KANSAS

HIGHWAY SAFETY IMPROVEMENT PROGRAM

2024 ANNUAL REPORT

Disclaimer: This report is the property of the State Department of Transportation (State DOT). The State DOT completes the report by entering applicable information into the Federal Highway Administration's (FHWA) Highway Safety Improvement Program (HSIP) online reporting tool. Once the State DOT completes the report pertaining to its State, it coordinates with its respective FHWA Division Office to ensure the report meets all legislative and regulatory requirements. FHWA's Headquarters Office of Safety then downloads the State's finalized report and posts it to the website (https://highways.dot.gov/safety/hsip/reporting) as required by law (23 U.S.C. 148(h)(3)(A)).

Photo source: Federal Highway Administration

Photo Source:
Dale Stephens, Kensington, Kansas

Table of Contents

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. 407 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, the Highway Safety Improvement Program (HSIP) is used to fund several independently managed programs. Altogether, these programs can impact more than 140,000 centerline miles of public roads in Kansas and apply a multitude of proven safety countermeasures to reduce fatal and serious injury crashes statewide. Recent data has shown that Kansas continues to experience a downward trend in annual fatalities but a slightly increasing trend in suspected serious injuries.

Since completing the 2023 Annual Report, the Kansas Department of Transportation (KDOT) has continued to implement the 2020-2024 Strategic Highway Safety Plan's (SHSP) prioritized strategies. The Drive to Zero (DTZ) Coalition continues to provide leadership and direction to SHSP strategies and progress in Kansas. SFY 2024 concluded 2020-2024 SHSP planning horizon and Kansas has begun the update process for the 2025-2029 SHSP.

The Safety Engineering Programs Manual has been completed and will allow KDOT to revise the state and federal fund structure and improve program alignment with SHSP goals.

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.

KDOT's HSIP is comprised of seven sub-programs: Intersections, High-Performance Signing, Pavement Marking, Lighting, Rail-Highway Grade Crossings (RHCP), High Risk Rural Roads (HRRR), and General Safety Improvements. Each program is further described within this report except the RHCP, which is covered separately in the 2024 RHCP Annual Report.

Where is HSIP staff located within the State DOT?

Planning

HSIP is primarily administered through the Bureau of Transportation Safety within the Division of Planning and Development.

How are HSIP funds allocated in a State?

- Other-Headquarters

The State Highway Safety Engineer serves as the Kansas HSIP Program Manager. The HSIP Program Manager convenes a quarterly meeting with the FHWA Division Safety Engineer and other KDOT sub-program managers to discuss program progress based on planned obligations and to plan funding allocations for future years. To set program spending goals, KDOT considers historical precedent, anticipated needs and capabilities, and the share of fatalities and suspected serious injuries per program area. Administration of HSIP funds may be through a competitive or a systemic application process.

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

Lighting, Pavement Markings, Signing, and General Safety Improvements are exclusive to the State Highway System, although projects may impact intersecting non-state roads. Intersection projects may include off-system local roads at spot locations. HRRR primarily focuses on rural local major or minor collectors or rural local roads using systemic project selection methods, further defined in question 15. HRRR also supports the development and implementation of Local Road Safety Plans (LRSP) to identify high risk factors in local areas. The Traffic Engineering Assistance Program (TEAP) Studies provide technical support to local agencies to determine engineering recommendations at high crash locations.

.

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
- Planning
- Traffic Engineering/Safety
- Other-Program Management Consultant (PMC)
- Other-Agency Bureaus

While the Governors Highway Safety Office is within KDOT BTS, it is not involved in HSIP planning.

Describe coordination with internal partners.

The HSIP sub-program managers consult with District and Area staff for project input and other areas of concern. District staff often communicate with local stakeholders, including city and county personnel and law enforcement, which informs program managers on patterns that may not otherwise be addressed. In addition to communicating with field personnel, some programs coordinate with other KDOT Bureaus. For example, the Pavement Marking sub-program is managed by the Bureau of Traffic Engineering (BTE) but often works with the Bureau of Research (BR) to verify marking material quality and performance and to update the Pre-Qualified Materials list for high-quality and durable products. Additionally, the Intersection sub-program works with the Coordinating Section within the Bureau of Road Design (BRD) to incorporate pre-empted signals into projects when needed. Throughout HSIP, traffic studies, and the Traffic Engineering Assistance Program (TEAP), many internal partners contribute to making decisions and implementing programmed projects, including the Bureau of Local Projects (BLP), BTE, and BRD. Any sub-program that utilizes traffic counts, roadway miles, or other relative information gathers it from the Bureau of Transportation Planning. The Program Management Consultant (PMC) worked closely with KDOT staff to develop the Safety Engineering Programs Manual (the Manual), which includes consistent and clear directions on program selection, management, and funding. The Manual also informs the restructuring of the HSIP programs to align with the Kansas SHSP.

Identify which external partners are involved with HSIP planning.

- FHWA
- Local Government Agency
- Regional Planning Organizations (e.g. MPOs, RPOs, COGs)
- Other-Law Enforcement Agencies

Describe coordination with external partners.

Intersections program: KDOT solicits all local agencies for projects, and also utilizes KDOT traffic studies for project recommendations. Additionally, projects may be identified through studies such as Traffic Engineering Assistance Program reports (TEAP). The Bureau of Traffic Engineering enters into agreements with cities and/or counties depending on project requirements. HRRR program: KDOT solicits counties for project recommendations. The Bureau of Local Projects enters into an agreement with the project owner. Additionally, projects may be identified through studies such as Traffic Engineering Assistance Program reports (TEAP) and Local Road Safety Plans (LRSP). All programs: FHWA oversees planning and provides program guidance as needed. Metropolitan Planning Organizations (MPO) are involved in the Transportation Improvement Program

(TIP) approval process. District staff often communicate with local stakeholders, including city and county personnel and law enforcement, to inform program managers about patterns that may not otherwise be noticed or addressed.

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

KDOT has documented HSIP procedures in a Safety Engineering Programs Manual. KDOT will also have restructured HSIP by FFY25, and some of these changes have already occurred in SFY24. For example, the HSIP Program included planning for $3 million to support up to a 20% match on Transportation Alternatives (TA) projects that include project locations and countermeasures identified in the 2023 Kansas Vulnerable Road User Safety Assessment (VRUSA). Note that the funding itself will not occur until FFY25 and beyond; however, planning and local agency solicitation for the spending occurred in SFY24.

Program Methodology

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

Yes

KDOT has posted a Safety Engineering Programs Manual on the internal KDOT website to describe all State and Federally funded safety programs related to infrastructure planning or engineering. The Safety Engineering Programs Manual is considered a living document and will include fact sheets on each HSIP category to facilitate agency-wide understanding of the programs and coordination with local partners as well as planning, implementation and evaluation processes.

Select the programs that are administered under the HSIP.

- HRRR
- Intersection
- Other-Pavement Marking
- Other-Lighting
- Other-General Safety Improvements

The high-performance signing program is no longer programming new projects but rather continuing previously authorized projects, therefore it is not listed as an HSIP program for methodology purposes. Once complete, this program will no longer be utilized in the HSIP Program.

Program: HRRR

Date of Program Methodology:12/30/2023

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- FHWA focused approach to safety

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	• Lane miles	• Horizontal curvature • Functional classification • Roadside features • Other-LRSP

What project identification methodology was used for this program?

- Crash frequency
- Other-Counties submit application(s) that are reviewed and scored
- Other-LRSP

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

Program: Intersection

Date of Program Methodology:12/30/2023

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	• Traffic • Volume • Population	• Median width • Functional classification • Roadside features • Other-Turn lanes • Other-Sight Distance

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Critical rate
- Excess expected crash frequency with the EB adjustment
- Level of service of safety (LOSS)
- 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 requesting project proposals.

How are projects under this program advanced for implementation?

- Competitive application process
- selection committee

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

Rank of Priority Consideration

Ranking based on B/C:2
Available funding:3

Other-Crash patterns:1

Program: Other-Pavement Marking

Date of Program Methodology:12/30/2023

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 • Population	• Functional classification • Other-State Highway System retroreflectivity analysis

What project identification methodology was used for this program?

- Crash frequency
- Other-Retroreflectivity performance and analysis

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?

- Competitive application process
- selection committee

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

Rank of Priority Consideration

Available funding:2
Other-Retro-reflectivity scoring:1
Other-District Priority :2

In pavement marking, our primary data consideration is the retroreflectivity data that is collected annually. However, we also rely heavily on District input on locations that could benefit from new high-quality pavement markings. This program must coordinate with Districts to understand the existing pavement conditions and scheduling of surfacing projects - there may be scenarios where the serviceable life of the pavement markings will expire before they can be replaced with a surfacing project.

Program: Other - Lighting

Date of Program Methodology:12/30/2023

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

What data types were used in the program methodology?

Crashes

- All crashes
- Other-Nighttime crashes

Exposure

- Volume

Roadway

- Other-Interchanges

What project identification methodology was used for this program?

- Crash frequency
- Other-District Input
- Other-Luminaire Review
- Probability of specific crash types

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

Ranking based on B/C:1

Available funding:2
Other-LED upgrade:1

Program: Other - General Safety Improvements

Date of Program Methodology:12/30/2023

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

- Fatal and serious injury crashes only

Exposure

- Traffic
- Volume

Roadway

- Roadside features

What project identification methodology was used for this program?

- Crash rate

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?

