



MICHIGAN

# HIGHWAY SAFETY IMPROVEMENT PROGRAM 2020 ANNUAL REPORT



U.S. Department of Transportation  
Federal Highway Administration

**Photo Source:**  
MDOT Photography Unit

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## **Disclaimer**

### ***Protection of Data from Discovery Admission into Evidence***

23 U.S.C. 148(h)(4) states "Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for any purpose relating to this section[HSIP], shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location identified or addressed in the reports, surveys, schedules, lists, or other data.

23 U.S.C. 148(h)(4) states "Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for any purpose relating to this section[HSIP], shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location identified or addressed in the reports, surveys, schedules, lists, or other data. 23 U.S.C. 409 states "Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data."

## **Executive Summary**

The 2020 HSIP Annual Report for the Michigan Department of Transportation (MDOT) will be for the one year time period of FY 2019 which commenced on October 1, 2018 and ended on September 30, 2019. 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 local and non-local 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 the state owned and locally owned roadways. There is also a funding set aside amount directly for state owned roadway 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 (~\$15.1 M) are administered by the Local Agency Programs Safety Engineer located in the Central Office. The HSIP funds were allocated to two separate Call for Projects: \$6 M for High Risk Rural Roads (HRRR) and \$9 M for Highway Safety Improvement Program (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, 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, with a 20 or 10 percent Local Agency match, respectively.

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 agencies that are part of a rural task force are to notify their members that they applied for these 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 4, 2017 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. Townships and tribal organizations are 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 2019 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 2019 projects, 2012 to 2016 (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 2019 CFP, a greater emphasis was placed on the identification of correctable fatalities and serious injuries, both in the selection and the prioritization of safety projects. In FY 2019, a small portion of the local safety funds were allocated to eight subprograms (compared to five subprograms in 2018), with the following three additions: Systemic Lane Departure projects (\$3 M), Projects identified in Regional Traffic Safety Plans (\$3 M) and Safety Edge (\$500 K). Three subprograms received increased allocations compared to FY 2018; Centerline and Shoulder Rumble Strips (\$500 K), Non-motorized Facility/Pedestrian Improvements (\$200 K), Guardrail Upgrades and Clear Zone Improvements (\$1 M). Allocations for High Friction Surface Treatment (\$100 K), and Road Safety Audits (\$50 K) remained the same as 2018. Each selected project could count towards multiple subprograms. Local agencies were informed of the listed subprograms and encouraged to submit related projects.

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

- Design

## 2020 Michigan Highway Safety Improvement Program

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

### **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 Program

### **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 assists the Office of Highway Safety Planning (OHSP) and the GTSAC in planning Engineering sessions for the Annual Michigan Traffic Safety Summit. MDOT provides 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.

[https://www.michigan.gov/documents/msp/Workshop\\_Agenda\\_for\\_Web\\_V4\\_3.2.20\\_682453\\_7.pdf](https://www.michigan.gov/documents/msp/Workshop_Agenda_for_Web_V4_3.2.20_682453_7.pdf)

Michan LTAP conducted a mini-roundabout symposium in coordination with FHWA for the local agencies of Michigan. Michigan DOT also provided an in-house workshop for Mini-Roundabouts as well as Intersection Control Evaluation (ICE).

**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 2019, \$21.5 M in safety funding was available, of which \$15.6 M was allocated to the seven MDOT Regions as funding targets. Additional template funding was added after the original call for projects letter. 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.

Beyond the allocated \$15.6 M, an additional \$4.5 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 to the \$20.1 M of project funding described above, in which project selection was approved by central office staff, each Region was given \$200,000 for low-cost safety improvements to be chosen at the discretion of the Region staff. The Regions use this pot of money for a variety of minor roadside safety improvements which can be performed in a timely manner by state forces or contract agencies. Individual Safety Work Authorizations (SWA) are the most cost effective method of funding these types of improvements and can be initiated quickly throughout the fiscal year in response to safety needs. Federal funds are used for those improvements meeting funding criteria.

Once the FY 2019 program was developed, it was reviewed and approved by the Project Screening Committee (PSC). The PSC consists of Region and Central Office Program Managers and Planning staff who help develop the MDOT's Five Year Plan for approval by the Transportation Commission. The PSC ensures coordination between Regions on various corridors and between the programs.

In FY 2019, the use of HSIP funding continued in the administration of the pavement marking program. Under 23 U.S.C. 148(e)(1)(c), HSIP funds may be obligated for any project to maintain minimum levels of retroreflectivity of traffic signs and pavement markings, without regard to whether that project is included in an applicable State SHSP. Prior to FY 2013 Surface Transportation Safety funding was used in the placement of pavement markings in the Annual Pavement Marking Program.

Local Safety HSIP administration is explained above 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 relating to the Local Agency HSIP Program describing the planning, project selection, implementation, and evaluation processes was published in August of 2019. The intent is to update this manual periodically as methodology pertaining to the local safety program changes.

MDOT Safety Programs created a guidance that was finalized in July 2020 for trunkline related programs.



**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).***

## 2020 Michigan Highway Safety Improvement Program

### 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?**

54

**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
- Other-funding set-asides for Local Agencies
- Pavement/Shoulder Widening
- Rumble Strips
- Safety Edge
- Traffic Control Device Rehabilitation
- Upgrade Guard Rails
- 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. Additionally, the local safety CFP has set asides for High Friction Surface Treatment, Rumble Strips, Clear Zone improvements, and Guardrail upgrade projects that are systemic in nature along with a set aside for systemic lane departure projects. Of the Federal HSIP funds obligated on the local system in fiscal year 2019, approximately 21 percent of funds went towards systemic projects.

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 2019, 65 percent of the total HSIP Trunkline Program funds (Safety, Pavement Markings, and Delineation) was used for systemic type projects. 32 percent of Trunkline Safety CFP project funds were systemic type fixes. See attached Low-cost Safety Improvement Projects that is used to select systemic type projects.

