Kansas
Highway Safety Improvement Program
2014 Annual Report

Prepared by: KS
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 RGCHP report. This is the second 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. These manuals will include performance measures, which continue to be a work in progress.
Introduction

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

Program Structure

Program Administration

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

- Central
- District
- Other

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

Our HSIP program is made up of seven sub-programs: lighting, pavement marking, signing, rail, intersections, HRRR, and general safety improvements. Lighting, pavement marking, and signing 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.
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 traffic signals and lighting, as well as field information from our Area Offices, and road safety audits performed by our Traffic Engineering Unit.

Signing sub-program: This blanket replacement program was programmed to cover the entire state highway system in ten years. It took longer than that, but we have completed the first cycle and are beginning a second cycle. Our Area Offices complete a sign inventory for each project. The Area Offices typically install the new signs and posts, which are purchased using HSIP funds. Although, many of the early projects in the second cycle will be let to a contractor because they are on urban interstate routes.

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

Intersections sub-program: Projects are typically identified based on recommendations from cities. When the intersection is located on the State Highway System, our District and Area Offices are made part of the discussion as well.

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 Geometric and Accident Data Unit in our Bureau of Transportation Planning manage and report on roadway and crash data as needed.

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

- Metropolitan Planning Organizations
- Governors Highway Safety Office
- Local Government Association
- Other: Local Roads Support Team (SHSP)
- Other-Kansas Association of Counties

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

- Multi-disciplinary HSIP steering committee
- Other: Beginning 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 $23,808,684 in safety funds (HSIP and Rail) was apportioned for FFY 2014, distributed to each sub-program as follows:

- Lighting: $1,500,000 HSIP
- Pavement Marking: $4,000,000 HSIP
Signing: $3,700,000 HSIP

Highway-Railway Grade Crossing and Rail: $9,886,861 ($5,886,862 Rail & $4,000,000 HSIP)

Intersection Safety: $1,921,822 HSIP

High Risk Rural Roads: $2,800,000 HSIP

General Safety Improvements: $0 HSIP

The following dollars were obligated for SFY 2014 in each program:

Lighting: $325,447.32 HSIP

Pavement Marking: $1,966,752.79 HSIP

Signing: $1,147,314.26 HSIP

Highway-Railway Grade Crossing and Rail: $14,969,539.01 ($2,462,326.21 Rail; $0 STP; $12,507,212.80 HSIP)

Intersection Safety: $6,762,669.57 ($163,352.07 STP; $6,599,317.50 HSIP)

High Risk Rural Roads: $4,999,960.07 ($2,405,948.36 HRRR; $2,594,011.71 HSIP)

General Safety Improvements: $351,423.03 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.

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

Program: Intersection

Date of Program Methodology: 1/1/1980

What data types were used in the program methodology?

Crashes
☒ All crashes
☐ Fatal crashes only
☐ Fatal and serious injury crashes only
☐ Other

Exposure
☐ Traffic
☒ Volume
☐ Population
☐ Other

Roadway
☐ Median width
☐ Horizontal curvature
☒ Functional classification
☐ Roadside features
☐ Other

What project identification methodology was used for this program?

☒ Crash frequency
☐ Expected crash frequency with EB adjustment
☐ Equivalent property damage only (EPDO Crash frequency)
☐ EPDO crash frequency with EB adjustment
☐ Relative severity index
☒ Crash rate
☐ Critical rate
☐ Level of service of safety (LOSS)
☐ Excess expected crash frequency using SPFs
☐ Excess expected crash frequency with the EB adjustment
☐ Excess expected crash frequency using method of moments
☐ Probability of specific crash types
☐ Excess proportions of specific crash types
☐ Other

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

If yes, are local road projects identified using the same methodology as state roads?
☐ Yes
☒ No

If no, describe the methodology used to identify local road projects as part of this program.
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).

☐ Relative Weight in Scoring
☒ Rank of Priority Consideration

☒ Ranking based on B/C 3
☒ Available funding 4
☐ Incremental B/C
☐ Ranking based on net benefit
☐ Other
☒ 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
☐ All crashes

Exposure
☐ Traffic

Roadway
☐ Median width
### 2014 Kansas Highway Safety Improvement Program

<table>
<thead>
<tr>
<th>Fatal crashes only</th>
<th>Volume</th>
<th>Horizontal curvature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatal and serious injury crashes only</td>
<td>Population</td>
<td>Functional classification</td>
</tr>
<tr>
<td>Other</td>
<td>Lane miles</td>
<td>Roadside features</td>
</tr>
<tr>
<td>Other</td>
<td>Other</td>
<td>Other</td>
</tr>
</tbody>
</table>

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

- Crash frequency
- Expected crash frequency with EB adjustment
- Equivalent property damage only (EPDO Crash frequency)
- EPDO crash frequency with EB adjustment
- Relative severity index
- Crash rate
- Critical rate
- Level of service of safety (LOSS)
- Excess expected crash frequency using SPFs
- Excess expected crash frequency with the EB adjustment
- Excess expected crash frequency using method of moments
- Probability of specific crash types
- Excess proportions of specific crash types
- Other

- Other
- Other

#### Are local roads (non-state owned and operated) included or addressed in this program?
How are highway safety improvement projects advanced for implementation?

