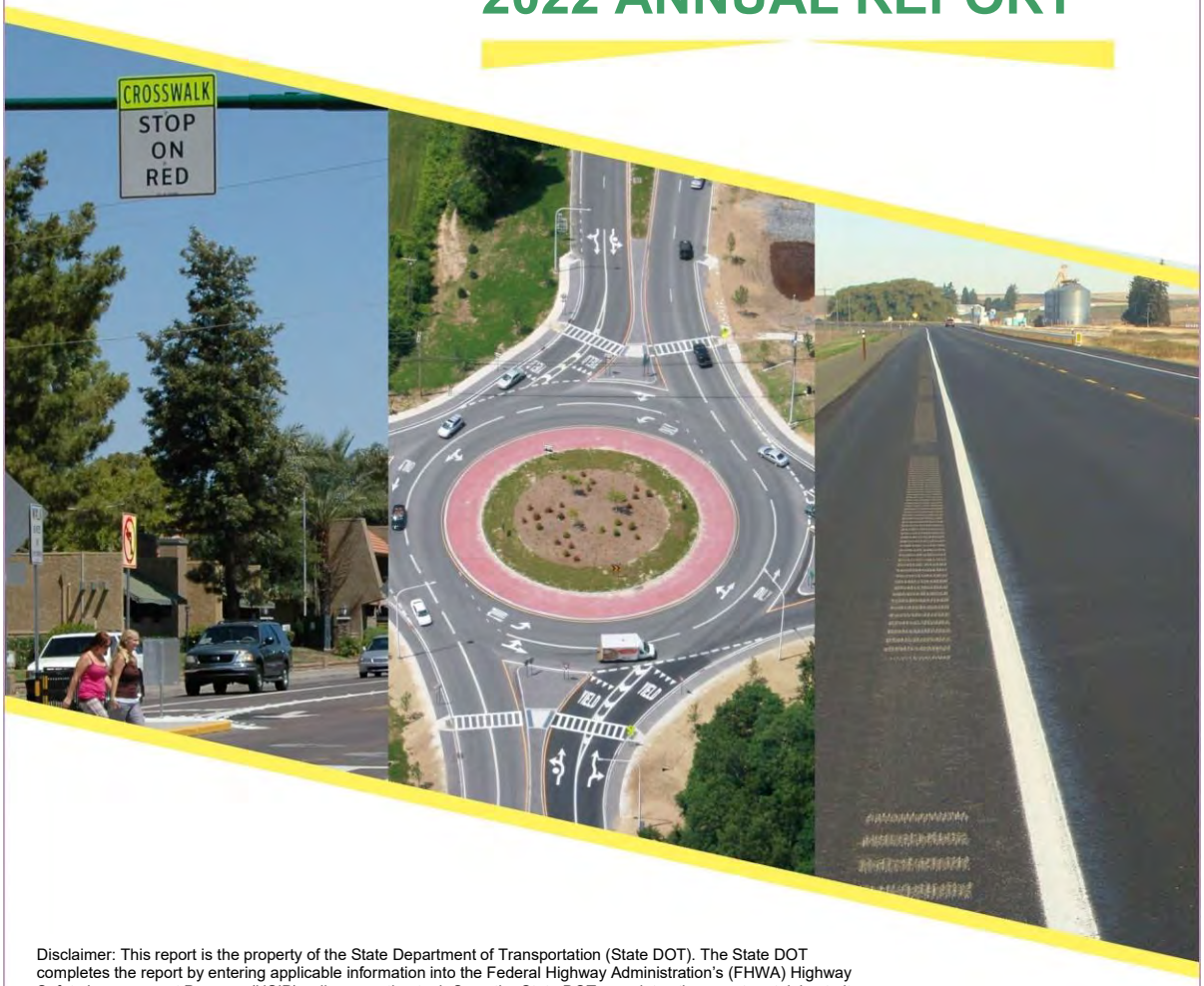
MICHIGAN

HIGHWAY SAFETY IMPROVEMENT PROGRAM

2022 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 2022 HSIP Annual Report for the Michigan Department of Transportation (MDOT) will be for the one year time period of FY 2021 which commenced on October 1, 2020 and ended on September 30, 2021. This report addresses safety improvements funded through MDOT on both trunkline and non-trunkline roadways.

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 general structure of the HSIP is to select cost-effective safety improvements, as identified in Michigan's Strategic Highway Safety Plan (SHSP), to address locations with correctable fatality (K) and serious injury (A) crashes. Projects are selected and identified during the annual Call for Projects process for trunkline and non-trunkline roadways. The selected projects are designed and implemented via the Region offices and Local Agency Programs oversight. Before and After studies are conducted to evaluate the effectiveness of a particular countermeasure.

Where is HSIP staff located within the State DOT?

Other-TSMO (Transportation Systems Management and Operations)

The HSIP Trunkline program is managed out of the MDOT Central Office in the Bureau of Field Services - TSMO Division - Traffic and Safety Section - Safety Programs/Pavement Markings.

The HSIP Local Agency Non-Trunkline Program is managed out of the MDOT Central office in the Bureau of Highway Development - Development Services Division - Local Agency Programs (Local Safety).

How are HSIP funds allocated in a State?

- Other-Central Office via Statewide Formula via MDOT Regions
- Other-Central Office via Statewide Competitive Application Process for Local Agencies
- Other-Central Office via Funding Set Aside

The Lansing Central Office manages a separate Call for Projects process for both Trunkline and Non-Trunkline roadways. There is also a funding set aside amount directly for Trunkline pavement markings and delineation.

The Local Agency Call for Projects is a competitive application process between all of the Local Agencies of Michigan and cycles on a two-year call for projects.

The Statewide Trunkline Call for Projects has specific funding targets for each of the 7 MDOT Regions. The

funding targets are calculated based on lane miles, traffic volumes, and Fatality and Serious Injuries that occur within each Region. The State Trunkline Call for Projects cycles on a five-year call for projects platform.

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

For the local roadway network HSIP funds, $15M was programmed and approximately $17 M were obligated by the Local Agency Programs Safety Engineer located in the Central Office. The HSIP funds were allocated to three separate Call for Projects: $6 M for High-Risk Rural Roads (HRRR), $7.5 M for Highway Safety Improvement Program (HSIP), and $1.5 M for Streamlined Systemic HSIP. Typically, only the construction phase is eligible for federal aid. Preliminary engineering costs were eligible for federal participation if it was for a project identified on the Transparency (5%) Report, by the Local Safety Initiative (LSI), in a Road Safety Audit (RSA), or in a traffic signal optimization project. Otherwise, preliminary engineering was not eligible for federal safety funds. Projects are federally funded at 80 or 90 percent up to an amount not to exceed $600,000 of Federal funding per project, with a 20 or 10 percent Local Agency match, respectively. A maximum amount of $2M per Local Agency per fiscal year was allowed.

All Local Agencies within Metropolitan Planning Organizations (MPO) areas must coordinate with their MPO to ensure inclusion of their project in the area's Transportation Improvement Plan (TIP). Those Local Agencies that are part of a rural task force are to notify their members that they applied for safety funds. Rural task force approval is not necessary. MDOT Local Agency Programs (LAP) coordinates with MDOT Planning to ensure these projects are included in the Statewide Transportation Improvement Plan (STIP).

The planning and selection of projects for the local roadway system is very similar to that of the state trunkline. Local agencies were invited by a May 6, 2019 memorandum to submit proposed projects for consideration as part of an annual Call for Projects (CFP). All Local Agencies (counties, cities, and villages) are able to apply for the funds. MDOT asked the County Road Association of Michigan and the Michigan Municipal League to distribute this notice to their member agencies. Townships and Tribal Agencies were also eligible to receive the safety funds but must work with their respective county for submittal of the application. The emphasis of the local FY 2021 CFP was to address those locations with correctable fatality and injury crashes to support the department's efforts of reducing fatalities and serious injuries striving for Toward Zero Deaths. Per the CFP, the Local Agency was to provide a Time of Return (TOR) analysis showing how the proposed improvement would address fatalities and all injuries. In the TOR, all crash types and severity levels correctable by the proposed improvement can be included. A maximum of five years of available crash data is to be used in the TOR analysis. For FY 2021 call for projects, 2013 to 2017(or the current availability) crash data was used.

Eligible projects must meet current standards and warrants. Project types may be either systemic or spot locations and may include replacement, installation or elimination of guardrail, removal of fixed objects from clear zones, traffic and pedestrian signal optimization, installation and upgrades of traffic signals, access management, horizontal and vertical curve modifications, sight distance and drainage improvements, bridge railing replacement or retrofit, roadway intersection improvements specifically to improve safety, mid-block pedestrian crossings, improvements to school zones, shoulder and centerline rumble strips, and improved permanent signing and pavement markings, or any other safety related work.

For the FY 2021 CFP, an emphasis was placed on the identification of correctable fatalities and serious injuries, both in the selection and the prioritization of safety projects. A portion of the local safety funds were allocated to six subprograms in 2021. Allocations remained the same for all six subprograms: Regional Traffic Safety Plans ($3 M), Safety Edge ($500 K), Road Safety Audits ($50 K),Non-motorized Facility/Pedestrian Improvements ($500 K),High Friction Surface Treatment ($500 K), and Guardrail Upgrades and Clear Zone Improvements ($750 K). Each selected project could count towards multiple subprograms. Local agencies were informed of the listed subprograms and encouraged to submit projects based on the subcategories.

The Streamlined Systemic program allowed the submittal of five specific project types: Horizontal Curve

Delineation, Edgeline Pavement Markings (on roadways that did not previously have striped edgelines), Rumble Strips/Corrugations (centerline and edgeline, or both), Signal backplates, and Stop Controlled Intersection Sign Upgrade projects. Projects were federally funded at 90 percent up to an amount not to exceed $200,000 of Federal funding.

There were not any funds directed to tribal organizations in 2021. In 2021, the CFP letter (for FY 2023) was updated to clarify the eligibility of tribal organizations and tribal roadways. Federally recognized Tribes are allowed to submit applications for safety funds directly during the call for projects time frame instead of through their corresponding County Agency.