Overall, 54 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

## 2020 Michigan Highway Safety Improvement Program

- 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?**

No

Currently, MDOT does not consider connected vehicles with ITS technologies as part of the HSIP program. Connected vehicles and ITS technologies are funded via a separate funding source out of the MDOT TSMO Division. The ITS program promotes advanced technologies, electronic and telecommunication to improve safety and travel time on the multi-modal transportation system. Michigan's Connected Vehicles program is intended as a complementary program to efforts in California, Minnesota and Florida, along with international efforts in Ontario, Canada and Wales, United Kingdom, aimed at providing an incubator for testing of a variety of on board and road side elements and applications.

### **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 be 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. In Safety Analyst, the emphasis areas of Bicycle, Pedestrian, Run-off-Road, Alcohol, Commercial Vehicle, Work Zone and light condition have been built in to provide additional functionality. Safety Analyst was also used as one of the deciding factors in the determination of the locations for increasing speed limits.

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 allows 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.

**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 2019 Safety Call request was made to the Regions on September 16, 2013. 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 2019 project, in which 2010 to 2012 (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. Due to increased funding for 2018 to 2023, the discretionary allocation for FY 2019 was \$4.5 M. The TOR values for projects beyond funding targets were used to allocate \$4.5 M of discretionary funds statewide.

For FY 2019, 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 2019 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 2019 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 2018 through 2020 this percentage was increased to 25 percent. 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.



## 2020 Michigan Highway Safety Improvement Program

In an effort to incorporate the Highway Safety Manual (HSM) into MDOT's business process all safety projects submitted for FY 2019 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. Starting for FY 2020 and continuing 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.

## Project Implementation

### *Funds Programmed*

#### Reporting period for HSIP funding.

State Fiscal Year

The State Fiscal year ran from October 1, 2018 to September 30, 2019.

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

FUNDING CATEGORY	PROGRAMMED	OBLIGATED	% OBLIGATED/PROGRAMMED
HSIP (23 U.S.C. 148)	\$58,510,122	\$55,683,132	95.17%
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	\$7,493,298	\$9,729,161	129.84%
Totals	\$66,003,420	\$65,412,293	99.1%

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

\$17,584,286

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

\$17,509,035

The local safety program is allocated approximately \$15.9 M annually but programs projects over and above our allocation to ensure the majority of local HSIP funding is utilized. The total amount programmed for fiscal year 2019 was \$20,854,835. The local safety program shares obligational authority with the local urban (non-safety) program and projects are obligated on a first come first serve basis which can result in more or less HSIP funds being obligated for any given fiscal year (FY).

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

\$307,040

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

\$305,958

Projects included work zone enforcement, incident management kits, data analysis, before and after studies, and road safety audits.

**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 2019, 0.33 percent of the programmed funds and 0.34 percent of the obligated funds of the HSIP State Trunkline system were directed to non-infrastructure safety items such as Road Safety Audits and Work Zone Enforcement.

On the Local Agency side no HSIP funds were directed toward tribal safety projects. In FY 2019, 0.86 percent 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.

Overall, 11.3 percent of programmed funds used were State and Local, while 14.9 percent of obligated funds used were State and Local.

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
I-69, I-75, US-23 Bay Region Davison TSC Delineator Installation	Roadway delineation	Delineators post-mounted or on barrier	32	Miles	\$586529	\$586529	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Bay Region Mount Pleasant TSC wide Delineation upgrades	Roadway delineation	Delineators post-mounted or on barrier	50	Miles	\$204850	\$204850	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Metro Regionwide enhanced delineation on guardrails	Roadway delineation	Delineators post-mounted or on barrier	111	Miles	\$489883	\$489883	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Gaylord TSC M32 from M66 to Otsego ECL, M66 from US131 to US31, and M88 from US131 to US31 Guardrail Delineation	Roadway delineation	Delineators post-mounted or on barrier	52	Miles	\$258441	\$258441	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0	65	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Southwest Regionwide I-94, US-31, and I-69 corridor Delineation upgrades	Roadway delineation	Delineators post-mounted or on barrier	125	Miles	\$419479	\$419479	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	70	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Superior Regionwide installation of roadside delineators	Roadway delineation	Delineators post-mounted or on barrier	26	Miles	\$378000	\$378000	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0	65	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Bay Region Longitudinal pavement marking application	Roadway delineation	Longitudinal pavement markings - remarking	4948	Miles	\$2850000	\$2850000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Bay Region Application of special pavement markings	Roadway delineation	Roadway delineation - other	2476	Locations	\$670000	\$670000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's

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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 Pavement marking retro reflectivity readings and condition assessment	Roadway delineation	Improve retroreflectivity	1404	Miles	\$20243	\$20243	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Grand Region Application of longitudinal pavement markings	Roadway delineation	Longitudinal pavement markings - remarking	4334	Miles	\$2790000	\$2790000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Grand Region Application of special pavement markings	Roadway delineation	Roadway delineation - other	1921	Locations	\$685000	\$685000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Grand Region Pavement marking retro reflectivity readings and condition assessment	Roadway delineation	Improve retroreflectivity	983	Miles	\$15566	\$15566	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Metro Region Application of longitudinal pavement markings	Roadway delineation	Longitudinal pavement markings - remarking	2547	Miles	\$2735000	\$2735000	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Metro Region Application of special pavement markings	Roadway delineation	Roadway delineation - other	4050	Locations	\$1245000	\$1245000	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Metro Region Pavement marking retro reflectivity readings and condition assessment	Roadway delineation	Improve retroreflectivity	826	Miles	\$30104	\$30104	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
North Region Application of longitudinal pavement markings	Roadway delineation	Longitudinal pavement markings - remarking	4715	Miles	\$2070000	\$2070000	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's

2020 Michigan Highway Safety Improvement Program

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 special pavement markings	Roadway delineation	Roadway delineation - other	1046	Locations	\$530000	\$530000	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
North Region Pavement marking retro reflectivity readings and condition assessment	Roadway delineation	Improve retroreflectivity	1035	Miles	\$11278	\$11278	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Southwest Region Application of longitudinal pavement markings	Roadway delineation	Longitudinal pavement markings - remarking	2986	Miles	\$1920000	\$1920000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Southwest Region Application of special pavement markings	Roadway delineation	Roadway delineation - other	1457	Locations	\$525000	\$525000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Southwest Region Pavement marking retro reflectivity readings and condition assessment	Roadway delineation	Improve retroreflectivity	728	Miles	\$10352	\$10352	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Superior Region Application of longitudinal pavement markings	Roadway delineation	Longitudinal pavement markings - remarking	4371	Miles	\$2061500	\$2061500	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Superior Region Application of special pavement markings	Roadway delineation	Roadway delineation - other	885	Locations	\$495000	\$495000	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Superior Region Pavement marking retro reflectivity readings and condition assessment	Roadway delineation	Improve retroreflectivity	1050	Miles	\$12416	\$12416	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's

