - upgrade or replacement | 115.426 Miles | 167750 | 167831 | HSIP (Section 148) | Mix of Rural Minor Arterial and Major Collector | 0 | 65 | State Highway Agency | Roadway Departure | |
| **KA-4115-01** | Roadway signs and traffic control Sign | 60.876 Miles | 37200 | 37594.32 | HSIP (Section 148) | Mix of Rural Major and Minor Collector | 0 | 65 | State Highway Agency | Roadway Departure | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | sheeting - upgrade or replacement | | | | | | | | | | |
| **KA-4115-02** | Roadway signs and traffic control Sign sheeting - upgrade or replacement | 94.678 Miles | 50520 | 50883.09 | HSIP (Section 148) | Mix of Rural Principal Arterial Other, Major Collector and Minor Collector | 0 | 65 | State Highway Agency | Roadway Departure | |
| **KA-4174-01** | Roadway delineation Longitudinal pavement markings - remarking | 5.804 Miles | 241937.36 | 253403.18 | HSIP (Section 148) | Rural Principal Arterial - Other Freeways and Expressways | 22500 | 65 | State Highway Agency | Roadway Departure | Pavement Markings |
| **KA-4175-01** | Roadway delineation Longitudinal pavement markings - remarking | 1.91 Miles | 69890.65 | 105179.31 | HSIP (Section 148) | Rural Principal Arterial - Other | 21500 | 65 | State Highway Agency | Roadway Departure | Pavement Markings |
| **KA-4180-01** | Roadway delineation Longitudinal pavement markings - remarking | 2.73 Miles | 330968.22 | 289959.33 | HSIP (Section 148) | Rural Principal Arterial - Other Freeways and Expressways | 88500 | 60 | State Highway Agency | Roadway Departure | Pavement Markings |
| **KA-4183-01** | Roadway delineation Longitudinal | 18.202 Miles | 809957.56 | 1257369.94 | HSIP (Section 148) | | 0 | 0 | State Highway Agency | Roadway Departure | Pavement Markings |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | pavement markings - remarking | | | | | | | | | | |
| **KA-4353-01** | Roadway delineation Longitudinal pavement markings - remarking | 22.886 Miles | 650627 | 537500 | HSIP (Section 148) | | 0 | 0 | State Highway Agency | Roadway Departure | Pavement Markings |
| **KA-4360-01** | Roadway delineation Longitudinal pavement markings - remarking | 11.23 Miles | 175429 | 177500 | HSIP (Section 148) | Rural Principal Arterial - Other Freeways and Expressways | 12600 | 70 | State Highway Agency | Roadway Departure | Pavement Markings |
| **KA-4366-01** | Roadway delineation Longitudinal pavement markings - remarking | 5.4 Miles | 108154 | 118300 | HSIP (Section 148) | Urban Principal Arterial - Other | 10600 | 65 | State Highway Agency | Roadway Departure | Pavement Markings |
| **KA-4367-01** | Roadway delineation Longitudinal pavement markings - remarking | 0.7 Miles | 61608 | 66700 | HSIP (Section 148) | Urban Principal Arterial - Other | 7960 | 40 | State Highway Agency | Roadway Departure | Pavement Markings |
| **KA-4212-01** | Lighting Site lighting - interchange | 1 Numbers | 412956.26 | 466483.3 | HSIP (Section 148) | Rural Principal Arterial - Other Freeways and | 96000 | 60 | State Highway Agency | Intersections | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Expressways | | | | | |
| **KA-4187-01** | Lighting Site lighting - interchange | 1 Numbers | 330908.64 | 462914.1 | HSIP (Section 148) | Rural Principal Arterial - Other Freeways and Expressways | 94400 | 60 | State Highway Agency | Intersections | |
| **KA-4277-01** | Roadway Pavement surface - high friction surface | 0.5 Miles | 119111 | 132345 | HSIP (Section 148) | Urban Principal Arterial - Other Freeways and Expressways | 0 | 0 | State Highway Agency | Roadway Departure | |
| **C-4855-16** | Miscellaneous | | 200000 | 200000 | HSIP (Section 148) | | | | | | TEAP Studies for LPAs |

# Progress in Achieving Safety Performance Targets

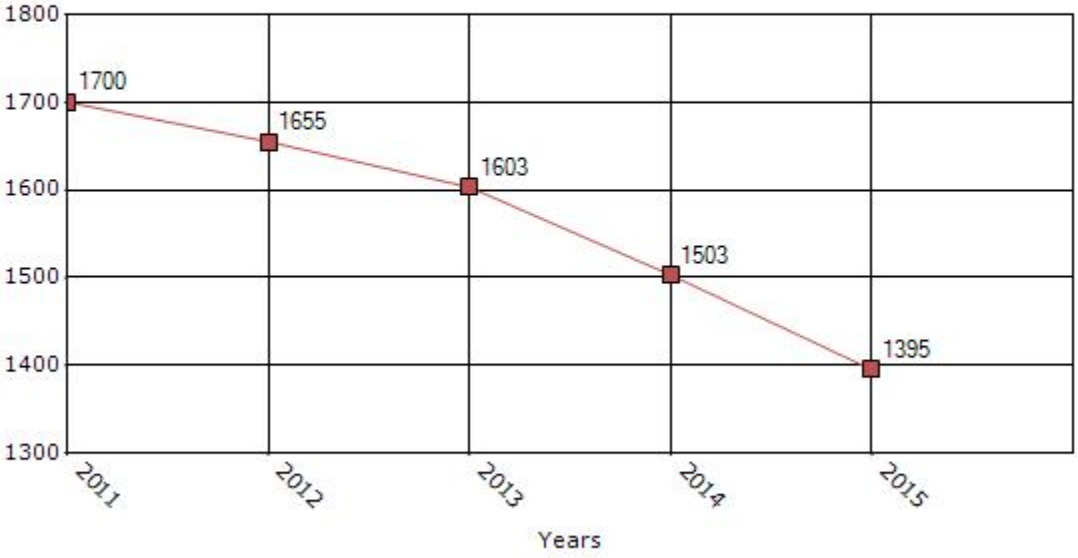
## Overview of General Safety Trends

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

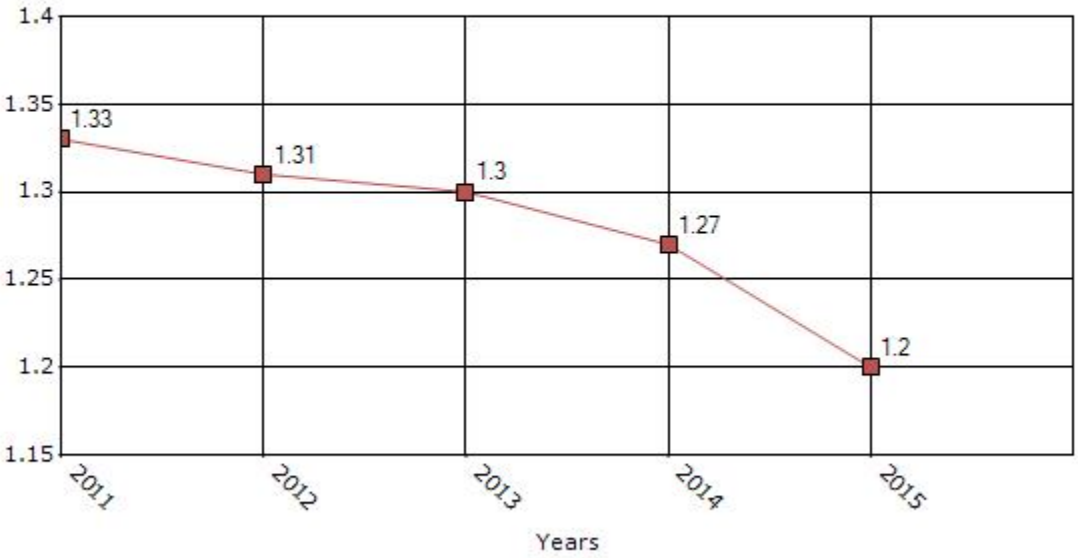
| Performance Measures* | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|
| **Number of fatalities** | 401 | 398 | 392 | 391 | 377 |
| **Number of serious injuries** | 1700 | 1655 | 1603 | 1503 | 1395 |
| **Fatality rate (per HMVMT)** | 1.33 | 1.31 | 1.3 | 1.27 | 1.2 |
| **Serious injury rate (per HMVMT)** | 5.66 | 5.43 | 5.31 | 4.89 | 4.44 |

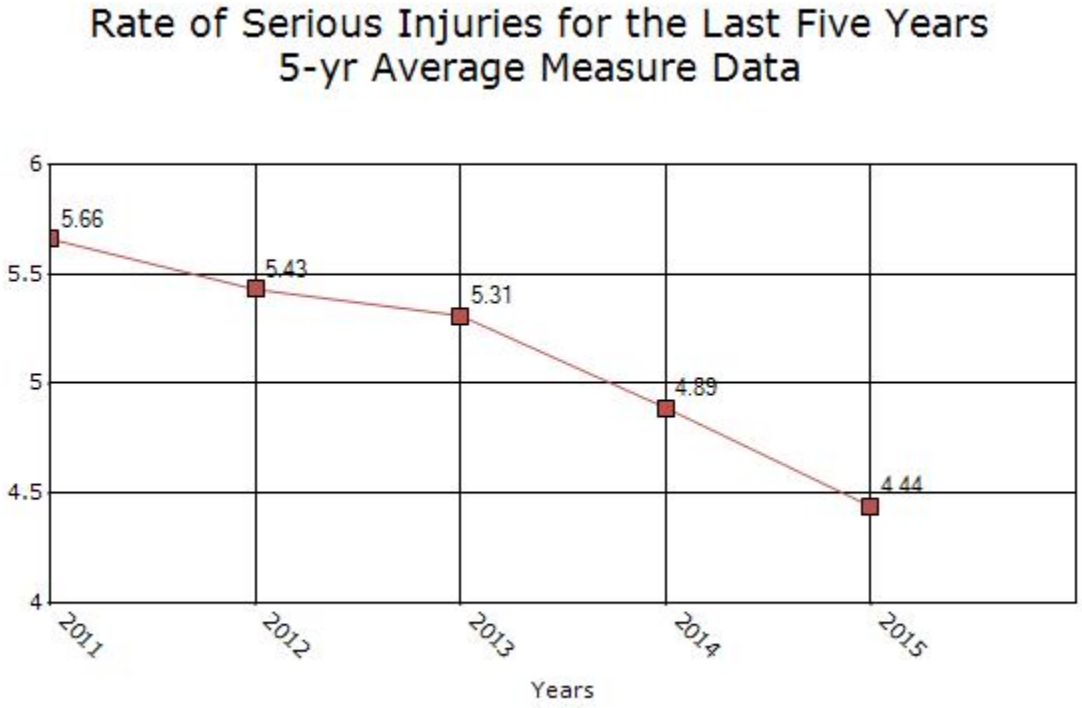
*Performance measure data is presented using a five-year rolling average.