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

- Design
- Districts/Regions
- Maintenance
- Operations
- Planning
- Traffic Engineering/Safety
- Other-Local Agency Programs
- Other-TSMO

MDOT's Safety Programs Unit provides support and coordination to internal partners within the Department. Each of the seven Regions is comprised of a Traffic Safety and Operations Engineer as well as Traffic and Safety Engineers located in the Transportation Service Center (TSC) offices. Employees within the Safety Programs Unit distribute the High Crash List and Pavement Friction Analysis to the Region and TSC staff for their use in project selection. Road Safety Audits and 3R/4R Safety Reviews are conducted with various internal partners located within the Central, Region, and TSC offices. In addition, the Safety Programs Unit supports the Regions and TSC's with special data requests in the development of their safety program including various types of GIS mapping.

HSIP funding partnering is also coordinated between the Safety Programs Unit and Local Agency Programs.

Internal training is also provided to new Traffic and Safety staff including the TOR form, HSM spreadsheet, Roadsoft, and general safety information related to the call for projects and MDOT standards and guidance.

Describe coordination with internal partners.

MDOT's Safety Programs Unit provides support and coordination to internal partners within the Department. Each of the seven Regions is comprised of a Traffic Safety and Operations Engineer as well as Traffic and Safety Engineers located in the Transportation Service Center (TSC) offices. Employees within the Safety Programs Unit distribute the High Crash List and Pavement Friction Analysis to the Region and TSC staff for their use in project selection. Road Safety Audits and 3R/4R Safety Reviews are conducted with various internal partners located within the Central, Region, and TSC offices. In addition, the Safety Programs Unit supports the Regions and TSC's with special data requests in the development of their safety program including various types of GIS mapping.

HSIP funding partnering is also coordinated between the Safety Programs Unit and Local Agency Programs.

Internal training is also provided to new Traffic and Safety staff including the TOR form, HSM spreadsheet, Roadsoft, and general safety information related to the call for projects and MDOT standards and guidance.

Identify which external partners are involved with HSIP planning.

- Academia/University
- FHWA
- Local Government Agency
- Regional Planning Organizations (e.g. MPOs, RPOs, COGs)
- Other-County Road Association of Michigan
- Other-Office of Highway Safety Planning
- Other-Michigan's Local Technical Assistance Progam
- Other-State Highway Strategic Planning Action Teams

Describe coordination with external partners.

MDOT coordinates with various Colleges and Universities to provide research opportunities on existing and up and coming safety countermeasures. MDOT coordinates with FHWA on existing and proposed federal legislation and standards. MDOT also coordinates with the County Road Association, Regional Planning Organizations, and Local Government Agencies to help communicate safety initiatives and safety countermeasures. Overall, MDOT is vigilant about coordination with external partners specifically to promote Toward Zero Deaths (TZD) initiatives as a member of the Governors Traffic Safety Advisory Council (GTSAC). MDOT will continue to assist the Office of Highway Safety Planning (OHSP) and the GTSAC in planning Engineering sessions for the Annual Michigan Traffic Safety Summit if in the future they occur again. MDOT has provided scholarship opportunities to Local Agencies to attend the Traffic Safety Summit to help educate them on TZD Initiatives and to help reduce fatalities and serious injuries on every roadway in Michigan in the past years of the Summit and will continue to do so when the conference is planned again.

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

For the State Trunkline Program, safety funds are administered by the Safety Template Program Manager in Traffic and Safety (Central Office). For FY 2021, $19.0 M in safety funding was available, of which $16.6 M was allocated to the seven MDOT Regions as funding targets. The allocations were based on the percentage of fatalities and serious injuries, lane miles and Vehicle Miles Traveled in each Region. The goal is that all Regions receive a minimum of 5 percent of the Safety Target. $1.0 M of the safety funds was reserved by the Traffic and Safety area to apply to projects in any Region at their discretion. The Regions were permitted to submit candidate projects with total costs exceeding their funding targets; the central office review team then selected the projects to be funded in each Region, taking into account priorities expressed by the Regional staffs, and use their discretionary funds to apply to worthy projects that exceeded a particular Region’s funding target. All project phases; preliminary engineering, construction engineering, right of way and construction are eligible for safety funding. In addition, each Region was given $200,000 for low-cost safety improvements to be chosen at the discretion of the Region staff.

After the original call for projects letter was issued an additional $6.2 M was dedicated to the State Trunkline Program, beyond the initial allocation of $19.0 M. The TOR values for projects beyond the initial funding targets were used to allocate the additional funds statewide.

Local Safety HSIP administration is explained in Question #6.

Program Methodology

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

Yes

A HSIP Manual describing the planning, selection, and evaluation of HSIP projects for the state trunkline program, local roadways program (non-trunkline) and HRRR program was published in June of 2021. This manual is provided as part of the annual Call for Projects Process (CFP) and updated yearly to reflect changing CFP subcommittees, funding targets and any other changes that may be necessary.

The Local Agency HSIP manual is specific to local agencies and provides information on the local agency call for projects process and application process.

MDOT's Safety Manual was finalized in July 2020. It provides guidance relating to a variety of traffic safety and operational needs including Road Safety Audits, Local Safety Initiatives, Road Diets, Pedestrian and Bicycle Guidance, High Crash Analysis, Safety Call guidance, and Design Exception Crash Analysis.

Select the programs that are administered under the HSIP.

- Other-Pavement Markings
- Other-Highway Safety Call for Projects
- Other-Local Safety Call for Projects
- Other-Local Safety High Risk Rural Roads
- Other-Delineation

Program: Other-Pavement Markings

Date of Program Methodology:9/1/2015

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
	• Lane miles	• Functional classification

What project identification methodology was used for this program?

- Other-Retroreflectivity of pavement marking

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-funding set aside per each Region

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
Cost Effectiveness:2

Program: Other-Highway Safety Call for Projects

Date of Program Methodology:9/15/2011

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

- Other-Focus on fatal and serious injury crashes along with fixes based on crash types and patterns

Exposure

- Volume
- Lane miles

Roadway

- Median width
- Horizontal curvature
- Functional classification
- Roadside features

What project identification methodology was used for this program?

- Excess expected crash frequency using SPFs
- Expected crash frequency with EB adjustment
- Level of service of safety (LOSS)
- Probability of specific crash types
- Relative severity index

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

No

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

How are projects under this program advanced for implementation?

- Competitive application process
- selection committee

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

Rank of Priority Consideration

Ranking based on B/C:3
Available funding:1
Cost Effectiveness:2

Program: Other-Local Safety Call for Projects

Date of Program Methodology:5/8/2015

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

Exposure

- Traffic
- Volume

Roadway

- Horizontal curvature
- Functional classification
- Roadside features

What project identification methodology was used for this program?

- Crash frequency
- Excess expected crash frequency using SPFs
- Expected crash frequency with EB adjustment

- Level of service of safety (LOSS)
- Probability of specific crash types
- Relative severity index

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

Yes

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

Yes

How are projects under this program advanced for implementation?

- Competitive application process
- selection committee

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

Rank of Priority Consideration

Ranking based on B/C:2
Available funding:1
Cost Effectiveness:3
Other-Funding set asides for specific countermeasures:4

Program: Other-Local Safety High Risk Rural Roads

Date of Program Methodology:3/22/2016

What is the justification for this program?

- FHWA focused approach to safety

What is the funding approach for this program?

Funding set-aside

What data types were used in the program methodology?

Crashes

- All crashes

Exposure

- Traffic
- Volume

Roadway

- Horizontal curvature
- Functional classification
- Roadside features

What project identification methodology was used for this program?

- Crash frequency
- Excess expected crash frequency using SPFs
- Expected crash frequency with EB adjustment
- Level of service of safety (LOSS)
- Probability of specific crash types
- Relative severity index

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

Yes

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

Yes

How are projects under this program advanced for implementation?

- Competitive application process
- selection committee

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

Rank of Priority Consideration

Ranking based on B/C:2
Available funding:1
Cost Effectiveness:3

Program: Other-Delineation

Date of Program Methodology:10/1/2017

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Funding set-aside

What data types were used in the program methodology?

Crashes	Exposure	Roadway
• Other-Lane departure crashes	• Volume	• Roadside features

What project identification methodology was used for this program?

- Probability of specific crash types

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

No

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

How are projects under this program advanced for implementation?

- Other-funding set aside

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
Cost Effectiveness:2

What percentage of HSIP funds address systemic improvements?

77

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

- Cable Median Barriers
- Clear Zone Improvements
- High friction surface treatment
- Horizontal curve signs
- Install/Improve Pavement Marking and/or Delineation
- Install/Improve Signing
- Rumble Strips
- Safety Edge
- Wrong way driving treatments

Systemic projects selected through the Local Safety Call for Projects (CFP) process are awarded a higher federal funding percentage (90 percent federal with 10 percent local match) as compared to non-systemic projects which have a base funding percentage of 80 percent federal with a 20 percent local match. It should be noted that all selected projects that address a fatal or serious (Type A) injury crash are funded at 90 percent federal participation.

The Trunkline Call for Projects (CFP) allowed for up to 25 percent of systemic funded projects. Along with the Annual CFP, MDOT elects to construct longitudinal and special pavement markings as part of the HSIP program. Overall, in FY 2022, 77 percent of the total HSIP Trunkline Program funds (Safety, Pavement

Markings, and Delineation) was used for systemic type projects. Regions can use Low-cost Safety Improvement Projects to select systemic type projects.

Overall, 77 percent of HSIP project funds selected were considered to be systemic type fixes (Trunkline Safety, Pavement markings, Delineation, and Local Safety).

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
- SHSP/Local road safety plan
- Other-High Crash List
- Other-Transparency Report
- Other-Fatality and Serious Injury Region-wide Maps
- Other-3R/4R Safety Reviews
- Other-Pavement Friction Analysis
- Other-Customer Concerns
- Other-Local Safety Initiative

Does the State HSIP consider connected vehicles and ITS technologies?

Yes

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

MDOT is considering connected vehicles and ITS technologies as part of the HSIP program. In response to the need for wider lane markings and proposed changes to national standards, MDOT has moved forward with six-inch-wide lane markings on all freeways in summer 2020. MDOT contractors also placed white dotted line extensions on exit and entrance ramps to provide further lane guidance to road users. The additional $200,000 investment for six-inch lane markings and $450,000 for dotted line extensions were done as part of MDOT's annual pavement marking restriping projects. Starting in 2021, MDOT moved its attention to non-freeways in changing all white non-freeway markings to six-inches. Starting in 2022, MDOT is converting all yellow markings to six-inch widths as well.

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.