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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 Application of longitudinal pavement markings	Roadway delineation	Longitudinal pavement markings - remarking	4004	Miles	\$2685000	\$2685000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
University Region Application of special pavement markings	Roadway delineation	Roadway delineation - other	1260	Locations	\$460000	\$460000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
University Region Pavement marking retro reflectivity readings and condition assessment	Roadway delineation	Improve retroreflectivity	885	Miles	\$13785	\$13785	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
Statewide PE for the FY 2020 Marking and Delineation Program	Roadway delineation	Roadway delineation - other	7	Regions	\$250000	\$250000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Systemic	Lane Departure	Reduce F's and A's
WB M-25 From West of Saginaw Street westerly to the Bascule bridge and from Walnut Street westerly to west of Henry Street High Friction Surface	Roadway	Pavement surface - high friction surface	0.25	Miles	\$405865	\$408535	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	27,500	45	State Highway Agency	Spot	Roadway Departure	Reduce F's and A's
US-127BR Bilkare Rd to Stockwell Rd Addition of a center left turn lane	Intersection geometry	Auxiliary lanes - add two-way left-turn lane	0.75	Miles	\$1544000	\$1544000	HSIP (23 U.S.C. 148)	Rural	Major Collector	4,300	55	State Highway Agency	Spot	Intersections	Reduce F's and A's
M-61 Rodgers Avenue to Clarwin Avenue Guardrail approach terminal replacement	Roadside	Barrier end treatments (crash cushions, terminals)	10	Miles	\$70000	\$70000	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	2,300	55	State Highway Agency	Systemic	Roadway Departure	Reduce F's and A's
US-127 At the Bagley Road cul-de-sac Bagley Rd and eliminate ramps	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	3	Access points	\$805206	\$805206	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other Freeways & Expressways	17,500	65	State Highway Agency	Spot	Intersections	Reduce F's and A's

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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-37 at Sager Road at Sager Road Tree clearing	Roadside	Removal of roadside objects (trees, poles, etc.)	0.42	Miles	\$40000	\$40000	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	5,000	55	State Highway Agency	Systemic	Roadway Departure	Reduce F's and A's
M-21 At Carl Drive Extension of left turn lane	Intersection geometry	Auxiliary lanes - extend existing left-turn lane	0.13	Miles	\$513242	\$513242	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	23,000	55	State Highway Agency	Spot	Intersections	Reduce F's and A's
I-196 WB to US-131 NB Ramp Bridge Deck Patching & Apply High Friction Surface	Roadway	Pavement surface - high friction surface	0.35	Miles	\$332000	\$332000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Interstate	13,100	70	State Highway Agency	Spot	Lane Departure	Reduce F's and A's
US-31 BR north to crossovers of M-120 and US-31 BR north to crossover south of M-120 Widen paved shoulder	Shoulder treatments	Widen shoulder - paved or other	1.7	Miles	\$400000	\$400000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	23,700	70	State Highway Agency	Systemic	Roadway Departure	Reduce F's and A's
M-120 Mid-Michigan Railroad east to Getty Street Addition of Center Left Turn Lane	Intersection geometry	Auxiliary lanes - add two-way left-turn lane	1.2	Miles	\$1000000	\$1000000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	16,400	50	State Highway Agency	Spot	Intersections	Reduce F's and A's
US-131 at 14 Mile, M-20 at US-131 NB, US-131 SB at 14 Mile, and M-20 (Perry Ave.) Install Guardrail at bridge piers	Roadside	Barrier- metal	1.2	Miles	\$82349	\$82349	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other Freeways & Expressways	0	0	State Highway Agency	Systemic	Roadway Departure	Reduce F's and A's
I-196BL at 112th Ave Construct indirect left turns	Intersection geometry	Auxiliary lanes - add two-way left-turn lane	0.25	Miles	\$885000	\$885000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	27,000	55	State Highway Agency	Spot	Intersections	Reduce F's and A's
US-31 south of Van Wagoner Road and north of Sherman Blvd Enhanced linear delineation on concrete barrier wall	Roadway delineation	Delineators post-mounted or on barrier	1.13	Miles	\$47580	\$47580	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other Freeways & Expressways	63,000	70	State Highway Agency	Systemic	Roadway Departure	Reduce F's and A's



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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-104 Spring Lake east village limit east to I-96 enhanced Signing and Work Zone Enforcement	Non-infrastructure	Enforcement	1	Locations	\$25000	\$25000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	12,100	55	State Highway Agency	Spot	Work Zones	Reduce F's and A's
I-696 Service Drive near M-1 Intersection non-motorized and Signing improvements	Pedestrians and bicyclists	Install sidewalk	0.5	Miles	\$1200000	\$1200000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	53,500	45	State Highway Agency	Systemic	Pedestrians	Reduce F's and A's
I-96 from 5 Mile to I-696, M-5 from I-96 to Drake - multi locations Guardrail delineation upgrades	Roadside	Barrier- metal	8.7	Miles	\$469516	\$469516	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Interstate	0	70	State Highway Agency	Systemic	Roadway Departure	Reduce F's and A's
Multiple locations throughout the Metro Region Curve speed warning, pavement markings, enhanced delineation	Roadway signs and traffic control	Curve-related warning signs and flashers	11.8	Miles	\$2661294	\$2661294	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	0	0	State Highway Agency	Systemic	Roadway Departure	Reduce F's and A's
US-24 (Telegraph Rd) at Plymouth Modify "Jersey-turn" into Michigan-left	Intersection geometry	Intersection geometrics - miscellaneous/other/unspecified	2	Access points	\$1366448	\$1366448	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	50,000	45	State Highway Agency	Spot	Intersections	Reduce F's and A's
WB M-14 near Sheldon High Friction Surface Treatment	Roadway	Pavement surface - high friction surface	0.68	Miles	\$399427	\$399427	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other Freeways & Expressways	108,300	70	State Highway Agency	Spot	Lane Departure	Reduce F's and A's
M-85 between Schaefer and Outer Drive Pedestrian Traffic Signal Installation and additional signing and pavementmarking for pedestrians upgrades	Pedestrians and bicyclists	Pedestrian signal - install new at non-intersection location	2	Locations	\$356000	\$356000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	20,700	45	State Highway Agency	Spot	Pedestrians	Reduce F's and A's