Yes

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

Available funding:3
Other-Share of fatal crashes:1
Other-District Priority :1

What percentage of HSIP funds address systemic improvements?

68

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

- Clear Zone Improvements
- Install/Improve Pavement Marking and/or Delineation
- Install/Improve Signing
- Rumble Strips

Systemic improvements are included in the HRRR, Pavement Marking, and Signing programs.

What process is used to identify potential countermeasures?

- Crash data analysis
- Data-driven safety analysis tools (HSM, CMF Clearinghouse, SafetyAnalyst, usRAP)
- Engineering Study
- SHSP/Local road safety plan
- Stakeholder input
- Other-Risk Factors for systemic programs
- Other-Data Collection

"Engineering Study" includes Traffic Studies, TEAP Studies and utilizing existing Road Safety Audits.

"Data Collection" includes roadway characteristics, LiDAR and associated extractions, and inventory of retro-reflectivity of pavement markings.

Does the State HSIP consider connected vehicles and ITS technologies?

No

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.

The Intersection program uses the Highway Safety Manual Part B and some of Part C for the expected, predicted and observed crash frequency. We also use the Level of Service of Safety, crash patterns, and cost-benefit analysis to determine if a project qualifies for funding. In future years, KDOT intends to use network screening to inform additional program areas in the agency.

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

A few methodology practices have been updated or revised, as summarized below.

The programs “Sign Replacement and Improvement” and “Guardrail” were removed from the report since the last reporting period as future HSIP funding will no longer be allocated to these programs.

The roadway data types used in the program methodology were updated for the Intersections, Pavement Marking, and Lighting programs. The project identification methodology and rank of priority consideration were revised for the Pavement Marking and Lighting programs. The project advancement for implementation was updated for the Intersections and Pavement Marking programs. The justification for HRRR was expanded on.

There were no changes to General Safety Improvements.

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

Methodology practices that have been implemented into KDOT's HSIP:

Kansas Safe Streets and Roads for All (SS4A) Match - In 2022 and 2023, KDOT's SS4A Match Pilot Program offered financial and technical assistance to local public agencies that received SS4A discretionary grant funding. In 2024, match funding was available to local public agencies through the Kansas Infrastructure Hub's Build Kansas Fund (i.e., state funding). BTS continues to support local public agencies by publicizing this opportunity through annual webinar events, publishing severe injury crash rates by city and county, and maintaining an interactive map of Kansas SS4A recipients online. With the completion of Safety Action Plans throughout Kansas, local entities will be better equipped to apply for and receive HSIP funding for safety improvement projects. The KDOT staff are preparing for an eventual increase in funding requests following the completion of SS4A Safety Action Plans.

Network Screening - KDOT uses the SPF Tool to conduct safety performance network screening on the State system. The tool supports staff in identifying and ranking segments and intersections with the potential for the highest safety improvements based on expected crash frequency. All screening results support a pipeline of projects eligible for HSIP funding. The safety project pipeline also utilizes study recommendations, among other data sources, to build a robust list of safety projects. KDOT has recently established a scoring process of ranking potential projects for improvement, effectiveness, feasibility, and other considerations such as SHSP prioritization and disadvantaged communities.

Vulnerable Road User Safety Assessment (VRUSA) - Per 23 U.S.C. 148(l), KDOT completed the VRUSA on November 15, 2023. KDOT conducted ten workshops to improve understanding of VRU safety and distribute information related to the VRUSA with District, MPO, local agency, and KDOT staff. The VRUSA results allow KDOT to invest in infrastructural, behavioral, and operational programs to improve the safety of multimodal road users across Kansas. Following completion of the VRUSA, KDOT published the analysis results in a public-facing VRUSA Tool and are encouraging local agencies to identify safety projects on the prioritized corridors shown in the tool.

2025-2029 Drive to Zero (DTZ) Plan – In early 2024, KDOT began the process of updating the SHSP. The project schedule indicates a target plan approval date of June 2025. Going forward, the Kansas SHSP will be referred to as the Kansas Drive to Zero (DTZ) Plan. This rebranding dispels the notion that the priorities of the SHSP only apply to the state highway system and reinforces the message that the Drive to Zero effort is multiagency and statewide. In addition to the continued implementation or consideration of SHSP strategies, the SHSP update must include certain strategies. For example, the SHSP update must include the VRUSA as an appendix, and the outcomes from the quantitative analysis and strategies will be incorporated into relevant DTZ Plan Strategy Teams, strategies, and actions as required by 23 U.S.C. 148(a)(13)(G). Additionally, the SHSP must include strategies for Older Drivers.

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)	$22,774,182	$28,300,951	124.27%
HRRR Special Rule (23 U.S.C. 148(g)(1))	$3,150,110	$3,150,110	100%
VRU Safety Special Rule (23 U.S.C. 148(g)(3))	$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	$2,743,597	0%
State and Local Funds	$0	$0	0%
Totals	$25,924,292	$34,194,658	131.9%

Programmed funds are calculated based on FFY 2024 apportionments, while obligated funds are calculated based on SFY 2024. Due to the time of reporting, these will not align based on date.

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

$9,500,000

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

40%

HRRR obligated 10 projects in SFY 2024 while Intersections obligated 1 project. This does not include the LRSP and TEAP projects as they are listed in question 25 for non-infrastructure projects.

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

9%

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

7%

Non-infrastructure projects included TEAP studies, LRSP development, the VRU assessment, and statewide collection of pavement marking retroreflectivity.

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.

No impediments to discuss in this reporting period.

Describe any other aspects of the State's progress in implementing HSIP projects on which the State would like to elaborate.

Local Road Safety Plans (LRSPs) - As of June 2024, 83 counties have completed an LRSP, and 19 counties are underway on their plan development through the HRRR program. Two counties have chosen not to develop an LRSP. Implementing projects identified in the LRSPs may proactively prevent crashes through the implementation of various proven safety countermeasures. In SFY 2024, 5 of 9 HRRR projects originated from an LRSP.

Crash Modification Factors (CMFs) Standardized List - Since 2023, KDOT continues to add State-specific CMFs for countermeasures commonly used or desired in Kansas. This project supports standardized benefit-cost evaluation in the agency. BTS will maintain a list of approved CMFs and post it on the internal KDOT web page to be used in project development. A copy of the CMF list, with guidance on its use, is available upon request. Countermeasures on the approved list are eligible for full crash reduction if the countermeasure implemented follows KDOT design criteria. Since the release of the Vulnerable Road User Safety Assessment (VRUSA), KDOT is working to identify CMF applications for VRUs. Examples on the current CMF list include centerline rumble strips in urban and rural areas, high friction surface treatments on curves and ramps, the installation of rectangular rapid flashing beacons at pedestrian crossing locations, and more.