☐ Competitive application process
☐ Selection committee
☐ Other
☒ 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).

☐ Relative Weight in Scoring
☒ Rank of Priority Consideration

☐ Ranking based on B/C
☐ Available funding
☐ Incremental B/C
☐ Ranking based on net benefit
☐ Other
☒ 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
- All crashes
- Fatal crashes only
- Fatal and serious injury crashes only
- Other

Exposure
- Traffic
- Volume
- Population
- Lane miles
- Other

Roadway
- Median width
- Horizontal curvature
- Functional classification
- Roadside features
- Other

What project identification methodology was used for this program?

- Crash frequency
- Expected crash frequency with EB adjustment
- Equivalent property damage only (EPDO Crash frequency)
- EPDO crash frequency with EB adjustment
- Relative severity index
- Crash rate
- Critical rate
- Level of service of safety (LOSS)
- Excess expected crash frequency using SPFs
- Excess expected crash frequency with the EB adjustment
- Excess expected crash frequency using method of moments
- Probability of specific crash types
Excess proportions of specific crash types

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

Yes

No

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

Yes

No

If no, describe the methodology used to identify local road projects as part of this program.

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

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Relative Weight in Scoring

Rank of Priority Consideration

Ranking based on B/C

Available funding 2
Incremental B/C

Ranking based on net benefit

Cost Effectiveness

Geographical distribution

Program: Other-Pavement Marking

Date of Program Methodology: 7/1/2006

What data types were used in the program methodology?

<table>
<thead>
<tr>
<th>Crashes</th>
<th>Exposure</th>
<th>Roadway</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ All crashes</td>
<td>☑ Traffic</td>
<td>☑ Median width</td>
</tr>
<tr>
<td>☐ Fatal crashes only</td>
<td>☑ Volume</td>
<td>☑ Horizontal curvature</td>
</tr>
<tr>
<td>☐ Fatal and serious injury crashes only</td>
<td>☑ Population</td>
<td>☑ Functional classification</td>
</tr>
<tr>
<td>☐ Other</td>
<td>☑ Lane miles</td>
<td>☑ Roadside features</td>
</tr>
<tr>
<td>☑ 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.</td>
<td>☑ Other - Retro-reflectivity.</td>
<td></td>
</tr>
</tbody>
</table>

What project identification methodology was used for this program?

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

☐ Yes
☒ No

How are highway safety improvement projects advanced for implementation?

☐ Competitive application process
☐ Selection committee
☒ 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).

☐ Relative Weight in Scoring  
☒ Rank of Priority Consideration

☐ Ranking based on B/C  
☒ Available funding 1  
☐ Incremental B/C  
☐ Ranking based on net benefit  
☐ Other

Program: Other-Lighting

Date of Program Methodology: 7/1/2006

What data types were used in the program methodology?

**Crashes**  
☐ All crashes  
☐ Fatal crashes only  
☐ Fatal and serious injury crashes only  
☐ Other

**Exposure**  
☐ Traffic  
☒ Volume  
☐ Population  
☐ Lane miles  
☐ Other

**Roadway**  
☐ Median width  
☐ Horizontal curvature  
☐ Functional classification  
☐ Roadside features  
☒ Other-Road type: Interchanges

Other
What project identification methodology was used for this program?

- Crash frequency
- Expected crash frequency with EB adjustment
- Equivalent property damage only (EPDO Crash frequency)
- EPDO crash frequency with EB adjustment
- Relative severity index
- Crash rate
- Critical rate
- Level of service of safety (LOSS)
- Excess expected crash frequency using SPFs
- Excess expected crash frequency with the EB adjustment
- Excess expected crash frequency using method of moments
- Probability of specific crash types
- Excess proportions of specific crash types
- Other-Locations are brought to our attention

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

- Yes
- No

How are highway safety improvement projects advanced for implementation?

- Competitive application process
- Selection committee
- 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).

- Relative Weight in Scoring
- Rank of Priority Consideration

- Ranking based on B/C
- Available funding: 1
- Incremental B/C
- Ranking based on net benefit
- Other

Program: Other-General Safety Improvements

Date of Program Methodology: 2/10/2012

What data types were used in the program methodology?

**Crashes**
- All crashes
- Fatal crashes only
- Fatal and serious injury crashes only
- Other

**Exposure**
- Traffic
- Volume
- Population
- Lane miles
- Other

**Roadway**
- Median width
- Horizontal curvature
- Functional classification
- Roadside features
- Other
What project identification methodology was used for this program?