## 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



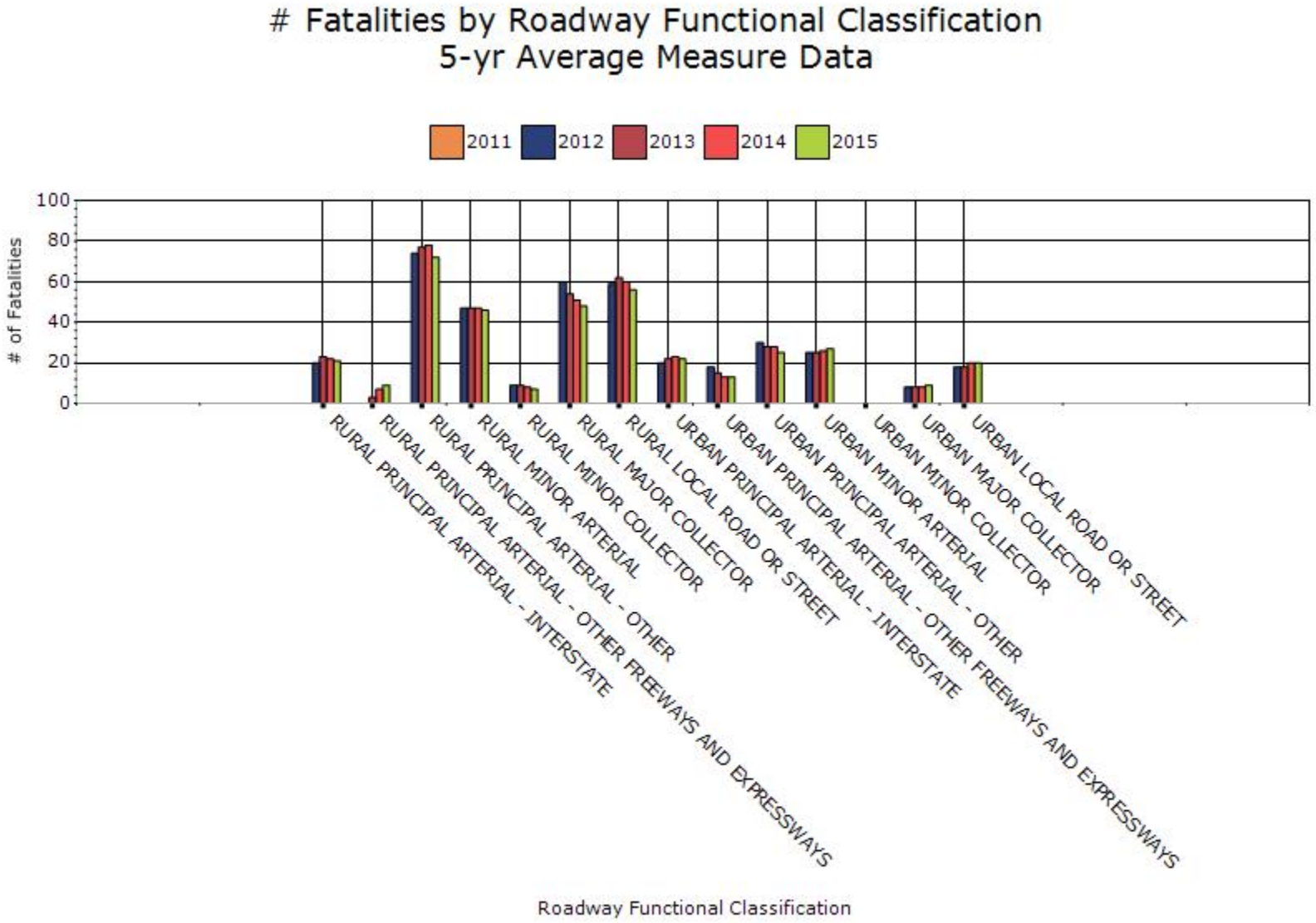

Rate of Serious Injuries for the Last Five Years
5-yr Average Measure Data
6
5.5
5
4.5
4
5.66
5.43
5.31
4.89
4.44
2011
2012
2013
2014
2015
Years

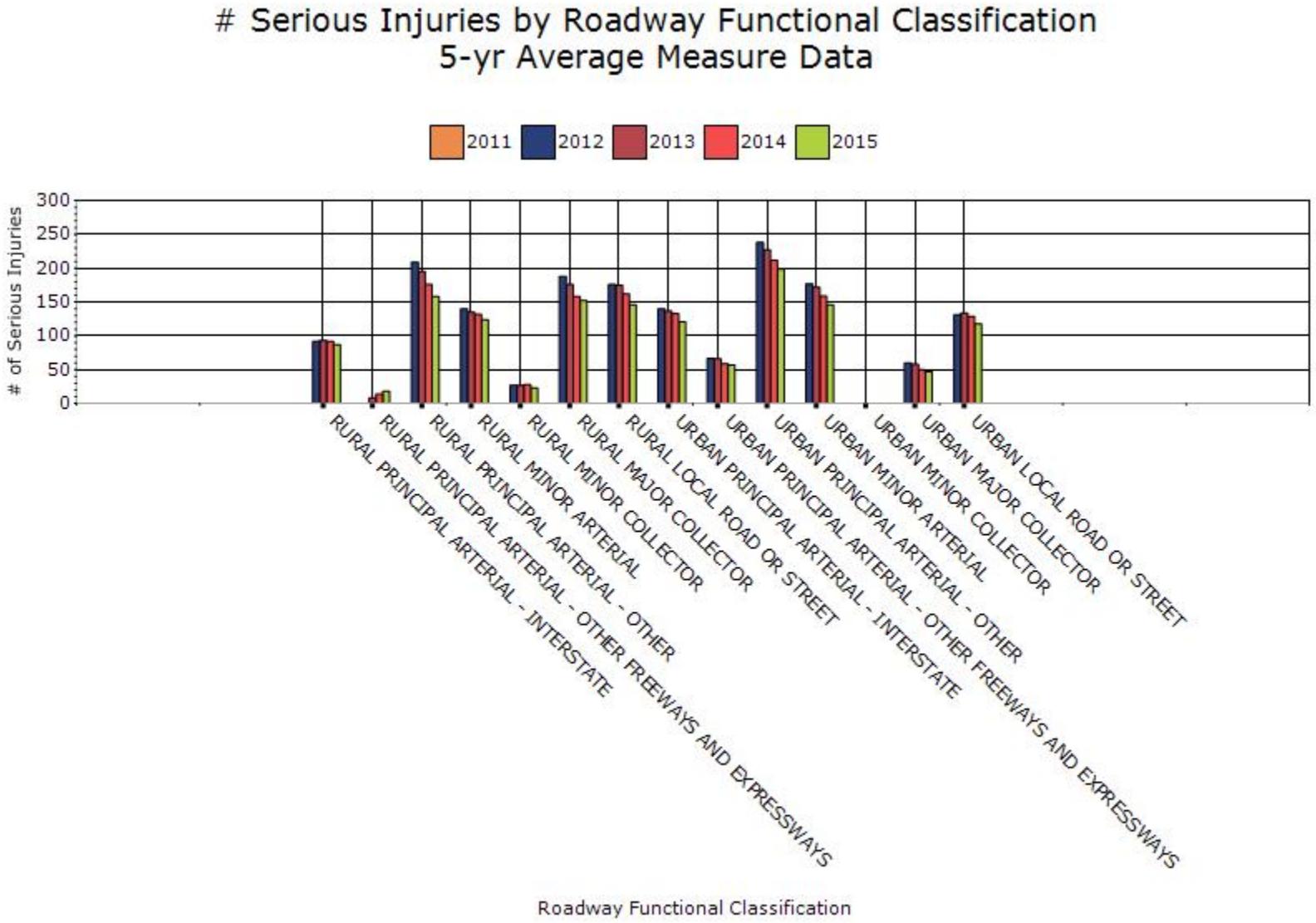
**To the maximum extent possible, present performance measure* data by functional classification and ownership.**