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 OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
C-4790-05	Miscellaneous	Local road safety plans	4	Local Road Safety Plans	$947760	$1053067	HSIP (23 U.S.C. 148)	N/A	N/A	0		County Highway Agency		Data	
C-4855-21	Miscellaneous	Miscellaneous - other		Traffic Engineering Studies for LPAs	$250833	$250833	HSIP (23 U.S.C. 148)	N/A	N/A	0		Other Local Agency		Data	
C-5033-01	Intersection traffic control	Modify traffic signal –other	3	Intersections	$1789351	$1988403	HSIP (23 U.S.C. 148)	Urban	N/A	0		County Highway Agency	Spot	Intersections	
C-5120-01	Roadway	Pavement surface - other	25.67	Miles	$202471	$202471	HSIP (23 U.S.C. 148)	Rural	Major Collector	0		County Highway Agency	Systemic	Roadway Departure	
C-5122-01	Roadway	Roadway widening - add lane(s) along segment	7.02	Miles	$2352887	$3435230	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Major Collector	0		County Highway Agency	Systemic	Roadway Departure	
C-5123-01	Roadway	Roadway - other	1.9	Miles	$1211352	$1611146	HSIP (23 U.S.C. 148)	Urban	Major Collector	0		County Highway Agency	Spot	Roadway Departure	
C-5128-01	Shoulder treatments	Widen shoulder – paved or other (includes add shoulder)	1.126	Miles	$1500000	$2117229	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Major Collector	0		County Highway Agency	Systemic	Roadway Departure	
C-5129-01	Intersection geometry	Intersection geometry - other	1	Intersections	$667528	$741698	HSIP (23 U.S.C. 148)	Rural	Major Collector	0		County Highway Agency	Spot	Intersections	
C-5130-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated		Signs	$703269	$703269	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Major Collector	0		County Highway Agency	Systemic	Intersections	
C-5134-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	1021	Signs	$677787	$677878	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Major Collector	0		County Highway Agency	Systemic	Intersections	
C-5137-01	Roadside	Roadside grading	2	Miles	$1248467	$1441884	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Major Collector	0		County Highway Agency	Spot	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 OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
C-5195-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	687	Signs	$459658	$459658	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Major Collector	0		County Highway Agency	Systemic	Intersections	
C-5197-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated		Signs	$459406	$459406	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Major Collector	0		County Highway Agency	Systemic	Intersections	
KA-5931-01	Roadside	Barrier end treatments (crash cushions, terminals)	2	Locations	$248176	$250186	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	0		State Highway Agency	Spot	Roadway Departure	
KA-6260-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	4	Counties	$2139868	$2139868	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Intersections	
KA-6261-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	6	Counties	$3367621	$3367621	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Intersections	
KA-6262-01	Roadway signs and traffic control	Roadway signs and traffic control - other	40	Locations	$1805720	$1805720	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Spot	Intersections	
KA-6264-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	4	Counties	$1470065	$1470065	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Intersections	
KA-6741-01	Miscellaneous	SHSP Development			$630000	$700000	HSIP (23 U.S.C. 148)	N/A	N/A	0				Data	
KA-6851-01	Lighting	Interchange lighting	1	Interchanges	$79273	$79299	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	0		State Highway Agency	Spot	Intersections	
KA-6852-01	Roadway signs and traffic control	Sign sheeting - upgrade or replacement		Signs	$10000	$10000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Intersections	
KA-6918-01	Roadway	Pavement surface - other	15.576	Miles	$1802399	$1802399	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Interstate	0		State Highway Agency	Systemic	Roadway Departure	
KA-7142-01	Roadway	Pavement surface - other	5.77	Miles	$402929	$403087	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Interstate	0		State Highway Agency	Systemic	Roadway Departure	
KA-7193-01	Roadway	Pavement surface - other	4.06	Miles	$431201	$431201	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other Freeways & Expressways	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 OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
KA-7209-01	Roadway	Pavement surface - other	18.589	Miles	$931331	$931331	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		State Highway Agency	Systemic	Roadway Departure	
KA-7210-01	Roadway	Pavement surface - other	10.38	Miles	$260736	$260736	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	0		State Highway Agency	Systemic	Roadway Departure	
KA-7306-01	Roadway	Pavement surface - other	0.4	Miles	$23220	$23220	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	0		State Highway Agency	Systemic	Roadway Departure	
KA-7307-01	Roadway	Pavement surface - other	0.409	Miles	$38715	$38715	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	0		State Highway Agency	Systemic	Roadway Departure	
KA-7308-01	Roadway	Pavement surface - other	0.33	Miles	$33850	$33850	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	0		State Highway Agency	Systemic	Roadway Departure	
KA-7309-01	Roadway	Pavement surface - other	0.6	Miles	$58136	$58136	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	0		State Highway Agency	Systemic	Roadway Departure	
KA-7318-01	Roadway	Pavement surface - other	15.12	Miles	$305542	$305542	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	0		State Highway Agency	Systemic	Roadway Departure	
KA-7319-01	Roadway	Pavement surface - other	15.338	Miles	$441943	$441943	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	0		State Highway Agency	Systemic	Roadway Departure	
KA-7320-01	Roadway	Pavement surface - other	16.144	Miles	$211141	$211141	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	0		State Highway Agency	Systemic	Roadway Departure	
KA-7321-01	Roadway	Pavement surface - other	9.973	Miles	$256001	$256001	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	0		State Highway Agency	Systemic	Roadway Departure	
KA-7322-01	Roadway	Pavement surface - other	8.259	Miles	$258118	$258118	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	0		State Highway Agency	Systemic	Roadway Departure	
KA-7350-01	Roadway	Pavement surface - other	4.98	Miles	$324188	$324188	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Interstate	0		State Highway Agency	Systemic	Roadway Departure	
X-2216-24	Miscellaneous	Transportation safety planning			$93142	$93142	HSIP (23 U.S.C. 148)	Multiple/Varies	N/A	0				Data	
C-5126-01	Roadside	Barrier end treatments (crash cushions, terminals)	9	Miles	$317153	$317153	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Major Collector	0		County Highway Agency	Systemic	Roadway Departure	

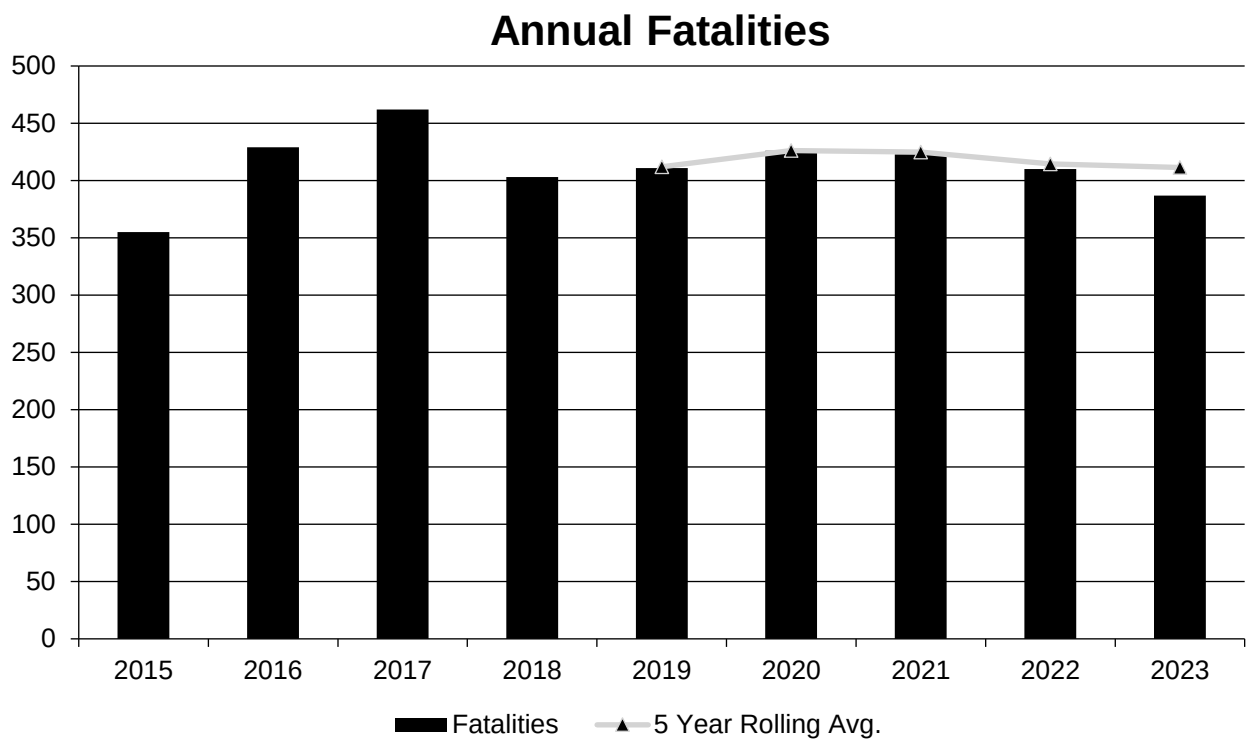
PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
C-5188-01	Roadside	Roadside grading	10	Miles	$1326573	$1473970	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Major Collector	0		County Highway Agency	Systemic	Roadway Departure	
C-5201-01	Roadside	Roadside grading	2.7	Miles	$168129	$186810	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Major Collector	0		County Highway Agency	Systemic	Roadway Departure	
KA-5241-01	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	1	Intersections	$9946084	$13968126	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other Freeways & Expressways	0		State Highway Agency	Spot	Intersections	
KA-5520-01	Alignment	Vertical alignment or elevation change	1	Intersections	$1304397	$2014274	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	0		State Highway Agency	Spot	Intersections	
KA-7352-01	Roadway delineation	Longitudinal pavement markings - remarking	9.772	Miles	$537825	$537825	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		State Highway Agency	Systemic	Roadway Departure	

