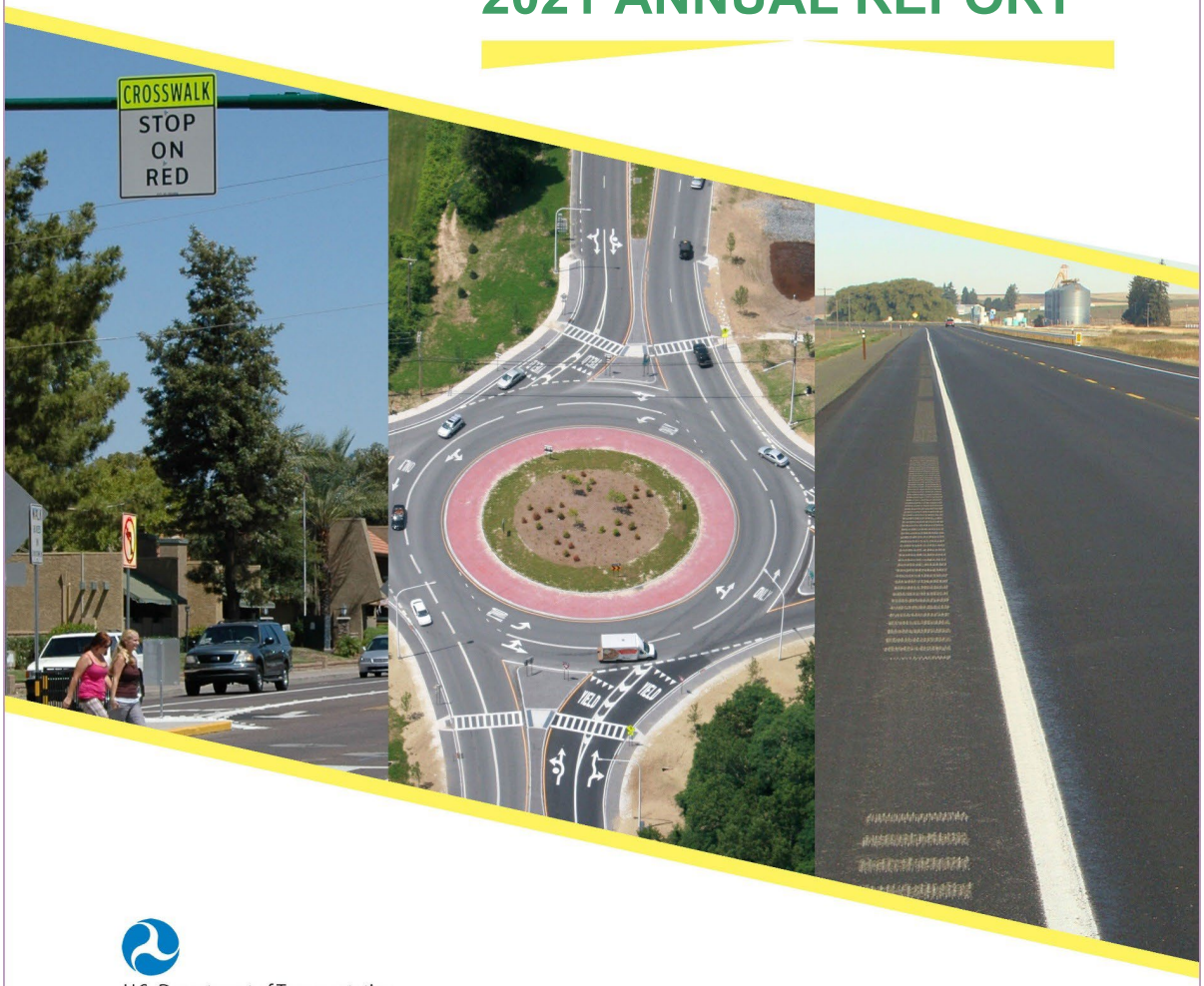
IOWA

HIGHWAY SAFETY IMPROVEMENT PROGRAM

2021 ANNUAL REPORT



U.S. Department of Transportation
Federal Highway Administration

Photo source: 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

The past year has seen the soft release of Iowa's Potential for Crash Reduction site. This site is how we display our Safety Performance Functions. As of August 31, 2021, the site includes information for intersections only. Segmental data is being crunched and is expected to be soft released in calendar year 2021. This exciting news is all due to the organization behind the Iowa HSIP. It's all part of our committment to implementing a more data-informed approach for identifying locations and potential countermeasures for safety improvements. The Safety Analysis Incorporation (SAI) group, with representatives from various offices across the DOT, continues to oversee the development of tools and processes to advance the consideration of safety at all stages of project development. Other efforts overseen by the SAI group include: calibration of the Highway Safety Manual (HSM) safety performance functions (SPFs) to Iowa conditions, publication of an Iowa-specific list of crash modification factors (CMFs), development of a suite of HSM spreadsheet tools to evaluate project impacts and alternatives, and a brand new Safety Analysis Guide to aide designers and planners in applying these safety analysis tools. Additionally, a consultant has been hired and work has begun on developing an intersection configuration evaluation (ICE) policy and 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.

The state's HSIP funds are distributed amongst two different pots: statewide and districts. Statewide projects are identified by central office staff based on research/study results, and can involve a mixture of hot-spot and systemic improvements. District projects are identified by the districts, based on their judgment or the results of a safety study, such as their District Road Safety Plan. All projects are selected for funding by central office staff. District projects are approved for funding based on whether they were identified by their respective District Road Safety Plan or whether the benefit-cost ratio exceeds one. District projects are typically designed in-house, but the majority of statewide projects are designed by an outside consultant. All projects are tracked by central office staff, including crashes, costs, and construction dates. Crashes for 3 to 5 years pre-construction are compared 3 to 5 years of post-construction crashes, and a benefit-cost analysis is conducted for all projects.

Where is HSIP staff located within the State DOT?

Operations

How are HSIP funds allocated in a State?

- Formula via Districts/Regions

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

Iowa utilizes state funds to address safety on local and tribal roads. HSIP-Secondary addresses safety issues on the secondary (county-owned) roadway system, and is focused on funding projects that incorporate systemic, low-cost safety improvements. Typical countermeasures include rumble strips, grooved-in pavement markings, paved shoulders, improved signage, and guardrail updates.

Safety improvements on other local roads, including county, city, and tribal roads, are addressed via the state's Transportation Safety Improvement Program (TSIP). TSIP is a competitive, application-based program that awards approximately $7 million in state funds annually for safety projects on and off the state system. Funding is provided in three categories: the completion of studies, the purchase of traffic control devices, and the construction of larger infrastructure projects.

