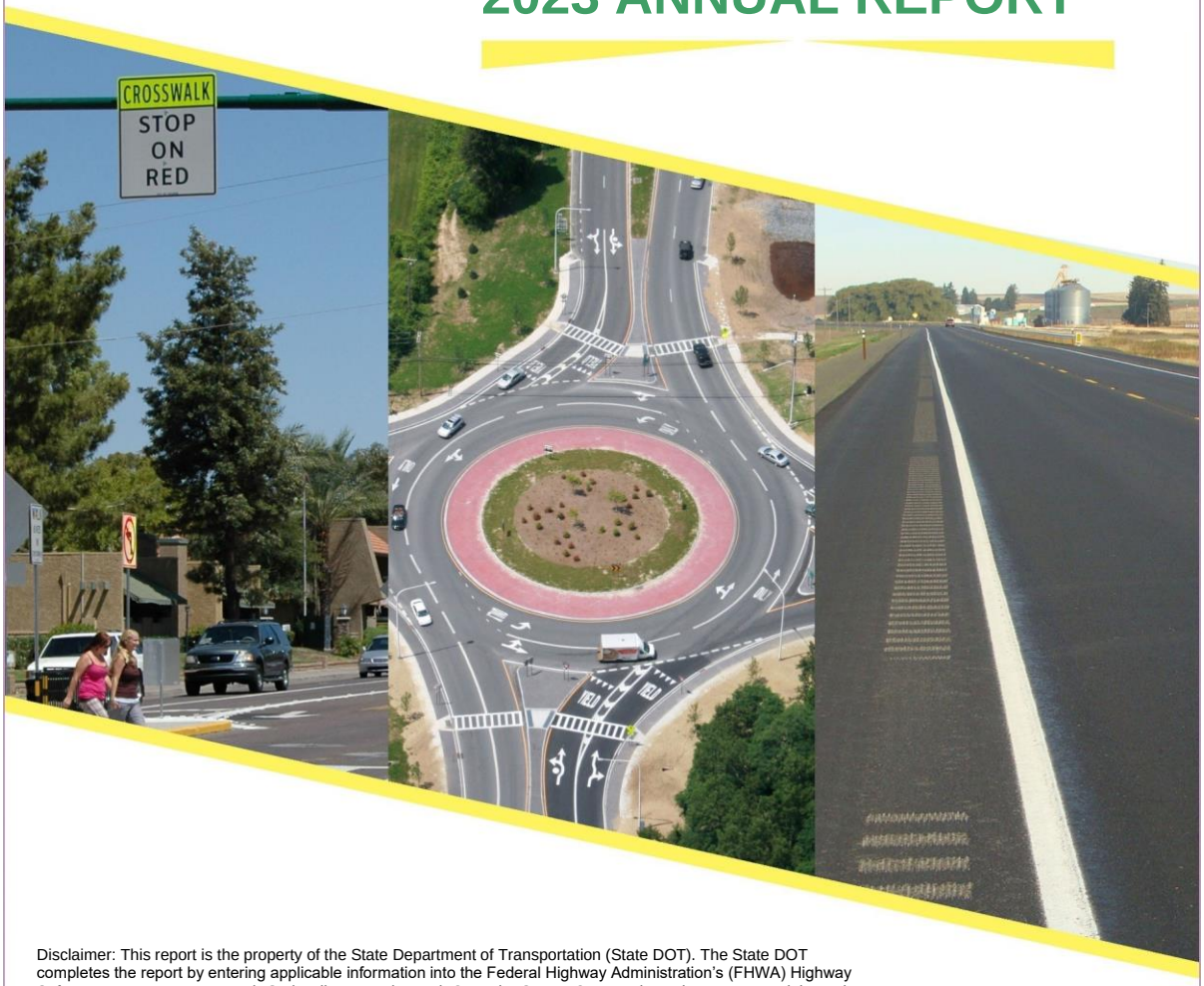
WISCONSIN

HIGHWAY SAFETY IMPROVEMENT PROGRAM

2023 ANNUAL REPORT



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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. 407 states “Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.”

Executive Summary

The following report outlines the details of projects obligated in state fiscal year 2023 for Wisconsin's Highway Safety Improvement Program (HSIP). Details of the report include:

· Program Structure

o projects are identified by state DOT staff 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.

· Project Implementation

o WisDOT manages the HSIP on a state fiscal year (SFY) basis. There were 75 projects with HSIP funds obligated to them in SFY 2023 totaling $50,315,959.36 in federal funds.

· Safety Performance

o Wisconsin has seen a decrease across four of the five federal safety performance measure areas from calendar year 2021 to 2022: fatalities, fatality rate, serious injuries, and serious injury rate. The only performance measure area that saw an increase from 2021 to 2022 was number of non-motorized fatalities and serious injuries.

o WisDOT continues to establish aspirational safety targets in an effort to increase safety on all public roads.

· Evaluation

o Program effectiveness is evaluated using benefit/cost ratio and crash data analysis. Previous HSIP projects and countermeasures are evaluated to help identify any programmatic changes needed.

· Compliance Assessment

o The current Strategic Highway Safety Plan was updated in January 2023. All aspects of federal data reporting and collecting requirements are being monitored for compliance.

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 can be identified multiple different ways including statewide screenings, by DOT regional safety engineers, or by local government staff. 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 program is to install low-cost safety treatments on these roadways to reduce fatal and serious injury crashes as quickly as possible. Evaluating and addressing safety concerns at a corridor level on these roadways enables more cost-effective investments in safety treatments that might otherwise not compete well for federal safety funding.

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 reviews/approves project change orders 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 Manager, 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 Manager 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 recommendation of approval or disapproval of HSIP funding after a comprehensive peer review facilitated by the State HSIP Manager. 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, Metropolitan Planning Organizations) 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 contribute towards achieving the goals and objectives of the SHSP. More specifically, WisDOT encourages local jurisdictions to develop and implement HSIP projects that address priority safety issues on locally owned roadways . These projects are typically completed through the state let process, but can be implemented by local forces in limited situations.

Program Methodology

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

Yes

The WisDOT HSIP manual is updated annually. The 2023 update was not finalized at the time of this reporting. An updated version of the manual can be made available once finalized.

Select the programs that are administered under the HSIP.

- Horizontal Curve
- HRRR
- Intersection
- Median Barrier

Program: Horizontal Curve

Date of Program Methodology:7/11/2022

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes

- All crashes

Exposure

- Volume
- Lane miles

Roadway

- Horizontal curvature

What project identification methodology was used for this program?

- Crash frequency
- Excess proportions of specific crash types
- Other-benefit cost ratio

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

No

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

How are projects under this program advanced for implementation?

- Competitive application process

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

Rank of Priority Consideration

Ranking based on B/C:2
Available funding:1

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).

Program: Intersection

Date of Program Methodology:7/11/2022

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes	Exposure	Roadway
• All crashes	• Traffic • Volume	

What project identification methodology was used for this program?

- Excess expected crash frequency using SPFs
- Level of service of safety (LOSS)

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

No

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

How are projects under this program advanced for implementation?

- Competitive application process

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must

equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Rank of Priority Consideration

Ranking based on B/C:1
Available funding:2

Program: Median Barrier

Date of Program Methodology:7/1/2021

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?

6

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 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

o Shoulder Rumble Strip Initiative

o Horizontal Curve Initiative

Project Implementation

Funds Programmed

Reporting period for HSIP funding.