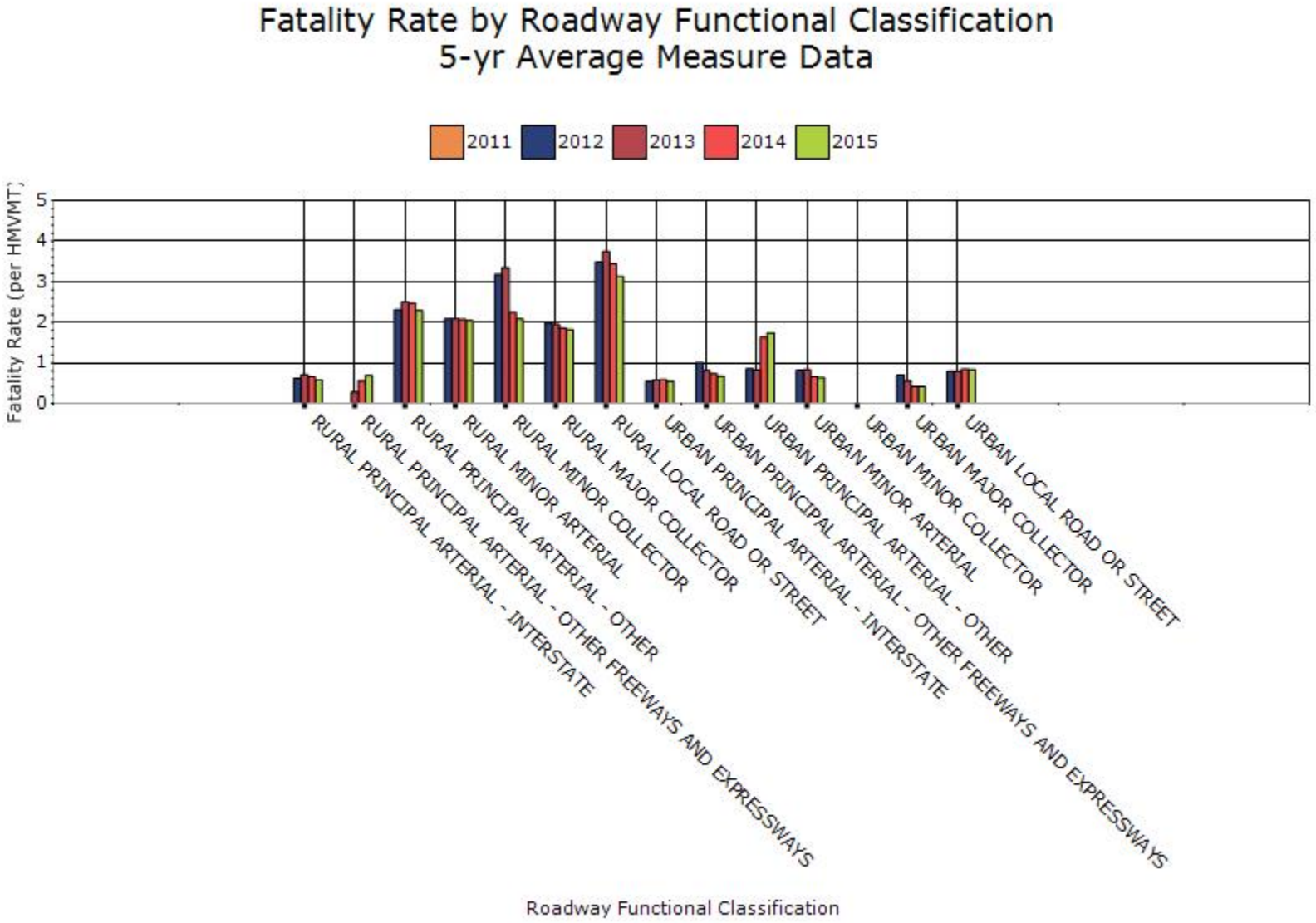
## Year - 2015

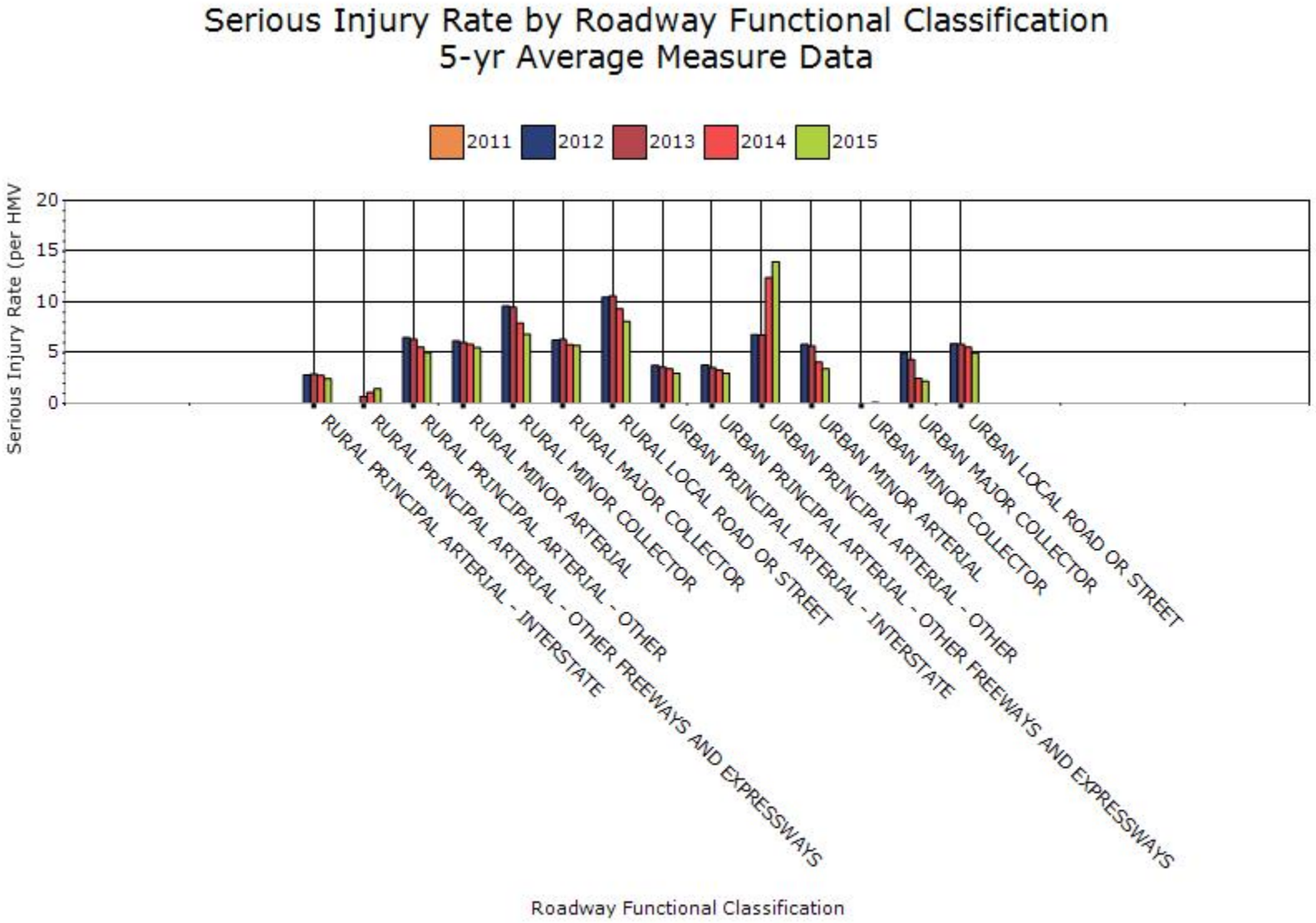
| Function Classification | Number of fatalities | Number of serious injuries | Fatality rate (per HMVMT) | Serious injury rate (per HMVMT) |
|---|---|---|---|---|
| **RURAL PRINCIPAL ARTERIAL - INTERSTATE** | 21 | 87 | 0.58 | 2.45 |
| **RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS** | 9 | 18 | 0.69 | 1.46 |
| **RURAL PRINCIPAL ARTERIAL - OTHER** | 72 | 158 | 2.29 | 5.04 |
| **RURAL MINOR ARTERIAL** | 46 | 124 | 2.04 | 5.5 |
| **RURAL MINOR COLLECTOR** | 7 | 23 | 2.08 | 6.83 |
| **RURAL MAJOR COLLECTOR** | 48 | 152 | 1.82 | 5.71 |
| **RURAL LOCAL ROAD OR STREET** | 56 | 146 | 3.13 | 8.09 |
| **URBAN PRINCIPAL ARTERIAL - INTERSTATE** | 22 | 121 | 0.55 | 2.98 |

| | | | | |
|---|---|---|---|---|
| **URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS** | 13 | 57 | 0.67 | 2.98 |
| **URBAN PRINCIPAL ARTERIAL - OTHER** | 25 | 199 | 1.74 | 13.97 |
| **URBAN MINOR ARTERIAL** | 27 | 146 | 0.64 | 3.42 |
| **URBAN MINOR COLLECTOR** | | | | 0.09 |
| **URBAN MAJOR COLLECTOR** | 9 | 47 | 0.41 | 2.21 |
| **URBAN LOCAL ROAD OR STREET** | 20 | 118 | 0.84 | 4.97 |