Identify which internal partners (e.g., State departments of transportation (DOTs) Bureaus, Divisions) are involved with HSIP planning.

- Districts/Regions
- Traffic Engineering/Safety

Describe coordination with internal partners.

Iowa DOT districts are typically charged with developing and overseeing HSIP projects, so they are consulted early and often in the HSIP planning process. HSIP projects are chosen that align with SHSP emphasis areas, typically intersections and lane departures. A large majority of funding goes toward addressing lane departure crashes through shoulder improvements, most commonly paving existing shoulders. District Road Safety Plans have been completed, so the districts utilize the project recommendations that resulted from the data-driven, risk-based plans, either by submitting these as HSIP candidate projects, or by addressing locations with their own forces.

Identify which external partners are involved with HSIP planning.

- FHWA

Describe coordination with external partners.

The HSIP manager meets annually with Iowa Division personnel to review the state's HSIP approval process and update it, if necessary. We also communicate through emails and phone calls throughout the year.

Program Methodology

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

Yes
An update to the HSIP Manual was planned to occur in the Spring of 2021. However, our former HSIP Manager worked very hard on the new Safety Analysis Guide and set the HSIP Manual update on a back burner. Due to the promotion of our HSIP Manager to State Traffic Engineer, the State Safety Engineer will now put the HSIP Manual update on the front burner of the new HSIP Manager (when hired).

Select the programs that are administered under the HSIP.

- HSIP (no subprograms)

Program: HSIP (no subprograms)

Date of Program Methodology:5/1/2017

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 • Other-with consideration of fatal and serious injury crashes	• Volume	• Roadside features

What project identification methodology was used for this program?

- Crash frequency
- Other-Risk Factors
- 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

Available funding:2
Cost Effectiveness:1

What percentage of HSIP funds address systemic improvements?

25

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

- Cable Median Barriers
- Install/Improve Pavement Marking and/or Delineation
- Pavement/Shoulder Widening
- Rumble Strips

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

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.

Iowa is still working slowly, but surely, toward implementing the Highway Safety Manual (HSM). The foundation for increased usage is being laid by calibrating the safety performance functions (SPFs) in the HSM to local conditions, as well as adjusting the default crash distribution tables to reflect state-specific experience.

Additionally, the state's intersection database has been combined with crash data to develop intersection SPFs. Eleven broad intersection categories have been established with 18 subcategories to achieve statistical significance. SPFs based on all crashes and SPFs based on fatal and serious injury crashes have been developed, through use of the SPF-R tool, for each category. The next step will be to develop segment SPFs.

Although the state has been using crash modification factors (CMFs) for years, the number of CMFs available on the CMF clearinghouse has grown exponentially, and there remains many countermeasures for which a good CMF does not exist. Therefore, the need for state-specific CMFs was identified, and a list of approximately 70 commonly used CMFs was published in August 2019. The goal is to update the list annually. This goal has been revised to biannually.

Finally, a consultant has developed a state-specific framework for conducting safety evaluations consistent with HSM methods, via a spreadsheet tool. The rural two-lane, rural multilane, and urban/suburban arterial versions of the tool have been delivered to the state, and the goal is to have these tools implemented in early 2021. This goal has been revised to early 2022.

Project Implementation

Funds Programmed

Reporting period for HSIP funding.

State Fiscal Year

Iowa's state fiscal year runs July 1 through June 30.

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

FUNDING CATEGORY	PROGRAMMED	OBLIGATED	% OBLIGATED/PROGRAMMED
HSIP (23 U.S.C. 148)	$23,073,300	$22,315,386	96.72%
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	$0	$0	0%
Totals	$23,073,300	$22,315,386	96.72%

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

0%

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

0%

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

0%

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

0%

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.

Impediments to fully obligating programmed HSIP funds include proper estimating and long development timelines.

Initial cost estimates tend to be high in order to account for project uncertainties and to avoid having to ask for more money at a later time.

Project development timelines can be affected by multiple external forces including coordination, clearances, and unforeseen circumstances. Our goal is to work with project sponsors and project managers to improve the accuracy of cost estimates and to minimize time delays in order to obligate HSIP funds to the fullest extent.

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
HSIPX-002-9(44)--3L-89	Shoulder treatments	Pave existing shoulders	7.5	Miles	$1522758.6	$1825567	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	1,500	55	State Highway Agency	Systemic	Lane Departure	Install or widen paved shoulders
HSIPX-010-1(82)--3L-84	Shoulder treatments	Pave existing shoulders	14.9	Miles	$1915845.3	$2131342	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	2,200	55	State Highway Agency	Systemic	Lane Departure	Install or widen paved shoulders
HSIPX-010-1(85)--3L-84	Shoulder treatments	Pave existing shoulders	5	Miles	$841491	$934990	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	4,300	55	State Highway Agency	Systemic	Lane Departure	Install or widen paved shoulders
HSIPX-017-4(47)--3L-99	Shoulder treatments	Pave existing shoulders	6.8	Miles	$929769.3	$1033077	HSIP (23 U.S.C. 148)	Multiple/Varies	Minor Arterial	2,500	55	State Highway Agency	Systemic	Lane Departure	Install or widen paved shoulders
HSIPX-020-5(84)--3L-42	Shoulder treatments	Pave existing shoulders	7.5	Miles	$1760957.1	$1958194	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	9,400	55	State Highway Agency	Spot	Lane Departure	Install or widen paved shoulders
HSIPX-022-2(82)--3L-92	Shoulder treatments	Pave existing shoulders	2.7	Miles	$1872208.8	$2150485	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	4,400	55	State Highway Agency	Systemic	Lane Departure	Install or widen paved shoulders
HSIPX-030-1(188)--3L-43	Shoulder treatments	Pave existing shoulders	8.8	Miles	$1013107.5	$1125675	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	6,400	55	State Highway Agency	Systemic	Lane Departure	Install or widen paved shoulders
HSIPX-034-4(47)--3L-88	Intersection geometry	Add/modify auxiliary lanes	1	Approaches	$260845.21	$289828	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	4,900	25	State Highway Agency	Spot	Intersections	Change intersection geometry
HSIPX-039-1(29)--3L-24	Shoulder treatments	Pave existing shoulders	5.9	Miles	$1416793.5	$1574215	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	2,900	55	State Highway Agency	Systemic	Lane Departure	Install or widen paved shoulders
HSIPX-067-2(66)--3L-23	Shoulder treatments	Pave existing shoulders	6.2	Miles	$762066	$846740	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	2,000	55	State Highway Agency	Systemic	Lane Departure	Install or widen paved shoulders
HSIPX-136-3(52)--3L-31	Shoulder treatments	Pave existing shoulders	9.1	Miles	$1076374.8	$1199122	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	4,300	55	State Highway Agency	Systemic	Lane Departure	Install or widen paved shoulders
HSIPX-150-2(27)--3L-06	Shoulder treatments	Pave existing shoulders	10.8	Miles	$1452997.8	$1614442	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	4,900	55	State Highway Agency	Systemic	Lane Departure	Install or widen paved shoulders

