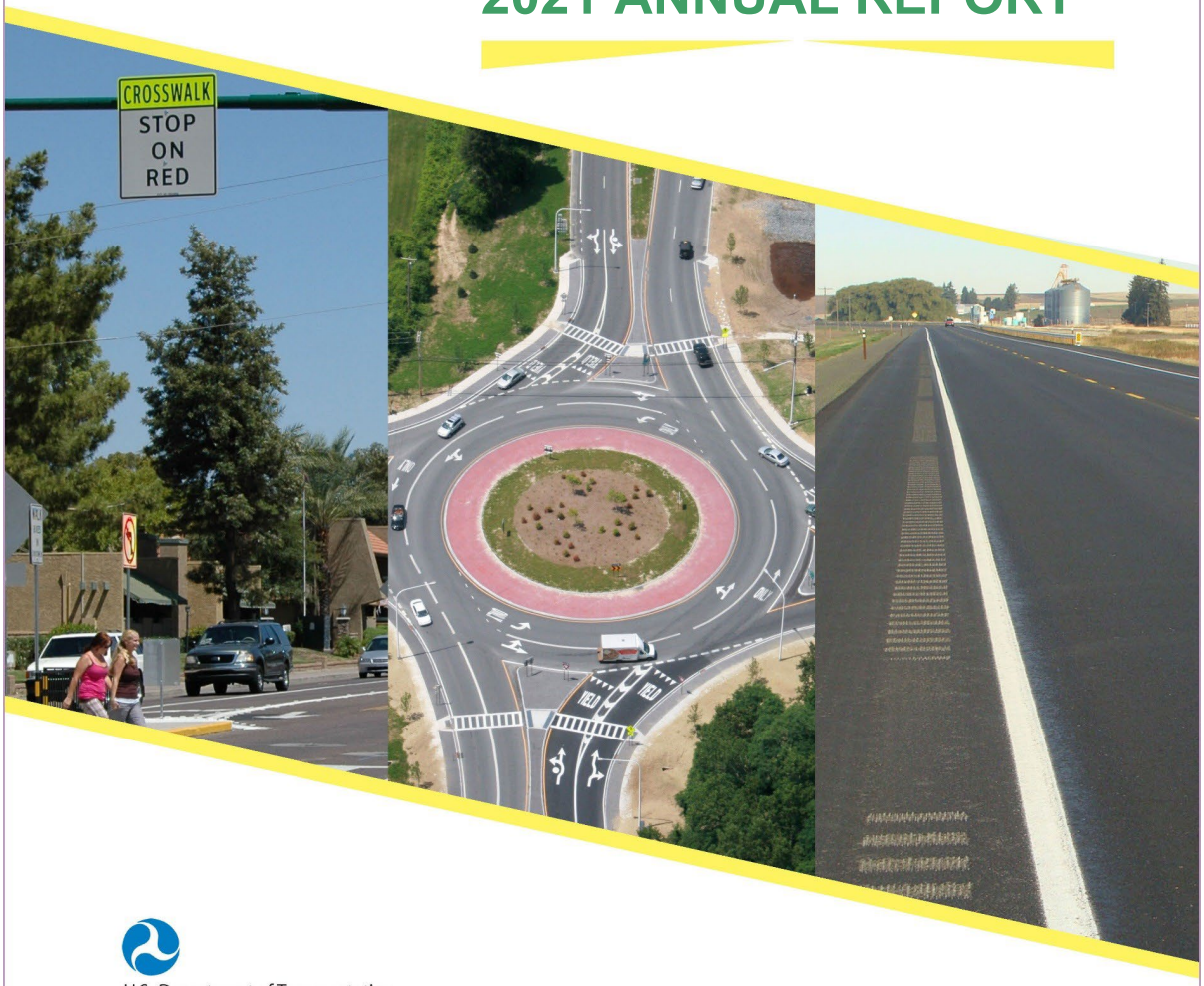
WISCONSIN

HIGHWAY SAFETY IMPROVEMENT PROGRAM

2021 ANNUAL REPORT



U.S. Department of Transportation
Federal Highway Administration

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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 following report outlines the details of projects obligated in state fiscal year 2020 for Wisconsin's Highway Safety Improvement Program (HSIP). Also included are program methodologies, historical crash data and safety trends, information on subprograms, and project evaluation data.

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 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. Projects are identified by state DOT regional safety engineers on the state-owned system and by local government staff on the local system. All candidate projects must compile crash data and develop a proposed treatment strategy as part of a competitive application process. The applications are considered through a peer review process that involves statewide and regional safety engineering staff, as well as HSIP program management staff.

Where is HSIP staff located within the State DOT?

Other-Programming

How are HSIP funds allocated in a State?

- Central Office via Statewide Competitive Application Process

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

HSIP applications from local and tribal governments are solicited by the WisDOT Regions as part of the regular HSIP Program. All HSIP applications derived from local governments are selected and submitted voluntarily by local governments. Projects on the local system or sponsored by local or tribal governments must meet the same requirements and follow the same process as HSIP applications submitted by WisDOT Regions for improvements on the State Trunk Network.

In addition, Wisconsin has continued the High Risk Rural Roads Program (HRRRP) despite its formal elimination in MAP-21. Wisconsin has developed a statewide data analysis methodology which identifies county rural roads with run-off-road non-intersection crash issues. Counties with such corridors are offered a field review of the corridor, at no cost, that identifies potential treatments and are invited to apply for HSIP funding to implement some or all of the identified treatment options. A primary goal of the HRRRP is to install low-cost safety treatments on these roadways to mitigate KA crash rates as quickly as possible. It is unlikely these county trunk highways would receive federal investments outside of the HRRRP.

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

- Design
- Districts/Regions
- Operations
- Planning
- Traffic Engineering/Safety
- Other-Division of State Patrol
- Other-Division of Motor Vehicles

Describe coordination with internal partners.

The HSIP Program is managed by WisDOT's Division of Transportation Investment Management (DTIM) and the Bureau of State of Highway Programs (BSHP). DTIM/BSHP makes all final application approvals or denials and related project change or cost increase requests. However, DTIM/BSHP coordinates its efforts with several internal partners that both directly and indirectly influence the decision making process. Below is a summary of these partners and their role in the program.

- Division of Motor Vehicles (DMV): DMV receives, edits, and maintains all law enforcement crash report files.

- Traffic Safety Council (TSC): The TSC is comprised of representatives from Division of Transportation System Development (DTSD), DTIM, DMV, Division of State Patrol (DSP), and various Executive Offices within WisDOT. Among this group's responsibilities is developing and maintaining the Wisconsin Strategic Highway Safety Plan (SHSP), which helps guide the safety efforts of the HSIP Program.

- Traffic Safety Engineering Workgroup (TSEWG): TSEWG is comprised of the State HSIP Coordinator, State Traffic Safety Engineer, and the Regional Traffic Safety Engineers. In some cases, the Regional HSIP Coordinators also participate. This group identifies and evaluates potential safety initiatives both within and outside of the HSIP Program, provides peer support, and reviews proposed HSIP projects. After a group evaluation, a recommendation to approve or not approve is forwarded to the State HSIP Coordinator for final review.

- State Project Oversight Engineers: The State Project Oversight Engineers are a critical component of the joint process with the TSEWG for application review and approval. The DTSD State Project Oversight Engineers, Regional Traffic Safety Engineers, the State Traffic Safety Engineer, and the State HSIP Coordinator provide a consensus approval or disapproval of HSIP funding after a comprehensive in-person peer review. Each Region has one Project Oversight Engineer. State Project Oversight Engineers only review applications originating from the Region in which they are assigned. This consensus approval or disapproval is advisory to the DTIM/BSHP.

Identify which external partners are involved with HSIP planning.

- Academia/University
- FHWA
- Local Government Agency
- Regional Planning Organizations (e.g. MPOs, RPOs, COGs)

Describe coordination with external partners.

The HSIP is fully coordinated and integrated with the work of other organizations, associations, and stakeholders (e.g., law enforcement, academia, local governments, MPOs) that play a role in reducing fatalities

and serious injuries. One of the basic foundations of the HSIP is the direct linkage between the data-driven priorities established in the Strategic Highway Safety Plan (SHSP) and the identification, development and implementation of HSIP projects. Local and regional governments alike which contribute towards achieving the goals and objectives of the SHSP help guide program decisions and project selections. More specifically, wh ere there are a high percentage of crashes that occur off the State system, WisDOT works with local jurisdictions to help them develop and implement HSIP projects that address priority safety issues on locally-owned roadways. This is either done by locals doing work as local forced accounts or they are let by WisDOT.

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

Beginning with the fall 2020 HSIP applications, a new tool for project screening was made available for intersections on the state trunk network. This intersection network screening tool uses level of service of safety and potential for safety improvement criteria. At this time, data needed to complete this screening is only available on the state trunk network.

Program Methodology

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

Yes

Select the programs that are administered under the HSIP.

- HRRR
- Median Barrier

Program: HRRR

Date of Program Methodology:7/1/2018

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Funding set-aside

What data types were used in the program methodology?