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

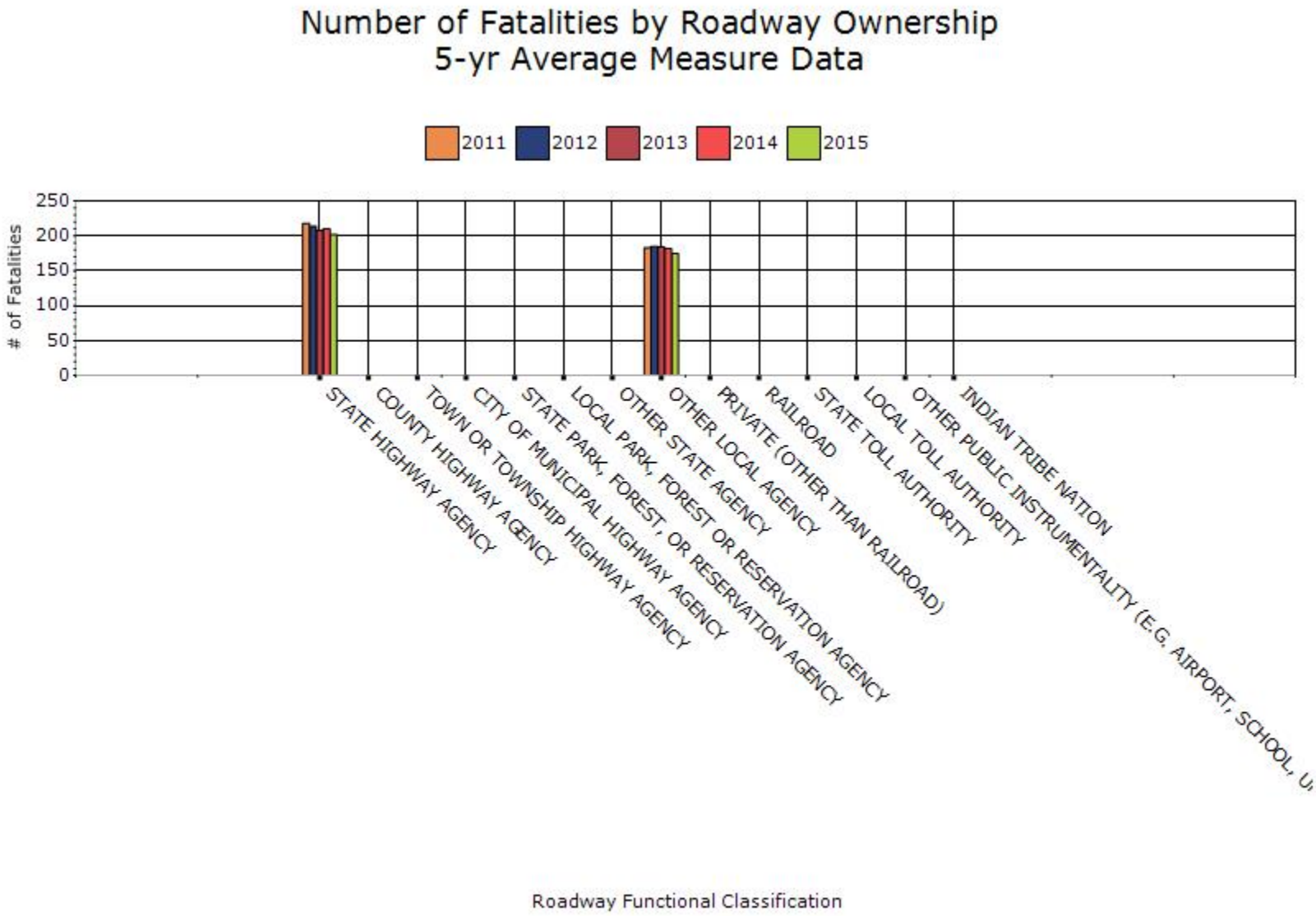

# Serious Injuries by Roadway Functional Classification
5-yr Average Measure Data
2011
2012
2013
2014
2015
# of Serious Injuries
300
250
200
150
100
50
0
RURAL PRINCIPAL ARTERIAL - INTERSTATE
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
RURAL PRINCIPAL ARTERIAL - OTHER
RURAL MINOR ARTERIAL
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

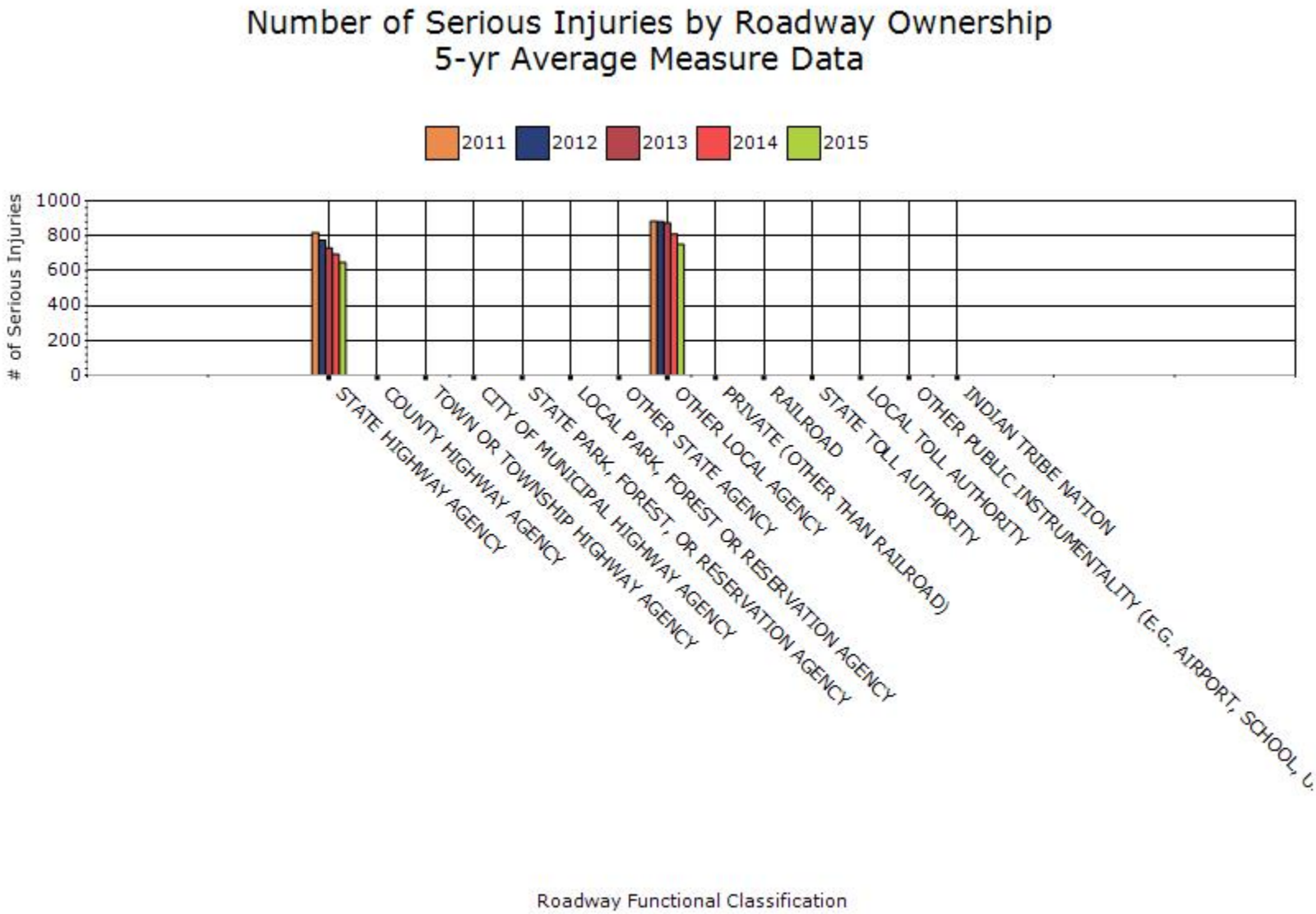

Fatality Rate by Roadway Functional Classification
5-yr Average Measure Data
2011
2012
2013
2014
2015
Fatality Rate (per HMVMT)
0
1
2
3
4
5
RURAL PRINCIPAL ARTERIAL - INTERSTATE
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
RURAL PRINCIPAL ARTERIAL - OTHER
RURAL MINOR ARTERIAL
RURAL MINOR 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

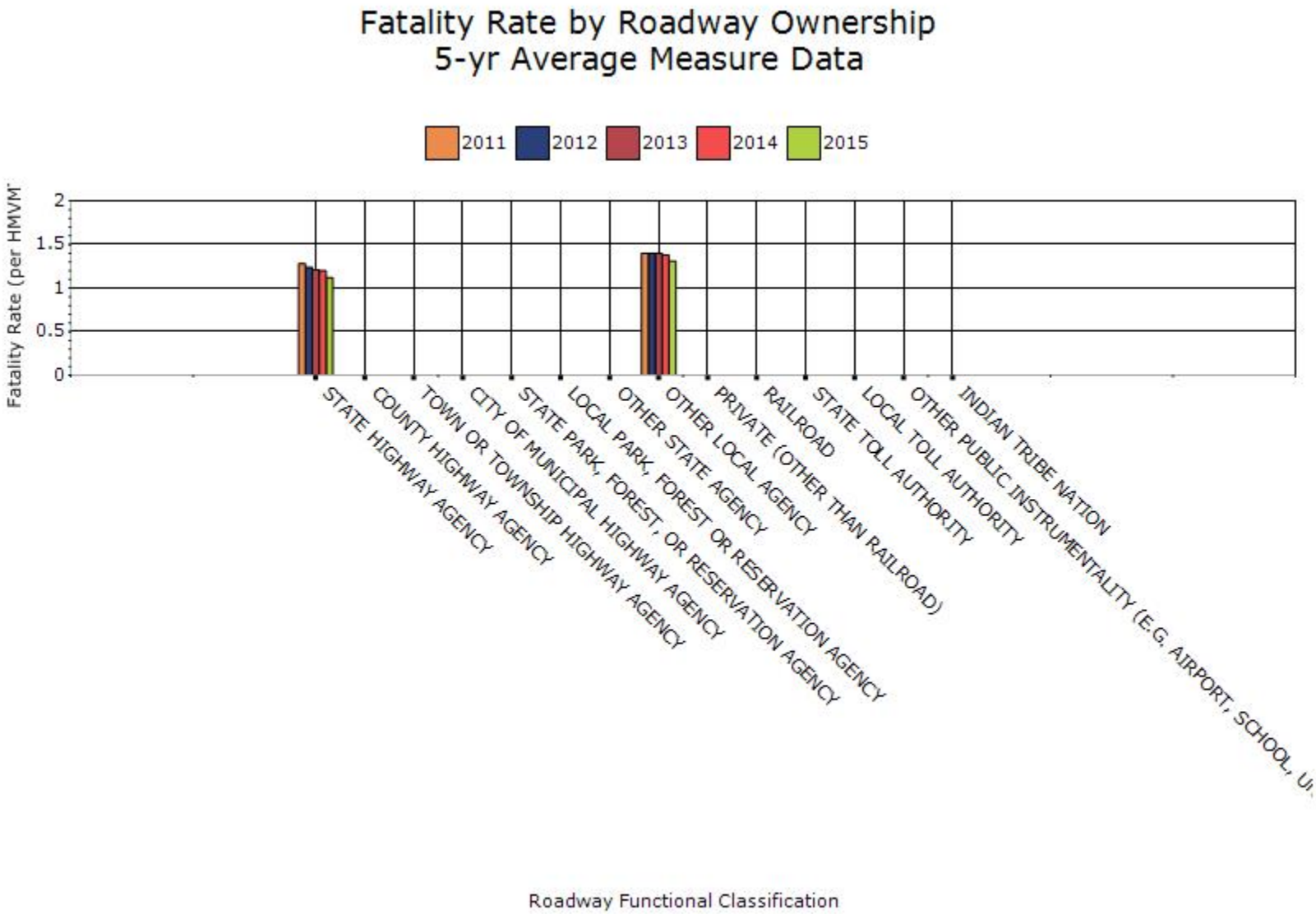

Serious Injury Rate by Roadway Functional Classification
5-yr Average Measure Data
2011
2012
2013
2014
2015
Serious Injury Rate (per HMV
20
15
10
5
0
RURAL PRINCIPAL ARTERIAL - INTERSTATE
RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS
RURAL PRINCIPAL ARTERIAL - OTHER
RURAL MINOR ARTERIAL
RURAL 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

