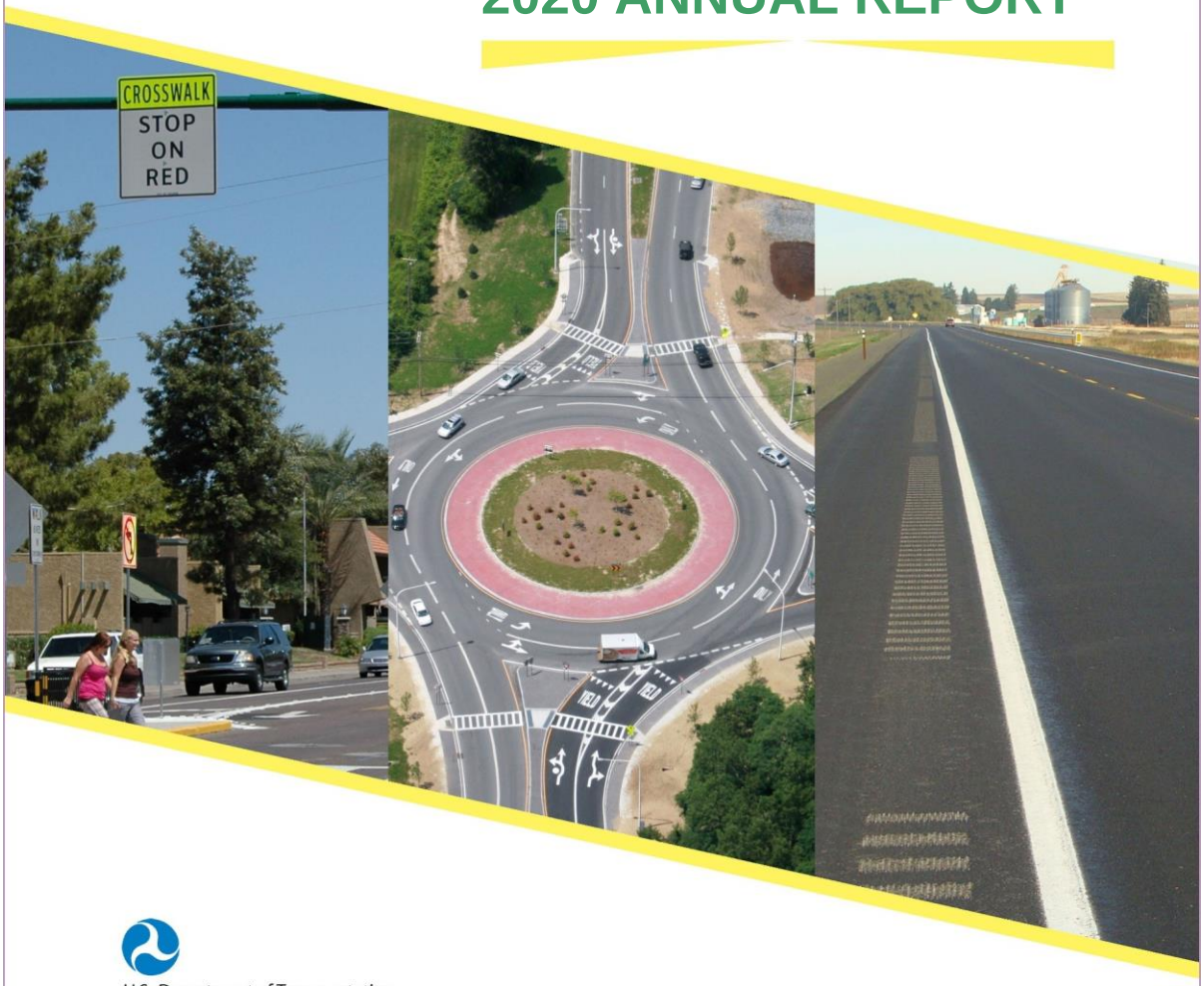
KANSAS

# HIGHWAY SAFETY IMPROVEMENT PROGRAM

## 2020 ANNUAL REPORT




U.S. Department of Transportation
Federal Highway Administration

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# 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. 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.”

# 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, guardrail and general safety improvements. The rail program is reported with the RHGCP report. This is the eighth year HRRR is reported with the HSIP report. Collectively, these programs cover all 140,000 centerline miles of public roads in Kansas while applying a multitude of proven countermeasures designed to reduce fatal and serious injury crashes statewide.

Concurrent with this annual report, we are developing our FFY 2021 HSIP Implementation Plan, completing an HSIP Assessment, publishing our 2020-2024 Strategic Highway Safety Plan, and preparing to apply a new HSIP Evaluation Framework based on the sub-programs in this report. We anticipate each of these projects will contribute in a substantive way to improvements in our HSIP process.

# 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 Reporting Guidance dated December 29, 2016 and consists of five sections: program structure, progress in implementing highway safety improvement projects, progress in achieving safety outcomes and performance targets, effectiveness of the improvements and compliance assessment.

# Program Structure

## *Program Administration*

### Describe the general structure of the HSIP in the State.

Our HSIP is managed via eight independent sub-programs, including intersections, signing, pavement markings, lighting, rail, HRRR, guardrail and general safety improvements. Each of these programs, with the exception of rail, is described in detail within this report.

### Where is HSIP staff located within the State DOT?

Other-Planning and Design

Intersections, signing, pavement markings, lighting, and general safety improvements are managed in the Bureau of Transportation Safety and Technology within the Division of Planning and Development. HRRR is managed by the Bureau of Local Projects, and rail and guardrail by the Bureau of Road Design, both within the Division of Engineering and Design.

### How are HSIP funds allocated in a State?

- Other-Headquarters

A committee made up of the HSIP Program Manager, FHWA Division Safety Engineer, sub-program managers, and management meet monthly to measure program progress based on planned obligations and to estimate and distribute allocations moving forward. The discussion begins based on historical precedent, but actual distribution is based on anticipated needs over the next two years. As we work to improve our HSIP, we intend to work toward a more data-driven distribution of dollars to each sub-program.

### Describe how local and tribal roads are addressed as part of HSIP.

Our HSIP program is made up of eight sub-programs: lighting, pavement marking, signing, rail, intersections, HRRR, guardrail and general safety improvements. Lighting, pavement marking, signing, guardrail 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 (e.g., State departments of transportation (DOTs) Bureaus, Divisions) are involved with HSIP planning.

- Design
- Districts/Regions
- Local Aid Programs Office/Division
- Maintenance
- Operations
- Planning
- Traffic Engineering/Safety

## 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 originally programmed to cover the entire state highway system in ten years. We are currently on our second cycle of replacement. Our Area Offices complete a sign inventory for each project. In recent years, projects that are primarily on conventional roads the Area Offices typically installed the new signs and posts; however due to staffing and other considerations we are moving back to contractor let. Projects that are on urban expressways and freeways have been and will continue to be 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 based on field experience and retro-reflectivity data. 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 traffic studies. 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 using Part B of the Highway Safety Manual and engineering judgment.

HRRR sub-program: District Offices provide construction oversight. The Bureau of Local Projects manages the program and utilizes a scoring rubric to score and rank potential projects.

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

Guardrail: Projects are selected and scoped in partnership with District and Area Offices.

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

## Identify which external partners are involved with HSIP planning.

- FHWA
- Local Government Agency
- Regional Planning Organizations (e.g. MPOs, RPOs, COGs)
- Other-Kansas Association of Counties

- Other-Local Roads Emphasis Area Team (SHSP)

## Describe coordination with external partners.

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 KDOT traffic studies.

HRRR sub-program: Projects are identified through solicitation to counties and their recommendations. Additionally, projects may be identified through studies such as Traffic Engineering Assistance Program reports (TEAP), road safety audits, and Local Road Safety Plans.

## Describe HSIP program administration practices that have changed since the last reporting period.

As noted last year, the semi-annual meetings with sub-program managers have moved to monthly. This change was intended to improve communication, discuss challenges, find solutions, and ultimately increase the obligation rate. Also, we officially added guardrail as a sub-program; although, we have been funding projects for a couple of years with the genesis to address safety on our resurfacing (1R) program once we found ourselves in the position of having to use federal funds.

## Describe other aspects of HSIP Administration on which the State would like to elaborate.

**A total of $26,113,822 in safety funds (HSIP and Rail) was apportioned for FFY 2020, distributed to each sub-program as follows:**

Lighting: $0

Pavement Marking: $6,000,000

Signing: $2,000,000

HWY/RR Gr Xing: $0.00 HSIP and $6,509,648 Rail

Intersections: $6,604,174

GSIP: $500,000

HRRR: $4,500,000

Guardrail: $0

**The following dollars were obligated for SFY 2020 in each program:**

SFY-2020 Obligated: $25,690,994.95 ($18,543,062.92 HSIP, 799,375.36 HRRR, $4,008,729.97 Rail and $2,339,835.70 ACHSIP)

Lighting: $734,458.92 HSIP

Pavement Marking: $5,336,762.96 HSIP

Signing: $2,192,648.10

HWY/RR Gr Xing: $4,995,642.25: $32,945.58 HSIP, $4,008,720.97 Rail and $953,975.70 ACHSIP

Intersections: $3,060,266.34 HSIP

GSIP: $200,000 HSIP

HRRR: $4,495,943.90: $3,696,568.54 HSIP and $799,375.36 HRRR

Guardrail: $4,675,272.48: $3,289,412.48 HSIP and $1,385,860 ACHSIP

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. For the purpose of this question, "apportioned" is that dollar amount made available to each sub-program prior to the beginning of the fiscal year; this value--which varies from year to year based on anticipated need--does not include carry-over. (Please note: In future reports we will exclude reference to AC-advanced construction. These projects and related dollars will not be reported until converted.)

## *Program Methodology*

**Does the State have an HSIP manual or similar that clearly describes HSIP planning, implementation and evaluation processes?**

No

This will be a recommendation of the aforenoted HSIP Assessment.

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

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

Our HRRR Program may also be referred to as Local Safety since it applies exclusively to locally-owned roads.

## Program: Intersection

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

### *What is the justification for this program?*

- Addresses SHSP priority or emphasis area

### *What is the funding approach for this program?*

Other-Must satisfy a need based on the HSM, address crashes, and have a B/C>1.

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

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

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

- Crash frequency
- Expected crash frequency with EB adjustment
- Other-B/C ratio
- Other-Observed crashes and patterns

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

Yes

### *Are local road projects identified using the same methodology as state roads?*

No

### *Describe the methodology used to identify local road projects as part of this program.*

Process is same except local road projects include a periodic solicitation letter to all cities with population of 5000 or greater requesting project proposals.

### *How are projects under this program 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:2
Available funding:3
Other-Crash patterns:1

This program is increasingly focused on low-cost safety improvements as well as higher-cost that addresses observed crash patterns. Additionally, HSM tools such as Safety Analyst help us rank and quantify the countermeasures to address intersections with the greatest potential to improve safety.