- [x] Crash frequency
- [ ] Expected crash frequency with EB adjustment
- [ ] Equivalent property damage only (EPDO Crash frequency)
- [ ] EPDO crash frequency with EB adjustment
- [ ] Relative severity index
- [x] Crash rate
- [ ] Critical rate
- [ ] Level of service of safety (LOSS)
- [ ] Excess expected crash frequency using SPFs
- [ ] Excess expected crash frequency with the EB adjustment
- [ ] Excess expected crash frequency using method of moments
- [ ] Probability of specific crash types
- [ ] Excess proportions of specific crash types
- [ ] Other

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

- [ ] Yes
- [x] No

How are highway safety improvement projects advanced for implementation?

- [ ] Competitive application process
- [ ] Selection committee
- [ ] Other
Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

- [ ] Relative Weight in Scoring
- [x] Rank of Priority Consideration

- [ ] Ranking based on B/C
- [x] Available funding 2
- [ ] Incremental B/C
- [ ] Ranking based on net benefit
- [x] Cost Effectiveness 1

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

9

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

- [ ] Cable Median Barriers
- [ ] Traffic Control Device Rehabilitation
- [ ] Install/Improve Signing
- [ ] Upgrade Guard Rails
- [x] Safety Edge
- [ ] Rumble Strips
- [ ] Pavement/Shoulder Widening
- [ ] Install/Improve Pavement Marking and/or Delineation
- [ ] Clear Zone Improvements
- [x] Install/Improve Lighting
What process is used to identify potential countermeasures?

- Engineering Study
- Road Safety Assessment
- Other:

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

- Highway Safety Manual
- Road Safety audits
- Systemic Approach
- Other: Other-No changes from FY13 to FY14. However, beginning in FY15 Lighting hopes to advance LED lights, and Signing will move from a route to sub-area based approach. Intersections is planning changes beginning in FY16.
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 20 (approximately) are considered for further analysis. 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 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 ninth 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 ninth 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 routemileage statewide and the total mileage of all the routes in each District for that year. This program excludes signs on any other state projects 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 seventh year KDOT has used HSIP funds to improve permanent signing. The projects in this program are typically not let to contract via the normal letting procedure. Instead, materials are purchased thru the purchase request process and signs and posts are installed by KDOT maintenance forces. However, with the beginning of a second cycle many of the projects are on urban interstates and these projects will be let to contract.

HRRR sub-program:

This program was established under SAFETEA-LU as a set-aside. It was eliminated under MAP-21 although states are required to address locally-owned roads if crash rates increase. Regardless, KDOT continues to fund HRRR as a sub-program to the HSIP program. The focus is on low-cost safety improvements at site-specific locations and systemic improvements to signing, pavement marking, and roadsides.

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 has developed a program that will direct up to $6,000,000 of HSIP funds to projects that will be selected using a new system that combines quantitative safety analysis and prediction (IHSDM) with District input. The goal is to distribute these funds throughout the state and address spot locations, like individual curves, intersections, or short tangent sections that are 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.
### Progress in Implementing Projects

#### Funds Programmed
Reporting period for Highway Safety Improvement Program funding.

- **Calendar Year**
- **State Fiscal Year**
- **Federal Fiscal Year**

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

<table>
<thead>
<tr>
<th>Funding Category</th>
<th>Programmed*</th>
<th>Obligated</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSIP (Section 148)</td>
<td>17921822</td>
<td>25491479</td>
</tr>
<tr>
<td>HRRRP (SAFETEA-LU)</td>
<td>0</td>
<td>2405948</td>
</tr>
<tr>
<td>HRRR Special Rule</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Penalty Transfer - Section 154</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Penalty Transfer - Section 164</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incentive Grants - Section 163</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incentive Grants (Section 406)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Federal-aid Funds (i.e. STP, NHPP)</td>
<td>0</td>
<td>163352</td>
</tr>
</tbody>
</table>

*Programmed* and *Obligated* figures represent the amounts programmed and obligated respectively.
How much funding is programmed to local (non-state owned and maintained) safety projects?

38 %

How much funding is obligated to local safety projects?

$20,908,211.00

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

$273,999.00

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

$273,999.00

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.

Except as noted below, nothing to report at this time. We obligated an amount equivalent to 142% of our apportionment, plus an additional $2.5 million in HRRR (SAFETEA-LU).

Signing sub-program: The FY14 program is continuation of the FY13 program. Projects identified and obligated required additional funding above the allotment allocated to signing under the FY13 program. The decision was made to delay construction lettings and the purchase of materials for several projects. New obligations will not be shown in the HSIP annual report for FY14, since the obligations were previously shown in the FY13 report.

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.