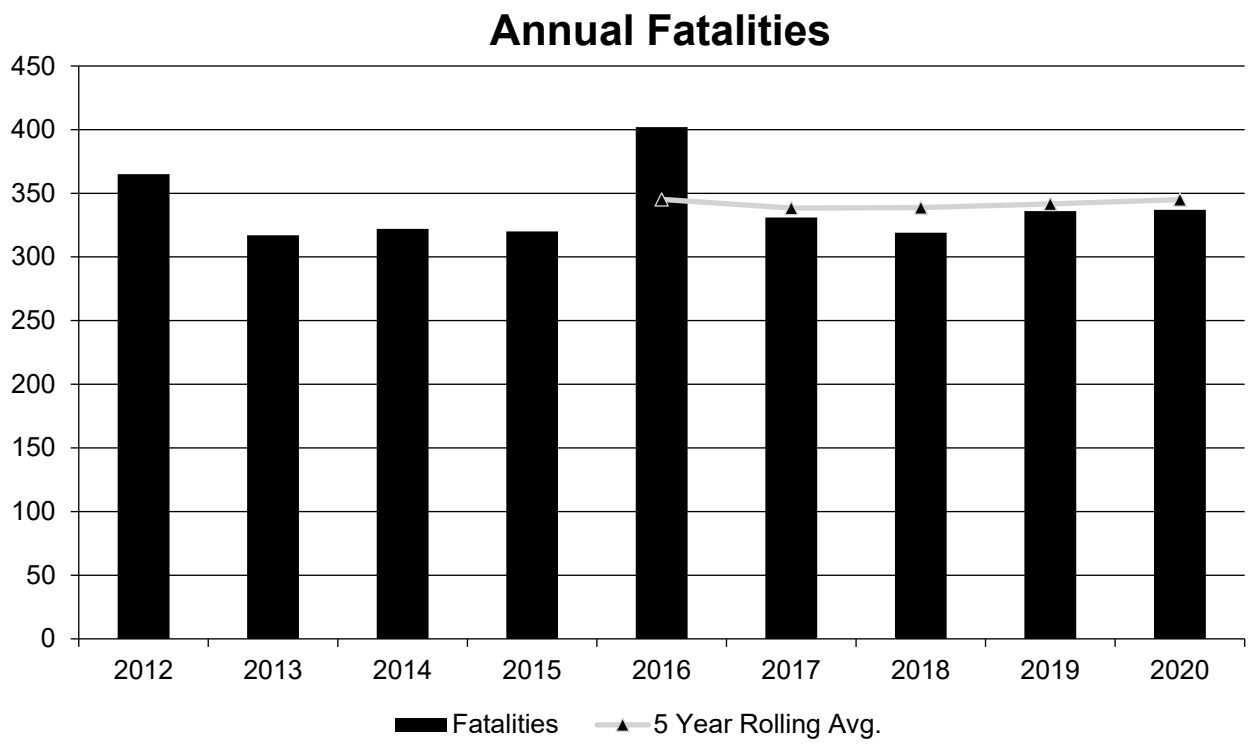
PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
HSIPX-150-2(29)--3L-06	Shoulder treatments	Pave existing shoulders	7.4	Miles	$527749.2	$586388	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	4,900	55	State Highway Agency	Systemic	Lane Departure	Install or widen paved shoulders
HSIPX-150-4(62)--3L-33	Shoulder treatments	Pave existing shoulders	8.1	Miles	$1667022.3	$2553222	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	2,400	55	State Highway Agency	Systemic	Lane Departure	Install or widen paved shoulders
HSIPX-150-5(10)--3L-96	Shoulder treatments	Pave existing shoulders	7	Miles	$1546632.9	$1718481	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	2,400	55	State Highway Agency	Systemic	Lane Departure	Install or widen paved shoulders
HSIPX-275-2(24)--3L-65	Shoulder treatments	Pave existing shoulders	8.5	Miles	$1154227.5	$1282475	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	1,800	55	State Highway Agency	Systemic	Lane Departure	Install or widen paved shoulders
HSIPX-000-T(3)--3L-00	Intersection traffic control	Intersection traffic control - other	95	Locations	$749881.8	$834252	HSIP (23 U.S.C. 148)	Multiple/Varies	Principal Arterial-Other Freeways & Expressways	0	0	State Highway Agency	Systemic	Lane Departure	Pavement markings/signage to prevent wrong-way driving at intersections on divided highways
IHSIPX-080-1(518)18--08-78	Roadside	Barrier – cable	11.6	Miles	$1844657.1	$2049619	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Interstate	25,000	70	State Highway Agency	Systemic	Lane Departure	Continue median cable barrier installations on the Interstate system