Crashes	Exposure	Roadway
• Other-Run off road		• Functional classification

What project identification methodology was used for this program?

- Crash frequency
- Crash rate

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

Yes

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).

To date, all HRRR projects that meet the established criteria have been approved and therefore, no prioritization for implementation has been necessary.

Program: Median Barrier

Date of Program Methodology:1/1/2005

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?

Competes with all projects

What data types were used in the program methodology?

Crashes

- All crashes
- Other-All CMC

Exposure

- Other-Centerline miles

Roadway

- Functional classification

What project identification methodology was used for this program?

- Crash frequency

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

No

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

How are projects under this program advanced for implementation?

- Other-Non-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:1

What percentage of HSIP funds address systemic improvements?

17

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

- Cable Median Barriers
- Other-High Risk Rural Roads

What process is used to identify potential countermeasures?

- Crash data analysis
- Data-driven safety analysis tools (HSM, CMF Clearinghouse, SafetyAnalyst, usRAP)
- Engineering Study
- Road Safety Assessment
- Other-County Traffic Safety Commission recommendations

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.

HSIP Project Prioritization

Wisconsin evaluates potential HSIP projects by comparing the estimated crash reduction benefits expected from the project and the cost of that project. Crash reduction benefits are estimated by multiplying up to two crash modification factors (CMF) by 5-years of observed crash data. CMFs and target crashes are identified by the safety analyst and a spreadsheet tool is used to calculate the estimated crash reduction benefits. The spreadsheet tool incorporates the WisDOT CMF Table and logic described in our statewide policy described at the link below.

http://wisconsindot.gov/dtsdManuals/traffic-ops/manuals-and-standards/teops/12-03.pdf

HSIP Safety Effectiveness Evaluations
Wisconsin evaluates the effectiveness of all HSIP projects that were prioritized based on crash history. The Empirical-Bayes Before/After Safety Evaluation method, described in chapter 9 of the Highway Safety Manual, is used for these safety effectiveness evaluations. No evaluations are completed for systemic safety projects within our HSIP.

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

The Intersection Network Screening tool was newly implemented since the last reporting period and utilizes safety performance functions (SPFs), which have not been used previously in Wisconsin's HSIP.

SPFs are equations that predict crash frequency and severity as a function of traffic volume and roadway characteristics. WisDOT developed network screening level SPFs for multiple intersection types using Wisconsin specific data. The SPFs are used to determine performance measures. Level of Service of Safety (LOSS) with Empirical Bayes (EB) adjustment was selected to set the performance threshold for when to flag intersections as Sites of Promise. Potential for Safety Improvement (PSI), also called Excess Expected Average Crash Frequency with EB Adjustment was selected to provide context on how the intersection is performing compared to similar sites. These performance measures were selected based on their ability to account for:

- regression to the mean (RTM) bias
- changes in traffic volume
- the nonlinear relationship between crash frequency and traffic volume

The intersection network screening tool is used to identify potential location for HSIP applications. Once those locations are identified via the tool, the standard HSIP application process is followed.

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

A key component in the development of the HSIP is the Project Evaluation Factor (PEF). The PEF is a measurement that is used to evaluate and compare proposed projects. It provides a comparison of the estimated crash reduction potential of a proposed improvement with the overall cost of the project. Although it has similarities to a benefit/cost analysis, it does not include all of the elements of a traditional benefit/cost analysis tool for ranking the relative merits of a group of projects, and should not be compared to a benefit/cost analysis.

An Excel-based program is used to perform a safety project analysis and computes the PEF. The following provides a general overview of several key elements of the PEF:

• All costs associated with the project (design, utilities, real estate, construction, etc.) must be included in the PEF calculation, regardless of whether HSIP funds are requested for all elements of the project. Cost estimates must be in current year dollars.

• The analysis requires crash data from the most recent 5-year period for which crash information is available. Ideally, the analysis would include crash data from the most recent calendar year. For example, an analysis submitted in 2020 would include crash information from the 2015-2019 period. However, given that: (a) it can take several months after the end of a calendar year for the Department to finalize crash information and integrate the crash information into departmental datasets; and (b) it can take several months for a safety proposal to be developed and scoped, the use of an additional, older year of crash data is allowed. For example, an analysis submitted in calendar year 2020 may use crash data from either the 2015-2019 period or the 2014-2018 period.

For local projects, it is the responsibility of the project sponsor to compile and provide the required crash data to the regional office for the PEF evaluation. WisDOT facilitates this process by providing funding to the University of Wisconsin Traffic Operations and Safety Laboratory (UW TOPS Lab) to make this data available to local governments.

• Although Wisconsin designs solutions to reduce all crashes, a number of targeted engineering, educational and enforcement efforts have been implemented with the defined goal of reducing crashes involving serious injuries and fatalities. Because of this focus on reducing serious injuries and fatalities, the PEF scoring mechanism assigns higher values to these crash types.

• The current values used within the PEF tool to calculate the potential crash reduction benefits of a safety improvement are influenced by the Highway Safety Manual (HSM) developed by the American Association of State Highway and Transportation Officials (AASHTO).

• Standardized crash reduction factors are included in the Excel tool for a wide range of safety improvements. These factors are based on national safety research and are regularly updated as new research becomes available.

• Projects generally require a PEF of 1.0 or greater for approval. However, the HSIP Review Committee acknowledges the PEF contains many variables and that sometimes additional expense is needed to sufficiently address a safety issue. As such, the HSIP Review Committee may consider applications with a PEF greater than or equal to 0.9 for approval. Projects with a PEF less than 0.9 will not be approved.

• Projects treating locations identified on the annual "Locations of Interest Report" (LOIR) and Intersection Network Screening list may be approved with a PEF of 0.50 or greater. LOIR and Intersection Network Screening locations with a PEF less than 0.5 will not be approved.

• The PEF requirement is generally waived for projects identified through a statewide safety analysis. The PEF requirement is currently waived for:

o High Risk Rural Roads Program projects

o Crossover Median Crash Initiative projects

o Beam Guard Initiative projects

Project Implementation

Funds Programmed

Reporting period for HSIP funding.

State Fiscal Year
The reporting period for HSIP funding in this report is State Fiscal Year (SFY). The information provided in this report is for SFY 2021, which ran from July 1, 2020 to June 30, 2021.

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

FUNDING CATEGORY	PROGRAMMED	OBLIGATED	% OBLIGATED/PROGRAMMED
HSIP (23 U.S.C. 148)	$42,494,934	$42,494,934	100%
HRRR Special Rule (23 U.S.C. 148(g)(1))	$0	$0	0%
Penalty Funds (23 U.S.C. 154)	$0	$0	0%
Penalty Funds (23 U.S.C. 164)	$0	$0	0%
RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2))	$0	$0	0%
Other Federal-aid Funds (i.e. STBG, NHPP)	$0	$0	0%
State and Local Funds	$4,721,659	$4,721,659	100%
Totals	$47,216,593	$47,216,593	100%

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

$13,297,090

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

$13,297,090

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

$88,889

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

$88,889
There was one non-infrastructure project funded through HSIP in SFY 2021:
1. WisDOT High Risk Rural Roads program support contract.

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?

$22,468,956

WisDOT is reporting out on State Fiscal Year 2021 projects, however HSIP funding is based on a Federal Fiscal Year calendar. For clarification, the listed transfer amount of $22,468,956 was transferred out of HSIP in August of 2020 (FFY2020 transfer).

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

Project delays can make it challenging to fully utilize HSIP funding. Such delays occur for a variety of reasons, including changes in project scope during the design process (which triggers a required re-evaluation of the project), changes in associated projects that are linked to the HSIP project, and unforeseen issues arising during the project development process. WisDOT continues to work on developing a list of projects that could be advanced from later program years into earlier program years to ensure that HSIP funding is fully utilized even if projects are delayed or fall out of the program.