Michigan DOT utilizes Part B of the HSM through continued development and use of AASHTOWare Safety Analyst for the trunkline roadways. The locations that are determined from Safety Analyst are then provided to Region and Transportation Service Center offices. As they evaluate the locations on the list, Michigan's own HSM spreadsheet is utilized to develop a substantive perspective. The quantitative performance of alternatives allowed in the spreadsheet have come from what will soon been three separate research efforts to better understand safety performance in Michigan. Regionally, it was found that there are differences resulting in the latest version of our HSM spreadsheet to account for this in the analysis. Road Safety Audits have been performed both informally and formally that utilize the Michigan HSM spreadsheet based on suggested improvements. Training on the Interactive Highway Safety Design Model (IHSDM) was completed in 2016 and 2018. Since then, a build of the software has been provided throughout MDOT and is available for use external

to the agency. The latest version of the software is being evaluated to incorporate the research outputs for non-freeway urban and rural site types.

The Trunkline Safety Call for Projects requires that a HSM analysis be completed for all qualifying non-freeway, non-systemic projects. The Local Safety Call for Projects recommends the HSM to be submitted for additional project support. An internal MDOT HSM training was conducted in June of 2019 including an updated analysis spreadsheet and additional trainings will be conducted in fall of 2022.

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

The annual Trunkline process for submitting safety projects starts with a Call for Projects (CFP) issued to the seven MDOT Regions from the Safety Template Program Manager. The FY 2021 Safety Call request was made to the Regions on September 15. In response to the CFP, the Regions identify locations where safety improvements (i.e. add a center left turn lane, right turn lane, geometric improvements to accommodate signalization, median protection, etc.) could be made. These locations are to be identified through the current Transparency (5%) Report, Fatality and Serious Injury Regionwide Maps, High Crash List, 3R/4R Safety Reviews, customer concerns, and Pavement Friction Analyses. Upon location identification an engineering study is conducted by the Region to determine the appropriate safety improvement. The emphasis of the Safety Call was to address those locations with correctable fatality and serious injury crashes to support the department’s efforts of reducing fatalities and serious injuries and support the vision of Toward Zero Deaths (TZD).

All safety projects and proposed candidates must address a focus area of the Michigan Strategic Highway Safety Plan (SHSP). Submitted concepts must meet a maximum Time-of-Return (TOR) to qualify for safety funding. The TOR is a cost benefit analysis of proposed safety improvement which considers all crash types and severity levels that are correctable by the proposed safety improvement. A minimum of the latest three years of available crash data is to be used in the TOR analysis. For FY 2021 project, in which 2012 to 2014 (or most current data available) crash data was used. The following TOR criteria was established:

· Stand alone safety improvement - TOR of 7 years or less
• Stand alone safety improvement for location on the current Transparency (5%) or High Crash Report – TOR of 10 years or less.
• Safety improvement in conjunction with another Construction project (Bridge, R&R, etc.) - TOR of 9 years or less.

Each Region’s submittal was reviewed by the Central office review team to ensure all criteria was met. The Regions were permitted to submit candidate projects with total costs exceeding their funding targets. The review team, taking into account priorities expressed by the Regions, used the TOR values as a means to develop project rankings (lowest to highest TOR value) within each Region .

For FY 2021, funding was included in programmed preliminary engineering for outer year safety projects to conduct a road safety audit (RSA). For guidance, a RSA should be conducted for all proposals exceeding $750,000 in programmed construction costs. Each Region was required to conduct at least one RSA for a FY 2021 improvement projects. The RSA should be done prior to 30 percent completion of the plans. The purpose of the RSA is to ensure that the appropriate safety fixes are incorporated into the overall design based on crash patterns within the project limits.

Continuing in FY 2021 each Region was required to allocate up to a certain percent of their funding target for low cost safety improvements. This amount is in addition to the Safety Work Authorizations (SWA funding). The focus is to be on system wide safety improvements done by work authorization or through the letting process, each Region received $200,000 for FY 2019. A TOR justification is not required if the proposed improvement is selected from the list of approved and proven safety system wide fixes (Eligibility Guidelines for Low Cost Safety Improvement Projects-see attachment). For FY 2021 to FY 2025 the percentage submitted shall be a minimum of 25 percent up to a maximum of 50 percent over a five-year rolling average period.

In an effort to incorporate the Highway Safety Manual (HSM) into MDOT's business process all safety projects submitted for FY 2021 to present, except for freeway improvements, shall have the HSM predictive analysis performed on them. A comparison of future conditions with and without the proposed improvement shall be provided. For FY 2021 to FY 2025, all submitted concepts must address two or more fatal and/or serious injury crashes and align with their Region Toward Zero Deaths plan.

See Question #6 for the HSIP methodology for Local HSIP/HRRR Safety.

Eligibility Guidelines

for

Low Cost Safety Improvement Projects

Location: State Trunkline Highways

Funding: Highway Safety Improvement Program (HSIP) Funds

Purpose: To authorize low-cost, system-wide improvements on State Trunkline Highways

Description: Projects to be funded under this program are proven low-cost safety improvements not requiring a Time-of-Return (TOR) cost/benefit analysis, meet the eligibility requirements for funding, and are to be constructed through the contract letting or Safety Work Authorization processes. Example improvements are:

Attaching guardrail to structure railings(does not include general gr upgrade)

Re-grading side slopes to 1:4, or flatter, to eliminate the need for guardrail

Obstacle removal, clear zone widening

Improvements to sight vision corners

Extending or modifying culverts to eliminate a fixed-object

Pavement grooving/high-friction surface treatment

Installing or reconstructing impact attenuators

Installing delineators, including linear systems

Installing channelization

Installing warning/regulatory signs

Reflective sign post strips for horizontal alignment signs

Re-striping to provide an offset, left-turn lane

Installing horizontal signing, pavement markings (i.e., STOP AHEAD markings in advance of a T-intersection)

Eliminate drop-offs, edge-rutting/ Safety Edge

Construct centerline or shoulder rumble strips

Construct roadside access control/driveway consolidation

Construct right-turn lanes, including offset

Construct minor intersection widening

Construct or widen shoulders

Widen shoulders to accommodate shoulder rumble strips

Construct passing flares

Construct intersection curb control

Sidewalk gap filling(Maintenance agreement required)

Project Implementation

Funds Programmed

Reporting period for HSIP funding.

State Fiscal Year

The State Fiscal year ran from October 1, 2020 to September 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)	$51,039,773	$49,150,617	96.3%
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	$5,671,086	$5,461,180	96.3%
Totals	$56,710,859	$54,611,797	96.3%

State and Local funds include Local Agency project matches (10%/20%/50%) for HSIP funds. Local agency programs programed $5,671,086 and obligated $5,461,180 state/local funds including corresponding match and any additional local funds.

HRRR Special Rule funds were not required for FY 2021. Any HRRR focused project is covered under the HSIP funding category.

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

$18,616,467

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

$16,995,722

The local safety program is generally over programmed (above $15 M) to ensure that all allocated local HSIP funds are obligated and utilized. Additionally, obligational authority for the local safety program comes out of

the local urban obligational authority and projects are obligated on a first come first serve basis. Therefore, the local safety program occasionally obligates additional federal funds over the budgeted (~$15 M) amount.

For FY 2021 Local agency projects programmed $18,616,467 and obligated $16,995,722, 91.29%,

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

$250,000

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

$250,000

For FY 2021 the Local agency safety program did not have any non-infrastructure safety projects.

During the reporting period, FY 2021, 0.94 percent of the programmed and obligated funds of the HSIP State Trunkline system were directed to miscellaneous (previously non-infrastructure) safety items such as Road Safety Audits and safety studies.

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

0%

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

0%

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

Overall, the time frame to obligate a specific project is longer due to MPO required approvals. During the end of the fiscal year when there is bid savings from earlier projects coming under budget, some Regions cannot use said money for a new project due to the lengthy approval process of the MPO.

MDOT promotes the Toward Zero Deaths campaign to the citizens of Michigan, however not being able to use HSIP funds for educational and promotional materials has made this social media campaign challenging, as we have to seek other funding sources within the department, which are also constrained.

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

During the reporting period, FY 2021, 0.94 percent of the programmed and obligated funds of the HSIP State Trunkline system were directed to miscellaneous (previously non-infrastructure) safety items such as Road Safety Audits and safety studies.

Overall, 10.0 percent of obligated (10.0 percent programmed) funds used were from State and Local funding sources.

On the Local Agency side no HSIP funds were directed toward tribal safety projects. In FY 2020, none of the obligated funds for the Local system were directed to non-infrastructure safety items such as Road Safety Audits and a Before and After study. Overall, 24.6 percent of the total programmed and 26.0 percent of the

total obligated federal HSIP/HRRR funds were directed to local safety projects.

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
Grand Region-regionwide delineation										0				Data	
Regionwide freeways - Grand Region, Freeway Enhanced Delineation Installation	Roadway delineation	Delineators post-mounted or on barrier	0	Miles	$249729	$249729	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other Freeways & Expressways	0	70	State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
Regionwide, Various locations, Metro Region, Installation of sign support reflective panels	Roadway delineation	Delineators post-mounted or on barrier	0	Miles	$434470	$434470	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other Freeways & Expressways	0	70	State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
Traverse City TSC-wide, Various Routes, Delineation Installation	Roadway delineation	Delineators post-mounted or on barrier	75.211	Miles	$173306	$173306	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	0	55	State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
M-33, I-75 north to 14th Street in Mio, Delineation Installation	Roadway delineation	Delineators post-mounted or on barrier	34.706	Miles	$161060	$161060	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	4,744	55	State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
US-23 S, US-23 State line to I-94; US-23 Spencer to County Line;M-14/USBR23,, Delineation Installatin	Roadway delineation	Delineators post-mounted or on barrier	60.263	Miles	$828405	$828405	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other Freeways & Expressways	67,589	70	State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
Bay Region, Longitudinal pavement marking application on trunklnes in Bay Region	Roadway delineation	Longitudinal pavement markings - remarking	24440842	feet	$3389286	$3389286	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
Bay Region, Special pavement marking application on trunklines in Bay Region	Roadway delineation	Roadway delineation - other	2002	Locations	$639346	$639346	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As