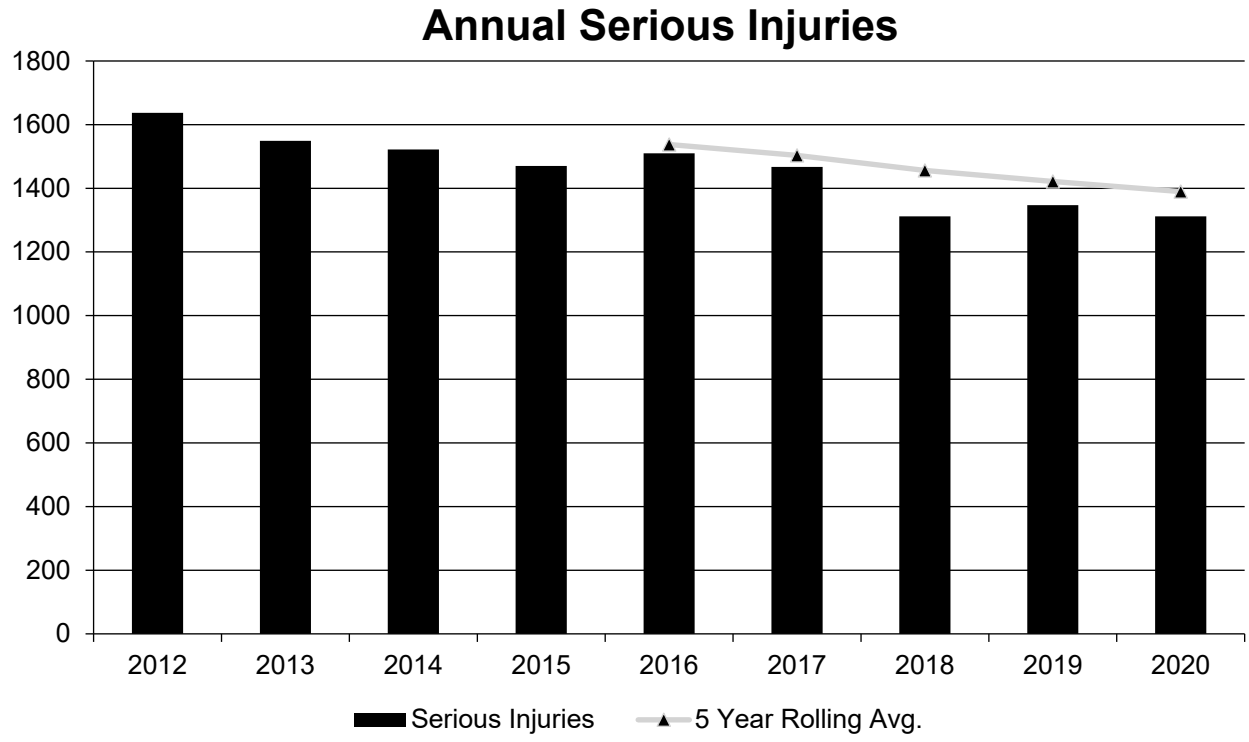
Safety Performance

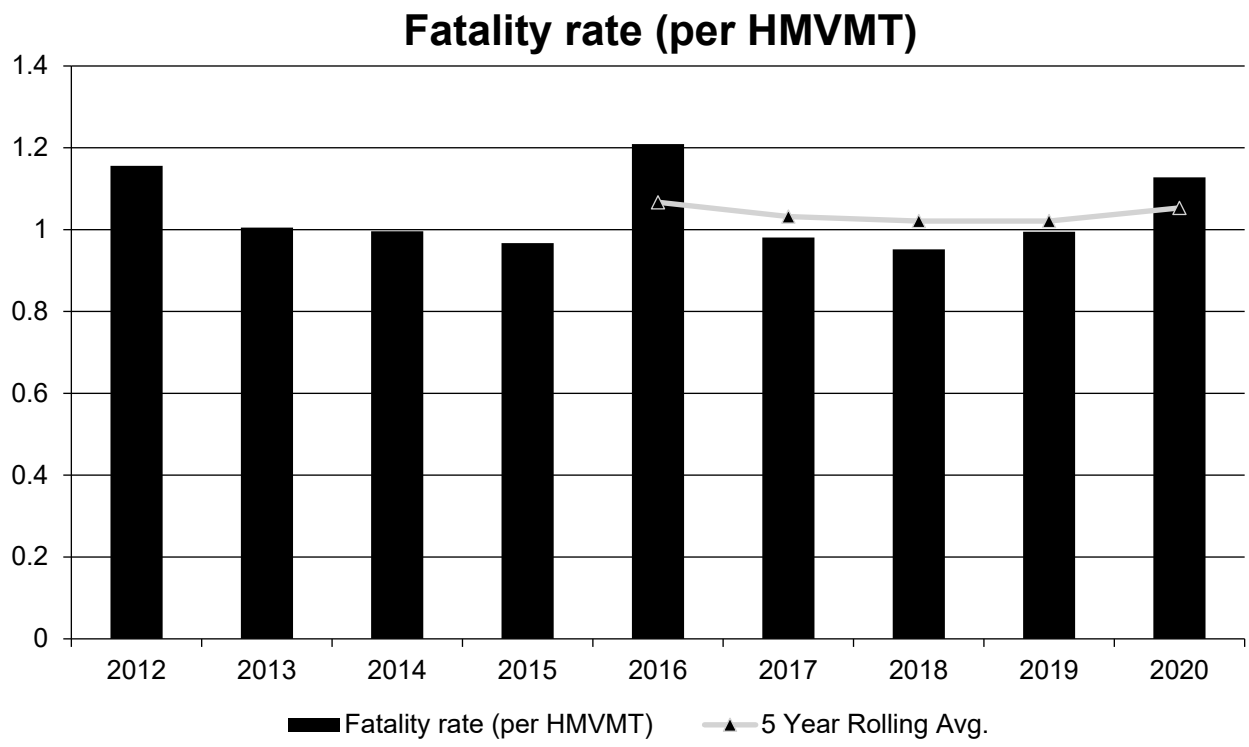
General Highway Safety Trends

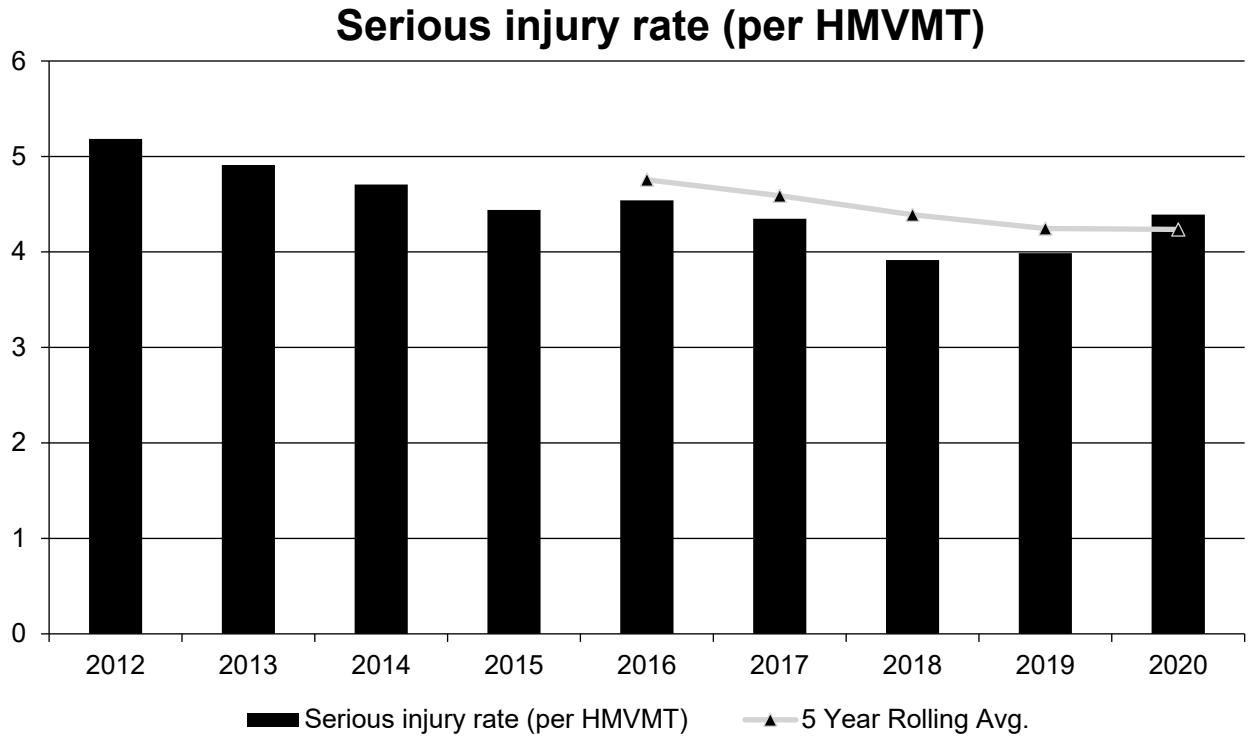
Present data showing the general highway safety trends in the State for the past five years.