State Fiscal Year

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

FUNDING CATEGORY	PROGRAMMED	OBLIGATED	% OBLIGATED/PROGRAMMED
HSIP (23 U.S.C. 148)	$50,315,959	$50,315,959	100%
HRRR Special Rule (23 U.S.C. 148(g)(1))	$0	$0	0%
VRU Safety Special Rule (23 U.S.C. 148(g)(3))	$0	$0	0%
Penalty Funds (23 U.S.C. 154)	$0	$0	0%
Penalty Funds (23 U.S.C. 164)	$0	$0	0%
RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2))	$0	$0	0%
Other Federal-aid Funds (i.e. STBG, NHPP)	$0	$0	0%
State and Local Funds	$5,590,662	$5,590,662	100%
Totals	$55,906,621	$55,906,621	100%

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

$23,973,113

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

$23,973,113

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

$300,000

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

$300,000

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?

$5,000,000

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
1000-99-79	Miscellaneous	Data collection		Miles	$90000	$100000	HSIP (23 U.S.C. 148)	N/A	N/A	0		HRRRP Support ID	HRRRP Support ID	Data	
1000-99-80	Miscellaneous	Data analysis		Miles	$180000	$200000	HSIP (23 U.S.C. 148)	N/A	N/A	0		VRU Safety Assessment Support ID	VRU Safety Assessment Support ID	Data	
1020-00-14	Roadside	Barrier – cable	1.51	Miles	$74160	$82400	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other Freeways & Expressways	0		State Highway Agency	Systemic	Lane Departure	
1020-02-15	Intersection traffic control	Modify traffic signal timing – left-turn phasing	0	Miles	$55443	$61603	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		City or Municipal Highway Agency	Spot	Lane Departure	
1050-00-10	Roadside	Barrier – cable	4.39	Miles	$76941	$85490	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	0		State Highway Agency	Systemic	Lane Departure	
1053-07-76	Access management	Change in access - close or restrict existing access	2.836	Miles	$365225	$405805	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	10,309		State Highway Agency	Spot	Intersections	
1060-30-01	Roadside	Barrier – cable	2.984	Miles	$165611	$184012	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other Freeways & Expressways	49,910		State Highway Agency	Systemic	Lane Departure	
1190-01-16	Roadside	Barrier – cable	1.32	Miles	$27810	$30900	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		State Highway Agency	Systemic	Lane Departure	
1198-10-78	Roadside	Barrier – cable	0	Miles	$327185	$363539	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	9,560		State Highway Agency	Systemic	Lane Departure	
1200-02-62	Miscellaneous	Miscellaneous - other	0	Miles	$540000	$600000	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	0		State Highway Agency	Spot	Lane Departure	
1204-08-65	Roadway	Pavement surface – high friction surface	12.544	Miles	$1238637	$1376263	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	25,913		State Highway Agency	Spot	Lane Departure	
1370-17-70	Roadside	Barrier – cable	7.373	Miles	$1988545	$2209494	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other Freeways & Expressways	37,717		State Highway Agency	Systemic	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
1410-11-01	Intersection traffic control	Modify traffic signal – add additional signal heads	0.007	Miles	$130760	$145289	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	18,430		State Highway Agency	Spot	Lane Departure	
1410-11-02	Intersection traffic control	Modify traffic signal – add additional signal heads	0.005	Miles	$140238	$155820	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	19,480		City or Municipal Highway Agency	Spot	Lane Departure	
1410-11-03	Intersection traffic control	Modify traffic signal – add additional signal heads	0.009	Miles	$169415	$188239	HSIP (23 U.S.C. 148)	Urban	Major Collector	14,390		City or Municipal Highway Agency	Spot	Lane Departure	
1430-01-66	Roadway	Rumble strips – edge or shoulder	10.396	Miles	$548658	$609620	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	2,871		State Highway Agency	Spot	Lane Departure	
1470-30-71	Roadway	Rumble strips – edge or shoulder	11.204	Miles	$434559	$482843	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	0		State Highway Agency	Spot	Lane Departure	
1530-05-05	Intersection traffic control	Modify control – Modern Roundabout	0.011	Miles	$143685	$159650	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	0		State Highway Agency	Spot	Intersections	
1550-04-76	Intersection traffic control	Pavement markings	0.047	Miles	$126669	$140743	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	0		State Highway Agency	Spot	Lane Departure	
1610-00-86	Roadway	Rumble strips – edge or shoulder	2.96	Miles	$9000	$10000	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	2,261		State Highway Agency	Spot	Lane Departure	
1620-05-70	Roadway	Roadway widening - add lane(s) along segment	0.642	Miles	$321901	$357668	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	4,740		State Highway Agency	Spot	Lane Departure	
1632-03-70	Roadway	Rumble strips – edge or shoulder	3.534	Miles	$98108	$109009	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	7,415		State Highway Agency	Spot	Lane Departure	
1640-01-74	Roadway delineation	Longitudinal pavement markings - remarking	1.887	Miles	$326526	$362807	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	13,066		State Highway Agency	Spot	Lane Departure	
1640-04-72	Intersection traffic control	Modify control – Modern Roundabout	0.641	Miles	$1620000	$1800000	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	5,118		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
1641-02-72	Roadway delineation	Longitudinal pavement markings - remarking	1.016	Miles	$4261037	$4734486	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	22,266		State Highway Agency	Spot	Lane Departure	
1641-03-75	Intersection traffic control	Modify traffic signal – add additional signal heads	0.081	Miles	$306022	$340024	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	13,160		State Highway Agency	Spot	Intersections	
1650-00-77	Intersection traffic control	Modify control – Modern Roundabout	0.39	Miles	$1449819	$1610910	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	5,137		State Highway Agency	Spot	Intersections	
1650-06-72	Roadway	Rumble strips – edge or shoulder	0	Miles	$447900	$497667	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	4,389		State Highway Agency	Spot	Lane Departure	
2210-12-70	Roadway	Rumble strips – edge or shoulder	4.865	Miles	$155976	$173307	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	6,840		State Highway Agency	Spot	Lane Departure	
2265-00-78	Intersection traffic control	Modify traffic signal – add additional signal heads	0.085	Miles	$1322961	$1469957	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	0		City or Municipal Highway Agency	Spot	Intersections	
2340-10-70	Roadway	Pavement surface – high friction surface	8.38	Miles	$121768	$135298	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	7,187		State Highway Agency	Spot	Lane Departure	
2355-05-01	Intersection geometry	Splitter island – install on one or more approaches	0.029	Miles	$356895	$396550	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		County Highway Agency	Spot	Lane Departure	
2390-05-01	Access management	Raised island - install new	0.004	Miles	$56489	$62766	HSIP (23 U.S.C. 148)	Urban	Local Road or Street	27,440		City or Municipal Highway Agency	Spot	Lane Departure	
2545-03-72	Intersection traffic control	Modify traffic signal – add additional signal heads	0.019	Miles	$552209	$613566	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		City or Municipal Highway Agency	Spot	Intersections	
2565-02-71	Intersection traffic control	Modify traffic signal – add additional signal heads	0.132	Miles	$1030334	$1144816	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		City or Municipal Highway Agency	Spot	Intersections	
2695-07-71	Intersection traffic control	Modify control – new traffic signal	0.249	Miles	$878013	$975570	HSIP (23 U.S.C. 148)	Rural	Major Collector	0		County 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
2709-07-70	Intersection traffic control	Modify control – Modern Roundabout	0.227	Miles	$1429237	$1588041	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		County Highway Agency	Spot	Intersections	
2722-09-70	Intersection geometry	Intersection realignment	0.062	Miles	$517797	$575330	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	0		City or Municipal Highway Agency	Spot	Intersections	
2740-02-00	Intersection traffic control	Modify traffic signal – add additional signal heads	0.011	Miles	$97823	$108692	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	16,140		State Highway Agency	Spot	Lane Departure	
2753-08-70	Intersection traffic control	Modify traffic signal – add additional signal heads	0.19	Miles	$1548702	$1720780	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		County Highway Agency	Spot	Intersections	