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
1000-99-76	Miscellaneous	Data collection	0	Miles	$80000	$88888.89	HSIP (23 U.S.C. 148)	N/A	N/A	0		State Highway Agency	HRRRP Support	Data	
1058-02-73	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.533	Miles	$3099533.34	$3443925.93	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	9,834		State Highway Agency	Spot	Intersections	
1067-04-60	Roadside	Barrier – cable	0	Miles	$557091.87	$618990.97	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other Freeways & Expressways	40,983		State Highway Agency	Systemic	Lane Departure	
1112-02-63	Roadside	Barrier – cable	1.383	Miles	$465034.61	$516705.12	HSIP (23 U.S.C. 148)	Urban	N/A	19,929		State Highway Agency	Systemic	Lane Departure	
1150-72-71	Intersection traffic control	Modify control – other	0.094	Miles	$204098.72	$226776.36	HSIP (23 U.S.C. 148)	Multiple/Varies	Principal Arterial-Other	0		State Highway Agency	Spot	Intersections	
1161-02-67	Roadside	Barrier – cable	3.498	Miles	$1676985.41	$1863317.12	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other Freeways & Expressways	19,460		State Highway Agency	Systemic	Lane Departure	
1180-00-78	Roadway	Rumble strips – edge or shoulder	12.03	Miles	$454356	$504840	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	4,485		State Highway Agency	Spot	Lane Departure	
1195-01-76	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.4	Miles	$1288028.89	$1431143.21	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	4,210		State Highway Agency	Spot	Intersections	
1198-03-10	Intersection traffic control	Modify control – other	0.008	Miles	$77428	$86031.11	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		State Highway Agency	Spot	Lane Departure	
1204-05-76	Roadside	Barrier – cable	0	Miles	$1918126.73	$2131251.92	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	18,125		State Highway Agency	Systemic	Lane Departure	
1221-18-71	Roadside	Barrier – cable	1.34	Miles	$370453.22	$411614.69	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other Freeways & Expressways	0		State Highway Agency	Systemic	Lane Departure	
1225-09-71	Roadside	Barrier – cable	2.38	Miles	$552556.18	$613951.31	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other Freeways & Expressways	0		State Highway Agency	Systemic	Lane Departure	
1320-07-03	Intersection traffic control	Modify control – Modern Roundabout	0.004	Miles	$403245	$448050	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	5,150		State Highway Agency	Spot	Intersections	

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
1430-08-11	Intersection geometry	Add/modify auxiliary lanes	0.057	Miles	$192552	$213946.67	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	5,811		State Highway Agency	Spot	Lane Departure	
1470-25-71	Roadway	Rumble strips – edge or shoulder	9.903	Miles	$397316	$441462.22	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	2,931		State Highway Agency	Spot	Lane Departure	
1530-03-76	Intersection geometry	Add/modify auxiliary lanes	0.44	Miles	$263617	$292907.78	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	9,509		State Highway Agency	Spot	Lane Departure	
1550-02-07	Intersection geometry	Add/modify auxiliary lanes	0.009	Miles	$57289	$63654.44	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		State Highway Agency	Spot	Lane Departure	
1590-23-71	Roadway	Rumble strips – edge or shoulder	8.264	Miles	$371746	$413051.11	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	0		State Highway Agency	Spot	Lane Departure	
1630-01-74	Intersection geometry	Add/modify auxiliary lanes	0.044	Miles	$157544	$175048.89	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	0		State Highway Agency	Spot	Lane Departure	
1630-03-61	Intersection geometry	Add/modify auxiliary lanes	0.423	Miles	$410065.11	$455627.9	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	9,650		State Highway Agency	Spot	Lane Departure	
1650-00-70	Intersection geometry	Add/modify auxiliary lanes	0.098	Miles	$261681	$290756.67	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	7,200		State Highway Agency	Spot	Lane Departure	
1650-00-78	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	0.947	Miles	$128347.86	$142608.73	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	4,791		State Highway Agency	Spot	Lane Departure	
1706-00-70	Roadway	Rumble strips – edge or shoulder	8.789	Miles	$226975.29	$252194.77	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	4,173		State Highway Agency	Spot	Lane Departure	
1706-00-74	Intersection geometry	Add/modify auxiliary lanes	0.474	Miles	$544077	$604530	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	4,113		State Highway Agency	Spot	Lane Departure	
1706-04-61	Roadway	Rumble strips – edge or shoulder	9.45	Miles	$205548.69	$228387.43	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	5,621		State Highway Agency	Spot	Lane Departure	
1706-04-62	Roadway	Rumble strips – edge or shoulder	10.43	Miles	$239880.9	$266534.33	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	7,617		State Highway Agency	Spot	Lane Departure	
2090-16-00	Intersection traffic control	Modify traffic signal – add	0.05	Miles	$180000	$200000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		City or Municipal	Spot	Intersections	

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
		additional signal heads										Highway Agency			
2110-00-73	Intersection geometry	Add/modify auxiliary lanes	0.032	Miles	$1499243.51	$1665826.12	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	0		City or Municipal Highway Agency	Spot	Lane Departure	
2155-05-00	Intersection traffic control	Modify traffic signal – add additional signal heads	0.103	Miles	$231750	$257500	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		City or Municipal Highway Agency	Spot	Intersections	
2155-05-01	Intersection traffic control	Modify traffic signal – add additional signal heads	0.075	Miles	$231750	$257500	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		City or Municipal Highway Agency	Spot	Intersections	
2220-02-70	Roadside	Barrier – cable	14.043	Miles	$3065895	$3406550	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Interstate	27,790		State Highway Agency	Systemic	Lane Departure	
2330-08-00	Roadway	Rumble strips – edge or shoulder	3.889	Miles	$25560	$28400	HSIP (23 U.S.C. 148)	Rural	Major Collector	0		County Highway Agency	Spot	Lane Departure	
2695-07-01	Intersection traffic control	Modify control – new traffic signal	0.01	Miles	$115875	$128750	HSIP (23 U.S.C. 148)	Rural	Major Collector	0		County Highway Agency	Spot	Intersections	
2709-07-00	Intersection traffic control	Modify control – Modern Roundabout	0.028	Miles	$190763	$211958.89	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		County Highway Agency	Spot	Intersections	
2712-03-70	Intersection traffic control	Modify traffic signal – add additional signal heads	0.003	Miles	$807828.12	$897586.8	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	0		City or Municipal Highway Agency	Spot	Intersections	
2753-08-00	Intersection traffic control	Modify traffic signal – add additional signal heads	0.009	Miles	$161298	$179220	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		County Highway Agency	Spot	Intersections	
2754-05-00	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.029	Miles	$135720	$150800	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		County Highway Agency	Spot	Intersections	
2978-02-70	Intersection traffic control	Modify traffic signal – add additional signal heads	1.407	Miles	$1108261	$1231401.11	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		City or Municipal Highway Agency	Spot	Intersections	
2984-06-79	Roadway	Roadway narrowing (road	4.469	Miles	$932849	$1036498.89	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	0		City or Municipal	Spot	Lane Departure	

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
		diet, roadway reconfiguration)										Highway Agency			
2984-07-06	Intersection traffic control	Modify traffic signal – add additional signal heads	0.039	Miles	$199078	$221197.78	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		County Highway Agency	Spot	Intersections	
2984-09-94	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0	Miles	$366326.98	$407029.98	HSIP (23 U.S.C. 148)	Urban	Local Road or Street	0		City or Municipal Highway Agency	Spot	Intersections	
2984-09-97	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0	Miles	$321723.34	$357470.38	HSIP (23 U.S.C. 148)	Urban	Local Road or Street	0		City or Municipal Highway Agency	Spot	Intersections	
2984-13-05	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0	Miles	$87030	$96700	HSIP (23 U.S.C. 148)	Urban	Local Road or Street	0		City or Municipal Highway Agency	Spot	Intersections	
2984-13-06	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0	Miles	$85140	$94600	HSIP (23 U.S.C. 148)	Urban	Local Road or Street	0		City or Municipal Highway Agency	Spot	Intersections	
2984-15-01	Intersection traffic control	Modify traffic signal – add additional signal heads	0.013	Miles	$185400	$206000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	0		City or Municipal Highway Agency	Spot	Intersections	
3120-13-00	Intersection geometry	Add/modify auxiliary lanes	0	Miles	$87168	$96853.33	HSIP (23 U.S.C. 148)	Urban	N/A	0		State Highway Agency	Spot	Lane Departure	
3130-09-00	Roadway	Rumble strips – edge or shoulder	4.432	Miles	$72158	$80175.56	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		State Highway Agency	Spot	Lane Departure	
3755-03-00	Roadway	Rumble strips – edge or shoulder	5.757	Miles	$38192	$42435.56	HSIP (23 U.S.C. 148)	Rural	Major Collector	0		County Highway Agency	Spot	Lane Departure	
3781-03-70	Alignment	Horizontal curve realignment	0.007	Miles	$471600	$524000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	0		County Highway Agency	Spot	Lane Departure	
3831-07-02	Intersection geometry	Intersection geometry - other	0.005	Miles	$61970	$68855.56	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	0		City or Municipal	Spot	Intersections	