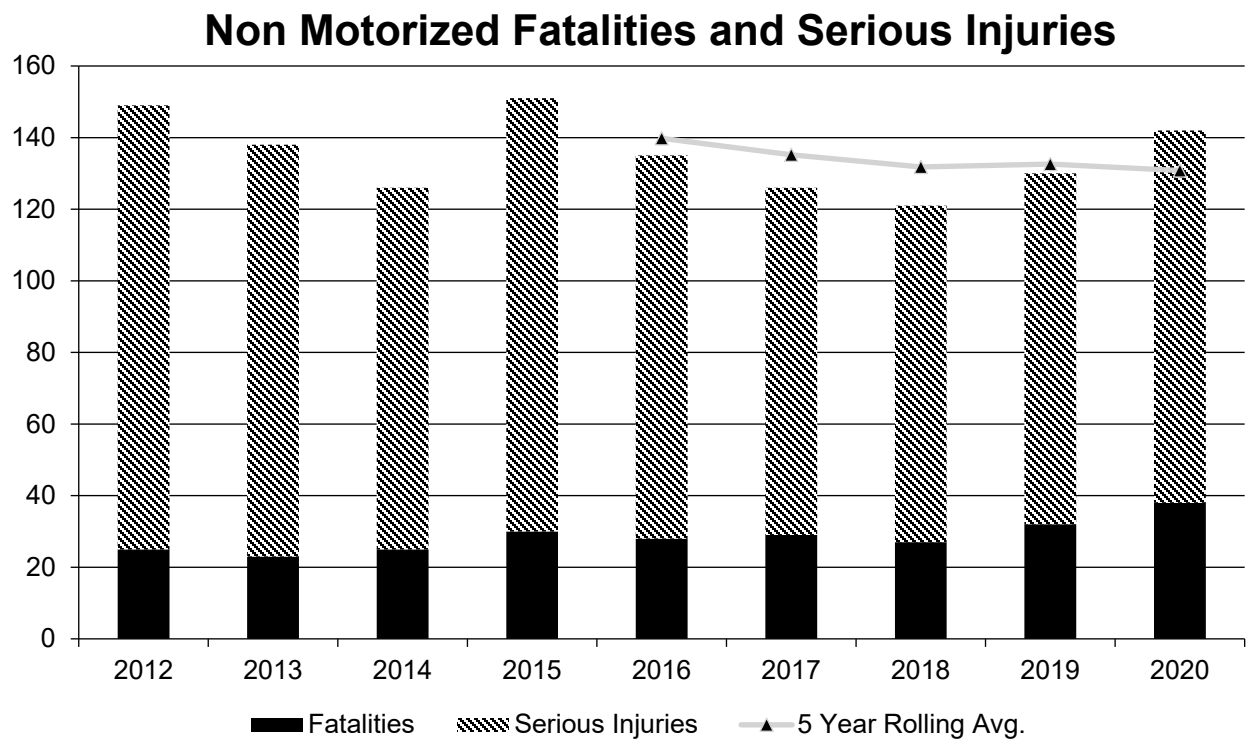
PERFORMANCE MEASURES	2012	2013	2014	2015	2016	2017	2018	2019	2020
Fatalities	365	317	322	320	402	331	319	336	337
Serious Injuries	1,637	1,549	1,522	1,470	1,510	1,467	1,312	1,347	1,312
Fatality rate (per HMVMT)	1.156	1.005	0.996	0.967	1.209	0.981	0.952	0.995	1.128
Serious injury rate (per HMVMT)	5.184	4.911	4.707	4.440	4.540	4.347	3.916	3.988	4.391
Number non-motorized fatalities	25	23	25	30	28	29	27	32	38
Number of non-motorized serious injuries	124	115	101	121	107	97	94	98	104


Annual Fatalities
450
400
350
300
250
200
150
100
50
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
1800
1600
1400
1200
1000
800
600
400
200
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
Fatality rate (per HMVMT)
5 Year Rolling Avg.


Serious injury rate (per HMVMT)
6
5
4
3
2
1
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
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 2020

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				
State Highway Agency	175.4	607.6	0.86	2.97
County Highway Agency	116	453	2.13	8.31
Rural Principal Arterial (RPA) - Other Freeways and Expressways				
Rural Principal Arterial (RPA) - Other				

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)
Town or Township Highway Agency				
City or Municipal Highway Agency	52	321.6	0.75	4.65
Rural Minor Arterial				
Rural Minor Collector				
State Park, Forest, or Reservation Agency				
Rural Major Collector				
Local Park, Forest or Reservation Agency				
Other State Agency				
Rural Local Road or Street				
Urban Principal Arterial (UPA) - Interstate				
Other Local Agency				
Private (Other than Railroad)				
Urban Principal Arterial (UPA) - Other Freeways and Expressways				
Urban Principal Arterial (UPA) - Other				
Railroad				
Urban Minor Arterial				
State Toll Authority				
Local Toll Authority				
Urban Minor Collector				
Urban Major Collector				

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)**
Other Public Instrumentality (e.g. Airport, School, University)				
Urban Local Road or Street				
Indian Tribe Nation				

Year 2020

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	175.4	607.6	0.86	2.97
County Highway Agency	116	453	2.13	8.31
Town or Township Highway Agency				
City or Municipal Highway Agency	52	321.6	0.75	4.65
State Park, Forest, or Reservation Agency				
Local Park, Forest or Reservation Agency				
Other State Agency				
Other Local Agency				
Private (Other than Railroad)				
Railroad				
State Toll Authority				
Local Toll Authority				
Other Public Instrumentality (e.g. Airport, School, University)				
Indian Tribe Nation				

Safety Performance Targets

Safety Performance Targets

Calendar Year 2022 Targets *

Number of Fatalities:337.8

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

A simple trend analysis of historical fatality data was performed. An integrated moving average model was run to estimate how much risk would be associated with each set of predictions. Our working group settled on using a 75% confidence level. This means we are at least 75% confident the actual 5-year rolling average will be less than the target.