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
Bay Region, Retroreflectivity readings on trunklines in Bay Region	Roadway delineation	Improve retroreflectivity	6980400	feet	$18428	$18428	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
Bay Region, Durable Pavement Marking Placement	Roadway delineation	Longitudinal pavement markings – new	199071	feet	$391482	$391482	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
Grand Region, Longitudinal pavement marking application on trunklines in Grand Region	Roadway delineation	Longitudinal pavement markings - remarking	22839320	Miles	$2977671	$2977671	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
Grand Region, Special pavement marking application on trunklines in Grand Region	Roadway delineation	Roadway delineation - other	1213	Locations	$428108	$428108	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
Grand Region, Pavement marking retroreflectivity readings on trunklines in Grand Region	Roadway delineation	Improve retroreflectivity	5318040	feet	$15954	$15954	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
Metro Region, Longitudinal pavement marking application on trunklines in Metro Region	Roadway delineation	Longitudinal pavement markings - remarking	14342000	feet	$2790470	$2790470	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
Metro Region, Special pavement marking application on trunklines in Metro Region	Roadway delineation	Roadway delineation - other	3640	Locations	$1412416	$1412416	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
Metro Region, Pavement marking retroreflectivity readings on trunklines in Metro Region	Roadway delineation	Improve retroreflectivity	4560800	feet	$25084	$25084	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As

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
North Region, Application of durable pavement markings on M-37	Roadway delineation	Longitudinal pavement markings – new	2	Locations	$265149	$265149	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
North Region, Longitudinal pavement marking application on trunklines in North Region	Roadway delineation	Longitudinal pavement markings - remarking	24356597	feet	$2197025	$2197025	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
North Region, Special pavement marking application on trunklines in North Region	Roadway delineation	Roadway delineation - other	778	Locations	$487824	$487824	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
North Region, Pavement marking retroreflectivity readings on trunklines in North Region	Roadway delineation	Improve retroreflectivity	5778520	feet	$10401	$10401	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
North Region, Durable Pavement Marking Application	Roadway delineation	Longitudinal pavement markings – new	215215	feet	$408392	$408392	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
Southwest Region, Installation of durable longitudinal pavement markings and mumble strips	Roadway delineation	Longitudinal pavement markings – new	28.309	Miles	$1128655	$1128655	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
Southwest Region, Longitudinal pavement marking application on trunklines in Southwest Region	Roadway delineation	Longitudinal pavement markings - remarking	14952871	feet	$1983192	$1983192	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
Southwest Region, Special pavement marking application on	Roadway delineation	Roadway delineation - other	1168	Locations	$285960	$285960	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As

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
trunklines in Southwest Region															
Southwest Region, Pavement Marking Retroreflectivity Readings on Southwest Region trunklines	Roadway delineation	Improve retroreflectivity	4120570	feet	$10713	$10713	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
Southwest Region, Durable Pavement Marking Application	Roadway delineation	Roadway delineation - other	393	Locations	$268069	$268069	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
Superior Region, Longitudinal pavement marking application on trunklines in Superior Region	Roadway delineation	Longitudinal pavement markings - remarking	21638530	feet	$1944461	$1944461	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
Superior Region, Special pavement marking application on trunklines in Superior Region	Roadway delineation	Roadway delineation - other	940	Locations	$627358	$627358	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
Superior Region, Pavement Marking Retroreflectivity Readings on Superior Region trunklines	Roadway delineation	Improve retroreflectivity	5633140	feet	$10140	$10140	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
University Region, Longitudinal pavement marking application on University Region trunklines	Roadway delineation	Longitudinal pavement markings - remarking	20405834	feet	$3035461	$3035461	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
University Region, Special pavement marking application on trunklines in University Region	Roadway delineation	Roadway delineation - other	2218	Locations	$722344	$722344	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As

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
University Region, Pavement Marking Retroreflectivity Readings on University Region trunklines	Roadway delineation	Improve retroreflectivity	4467440	feet	$12241	$12241	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
University Region, Durable Pavement Marking Application	Roadway delineation	Longitudinal pavement markings – new	218331	feet	$385590	$385590	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
M-13 at Beaver Road, Signal Modernization & Geometric Improvements	Intersection traffic control	Modify traffic signal –other	1	Locations	$320065	$320065	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	14,177	55	State Highway Agency	Spot	Intersections	Reduce Fs and As
M-53 at Dryden Road, Signal Modernization and Dilemma Zone Technology	Intersection traffic control	Dilemma Zone Detection System	1	Locations	$248932	$248932	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	16,077	55	State Highway Agency	Spot	Intersections	Reduce Fs and As
M-47 at Tittabawassee Road, Signal Modernization	Intersection traffic control	Modify traffic signal –other	1	Locations	$277212	$277212	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	11,520	55	State Highway Agency	Spot	Intersections	Reduce Fs and As
M-57, Farland Ave East to Ramsdell Drive, Passing Relief Lanes	Roadway	Install / remove / modify passing zone	2.01	Miles	$4295267	$4295267	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	14,515	55	State Highway Agency	Spot	Lane Departure	Reduce Fs and As
M-104 from 148th to 124th, Install Speed Feedback signs	Speed management	Dynamic Speed Feedback Signs	1.434	Miles	$22640	$22640	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	11,144	55	State Highway Agency	Spot	Data	Reduce Fs and As
M-53, 18 Mile to 27 Mile, Median Cable Barrier	Roadside	Barrier – cable	9.636	Miles	$3025987	$3025987	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	54,709	70	State Highway Agency	Spot	Roadway Departure	Reduce Fs and As
I-696 WB from Greenfield to Lincoln, High Friction Surface Treatment	Roadway	Pavement surface – high friction surface	0.45	Miles	$493267	$493267	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Interstate	130,698	70	State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
I-275, Ecorse Road to Ford Road, Median Cable Barrier	Roadside	Barrier – cable	5.118	Miles	$1405523	$1405523	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Interstate	82,872	70	State Highway Agency	Spot	Roadway Departure	Reduce Fs and As

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
M-10 S/Wyoming Ramp, M-10 at Wyoming, M-10 at Elmhurst, and I-94 at Addison, High Friction Surface Treatment and Signing Improvements	Roadway	Pavement surface – high friction surface	0.347	Miles	$256878	$256878	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other Freeways & Expressways	4,576	55	State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
M-32, Fair Road (East Jordan) to W. Otsego Co Line, Lane departure mitigation	Roadway delineation	Delineators post-mounted or on barrier	34.457	Miles	$1620487	$1620487	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	2,350	55	State Highway Agency	Spot	Roadway Departure	Reduce Fs and As
I-75, Between M-93 and Waters (Marlette Road), Remove Roadside Obstacles	Roadside	Removal of fixed objects (trees, poles, etc.)	11.683	Miles	$1151827	$1151827	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Interstate	19,405	75	State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
US-31, Holiday Road to Five Mile Road, Constructing a center median island	Pedestrians and bicyclists	Medians and pedestrian refuge areas	0.9	Miles	$1693574	$1693574	HSIP (23 U.S.C. 148)	Multiple/Varies	Principal Arterial-Other	27,505	45	State Highway Agency	Spot	Pedestrians	Reduce Fs and As
Regionwide, Various locations in the North Region, Installation of Backplates	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0	Miles	$51340	$51340	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0		State Highway Agency	Systemic	Intersections	Reduce Fs and As
M-72 at Benzonia Trail, Installation of an Rural Intersection Warning System	Advanced technology and ITS	Intersection Conflict Warning System (ICWS)	1	Locations	$84725	$84725	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	2,734	55	State Highway Agency	Spot	Intersections	Reduce Fs and As
M-60 Marshall TSC Wide Rural Intersections, Non-Freeway Sign Replacement	Intersection traffic control	Systemic improvements – stop-controlled	61.297	Miles	$229353	$229353	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	4,623	55	State Highway Agency	Systemic	Intersections	Reduce Fs and As
M-43 at 28th Street, Richland Township, Kalamazoo Co., Add Left turn	Intersection geometry	Intersection realignment	1	Locations	$1042359	$1042359	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	11,448		State Highway Agency	Spot	Intersections	Reduce Fs and As

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
Lanes and Intersection Realignment															
I-94 between I-94 Business Route and 40th Street, Roadside Fixed Object Removal	Roadside	Removal of fixed objects (trees, poles, etc.)	6.812	Miles	$448891	$448891	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Interstate	54,153	70	State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
Regionwide, Various locations in Berrien, Cass, St. Joseph, and Van Buren Counties, Upgrade intersection signing	Intersection traffic control	Systemic improvements – stop-controlled	69.44	Miles	$193067	$193067	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0		State Highway Agency	Systemic	Intersections	Reduce Fs and As
Regionwide, Various Routes - Superior Region, Sinusoidal Rumble Strips on narrow HMA shoulders.	Roadway	Rumble strips – edge or shoulder	0	Miles	$1178032	$1178032	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0		State Highway Agency	Systemic	Lane Departure	Reduce Fs and As
M-28 from US-2 to Crusher Road, Access Management and Intersection Improvements	Access management	Access management - other	1.132	Miles	$168832	$168832	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	2,666	55	State Highway Agency	Spot	Intersections	Reduce Fs and As
M-28, from M-64 south to M-64 north, Grading and paving for 8 ft wide HMA Shoulders	Roadway	Rumble strips – edge or shoulder	4.08	Miles	$527113	$527113	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	1,923	65	State Highway Agency	Systemic	Roadway Departure	Reduce Fs and As
US-2, Various Locations - Superior Region, Intersection improvements and access management	Access management	Access management - other	11.464	Miles	$354174	$354174	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0		State Highway Agency	Systemic	Intersections	Reduce Fs and As
I-96, 900' East of Clinton County Line to I-69, Install Median Cable Barrier	Roadside	Barrier – cable	9.608	Miles	$3768985	$3768985	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Interstate	41,146	70	State Highway Agency	Spot	Roadway Departure	Reduce Fs and As