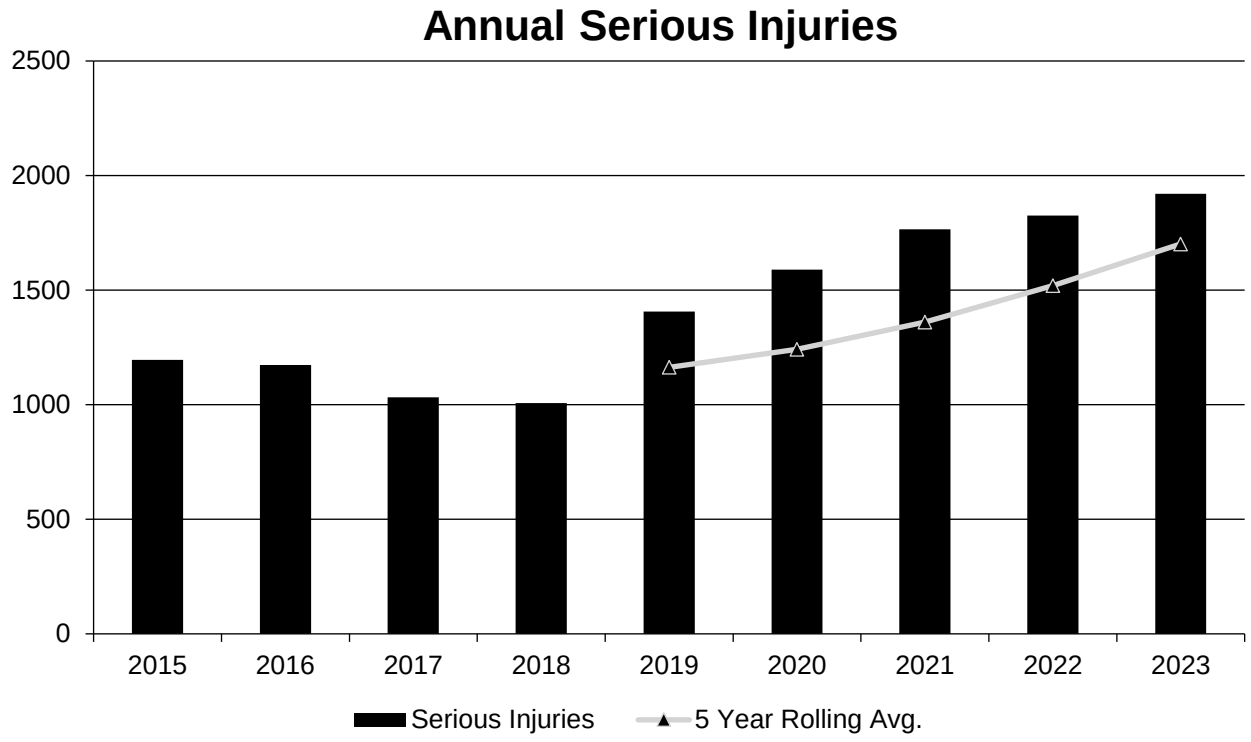
Safety Performance

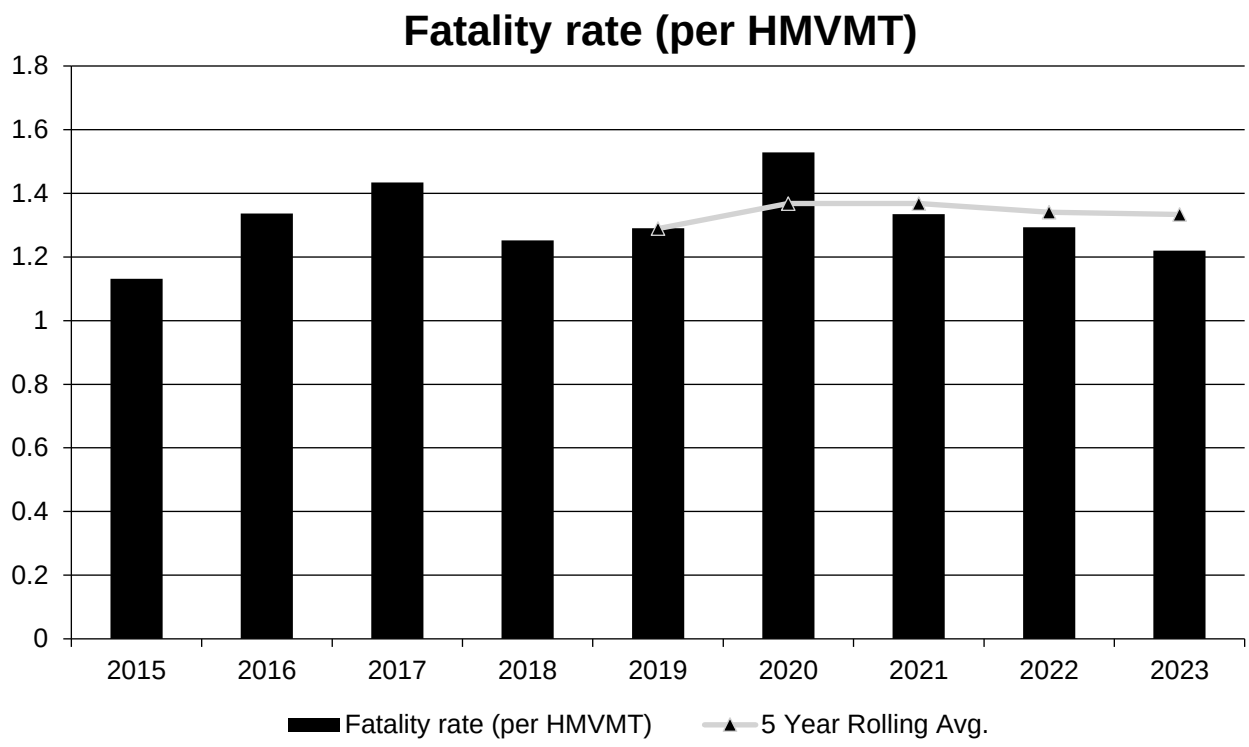
General Highway Safety Trends

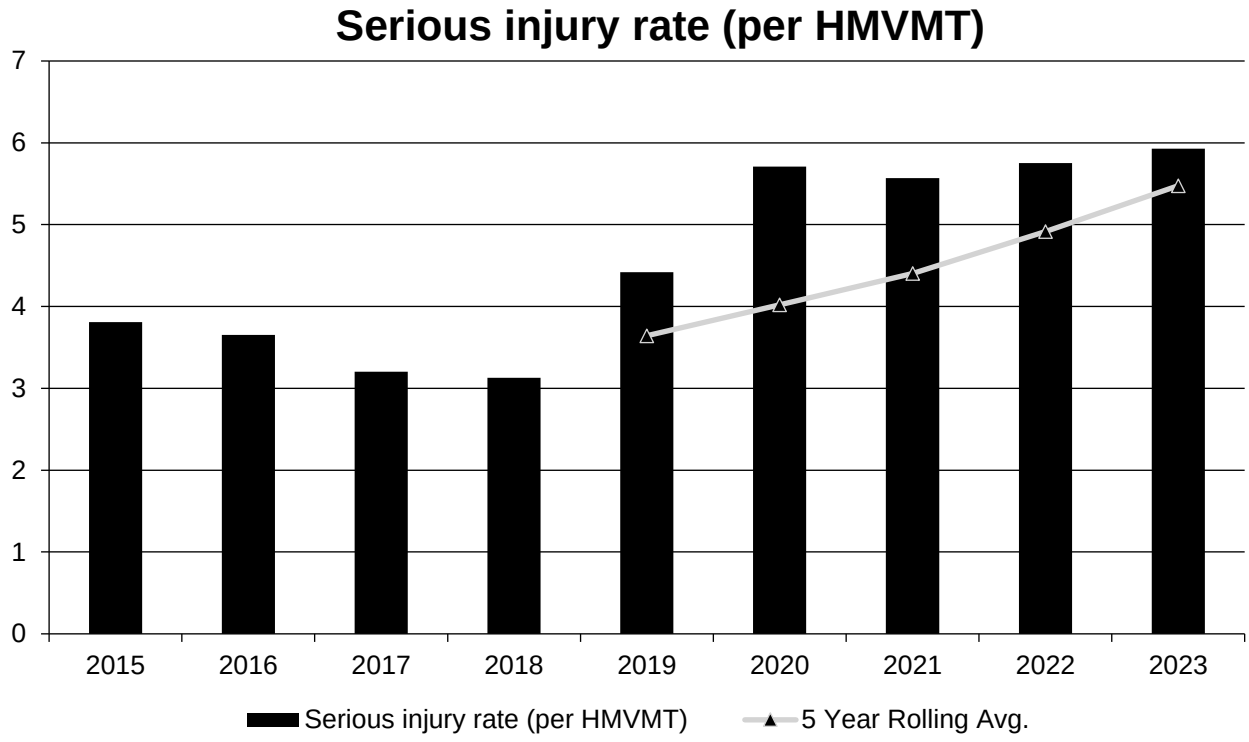
Present data showing the general highway safety trends in the State for the past five years.

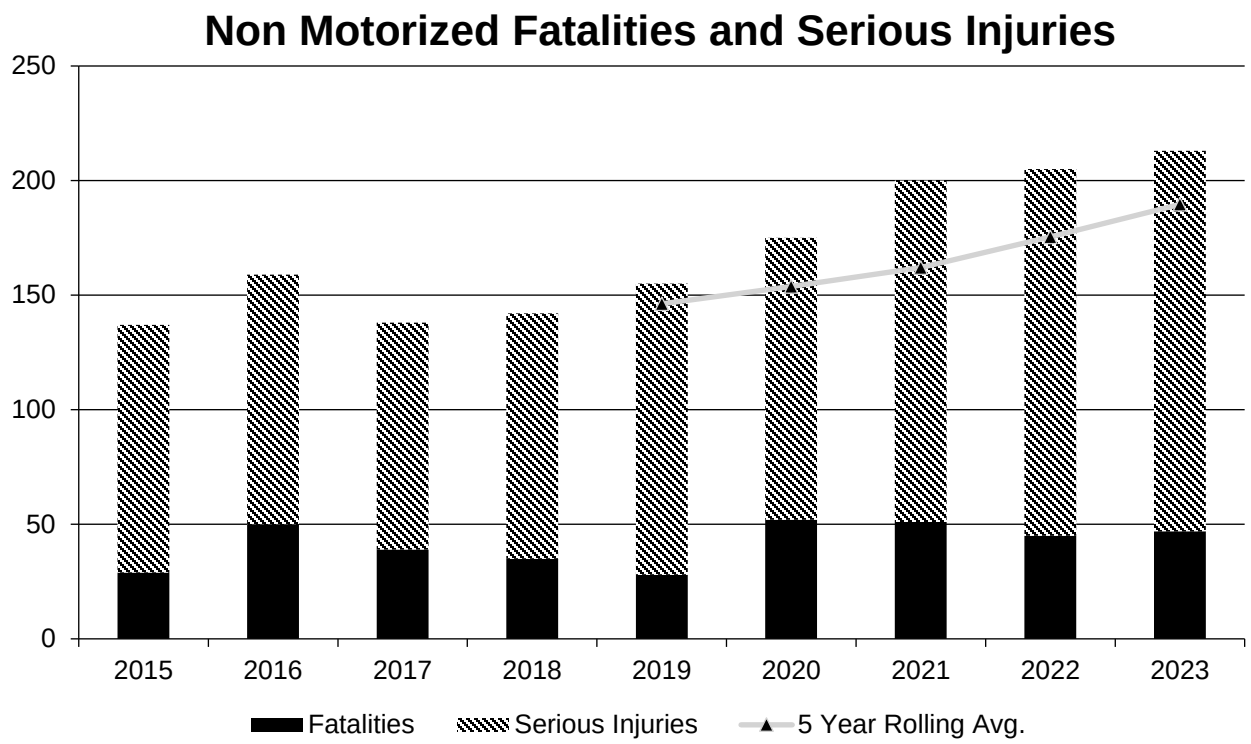
PERFORMANCE MEASURES	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fatalities	355	429	462	403	411	426	423	410	387
Serious Injuries	1,196	1,173	1,032	1,007	1,407	1,590	1,766	1,825	1,920
Fatality rate (per HMVMT)	1.131	1.336	1.434	1.252	1.290	1.529	1.334	1.293	1.220
Serious injury rate (per HMVMT)	3.811	3.654	3.204	3.128	4.418	5.708	5.568	5.754	5.930
Number non-motorized fatalities	29	50	39	35	28	52	51	45	47
Number of non-motorized serious injuries	108	109	99	107	127	123	149	160	166