Number of Serious Injuries:1327.2

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

A simple trend analysis of historical serious injury data was performed. An integrated moving average model was run to estimate how much risk would be associated with each set of predictions. Our working group settled on using a 75% confidence level. This means we are at least 75% confident the actual 5-year rolling average will be less than the target.

Fatality Rate:1.037

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

A simple trend analysis of historical fatality data was performed. An integrated moving average model was run to estimate how much risk would be associated with each set of predictions. Our working group settled on using a 75% confidence level. This means we are at least 75% confident the actual 5-year rolling average will be less than the target. This target supports the SHSP goal of continuing to reduce the fatality rate to 1.000 per HMVMT.

Serious Injury Rate:4.073

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

A simple trend analysis of historical serious injury data was performed. An integrated moving average model was run to estimate how much risk would be associated with each set of predictions. Our working group settled on using a 75% confidence level. This means we are at least 75% confident the actual 5-year rolling average will be less than the target. This target supports the SHSP goal of continuing to reduce the serious injury rate below 4.300 per HMVMT.

Total Number of Non-Motorized Fatalities and Serious Injuries:129.8

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

A simple trend analysis of historical non-motorized fatality and serious injury data was performed. An integrated moving average model was run to estimate how much risk would be associated with each set of predictions. Our working group settled on using a 75% confidence level. This means we are at least 75% confident the actual 5-year rolling average will be less than the target.

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

The DOT's safety target working group established the methodology for setting the performance targets, using the same process as last year and the year before. The chosen targets and a description of the methodology were shared with representatives from the Governor's Traffic Safety Bureau for comment. No comments were received.

A draft safety memo outlining the chosen targets and methodology was sent to all MPOs in the state with a

request for comments. No substantive comments regarding the targets or the methodology were received during the comment period.

Does the State want to report additional optional targets?

No

Describe progress toward meeting the State's 2020 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	345.8	345.0
Number of Serious Injuries	1396.2	1389.6
Fatality Rate	1.011	1.053
Serious Injury Rate	4.083	4.236
Non-Motorized Fatalities and Serious Injuries	138.1	130.8

The state met its target for the 5-year average number of fatalities. The state met its target for the 5-year average number of serious injuries. The state did not meet its targets for the 5-year average fatality rate or for the 5-year average serious injury rate. This is believed to be related to the unique traffic volume fluctuations brought on by Covid-19. The state met its target for the 5-year average number of non-motorized fatalities and serious injuries.

In the effort to reduce fatalities and serious injuries on all of Iowa's roadways, Iowa DOT and partner agencies have continued to install more paved shoulders, shoulder rumbles, centerline rumbles, and intersection improvements that help traffic move more smoothly as well as protect motorists and non-motorists. Continuing to implement these systemic measures is continuing to affect the 5-year moving average of fatalities and serious injuries. The only 1-strategy-fits-all answer to the problem of traffic tragedies would be changing traffic safety culture among road users. Traffic volumes dipped severely in mid-March 2020 and continued to stay unusually low until mid-summer 2020.

Applicability of Special Rules

Does the HRRR 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	2014	2015	2016	2017	2018	2019	2020
Number of Older Driver and Pedestrian Fatalities	55	51	56	52	51	51	51

PERFORMANCE MEASURES	2014	2015	2016	2017	2018	2019	2020
Number of Older Driver and Pedestrian Serious Injuries	146	123	125	155	127	144	119

Evaluation

Program Effectiveness

How does the State measure effectiveness of the HSIP?

- Benefit/Cost Ratio

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

Overall since fiscal year 2001, the state's HSIP expenditures have resulted in a benefit-cost ratio of approximately 6 to 1. Some of the highest B-C ratios resulted from extremely low-cost improvements such as supplemental roadway signs, lighting, or roadside clearing.

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

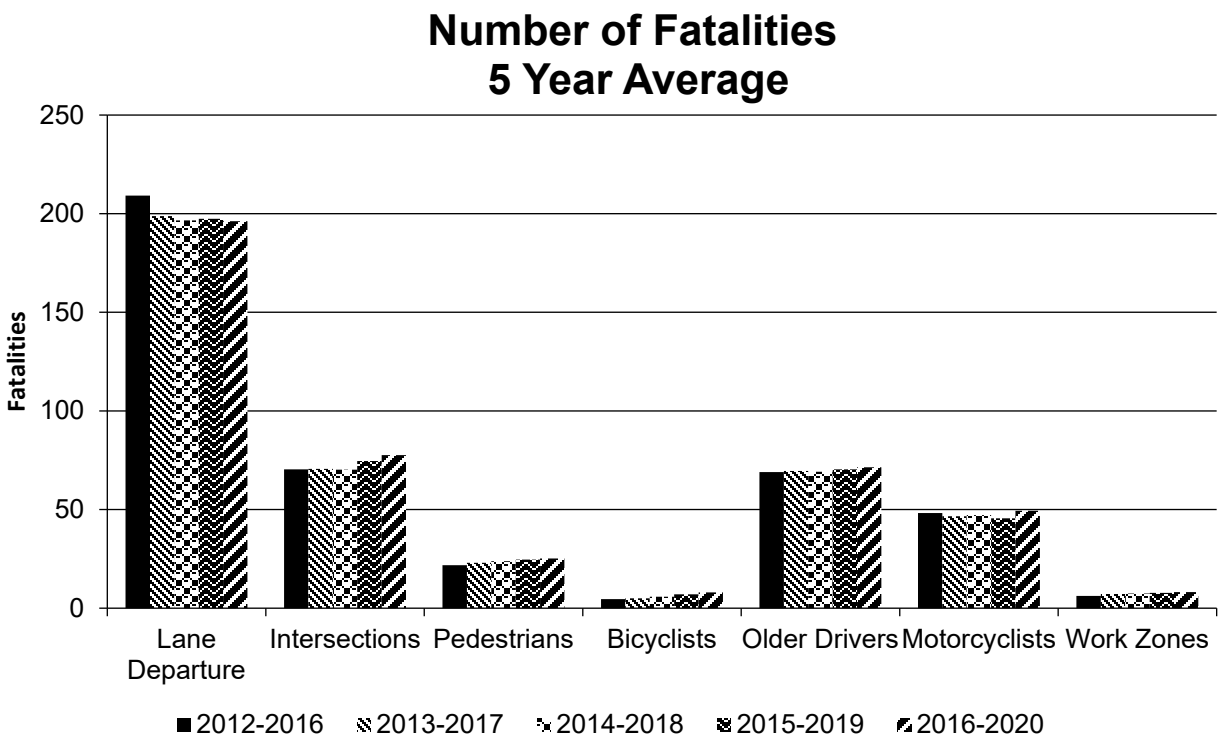
- HSIP Obligations
- Increased awareness of safety and data-driven process
- Increased focus on local road safety
- Organizational change
- Policy change