2803-03-01	Intersection traffic control	Modify control – Modern Roundabout	0.008	Miles	$180268	$200298	HSIP (23 U.S.C. 148)	Rural	Local Road or Street	0		County Highway Agency	Spot	Intersections	
2984-07-76	Intersection traffic control	Modify traffic signal – add additional signal heads	0.039	Miles	$1001700	$1113000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		County Highway Agency	Spot	Intersections	
2984-13-74	Intersection traffic control	Modify traffic signal – add additional signal heads	0.002	Miles	$720813	$800903	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	0		City or Municipal Highway Agency	Spot	Intersections	
3042-01-71	Roadway	Rumble strips – edge or shoulder	10.456	Miles	$846858	$940953	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	5,219		State Highway Agency	Spot	Lane Departure	
3080-01-75	Interchange design	Convert at-grade intersection to interchange	0.737	Miles	$7361700	$8179666	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	17,163		State Highway Agency	Spot	Intersections	
3762-03-70	Intersection traffic control	Modify control – Modern Roundabout	0.229	Miles	$1431910	$1591011	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	0		County Highway Agency	Spot	Intersections	
3779-03-70	Intersection geometry	Intersection realignment	0.009	Miles	$341258	$379176	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	0		County Highway Agency	Spot	Lane Departure	
3782-04-70	Roadway	Pavement surface – high friction surface	0.19	Miles	$234326	$260362	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	0		County Highway Agency	Spot	Lane Departure	
3831-07-72	Access management	Raised island - install new	0.159	Miles	$1022040	$1135600	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			
4085-60-71	Roadway	Rumble strips – edge or shoulder	2.31	Miles	$137684	$152982	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		State Highway Agency	Spot	Lane Departure	
4130-11-71	Roadway	Rumble strips – edge or shoulder	13.203	Miles	$472038	$524487	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	0		State Highway Agency	Spot	Lane Departure	
4160-06-71	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.35	Miles	$1672407	$1858230	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		County Highway Agency	Spot	Intersections	
4555-03-71	Roadway	Rumble strips – edge or shoulder	2.854	Miles	$132471	$147190	HSIP (23 U.S.C. 148)	Rural	Major Collector	0		County Highway Agency	Systemic	Lane Departure	
4677-10-71	Intersection traffic control	Modify control – new traffic signal	0.084	Miles	$937510	$1041678	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		County Highway Agency	Spot	Lane Departure	
5030-01-73	Roadway	Rumble strips – edge or shoulder	6.576	Miles	$223732	$248591	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	5,740		State Highway Agency	Spot	Lane Departure	
5050-01-76	Intersection traffic control	Modify control – Modern Roundabout	0.487	Miles	$1620000	$1800000	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	9,201		State Highway Agency	Spot	Intersections	
5078-00-30	Roadway	Rumble strips – edge or shoulder	1.649	Miles	$43110	$47900	HSIP (23 U.S.C. 148)	Rural	Major Collector	0		County Highway Agency	Spot	Lane Departure	
5130-05-63	Shoulder treatments	Widen shoulder – paved or other (includes add shoulder)	4.622	Miles	$369495	$410550	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	2,940		State Highway Agency	Spot	Lane Departure	
5180-00-70	Roadway	Rumble strips – edge or shoulder	10.805	Miles	$474575	$527306	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	2,487		State Highway Agency	Spot	Lane Departure	
5235-03-70	Roadway	Rumble strips – edge or shoulder	8.557	Miles	$467463	$519403	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	5,717		State Highway Agency	Spot	Lane Departure	
5235-03-70	Intersection traffic control	Modify control – Modern Roundabout	8.557	Miles	$2027975	$2253306	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	5,717		State Highway Agency	Spot	Lane Departure	
5263-00-60	Roadway	Rumble strips – edge or shoulder	4.642	Miles	$353382	$392646	HSIP (23 U.S.C. 148)	Rural	Minor Collector	1,100		County Highway Agency	Systemic	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
5280-01-73	Intersection traffic control	Modify control – Modern Roundabout	0.592	Miles	$510210	$566900	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	5,169		State Highway Agency	Spot	Intersections	
5280-01-73	Intersection traffic control	Modify control – Modern Roundabout	0.592	Miles	$1620000	$1800000	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	5,169		State Highway Agency	Spot	Intersections	
5310-02-75	Intersection geometry	Modify lane assignment	0.078	Miles	$1485104	$1650116	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		State Highway Agency	Spot	Intersections	
5420-02-72	Intersection traffic control	Modify control – Modern Roundabout	3.394	Miles	$1431816	$1590907	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	15,322		State Highway Agency	Spot	Intersections	
5510-00-63	Roadway	Rumble strips – edge or shoulder	11.87	Miles	$59349	$65944	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	1,581		State Highway Agency	Spot	Lane Departure	
5991-02-62	Intersection traffic control	Modify control – Modern Roundabout	0.052	Miles	$338542	$376158	HSIP (23 U.S.C. 148)	Urban	Major Collector	0		City or Municipal Highway Agency	Spot	Intersections	
6010-00-73	Roadway	Rumble strips – edge or shoulder	14.554	Miles	$433454	$481615	HSIP (23 U.S.C. 148)	Rural	Major Collector	2,076		State Highway Agency	Spot	Lane Departure	
6170-00-74	Alignment	Vertical alignment or elevation change	0.473	Miles	$454716	$505240	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	5,125		State Highway Agency	Spot	Lane Departure	
6230-14-71	Roadway	Rumble strips – edge or shoulder	11.41	Miles	$520248	$578053	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	0		State Highway Agency	Spot	Lane Departure	
6844-01-71	Roadway	Rumble strips – edge or shoulder	3.771	Miles	$217343	$241492	HSIP (23 U.S.C. 148)	Rural	Major Collector	1,700		County Highway Agency	Systemic	Lane Departure	
7027-00-71	Alignment	Horizontal curve realignment	0.203	Miles	$305194	$339104	HSIP (23 U.S.C. 148)	Rural	Major Collector	0		County Highway Agency	Spot	Lane Departure	
7062-02-73	Roadway	Rumble strips – edge or shoulder	14.572	Miles	$22945	$25495	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	4,034		State Highway Agency	Spot	Lane Departure	
7062-02-73	Roadway	Rumble strips – edge or shoulder	14.572	Miles	$1620000	$1800000	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	4,034		State 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
7150-00-70	Roadway	Rumble strips – edge or shoulder	4.385	Miles	$71019	$78910	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	6,474		State Highway Agency	Spot	Lane Departure	
7550-00-73	Roadway	Rumble strips – edge or shoulder	4.881	Miles	$155351	$172612	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	6,474		State Highway Agency	Spot	Lane Departure	
7849-03-04	Alignment	Vertical alignment or elevation change	0.012	Miles	$101970	$113300	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	0		County Highway Agency	Spot	Intersections	
8160-00-09	Intersection geometry	Modify lane assignment	0.004	Miles	$83430	$92700	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	0		State Highway Agency	Spot	Lane Departure	
8550-00-70	Roadway	Rumble strips – edge or shoulder	5.773	Miles	$273267	$303630	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	2,270		State Highway Agency	Spot	Lane Departure	
8590-00-01	Alignment	Horizontal curve realignment	0.797	Miles	$168714	$187460	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	0		State Highway Agency	Spot	Lane Departure	
8829-00-01	Access management	Raised island - install new	0.133	Miles	$92700	$103000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		County Highway Agency	Spot	Lane Departure	
8829-00-02	Intersection traffic control	Modify traffic signal – add additional signal heads	0.017	Miles	$92700	$103000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		County Highway Agency	Spot	Lane Departure	
8865-00-74	Alignment	Vertical alignment or elevation change	14.898	Miles	$594203	$660226	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	1,552		State Highway Agency	Spot	Lane Departure	
8944-08-02	Roadway	Rumble strips – edge or shoulder	4.985	Miles	$33650	$37389	HSIP (23 U.S.C. 148)	Rural	Major Collector	0		County Highway Agency	Systemic	Lane Departure	
9160-17-71	Roadway	Rumble strips – edge or shoulder	10.328	Miles	$490744	$545271	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	0		State Highway Agency	Spot	Lane Departure	
9160-19-71	Roadway	Rumble strips – edge or shoulder	6.952	Miles	$251447	$279386	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	0		State Highway Agency	Spot	Lane Departure	
9491-06-70	Roadway	Rumble strips – edge or shoulder	8.5	Miles	$1663565	$1848406	HSIP (23 U.S.C. 148)	Rural	Major Collector	7,400		County Highway Agency	Spot	Lane Departure	