Annual Fatalities
500
450
400
350
300
250
200
150
100
50
0
2015
2016
2017
2018
2019
2020
2021
2022
2023
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
2500
2000
1500
1000
500
0
2015
2016
2017
2018
2019
2020
2021
2022
2023
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2015
2016
2017
2018
2019
2020
2021
2022
2023
Fatality rate (per HMVMT)
5 Year Rolling Avg.


Serious injury rate (per HMVMT)
7
6
5
4
3
2
1
0
2015
2016
2017
2018
2019
2020
2021
2022
2023
Serious injury rate (per HMVMT)
5 Year Rolling Avg.



Describe fatality data source.

State Motor Vehicle Crash Database

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

Year 2023

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	22.4	64.2	0.6	1.72
Rural Principal Arterial (RPA) - Other Freeways and Expressways	13.6	37.4	1.02	2.81
Rural Principal Arterial (RPA) - Other	58.2	145.6	1.83	4.57
Rural Minor Arterial	50.2	142.2	2.16	6.13
Rural Minor Collector				
Rural Major Collector	36.8	143.6	1.36	5.3
Rural Local Road or Street	20	99.8	1.51	7.46
Urban Principal Arterial (UPA) - Interstate	28.6	94.6	0.73	2.4
Urban Principal Arterial (UPA) - Other Freeways and Expressways	14	55.8	0.7	2.79
Urban Principal Arterial (UPA) - Other	15.4	61.8	1.34	5.34
Urban Minor Arterial	20.6	183	0.49	4.31
Urban Minor Collector	2.6	15.4	1.1	5.98
Urban Major Collector	17	109.8	0.82	5.28
Urban Local Road or Street	16.2	99	0.73	4.44

Year 2023

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	199.4	607.2	0.65	1.96
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	200.2	1,056.8	1.33	5.5
Private (Other than Railroad)				
Railroad				
State Toll Authority	11.8	36	0.04	0.12
Local Toll Authority				
Other Public Instrumentality (e.g. Airport, School, University)				
Indian Tribe Nation				

To populate the functional classification for non-state routes to crashes, KDOT does not have an automated process. In fact, this has been an inconsistent process since crash location processes changed in 2017. To do this on an annual basis, KDOT staff must retrieve data from KCARS each year to conflate the location onto the LRS using a latitude and longitude, which is labor-intensive. As KDOT undergoes staffing changes and crash locating updates, this process was not completed for the SFY2024 annual report. With that said, there are some fields in functional classification that may appear blank or skew 5-year average results. KDOT will further refine this process moving forward to provide more accurate information for the HSIP annual report.

The Bureau of Transportation Planning monitors and provides VMT in categories as requested by FHWA for HPMS reporting. Roadway Ownership data is comparable to the State, Toll(state), and Local. Everything that's blank, with the exception of local toll, would mostly roll up into and are included in Local.

Provide additional discussion related to general highway safety trends.

Transportation-related fatalities have continued to decrease in Kansas since 2020, falling below 400 in 2023 for the first time since 2015. However, the number of transportation-related suspected serious injuries in Kansas continues to rise. The reduction in fatalities may indicate that the layers of Safe System redundancy are working to prevent fatal injury and reduce overall severity; however, the rise in suspected serious injuries could indicate a need for a continued focus on reducing the occurrences of high-impact crash events that can result in severe injury. This is especially true in local contexts, where the number of fatalities and suspected serious injuries have increased. Kansas is conducting further research to determine if the rise in suspected serious injuries can be attributed to both a decline in fatalities and a decline in other lower-level injury categories.

Safety Performance Targets

Safety Performance Targets

Calendar Year 2025 Targets *

Number of Fatalities:390.0

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

A safety performance target of 390 fatalities is five percent below the five-year moving average projection of 411 for 2025 and is attainable and realistic. The HSP and HSIP targets for FFY25 do not align due to differing federal rules.

Number of Serious Injuries:1875.0

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

A safety performance target of 1,875 serious injuries is two percent below the five-year moving average projection of 1,906 for 2025 and is attainable and realistic. The HSP and HSIP targets for FFY25 do not align due to differing federal rules.

Fatality Rate:1.250

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

A safety performance target of a 1.25 fatality rate is nine percent below the five-year moving average projection of 1.37 for 2025 and is attainable and realistic. The HSP and HSIP targets for FFY25 do not align due to differing federal rules

Serious Injury Rate:6.200

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

A safety performance target of a 6.20 serious injury rate is one percent lower than the five-year moving average projection of 6.27 for FFY25 and is attainable and realistic.

Total Number of Non-Motorized Fatalities and Serious Injuries:195.0

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

A safety performance target of 195 non-motorized fatalities and serious injuries is one percent lower than the five-year moving average projection of 198 for 2025 and is attainable and realistic.

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

Both the SHSP and HSP administrators are in the KDOT Bureau of Transportation Safety, which creates an environment for multidisciplinary collaboration. 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 state is providing data to the MPOs to aid in their decisions to set their targets or support the state in its targets.

Does the State want to report additional optional targets?

No

Describe progress toward meeting the State's 2023 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	400.0	411.4
Number of Serious Injuries	1100.0	1701.6
Fatality Rate	1.290	1.333
Serious Injury Rate	3.540	5.476
Non-Motorized Fatalities and Serious Injuries	160.0	189.6

The 2023 five-year average fatality target was set at 400, which would have resulted in a 2.5% decrease from 2022. While a significant reduction in fatalities has occurred, the five-year average target was not met. Additionally, reduced VMT has also resulted in the Fatality Rate target not being met. BTS is attributing the progress on fatality reduction to several recent successes:

• Advances in post-crash care, such as the completion of the NG911 system and the deployment of a crash detection and notification system that uses cellphone and connected vehicle telematics.

• There is also an increase in transportation safety planning statewide. For example, the Wichita Area Metropolitan Planning Organization (WAMPO) created its first regional safety plan for the Wichita Region. This regional safety plan is one of several new safety plans in the state, including 38 recipient agencies of the USDOT's Safe Streets and Roads For All program. KDOT and the KS Infrastructure Hub continue to provide financial support and technical assistance to non-state agencies' pursuit of the SS4A discretionary program funds.

• Safety Coalition building and new partnerships continue to grow in Kansas. With support from KDOT, WAMPO formed a new regional safety coalition, ICT Safe. The City of Wamego established the first local-

agency safety coalition in the State. Under the Highway Safety Plan, the Fans With A Plan campaign strategy continues to grow at sporting and event venues across the state, expanding partnerships to non-traditional safety stakeholders.

• BTS also promotes safety culture by using data to tell the story of traffic safety. For example, KDOT and the Drive To Zero Coalition launched the first Crash Data Dashboard and Safety Corridor Dashboards. The Drive To Zero Crash Data Dashboard was awarded the 2023 John Keller Award for outstanding work in the field of professional planning from the Kansas Chapter of the American Planning Association.

• The rise in safety culture may also be attributed to high visibility campaigns. For example, the launch of the Safety Corridor Pilot Program incorporates paid and earned media, enforcement and low-cost engineering safety improvements on four corridors. Additionally, the Drive Safe Sedgwick campaign won three awards from the American Advertising Association.

KDOT set its 2023 five-year average serious injuries target to 1,100. This goal was not met, as serious injuries have steadily increased since the definition change occurred in 2019. Additionally, the SSI rate target was not met as the VMT is still below pre-COVID volumes. BTS is conducting research to better understand the rise in serious injuries. A couple items are worth noting:

• In 2019, Kansas updated and expanded the injury severity standard in the Kansas crash report to align with the national definition for Suspected Serious Injuries (SSIs). The same year there was a 39% increase in the number of SSIs from traffic crashes. Prior to the definition change, Kansas was on a downward trend in the disabling injury category (the equivalent injury severity level prior to the definition change).
• KDOT anticipated there may be an increasing trend for a few years as law enforcement officers familiarize themselves with the broadened injury types within the SSI definition, but that eventually Kansas would return to a downward trend in the SSI category.
• The most crash recent data indicates Kansas continues to see an increase in SSIs from traffic crashes. Between 2019 and 2022 there was a 31% increase in SSI crashes (a 27% increase in SSIs).
• Between 2018 and 2023, all crashes (KABCO scale) reduced by 8% in Kansas. Only the A and B injury severities increased, while K, C, and O crashes all reduced.
• Research is needed to understand if this trend is comparable to trends in other states, as well as what could be contributing to the sharp increase in SSIs in Kansas.