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
												Highway Agency			
3887-01-72	Intersection geometry	Add/modify auxiliary lanes	0.062	Miles	$207092	$230102.22	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	0		City or Municipal Highway Agency	Spot	Lane Departure	
4100-39-60	Roadway	Rumble strips – edge or shoulder	7.814	Miles	$323680	$359644.44	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	0		State Highway Agency	Spot	Lane Departure	
4150-25-60	Roadway	Rumble strips – edge or shoulder	17.55	Miles	$446814	$496460	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	0		State Highway Agency	Spot	Lane Departure	
4236-02-00	Roadway	Rumble strips – edge or shoulder	6.368	Miles	$26604	$29560	HSIP (23 U.S.C. 148)	Rural	Major Collector	0		County Highway Agency	Spot	Lane Departure	
4550-03-71	Roadway	Rumble strips – edge or shoulder	1.189	Miles	$61790	$68655.56	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	3,246		State Highway Agency	Spot	Lane Departure	
4550-04-71	Roadway	Rumble strips – edge or shoulder	10.32	Miles	$361626	$401806.67	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	3,970		State Highway Agency	Spot	Lane Departure	
4555-03-00	Roadway	Rumble strips – edge or shoulder	3.09	Miles	$56084	$62315.56	HSIP (23 U.S.C. 148)	Rural	Major Collector	0		County Highway Agency	Spot	Lane Departure	
5050-02-70	Intersection geometry	Add/modify auxiliary lanes	0.568	Miles	$766765.59	$851961.77	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	9,240		State Highway Agency	Spot	Lane Departure	
5140-03-72	Intersection geometry	Add/modify auxiliary lanes	0.323	Miles	$453262.56	$503625.07	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	6,276		State Highway Agency	Spot	Lane Departure	
5155-00-79	Intersection traffic control	Modify control – Modern Roundabout	0.119	Miles	$1032840	$1147600	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	8,658		State Highway Agency	Spot	Intersections	
5155-00-79	Intersection traffic control	Modify control – Modern Roundabout	0.119	Miles	$1530000	$1700000	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	8,658		State Highway Agency	Spot	Intersections	
5220-04-74	Intersection geometry	Splitter island – install on one or more approaches	0	Miles	$321748	$357497.77	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	21,087		State Highway Agency	Spot	Lane Departure	
5263-00-30	Roadway	Rumble strips – edge or shoulder	4.652	Miles	$56176	$62417.78	HSIP (23 U.S.C. 148)	Rural	Major Collector	1,100		County Highway Agency	Spot	Lane Departure	

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
5880-03-76	Lighting	Continuous roadway lighting	0.556	Miles	$655708.77	$728565.3	HSIP (23 U.S.C. 148)	Rural	Major Collector	5,080		State Highway Agency	Spot	Lane Departure	
5897-00-30	Roadway	Rumble strips – edge or shoulder	11.418	Miles	$97200	$108000	HSIP (23 U.S.C. 148)	Rural	Major Collector	3,730		County Highway Agency	Spot	Lane Departure	
5899-00-30	Roadway	Rumble strips – edge or shoulder	3.485	Miles	$44113	$49014.45	HSIP (23 U.S.C. 148)	Rural	Major Collector	1,400		County Highway Agency	Spot	Lane Departure	
5922-00-30	Roadway	Rumble strips – edge or shoulder	8.204	Miles	$29340	$32600	HSIP (23 U.S.C. 148)	Rural	Major Collector	0		County Highway Agency	Spot	Lane Departure	
5990-01-32	Intersection traffic control	Modify traffic signal – add additional signal heads	0.129	Miles	$276894.9	$307661	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		City or Municipal Highway Agency	Spot	Intersections	
5990-01-33	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	1.33	Miles	$182754	$203060	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		City or Municipal Highway Agency	Spot	Lane Departure	
5990-01-35	Intersection traffic control	Modify traffic signal – add additional signal heads	0.285	Miles	$195162	$216846.67	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		City or Municipal Highway Agency	Spot	Intersections	
5992-07-18	Intersection geometry	Add/modify auxiliary lanes	0.102	Miles	$67500	$75000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	0		City or Municipal Highway Agency	Spot	Intersections	
5996-00-77	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	2.12	Miles	$1426512	$1585013.33	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	0		City or Municipal Highway Agency	Spot	Lane Departure	
6280-02-75	Intersection traffic control	Modify control – new traffic signal	0.169	Miles	$605665.98	$672962.2	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	5,150		State Highway Agency	Spot	Intersections	
6639-05-60	Roadway	Rumble strips – edge or shoulder	11.286	Miles	$555230.12	$616922.36	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	4,162		State Highway Agency	Spot	Lane Departure	
6844-01-01	Roadway	Rumble strips – edge or shoulder	6.81	Miles	$39600	$44000	HSIP (23 U.S.C. 148)	Rural	Major Collector	1,700		County Highway Agency	Spot	Lane Departure	

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
6949-00-73	Roadway	Rumble strips – edge or shoulder	12.084	Miles	$620010.49	$688900.54	HSIP (23 U.S.C. 148)	Rural	Major Collector	3,000		County Highway Agency	Spot	Lane Departure	
7080-00-75	Pedestrians and bicyclists	Modify existing crosswalk	0.154	Miles	$125493.18	$139436.87	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		State Highway Agency	Spot	Pedestrians	
7117-00-60	Roadway	Rumble strips – edge or shoulder	4.65	Miles	$270576.93	$300641.03	HSIP (23 U.S.C. 148)	Rural	Major Collector	1,600		County Highway Agency	Spot	Lane Departure	
7130-00-83	Roadway	Rumble strips – edge or shoulder	8.2	Miles	$307180.11	$341311.23	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	6,040		State Highway Agency	Spot	Lane Departure	
7575-00-71	Intersection traffic control	Modify traffic signal – add additional signal heads	1.343	Miles	$1086110	$1206788.89	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	24,378		State Highway Agency	Spot	Lane Departure	
7650-02-73	Intersection geometry	Add/modify auxiliary lanes	0.461	Miles	$618767.79	$687519.77	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		State Highway Agency	Spot	Lane Departure	
8050-00-71	Roadway	Rumble strips – edge or shoulder	1.512	Miles	$274167	$304630	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	0		State Highway Agency	Spot	Lane Departure	
8070-00-74	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	1.971	Miles	$181260.27	$201400.3	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	6,739		State Highway Agency	Spot	Lane Departure	
8070-00-74	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	1.971	Miles	$1202765	$1336405.56	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	6,739		State Highway Agency	Spot	Lane Departure	
8080-02-72	Intersection traffic control	Modify traffic signal timing – left-turn phasing	0	Miles	$221516	$246128.89	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	15,113		State Highway Agency	Spot	Lane Departure	
8080-02-73	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	0.121	Miles	$220561	$245067.78	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		State Highway Agency	Spot	Lane Departure	
8600-01-74	Intersection traffic control	Modify traffic signal timing – left-turn phasing	0.146	Miles	$432567	$480630	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	0		State Highway Agency	Spot	Intersections	
8944-00-77	Roadway	Rumble strips – edge or shoulder	10.059	Miles	$522116	$580128.89	HSIP (23 U.S.C. 148)	Rural	Major Collector	0		County Highway Agency	Spot	Lane Departure	

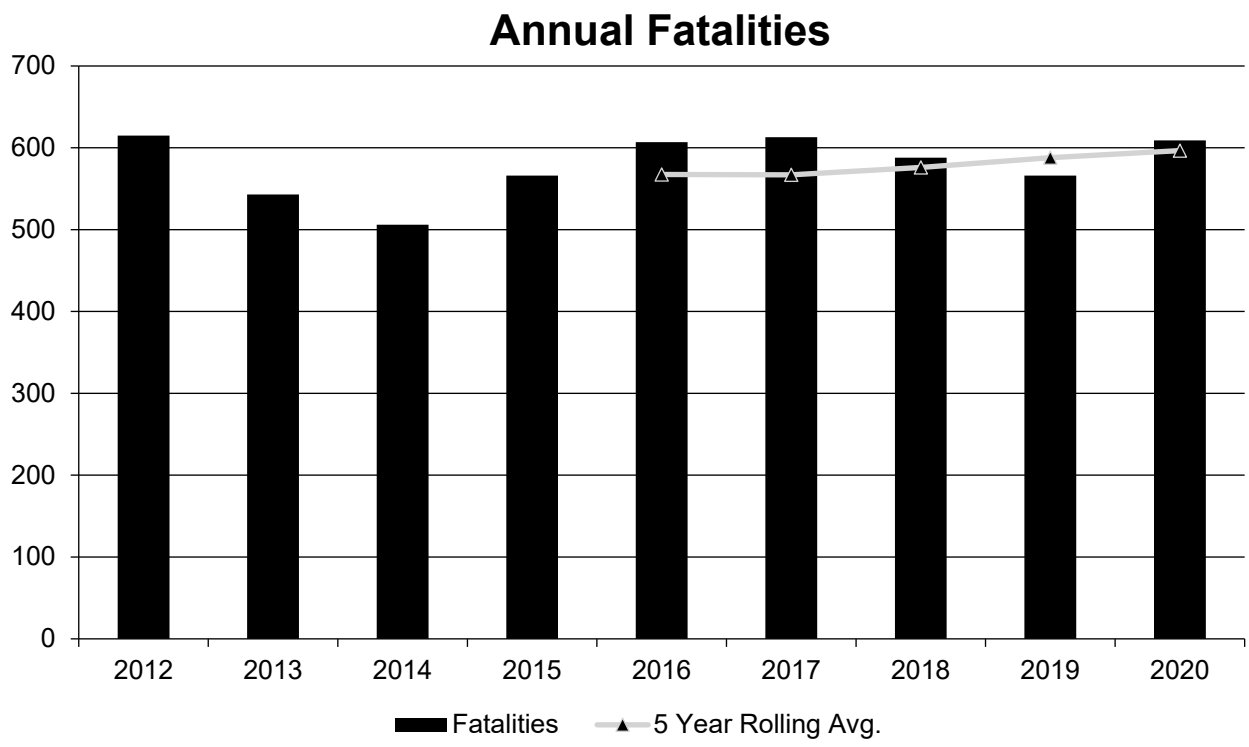
PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
8949-00-07	Intersection geometry	Add/modify auxiliary lanes	0.015	Miles	$96408	$107120	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	0		State Highway Agency	Spot	Lane Departure	
8949-02-62	Roadway	Rumble strips – edge or shoulder	5.189	Miles	$243405	$270450	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	2,800		State Highway Agency	Spot	Lane Departure	
9180-31-60	Roadway	Rumble strips – edge or shoulder	6.707	Miles	$297004	$330004.44	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	0		State Highway Agency	Spot	Lane Departure	
9190-23-71	Roadway	Rumble strips – edge or shoulder	3.99	Miles	$182922	$203246.67	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	8,430		State Highway Agency	Spot	Lane Departure	
9566-02-71	Roadway	Rumble strips – edge or shoulder	5.018	Miles	$412287.76	$458097.51	HSIP (23 U.S.C. 148)	Multiple/Varies	Local Road or Street	200		Town or Township Highway Agency	Spot	Lane Departure	