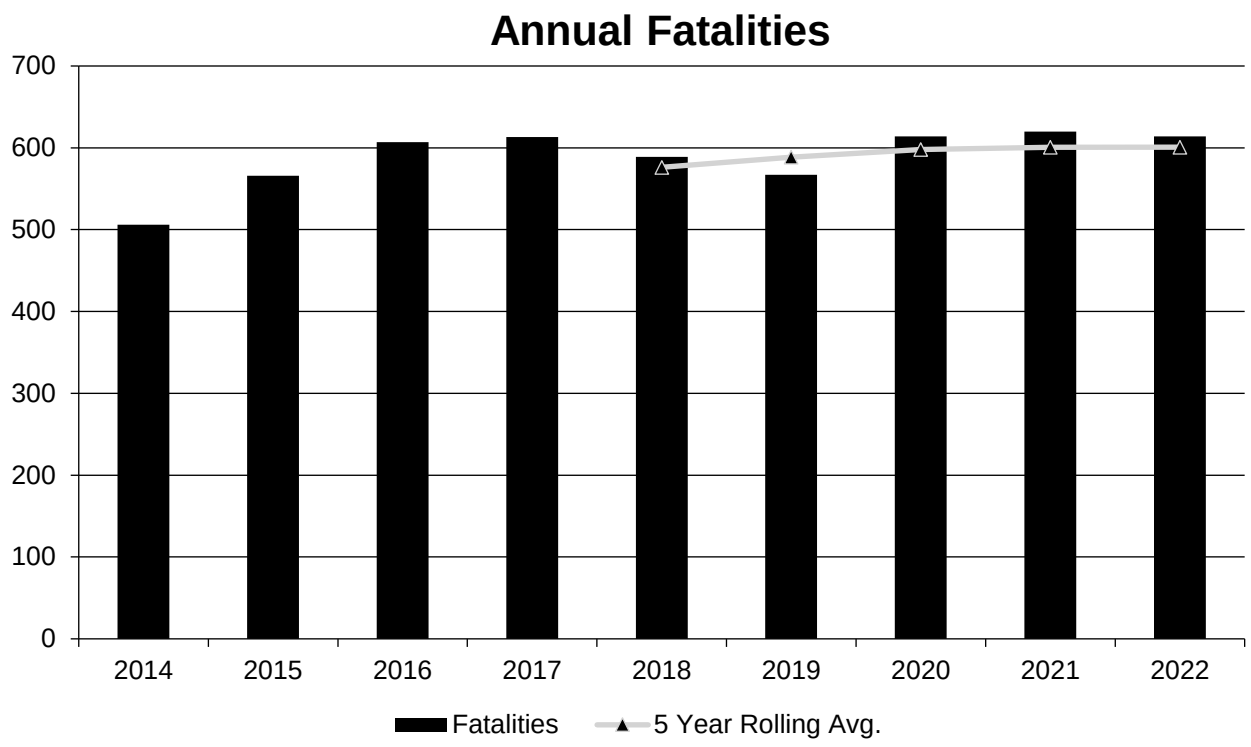
PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
9560-06-71	Roadway	Rumble strips – edge or shoulder	8.246	Miles	$431520	$479467	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	0		State Highway Agency	Spot	Lane Departure	
9560-06-72	Roadway	Rumble strips – edge or shoulder	2.07	Miles	$142827	$158697	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	0		State Highway Agency	Spot	Lane Departure	