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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
Gaylord TSC upgrading and installing new curve warning non-freeway sign replacement	Roadway signs and traffic control	Curve-related warning signs and flashers	33	Miles	\$215135	\$215135	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0	65	State Highway Agency	Systemic	Roadway Departure	Reduce F's and A's
US-31 from West Silver Lake Road easterly to East Silver Lake Road Widen roadway to provide a center left turn lane	Intersection geometry	Auxiliary lanes - add two-way left-turn lane	0.93	Miles	\$3097000	\$3097000	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	23,800	55	State Highway Agency	Spot	Intersections	Reduce F's and A's
M-113 from the M-37 Intersection East to 225' west of Clark Street Shoulder Reconstruct and widening	Shoulder treatments	Widen shoulder - paved or other	5.6	Miles	\$901431	\$901431	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	5,500	55	State Highway Agency	Spot	Roadway Departure	Reduce F's and A's
M-311 - M-60 to B Drive S fixed object removal and culvert upgrades	Roadside	Removal of roadside objects (trees, poles, etc.)	8.9	Miles	\$729500	\$729500	HSIP (23 U.S.C. 148)	Rural	Major Collector	8,000	55	State Highway Agency	Systemic	Roadway Departure	Reduce F's and A's
M-311 B Drive S to I-94 BL (Michigan Avenue) fixed object removal	Roadside	Removal of roadside objects (trees, poles, etc.)	4.5	Miles	\$403500	\$403500	HSIP (23 U.S.C. 148)	Rural	Major Collector	8,000	55	State Highway Agency	Systemic	Roadway Departure	Reduce F's and A's
Regionwide 7 Hitch mounted changeable message signs to be used on MDOT maintenance vehicles in the SW Region	Advanced technology and ITS	Dynamic message signs	7	Locations	\$50000	\$50000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Systemic	Work Zones	Reduce F's and A's
I-94 east collector/distributor to the I-69 north loop ramp to I-94 Install curve warning system	Roadway signs and traffic control	Curve-related warning signs and flashers	0.25	Miles	\$25000	\$25000	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Interstate	9,300	70	State Highway Agency	Spot	Roadway Departure	Reduce F's and A's

2020 Michigan Highway Safety Improvement Program

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-43 Van Buren and Kalamazoo Co., M-51, US-12 Berrien Co., US-131 St. Joe Co., M-96 Calhoun Co. dilemma zone at 9 signalized intersections	Intersection traffic control	Modify traffic signal - miscellaneous/other/unspecified	9	Locations	\$645775	\$645775	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Spot	Intersections	Reduce F's and A's
Various routes with active work zones in the SW Region Law enforcement in work zones in the SW Region.	Non-infrastructure	Enforcement	1	Locations	\$90000	\$90000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Systemic	Work Zones	Reduce F's and A's
For use on routes in the SW Region Provide incident management kits to first responders.	Non-infrastructure	Training and workforce development	27	Locations	\$30000	\$30000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Systemic	Work Zones	Reduce F's and A's
Various locations along I-94 WB from 0.15 miles east of Hartford (Exit 46) easterly to County Road 657 Install Trees for living snow fence	Roadside	Roadside - other	17.8	Miles	\$289958	\$289958	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Interstate	45,000	70	State Highway Agency	Systemic	Roadway Departure	Reduce F's and A's
Various locations along I-94EB and I-94WB corridor from MM43 to MM66 Tree clearing fixed object removal	Roadside	Removal of roadside objects (trees, poles, etc.)	24	Miles	\$778763	\$778763	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Interstate	45,000	70	State Highway Agency	Systemic	Roadway Departure	Reduce F's and A's
US-2 in Mackinac Co, I-75BR in Mackinac Co, M-553 in Marquette Co Replace Guardrail Endings	Roadside	Barrier end treatments (crash cushions, terminals)	5.8	Miles	\$40000	\$40000	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0	65	State Highway Agency	Systemic	Roadway Departure	Reduce F's and A's
US-41 east of CR 492 to west of Brickyard Road	Intersection traffic control	Modify control - two-way stop to roundabout	3	Intersections	\$2650000	\$2650000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	26,000	45	State Highway Agency	Spot	Intersections	Reduce F's and A's

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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
Reconstruct WB Lanes to Extend Boulevard and construct 2 roundabouts															
Regionwide University Region upgrades to horizontal curves install signs, pavement markings, guardrail, guardrail and rumbles on horizontal curves.	Roadway signs and traffic control	Curve-related warning signs and flashers	1.3	Miles	\$536251	\$536251	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	0	State Highway Agency	Systemic	Roadway Departure	Reduce F's and A's
M-52 & M-43 Install Offset Right turn lane	Intersection geometry	Auxiliary lanes - add right-turn lane	0.15	Miles	\$413925	\$413925	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	8,000	55	State Highway Agency	Spot	Intersections	Reduce F's and A's
OLD-127 Homer St./US127 Service Dr 3 to 2 lane reduction on Homer Street, Water Main Installation (City of Lansing)	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	0.5	Miles	\$305437	\$1308545	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	6,900	45	State Highway Agency	Spot	Intersections	Reduce F's and A's
I-496 EB from the Red Cedar to Mount Hope High friction surface treatment	Roadway	Pavement surface - high friction surface	1.6	Miles	\$474524	\$474524	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Interstate	70,000	70	State Highway Agency	Spot	Lane Departure	Reduce F's and A's
I-69 BL from Lake Lansing Rd to Marsh Rd Median Crossover Construction of Michigan Lefts	Intersection geometry	Intersection geometrics - miscellaneous/other/unspecified	3	Intersections	\$740000	\$740000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	12,900	55	State Highway Agency	Spot	Intersections	Reduce F's and A's
Statewide Safety Analyst licensing fee	Non-infrastructure	Data/traffic records	1	Liscense	\$72000	\$72000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Data	Reduce F's and A's
US-24 at South Otter Creek/Yargerville intersection Realign S Otter	Intersection geometry	Intersection geometrics - realignment to align offset cross streets	1	Intersections	\$816671	\$816671	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	7,100	55	State Highway Agency	Spot	Intersections	Reduce F's and A's