<table>
<thead>
<tr>
<th>Project</th>
<th>Improvement Category</th>
<th>Output</th>
<th>HSIP Cost</th>
<th>Total Cost</th>
<th>Funding Category</th>
<th>Functional Classification</th>
<th>AADT</th>
<th>Speed</th>
<th>Roadway Ownership</th>
<th>Relationship to SHSP</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-0047-01</td>
<td>Intersection geometry - other</td>
<td>1 Numbers</td>
<td>307282</td>
<td>351808</td>
<td>HRRRP(SAFETE A-LU)</td>
<td>Rural Major Collector</td>
<td>1600</td>
<td>50</td>
<td>County Highway Agency</td>
<td>Perform improvements of crash-prone intersections</td>
</tr>
<tr>
<td>C-0054-01</td>
<td>Roadside Removal of roadside objects (trees, poles, etc.)</td>
<td>6 Miles</td>
<td>75000</td>
<td>97508</td>
<td>HRRRP(SAFETE A-LU)</td>
<td>Rural Major Collector</td>
<td>220</td>
<td>55</td>
<td>County Highway Agency</td>
<td>Create a program that funds the removal of fixed objects</td>
</tr>
<tr>
<td>C-0059-01</td>
<td>Alignment Horizontal curve realignment</td>
<td>0.35 Miles</td>
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<td>71945</td>
<td>79939</td>
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<td>50993</td>
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<td>Rural Local Road or Street</td>
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Create a program that funds the deployment of low-cost safety improvements at rural or high

Create a program that funds the removal of fixed objects

Create a program that funds the deployment...
<table>
<thead>
<tr>
<th>Project Code</th>
<th>Description</th>
<th>Length</th>
<th>Cost</th>
<th>Project Number</th>
<th>Sponsor/Location</th>
<th>Roadway Departure</th>
<th>Notes</th>
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<td>C-0323-01</td>
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<td>C-0326-01</td>
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<td>C-0486-01</td>
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<td>C-0493</td>
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<td>56</td>
<td>90755</td>
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<td>Rural Major</td>
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**2014 Kansas Highway Safety Improvement Program**
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<thead>
<tr>
<th>C-0508-01</th>
<th>Roadway signs and traffic control Roadway signs (including post) - new or updated</th>
<th>17 Miles</th>
<th>30000</th>
<th>30000</th>
<th>HSIP (Section 148)</th>
<th>Rural Minor Collector</th>
<th>705</th>
<th>0</th>
<th>County Highway Agency</th>
<th>Roadway Departure</th>
<th>Maintain sign retro-reflectivity</th>
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<tr>
<td>C-0512-01</td>
<td>Shoulder treatments Shoulder treatments - other</td>
<td>12.65 Miles</td>
<td>228816</td>
<td>254333</td>
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<td>Rural Major Collector</td>
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<td>0</td>
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<td>Roadway Departure</td>
<td>Improve shoulders where reasonable</td>
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<tr>
<td>C-0619-01</td>
<td>Roadway Rumble strips - center</td>
<td>10.42 Miles</td>
<td>31719</td>
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<td>HSIP (Section 148)</td>
<td>Rural Major Collector</td>
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<td>County Highway Agency</td>
<td>Roadway Departure</td>
<td>Install centerline rumble strips where appropriate</td>
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<td>C-4494-01</td>
<td>Intersection traffic control Intersection flashers - add stop sign-mounted</td>
<td>1 Numbers</td>
<td>35658</td>
<td>39741</td>
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<td>Rural Major Collector</td>
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<td>Install flashing solar-powered beacons on intersection warning and stop signs</td>
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<td>Code</td>
<td>Description</td>
<td>Quantity</td>
<td>Unit</td>
<td>Unit Cost</td>
<td>Total Cost</td>
<td>Agency</td>
<td>Departure</td>
<td>Reason</td>
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<td>51701</td>
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<td>County Highway Agency</td>
<td>Install flashing solar-powered beacons on intersection warning and stop signs where appropriate</td>
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<td>Miles</td>
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<td>KA-3028-01</td>
<td>Lighting Intersection lighting</td>
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<td>502789</td>
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<td>Provide street lighting at higher-volume intersections and interchanges</td>
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<td>Provide street lighting at higher-volume intersections and interchanges</td>
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<td>N-0544-01</td>
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<td>1 Numbers</td>
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<td>782000</td>
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<td>6280 8</td>
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<td>Provide left-turn and right-turn lanes at intersections</td>
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<td>N-0548-01</td>
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<td>1 Numbers</td>
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<td>1740000</td>
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<td>Provide left-turn and right-turn lanes at intersections</td>
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<td>U-0162-01</td>
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<td>252812.98 294528.76</td>
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<td>Urban Minor Arterial</td>
<td>2283 6</td>
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<td>KA-0047-01</td>
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<td>1 Numbers</td>
<td>275366.27 3338180.54</td>
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<td>Rural Principal Arterial - Other</td>
<td>9760 65</td>
<td>State Highway Agency Intersections</td>
<td>Promote and construct roundabout</td>
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<td>Description</td>
<td>Miles</td>
<td>Funding</td>
<td>Improvement Type</td>
<td>Agency</td>
<td>Action</td>
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<td>Intersection traffic control Modify traffic signal - add additional signal heads</td>
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<td>Urban Major Collector</td>
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<td>Intersections</td>
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<td>KA-3623-01</td>
<td>Roadway Pavement surface - high friction surface</td>
<td>0.3 Miles</td>
<td>72000</td>
<td>80000</td>
<td>HSIP (Section 148)</td>
<td>Rural Principal Arterial - Interstate</td>
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<td>0</td>
<td>State Highway Agency</td>
<td>Roadway Departure</td>
<td>Expand the use of high-friction surfacing</td>
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<td>Roadway Pavement surface - high friction surface</td>
<td>0.1 Miles</td>
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<td>Urban Principal Arterial - Other Freeways and Expressways</td>
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<td>0</td>
<td>State Highway Agency</td>
<td>Roadway Departure</td>
<td>Expand the use of high-friction surfacing</td>
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<td>KA-3301-01</td>
<td>Intersection geometry Auxiliary lanes - add two-way left-turn lane</td>
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<td>163323</td>
<td>181470</td>
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<td>Rural Principal Arterial - Other</td>
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<td>55</td>
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<td>Intersections</td>
<td>Provide left-turn and right-turn lanes at intersections</td>
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<td>KA-3461-01</td>
<td>Non-infrastructure Transportation safety planning</td>
<td>5 Miles</td>
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<td>70000</td>
<td>HSIP (Section 148)</td>
<td>Urban Principal Arterial - Other</td>
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<td>0</td>
<td>State Highway Agency</td>
<td>Intersections</td>
<td>Coordinate traffic signals along urban corridors</td>
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</table>
| KA-3538-01 | Non-infrastructure - other                     | 126     | 149999| 166666| HSIP (Section 148) | 0                                | 0  | 0  | State Highway Agency| Purchased portable rumble strips |"
## 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.