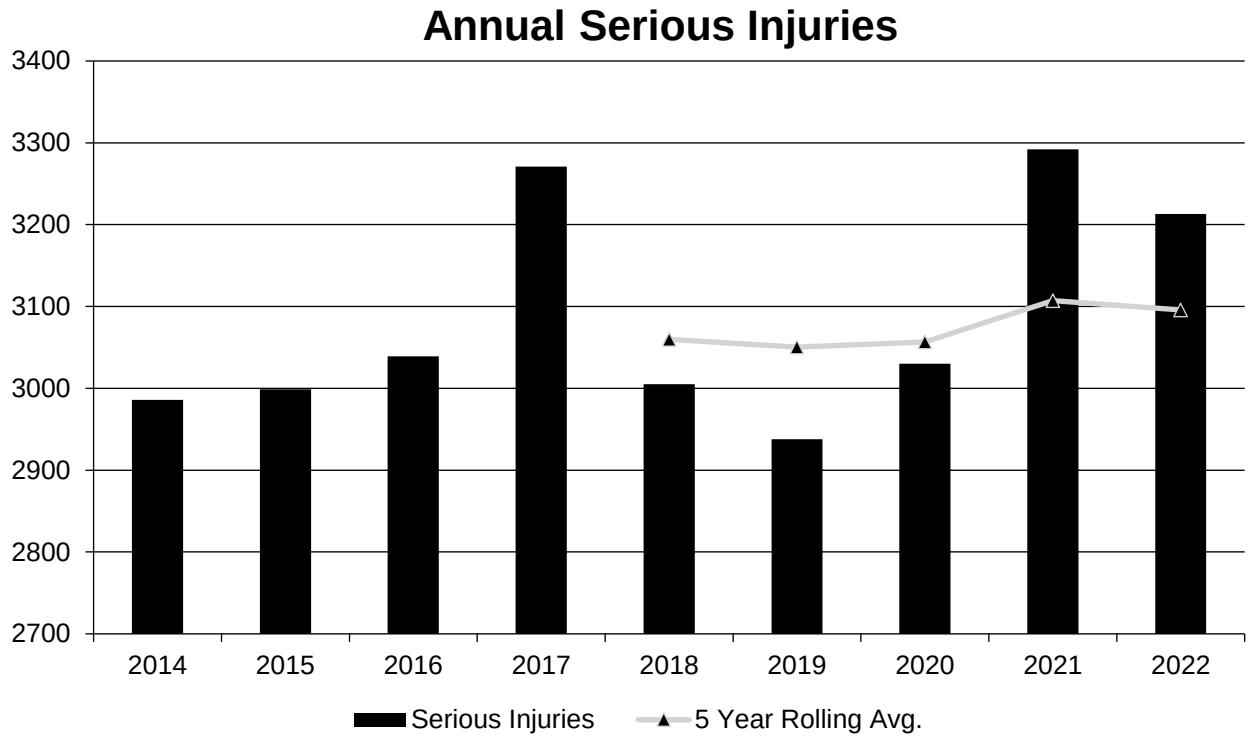
Safety Performance

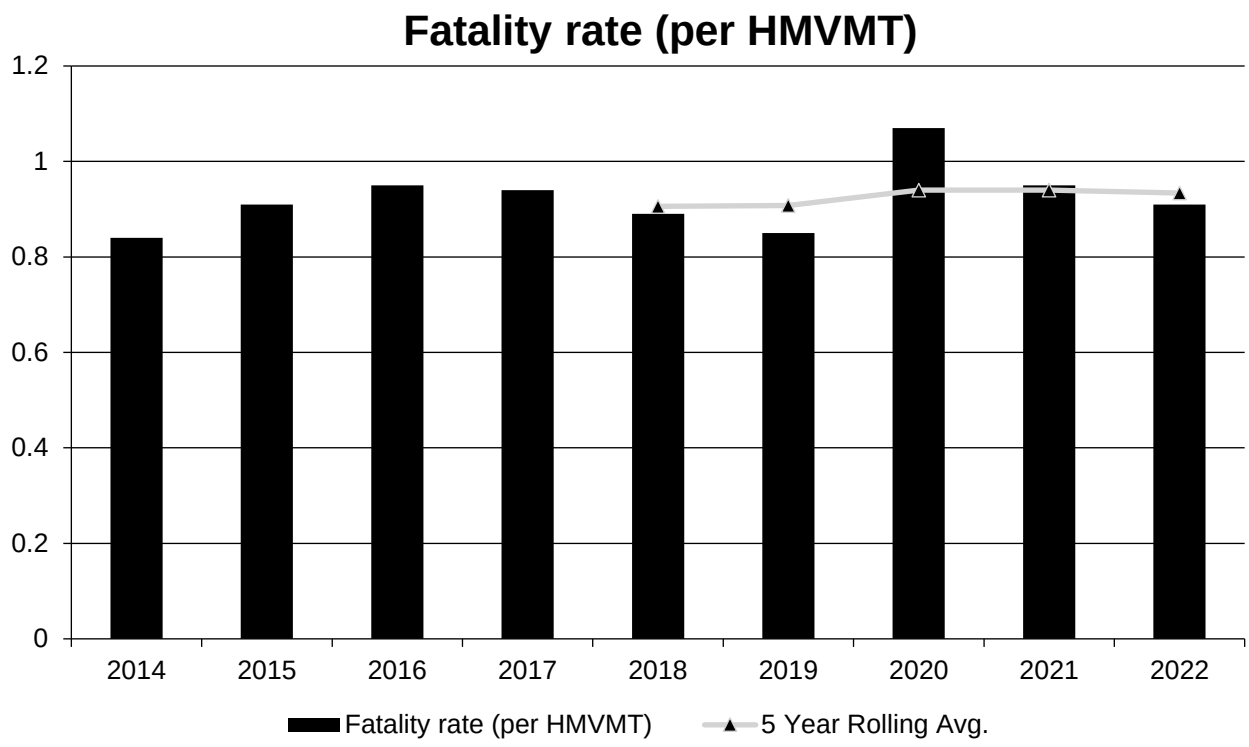
General Highway Safety Trends

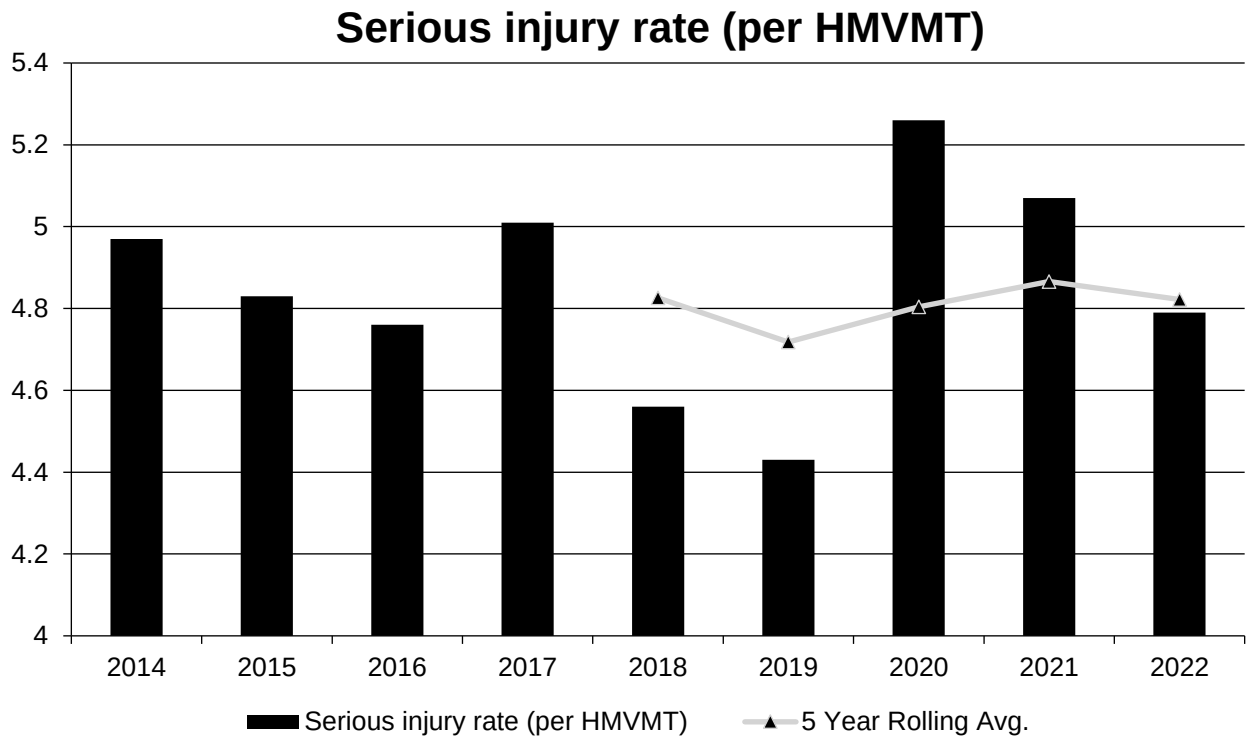
Present data showing the general highway safety trends in the State for the past five years.