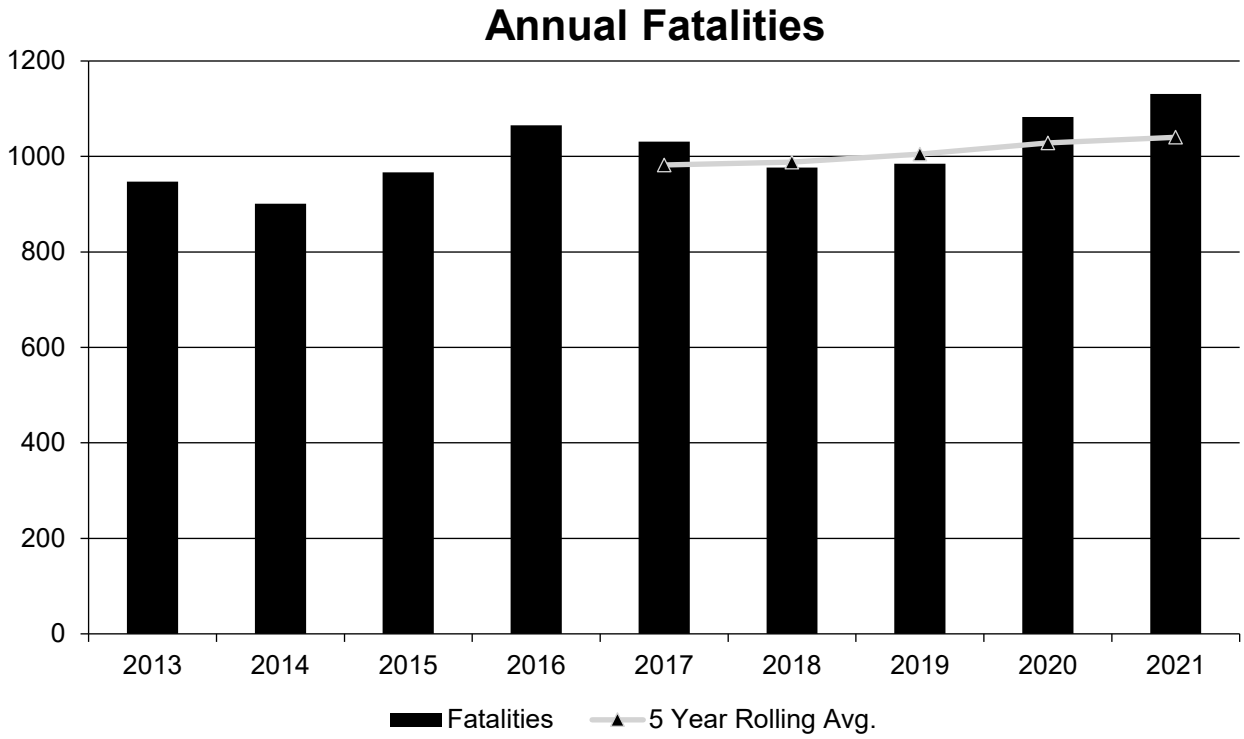
PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
I-96 near Okemos Road, Install median guardrail	Roadside	Barrier- metal	1.619	Miles	$576493	$576493	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Interstate	50,086	70	State Highway Agency	Spot	Roadway Departure	Reduce Fs and As
M-43 (Saginaw Street) and I-69BL, I-96BL (Grand River), Sidewalk construction	Pedestrians and bicyclists	Install sidewalk	0.276	Miles	$130289	$130289	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	27,608	45	State Highway Agency	Systemic	Pedestrians	Reduce Fs and As
I-94BL, Michigan Avenue from East Avenue to Page Avenue, Install mid-block crossing and rapid flashing beacon	Pedestrians and bicyclists	Install new crosswalk	0.14	Miles	$124140	$124140	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	9,737	35	State Highway Agency	Systemic	Pedestrians	Reduce Fs and As
M-156, Elm Street to Silver Creek, Walnut Street to Baldwin Street, and Greeley Street to Park Drive, Construct sidewalks	Pedestrians and bicyclists	Install sidewalk	0.33	Miles	$150346	$150346	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1,558	35	State Highway Agency	Systemic	Pedestrians	Reduce Fs and As
Statewide, Updating Pedestrian/Bicycle Risk Model	Miscellaneous	Data collection	500	Locations	$77000	$77000	HSIP (23 U.S.C. 148)	N/A	Multiple/Varies	0		State Highway Agency	Systemic	Data	Reduce Fs and As
Statewide, Safety Analysis	Miscellaneous	Data analysis	100	Locations	$250000	$250000	HSIP (23 U.S.C. 148)	N/A	Multiple/Varies	0		State Highway Agency	Systemic	Data	Reduce Fs and As