<table>
<thead>
<tr>
<th>Performance Measures*</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
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<tbody>
<tr>
<td>Number of fatalities</td>
<td>416</td>
<td>417</td>
<td>401</td>
<td>398</td>
<td>392</td>
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<tr>
<td>Number of serious injuries</td>
<td>1763</td>
<td>1731</td>
<td>1700</td>
<td>1655</td>
<td>1603</td>
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<tr>
<td>Fatality rate (per HMVMT)</td>
<td>1.41</td>
<td>1.39</td>
<td>1.33</td>
<td>1.31</td>
<td>1.3</td>
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<tr>
<td>Serious injury rate (per HMVMT)</td>
<td>5.98</td>
<td>5.79</td>
<td>5.66</td>
<td>5.43</td>
<td>5.31</td>
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</table>

*Performance measure data is presented using a five-year rolling average.
Number of Fatalities and Serious injuries for the Last Five Years

- **# Fatalities**
- **# Serious Injuries**

<table>
<thead>
<tr>
<th>Year</th>
<th># Fatalities</th>
<th># Serious Injuries</th>
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<tr>
<td>2009</td>
<td>416</td>
<td>1705</td>
</tr>
<tr>
<td>2010</td>
<td>417</td>
<td>1710</td>
</tr>
<tr>
<td>2011</td>
<td>401</td>
<td>1720</td>
</tr>
<tr>
<td>2012</td>
<td>398</td>
<td>1730</td>
</tr>
<tr>
<td>2013</td>
<td>392</td>
<td>1740</td>
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</tbody>
</table>
Rate of Fatalities and Serious Injuries for the Last Five Years

![Graph showing the rate of fatalities and serious injuries for the last five years. The graph indicates a decrease in the rate of serious injuries and fatalities from 2009 to 2013.](image-url)
To the maximum extent possible, present performance measure* data by functional classification and ownership.