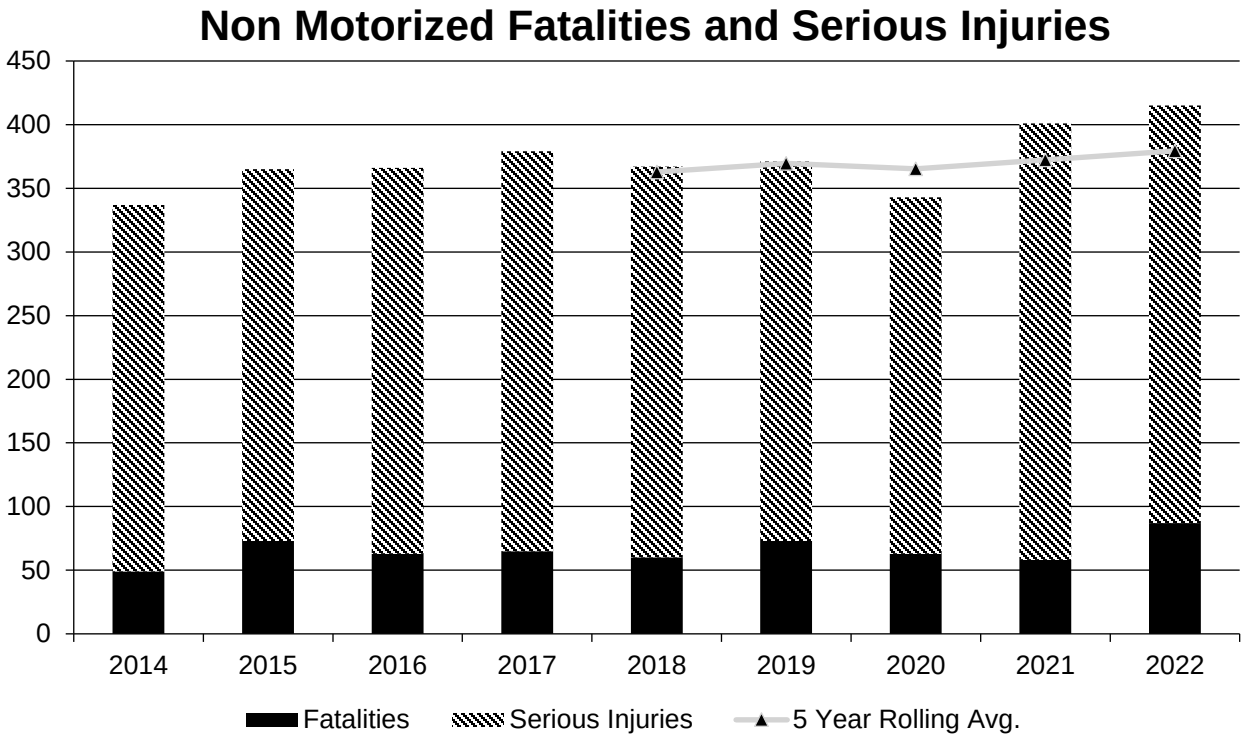
PERFORMANCE MEASURES	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fatalities	506	566	607	613	589	567	614	620	614
Serious Injuries	2,986	2,999	3,039	3,271	3,005	2,938	3,030	3,292	3,213
Fatality rate (per HMVMT)	0.840	0.910	0.950	0.940	0.890	0.850	1.070	0.950	0.910
Serious injury rate (per HMVMT)	4.970	4.830	4.760	5.010	4.560	4.430	5.260	5.070	4.790
Number non-motorized fatalities	49	73	63	65	60	73	63	58	87
Number of non-motorized serious injuries	288	292	303	314	307	298	280	343	328


Annual Fatalities
700
600
500
400
300
200
100
0
2014
2015
2016
2017
2018
2019
2020
2021
2022
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
3400
3300
3200
3100
3000
2900
2800
2700
2014
2015
2016
2017
2018
2019
2020
2021
2022
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
1.2
1
0.8
0.6
0.4
0.2
0
2014
2015
2016
2017
2018
2019
2020
2021
2022
Fatality rate (per HMVMT)
5 Year Rolling Avg.


Serious injury rate (per HMVMT)
5.4
5.2
5
4.8
4.6
4.4
4.2
4
2014
2015
2016
2017
2018
2019
2020
2021
2022
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 2022

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	35	143.6	0.58	2.41
Rural Principal Arterial (RPA) - Other Freeways and Expressways	24	105.6	1.99	8.76
Rural Principal Arterial (RPA) - Other	72.8	291	1.13	4.53
Rural Minor Arterial	85.2	341.6	1.8	7.2
Rural Minor Collector	22	127.6	1	5.81
Rural Major Collector	90.4	417.6	1.15	5.3

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 Local Road or Street	57	349	1.4	8.54
Urban Principal Arterial (UPA) - Interstate	18.2	123	0.23	1.55
Urban Principal Arterial (UPA) - Other Freeways and Expressways	7.4	40.4	0.22	1.21
Urban Principal Arterial (UPA) - Other	77.6	518.4	0.86	5.73
Urban Minor Arterial	34.8	248	0.61	4.35
Urban Minor Collector				
Urban Major Collector				
Urban Local Road or Street	25	303.2	0.91	10.84
City Street Urban				
City Street Rural				
Town Road Rural				
County Trunk Urban				
County Trunk Rural				
State Highway Urban				
State Highway Rural				
Interstate Highway Urban				
Interstate Highway Rural				
Urban Collector	32.2	234.8	1.17	8.6

Year 2022

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	292	1,357.6		
County Highway Agency	126.6	649.4		
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	144.2	1,050.4		
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 2024 Targets *

Number of Fatalities:588.8

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.

FARS data was not available at the time of HSP target submittal. Historically, several HSP targets and HSIP targets were required to match exactly. Therefore, all the HSIP targets were established at the same time as the HSP targets. State data was used to calculate the 2024 target for number of fatalities. The historical difference between state fatality data and FARS data was also factored in and accounted for.

Number of Serious Injuries:3033.7

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:0.915

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.

FARS data was not available at the time of HSP target submittal. Historically, several HSP targets and HSIP targets were required to match exactly. Therefore, all the HSIP targets were established at the same time as the HSP targets. State data was used to calculate the 2024 target for number of fatalities. The historical difference between state fatality data and FARS data was also factored in and accounted for.

Serious Injury Rate:4.726

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:371.8

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.

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 2022 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	584.7	600.8
Number of Serious Injuries	2995.5	3095.6
Fatality Rate	0.919	0.934
Serious Injury Rate	4.712	4.822
Non-Motorized Fatalities and Serious Injuries	358.5	379.4

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

Numbers increased across all performance measure areas in 2020 and continued the increasing trend in 2021. Traffic and crash impacts from the Covid-19 pandemic likely contributed to the increase in numbers in 2020 and 2021. This trend was seen nationally as well. However, Wisconsin did see a decrease in all performance measure areas except one (non-motorized fatalities and serious injuries) from 2021 to 2022. WisDOT is working to evaluate the HSIP and other safety program areas to help continue this downward trend.

Wisconsin will continue to set aspirational safety targets and adjust its HSIP accordingly, in an effort to increase safety on all public roads.

Applicability of Special Rules

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

No

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

No

This report outlines the details of project obligated in state fiscal year 2023. In April 2023, FHWA released their calendar year 2021 safety target assessment and special rules determination. Wisconsin triggered the high risk special rule and will need to complete the corresponding required action in federal fiscal year 2024. Therefore, the special rule would apply for the next reporting period of state fiscal year 2024.

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	2016	2017	2018	2019	2020	2021	2022
Number of Older Driver and Pedestrian Fatalities	91	92	96	102	80	99	124
Number of Older Driver and Pedestrian Serious Injuries	227	249	262	290	258	311	341

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 (UW-TOPS) Laboratory to complete project evaluations. Wisconsin HSIP projects implemented between 2013 and 2019 were evaluated. The evaluation process consisted of data collection, safety effectiveness, economic assessment, reporting, and development of program specific CMFs. The safety effectiveness and economic assessment was conducted using the Empirical Bayes (EB) method at the site specific or project level.

There was an overall positive safety and economic effect of projects implemented with 43 out of 64 projects showing B/C ratios greater than one. The 64 HSIP projects evaluated in Wisconsin provided a B/C ratio of 2.71 for a horizon of 10 years. Alternatively, using the observed data during the study period of each project (between three to five years after implementation), the current return on investment was estimated. Current overall crash cost benefit is equal to $72 million which corresponds to a B/C ratio of 1.10. Therefore, the benefit of the 64 HSIP projects have already surpassed the cost of the projects at three to five years of the projects’ life cycle.