## Program: Local Safety

### *Date of Program Methodology:2/11/2011*

### *What is the justification for this program?*

- Addresses SHSP priority or emphasis area

### *What is the funding approach for this program?*

Competes with all projects

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

| Crashes | Exposure | Roadway |
|---|---|---|
| • All crashes | • Traffic<br>• Volume<br>• Population<br>• Lane miles | • Horizontal curvature<br>• Functional classification<br>• Roadside features<br>• 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
- Excess proportions of specific crash types
- Probability of specific crash types

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

Yes

### *Are local road projects identified using the same methodology as state roads?*

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 projects under this program advanced for implementation?*

- Competitive application process
- Other-Scoring rubric
- 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
Other-Scoring rubric:1
Other-Geographical distribution:3

## Program: Sign Replacement And Improvement

### *Date of Program Methodology:7/1/2006*

### *What is the justification for this program?*

- Addresses SHSP priority or emphasis area

### *What is the funding approach for this program?*

Funding set-aside

### *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

### *Are local road projects identified using the same methodology as state roads?*

### *How are projects under this program 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**

Other-Per established cyclical program:1

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 14th 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 were 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 moving forward.

## Program: Other-Pavement Marking

### *Date of Program Methodology:7/1/2006*

### *What is the justification for this program?*

- Addresses SHSP priority or emphasis area

### *What is the funding approach for this program?*

Funding set-aside

### *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
- Other-Mobile retro-reflectivity data

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

No

### *Are local road projects identified using the same methodology as state roads?*

### *How are projects under this program 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

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. We are also expanding our use of mobile retro-reflectivity data to identify potential projects. This is the 15th year KDOT has used HSIP funds to improve pavement markings.

## Program: Other-Lighting

### *Date of Program Methodology:7/1/2006*

### *What is the justification for this program?*

- Addresses SHSP priority or emphasis area

### *What is the funding approach for this program?*

Funding set-aside

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

**Crashes**

- Other-Night-time unlit crashes

**Exposure**

- Volume

**Roadway**

- Other-Road type: Interchanges

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

- Other-Locations are identified by District Engineers and public

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

No

### *Are local road projects identified using the same methodology as state roads?*

### *How are projects under this program 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

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 15th year KDOT has used HSIP funds to improve lighting.

## Program: Other-General Safety Improvements

### *Date of Program Methodology:2/10/2012*

### *What is the justification for this program?*

- Addresses SHSP priority or emphasis area

### *What is the funding approach for this program?*

Funding set-aside

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

| Crashes | Exposure | Roadway |
|---|---|---|
| • Fatal and serious injury crashes only | • Volume<br>• Population<br>• Lane miles | • Median width<br>• Horizontal curvature<br>• Functional classification<br>• 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

### *Are local road projects identified using the same methodology as state roads?*

### *How are projects under this program 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
Please note: This program is being phased out.

## Program: Other-Guardrail

### *Date of Program Methodology:7/1/2019*

### *What is the justification for this program?*

- Addresses SHSP priority or emphasis area

### *What is the funding approach for this program?*

Funding set-aside

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

| Crashes | Exposure | Roadway |
|---|---|---|
| | | • Roadside features |

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

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

No

### *Are local road projects identified using the same methodology as state roads?*

### *How are projects under this program advanced for implementation?*

- Other-Bureau of Road Design

***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

This program was started in 2019 with the proposal to eventually address all remaining blunt end guardrail terminals on the NHS. KDOT has a MOU dated October 22, 2019 with the Division Office that describes the goals of the program. The program is managed by the Bureau of Road Design. Guardrail set-aside program criteria is detailed in the MOU. This countermeasure is included in strategy two under Roadway Departure in our 2020-2024 SHSP.

## Program: Other-Rail

***Date of Program Methodology:7/1/2019***

***What is the justification for this program?***

***What is the funding approach for this program?***

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

**Crashes** **Exposure** **Roadway**

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

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

***Are local road projects identified using the same methodology as state roads?***

***How are projects under this program advanced for implementation?***

***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).***

Please reference the RHGC report for more information.

**What percentage of HSIP funds address systemic improvements?**

59

## HSIP funds are used to address which of the following systemic improvements?

- Install/Improve Lighting
- Install/Improve Pavement Marking and/or Delineation
- Install/Improve Signing
- Upgrade Guard Rails

Percent was calculated by summing amounts apportioned for Lighting, Pavement Marking, Signing , Guardrail and 80% of HRRR, and then dividing by the total HSIP apportioned.

## What process is used to identify potential countermeasures?

- Engineering Study
- Road Safety Assessment
- SHSP/Local road safety plan
- Other-Highway Safety Manual and CMF Clearinghouse
- Other-Crash data analysis to identify systematic countermeasures

## Does the State HSIP consider connected vehicles and ITS technologies?

Yes

## Describe how the State HSIP considers connected vehicles and ITS technologies.

The State of Kansas has formed an autonomous vehicle (AV) task force to consider the impacts of this emerging technology on everything from state statutes to infrastructure safety expenditures.

## Does the State use the Highway Safety Manual to support HSIP efforts?

Yes

## Please describe how the State uses the HSM to support HSIP efforts.

Our intersections sub-program is working to integrate Part B (Roadway Safety Management Process) and Part D (Crash Modification Factors) into the program methodology.

## Describe program methodology practices that have changed since the last reporting period.

Guardrail was added as a new sub-program in this year's report.

## Describe other aspects of the HSIP methodology on which the State would like to elaborate.

Guardrail was added as a new sub-program with this year's report.

# Project Implementation

## *Funds Programmed*

### Reporting period for HSIP funding.

State Fiscal Year

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

| FUNDING CATEGORY | PROGRAMMED | OBLIGATED | % OBLIGATED/PROGRAMMED |
|---|---|---|---|
| **HSIP (23 U.S.C. 148)** | $19,604,174 | $18,543,063 | 94.59% |
| **HRRR Special Rule (23 U.S.C. 148(g)(1))** | $0 | $0 | 0% |
| **Penalty Funds (23 U.S.C. 154)** | $0 | $0 | 0% |
| **Penalty Funds (23 U.S.C. 164)** | $0 | $0 | 0% |
| **RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2))** | $0 | $0 | 0% |
| **Other Federal-aid Funds (i.e. STBG, NHPP)** | $0 | $0 | 0% |
| **State and Local Funds** | $4,438,411 | $5,198,354 | 117.12% |
| **Totals** | $24,042,585 | $23,741,417 | 98.75% |

HSIP values were provided by our Management Systems Analyst; State and Local values were provided by our WinCPMS Administrator. Both persons in our Division of Program and Project Management. State and Local values are based on original estimates and obligations that occurred between 07/01/2019 and 06/30/2020.

### How much funding is programmed to local (non-state owned and operated) or tribal safety projects?

57%

### How much funding is obligated to local or tribal safety projects?

$6,676,621

Programmed is the total apportionment (that is, available) to those programs that include non-state owned roads in the methodology and may include dollars that get obligated to projects on state-owned roads: $6,604,174 (intersections) + $4,500,000 (HRRR) / $19,604,174 (total) = 57%

Obligated is the total obligated to those programs that include non-state owned roads in the methodology

excluding projects in the intersections program on state-owned roads. $2,180,677 (intersection projects on locally-owned roads listed in the project listing) + $4,495,944 (HRRR) = $6,676,621.

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

$0

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

$1,127,480

No funding is programmed directly to non-infrastructure safety projects. However, each sub-program may have non-infrastructure projects and those obligated in SFY 2020 are included in the total: $200,000 for C-4855-20 for TEAP, and $927,480 to C-4790-03 for LRSP.

### How much funding was transferred in to the HSIP from other core program areas during the reporting period under 23 U.S.C. 126?

0%

### How much funding was transferred out of the HSIP to other core program areas during the reporting period under 23 U.S.C. 126?

0%

### Discuss impediments to obligating HSIP funds and plans to overcome this challenge in the future.

Nothing to report at this time.

## *General Listing of Projects*

**List the projects obligated using HSIP funds for the reporting period.**

| PROJECT NAME | IMPROVEMENT CATEGORY | SUBCATEGORY | OUTPUTS | OUTPUT TYPE | HSIP PROJECT COST($) | TOTAL PROJECT COST($) | FUNDING CATEGORY | LAND USE/AREA TYPE | FUNCTIONAL CLASSIFICATION | AADT | SPEED | OWNERSHIP | METHOD FOR SITE SELECTION | SHSP EMPHASIS AREA | SHSP STRATEGY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N-0644-01 | Intersection geometry | Intersection geometry - other | | Intersections | $980676.86 | $4922224.81 | HSIP (23 U.S.C. 148) | Urban | Minor Arterial | 10,000 | 45 | City or Municipal Highway Agency | Spot | Intersections | |
| N-0670-01 | Intersection geometry | Intersection geometry - other | | Intersections | $1200000 | $1682871.68 | HSIP (23 U.S.C. 148) | Urban | Minor Collector | 5,005 | 30 | City or Municipal Highway Agency | Spot | Intersections | |
| KA-4536-01 | Intersection geometry | Intersection geometry - other | | Intersections | $4177860.22 | $4262057.52 | HSIP (23 U.S.C. 148) | Rural | Minor Arterial | 3,085 | 65 | State Highway Agency | Spot | Intersections | |
| KA-5323-01 | Roadway delineation | Improve retroreflectivity | 15.359 | Miles | $247826.4 | $247826.4 | HSIP (23 U.S.C. 148) | Rural | Major Collector | 1,640 | 55 | State Highway Agency | | Roadway Departure | Pavement Markings |
| KA-5324-01 | Roadway delineation | Improve retroreflectivity | 7.731 | Miles | $118945.51 | $118945.51 | HSIP (23 U.S.C. 148) | Rural | Major Collector | 1,100 | 55 | State Highway Agency | | Roadway Departure | Pavement Markings |
| KA-5325-01 | Roadway delineation | Improve retroreflectivity | 8.51 | Miles | $131410.81 | $131410.81 | HSIP (23 U.S.C. 148) | Rural | Minor Arterial | 1,690 | 55 | State Highway Agency | | Roadway Departure | Pavement Markings |
| KA-5405-01 | Roadway delineation | Improve retroreflectivity | 8.625 | Miles | $196883.79 | $196883.79 | HSIP (23 U.S.C. 148) | Multiple/Varies | Principal Arterial-Other Freeways & Expressways | 8,360 | 70 | State Highway Agency | | Roadway Departure | Pavement Markings |
| KA-5406-01 | Roadway delineation | Improve retroreflectivity | 0.913 | Miles | $159156.77 | $159156.77 | HSIP (23 U.S.C. 148) | Urban | Minor Arterial | 4,410 | 40 | State Highway Agency | | Roadway Departure | Pavement Markings |
| KA-5407-01 | Roadway delineation | Improve retroreflectivity | 12.81 | Miles | $769932.3 | $769932.3 | HSIP (23 U.S.C. 148) | Rural | Principal Arterial-Interstate | 10,800 | 75 | State Highway Agency | | Roadway Departure | Pavement Markings |
| KA-5408-01 | Roadway delineation | Improve retroreflectivity | 6.34 | Miles | $114146.62 | $114146.62 | HSIP (23 U.S.C. 148) | Rural | Principal Arterial-Interstate | 18,100 | 75 | State Highway Agency | | Roadway Departure | Pavement Markings |
| KA-5409-01 | Roadway delineation | Improve retroreflectivity | 9.1 | Miles | $124878.77 | $124878.77 | HSIP (23 U.S.C. 148) | Multiple/Varies | Principal Arterial-Other | 8,440 | 65 | State Highway Agency | | Roadway Departure | Pavement Markings |
| KA-5410-01 | Roadway delineation | Improve retroreflectivity | 23.46 | Miles | $1019988.81 | $1019988.81 | HSIP (23 U.S.C. 148) | Rural | Principal Arterial-Interstate | 18,400 | 75 | State Highway Agency | | Roadway Departure | Pavement Markings |