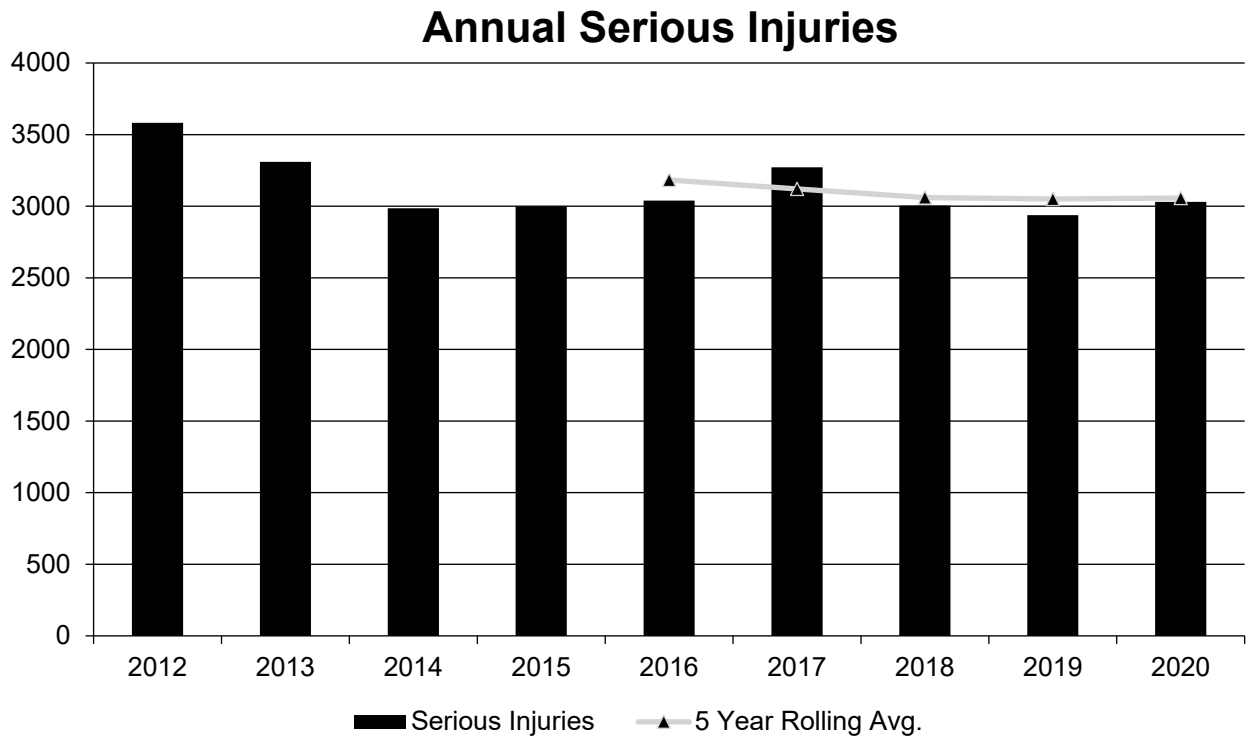
Safety Performance

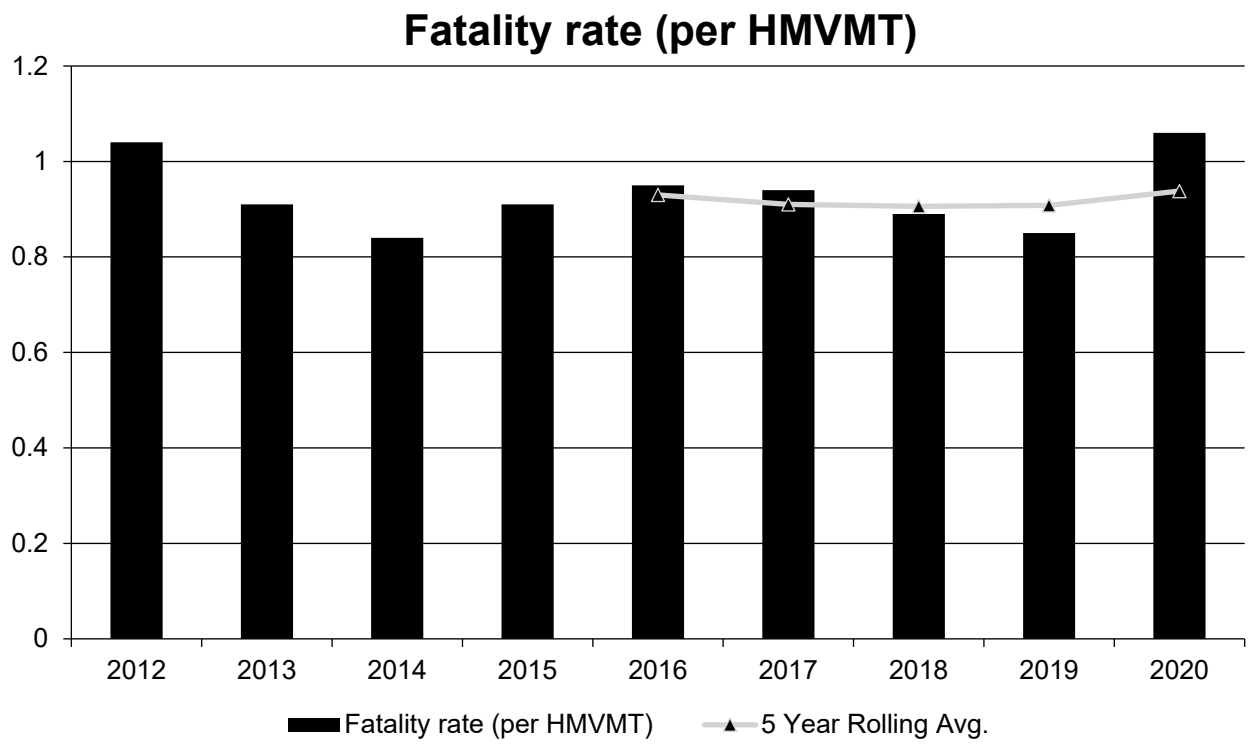
General Highway Safety Trends

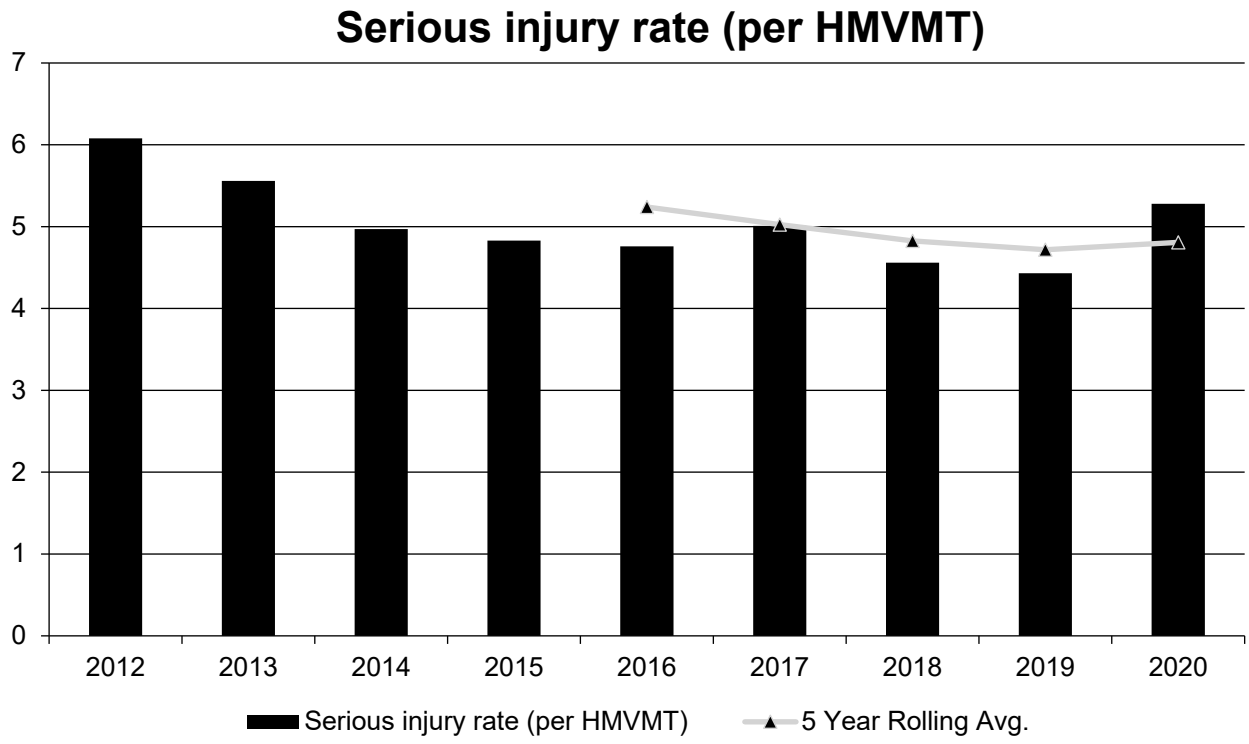
Present data showing the general highway safety trends in the State for the past five years.