While Kansas did not make progress toward the Non-motorized Fatalities and Serious Injuries Target, the recently completed 2023 Kansas Vulnerable Road User Safety Assessment (VRUSA) provides valuable insights to reduce these crashes. The VRUSA indicated that there is an increased injury risk for pedestrians and cyclists on four-lane urban arterials with posted speed limits of 30 and 35 mph. The assessment also identified the High Injury Network which constitutes just 0.28% of all public roads in the State. Of those crashes, over 80% occur on local roads in urban areas. The implementation of the VRUSA Tool provides data to state and local agencies to make investment choices to reduce non-motorized crashes.

Applicability of Special Rules

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

Yes

Does the VRU Safety Special Rule apply to the State for this reporting period?

No

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	2017	2018	2019	2020	2021	2022	2023
Number of Older Driver and Pedestrian Fatalities	74	64	75	79	77	63	73
Number of Older Driver and Pedestrian Serious Injuries	106	95	137	151	160	182	209

Evaluation

Program Effectiveness

How does the State measure effectiveness of the HSIP?

- Change in fatalities and serious injuries

The effectiveness of the HSIP is evaluated by the reduction of crashes of all severity levels, particularly fatalities and serious injuries. This evaluation is included in either program or project level evaluations that covers sufficient before and after evaluation years. For this reporting period, we have completed program level evaluations for Intersections, Pavement Markings, and HRRR.

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

Evaluating the change in crashes from the implemented safety treatment is an important step in the roadway safety evaluation process. The observational before/after analyses from projects that were listed on the 2019 Annual Report used “before” (2016-2018) and “after” (2021-2023) crash data. The program-level evaluations were conducted for three sub-programs: Intersections, Pavement Markings, and HRRR. Only one Lighting project was listed on the 2019 Annual Report and therefore cannot be used for evaluations at the program level.

Three Intersections projects were listed on the 2019 Annual Report and had available crash data. These projects included two on local urban arterials and one on a state system principal arterial. Combined, there was a decrease of 43 crashes, or 90 percent, of all severities in the before and after period at these locations. This decrease includes one fewer fatal crash and one fewer suspected serious injury crash than during the before period.

Four Pavement Marking projects were listed on the 2019 Annual Report and had available crash data. Combined, these projects saw a decrease of 144 crashes, or 56 percent, of all severity levels in the before and after period at these locations. This decrease includes 13 fewer suspected serious injury crashes than during the before period.

Having eighteen projects available for analysis, the HRRR program had the most potential for conclusive analysis. In total, the evaluation found that there was a decrease of 167 crashes, or 61 percent, of all severity levels in the before and after period at these locations. This decrease includes five fewer fatal crashes and two fewer suspected serious injury crashes when comparing the before and after period.

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

In addition to the implementation of the SPF Tool for intersections and segments, KDOT has worked to make crash data more readily available throughout the agency. The Bureau of Transportation Safety has published

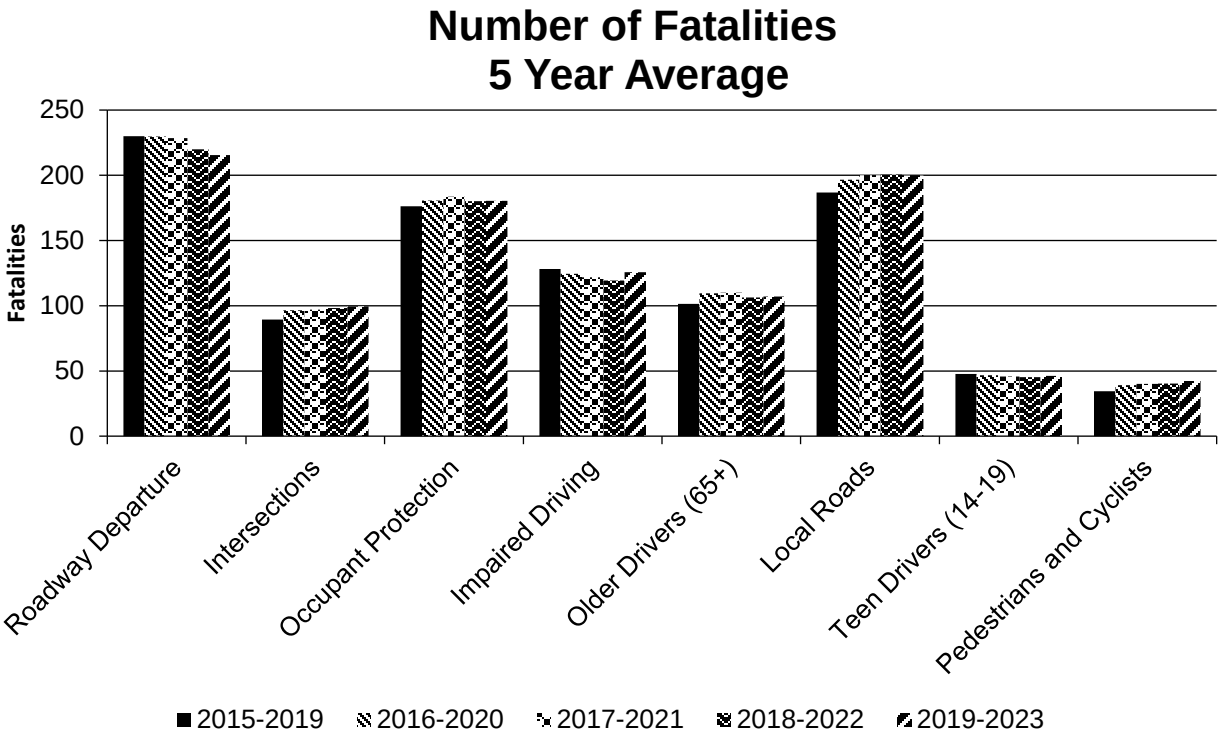
multiple crash data dashboards for internal agency-use to access crashes of all severities on the state system by District for the past 10-years. BTS has also offered multiple training webinar opportunities to facilitate the implementation of these tools throughout the agency. Work is underway to publish the SPF Tool network screening results in a GIS dashboard to allow for broader use of the analysis results in the agency.

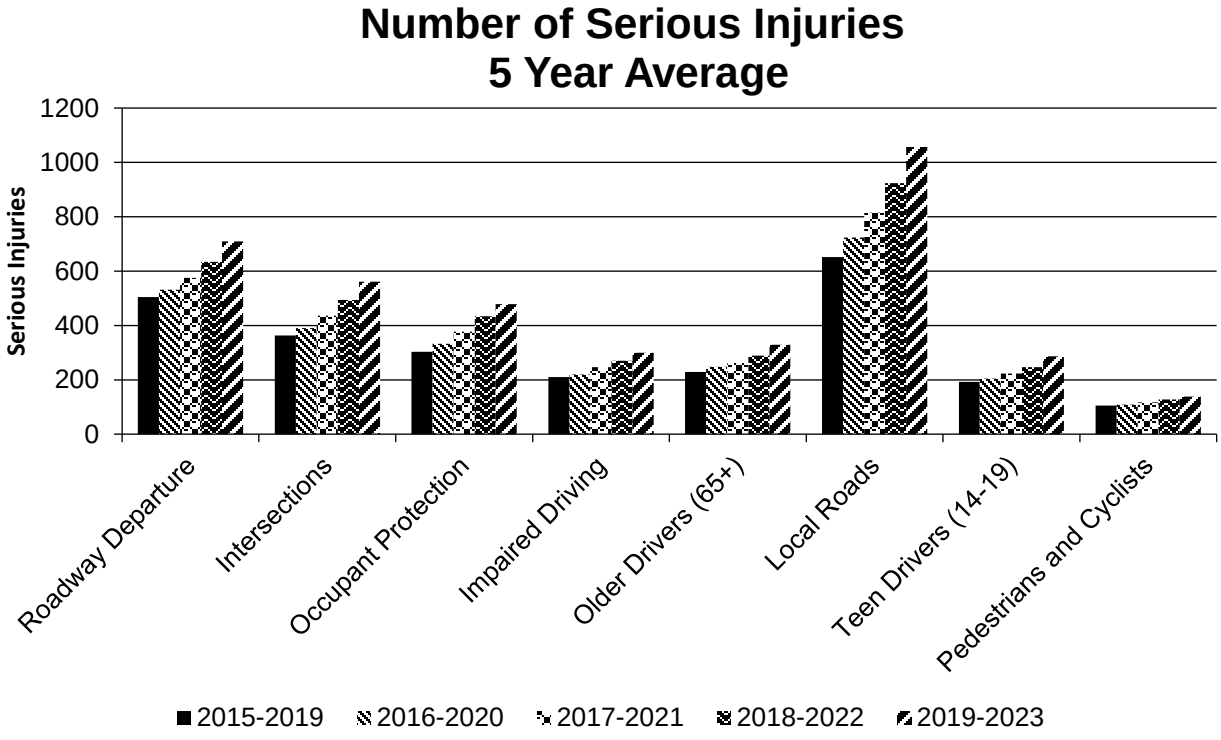
Effectiveness of Groupings or Similar Types of Improvements