| PROJECT NAME | IMPROVEMENT CATEGORY | SUBCATEGORY | OUTPUTS | OUTPUT TYPE | HSIP PROJECT COST($) | TOTAL PROJECT COST($) | FUNDING CATEGORY | LAND USE/AREA TYPE | FUNCTIONAL CLASSIFICATION | AADT | SPEED | OWNERSHIP | METHOD FOR SITE SELECTION | SHSP EMPHASIS AREA | SHSP STRATEGY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KA-5425-01 | Roadway delineation | Improve retroreflectivity | 10.18 | Miles | $117711.12 | $117711.12 | HSIP (23 U.S.C. 148) | Rural | Minor Arterial | 935 | 65 | State Highway Agency | | Roadway Departure | Pavement Markings |
| KA-5426-01 | Roadway delineation | Improve retroreflectivity | 8.953 | Miles | $106425.56 | $106425.56 | HSIP (23 U.S.C. 148) | Rural | Minor Arterial | 745 | 65 | State Highway Agency | | Roadway Departure | Pavement Markings |
| KA-5427-01 | Roadway delineation | Improve retroreflectivity | 1.246 | Miles | $24831.86 | $24831.86 | HSIP (23 U.S.C. 148) | Rural | Minor Arterial | 1,150 | 65 | State Highway Agency | | Roadway Departure | Pavement Markings |
| KA-5428-01 | Roadway delineation | Improve retroreflectivity | 10.732 | Miles | $136280.55 | $136280.55 | HSIP (23 U.S.C. 148) | Rural | Minor Arterial | 2,170 | 65 | State Highway Agency | | Roadway Departure | Pavement Markings |
| KA-5442-01 | Roadway delineation | Improve retroreflectivity | 24.153 | Miles | $367823.1 | $367823.1 | HSIP (23 U.S.C. 148) | Rural | Minor Arterial | 3,010 | 65 | State Highway Agency | | Roadway Departure | Pavement Markings |
| KA-5489-01 | Roadway delineation | Improve retroreflectivity | 2.099 | Miles | $151560.7 | $151560.7 | HSIP (23 U.S.C. 148) | Urban | Principal Arterial-Other | 5,890 | 65 | State Highway Agency | | Roadway Departure | Pavement Markings |
| KA-5491-01 | Roadway delineation | Improve retroreflectivity | 2.577 | Miles | $43968.58 | $43968.58 | HSIP (23 U.S.C. 148) | Rural | Principal Arterial-Other | 5,270 | 65 | State Highway Agency | | Roadway Departure | Pavement Markings |
| KA-5492-01 | Roadway delineation | Improve retroreflectivity | 14.3 | Miles | $211463.57 | $211463.57 | HSIP (23 U.S.C. 148) | Rural | Principal Arterial-Other Freeways & Expressways | 9,280 | 75 | State Highway Agency | | Roadway Departure | Pavement Markings |
| KA-5493-01 | Roadway delineation | Improve retroreflectivity | 24.199 | Miles | $367202.37 | $367202.37 | HSIP (23 U.S.C. 148) | Rural | Principal Arterial-Other | 5,050 | 65 | State Highway Agency | | Roadway Departure | Pavement Markings |
| KA-5494-01 | Roadway delineation | Improve retroreflectivity | 1.065 | Miles | $15427.33 | $15427.33 | HSIP (23 U.S.C. 148) | Rural | Principal Arterial-Other | 2,880 | 65 | State Highway Agency | | Roadway Departure | Pavement Markings |
| KA-5145-01 | Lighting | Site lighting - intersection | | Intersections | $265161.23 | $265161.23 | HSIP (23 U.S.C. 148) | Rural | Multiple/Varies | 0 | | State Highway Agency | Spot | Intersections | |
| KA-5313-01 | Lighting | Site lighting - interchange | | Interchanges | $177043.86 | $177043.86 | HSIP (23 U.S.C. 148) | Rural | Principal Arterial-Interstate | 11,775 | 75 | State Highway Agency | Spot | Intersections | |
| KA-0726-02 | Lighting | Site lighting - interchange | | Interchanges | $267446.3 | $267446.3 | HSIP (23 U.S.C. 148) | Rural | Principal Arterial-Interstate | 0 | 75 | State Highway Agency | Spot | Intersections | |
| C-4790-03 | Non-infrastructure | Transportation safety planning | | | $927479.7 | $1030532.35 | HSIP (23 U.S.C. 148) | Rural | Major Collector | 0 | | County Highway Agency | Systemic | Local Roads | |

| PROJECT NAME | IMPROVEMENT CATEGORY | SUBCATEGORY | OUTPUTS | OUTPUT TYPE | HSIP PROJECT COST($) | TOTAL PROJECT COST($) | FUNDING CATEGORY | LAND USE/AREA TYPE | FUNCTIONAL CLASSIFICATION | AADT | SPEED | OWNERSHIP | METHOD FOR SITE SELECTION | SHSP EMPHASIS AREA | SHSP STRATEGY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-4855-20 | Non-infrastructure | Transportation safety planning | | | $200000 | $220000 | HSIP (23 U.S.C. 148) | Multiple/Varies | Multiple/Varies | 0 | | Other Local Agency | Committee selection | Local Roads | |
| C-4896-01 | Roadway signs and traffic control | Roadway signs (including post) - new or updated | 71 | Miles | $100704.54 | $122044.24 | HSIP (23 U.S.C. 148) | Rural | Major Collector | 0 | | County Highway Agency | Systemic | Local Roads | |
| C-4898-01 | Intersection geometry | Auxiliary lanes - add left-turn lane | 0.3 | Miles | $869905.18 | $1114274 | HSIP (23 U.S.C. 148) | Rural | Major Collector | 0 | | County Highway Agency | Spot | Local Roads | |
| C-4929-01 | Roadway signs and traffic control | Roadway signs (including post) - new or updated | 224 | Miles | $186097.23 | $204706.95 | HSIP (23 U.S.C. 148) | Rural | Major Collector | 0 | | County Highway Agency | Systemic | Local Roads | |
| C-4930-01 | Roadway signs and traffic control | Roadway signs (including post) - new or updated | 165 | Miles | $312754.45 | $344029.9 | HSIP (23 U.S.C. 148) | Rural | Major Collector | 0 | | County Highway Agency | Systemic | Local Roads | |
| C-4931-01 | Roadway signs and traffic control | Roadway signs (including post) - new or updated | 61 | Miles | $184420.73 | $248078.3 | HSIP (23 U.S.C. 148) | Rural | Major Collector | 0 | | County Highway Agency | Systemic | Local Roads | |
| C-4932-01 | Roadway delineation | Longitudinal pavement markings - remarking | 42 | Miles | $201793 | $269797 | HSIP (23 U.S.C. 148) | Rural | Major Collector | 0 | | County Highway Agency | Systemic | Local Roads | |
| C-4933-01 | Roadway signs and traffic control | Roadway signs (including post) - new or updated | 120 | Miles | $284184 | $277224.71 | HSIP (23 U.S.C. 148) | Rural | Major Collector | 0 | | County Highway Agency | Systemic | Local Roads | |
| C-4934-01 | Roadway signs and traffic control | Roadway signs (including post) - new or updated | 100 | Miles | $228809 | $206040.85 | HSIP (23 U.S.C. 148) | Rural | Major Collector | 0 | | County Highway Agency | Systemic | Local Roads | |
| C-4936-01 | Roadway | Roadway - other | 0.5 | Miles | $519421.77 | $577242.31 | HSIP (23 U.S.C. 148) | Rural | Major Collector | 0 | | County Highway Agency | Spot | Local Roads | |
| C-4937-01 | Intersection traffic control | Intersection traffic control - other | 0.3 | Miles | $72903.43 | $80193.77 | HSIP (23 U.S.C. 148) | Rural | Major Collector | 0 | | County Highway Agency | Spot | Local Roads | |
| C-4938-01 | Roadway | Roadway - other | 0.2 | Miles | $200000 | $388839 | HSIP (23 U.S.C. 148) | Rural | Major Collector | 0 | | County Highway Agency | Spot | Local Roads | |
| KA-4697-02 | Roadside | Barrier- metal | | Locations | $0 | $1305015.32 | HSIP (23 U.S.C. 148) | Urban | Principal Arterial-Interstate | 0 | 65 | State Highway Agency | Systemic | Roadway Departure | |
| KA-4812-02 | Roadside | Barrier- metal | | Locations | $525153.67 | $532520.32 | HSIP (23 U.S.C. 148) | Rural | Principal Arterial-Other | 0 | | State Highway Agency | Systemic | Roadway Departure | |