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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
Crk Rd intersection															
EB I-94 at BL94/Jackson Rd entrance ramp Dynamic curve warning system	Roadway signs and traffic control	Curve-related warning signs and flashers	1	Locations	\$129745	\$129745	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Interstate	6,900	70	State Highway Agency	Spot	Roadway Departure	Reduce F's and A's
Ped Improvements at M-17 at Pearl St., M-17 at N. Washington St., M-17 at N. Adams St., M-17 and Perrin St., M-17 and College Pl., M-17 and Normal St.	Pedestrians and bicyclists	Install new crosswalk	6	Locations	\$5000	\$5000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0	35	State Highway Agency	Spot	Pedestrians	Reduce F's and A's
202856 128th Avenue	Shoulder treatments	Widen shoulder - paved or other	2.19	Miles	\$600000	\$698292	HSIP (23 U.S.C. 148)	Rural	Major Collector	3,024	55	County Highway Agency	Spot	Roadway Departure	Reduce Fatalities and Serious Injuries
202875 Herron Road	Roadway	Pavement surface - miscellaneous	1.08	Miles	\$468000	\$511353.8	HSIP (23 U.S.C. 148)	Rural	Major Collector	350	55	County Highway Agency	Spot	Roadway Departure	Reduce Fatalities and Serious Injuries
202876 Grove Road	Shoulder treatments	Pave existing shoulders	1.36	Miles	\$288000	\$373602.15	HSIP (23 U.S.C. 148)	Rural	Major Collector	850	55	County Highway Agency	Spot	Roadway Departure	Reduce Fatalities and Serious Injuries
203497 13 Mile Road - Convis Township, 29 Mile Road, 13 Mile Road - Fredonia Township, Condit Road	Roadside	Removal of roadside objects (trees, poles, etc.)	12.73	Miles	\$214761.74	\$218824.12	HSIP (23 U.S.C. 148)	Rural	Minor Collector	1,400	55	County Highway Agency	Systemic	Roadway Departure	Reduce Fatalities and Serious Injuries
202882 East Avenue, Oak Grove Road	Roadside	Removal of roadside objects (trees, poles, etc.)	6.5	Miles	\$95444.75	\$106049.72	HSIP (23 U.S.C. 148)	Rural	Local Road or Street	800	55	County Highway Agency	Systemic	Roadway Departure	Reduce Fatalities and Serious Injuries
203175 Grand Blanc road at Morrish Road	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	\$600000	\$867652.22	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	5,248	55	County Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries

2020 Michigan Highway Safety Improvement Program

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
203483 Countywide Lollipops on Stop Signs	Intersection traffic control	Systemic improvements - stop-controlled	600	Intersections	\$39230.1	\$43589	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	1,000	55	County Highway Agency	Systemic	Intersections	Reduce Fatalities and Serious Injuries
202857 8th Street	Intersection geometry	Auxiliary lanes - add two-way left-turn lane	1.22	Miles	\$600000	\$1074451.32	HSIP (23 U.S.C. 148)	Rural	Major Collector	3,700	55	County Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries
203484 West Plum Valley Road	Roadway	Roadway widening - travel lanes	1.19	Miles	\$600000	\$661300.5	HSIP (23 U.S.C. 148)	Rural	Local Road or Street	175	55	County Highway Agency	Spot	Lane Departure	Reduce Fatalities and Serious Injuries
203485 Shaner Avenue	Alignment	Vertical alignment or elevation change	0.25	Miles	\$256500	\$331235.9	HSIP (23 U.S.C. 148)	Rural	Local Road or Street	360	55	County Highway Agency	Spot	Lane Departure	Reduce Fatalities and Serious Injuries
202665 Brickyard Road at US-41	Lighting	Intersection lighting	1	Intersections	\$127824.6	\$142027.33	HSIP (23 U.S.C. 148)	Rural	Local Road or Street	32,650	55	County Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries
203486 Tree Removal	Roadside	Removal of roadside objects (trees, poles, etc.)	16.1	Miles	\$447308.1	\$489411	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	7,981	55	County Highway Agency	Systemic	Roadway Departure	Reduce Fatalities and Serious Injuries
203487 Jennings Road	Roadway	Superelevation / cross slope	2.57	Miles	\$600000	\$660899.3	HSIP (23 U.S.C. 148)	Rural	Major Collector	3,800	55	County Highway Agency	Spot	Lane Departure	Reduce Fatalities and Serious Injuries
203474 Wadhams Road at Fred Moore Highway	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	\$457591.68	\$648538.6	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	3,600	55	County Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries
203488 Fixed object removal	Roadside	Removal of roadside objects (trees, poles, etc.)	13.4	Miles	\$459000	\$480844.4	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	2,084	55	County Highway Agency	Systemic	Roadway Departure	Reduce Fatalities and Serious Injuries
203388 Ridge Road at Hack Road	Roadway	Pavement surface - high friction surface	0.13	Miles	\$247474.71	\$280571.9	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	7,424	55	County Highway Agency	Spot	Lane Departure	Reduce Fatalities and Serious Injuries
200261 Lake Pleasant Road	Roadside	Removal of roadside objects (trees, poles, etc.)	3.01	Miles	\$188100	\$199187	HSIP (23 U.S.C. 148)	Rural	Local Road or Street	1,198	55	County Highway Agency	Spot	Roadway Departure	Reduce Fatalities and Serious Injuries