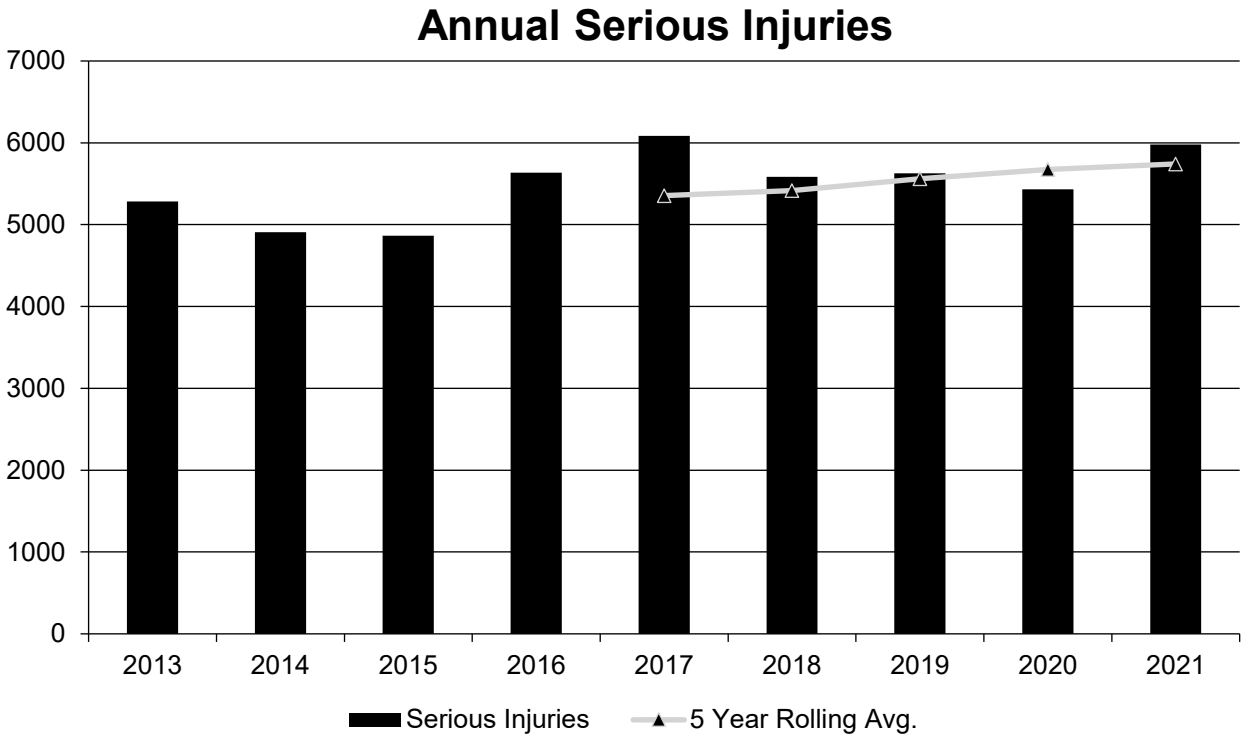
Safety Performance

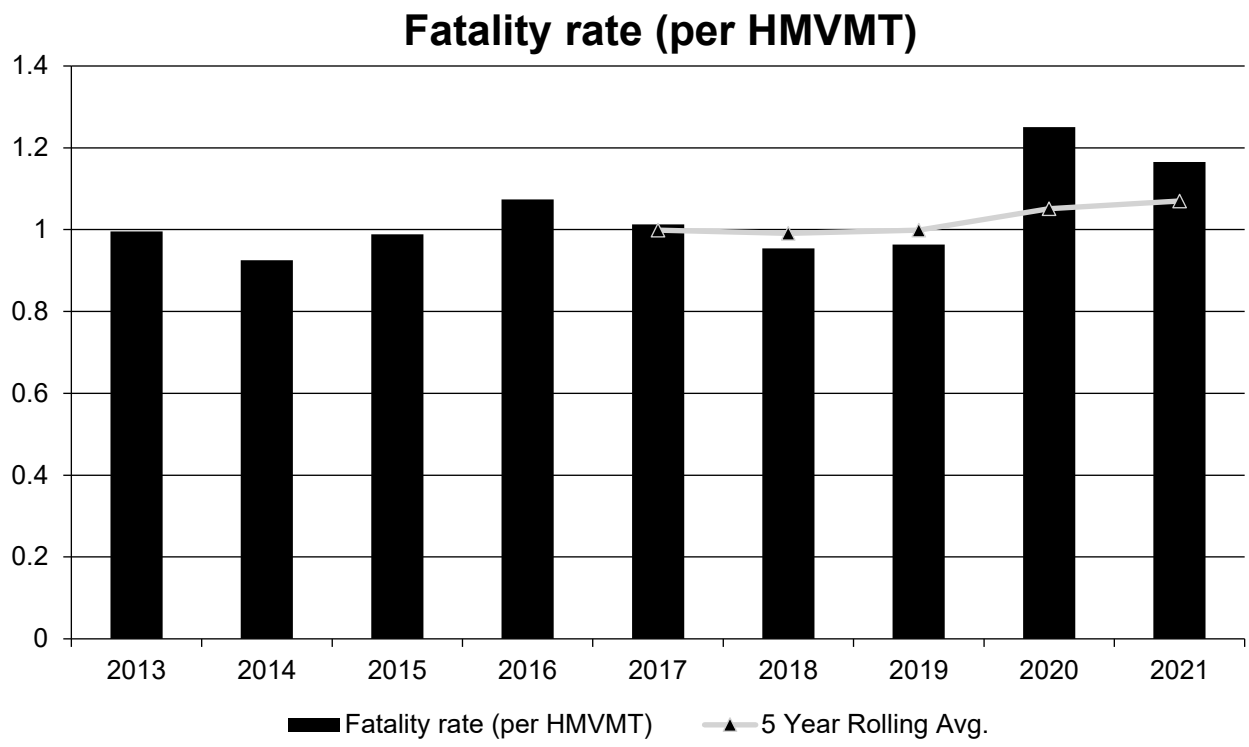
General Highway Safety Trends

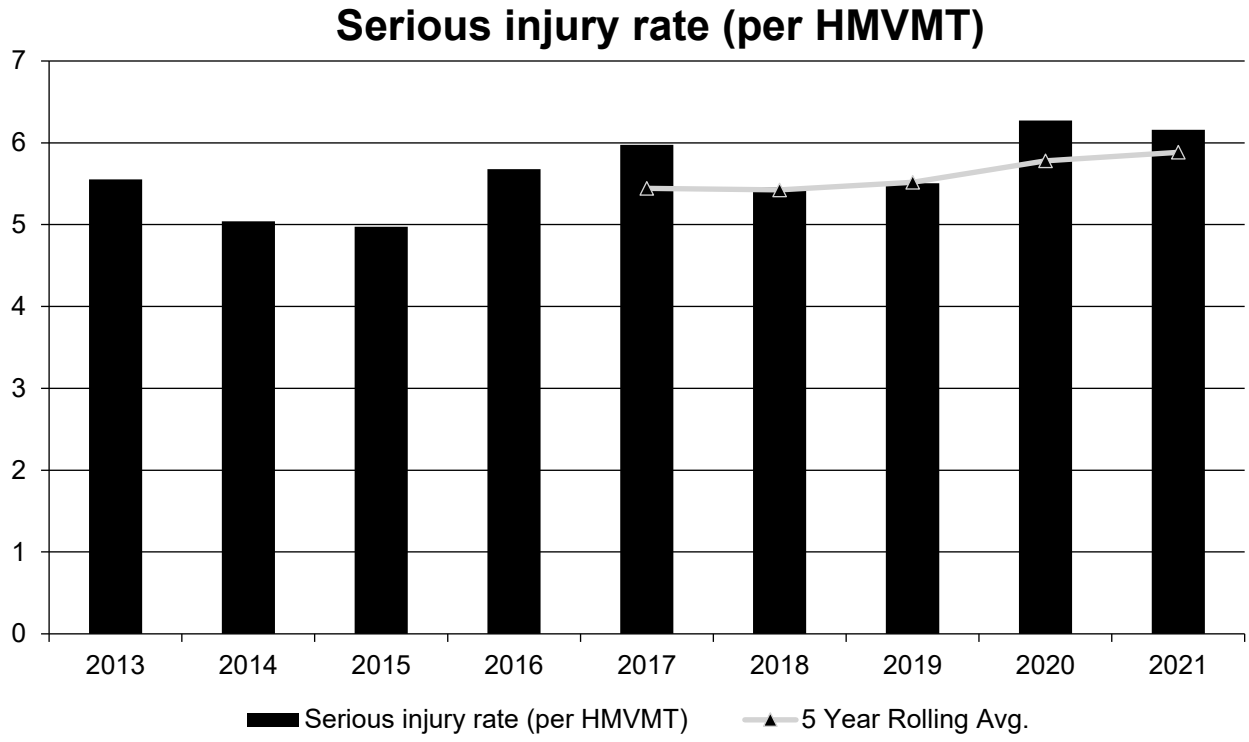
Present data showing the general highway safety trends in the State for the past five years.

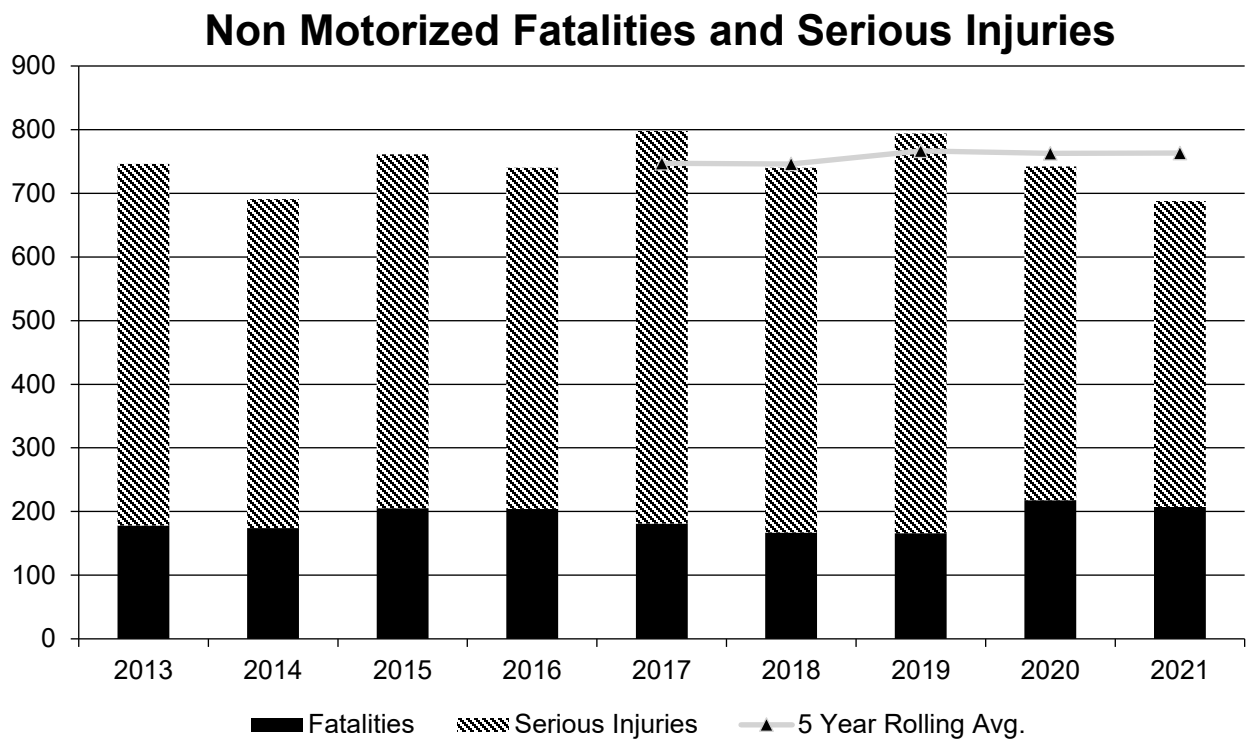
PERFORMANCE MEASURES	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fatalities	947	901	967	1,065	1,031	977	985	1,083	1,131
Serious Injuries	5,283	4,909	4,865	5,634	6,084	5,586	5,629	5,433	5,979
Fatality rate (per HMVMT)	0.996	0.925	0.989	1.074	1.013	0.954	0.964	1.251	1.165
Serious injury rate (per HMVMT)	5.555	5.040	4.974	5.679	5.976	5.455	5.508	6.274	6.158
Number non-motorized fatalities	178	174	205	204	181	167	166	218	207
Number of non-motorized serious injuries	568	517	556	536	617	573	628	524	481


Annual Fatalities
1200
1000
800
600
400
200
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
7000
6000
5000
4000
3000
2000
1000
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
Fatality rate (per HMVMT)
5 Year Rolling Avg.


Serious injury rate (per HMVMT)
7
6
5
4
3
2
1
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
Serious injury rate (per HMVMT)
5 Year Rolling Avg.



Will be updated as VMT is available

Describe fatality data source.

FARS

Combination of data used since 2021 data is not available in FARS - MSP data, etc.

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

Year 2021

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	21.6	91.6	0.4	1.66
Rural Principal Arterial (RPA) - Other Freeways and Expressways	12.8	54.4	0.53	2.44
Rural Principal Arterial (RPA) - Other	50.8	231	0.89	5.09
Rural Minor Arterial	93.6	438.2	1.55	6.06

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	14.6	75.6	1.94	10.05
Rural Major Collector	136.6	644	1.48	7.8
Rural Local Road or Street	80.2	440.2	3.69	21.15
Urban Principal Arterial (UPA) - Interstate	74.8	389	0.47	2.53
Urban Principal Arterial (UPA) - Other Freeways and Expressways	31.4	166.6	0.59	2.7
Urban Principal Arterial (UPA) - Other	231.4	1,286.2	1.67	8.54
Urban Minor Arterial	163.2	1,045	1.12	7.32
Urban Minor Collector	1.8	6.6	2.21	8.84
Urban Major Collector	53.2	318.6	1.25	6.88
Urban Local Road or Street	63.2	433.8	0.89	6.11

Year 2019

Roadways	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Non-Trunkline (County, City, Local Owned Roadways)	576.6	3,196.6	1.22	6.76
State Highway Agency				
County Highway Agency				
Trunkline (State Owned Roadways)	426.2	2,348.4	0.8	4.39
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				
Private (Other than Railroad)				
Railroad				
State Toll Authority				
Local Toll Authority				
Other Public Instrumentality (e.g. Airport, School, University)				
Indian Tribe Nation				
Trunkline (State Owned Roadways)				
Non-Trunkline (County, City, Local Owned Roadways)				

Provide additional discussion related to general highway safety trends.

In review of the 5-Year Rolling Average Statewide, state trunkline and local roadways, fatalities have seen an increase of 6.5 percent over the 5-year span. State trunkline fatalities had an overall increase of 5.9 percent while local roadway fatalities had an overall increase of 7.0 percent.

Serious injuries statewide have seen an increase of 7.2 percent over the 5-year rolling average. State trunkline serious injuries had an overall increase of 5.9 percent while local roadway serious injuries had an overall increase of 8.7 percent.

Regarding rates, the fatality and serious injury rates are lower on state trunkline than on local roadways. Overall, the fatality rate increased 6.5 percent while the serious injury rate increased 7.2 percent. The state trunkline saw a 5.9 percent increase in the fatality rate and a 5.9 percent serious injury rate increase. The local roadways saw a 7.0 percent fatality rate increase and an 8.6 percent serious injury rate increase.

Safety Performance Targets

Safety Performance Targets

Calendar Year 2023 Targets *

Number of Fatalities:1105.6

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

To determine a forecasted value for the five-year rolling average for the first four measures, the decision was made to use the change model created by UMTRI used for establishing previous targets. UMTRI predicts 1065 fatalities in CY 2022, and 1105 in 2023. The change model predicts change in fatalities from the previous year based on several predictors. This log-change regression model is tied closely to whatever happened recently, so it cannot diverge very far from the current time unless we predict many years out into the future. In the future, the change model predicts a steady (slow) decrease in fatalities. The dataset is a set of differences from one year to the next within the state, expressed as a percentage of the previous year. Thus, the predictors can influence exposure and/or risk. The count model, however, directly predicts counts so it could diverge from observed by a lot if the patterns change in the real world. Based on known factors the count model shows a steady increase in fatalities through 2025. As this is not what is expected the change model was selected in developing the targets. This supports the SHSP by identifying Michigan's key safety needs and guide investment decisions to achieve significant reductions in traffic fatalities and serious injuries on public roadways.

Number of Serious Injuries:5909.2

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

The model predicts 5,673 serious injuries in CY 2022, and 5,909 in 2023. While serious injuries have fluctuated over the past several years, the linear relationship of the ratio of serious injuries and fatalities (A/K) going back to 2003 is still evident. However, this trend suggests a greater reduction in serious injuries than being observed. Therefore, a linear model using the last eight year of data was used which projects a flattening pattern. This supports the SHSP by identifying Michigan's key safety needs and guide investment decisions to achieve significant reductions in traffic fatalities and serious injuries on public roadways.