| PROJECT NAME | IMPROVEMENT CATEGORY | SUBCATEGORY | OUTPUTS | OUTPUT TYPE | HSIP PROJECT COST($) | TOTAL PROJECT COST($) | FUNDING CATEGORY | LAND USE/AREA TYPE | FUNCTIONAL CLASSIFICATION | AADT | SPEED | OWNERSHIP | METHOD FOR SITE SELECTION | SHSP EMPHASIS AREA | SHSP STRATEGY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KA-5008-02 | Roadside | Barrier- metal | | Locations | $721325.94 | $721458.32 | HSIP (23 U.S.C. 148) | Rural | Principal Arterial-Other | 0 | | State Highway Agency | Systemic | Roadway Departure | |
| KA-5012-02 | Roadside | Barrier- metal | | Locations | $187900.65 | $192536.19 | HSIP (23 U.S.C. 148) | Rural | Principal Arterial-Other | 0 | | State Highway Agency | Systemic | Roadway Departure | |
| KA-5048-02 | Roadside | Barrier- metal | | Locations | $364235 | $316235 | HSIP (23 U.S.C. 148) | Rural | Principal Arterial-Other | 0 | | State Highway Agency | Systemic | Roadway Departure | |
| KA-5092-02 | Roadside | Barrier- metal | | Locations | $505674.99 | $505674.99 | HSIP (23 U.S.C. 148) | Rural | Principal Arterial-Other | 0 | | State Highway Agency | Systemic | Roadway Departure | |
| KA-5121-02 | Roadside | Barrier- metal | | Locations | $346608.7 | $346956.13 | HSIP (23 U.S.C. 148) | Rural | Principal Arterial-Interstate | 0 | | State Highway Agency | Systemic | Roadway Departure | |
| KA-5126-02 | Roadside | Barrier- metal | | Locations | $184493.06 | $344084.59 | HSIP (23 U.S.C. 148) | Urban | Principal Arterial-Interstate | 0 | | State Highway Agency | Systemic | Roadway Departure | |
| KA-5127-02 | Roadside | Barrier- metal | | Locations | $171689.7 | $171967.12 | HSIP (23 U.S.C. 148) | Rural | Principal Arterial-Interstate | 0 | | State Highway Agency | Systemic | Roadway Departure | |
| KA-5128-02 | Roadside | Barrier- metal | | Locations | $231000 | $232000 | HSIP (23 U.S.C. 148) | Urban | Principal Arterial-Interstate | 0 | | State Highway Agency | Systemic | Roadway Departure | |
| KA-5129-02 | Roadside | Barrier- metal | | Locations | $103126.95 | $117748.39 | HSIP (23 U.S.C. 148) | Urban | Principal Arterial-Interstate | 0 | | State Highway Agency | Systemic | Roadway Departure | |
| KA-5130-02 | Roadside | Barrier- metal | | Locations | $89250 | $90250 | HSIP (23 U.S.C. 148) | Urban | Principal Arterial-Interstate | 0 | | State Highway Agency | Systemic | Roadway Departure | |
| KA-5614-01 | Roadside | Barrier end treatments (crash cushions, terminals) | 5 | Locations | $673800 | $673800 | HSIP (23 U.S.C. 148) | Rural | Principal Arterial-Other | 0 | | State Highway Agency | Systemic | Roadway Departure | |
| KA-5615-01 | Roadside | Barrier end treatments (crash cushions, terminals) | 4 | Locations | $146460 | $146460 | HSIP (23 U.S.C. 148) | Urban | Principal Arterial-Other | 0 | | State Highway Agency | Systemic | Roadway Departure | |
| KA-4744-02 | Roadway signs and traffic control | Roadway signs (including post) - new or updated | 49 | Miles | $1381664 | $1381664 | HSIP (23 U.S.C. 148) | | | 0 | | State Highway Agency | Systemic | Roadway Departure | |

| PROJECT NAME | IMPROVEMENT CATEGORY | SUBCATEGORY | OUTPUTS | OUTPUT TYPE | HSIP PROJECT COST($) | TOTAL PROJECT COST($) | FUNDING CATEGORY | LAND USE/AREA TYPE | FUNCTIONAL CLASSIFICATION | AADT | SPEED | OWNERSHIP | METHOD FOR SITE SELECTION | SHSP EMPHASIS AREA | SHSP STRATEGY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KA-4746-03 | Roadway signs and traffic control | Roadway signs (including post) - new or updated | 205 | Miles | $3125005 | $3125235 | HSIP (23 U.S.C. 148) | | | 0 | | State Highway Agency | Systemic | Roadway Departure | |

Project no. C-4790-03 is out local road safety plans and only applies to rural major collectors (i.e. county-owned highways.)

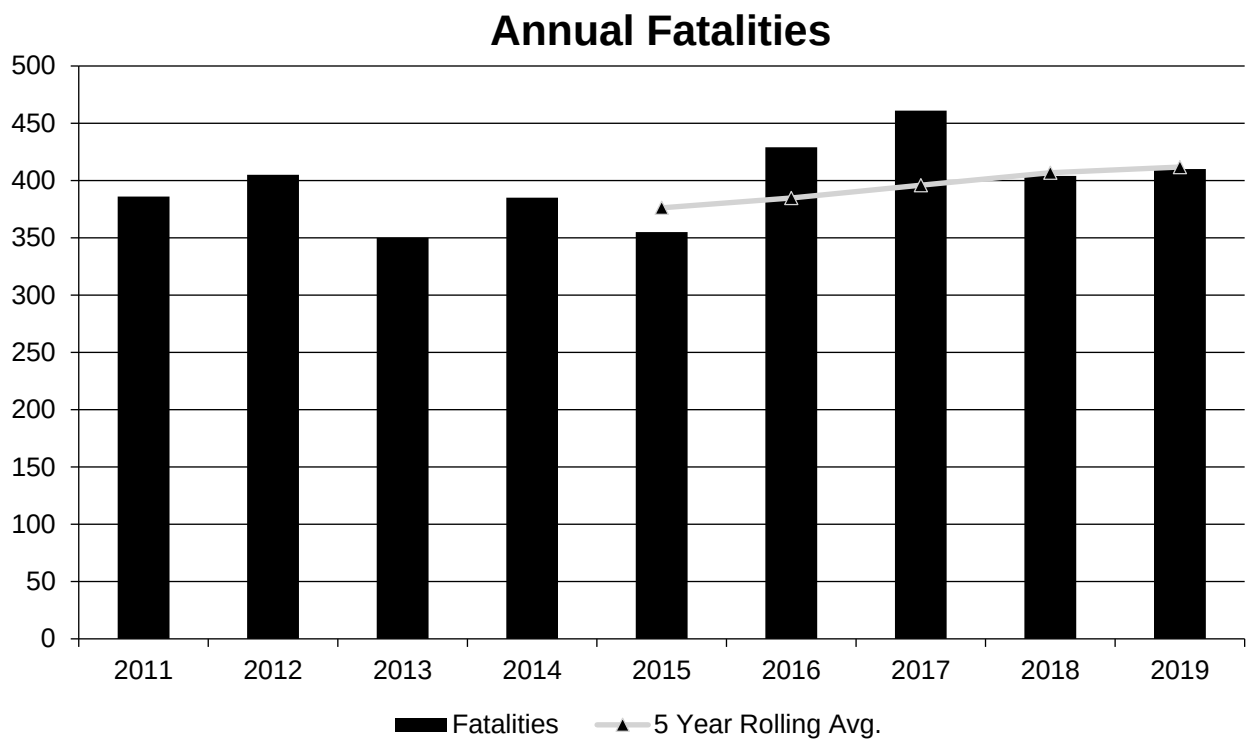
The projects listed above represent those with HSIP dollars obligated in state fiscal year 2020 (July 2019 thru June 2020.) For construction projects with multiple work phases, the projects are reported in the year the construction dollars are obligated. We only report projects in this report once. The values shown above are those figures in our project reporting system (WinCPMS) at the time of this report and do not necessarily represent the final project costs. References to total obligation dollars in SFY 2020 represent all activity on all projects during the fiscal year. This may include PE on a construction project or adjustments during closeout. For this reason, obligation totals in this report may not match.