2020 Michigan Highway Safety Improvement Program

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
200277 Swan Creek Road at South River Road	Roadway	Superelevation / cross slope	1	Intersections	\$490500	\$740076.8	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	5,050	55	County Highway Agency	Spot	Lane Departure	Reduce Fatalities and Serious Injuries
207254 Preliminary Engineering	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	\$25180	\$50360	HSIP (23 U.S.C. 148)	Rural	Major Collector	3,297	55	County Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries
202891 Barlow Road at Trask Lake Road at Main Street	Intersection geometry	Intersection geometrics - realignment to align offset cross streets	1	Intersections	\$196000	\$260204.7	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	2,200	35	Town or Township Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries
207845 H-58	Roadway	Superelevation / cross slope	2.63	Miles	\$600000	\$653536.64	HSIP (23 U.S.C. 148)	Rural	Major Collector	1,500	55	County Highway Agency	Spot	Lane Departure	Reduce Fatalities and Serious Injuries
202889 Flashing beacons at 3 intersections	Intersection traffic control	Intersection flashers - add stop sign-mounted	3	Intersections	\$26203.52	\$29115.03	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	6,400	45	County Highway Agency	Systemic	Intersections	Reduce Fatalities and Serious Injuries
202547 Federal Forest Hwy 13	Roadside	Barrier - removal	4	Locations	\$65598.4	\$81998	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	590	55	County Highway Agency	Spot	Roadway Departure	Reduce Fatalities and Serious Injuries
202892 Guardrail	Roadside	Barrier- metal	18	Locations	\$357572.7	\$397303	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	3,650	55	County Highway Agency	Systemic	Roadway Departure	Reduce Fatalities and Serious Injuries
202893 East Pierson Road	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	0.61	Miles	\$39826.8	\$44252	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	8,732	35	City or Municipal Highway Agency	Spot	Lane Departure	Reduce Fatalities and Serious Injuries
202897 East Main Street	Speed management	Radar speed signs	2	Locations	\$14739.39	\$16377.1	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	6,972	30	City or Municipal Highway Agency	Spot	Speed related	Reduce Fatalities and Serious Injuries
203176 W. Dodge Road at N. Saginaw Road	Intersection traffic control	Intersection flashers - add stop sign-mounted	1	Intersections	\$22474.24	\$24971.38	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	2,575	55	County Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries
203177 Torrey Road	Roadway	Pavement surface - high friction surface	0.4	Miles	\$196200	\$250940.6	HSIP (23 U.S.C. 148)	Urban	Major Collector	6,274	45	County Highway Agency	Spot	Lane Departure	Reduce Fatalities and Serious Injuries

2020 Michigan Highway Safety Improvement Program

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
203273 Garfield Road at Potter/Hoch Road	Non-infrastructure	Road safety audits	1	Intersections	\$3900	\$19500	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	9,000	55	County Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries
203274 Airport Park Road	Alignment	Vertical alignment or elevation change	0.12	Miles	\$132000	\$152132	HSIP (23 U.S.C. 148)	Rural	Major Collector	906	55	County Highway Agency	Spot	Lane Departure	Reduce Fatalities and Serious Injuries
203271 Guardrail	Roadside	Barrier- metal	9	Locations	\$243000	\$270837.5	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	2,900	55	County Highway Agency	Systemic	Roadway Departure	Reduce Fatalities and Serious Injuries
200865 D Avenue	Shoulder treatments	Widen shoulder - paved or other	2.4	Miles	\$497880	\$1158409	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	6,858	55	County Highway Agency	Spot	Roadway Departure	Reduce Fatalities and Serious Injuries
203292 Countdown pedestrian signals	Pedestrians and bicyclists	Pedestrian signal - modify existing	38	Intersections	\$333000	\$349880	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	15,000	40	City or Municipal Highway Agency	Systemic	Pedestrians	Reduce Fatalities and Serious Injuries
203294 East Paris Avenue at Sparks Road	Intersection traffic control	Modify traffic signal - modernization/replacement	1	Intersections	\$233857.8	\$274251	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	23,014	40	City or Municipal Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries
203295 Fuller Avenue RSA	Non-infrastructure	Road safety audits	1	Study	\$14960	\$18700	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	13,700	45	City or Municipal Highway Agency	Systemic	Bicyclists	Reduce Fatalities and Serious Injuries
203296 Burton Street RSA	Non-infrastructure	Road safety audits	1	Study	\$14960	\$18700	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	19,000	45	City or Municipal Highway Agency	Systemic	Data	Reduce Fatalities and Serious Injuries
203331 Division Avenue	Intersection traffic control	Modify traffic signal - modernization/replacement	4	Intersections	\$398489.4	\$442154	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	15,488	25	City or Municipal Highway Agency	Systemic	Intersections	Reduce Fatalities and Serious Injuries
203396 Franklin Street RSA	Non-infrastructure	Road safety audits	1	Study	\$14960	\$18700	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	14,600	45	City or Municipal Highway Agency	Systemic	Bicyclists	Reduce Fatalities and Serious Injuries
203408 Leonard Street at Alpine Avenue	Intersection traffic control	Modify traffic signal - modernization/replacement	1	Intersections	\$136728	\$170910	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	14,474	35	City or Municipal Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries



2020 Michigan Highway Safety Improvement Program

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
203415 Guardrail	Roadside	Barrier- metal	2	Miles	\$235350	\$231291	HSIP (23 U.S.C. 148)	Rural	Minor Collector	420	55	County Highway Agency	Spot	Roadway Departure	Reduce Fatalities and Serious Injuries
203265 Rumble Strips	Roadway	Rumble strips - center	52	Miles	\$306000	\$364613.34	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	1,200	55	County Highway Agency	Systemic	Lane Departure	Reduce Fatalities and Serious Injuries
203267 Signal Backplates	Intersection traffic control	Modify traffic signal - add backplates with retroreflective borders	72	Intersections	\$333000	\$349262.68	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	30,000	40	County Highway Agency	Systemic	Intersections	Reduce Fatalities and Serious Injuries
203268 Backplates and box spans	Intersection traffic control	Modify traffic signal - modernization/replacement	8	Intersections	\$328500	\$416606.72	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	40,000	40	County Highway Agency	Systemic	Intersections	Reduce Fatalities and Serious Injuries
203417 12 Mile Road at Utica Road	Intersection traffic control	Modify traffic signal - modernization/replacement	1	Intersections	\$250682	\$323595	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	19,000	45	City or Municipal Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries
202666 CR 492 at US-41/M-28	Lighting	Intersection lighting	1	Intersections	\$127971.12	\$142190.13	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	21,020	45	County Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries
203419 Intersection flashing beacons	Intersection traffic control	Intersection flashers - add stop sign-mounted	3	Intersections	\$59008.85	\$65565.39	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	4,000	45	County Highway Agency	Systemic	Intersections	Reduce Fatalities and Serious Injuries
203272 Guardrail	Roadside	Barrier- metal	7	Locations	\$175500	\$201278	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	100	55	County Highway Agency	Systemic	Roadway Departure	Reduce Fatalities and Serious Injuries
202854 Seminole Road	Pedestrians and bicyclists	Install new crosswalk	1	Locations	\$29300.31	\$36625.39	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	6,321	35	City or Municipal Highway Agency	Spot	Pedestrians	Reduce Fatalities and Serious Injuries
203458 Beck Road at Pontiac Trail	Intersection traffic control	Modify traffic signal - modernization/replacement	1	Intersections	\$197941.6	\$312646	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	32,918	40	City or Municipal Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries
203461 Haggerty Road at 14 Mile Road	Intersection geometry	Auxiliary lanes - add right-turn lane	1	Intersections	\$226823.2	\$341590.5	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	34,250	45	City or Municipal Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries

2020 Michigan Highway Safety Improvement Program

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203264 Adams Road at Gunn Road	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	\$600000	\$2305999	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	12,260	45	County Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries
202855 W Washington Avenue at W Main Avenue	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	\$600000	\$1389211	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	9,590	35	City or Municipal Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries
203457 Washington Street	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	0.34	Miles	\$600000	\$1193358.38	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	9,200	25	City or Municipal Highway Agency	Spot	Bicyclists	Reduce Fatalities and Serious Injuries
207974 Huron Boulevard at Michigan Avenue	Intersection traffic control	Modify traffic signal - modernization/replacement	1	Intersections	\$199680.24	\$221866.94	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	7,277	35	City or Municipal Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries
203479 RSA	Non-infrastructure	Road safety audits	1	Study	\$14960	\$18700	HSIP (23 U.S.C. 148)	Urban	Major Collector	725	55	City or Municipal Highway Agency	Spot	Data	Reduce Fatalities and Serious Injuries
203481 Youngs Prairie Road	Roadway	Superelevation / cross slope	0.3	Miles	\$80063.74	\$110310.4	HSIP (23 U.S.C. 148)	Rural	Major Collector	1,047	55	County Highway Agency	Spot	Lane Departure	Reduce Fatalities and Serious Injuries
203463 Eisenhower at Plaza	Pedestrians and bicyclists	Pedestrian beacons	1	Locations	\$31562.17	\$35069.08	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	25,800	40	City or Municipal Highway Agency	Spot	Pedestrians	Reduce Fatalities and Serious Injuries
203464 Jackson Avenue	Shoulder treatments	Widen shoulder - paved or other	0.27	Miles	\$142307.2	\$169184.5	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	9,440	45	City or Municipal Highway Agency	Spot	Roadway Departure	Reduce Fatalities and Serious Injuries
203465 State Street at Packard Street at Hill Street RSA	Non-infrastructure	Road safety audits	1	Study	\$14960	\$18700	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	19,000	30	City or Municipal Highway Agency	Systemic	Data	Reduce Fatalities and Serious Injuries
203466 Textile Road at Woodland Drive	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	\$473370.3	\$627457	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	6,770	50	County Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries
203469 Harper Avenue (2)	Roadway	Roadway - restripe to revise separation between opposing lanes and/or shoulder widths	3.32	Miles	\$600000	\$653614.06	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	9,100	30	City or Municipal Highway Agency	Spot	Lane Departure	Reduce Fatalities and Serious Injuries

2020 Michigan Highway Safety Improvement Program

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203467 Harper Avenue (1)	Roadway	Roadway - other	3.14	Miles	\$600000	\$653616.5	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	13,200	30	City or Municipal Highway Agency	Spot	Lane Departure	Reduce Fatalities and Serious Injuries
203471 Kercheval Avenue at Moross Road	Intersection traffic control	Modify traffic signal - modernization/replacement	1	Intersections	\$149181.6	\$194601.75	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	11,500	30	City or Municipal Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries
205916 Before and After Study	Non-infrastructure	Transportation safety planning	1	Study	\$51300	\$57000	HSIP (23 U.S.C. 148)	N/A	Multiple/Varies	1	1	State Highway Agency	Spot	Data	Reduce Fatalities and Serious Injuries
130885 Court Street and Averill Avenue	Intersection traffic control	Modify traffic signal - modernization/replacement	1	Intersections	\$91277.2	\$114096.5	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	10,500	40	City or Municipal Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries
130891 Davison Road and Averill Ave	Intersection traffic control	Modify traffic signal - modernization/replacement	1	Intersections	\$93694.92	\$117118.66	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	9,500	40	City or Municipal Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries
130902 Hemphill Road and Saginaw Street	Intersection traffic control	Modify traffic signal - modernization/replacement	1	Intersections	\$135470.4	\$169338	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	12,900	40	City or Municipal Highway Agency	Spot	Intersections	Reduce Fatalities and Serious Injuries
130959 Wise Road at Flat River	Alignment	Horizontal curve realignment	0.43	Miles	\$310326	\$346266.45	HSIP (23 U.S.C. 148)	Rural	Major Collector	2,860	55	County Highway Agency	Spot	Lane Departure	Reduce Fatalities and Serious Injuries
207449 Preliminary Engineering	Roadway	Roadway - other	3.4	Miles	\$21318	\$42636	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	7,208	50	County Highway Agency	Spot	Lane Departure	Reduce Fatalities and Serious Injuries
207451 Preliminary Engineering	Roadway	Roadway widening - add lane(s) along segment	2.8	Miles	\$33215	\$66430	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	9,902	50	County Highway Agency	Spot	Lane Departure	Reduce Fatalities and Serious Injuries
207421 Preliminary Engineering	Roadway	Pavement surface - high friction surface	0.5	Miles	\$12500	\$25000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	8,900	40	County Highway Agency	Spot	Lane Departure	Reduce Fatalities and Serious Injuries