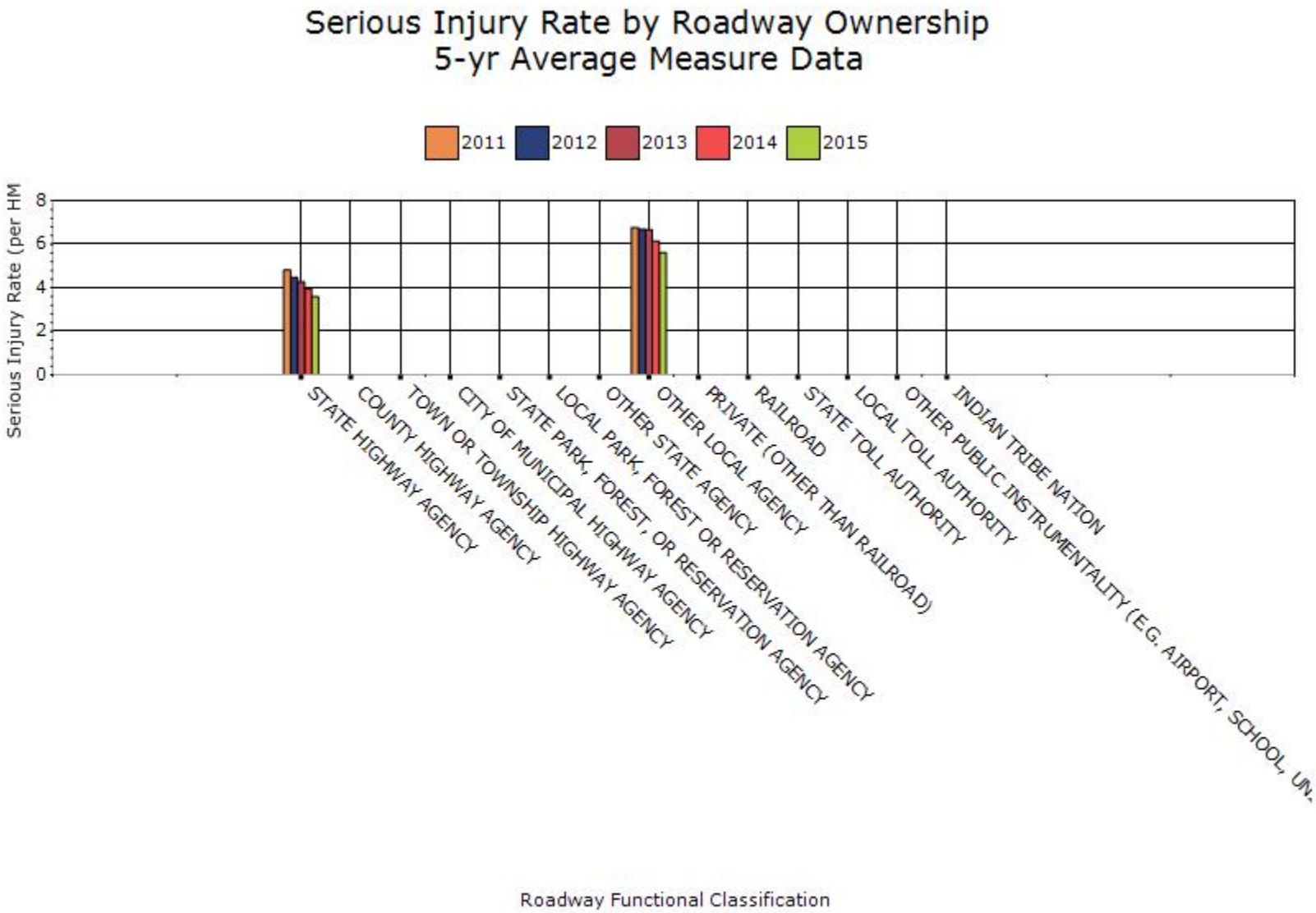
## Year - 2015

| Roadway Ownership | Number of fatalities | Number of serious injuries | Fatality rate (per HMVMT) | Serious injury rate (per HMVMT) |
|---|---|---|---|---|
| **STATE HIGHWAY AGENCY** | 202 | 647 | 1.12 | 3.59 |
| **OTHER LOCAL AGENCY** | 175 | 750 | 1.31 | 5.61 |


Number of Fatalities by Roadway Ownership
5-yr Average Measure Data
2011
2012
2013
2014
2015
# of Fatalities
250
200
150
100
50
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
Roadway Functional Classification


Number of Serious Injuries by Roadway Ownership
5-yr Average Measure Data
2011
2012
2013
2014
2015
# of Serious Injuries
1000
800
600
400
200
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
Roadway Functional Classification


Fatality Rate by Roadway Ownership
5-yr Average Measure Data
2011
2012
2013
2014
2015
Fatality Rate (per HMVM
2
1.5
1
0.5
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
Roadway Functional Classification


Serious Injury Rate by Roadway Ownership
5-yr Average Measure Data
2011
2012
2013
2014
2015
Serious Injury Rate (per HM
8
6
4
2
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, UN.
INDIAN TRIBE NATION
Roadway Functional Classification

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

The goal in our Strategic Highway Safety Plan is to cut in half fatalities and serious injuries between 2009 and 2029. In 2009 our five-year fatality average was 416, meaning we need to be at 354 by 2015. We are at 377. In 2009 our five-year serious injury average was 1763, meaning we need to be at 1499 by 2015. We are at 1395. In summary, we are ahead of pace in serious injuries and behind pace in fatalities. Of course, the vision in our SHSP is zeros, across the board.

## 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**<br><br>**Performance Measures** | **2010** | **2011** | **2012** | **2013** | **2014** |
|---|---|---|---|---|---|
| **Fatality rate (per capita)** | | | 0.15 | 0.16 | 0.16 |
| **Serious injury rate (per capita)** | | | 0.31 | 0.3 | 0.29 |
| **Fatality and serious injury rate (per capita)** | | | 0.46 | 0.47 | 0.45 |

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

Fatality rate per capita per year equals total number of older drivers and pedestrians (65+) killed based on FARS data, divided by the state population figured for Kansas provided in the guidance.

Serious injury rate per capita per year equals total number of older drivers and pedestrians (65+) seriously injured based on the state crash database, divided by the state population figured for Kansas provided in the guidance.

Fatality and serious injury rate per capita per year equals the fatality rate plus the serious injury rate.

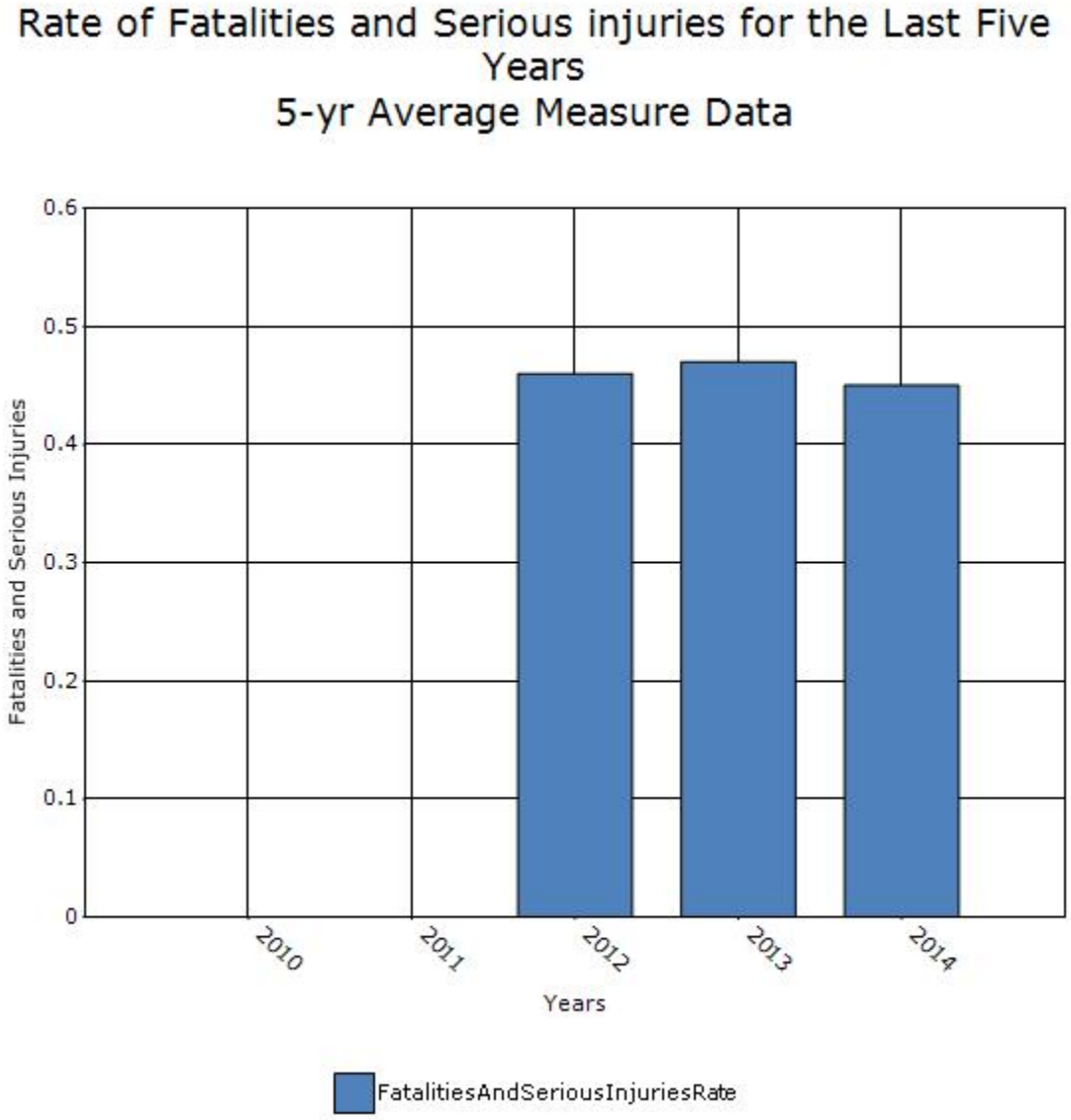
The rates per capita per year are then averaged over five years. For example, the 5-yr average for 2012 equals the average of the five years 2008 thru 2012.