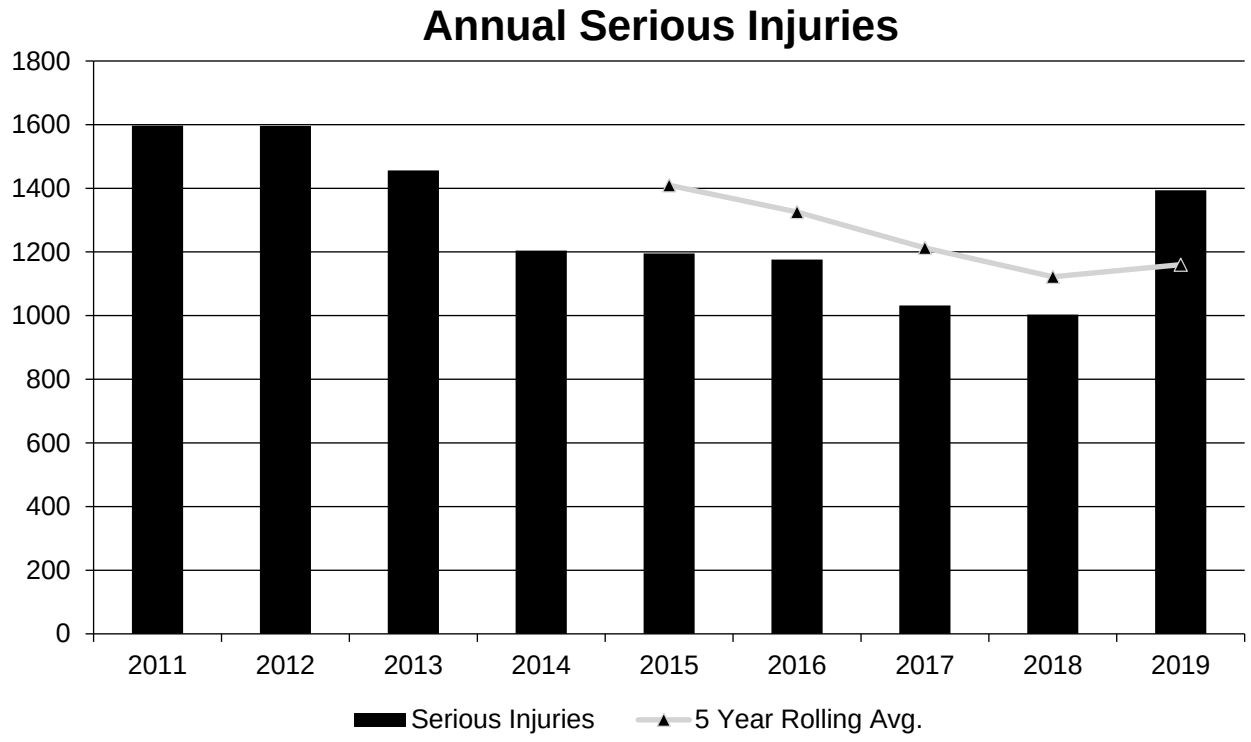
# Safety Performance

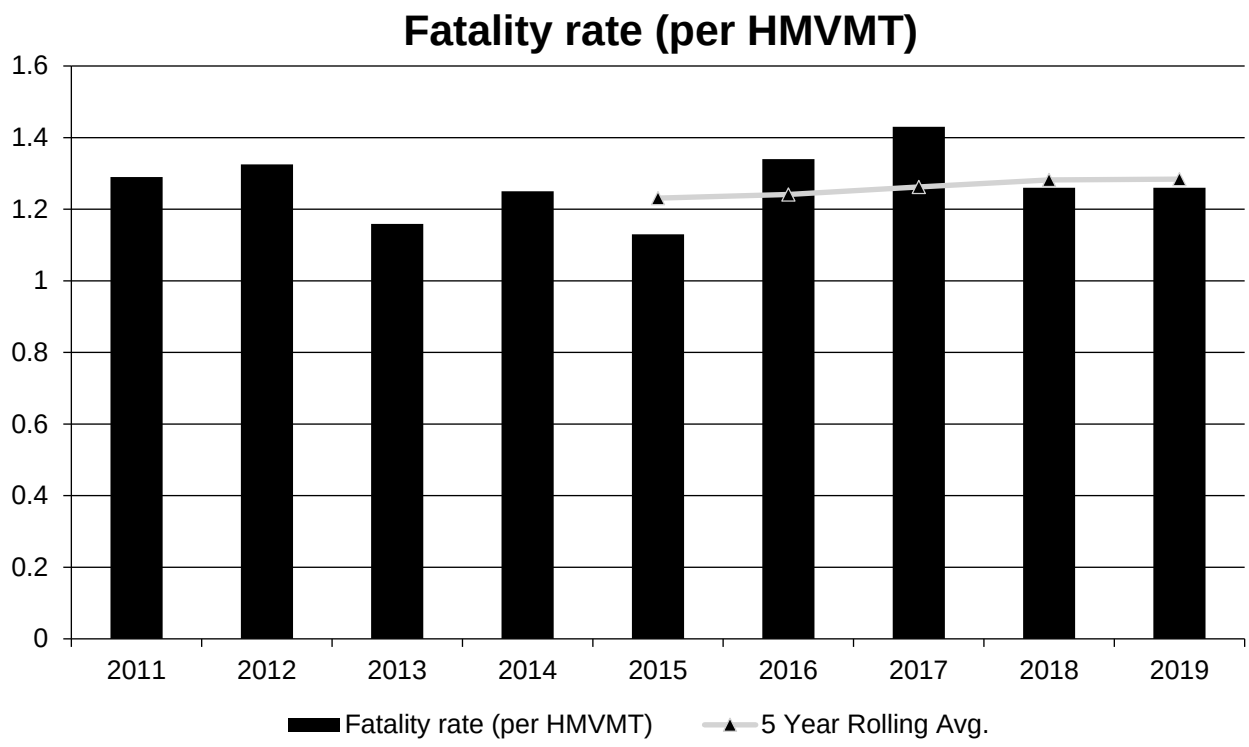
## *General Highway Safety Trends*

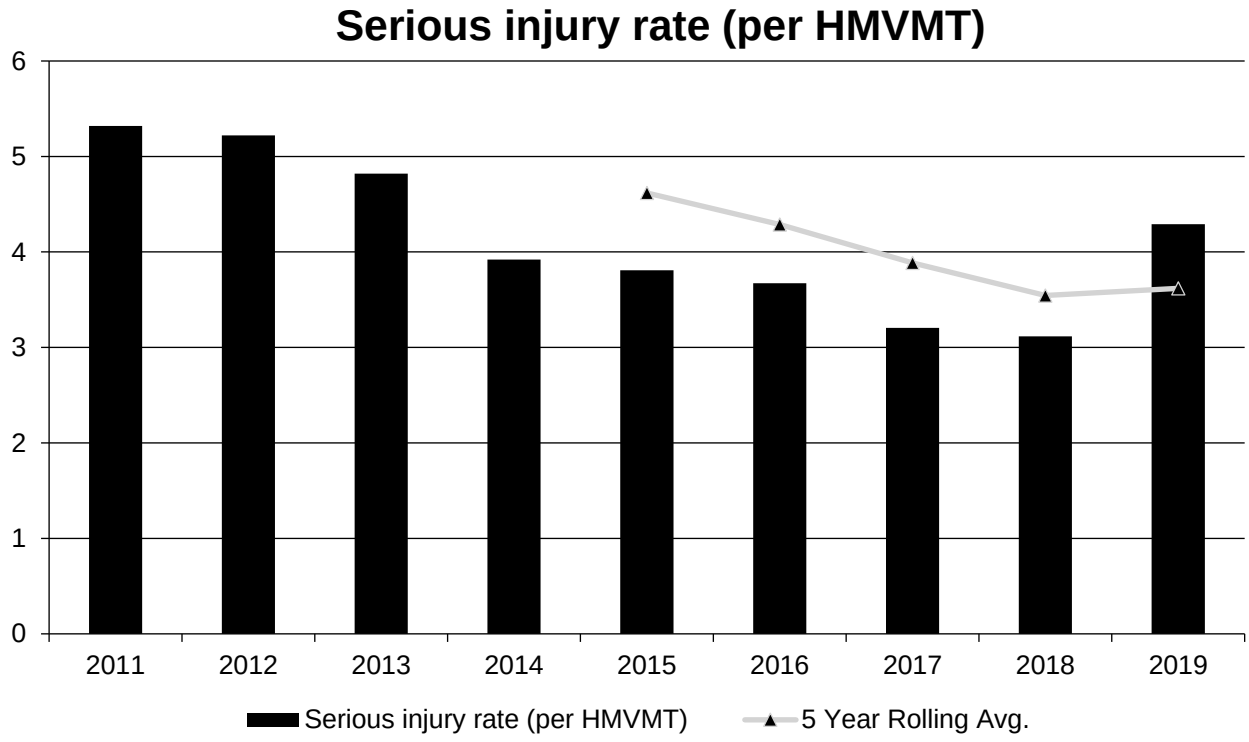
### Present data showing the general highway safety trends in the State for the past five years.

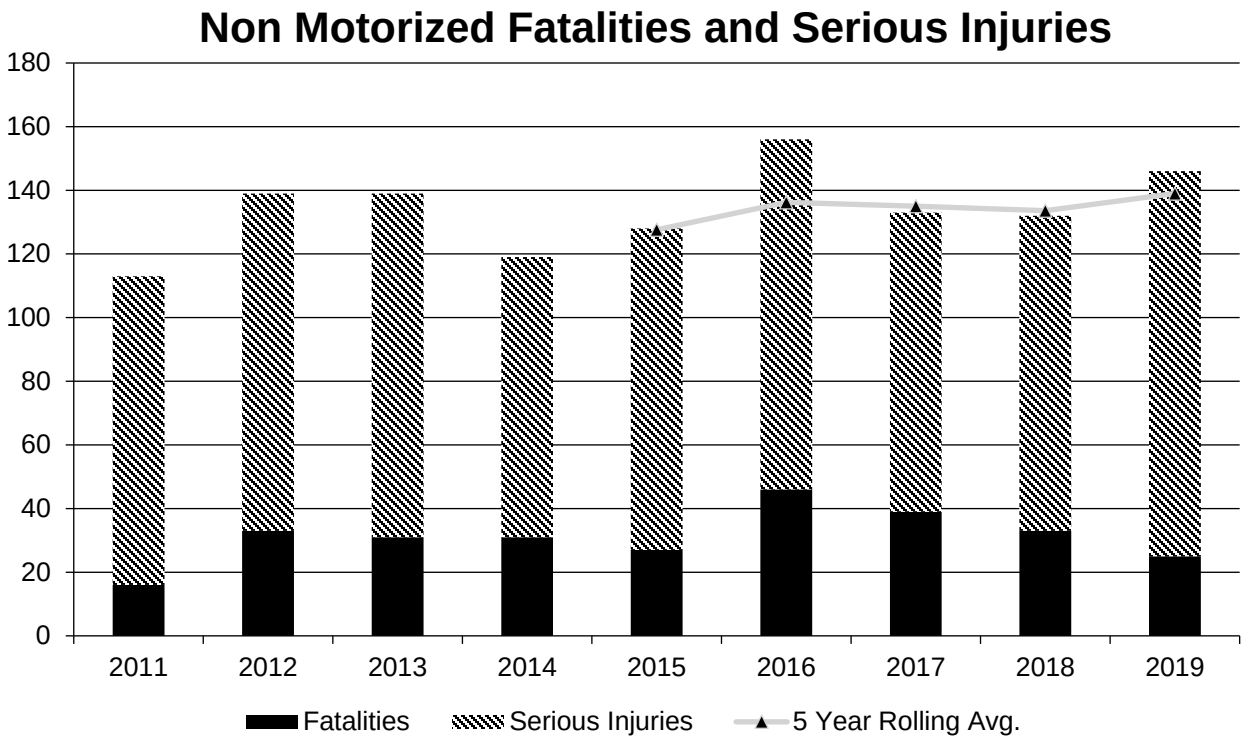
| PERFORMANCE MEASURES | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|---|---|---|
| Fatalities | 386 | 405 | 350 | 385 | 355 | 429 | 461 | 404 | 410 |
| Serious Injuries | 1,597 | 1,596 | 1,456 | 1,204 | 1,195 | 1,176 | 1,032 | 1,003 | 1,394 |
| Fatality rate (per HMVMT) | 1.290 | 1.325 | 1.159 | 1.250 | 1.130 | 1.340 | 1.430 | 1.260 | 1.260 |
| Serious injury rate (per HMVMT) | 5.320 | 5.220 | 4.820 | 3.921 | 3.808 | 3.673 | 3.204 | 3.116 | 4.291 |
| Number non-motorized fatalities | 16 | 33 | 31 | 31 | 27 | 46 | 39 | 33 | 25 |
| Number of non-motorized serious injuries | 97 | 106 | 108 | 88 | 101 | 110 | 94 | 99 | 121 |


Annual Fatalities
500
450
400
350
300
250
200
150
100
50
0
2011
2012
2013
2014
2015
2016
2017
2018
2019
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
1800
1600
1400
1200
1000
800
600
400
200
0
2011
2012
2013
2014
2015
2016
2017
2018
2019
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2011
2012
2013
2014
2015
2016
2017
2018
2019
Fatality rate (per HMVMT)
5 Year Rolling Avg.


Serious injury rate (per HMVMT)
6
5
4
3
2
1
0
2011
2012
2013
2014
2015
2016
2017
2018
2019
Serious injury rate (per HMVMT)
5 Year Rolling Avg.




## Describe fatality data source.

**Other**

**If Other Please describe**

Both FARS and state motor vehicle crash database

Question 30 is answered based on FARS data. This is the same data we use when developing our safety performance targets. Question 32 is answered based on KCARS (state database) data because the required level of detail is not available in FARS.

## To the maximum extent possible, present this data by functional classification and ownership.

**Year 2019**

| Functional Classification | Number of Fatalities (5-yr avg) | Number of Serious Injuries (5-yr avg) | Fatality Rate (per HMVMT) (5-yr avg) | Serious Injury Rate (per HMVMT) (5-yr avg) |
|---|---|---|---|---|
| Rural Principal Arterial (RPA) - Interstate | 28.2 | 55.8 | | |
| Rural Principal Arterial (RPA) - Other Freeways and Expressways | 11 | 26 | | |
| Rural Principal Arterial (RPA) - Other | 67 | 112.4 | | |

| Functional Classification | Number of Fatalities (5-yr avg) | Number of Serious Injuries (5-yr avg) | Fatality Rate (per HMVMT) (5-yr avg) | Serious Injury Rate (per HMVMT) (5-yr avg) |
|---|---|---|---|---|
| Rural Minor Arterial | 52.2 | 99.4 | | |
| Rural Minor Collector | 6 | 14.6 | | |
| Rural Major Collector | 47.2 | 117.2 | | |
| Rural Local Road or Street | 79.2 | 117.2 | | |
| Urban Principal Arterial (UPA) - Interstate | 25.4 | 88 | | |
| Urban Principal Arterial (UPA) - Other Freeways and Expressways | 15.2 | 43.2 | | |
| Urban Principal Arterial (UPA) - Other | 26.2 | 105.8 | | |
| Urban Minor Arterial | 24.8 | 144.6 | | |
| Urban Minor Collector | 0.6 | 11.6 | | |
| Urban Major Collector | 9.8 | 69 | | |
| Urban Local Road or Street | 16.4 | 99.8 | | |

**Year 2019**

| Roadways | Number of Fatalities (5-yr avg) | Number of Serious Injuries (5-yr avg) | Fatality Rate (per HMVMT) (5-yr avg) | Serious Injury Rate (per HMVMT) (5-yr avg) |
|---|---|---|---|---|
| State Highway Agency | 209.2 | 446.8 | | |
| County Highway Agency | | | | |
| Town or Township Highway Agency | | | | |
| City or Municipal Highway Agency | | | | |
| State Park, Forest, or Reservation Agency | | | | |
| Local Park, Forest or Reservation Agency | | | | |
| Other State Agency | | | | |
| Other Local Agency | 188.4 | 668.8 | | |
| Private (Other than Railroad) | | | | |
| Railroad | | | | |
| State Toll Authority | 13.4 | 42.4 | | |
| Local Toll Authority | | | | |
| Other Public Instrumentality (e.g. Airport, School, University) | | | | |
| Indian Tribe Nation | | | | |
| Dept. of Defense | 0 | 1.4 | | |

Fatalities and Serious Injuries are recorded for all functional classifications and years. Fatality Rates and Serious Injury Rates are only recorded for the 2017 FYA, the last year official VMT data is available on the KDOT website.