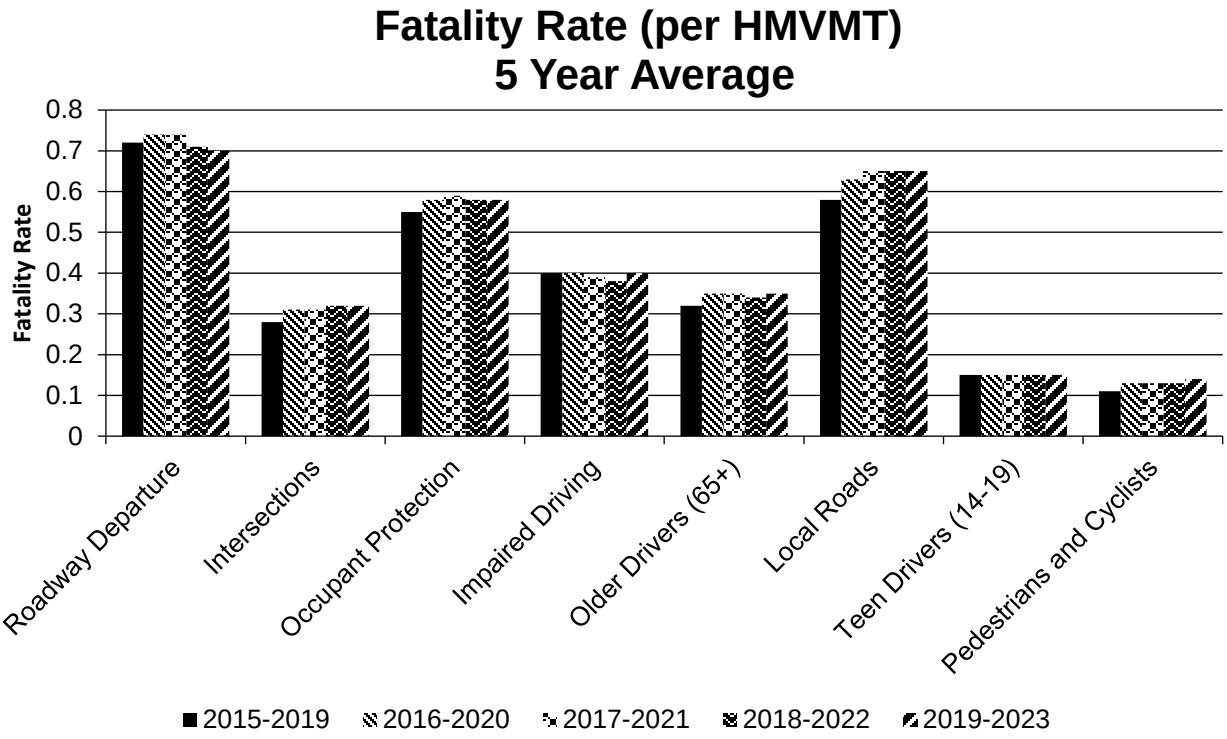
Present and describe trends in SHSP emphasis area performance measures.

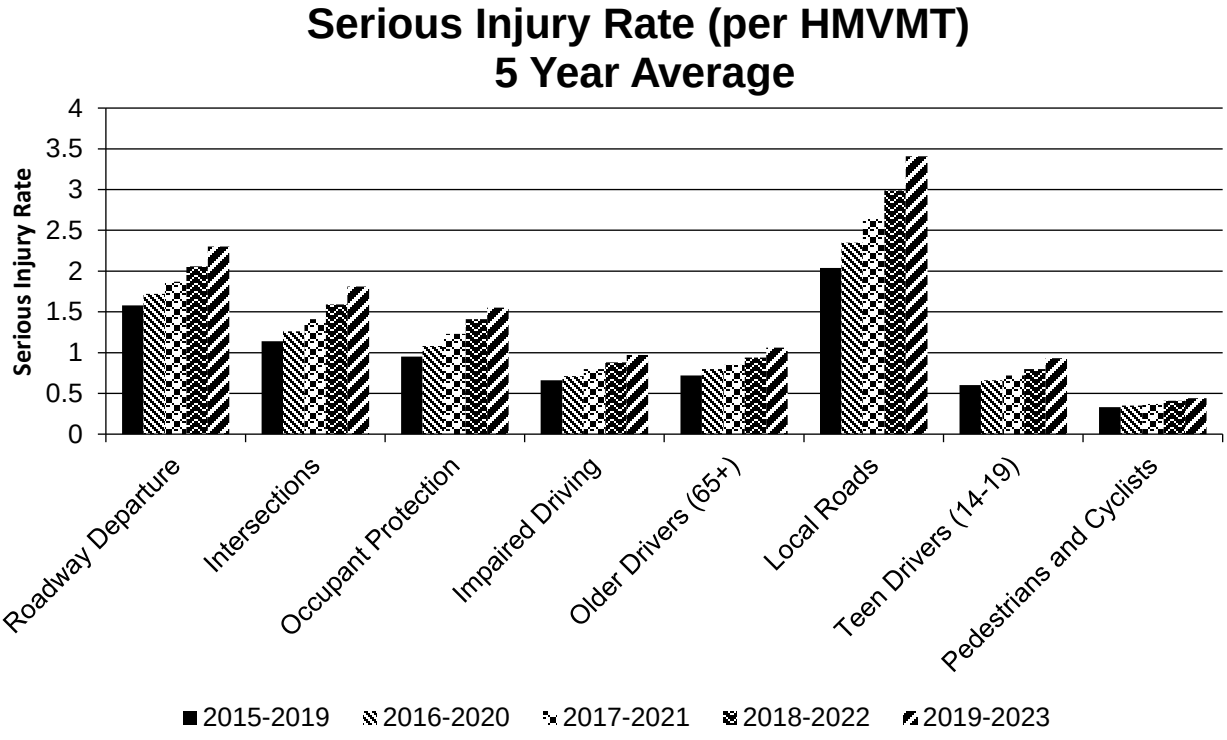
Year 2023

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		215.6	709.4	0.7	2.3
Intersections		99.4	561.4	0.32	1.81
Occupant Protection		180.4	478.4	0.58	1.55
Impaired Driving		125.6	299.6	0.4	0.97
Older Drivers (65+)		107	328.8	0.35	1.06
Local Roads		199.8	1,056.8	0.65	3.41
Teen Drivers (14-19)		46.2	286.4	0.15	0.93
Pedestrians and Cyclists		42.4	138	0.14	0.44


Number of Fatalities
5 Year Average
Fatalities
250
200
150
100
50
0
Roadway Departure
Intersections
Occupant Protection
Impaired Driving
Older Drivers (65+)
Local Roads
Teen Drivers (14-19)
Pedestrians and Cyclists
2015-2019
2016-2020
2017-2021
2018-2022
2019-2023


Number of Serious Injuries
5 Year Average
Serious Injuries
1200
1000
800
600
400
200
0
Roadway Departure
Intersections
Occupant Protection
Impaired Driving
Older Drivers (65+)
Local Roads
Teen Drivers (14-19)
Pedestrians and Cyclists
2015-2019
2016-2020
2017-2021
2018-2022
2019-2023


Fatality Rate (per HMVMT)
5 Year Average
Fatality Rate
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Roadway Departure
Intersections
Occupant Protection
Impaired Driving
Older Drivers (65+)
Local Roads
Teen Drivers (14-19)
Pedestrians and Cyclists
2015-2019
2016-2020
2017-2021
2018-2022
2019-2023


Serious Injury Rate (per HMVMT)
5 Year Average
Serious Injury Rate
4
3.5
3
2.5
2
1.5
1
0.5
0
Roadway Departure
Intersections
Occupant Protection
Impaired Driving
Older Drivers (65+)
Local Roads
Teen Drivers (14-19)
Pedestrians and Cyclists
2015-2019
2016-2020
2017-2021
2018-2022
2019-2023

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)
C-4869-01	Rural Major Collector	Roadway signs and traffic control	Roadway signs (including post) - new or updated	1.00	1.00			1.00		3.00		5.00	1.00	5.8
C-4888-01	Rural Major Collector	Roadway signs and traffic control	Roadway signs (including post) - new or updated	36.00	9.00					10.00	4.00	46.00	13.00	5.1
C-4889-01	Rural Major Collector	Roadway signs and traffic control	Roadway signs (including post) - new or updated	15.00	18.00					4.00	4.00	19.00	22.00	-2.5
C-4890-01	Rural Major Collector	Roadway signs and traffic control	Roadway signs (including post) - new or updated	98.00	59.00				1.00	19.00	15.00	117.00	75.00	-0.2
C-4892-01	Rural Major Collector	Roadway signs and traffic control	Roadway signs (including post) - new or updated	6.00	2.00							6.00	2.00	0.30
C-4893-01	Rural Major Collector	Roadway signs and traffic control	Roadway signs (including post) - new or updated	1.00						1.00		1.00	1.00	-1.9
C-4894-01	Rural Major Collector	Roadway signs and traffic control	Roadway signs (including post) - new or updated	10.00	13.00	1.00			1.00	6.00	4.00	17.00	18.00	57.9
C-4895-01	Rural Major Collector	Roadway signs and traffic control	Roadway signs (including post) - new or updated	5.00	13.00					3.00		8.00	13.00	2.8
C-4897-01	Rural Major Collector	Roadway signs and traffic control	Roadway signs (including post) - new or updated	70.00	38.00	1.00		3.00		8.00	5.00	82.00	43.00	49.1
C-4899-01	Rural Major Collector	Roadway signs and traffic control	Roadway signs (including post) - new or updated	1.00						1.00		2.00		1.0
C-4900-01	Rural Major Collector	Roadway signs and traffic control	Roadway signs (including post) - new or updated	20.00	20.00	1.00		2.00		6.00	3.00	29.00	23.00	51.4
C-4901-01	Rural Major Collector	Roadway signs and traffic control	Roadway signs (including post) - new or updated	6.00	2.00	1.00				2.00		9.00	2.00	107.2