Fatality Rate:1.136

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

VMT values have been predicted for CYs 2020, 2021 and 2022. VMT estimates for CY 2020 are reduced due to COVID-19. Using the fatal injury values, along with the respective predicted VMT, the forecasted fatality rates are 1.051 for CY 2022, and 1.136 for CY 2023.This supports the SHSP by identifying Michigan's key safety needs and guide investment decisions to achieve significant reductions in traffic fatalities and serious injuries on public roadways.

Serious Injury Rate:6.058

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

VMT values have been predicted for CYs 2020, 2021 and 2022. VMT estimates for CY 2020 are reduced due to COVID-19. Using the fatal injury values, along with the respective predicted VMT, the forecasted serious injury rates are 5.778 for CY 2022, and 6.058 for CY 2023.This supports the SHSP by identifying Michigan's key safety needs and guide investment decisions to achieve significant reductions in traffic fatalities and serious injuries on public roadways.

Total Number of Non-Motorized Fatalities and Serious Injuries:743.4

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

Results from the UMTRI model as described (the fatality and serious injury relationship) were also used to generate non-motorized forecasted annual values of 762 for CY 2022, and 743 for CY 2023.This supports the SHSP by identifying Michigan's key safety needs and guide investment decisions to achieve significant reductions in traffic fatalities and serious injuries on public roadways.

The annual forecasted values for CY 2022 and CY 2023 along with the actual values from CY 2018 to 2020 to determine the 2023 Targets (five-year rolling average) are shown in the table. In addition, actual values dating back to CY 2012 are included as part of the determination of the 2020 baseline condition.

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

The Michigan DOT, the Michigan Office of Highway Safety Planning (OHSP), and the University of Michigan Transportation Research Institute (UMTRI) collaborated to establish the safety performance targets for Michigan. This collaboration included meetings with the analysis team along with input from MPO's and FHWA. The OSHP is a division under the Michigan State Police. The Director of OHSP serves as the chair to the Governor's Traffic Safety Advisory Commission (GTSAC) in Michigan.

Does the State want to report additional optional targets?

No

N/A

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	968.6	1040.2
Number of Serious Injuries	5533.6	5742.2
Fatality Rate	0.982	1.070
Serious Injury Rate	5.609	5.884
Non-Motorized Fatalities and Serious Injuries	771.2	763.2

Based on Targets vs Actual, Michigan will preliminarily not meet 4 of the 5 performance targets for FY 2021.

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	2015	2016	2017	2018	2019	2020	2021
Number of Older Driver and Pedestrian Fatalities	133	172	155	159	159	181	206
Number of Older Driver and Pedestrian Serious Injuries	393	506	558	509	574	464	515

Data has been updated with 2021 crash data information based on the State of Michigan Crash database.

Evaluation

Program Effectiveness

How does the State measure effectiveness of the HSIP?

- Other-Decrease of both fatal and serious injuries on a five-year rolling average

MDOT acknowledges the increasing trend of fatalities and serious injuries that are occurring on our roadway network. MDOT is focusing on projects that affect the roadway networks in large areas including:

· Non-infrastructure – training and workforce development, traffic studies, data analysis

· Advance technology and ITS – ITS

· Alignment – horizontal and vertical alignment

· Interchange design – interchange improvements

· Intersection geometry – auxiliary lanes, geometry improvements

· Intersection traffic control – flasher install, conversion to roundabout, signal modernization, intersection upgrades

· Railroad grade crossings – widen crossing

· Roadside – barrier install (cable, concrete, metal), drainage and grading improvements, roadside object removal

· Roadway – access management, high friction pavement surface, roadway narrowing/widening, rumble strips

· Roadway delineation – delineators, pavement markings, retroreflectivity improvements

· Roadway signs and traffic control – curve warning signs, signing upgrades and/or replacement

· Shoulder treatments – shoulder paving, shoulder widening

· Speed management – radar speed signs

· Vulnerable Road Users – median and refuge areas, sidewalks, crosswalks, pedestrian signal improvements

· Lighting – lighting improvements

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

MDOT plans on conducting before and after studies utilizing the data-driven approach to safety decisions focusing on the Towards Zero Deaths initiative.

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

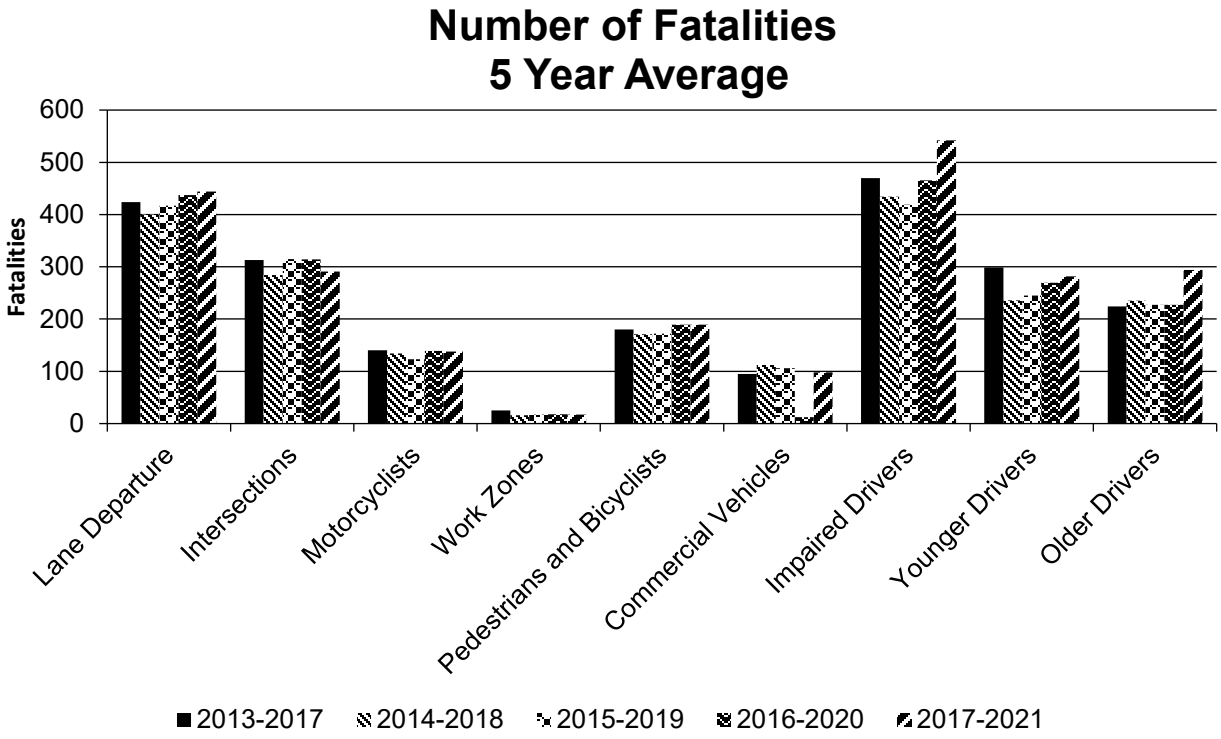
- # RSAs completed
- Increased awareness of safety and data-driven process
- Increased focus on local road safety
- Other-Before and After Studies
- Other-Additional Systemic Treatments based on crash data

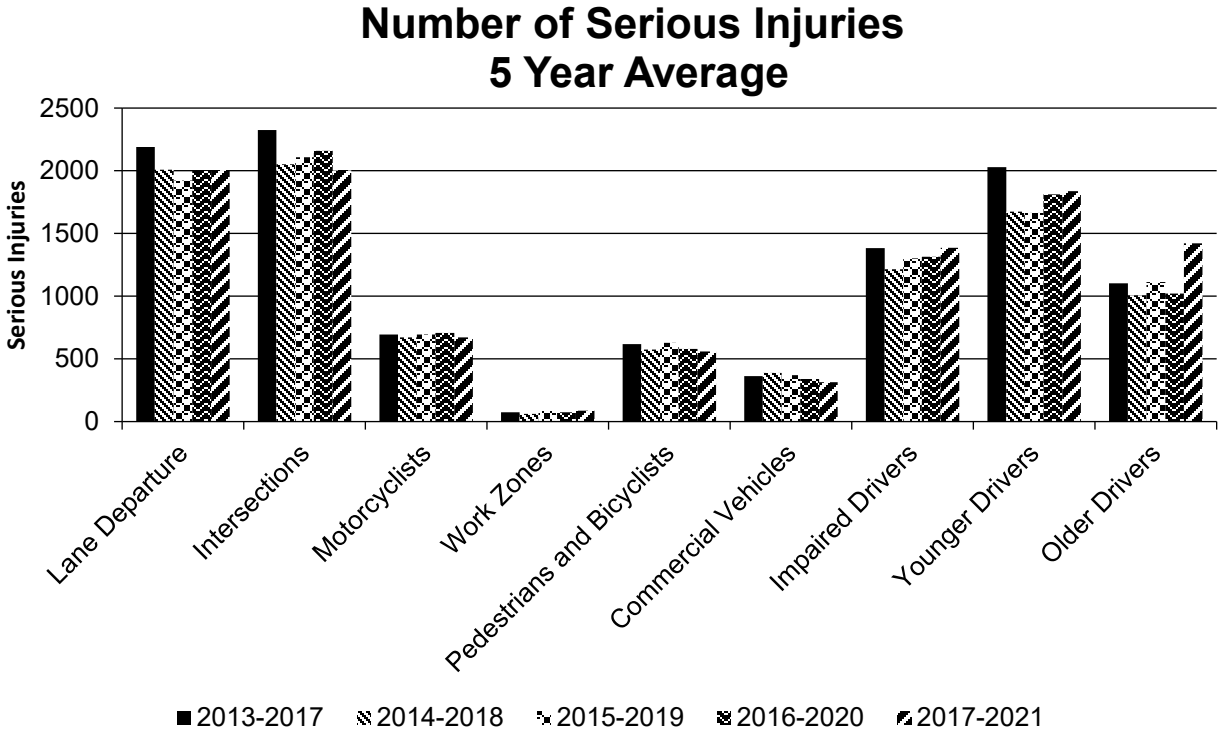
Effectiveness of Groupings or Similar Types of Improvements