## *Safety Performance Targets*

### Safety Performance Targets

### Calendar Year 2021 Targets *

#### *Number of Fatalities:364.0*

#### *Describe the basis for established target, including how it supports SHSP goals.*

Going back to 2015, the five-year moving average projects to 432 in 2021. Historically, we established our targets at or up to one percent below the projection depending on current trends. The 2019 baseline is 412. Our 2018 target was 364. Going forward, our target will be whichever is less of these three: one percent below projected, baseline, or 2018 target. To hit our target of 364 requires a two-year average of 272.5 in CY 2020 and 2021; to hit the baseline of 412 requires a two-year average of 392.5.

#### *Number of Serious Injuries:1190.0*

#### *Describe the basis for established target, including how it supports SHSP goals.*

Going back to 2015, the five-year moving average projects to 1231 in 2021 based on a curvilinear trendline to adjust for the change in serious injury definition. Historically, we established our targets at or up to one percent below the projection depending on current trends. The 2019 baseline is 1160. Our 2018 target was 1190. Going forward, our target will be whichever is less of these two: one percent below projected or 2018 target. To hit our target of 1190 requires a two-year average of 1260.5 in CY 2020 and 2021; to hit the baseline of 1160 requires a two-year average of 1185.5. Because of the change in serious injury definition, we will evaluate this approach annually. As a reference, with the new definition the total in 2019 was 1394.The goal in our 2020-2024 SHSP is to be at or below 35 fatal and injury crashes per 100MVM in 2024. But our vision remains the same: Drive to Zero. This target moves us toward our goal but emphasizes our vision.

#### *Fatality Rate:1.160*

#### *Describe the basis for established target, including how it supports SHSP goals.*

Going back to 2015, the five-year moving average projects to 1.32 in 2021. Historically, we established our targets at or up to one percent below the projection depending on current trends. The 2019 baseline is 1.28. Our 2018 target was 1.16. Going forward, our target will be whichever is less of these three: one percent below projected, baseline, or 2018 target. To hit our target of 1.160 requires a two-year average of 0.925 in CY 2020 and 2021; to hit the baseline of 1.28 requires a two-year average of 1.225.

#### *Serious Injury Rate:3.726*

#### *Describe the basis for established target, including how it supports SHSP goals.*

Going back to 2015, the five-year moving average projects to 3.764 in 2021 based on a curvilinear trendline to adjust for the change in serious injury definition. Historically, we established our targets at or up to two percent below the projection depending on current trends. The 2019 baseline is 3.619. Our 2018 target was 3.774. Going forward, our target will be whichever is less of these two: one percent below projected or 2018 target. To hit our target of 3.726 requires a two-year average of 4.010 in CY 2020 and 2021; to hit the baseline of 3.619 requires a two-year average of 3.742. Because of the change in serious injury definition, we will evaluate this approach annually. As a reference, with the new definition the rate in 2019 was 4.291.

#### *Total Number of Non-Motorized Fatalities and Serious Injuries:138.0*

### *Describe the basis for established target, including how it supports SHSP goals.*

Going back to 2015, the five-year moving average projects to 142 in 2021. Historically, we established our targets at or up to one percent below the projection depending on current trends. The 2019 baseline is 139. Our 2018 target was 138. Going forward, our target will be whichever is less of these three: one percent below projected, baseline, or 2018 target. To hit our target of 138 requires a two-year average of 139.5 in CY 2020 and 2021; to hit the baseline of 139 requires a two-year average of 142. As a reference, with the new definition for the serious injury the total in 2019 was 146.
Establishing targets for 2021 was complicated by two items: the change in serious injury definition that became effective in Kansas January 1, 2019 and the unknown impact of COVID-19. Regarding the former, serious injuries increased by about 40 percent in 2019 compared to 2018. Regarding the latter, much remains unknown; but as of this report, like many states fatalities are up in Kansas while VMT is down.

In our new 2020-2024 SHSP, the overall goal of the five-year plan is to achieve a fatal and injury crash rate of less than 35 crashes per 100 MVM travel by 2024. But our vision remains the same: Drive to Zero. These targets help move us toward our intermediate goal, while placing emphasis on our long-term vision.

## Describe efforts to coordinate with other stakeholders (e.g. MPOs, SHSO) to establish safety performance targets.

The state of Kansas is fortunate in that both the SHSP and HSP administrators are in the KDOT Bureau of Transportation Safety and Technology. Both plans rely heavily on the same data sources to establish strategies and goals. These data sources include, but are not limited to: FARS, the statewide crash database, and observational surveys. The three identified performance measures – fatalities, fatality rate, and serious injuries – have the same definition and goals.

On February 22, 2017 we hosted a Kansas Safety Target Setting Coordination Training Workshop presented by the FHWA. Most MPOs in the state were represented at this training. On April 17, 2017 we hosted a conference call with all the MPOs to present state targets and discuss next steps. We have been and will continue to provide each MPO with the data necessary to calculate their 2021 targets. At present, we are not certain whether individual MPOs will adopt the state targets or their own. Our SHSO and SHSP/HSIP coordinator are housed in the same section within the Kansas DOT, making coordination simple.

## Does the State want to report additional optional targets?

No

## Describe progress toward meeting the State's 2019 Safety Performance Targets (based on data available at the time of reporting). For each target, include a discussion of any reasons for differences in the actual outcomes and targets.

| PERFORMANCE MEASURES | TARGETS | ACTUALS |
|---|---|---|
| **Number of Fatalities** | 389.0 | 411.8 |
| **Number of Serious Injuries** | 980.0 | 1160.0 |
| **Fatality Rate** | 1.200 | 1.284 |
| **Serious Injury Rate** | 3.000 | 3.618 |
| **Non-Motorized Fatalities and Serious Injuries** | 136.0 | 139.0 |

| 2019 Safety Performance Target Achievement Determination Summary (estimated) |
|---|

| Performance Measure | 2015-2019 Target | 2015-2019 Outcome | 2013-2017 Baseline | Met Target? | Better than Baseline? | Discussion | Target relative to trendline |
|---|---|---|---|---|---|---|---|
| Fatalities | 389 | 412 | 396 | No | No | From 2011 to 2015, we were above 400 only once; since 2016 we have not been below 400. | At |
| Fatality Rate | 1.2 | 1.28 | 1.26 | No | No | See above. | 1% below |
| Serious Injuries | 980 | 1160 | 1213 | No | Yes | From 2011 to 2018, serious injuries fell by 35 percent; with the new definition in 2019, they increased by 39 percent. For this reason targets including serious injuries will be difficult to set the next few years. | 1% below |
| Serious Inury Rate | 3 | 3.619 | 3.885 | No | Yes | See above. | 2% below |
| Non-motorized Fatalities & SI | 136 | 139 | 135 | No | No | Our 2020-2024 SHSP includes a chapter on pedestrian/cyclists for the first time. | 1% below |

## *Applicability of Special Rules*

### Does the HRRR special rule apply to the State for this reporting period?

No

The HRRR special rule has never applied to Kansas. However, we continue to spend HSIP funding on locally-owned roads thru the HRRR sub-program as described in this report.

### Provide the number of older driver and pedestrian fatalities and serious injuries 65 years of age and older for the past seven years.

| PERFORMANCE MEASURES | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|---|
| Number of Older Driver and Pedestrian Fatalities | 70 | 63 | 50 | 78 | 74 | 64 | 75 |

| PERFORMANCE MEASURES | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|---|
| Number of Older Driver and Pedestrian Serious Injuries | 117 | 84 | 89 | 102 | 102 | 91 | 128 |

The numbers above reflect our interpretation of the older driver rule. Specifically, these are only older drivers and pedestrians who have died or been seriously injured. These numbers do NOT include older passengers, or, for example, fatal crashes where an older driver was involved but did not have serious injuries.

# Evaluation

## *Program Effectiveness*

### How does the State measure effectiveness of the HSIP?

- Other-Obligation of HSIP dollars.

We are developing an evaluation framework for each of our sub-programs and hope to have more information to report next year.

### Based on the measures of effectiveness selected previously, describe the results of the State's program level evaluations.

In FFY 2019 we were apportioned $19.3 million. In SFY 2019 we obligated $19.9 million, providing good indication we are spending our HSIP funding. In FFY 2020 we were apportioned $19.6 million. In SFY 2020 we obligated $18.5 million. While scheduling and timing often dictate the values of these calendar totals, we have challenged our program managers to spend $55 million in FFY 2020-2021 (on quality projects within the parameters of each program) in order to reduce our carryover balance into FFY 2022. As of this report, over $33 million is programmed in FFY 2021.

### What other indicators of success does the State use to demonstrate effectiveness and success of the Highway Safety Improvement Program?