### Year - 2013

<table>
<thead>
<tr>
<th>Function Classification</th>
<th>Number of fatalities</th>
<th>Number of serious injuries</th>
<th>Fatality rate (per HMVMT)</th>
<th>Serious injury rate (per HMVMT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RURAL PRINCIPAL ARTERIAL - INTERSTATE</td>
<td>23</td>
<td>93</td>
<td>0.71</td>
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<td>8</td>
<td>0.28</td>
<td>0.67</td>
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<td>FREEWAYS AND EXPRESSWAYS</td>
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<tr>
<td>RURAL PRINCIPAL ARTERIAL - OTHER</td>
<td>77</td>
<td>195</td>
<td>2.5</td>
<td>6.34</td>
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<tr>
<td>RURAL MINOR ARTERIAL</td>
<td>47</td>
<td>135</td>
<td>2.08</td>
<td>6.01</td>
</tr>
<tr>
<td>RURAL MINOR COLLECTOR</td>
<td>9</td>
<td>27</td>
<td>3.35</td>
<td>9.47</td>
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<tr>
<td>RURAL MAJOR COLLECTOR</td>
<td>54</td>
<td>176</td>
<td>1.95</td>
<td>6.32</td>
</tr>
<tr>
<td>RURAL LOCAL ROAD OR STREET</td>
<td>62</td>
<td>175</td>
<td>3.74</td>
<td>10.59</td>
</tr>
<tr>
<td>URBAN PRINCIPAL</td>
<td>22</td>
<td>137</td>
<td>0.58</td>
<td>3.6</td>
</tr>
<tr>
<td>ARTERIAL - INTERSTATE</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS</td>
<td>15</td>
<td>66</td>
<td>0.81</td>
<td>3.56</td>
</tr>
<tr>
<td>URBAN PRINCIPAL ARTERIAL - OTHER</td>
<td>28</td>
<td>227</td>
<td>0.82</td>
<td>6.75</td>
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<tr>
<td>URBAN MINOR ARTERIAL</td>
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<td>172</td>
<td>0.83</td>
<td>5.66</td>
</tr>
<tr>
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<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>URBAN MAJOR COLLECTOR</td>
<td>8</td>
<td>58</td>
<td>0.56</td>
<td>4.32</td>
</tr>
<tr>
<td>URBAN LOCAL ROAD OR STREET</td>
<td>18</td>
<td>134</td>
<td>0.79</td>
<td>5.85</td>
</tr>
</tbody>
</table>
# Fatalities by Roadway Functional Classification

![Roadway Functional Classification Graph](image-url)
# Serious Injuries by Roadway Functional Classification

![Bar chart showing the number of serious injuries by roadway functional classification for 2009 to 2013.](chart.png)
Fatality Rate by Roadway Functional Classification

Roadway Functional Classification

2009 2010 2011 2012 2013
Serious Injury Rate by Roadway Functional Classification

Roadway Functional Classification

- 2009
- 2010
- 2011
- 2012
- 2013
## Year - 2013

<table>
<thead>
<tr>
<th>Roadway Ownership</th>
<th>Number of fatalities</th>
<th>Number of serious injuries</th>
<th>Fatality rate (per HMVMT)</th>
<th>Serious injury rate (per HMVMT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>STATE HIGHWAY AGENCY</td>
<td>208</td>
<td>730</td>
<td>1.21</td>
<td>4.27</td>
</tr>
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<td>COUNTY HIGHWAY AGENCY</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TOWN OR TOWNSHIP HIGHWAY AGENCY</td>
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<td>0</td>
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</tr>
<tr>
<td>CITY OF MUNICIPAL HIGHWAY AGENCY</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>STATE PARK, FOREST, OR RESERVATION AGENCY</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>LOCAL PARK, FOREST OR RESERVATION AGENCY</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>OTHER STATE AGENCY</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>OTHER LOCAL AGENCY</td>
<td>184</td>
<td>874</td>
<td>1.4</td>
<td>6.67</td>
</tr>
<tr>
<td>PRIVATE (OTHER THAN RAILROAD)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>RAILROAD</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>STATE TOLL AUTHORITY</td>
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<td>0</td>
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</tr>
<tr>
<td>LOCAL TOLL AUTHORITY</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>OTHER PUBLIC INSTRUMENTALITY (E.G. AIRPORT, SCHOOL, UNIVERSITY)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Number of Serious Injuries by Roadway Ownership

Roadway Functional Classification

- STATE
- COUNTY
- TOWN
- CITY
- STATE PARK
- OTHER STATE
- PRIVATE
- RAILROAD
- STATE TOLL
- LOCAL TOLL
- OTHER

# of Serious Injuries

- 2009
- 2010
- 2011
- 2012
- 2013
Fatality Rate by Roadway Ownership

- 2009
- 2010
- 2011
- 2012
- 2013

Roadway Functional Classification

Fatality Rate (per HMVMT)
Serious Injury Rate by Roadway Ownership


Roadway Functional Classification:
- State
- County
- Town
- City
- State Park
- Other State
- Other Local
- Private
- Railroad
- State Toll
- Local Toll
- Other

Serious Injury Rate (per HWVMT)
Describe any other aspects of the general highway safety trends on which you would like to elaborate.

Overall, based on five-year averages, fatalities are down nine percent from 2008 to 2013. On the State Highway System fatalities are down 16 percent. However, on locally-owned roads fatalities are essentially unchanged. Similarly, serious injuries are down 11 percent overall, 16 percent on state highways, while only six percent on locally-owned roads since 2008. The trend on locally-owned roads is discouraging and indicates more attention should be focused on the 93 percent of our public roads owned by cities, counties, and townships.