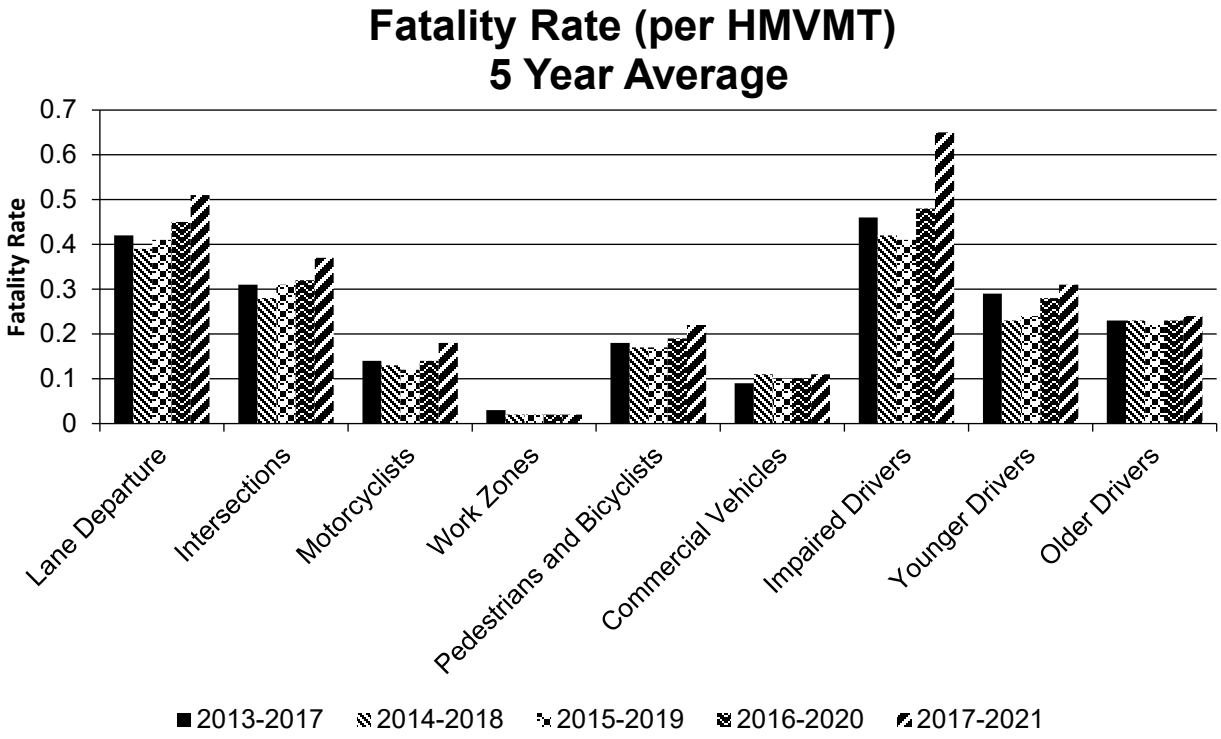
Present and describe trends in SHSP emphasis area performance measures.

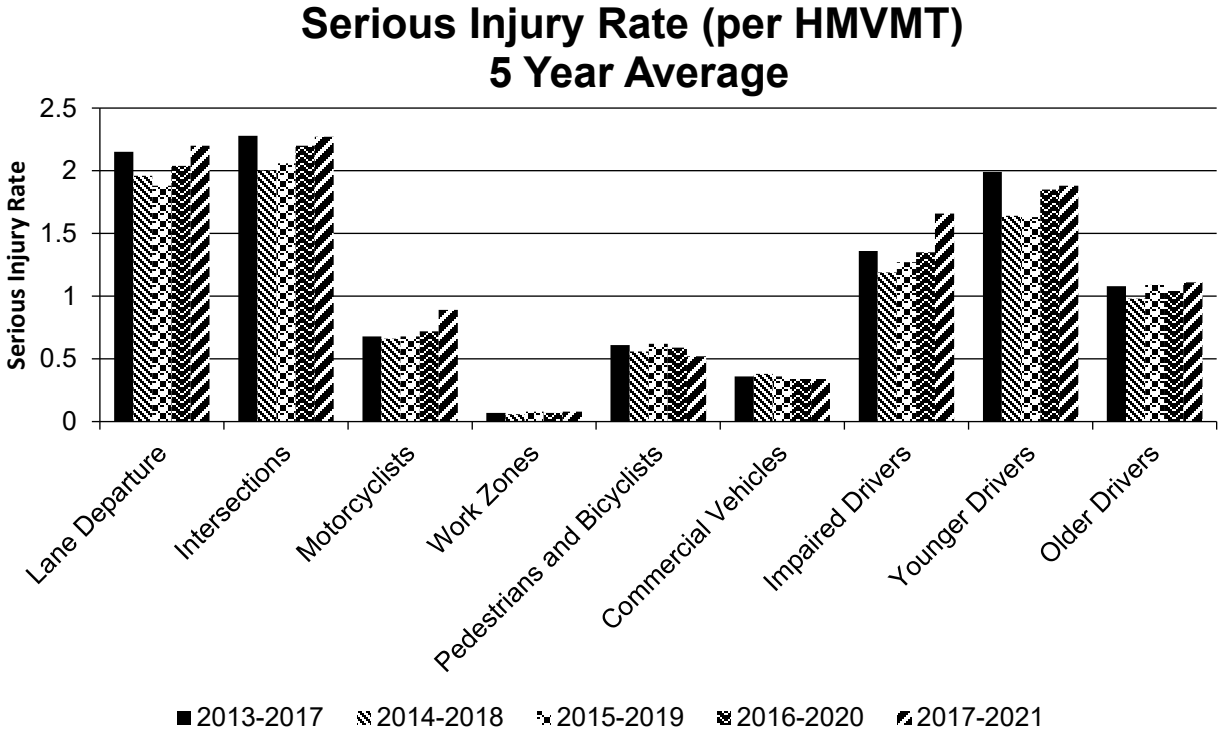
Year 2021

SHSP Emphasis Area	Targeted Crash Type	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Lane Departure		444	2,007	0.51	2.2
Intersections		291	2,002	0.37	2.27
Motorcyclists		138	670	0.18	0.89
Work Zones		17	87	0.02	0.08
Pedestrians and Bicyclists		189	560	0.22	0.52
Commercial Vehicles		98	315	0.11	0.34
Impaired Drivers		542	1,385	0.65	1.66
Younger Drivers		282	1,837	0.31	1.88
Older Drivers		294	1,422	0.24	1.11


Number of Fatalities
5 Year Average
Fatalities
600
500
400
300
200
100
0
Lane Departure
Intersections
Motorcyclists
Work Zones
Pedestrians and Bicyclists
Commercial Vehicles
Impaired Drivers
Younger Drivers
Older Drivers
2013-2017
2014-2018
2015-2019
2016-2020
2017-2021


Number of Serious Injuries
5 Year Average
Serious Injuries
2500
2000
1500
1000
500
0
Lane Departure
Intersections
Motorcyclists
Work Zones
Pedestrians and Bicyclists
Commercial Vehicles
Impaired Drivers
Younger Drivers
Older Drivers
2013-2017
2014-2018
2015-2019
2016-2020
2017-2021





Other 1 - Lane departure crashes

Other 2 - Motorcycles

Other 3 - Work zones

Other 4 - Ped/Bike

Other 5 - Impaired Drivers

Other 6 - Young Drivers

Other 7 - Elder Drivers

Project Effectiveness

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

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

We have made sinusoidal strips standard for non-freeway shoulders, an option for centerline and edgeline on non-freeways based on certain criteria, and need further investigation and discussion on freeway shoulders.

We rewrote section 6.05.11 of the Road Design Manual if you want to see all the options and criteria we now have for rumble/mumble strips.

Compliance Assessment

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

11/07/2019

What are the years being covered by the current SHSP?

From: 2019 To: 2022

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

2022

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									
	Route/Street Name (9) [9]	100	100								
	Federal Aid/Route Type (21) [21]										
	Rural/Urban Designation (20) [20]	100	100					100	100		
	Surface Type (23) [24]	100	100					100	15		
	Begin Point Segment Descriptor (10) [10]	100	100								
	End Point Segment Descriptor (11) [11]	100	100								
	Segment Length (13) [13]	100	100								
	Direction of Inventory (18) [18]										
	Functional Class (19) [19]	100	100					100	100	100	100
	Median Type (54) [55]	80	95								

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
	Access Control (22) [23]										
	One/Two Way Operations (91) [93]	95	10								
	Number of Through Lanes (31) [32]	100	80					100			
	Average Annual Daily Traffic (79) [81]	100	95								
	AADT Year (80) [82]	100	95								
	Type of Governmental Ownership (4) [4]	100	100					100			
INTERSECTION	Unique Junction Identifier (120) [110]			100	100						
	Location Identifier for Road 1 Crossing Point (122) [112]			100	100						
	Location Identifier for Road 2 Crossing Point (123) [113]			100	100						
	Intersection/Junction Geometry (126) [116]										
	Intersection/Junction Traffic Control (131) [131]										
	AADT for Each Intersecting Road (79) [81]			100	95						
	AADT Year (80) [82]										
	Unique Approach Identifier (139) [129]										
INTERCHANGE/RAMP	Unique Interchange Identifier (178) [168]					100	100				
	Location Identifier for Roadway at Beginning of Ramp Terminal (197) [187]					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 Ending Ramp Terminal (201) [191]					100	100				
	Ramp Length (187) [177]					100	100				
	Roadway Type at Beginning of Ramp Terminal (195) [185]						100				
	Roadway Type at End Ramp Terminal (199) [189]						100				
	Interchange Type (182) [172]					100	100				
	Ramp AADT (191) [181]					98	100				
	Year of Ramp AADT (192) [182]					98	100				
	Functional Class (19) [19]					100	100				
	Type of Governmental Ownership (4) [4]					100	100				
Totals (Average Percent Complete):		**81.94**	**70.83**	**50.00**	**49.38**	**81.45**	**100.00**	**66.67**	**35.00**	**40.00**	**40.00**

*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.

MDOT is still continuing to collect the MIRE FDE data using the Roadsoft program updated by Michigan Technological University through 2022 and beyond. MDOT currently is on pace to have complete access to the MIRE FDE by September 30, 2026.

Optional Attachments

Program Structure:

Local Agency HSIP Manual_August 2019.pdf
Highway CFP Manual_June_2021.pdf
MDOT Safety Manual.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.