- HSIP Obligations
- Increased awareness of safety and data-driven process
- Increased focus on local road safety
- More systemic programs

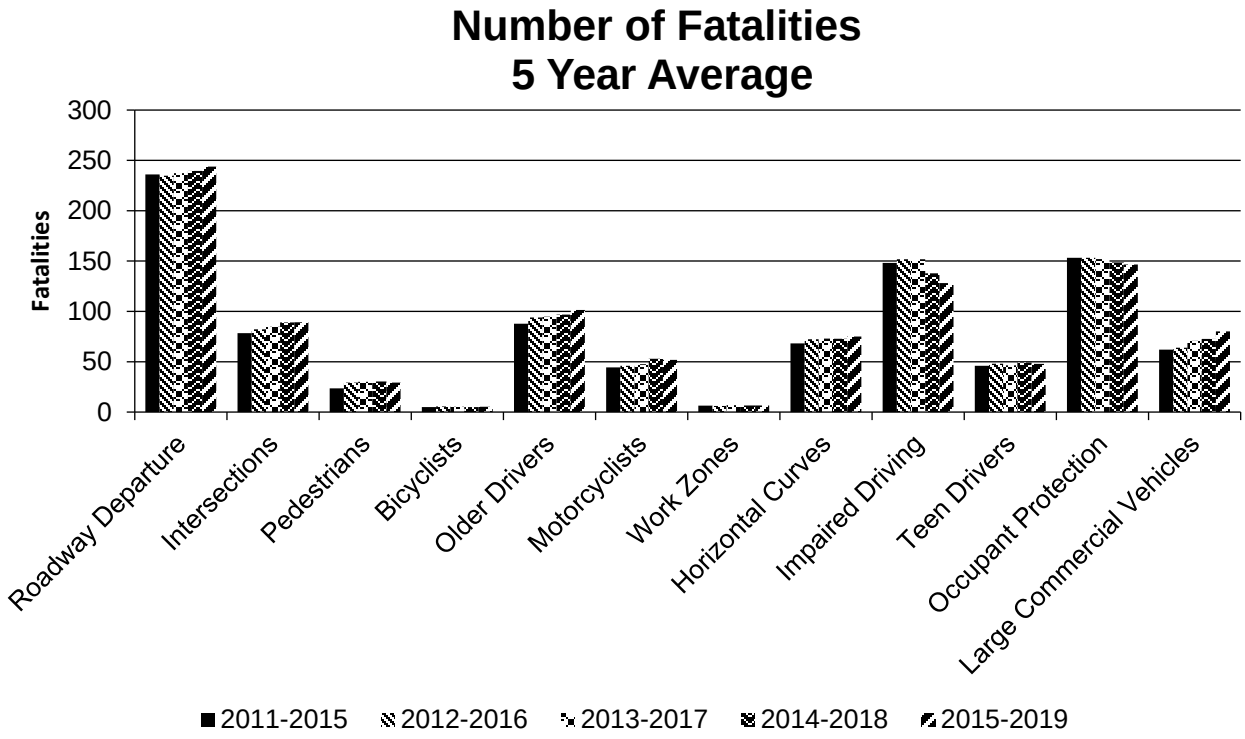
## *Effectiveness of Groupings or Similar Types of Improvements*

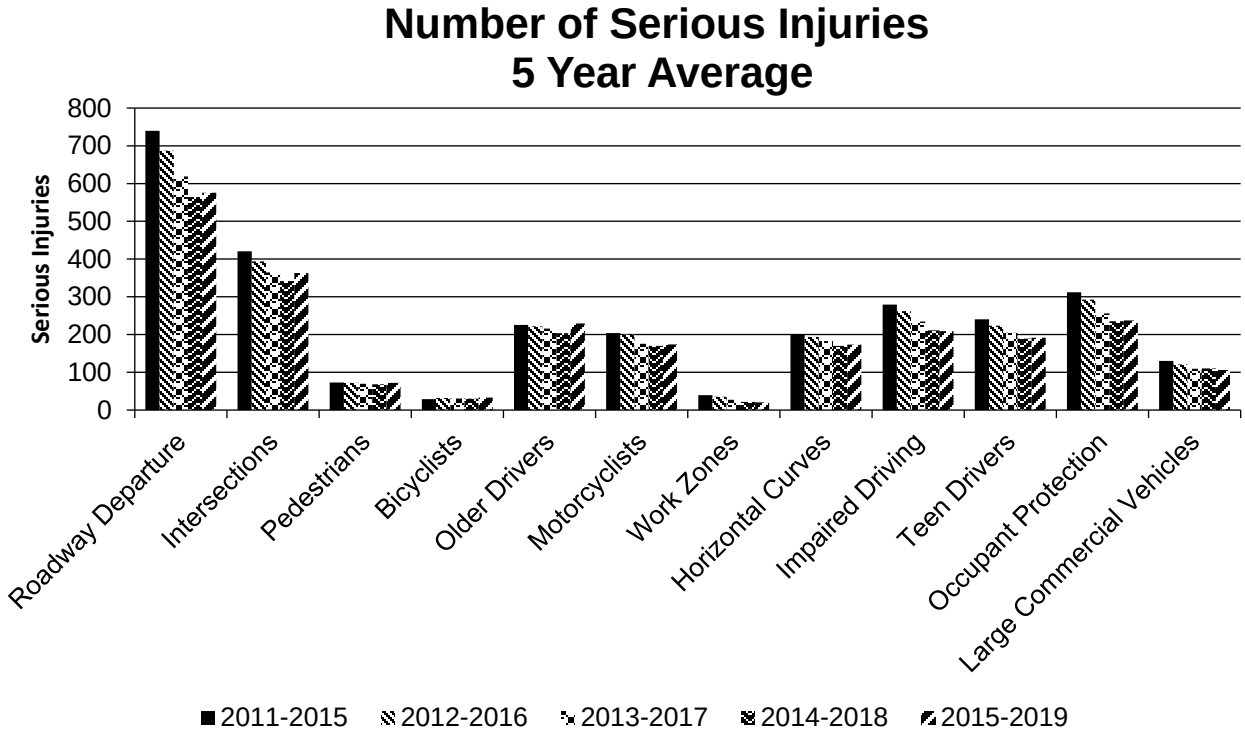
### Present and describe trends in SHSP emphasis area performance measures.

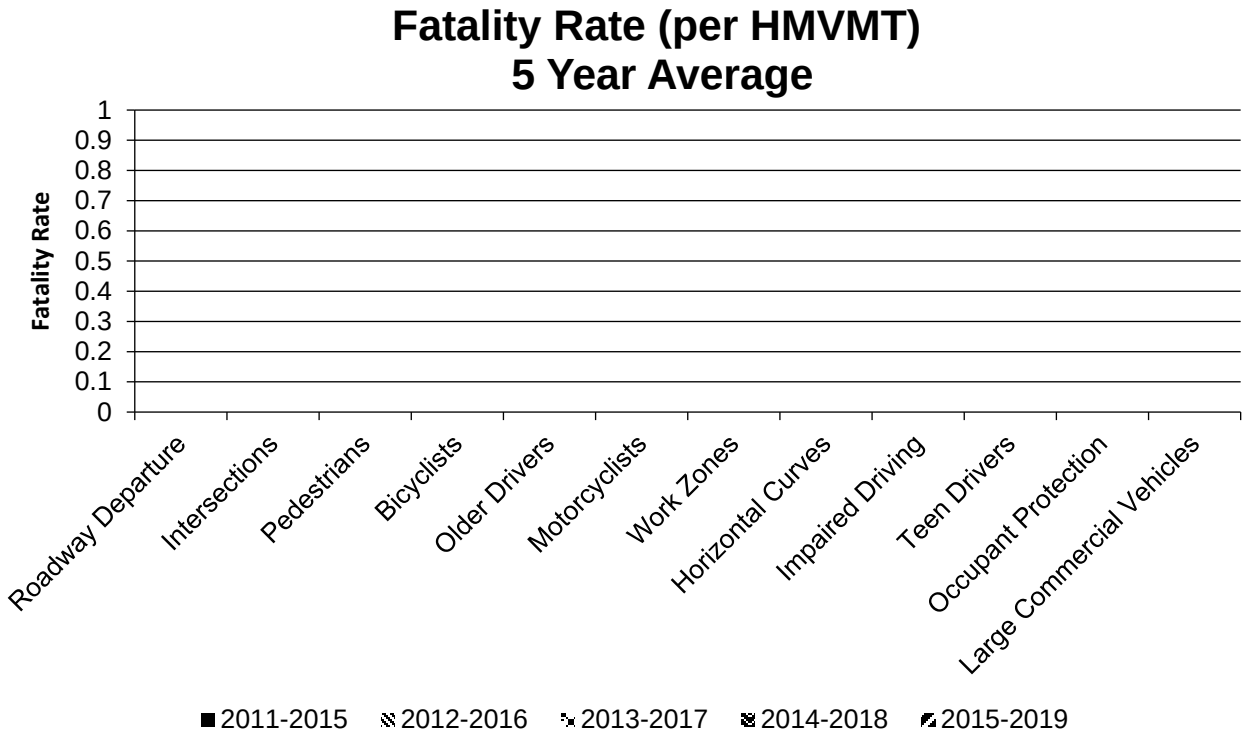
**Year 2019**

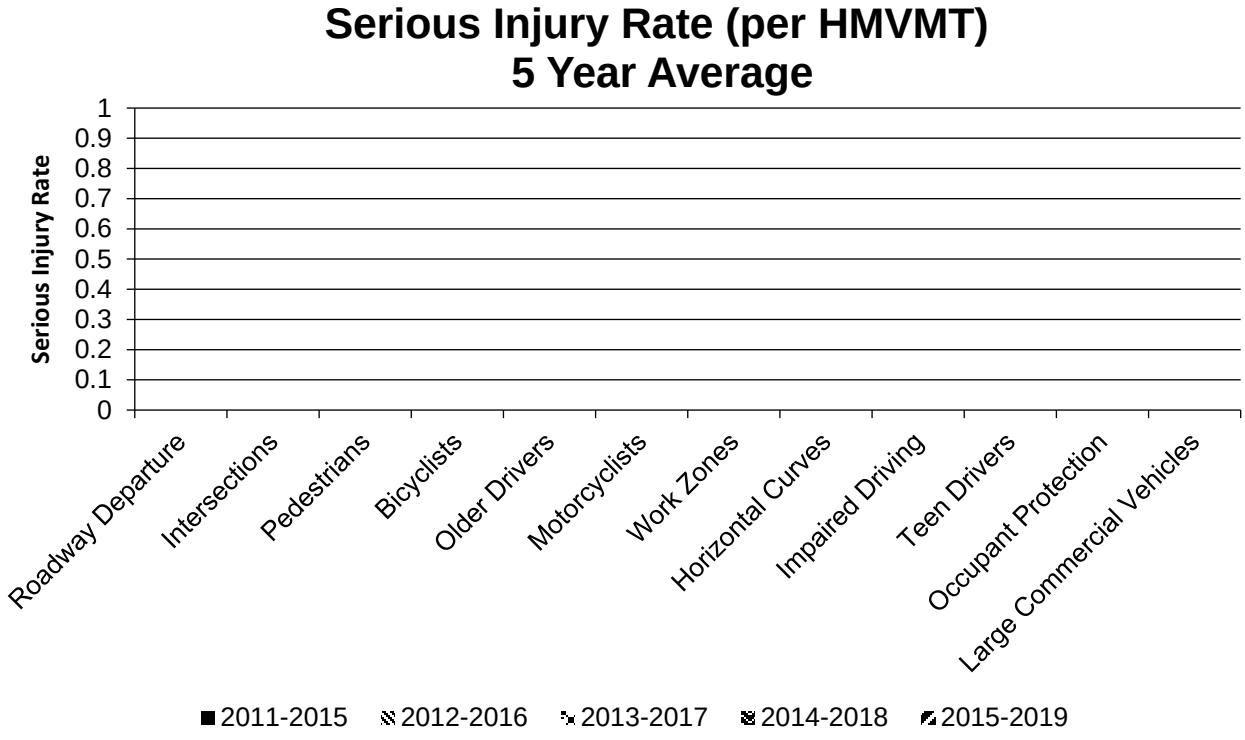
| SHSP Emphasis Area | Targeted Crash Type | Number of Fatalities (5-yr avg) | Number of Serious Injuries (5-yr avg) | Fatality Rate (per HMVMT) (5-yr avg) | Serious Injury Rate (per HMVMT) (5-yr avg) |
|---|---|---|---|---|---|
| Roadway Departure | | 243.8 | 575.6 | | |
| Intersections | | 89.2 | 363 | | |
| Pedestrians | | 29.2 | 72 | | |
| Bicyclists | | 5.2 | 33.2 | | |
| Older Drivers | | 101.4 | 229.2 | | |
| Motorcyclists | | 51.8 | 173.8 | | |

| SHSP Emphasis Area | Targeted Crash Type | Number of Fatalities (5-yr avg) | Number of Serious Injuries (5-yr avg) | Fatality Rate (per HMVMT) (5-yr avg) | Serious Injury Rate (per HMVMT) (5-yr avg) |
|---|---|---|---|---|---|
| Work Zones | | 6.6 | 20.4 | | |
| Horizontal Curves | | 75 | 173.6 | | |
| Impaired Driving | | 128.2 | 209.2 | | |
| Teen Drivers | | 47.8 | 191.8 | | |
| Occupant Protection | | 146.6 | 237.4 | | |
| Large Commercial Vehicles | | 80.2 | 106 | | |