Using the Wisconsin CODES data, hospital and crash databases were linked to categorize injuries by part of the body, fracture involvement, and threat to life. Using the estimated number of persons injured per crash by severity, HSIP projects are estimated to have prevented a total of 536 crashes which translates to seven lives saved, 379 person injuries prevented (29 A, 134 B, and 217 C), and 1,067 persons loss of property avoided (no injuries).

Roadway facilities where similar treatments were implemented were selected to develop Wisconsin specific CMFs. Treatments such as roundabouts, J-turns, and cable barrier/guardrail showed similar results as the literature with significant potential for reduction in crashes, especially for fatal and injury crashes.

The complete evaluation report completed by UW-TOPS is available upon request.

WisDOT will look to conduct another round of evaluations for HSIP projects from 2019 to present at a future date.

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

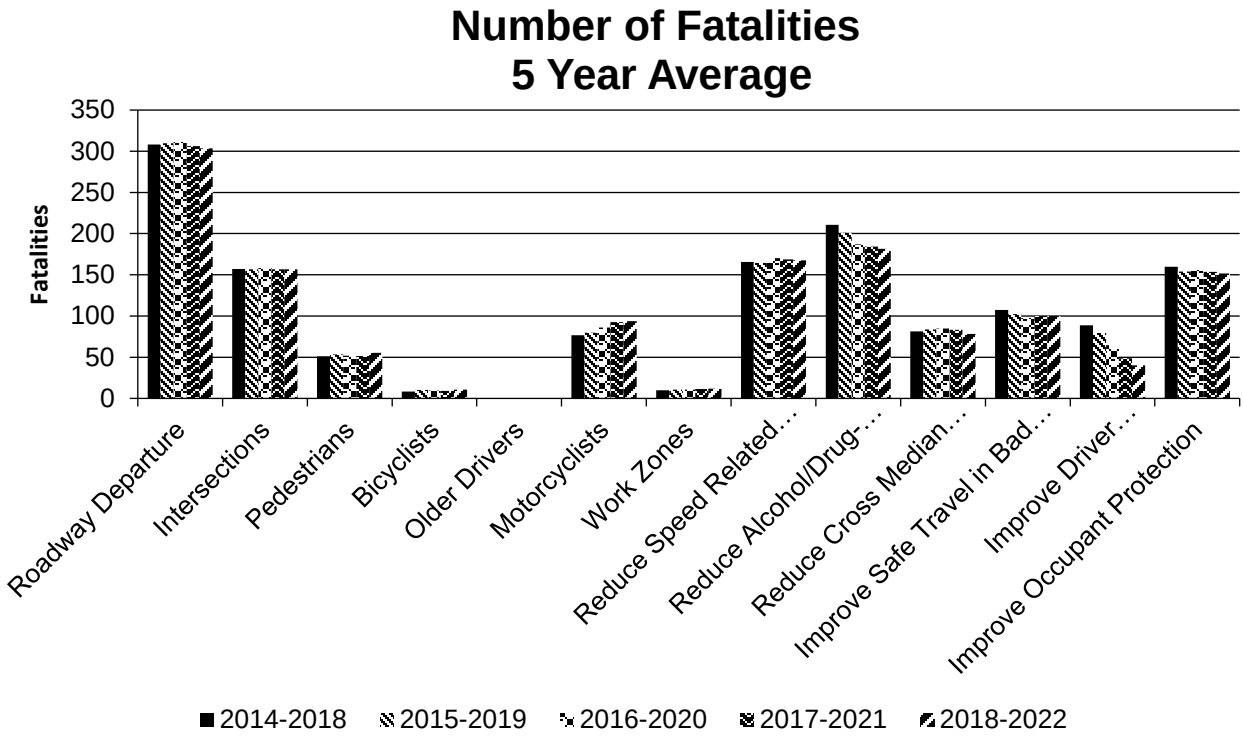
- # miles improved by HSIP
- HSIP Obligations
- Increased awareness of safety and data-driven process
- Increased focus on local road safety
- Policy change

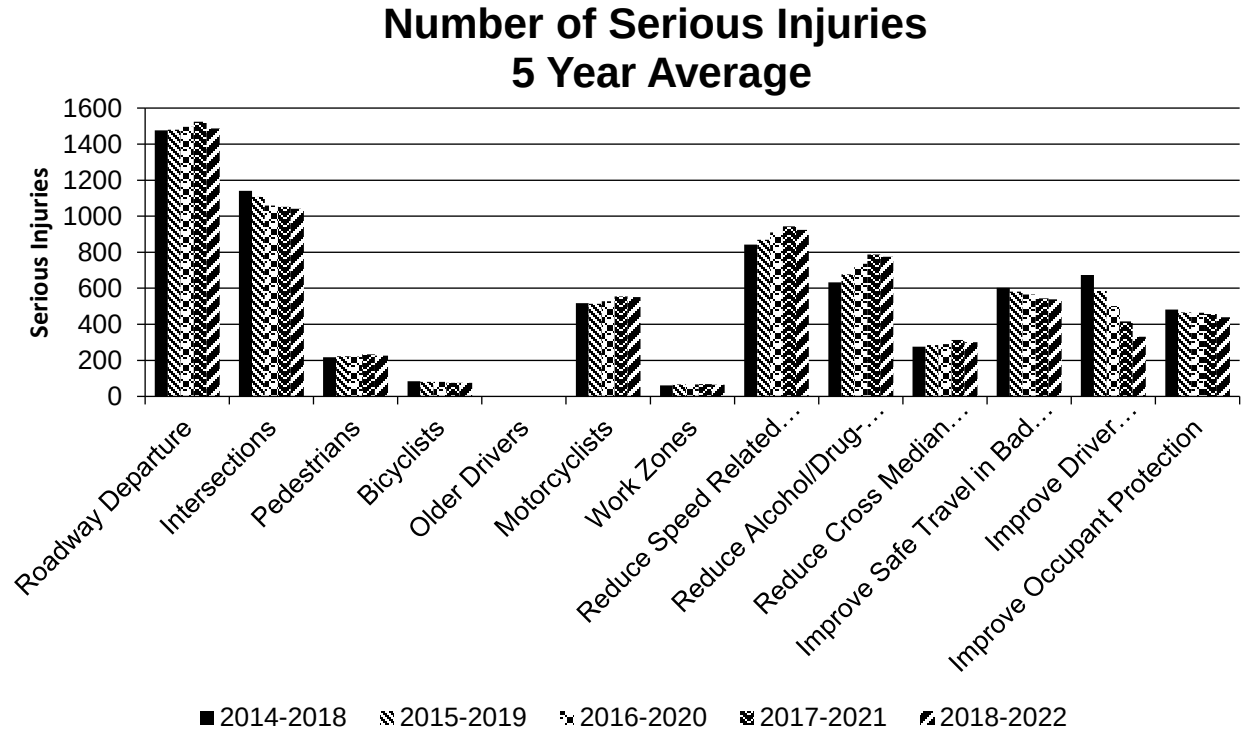
Effectiveness of Groupings or Similar Types of Improvements