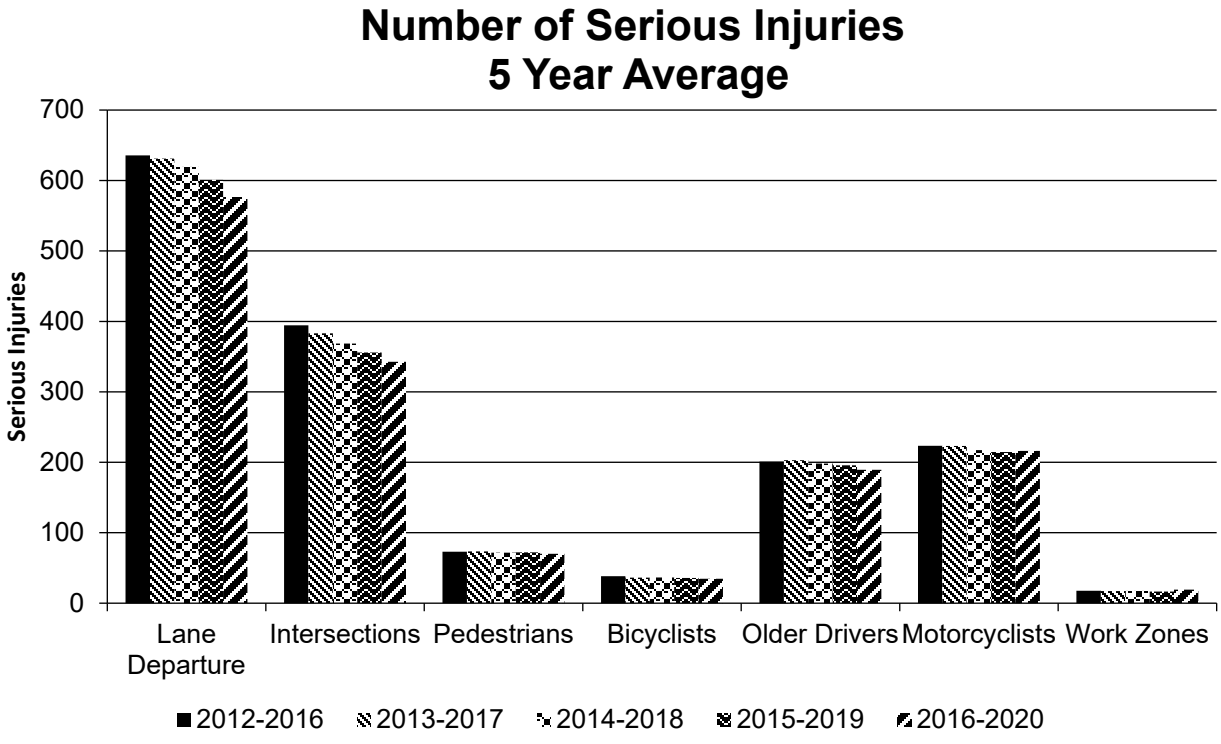
Effectiveness of Groupings or Similar Types of Improvements

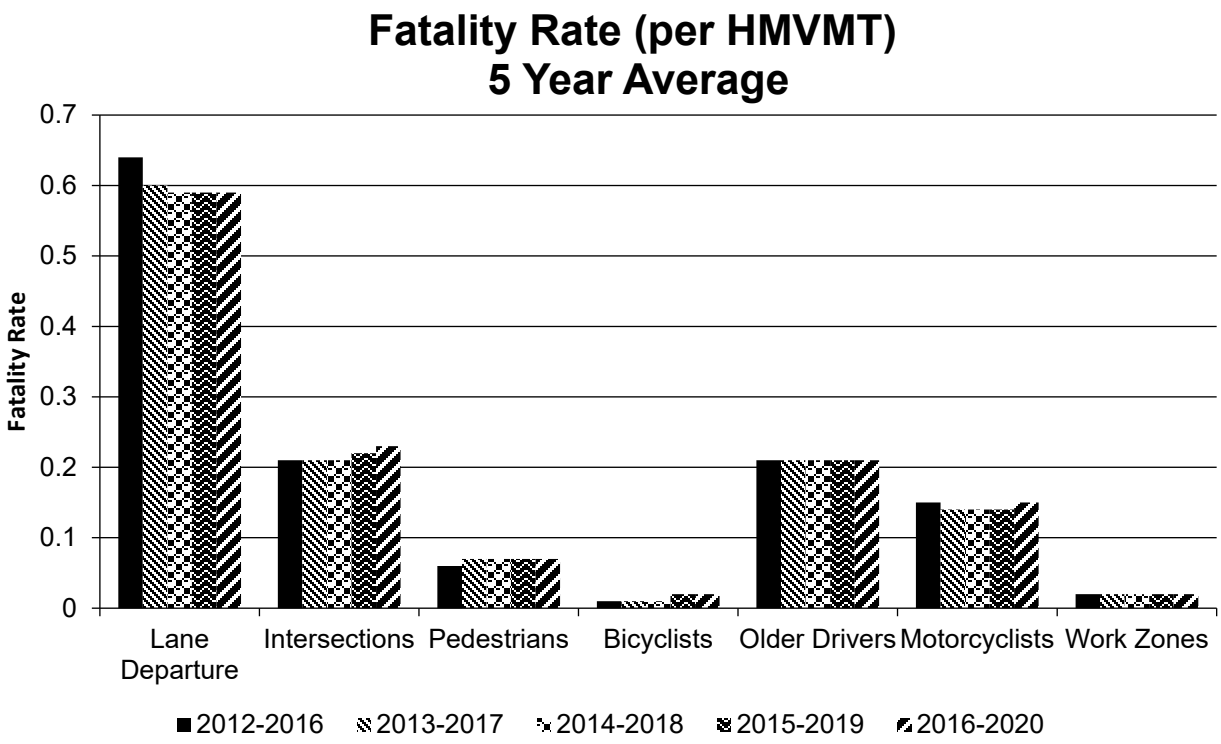
Present and describe trends in SHSP emphasis area performance measures.