The metrics for measuring the older driver population changed with the May 2016 guidance. Data was not available for years prior to 2008. As such, annual performance measure data is not available for 2006 or 2007 and five-year performance measure data is not available for 2010 or 2011.

Here is the data we used:

| Year | Fatals | Disabled | Total | State Population Figure |
|---|---|---|---|---|
| 2006 | 74 | 105 | 179 | |
| 2007 | 47 | 120 | 167 | |
| 2008 | 47 | 109 | 156 | 367 |
| 2009 | 50 | 108 | 158 | 367 |
| 2010 | 65 | 129 | 194 | 379 |
| 2011 | 55 | 120 | 175 | 382 |
| 2012 | 68 | 113 | 181 | 394 |
| 2013 | 70 | 119 | 189 | 406 |
| 2014 | 63 | 84 | 147 | 418 |

Comparing the five-year average fatality and serious injury rate (per capita) for 2012 and 2014 rounded to the nearest tenth gives 0.5 and 0.5. The older driver rule does NOT apply.




**Does the older driver special rule apply to your state?**

No

## Assessment of the Effectiveness of the Improvements (Program Evaluation)

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

None

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

None

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

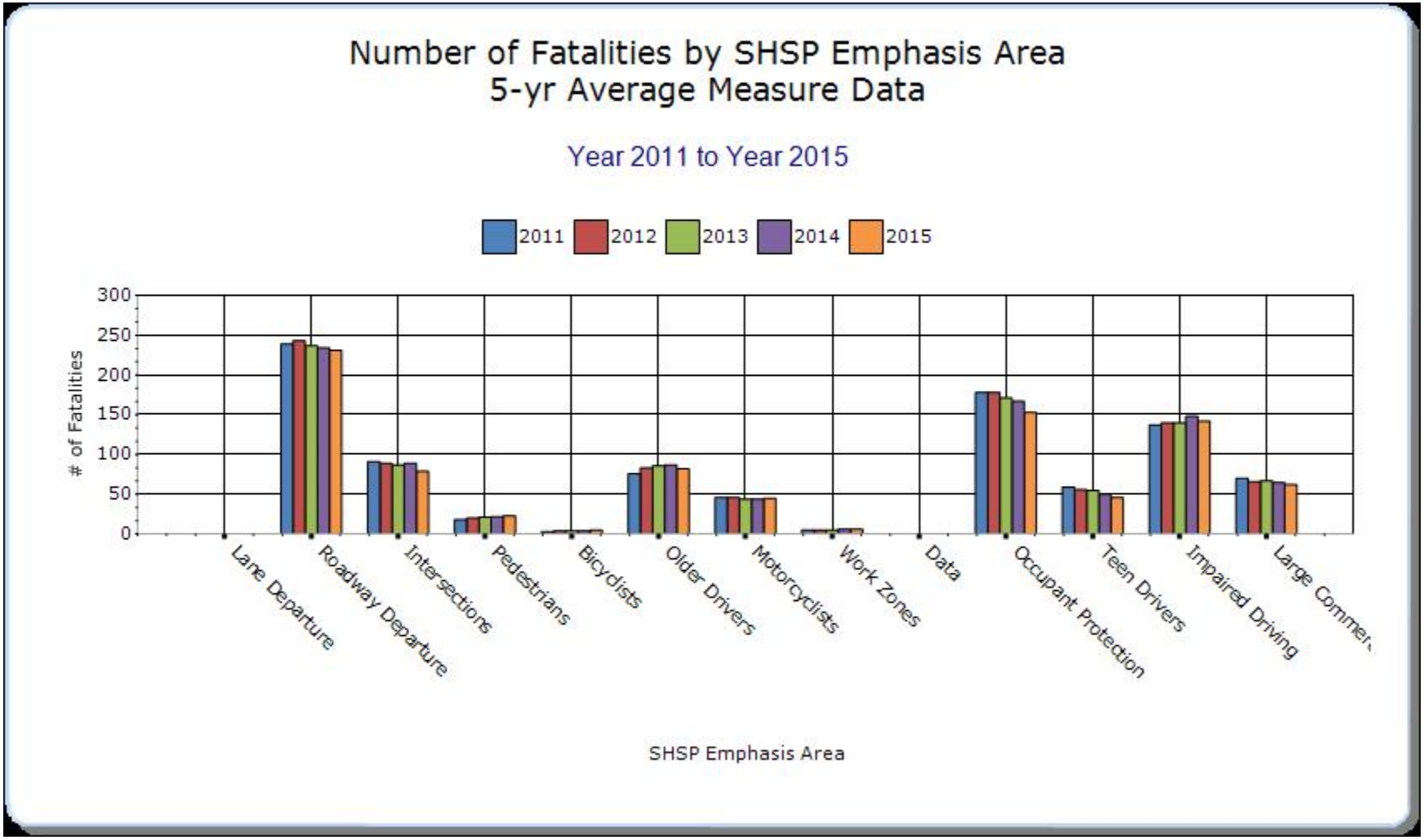
N/A

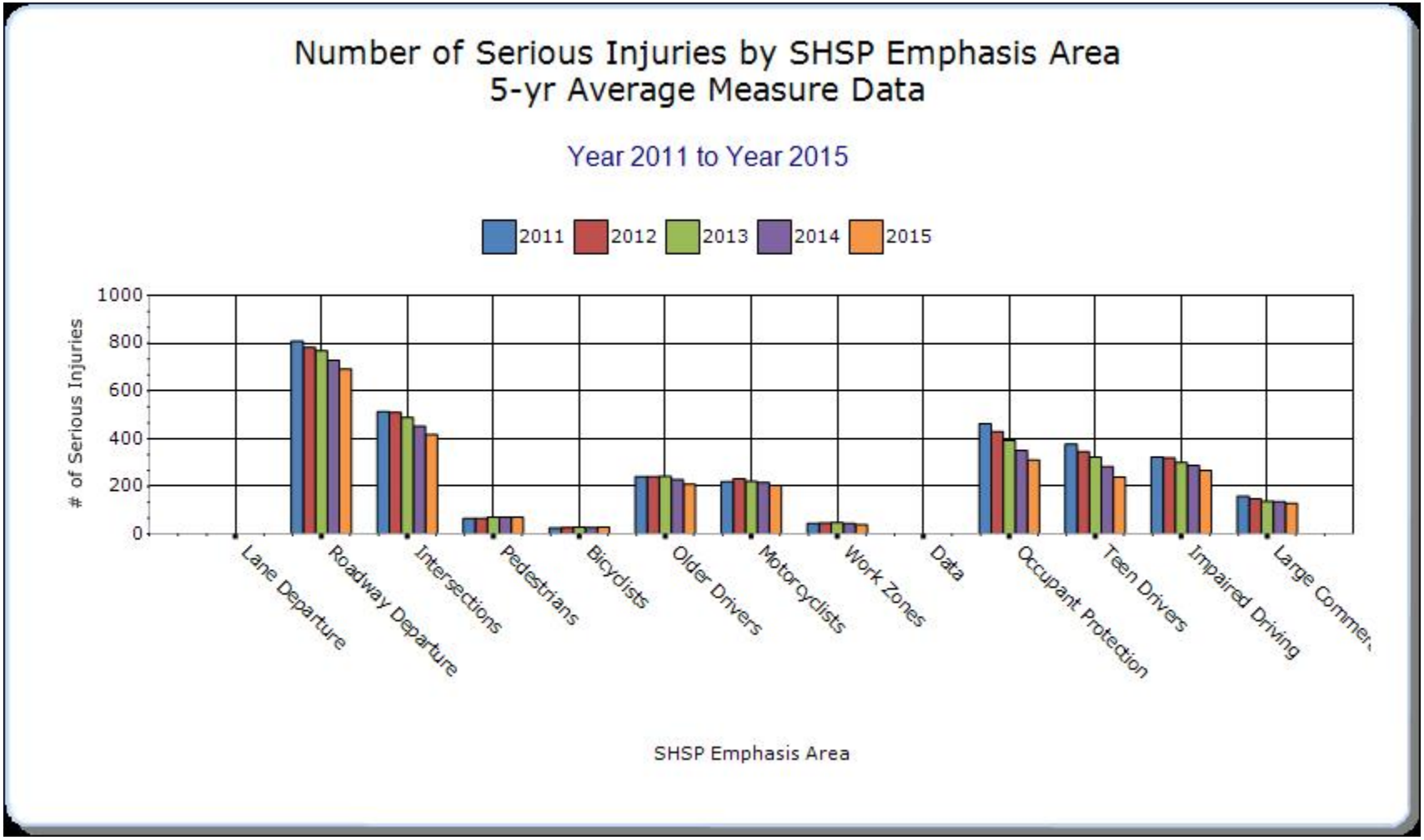
## SHSP Emphasis Areas

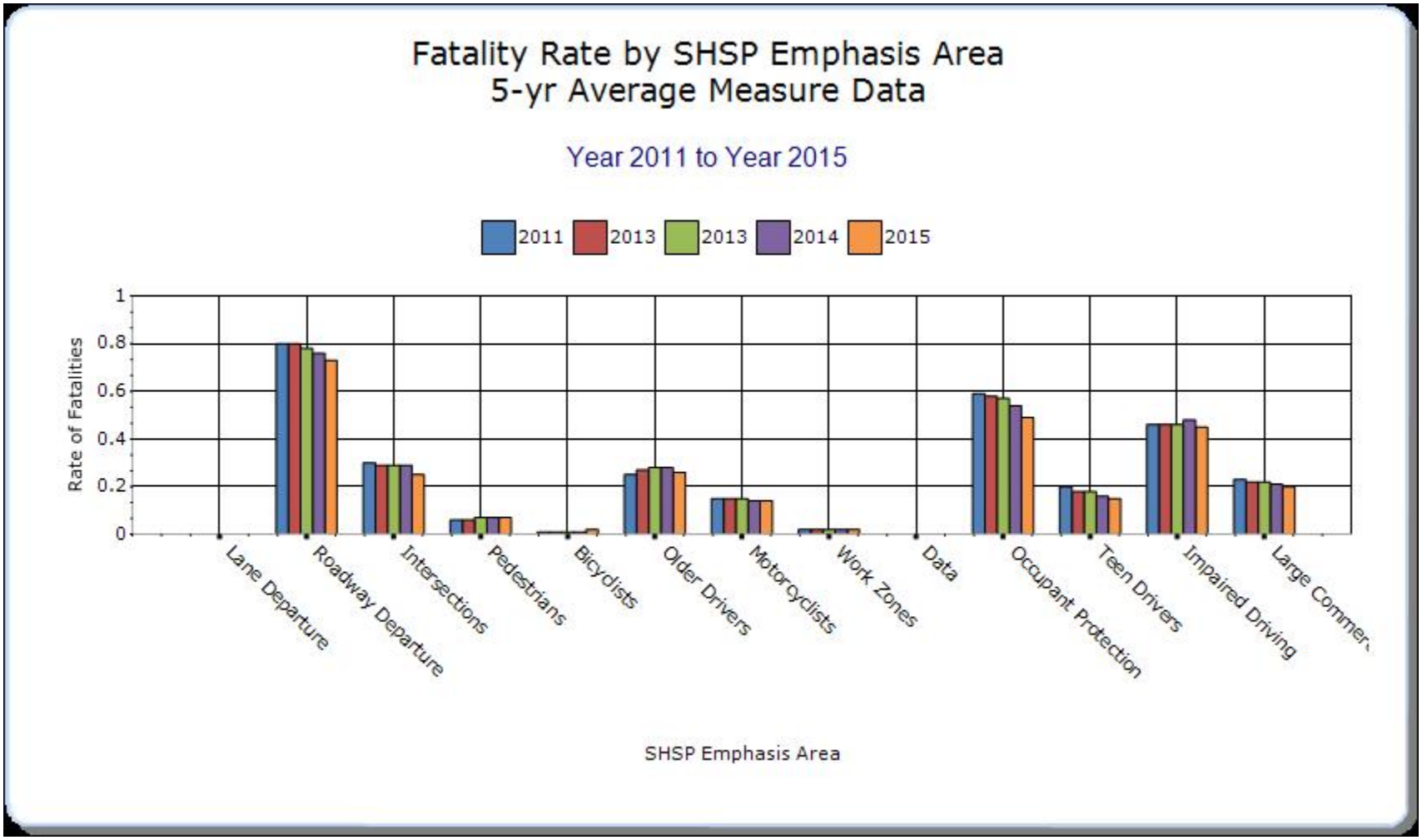