**Application of Special Rules**

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

<table>
<thead>
<tr>
<th>Older Driver Performance Measures</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatality rate (per capita)</td>
<td>0.418</td>
<td>0.432</td>
<td>0.4</td>
<td>0.428</td>
<td>0.458</td>
</tr>
<tr>
<td>Serious injury rate (per capita)</td>
<td>0.908</td>
<td>0.874</td>
<td>0.892</td>
<td>0.87</td>
<td>0.878</td>
</tr>
<tr>
<td>Fatality and serious injury rate (per capita)</td>
<td>1.33</td>
<td>1.31</td>
<td>1.296</td>
<td>1.302</td>
<td>1.34</td>
</tr>
</tbody>
</table>

*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 2010 equals the average of the five years 2006 thru 2010.

Here is the data we used, followed by the calculations:
<table>
<thead>
<tr>
<th>Year</th>
<th>Fatals</th>
<th>Disabled</th>
<th>Total</th>
<th>State Population</th>
<th>Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>54</td>
<td>147</td>
<td>201</td>
<td>129</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>74</td>
<td>105</td>
<td>179</td>
<td>129</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>47</td>
<td>120</td>
<td>167</td>
<td>129</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>47</td>
<td>109</td>
<td>156</td>
<td>131</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>50</td>
<td>108</td>
<td>158</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>65</td>
<td>129</td>
<td>194</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>55</td>
<td>120</td>
<td>175</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>68</td>
<td>113</td>
<td>181</td>
<td>137</td>
<td></td>
</tr>
<tr>
<td>2013*</td>
<td>70</td>
<td>119</td>
<td>189</td>
<td>137</td>
<td></td>
</tr>
</tbody>
</table>

2009 $\frac{(201/129)+(179/129)+(167/129)+(156/131)+(158/130))/5}{ }^{ }_{1.3}$

2010 $\frac{(179/129)+(167/129)+(156/131)+(158/130)+(194/133))/5}{ }^{ }_{1.3}$

2011 $\frac{(167/129)+(156/131)+(158/130)+(194/133)+(175/133))/5}{ }^{ }_{1.3}$

2012 $\frac{(156/131)+(158/130)+(194/133)+(175/133)+(181/137))/5}{ }^{ }_{1.3}$

* Assumes state population figure from 2012.
Does the older driver special rule apply to your state?

No
What indicators of success can you use to demonstrate effectiveness and success in the Highway Safety Improvement Program?

- None
- Benefit/cost
- Policy change

☑ Other: Other-The intersection sub-program is struggling to find locations in our urban areas that generate benefit-to-cost ratios greater than one; suggesting many of our old urban intersections with antiquated designs have been improved.

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

- Shift Focus to Fatalities and Serious Injuries
- Include Local Roads in Highway Safety Improvement Program
- Organizational Changes
- None

☑ Other: Other-We are beginning a transition to a data-based distribution of HSIP dollars.

Briefly describe significant program changes that have occurred since the last reporting period.
Nothing to note at this time.
**SHSP Emphasis Areas**
For each SHSP emphasis area that relates to the HSIP, present trends in emphasis area performance measures.

**Year - 2013**

<table>
<thead>
<tr>
<th>HSIP-related SHSP Emphasis Areas</th>
<th>Target Crash Type</th>
<th>Number of fatalities</th>
<th>Number of serious injuries</th>
<th>Fatality rate (per HMVMT)</th>
<th>Serious injury rate (per HMVMT)</th>
<th>Other-1</th>
<th>Other-2</th>
<th>Other-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roadway Departure</td>
<td></td>
<td>237</td>
<td>769</td>
<td>0.78</td>
<td>2.54</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Intersections</td>
<td></td>
<td>87</td>
<td>488</td>
<td>0.29</td>
<td>1.62</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pedestrians</td>
<td></td>
<td>21</td>
<td>70</td>
<td>0.07</td>
<td>0.23</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Bicyclists</td>
<td></td>
<td>4</td>
<td>28</td>
<td>0.01</td>
<td>0.09</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Older Drivers</td>
<td></td>
<td>86</td>
<td>242</td>
<td>0.28</td>
<td>0.8</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Motorcyclists</td>
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<td>44</td>
<td>222</td>
<td>0.15</td>
<td>0.73</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Work Zones</td>
<td></td>
<td>5</td>
<td>48</td>
<td>0.02</td>
<td>0.16</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Occupant Protection</td>
<td></td>
<td>171</td>
<td>392</td>
<td>0.57</td>
<td>1.3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Teen Drivers</td>
<td></td>
<td>55</td>
<td>322</td>
<td>0.18</td>
<td>1.06</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Impaired Driving</td>
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<td>140</td>
<td>300</td>
<td>0.46</td>
<td>0.99</td>
<td>0</td>
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<td>Large Commercial Vehicles</td>
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<td>67</td>
<td>138</td>
<td>0.22</td>
<td>0.46</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</table>
Number of Fatalities by SHSP Emphasis Area