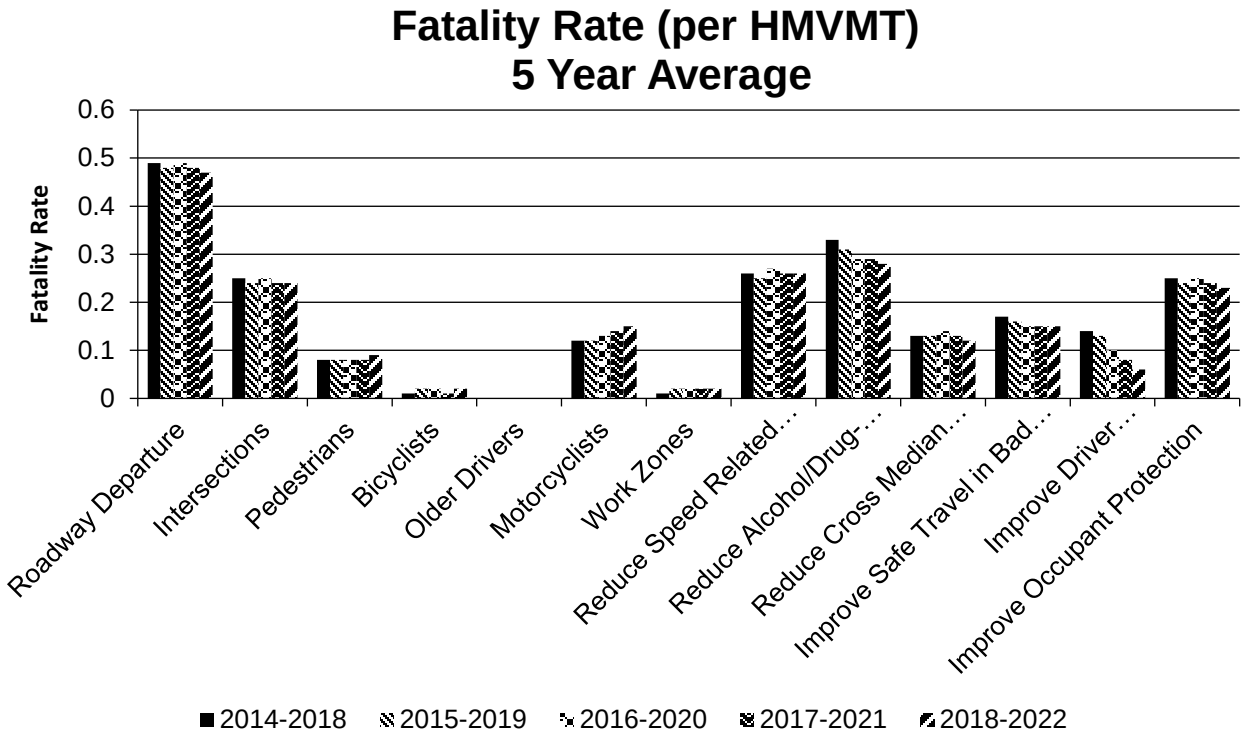
Present and describe trends in SHSP emphasis area performance measures.

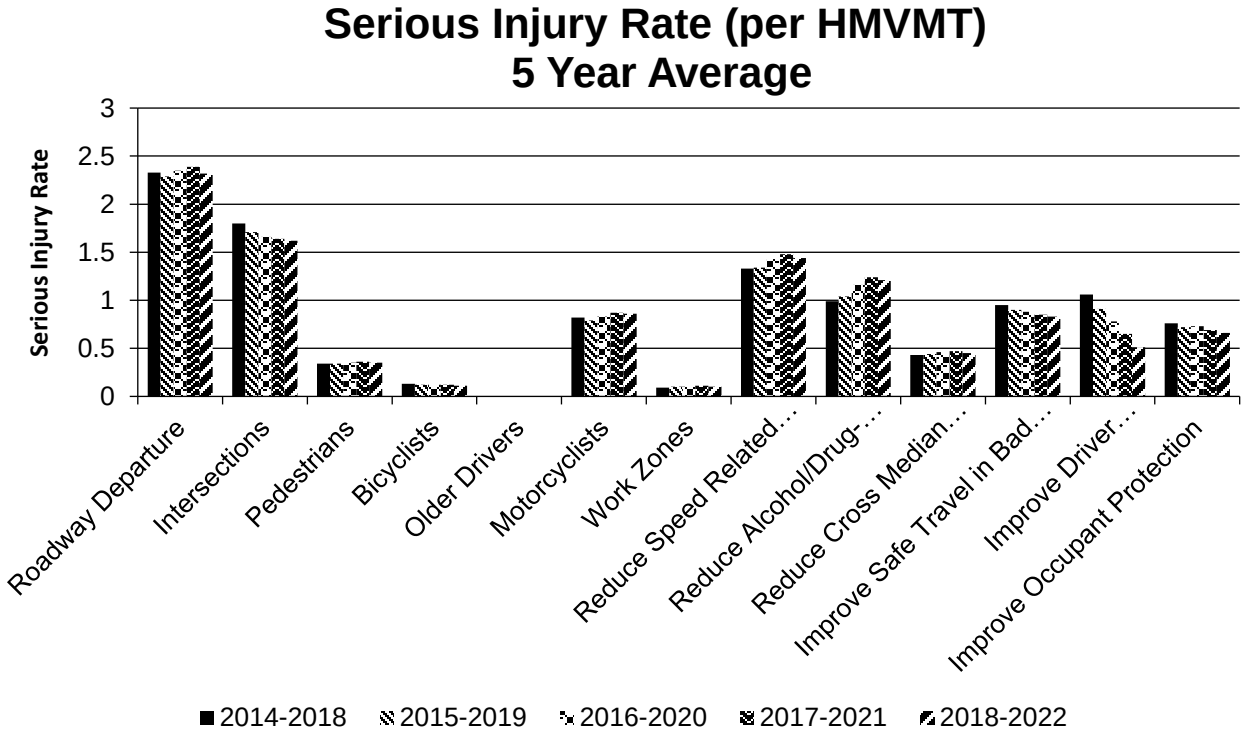
Year 2022

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		303.4	1,487.2	0.47	2.32
Intersections		156.6	1,041.4	0.24	1.62
Pedestrians		55.2	225.8	0.09	0.35
Bicyclists		10.6	74.8	0.02	0.11
Older Drivers		0	0	0	0
Motorcyclists		93.6	552	0.15	0.86
Work Zones		11.8	65	0.02	0.1
Reduce Speed Related Crashes		167.4	924.6	0.26	1.44
Reduce Alcohol/Drug-Impaired Driving		181.4	774.6	0.28	1.21
Reduce Cross Median Crashes		78.2	301.2	0.12	0.45
Improve Safe Travel in Bad Weather		100	538.8	0.15	0.83
Improve Driver Alertness/Reduce Driver Distraction		40.2	331	0.06	0.51
Improve Occupant Protection		151.6	438.4	0.23	0.66


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
2014-2018
2015-2019
2016-2020
2017-2021
2018-2022


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
2014-2018
2015-2019
2016-2020
2017-2021
2018-2022





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

No

WisDOT conducted HSIP project evaluations last cycle and will look to preform another round of evaluations in the near future.

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?

01/31/2023

What are the years being covered by the current SHSP?

From: 2023 To: 2027

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

2027

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	60					100	60		
	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	75								
	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	95					100	95	100	95
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]			90							
	Intersection/Junction Traffic Control (131) [131]			85							
	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				
	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]										
	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	95				
Totals (Average Percent Complete):		**100.00**	**92.22**	**93.13**	**0.00**	**90.91**	**90.45**	**100.00**	**84.00**	**100.00**	**99.00**

*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. The Division of Transportation System Development, Bureau of Traffic Operations has started a project to update the intersection inventory which contains intersections on the state system. Part of this project could include adding MIRE FDE elements and attributes. The framework used for the state system could then be evaluated for use on the local system.

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.