**For each SHSP emphasis area that relates to the HSIP, present trends in emphasis area performance measures.**

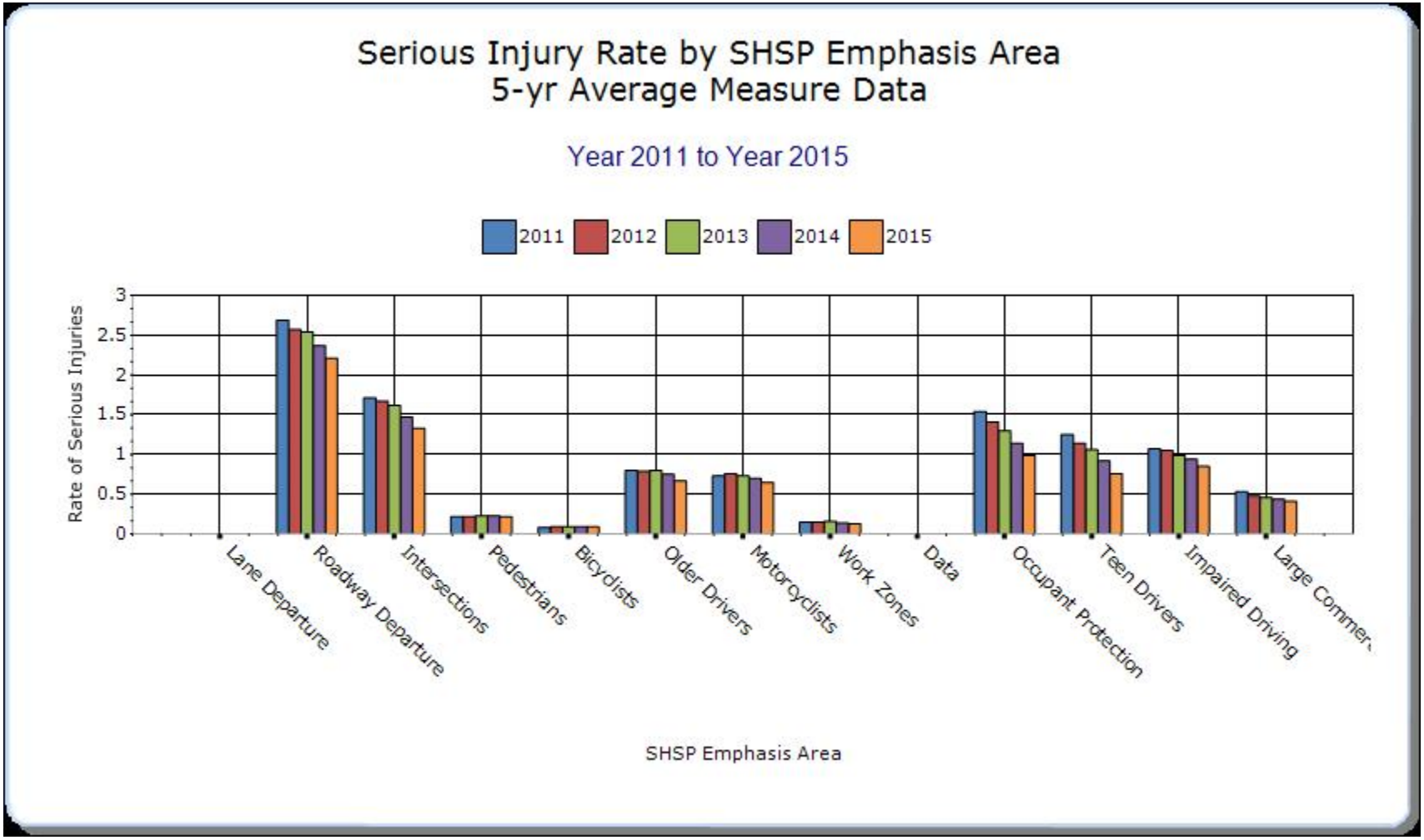
**Year - 2015**

| 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** | | 231 | 692 | 0.73 | 2.21 | | | |
| **Intersections** | | 79 | 417 | 0.25 | 1.33 | | | |
| **Pedestrians** | | 23 | 70 | 0.07 | 0.22 | | | |
| **Bicyclists** | | 5 | 28 | 0.02 | 0.09 | | | |
| **Older Drivers** | | 82 | 209 | 0.26 | 0.67 | | | |
| **Motorcyclists** | | 45 | 203 | 0.14 | 0.65 | | | |
| **Work Zones** | | 6 | 39 | 0.02 | 0.13 | | | |
| **Occupant Protection** | | 153 | 310 | 0.49 | 0.99 | | | |
| **Teen Drivers** | | 46 | 239 | 0.15 | 0.76 | | | |
| **Impaired Driving** | | 142 | 267 | 0.45 | 0.85 | | | |
| **Large Commercial Vehicles** | | 62 | 129 | 0.2 | 0.41 | | | |


Number of Fatalities by SHSP Emphasis Area
5-yr Average Measure Data
Year 2011 to Year 2015
2011
2012
2013
2014
2015
# of Fatalities
300
250
200
150
100
50
0
Lane Departure
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Data
Occupant Protection
Teen Drivers
Impaired Driving
Large Commer
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
1000
800
600
400
200
0
Lane Departure
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Data
Occupant Protection
Teen Drivers
Impaired Driving
Large Commer
SHSP Emphasis Area