Year 2009 to Year 2013

- Roadway Departure
- Intersections
- Pedestrians
- Bicycles
- Older Drivers
- Motorcyclists
- Work Zones
- Data

SHSP Emphasis Area
Number of Serious Injuries by SHSP Emphasis Area

Year 2009 to Year 2013

# of Serious Injuries

SHSP Emphasis Area
Fatality Rate by SHSP Emphasis Area

Year 2009 to Year 2013

Rate of Fatalities

2009 2010 2011 2012 2013

Roadway Departure Intersections Pedestrians Bicyclists Older Drivers Motorcyclists Work Zones Data

SHSP Emphasis Area
Serious Injury Rate by SHSP Emphasis Area

Year 2009 to Year 2013

Rate of Serious Injury

SHSP Emphasis Area
### Groups of similar project types

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

<table>
<thead>
<tr>
<th>HSIP Sub-program Types</th>
<th>Target Crash Type</th>
<th>Number of fatalities</th>
<th>Number of serious injuries</th>
<th>Fatality rate (per HMVMT)</th>
<th>Serious injury rate (per HMVMT)</th>
<th>Other-1</th>
<th>Other-2</th>
<th>Other-3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>
# Fatalities by Target Crash Type for Groups of Similar Projects

Year 2009 to Year 2013

<table>
<thead>
<tr>
<th>Year</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>0.2</td>
<td>0.4</td>
<td>0.6</td>
<td>0.8</td>
<td>1.0</td>
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</tbody>
</table>

Target Crash Type
#Serious Injuries by Target Crash Type for Groups of Similar Projects

Year 2009 to Year 2013
Fatality Rate by Target Crash Type for Groups of Similar Projects

Year 2009 to Year 2013

Rate of Fatalities

Target Crash Type

2009 2010 2011 2012 2013
Serious Injury Rate by Target Crash Type for Groups of Similar Projects

Year 2009 to Year 2013

Rate of Serious Injuries

Target Crash Type

2009 2010 2011 2012 2013
**Systemic Treatments**

Present the overall effectiveness of systemic treatments.

<table>
<thead>
<tr>
<th>Systemic improvement</th>
<th>Target Crash Type</th>
<th>Number of fatalities</th>
<th>Number of serious injuries</th>
<th>Fatality rate (per HMVMT)</th>
<th>Serious injury rate (per HMVMT)</th>
<th>Other-1</th>
<th>Other-2</th>
<th>Other-3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>
# Fatalities by Target Crash Type for Systemic Safety Improvements

Year 2009 to Year 2013

![Graph showing fatalities by target crash type for systemic safety improvements from 2009 to 2013.](#)
# Serious Injuries by Target Crash Type for Systemic Safety Improvements

Year 2009 to Year 2013

<table>
<thead>
<tr>
<th>Year</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>Blue</td>
</tr>
<tr>
<td>2010</td>
<td>Red</td>
</tr>
<tr>
<td>2011</td>
<td>Green</td>
</tr>
<tr>
<td>2012</td>
<td>Purple</td>
</tr>
<tr>
<td>2013</td>
<td>Orange</td>
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</tbody>
</table>

# of Serious Injuries vs. Target Crash Type
Fatality Rate by Target Crash Type for Systemic Safety Improvements

Year 2009 to Year 2013

Rate of Fatalities

Target Crash Type

2009 2010 2011 2012 2013
Serious Injury Rate by Target Crash Type for Systemic Safety Improvements

Year 2009 to Year 2013

- 2009
- 2010
- 2011
- 2012
- 2013

Rate of Serious Injuries

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

It is 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 nearly complete revised SHSP which will include 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.
Provide project evaluation data for completed projects (optional).

<table>
<thead>
<tr>
<th>Location</th>
<th>Functional Class</th>
<th>Improvement Category</th>
<th>Improvement Type</th>
<th>Bef-Fatal</th>
<th>Bef-Serious Injury</th>
<th>Bef-Other Injury</th>
<th>Bef-PDO</th>
<th>Bef-Total</th>
<th>Aft-Fatal</th>
<th>Aft-Serious Injury</th>
<th>Aft-Other Injury</th>
<th>Aft-PDO</th>
<th>Aft-Total</th>
<th>Evaluation Results (Benefit/Cost Ratio)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td>NA</td>
</tr>
</tbody>
</table>
## Optional Attachments

<table>
<thead>
<tr>
<th>Sections</th>
<th>Files Attached</th>
</tr>
</thead>
</table>


**Glossary**

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

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

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

**HMVMT** means hundred million vehicle miles traveled.

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

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

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

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

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

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

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

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