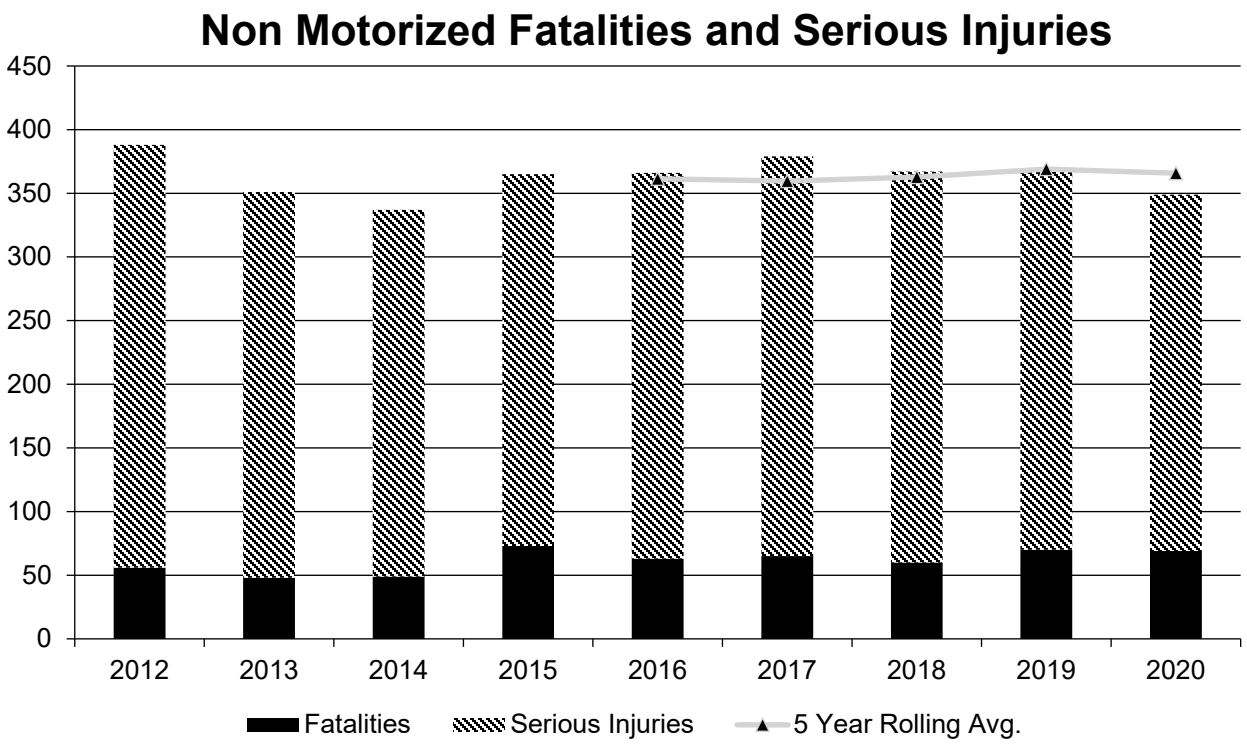
PERFORMANCE MEASURES	2012	2013	2014	2015	2016	2017	2018	2019	2020
Fatalities	615	543	506	566	607	613	588	566	609
Serious Injuries	3,582	3,309	2,986	2,999	3,039	3,271	3,005	2,938	3,030
Fatality rate (per HMVMT)	1.040	0.910	0.840	0.910	0.950	0.940	0.890	0.850	1.060
Serious injury rate (per HMVMT)	6.080	5.560	4.970	4.830	4.760	5.010	4.560	4.430	5.280
Number non-motorized fatalities	56	48	49	73	63	65	60	70	69
Number of non-motorized serious injuries	332	303	288	292	303	314	307	298	280


Annual Fatalities
700
600
500
400
300
200
100
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
4000
3500
3000
2500
2000
1500
1000
500
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
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)
7
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

FARS data was not available for use before the HSIP annual report deadline. State fatality numbers were used as a baseline to estimate final FARS numbers. Historically, FARS numbers have been higher than the state fatality numbers. The average difference between FARS and state numbers was calculated using 2015-2019 data.

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				
Rural Principal Arterial (RPA) - Other Freeways and Expressways				
Rural Principal Arterial (RPA) - Other				
Rural Minor Arterial				

Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Rural Minor Collector				
Rural Major Collector				
Rural Local Road or Street				
Urban Principal Arterial (UPA) - Interstate				
Urban Principal Arterial (UPA) - Other Freeways and Expressways				
Urban Principal Arterial (UPA) - Other				
Urban Minor Arterial				
Urban Minor Collector				
Urban Major Collector				
Urban Local Road or Street				
City Street Urban	100.4	805.4		
City Street Rural	8.2	74.4		
Town Road Rural	62	335.6		
County Trunk Urban	3.6	9.4		
County Trunk Rural	106.2	491.2		
State Highway Urban	53.6	345.4		
State Highway Rural	185.8	749.4		
Interstate Highway Urban	14.6	109.6		
Interstate Highway Rural	28.4	136.2		

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	282.4	1,340.8		
County Highway Agency	124.2	610.6		
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	156.2	1,105.2		
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:584.7

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

Number of fatalities target is calculated as a 2% reduction from the most recent 5-year rolling average, which is the performance measure goal identified in the SHSP.

Number of Serious Injuries:2995.5

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

Number of serious injuries target is calculated as a 2% reduction from the most recent 5-year rolling average, which is the performance measure goal identified in the SHSP.

Fatality Rate:0.919

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

Fatality rate (per HMVMT) target is calculated as a 2% reduction from the most recent 5-year rolling average, which is the performance measure goal identified in the SHSP.

Serious Injury Rate:4.712

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

Serious Injury Rate (per HMVMT) target is calculated as a 2% reduction from the most recent 5-year rolling average, which is the performance measure goal identified in the SHSP.

Total Number of Non-Motorized Fatalities and Serious Injuries:358.5

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

Total number of non-motorized fatalities and serious injuries target is calculated as a 2% reduction from the most recent 5-year rolling average, which is the performance measure goal identified in the SHSP.
FARS data was not available at the time of HSP target submittal. Since several HSP targets and HSIP targets must match exactly, all the HSIP targets were established at the same time as the HSP targets. State data was used to calculate the 2021 target for number of fatalities. The historical difference between state fatality data and FARS data was also factored in and accounted for.

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

The HSIP is fully coordinated and integrated with the work of other organizations, associations, and stakeholders (e.g., law enforcement, academia, local governments, MPOs) that play a role in reducing fatalities and serious injuries. One of the basic foundations of the HSIP is the direct linkage between the data-driven priorities established in the Strategic Highway Safety Plan (SHSP) and the identification, development and implementation of HSIP projects. Local and regional governments alike which contribute towards achieving the goals and objectives of the SHSP help guide program decisions and project selections. More specifically, where there are a high percentage of crashes that occur off the State system, WisDOT works with local jurisdictions to help them develop and implement HSIP projects that address priority safety issues on locally-owned roadways. This is either done by locals doing work as local forced accounts or they are let by WisDOT. Stakeholders will continue to contribute to and support the goals established in the SHSP. This in turn encourages safety projects that meet established safety performance targets.

WisDOT coordinates with the MPOs in the establishment of the state’s annual federal safety targets reported in the HSIP. WisDOT shares Metropolitan Planning Area (MPA) level crash data with the MPOs for their analysis. MPOs establish safety targets by developing their own MPA targets or by agreeing to support WisDOT’s state targets. The approved MPO federal safety targets are reported to WisDOT.

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	564.7	596.6
Number of Serious Injuries	2907.0	3056.6
Fatality Rate	0.888	0.938
Serious Injury Rate	4.585	4.808
Non-Motorized Fatalities and Serious Injuries	344.7	365.8

Performance targets for all five performance measure categories are not anticipated to be met based on available data at the time of this reporting.