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

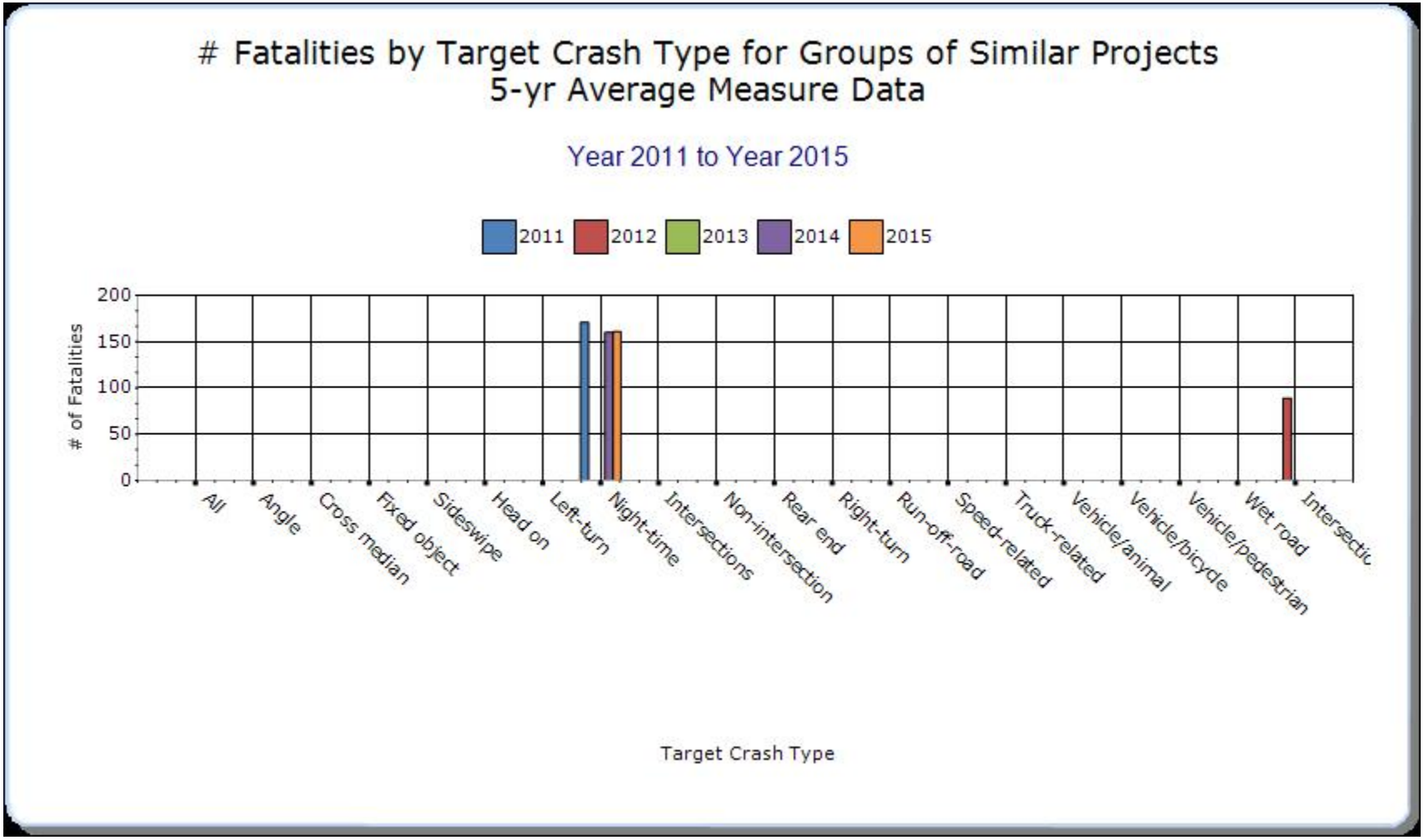


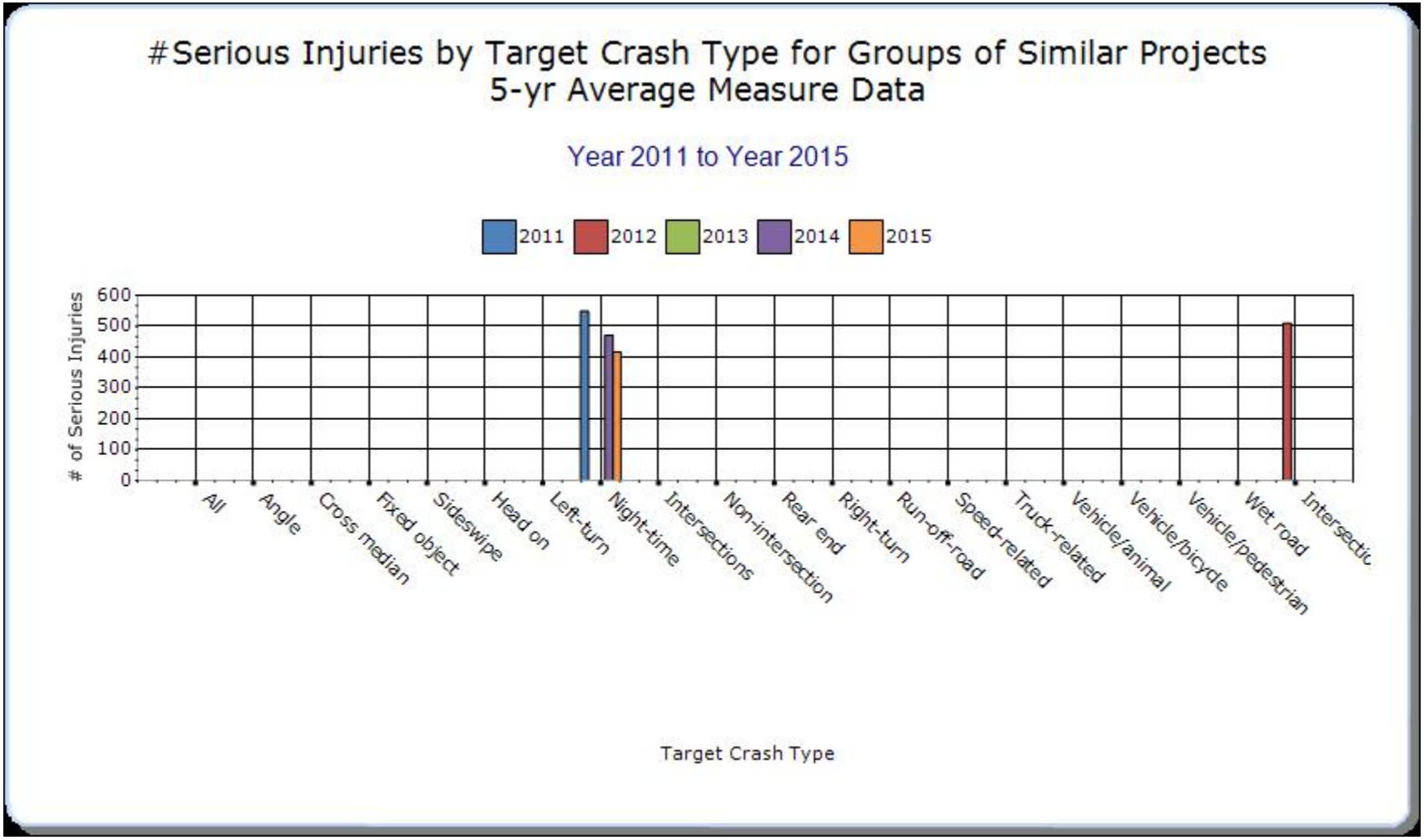

## Groups of similar project types

**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) | Other-1 | Other-2 | Other-3 |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| **Other-Lighting** | Night-time | 161 | 417 | | | | | |


# 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
200
150
100
50
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
Intersectic
Target Crash Type




## Systemic Treatments

**Present the overall effectiveness of systemic treatments.**

| Systemic improvement | Target Crash Type | Number of fatalities | Number of serious injuries | Fatality rate (per HMVMT) | Serious injury rate (per HMVMT) | Other-1 | Other-2 | Other-3 |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| **SKIP** | We have not yet established performance measures for these programs. See Question 32 for related crash data. | | | | | | | |

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

It remains our intent to develop performance measures for each of these HSIP sub-programs in preparation for next year's report. This will be in concert with completing new "white papers" for each eligible sub-program, and be driven by our SHSP which includes reallocation of HSIP funding as a key strategy for the emphasis areas intersections and roadway departure. As an example, three of these programs (lighting, pavement marking, and signing) can be measured by wet-weather and/or nighttime crashes. Data can be shown to demonstrate a positive trend in each of these areas.

## 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 | | | | | | | | | | | | | | NA |

## Optional Attachments

| Sections | Files Attached |
| --- | --- |

# Glossary

**5 year rolling average** means the average of five individual, consecutive annual points of data (e.g. annual fatality rate).
**Emphasis area** means a highway safety priority in a State's SHSP, identified through a data-driven, collaborative process.
**Highway safety improvement project** means strategies, activities and projects on a public road that are consistent with a State strategic highway safety plan and corrects or improves a hazardous road location or feature or addresses a highway safety problem.
**HMVMT** means hundred million vehicle miles traveled.
**Non-infrastructure projects** are projects that do not result in construction. Examples of non-infrastructure projects include road safety audits, transportation safety planning activities, improvements in the collection and analysis of data, education and outreach, and enforcement activities.
**Older driver special rule** applies if traffic fatalities and serious injuries per capita for drivers and pedestrians over the age of 65 in a State increases during the most recent 2-year period for which data are available, as defined in the Older Driver and Pedestrian Special Rule Interim Guidance dated February 13, 2013.
**Performance measure** means indicators that enable decision-makers and other stakeholders to monitor changes in system condition and performance against established visions, goals, and objectives.
**Programmed funds** mean those funds that have been programmed in the Statewide Transportation Improvement Program (STIP) to be expended on highway safety improvement projects.
**Roadway Functional Classification** means the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide.
**Strategic Highway Safety Plan (SHSP)** means a comprehensive, multi-disciplinary plan, based on safety data developed by a State Department of Transportation in accordance with 23 U.S.C. 148.
**Systematic** refers to an approach where an agency deploys countermeasures at all locations across a system.
**Systemic safety improvement** means an improvement that is widely implemented based on high risk roadway features that are correlated with specific severe crash types.
**Transfer** means, in accordance with provisions of 23 U.S.C. 126, a State may transfer from an apportionment under section 104(b) not to exceed 50 percent of the amount apportioned for the fiscal year to any other apportionment of the State under that section.