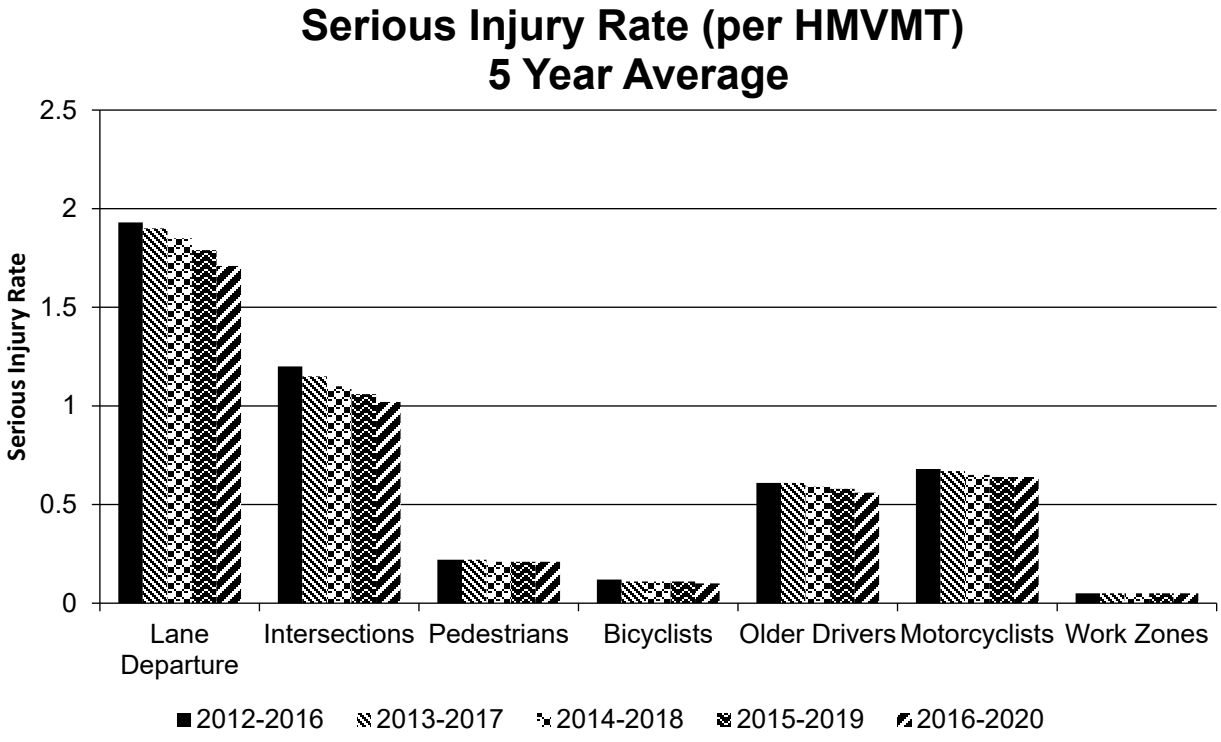
Year 2020

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)
Lane Departure		196.2	576.6	0.59	1.71
Intersections		77.6	342.6	0.23	1.02
Pedestrians		25.2	70.2	0.07	0.21
Bicyclists		8	34.6	0.02	0.1
Older Drivers		71.4	189.4	0.21	0.56
Motorcyclists		49.4	216.2	0.15	0.64
Work Zones		8.2	19.2	0.02	0.05


Number of Fatalities
5 Year Average
Fatalities
250
200
150
100
50
0
Lane Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
2012-2016
2013-2017
2014-2018
2015-2019
2016-2020


Number of Serious Injuries
5 Year Average
Serious Injuries
700
600
500
400
300
200
100
0
Lane Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
2012-2016
2013-2017
2014-2018
2015-2019
2016-2020


Fatality Rate (per HMVMT)
5 Year Average
Fatality Rate
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Lane Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
2012-2016
2013-2017
2014-2018
2015-2019
2016-2020


Serious Injury Rate (per HMVMT)
5 Year Average
Serious Injury Rate
2.5
2
1.5
1
0.5
0
Lane Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
2012-2016
2013-2017
2014-2018
2015-2019
2016-2020

Project Effectiveness

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

Compliance Assessment

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

12/20/2018

What are the years being covered by the current SHSP?

From: 2019 To: 2023

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

2023

A new Transportation Planner was hired into the Safety Engineering Section to take over the management and implementation of the SHSP in early 2021.

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	100								
	Federal Aid/Route Type (21) [21]	100	100								
	Rural/Urban Designation (20) [20]	100	100					100	100		
	Surface Type (23) [24]	100	100					100	100		
	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	100								
	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]	100	100								
	Access Control (22) [23]	100	100								
	One/Two Way Operations (91) [93]	100	100								
	Number of Through Lanes (31) [32]	100	100					100	100		
	Average Annual Daily Traffic (79) [81]	100	100					100	100		
	AADT Year (80) [82]	100	100								
	Type of Governmental Ownership (4) [4]	100	100					100	100	100	100
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]			100	100						
	Intersection/Junction Traffic Control (131) [131]			100	100						
	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]					100	100				
	Location Identifier for Roadway at					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
	Beginning of Ramp Terminal (197) [187]										
	Location Identifier for Roadway at Ending Ramp Terminal (201) [191]					100	100				
	Ramp Length (187) [177]					100	100				
	Roadway Type at Beginning of Ramp Terminal (195) [185]					100	100				
	Roadway Type at End Ramp Terminal (199) [189]					100	100				
	Interchange Type (182) [172]					100	100				
	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	100				
Totals (Average Percent Complete):		**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

*Based on Functional Classification (MIRE 1.0 Element Number) [MIRE 2.0 Element Number]
It is understood that individual data elements may not be 100% accurate at all times due to reporting lags.

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.

No actions required - state is already compliant.

Optional Attachments

Program Structure:

HSIP Manual FINAL FY 19.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.