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)
C-4902-01	Rural Major Collector	Roadway signs and traffic control	Roadway signs (including post) - new or updated	3.00	1.00					2.00		5.00	1.00	2.4
C-4903-01	Rural Major Collector	Roadway signs and traffic control	Roadway signs (including post) - new or updated	2.00		1.00				1.00		4.00		97.7
C-4904-01	Rural Major Collector	Roadway signs and traffic control	Roadway signs (including post) - new or updated	20.00	16.00				2.00	4.00	4.00	24.00	22.00	-6.6
C-4905-01	Rural Major Collector	Roadway signs and traffic control	Roadway signs (including post) - new or updated							2.00		2.00		3.75
C-4930-01	Rural Major Collector	Roadway signs and traffic control	Roadway signs (including post) - new or updated	56.00	31.00			1.00	1.00	6.00	8.00	63.00	40.00	-3.1
C-4937-01	Rural Major Collector	Roadway signs and traffic control	Roadway signs (including post) - new or updated	1.00						1.00		2.00		18.8
KA-0725-02	Rural Principal Arterial (RPA) - Interstate	Lighting	Intersection lighting	13.00	4.00	1.00	2.00	1.00		4.00	4.00	19.00	10.00	-73.9
KA-4514-01	Rural Principal Arterial (RPA) - Other	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	2.00	4.00	1.00				2.00	2.00	5.00	6.00	2.0
KA-5142-01	Rural Minor Arterial	Roadway delineation	Improve retroreflectivity	14.00	12.00	1.00	2.00	1.00		11.00	2.00	27.00	16.00	-63.1
KA-5143-01	Rural Principal Arterial (RPA) - Interstate	Roadway delineation	Improve retroreflectivity	196.00	99.00	4.00	5.00	17.00	10.00	68.00	33.00	282.00	146.00	-3.4
KA-5144-01	Urban Principal Arterial (UPA) - Other	Roadway delineation	Improve retroreflectivity	18.00	15.00					10.00	5.00	28.00	20.00	2.3
KA-5282-01	Rural Principal Arterial (RPA) - Interstate	Roadway delineation	Improve retroreflectivity	38.00	57.00	2.00	1.00	5.00		15.00	15.00	60.00	73.00	21.5
U-0225-01	Urban Major Collector	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	40.00	21.00			1.00		3.00	5.00	44.00	26.00	4.4

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)
U-2316-01 Topeka: Emland & Gage Blvd (Topeka: Gage from south of Emland to just south of EB I-70 exit ramp.)	Urban Minor Arterial	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	16.00	8.00			1.00	1.00	6.00		23.00	9.00	2.4
U-23l7-01 Topeka: 29th and McClure	Urban Minor Arterial	Intersection geometry	Add/modify auxiliary lanes	18.00	4.00					1.00	3.00	19.00	7.00	-0.4

The 2019 HSIP Annual Report listed 36 projects. Three of these projects were statewide, so before and after analyses were not applicable. Six of these projects were let in 2020, so analyses of these projects will be conducted next year. The crash costs used Kansas FY 2021 Crash Costs.

The table shows the evaluation results of the 27 remaining projects. Data for projects on the state system (beginning with KA) was found through using the state system crash data dashboards. The data for the remaining 21 projects was found through data queries from KDOT's crash data universe. The before period was either 2015-2017 or 2016-2018 and the after period was either 2020-2022 or 2021-2023 for all projects, depending on the letting date.

Comprehensive crash costs were calculated for the before and after time periods using the revised Kansas crash costs for FFY21 to have a consistent comparison. The comprehensive crash cost from before was subtracted from the after-period crash cost. If the crash cost after was greater than the crash cost before, this would result in a negative output. Of the 27 reported projects, nine had negative cost/benefit ratios, but eight of these projects had an overall reduction in before and after crashes, regardless of severity. Only project C-4889-01 in Dickinson County had both a negative B/C and an increase in crashes of all severities.

Finally, the difference between the before and after comprehensive crash costs was divided by the HSIP project cost to find the benefit-cost ratio.

Describe any other aspects of HSIP effectiveness on which the State would like to elaborate.

Evaluation results are useful to inform future decisions and present an opportunity to generate support and additional funding for safety projects as well as continued support and funding to perform evaluations. KDOT meets regularly, on a quarterly basis, with program and project managers to review progress toward activity-based performance measures and review progress toward crash-based performance measures. Additionally, KDOT is using the evaluation results to inform updates to its SHSP. For example, the Older Driver and Pedestrian Special Rule requires that the SHSP Update includes strategies to address older drivers as this was the overrepresented crash type in the required secondary analysis. The secondary analysis that KDOT conducted showed that older drivers were overrepresented in fatal and serious injury intersection crashes as well as crashes in work zones and crashes involving commercial motor vehicles. Going forward, the SHSP update will include strategies to address findings of the secondary analysis. KDOT has also developed automated evaluation approaches that rely on underlying project-level data to summarize progress by various performance indicators. For example, KDOT used its District Crash Data Dashboards to ascertain the before and after crash statistics for locations of projects on the State system. The dashboards generate visual representations of results through tables and charts that facilitate progress reporting.

Compliance Assessment

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

11/19/2021

What are the years being covered by the current SHSP?

From: 2019 To: 2024

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

2025

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	95								
	Federal Aid/Route Type (21) [21]	100	100								
	Rural/Urban Designation (20) [20]	100	100					100	100		
	Surface Type (23) [24]	100	80					100	65		
	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]	100	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]	90	50								
	Access Control (22) [23]	100	95								
	One/Two Way Operations (91) [93]	100	99								
	Number of Through Lanes (31) [32]	100	99					100	98		
	Average Annual Daily Traffic (79) [81]	100	100					100	100		
	AADT Year (80) [82]	100	100								
	Type of Governmental Ownership (4) [4]	100	98					100	98	100	98
INTERSECTION	Unique Junction Identifier (120) [110]			100	100						
	Location Identifier for Road 1 Crossing Point (122) [112]			100	100						
	Location Identifier for Road 2 Crossing Point (123) [113]			100	100						
	Intersection/Junction Geometry (126) [116]			70	60						
	Intersection/Junction Traffic Control (131) [131]			50	20						
	AADT for Each Intersecting Road (79) [81]			100	100						
	AADT Year (80) [82]			100	100						
	Unique Approach Identifier (139) [129]			100	100						
INTERCHANGE/RAMP	Unique Interchange Identifier (178) [168]					99	99				
	Location Identifier for Roadway at					99	99				

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]					100	100				
	Year of Ramp AADT (192) [182]					100	100				
	Functional Class (19) [19]					100	100				
	Type of Governmental Ownership (4) [4]					100	85				
Totals (Average Percent Complete):		**99.44**	**95.22**	**90.00**	**85.00**	**92.18**	**90.82**	**100.00**	**95.67**	**100.00**	**99.60**

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

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.

KDOT continues to work toward the goal of updating all MIRE Fundamental Data Elements of all public roads by September 30, 2026. There are four ongoing efforts focused on addressing data accuracy and completeness issues:
(1) the AEGIST Pooled Fund Study, which includes assistance to help KDOT arrive at the best methods of modeling its intersections to serve agency needs and meet the 2026 MIRE FDE requirements. Kansas is one of several participating states. Note that this effort has been mostly idle for over a year due to lack of communications from the assigned vendor, WSP, though FHWA, the vendor, and/or both continue to hold in-person peer exchanges;
(2) KDOT's Bureau of Transportation Planning (BTP) worked with FHWA's Data Assessment Team (D A T) on technical aspects associated with HPMS data. Some of those elements supported data needs for MIRE fundamental data elements, notably to refine algorithms designed to identify the surface type of roads off the State Highway System using the most recent aerial imagery. The initial work of D A T resulted in successful identification of coarse surface type (i.e., paved or unpaved) for most roads accurately. The D A T is continuing to refine that model to determine the type of paved or unpaved surface (i.e., concrete, asphalt, gravel, brick or dirt). Once the model is refined, the D A T will apply it to the production dataset and overwrite the existing values of paved or unpaved;
(3) KDOT's BTP began a project on August 9, 2024 for contractor assistance in synchronizing KDOT's GIS data for non-State Highway System routes to the newest available data from each public service answering point (PSAP) in Kansas so that KDOT can easily maintain the currency and quality of data using change detection. This project will also include edits/corrections to the attributes indicating whether a road is public or private using available datasets (i.e., primarily road names and spatial comparisons to parcel data); and
(4) KDOT completed mobile LiDAR collection and extraction projects in 2022 and 2024 and are expected to repeat every two or three years going forward. These projects result in LRS-ready GIS extracts that KDOT can use to verify and update existing inventories, including K-Hub and KDOT's Linear Referencing System, which is the source of the data used for federal reporting.

Optional Attachments

Program Structure:

DRAFT Safety Manual for Intranet August 2024.pdf
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.