Wisconsin has seen a decrease in all five of the performance measure categories in the three year span from 2017 to 2019. However, when looking at the five-year rolling average, the targets are not anticipated to be met. Wisconsin uses the previous five-year rolling average to calculate targets for the upcoming year. So, targets for 2020 were set in 2019 using data from 2014-2018. In 2014, Wisconsin was fortunate enough to see a historically low number of fatalities. The low number of fatalities in 2014 also lowered the five-year average for 2014-2018. The 2020 targets are being assessed against actual data from 2016-2020, which does not include the low year of 2014. This is likely one contributing factor towards not meeting these targets.

Wisconsin remains committed to addressing safety on all public roads through all of its transportation safety programs.

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	64	99	91	92	96	102	80
Number of Older Driver and Pedestrian Serious Injuries	231	198	227	249	262	290	258

Evaluation

Program Effectiveness

How does the State measure effectiveness of the HSIP?

- Benefit/Cost Ratio
- Change in fatalities and serious injuries

While a simple change in fatal and serious injury crashes is an overall indicator of the effectiveness of the safety culture in the state, there are many other factors outside the scope of normal HSIP projects that influences. For this reason, we rely on a "before and after" Empirical Bayes Analysis of HSIP projects to determine their performance.

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

WisDOT has contracted with the University of Wisconsin - Traffic Operations and Safety Laboratory to complete project evaluations for this reporting cycle. The results of these evaluations are not yet available. WisDOT will make the results of the evaluations available to FHWA as soon as they are completed.

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

- # miles improved by HSIP
- HSIP Obligations
- Increased awareness of safety and data-driven process
- Increased focus on local road safety

Describe significant program changes that have occurred since the last reporting period.

Since the last reporting period, WisDOT has worked to improve its HSIP by implementing the following program changes and/or initiatives:

State System :

- Implementation of the Intersection Network Screening Spreadsheet using Level of Service of Safety and Potential for Safety Improvement criteria.
- Updated cross-median crash analysis
- Begin horizontal curve analysis

Local System :

- Increase local participation in HSIP
    - Easy to access public website
    - Standard project solicitation notification message
    - Program presentations at appropriate local conferences, meetings, etc
- Local system focused pilot program
- Continuation of High Risk Rural Roads program

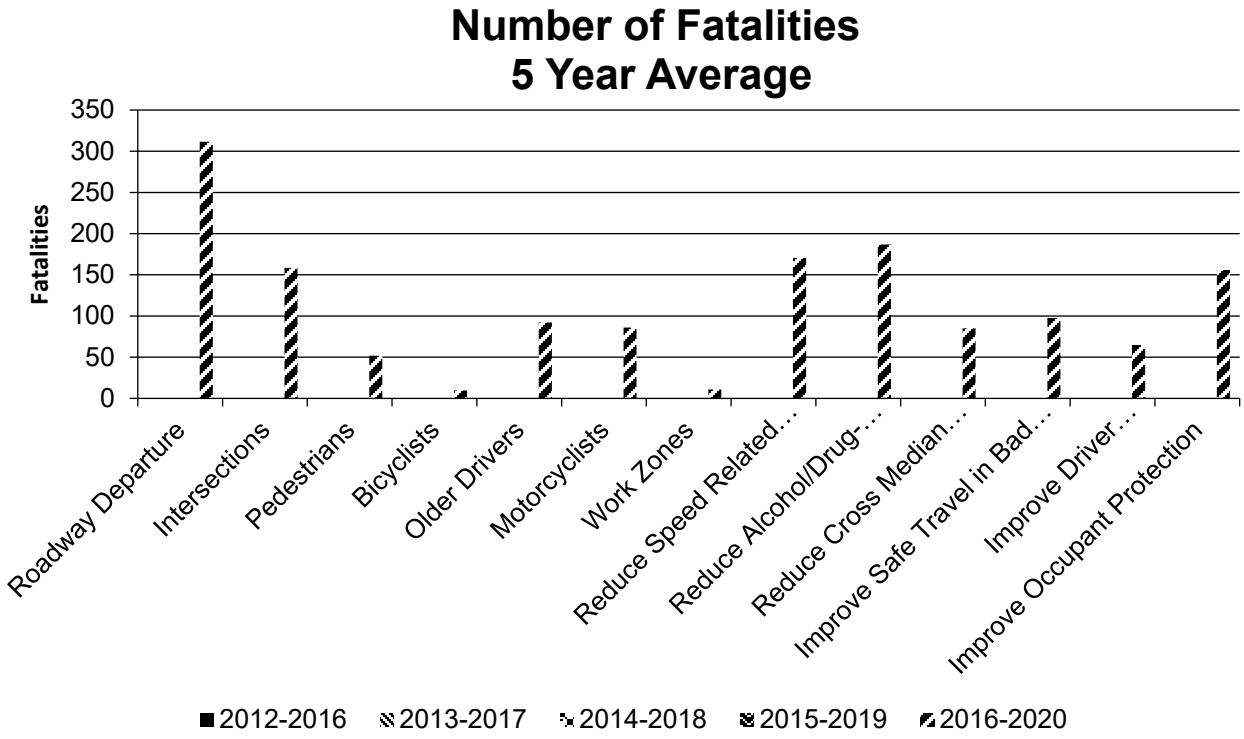
All Roads :
Complete project evaluations for past HSIP projects to determine project effectiveness and what impacts that may have on future programming.

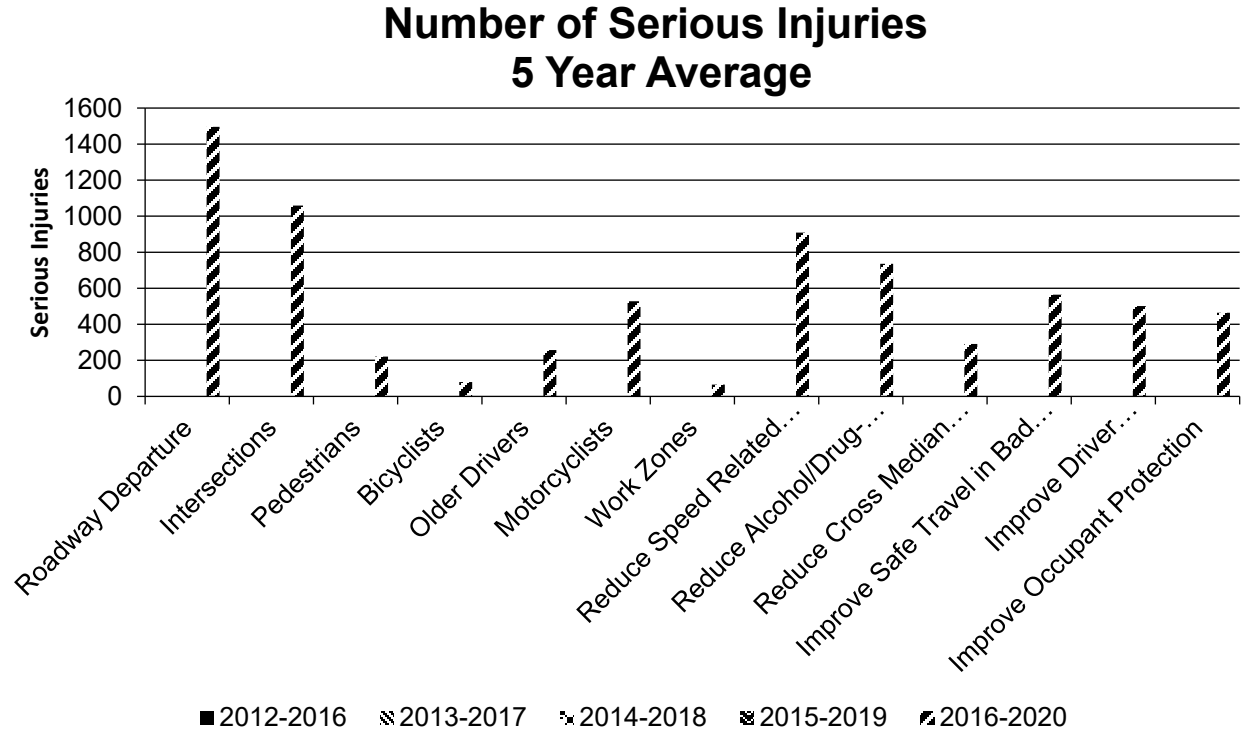
Effectiveness of Groupings or Similar Types of Improvements