Number of Fatalities
5 Year Average
Fatalities
300
250
200
150
100
50
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Horizontal Curves
Impaired Driving
Teen Drivers
Occupant Protection
Large Commercial Vehicles
2011-2015
2012-2016
2013-2017
2014-2018
2015-2019


Number of Serious Injuries
5 Year Average
Serious Injuries
800
700
600
500
400
300
200
100
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Horizontal Curves
Impaired Driving
Teen Drivers
Occupant Protection
Large Commercial Vehicles
2011-2015
2012-2016
2013-2017
2014-2018
2015-2019


Fatality Rate (per HMVMT)
5 Year Average
Fatality Rate
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Horizontal Curves
Impaired Driving
Teen Drivers
Occupant Protection
Large Commercial Vehicles
2011-2015
2012-2016
2013-2017
2014-2018
2015-2019


Serious Injury Rate (per HMVMT)
5 Year Average
Serious Injury Rate
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Horizontal Curves
Impaired Driving
Teen Drivers
Occupant Protection
Large Commercial Vehicles
2011-2015
2012-2016
2013-2017
2014-2018
2015-2019

## *Project Effectiveness*

**Provide the following information for previously implemented projects that the State evaluated this reporting period.**

| LOCATION | FUNCTIONAL CLASS | IMPROVEMENT CATEGORY | IMPROVEMENT TYPE | PDO BEFORE | PDO AFTER | FATALITY BEFORE | FATALITY AFTER | SERIOUS INJURY BEFORE | SERIOUS INJURY AFTER | ALL OTHER INJURY BEFORE | ALL OTHER INJURY AFTER | TOTAL BEFORE | TOTAL AFTER | EVALUATION RESULTS (BENEFIT/COST RATIO) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nothing to report | | | | | | | | | | | | | | |

## Compliance Assessment

### What date was the State's current SHSP approved by the Governor or designated State representative?

07/26/2017

### What are the years being covered by the current SHSP?

From: 2015 To: 2019

### When does the State anticipate completing it's next SHSP update?

2019

We are publishing our 2020-2024 SHSP on October 1, 2020. We have worked closely with the FHWA Division Office in Kansas and members of our Executive Safety Council.

### Provide the current status (percent complete) of MIRE fundamental data elements collection efforts using the table below.

*Based on Functional Classification (MIRE 1.0 Element Number) [MIRE 2.0 Element Number]

| ROAD TYPE | *MIRE NAME (MIRE NO.) | NON LOCAL PAVED ROADS - SEGMENT | | NON LOCAL PAVED ROADS - INTERSECTION | | NON LOCAL PAVED ROADS - RAMPS | | LOCAL PAVED ROADS | | UNPAVED ROADS | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | STATE | NON-STATE | STATE | NON-STATE | STATE | NON-STATE | STATE | NON-STATE | STATE | NON-STATE |
| ROADWAY SEGMENT | Segment Identifier (12) [12] | 100 | 100 | | | | | 100 | 100 | 100 | 100 |
| | Route Number (8) [8] | 100 | 100 | | | | | | | | |
| | Route/Street Name (9) [9] | 100 | 99 | | | | | | | | |
| | Federal Aid/Route Type (21) [21] | 100 | 100 | | | | | | | | |
| | Rural/Urban Designation (20) [20] | 100 | 99 | | | | | 100 | 100 | | |
| | Surface Type (23) [24] | 100 | 50 | | | | | 100 | 50 | | |
| | Begin Point Segment Descriptor (10) [10] | 100 | 100 | | | | | 100 | 100 | 100 | 100 |
| | End Point Segment Descriptor (11) [11] | 100 | 100 | | | | | 100 | 100 | 100 | 100 |
| | Segment Length (13) [13] | 100 | 100 | | | | | | | | |
| | Direction of Inventory (18) [18] | 99 | 98 | | | | | | | | |
| | Functional Class (19) [19] | 100 | 100 | | | | | 100 | 100 | 100 | 100 |

| ROAD TYPE | *MIRE NAME (MIRE NO.) | NON LOCAL PAVED ROADS - SEGMENT | | NON LOCAL PAVED ROADS - INTERSECTION | | NON LOCAL PAVED ROADS - RAMPS | | LOCAL PAVED ROADS | | UNPAVED ROADS | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | STATE | NON-STATE | STATE | NON-STATE | STATE | NON-STATE | STATE | NON-STATE | STATE | NON-STATE |
| | Median Type (54) [55] | 99 | 50 | | | | | | | | |
| | Access Control (22) [23] | 100 | 95 | | | | | | | | |
| | One/Two Way Operations (91) [93] | 99 | 99 | | | | | | | | |
| | Number of Through Lanes (31) [32] | 99 | 99 | | | | | 90 | 90 | | |
| | Average Annual Daily Traffic (79) [81] | 98 | 98 | | | | | 90 | 90 | | |
| | AADT Year (80) [82] | 100 | 100 | | | | | | | | |
| | Type of Governmental Ownership (4) [4] | 100 | 98 | | | | | 80 | 80 | 80 | 80 |
| **INTERSECTION** | Unique Junction Identifier (120) [110] | | | 97 | 97 | | | | | | |
| | Location Identifier for Road 1 Crossing Point (122) [112] | | | 97 | 97 | | | | | | |
| | Location Identifier for Road 2 Crossing Point (123) [113] | | | 97 | 97 | | | | | | |
| | Intersection/Junction Geometry (126) [116] | | | 70 | 60 | | | | | | |
| | Intersection/Junction Traffic Control (131) [131] | | | 50 | 20 | | | | | | |
| | AADT for Each Intersecting Road (79) [81] | | | 100 | 90 | | | | | | |
| | AADT Year (80) [82] | | | 100 | 90 | | | | | | |
| | Unique Approach Identifier (139) [129] | | | 97 | 97 | | | | | | |
| **INTERCHANGE/RAMP** | Unique Interchange Identifier (178) [168] | | | | | 99 | 99 | | | | |
| | Location Identifier for Roadway at | | | | | | | | | | |

| ROAD TYPE | *MIRE NAME (MIRE NO.) | NON LOCAL PAVED ROADS - SEGMENT | | NON LOCAL PAVED ROADS - INTERSECTION | | NON LOCAL PAVED ROADS - RAMPS | | LOCAL PAVED ROADS | | UNPAVED ROADS | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | STATE | NON-STATE | STATE | NON-STATE | STATE | NON-STATE | STATE | NON-STATE | STATE | NON-STATE |
| | Beginning of Ramp Terminal (197) [187] | | | | | | | | | | |
| | Location Identifier for Roadway at Ending Ramp Terminal (201) [191] | | | | | 99 | 99 | | | | |
| | Ramp Length (187) [177] | | | | | 99 | 99 | | | | |
| | Roadway Type at Beginning of Ramp Terminal (195) [185] | | | | | 99 | 99 | | | | |
| | Roadway Type at End Ramp Terminal (199) [189] | | | | | 99 | 99 | | | | |
| | Interchange Type (182) [172] | | | | | 20 | 20 | | | | |
| | Ramp AADT (191) [181] | | | | | 50 | 50 | | | | |
| | Year of Ramp AADT (192) [182] | | | | | 50 | 50 | | | | |
| | Functional Class (19) [19] | | | | | 100 | 100 | | | | |
| | Type of Governmental Ownership (4) [4] | | | | | 85 | 85 | | | | |
| **Totals (Average Percent Complete):** | | **99.67** | **93.61** | **88.50** | **81.00** | **72.73** | **72.73** | **95.56** | **90.00** | **96.00** | **96.00** |

*Based on Functional Classification (MIRE 1.0 Element Number) [MIRE 2.0 Element Number]

We last updated this table in the 2018 annual report. Since then, our roadway database has undergone a significant modernization that allows a much higher level of detail to provide for this report. As a result, in some instances the percentages have gone down. That is only because we have better information with which to access.

### Describe actions the State will take moving forward to meet the requirement to have complete access to the MIRE fundamental data elements on all public roads by September 30, 2026.

Complete access to MIRE FDE on all public roads in Kansas is being accomplished by two projects: K-Hub and work associated with Next Generation 911.

K-Hub is our new Linear Referencing and Transportation Database System (referenced in the previous question) which replaced the CANSYS II database system. K-Hub is an opportunity for KDOT to develop a combined statewide geospatially enabled roadway and transportation data management system that allows KDOT to efficiently meet current and future business requirements. Successful deployment of K-Hub will position KDOT to maintain data on all 140,000 miles of Kansas public roads with the current level of staffing. Bottom line, this has been a colossal IT project that will influence almost every KDOT system.

Primary objectives of the K-Hub project include:

- Deploy an innovative solution that balances upfront project cost, system lifecycle cost and total cost of ownership to achieve the best value and level of service for KDOT.
- Utilize commercial-off-the-shelf (COTS) software components licensed to KDOT and additional components, as needed, to meet K-Hub System Requirements.
- Innovative approaches to accomplish system functions and data exchanges to support current and future KDOT business processes while minimizing the need for custom components.
- Project planning and execution to ensure successful and timely transition to K-Hub from the existing system.
- Integration of hardware and software components to provide system response performance that consistently meets system benchmarks.
- Flexibility that allows for modification and enhancement by KDOT, the bidder team or third parties.
- User friendly and easily accessible design for enterprise-wide usage.
- Configurable system parameters.
- Position KDOT to maximize its ability to support the system post implementation.

Next Generation 9-1-1 (abbreviated NG9-1-1) refers to an initiative aimed at updating the 9-1-1 service infrastructure in the United States and Canada to improve public emergency communications services in a growingly wireless mobile society.

## Optional Attachments

Program Structure:

Project Implementation:

Safety Performance:

Evaluation:

Compliance Assessment:

# Glossary

**5 year rolling average:** means the average of five individuals, 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.