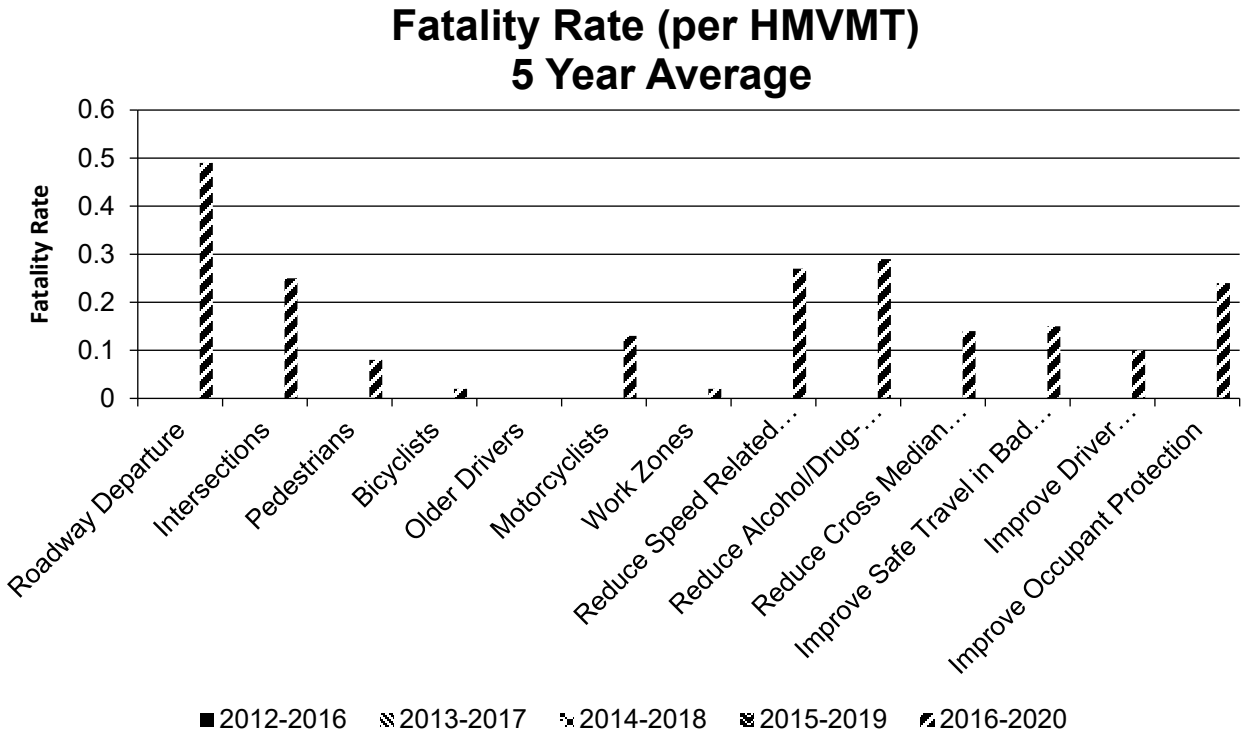
Present and describe trends in SHSP emphasis area performance measures.

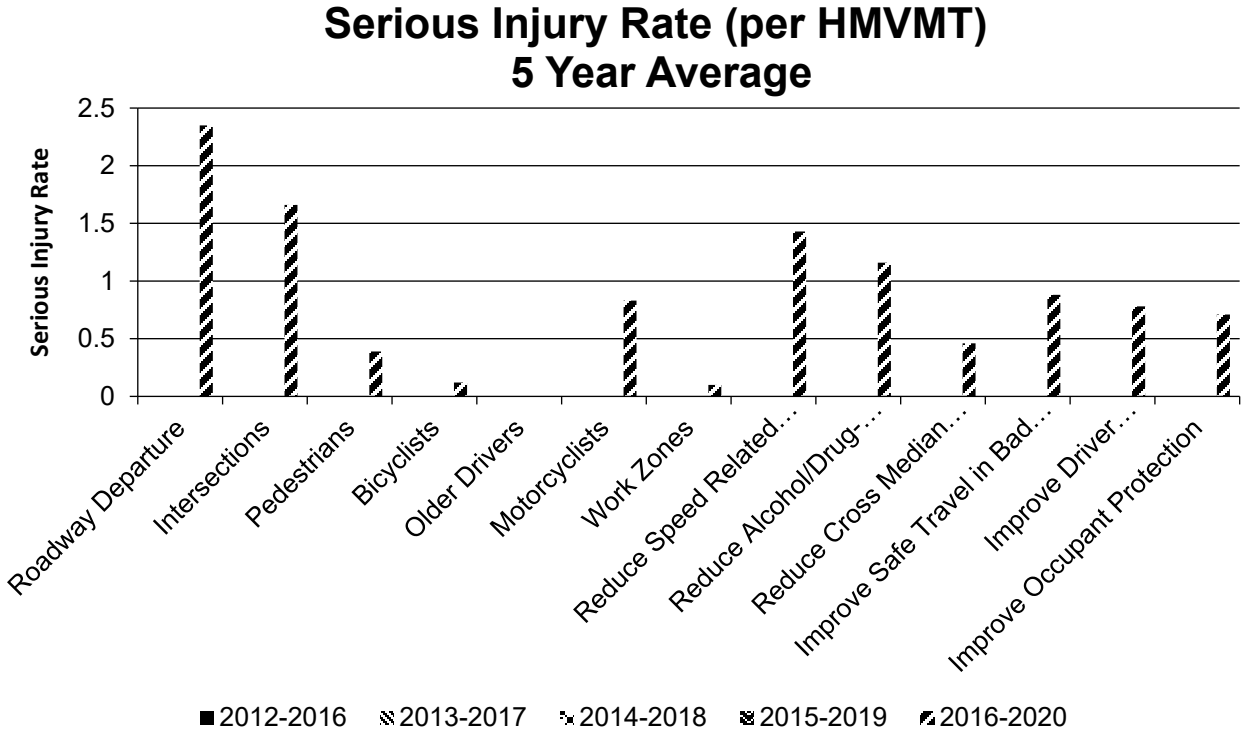
Year 2020

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)
Roadway Departure		311.4	1,495.4	0.49	2.35
Intersections		158.4	1,058.8	0.25	1.66
Pedestrians		51.8	220.6	0.08	0.39
Bicyclists		9.6	79.8	0.02	0.12
Older Drivers		92.2	257.2		
Motorcyclists		86	528.2	0.13	0.83
Work Zones		10.8	65.8	0.02	0.1
Reduce Speed Related Crashes		170.4	909.2	0.27	1.43
Reduce Alcohol/Drug-Impaired Driving		186.8	735.8	0.29	1.16
Reduce Cross Median Crashes		85	290.6	0.14	0.46
Improve Safe Travel in Bad Weather		97.6	564.8	0.15	0.88
Improve Driver Alertness/Reduce Driver Distraction		64.8	501.6	0.1	0.78
Improve Occupant Protection		156	463.8	0.24	0.71


Number of Fatalities
5 Year Average
Fatalities
350
300
250
200
150
100
50
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Reduce Speed Related…
Reduce Alcohol/Drug-…
Reduce Cross Median…
Improve Safe Travel in Bad…
Improve Driver…
Improve Occupant Protection
2012-2016
2013-2017
2014-2018
2015-2019
2016-2020


Number of Serious Injuries
5 Year Average
Serious Injuries
1600
1400
1200
1000
800
600
400
200
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Reduce Speed Related…
Reduce Alcohol/Drug-…
Reduce Cross Median…
Improve Safe Travel in Bad…
Improve Driver…
Improve Occupant Protection
2012-2016
2013-2017
2014-2018
2015-2019
2016-2020





Has the State completed any countermeasure effectiveness evaluations during the reporting period?

No

WisDOT has contracted with the University of Wisconsin - Traffic Operations and Safety Laboratory to complete project evaluations. As part of that analysis, countermeasure effectiveness can be evaluated. The project evaluations are nearing completion, but not yet final. WisDOT will provide the final results to FHWA when available.

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?

11/07/2017

What are the years being covered by the current SHSP?

From: 2017 To: 2020

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

2021

WisDOT was in the process of updating the SHSP by scheduling an in-person peer exchange to establish top priority emphasis areas. Due to the COVID-19 pandemic that process was delayed and later changed to an all virtual peer exchange.

The virtual peer exchange was conducted in the spring of 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								

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
	Functional Class (19) [19]	100	100					100	100	100	100
	Median Type (54) [55]	100	7								
	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	65					100	1		
	AADT Year (80) [82]	100	65								
	Type of Governmental Ownership (4) [4]	100	65					100	100	100	100
INTERSECTION	Unique Junction Identifier (120) [110]			95							
	Location Identifier for Road 1 Crossing Point (122) [112]			95							
	Location Identifier for Road 2 Crossing Point (123) [113]			95							
	Intersection/Junction Geometry (126) [116]			95							
	Intersection/Junction Traffic Control (131) [131]			95							
	AADT for Each Intersecting Road (79) [81]			95							
	AADT Year (80) [82]			95							
	Unique Approach Identifier (139) [129]			95							
INTERCHANGE/RAMP	Unique Interchange Identifier (178) [168]					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
	Location Identifier for Roadway at Beginning of Ramp Terminal (197) [187]					100	100				
	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]										
	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**	**89.00**	**95.00**	**0.00**	**90.91**	**90.91**	**100.00**	**89.00**	**100.00**	**100.00**

*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.

Wisconsin already collects most of the MIRE FDEs. Based on current data collection efforts and targets, Wisconsin is on track to meet the September 30, 2026 deadline.

Optional Attachments

Program Structure:

04-01-10e.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.