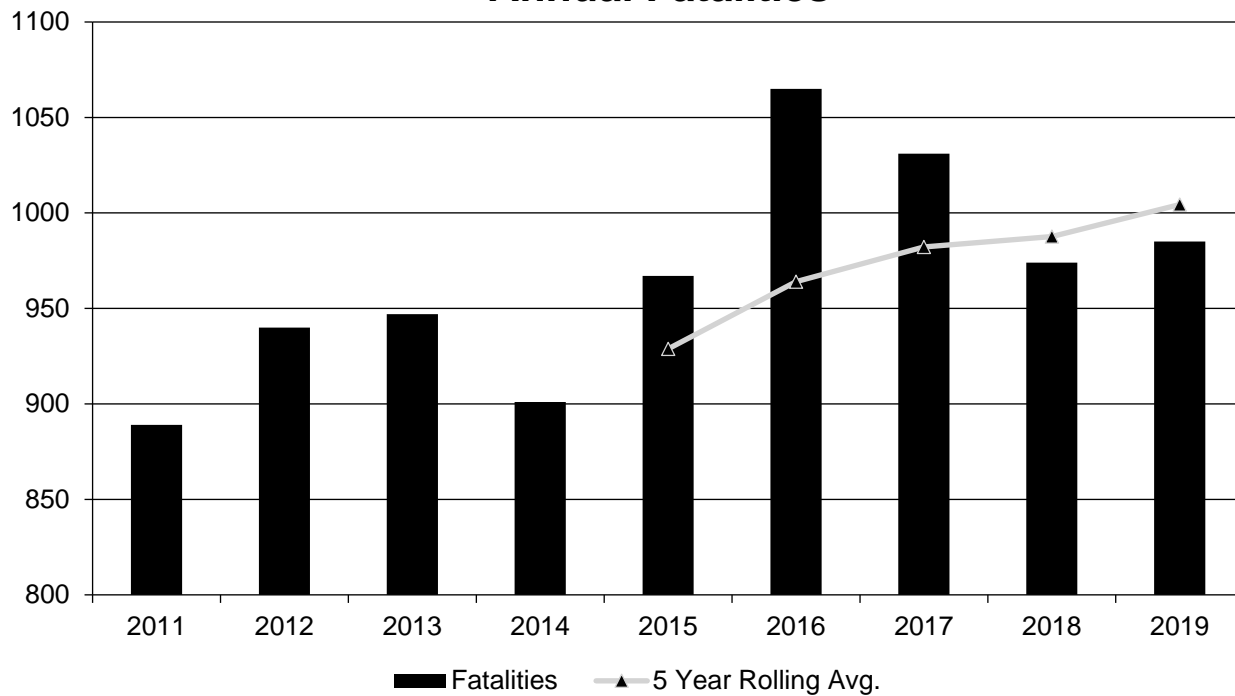
## Safety Performance

### *General Highway Safety Trends*

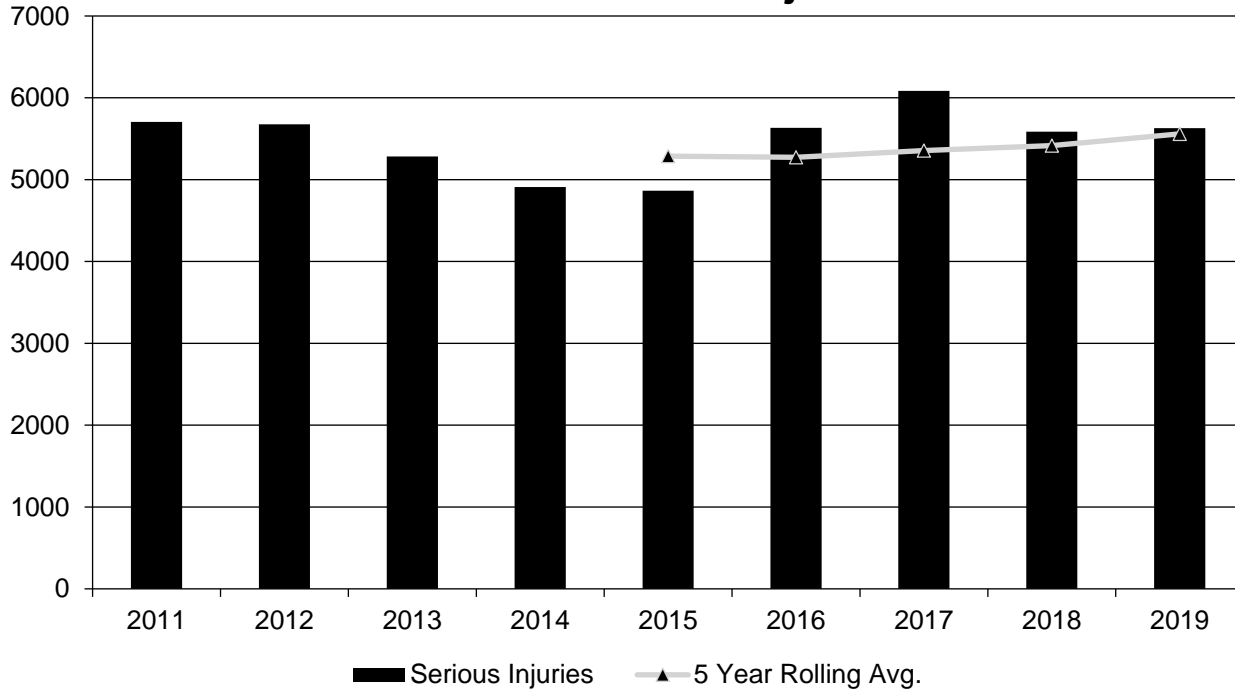
Present data showing the general highway safety trends in the State for the past five years.

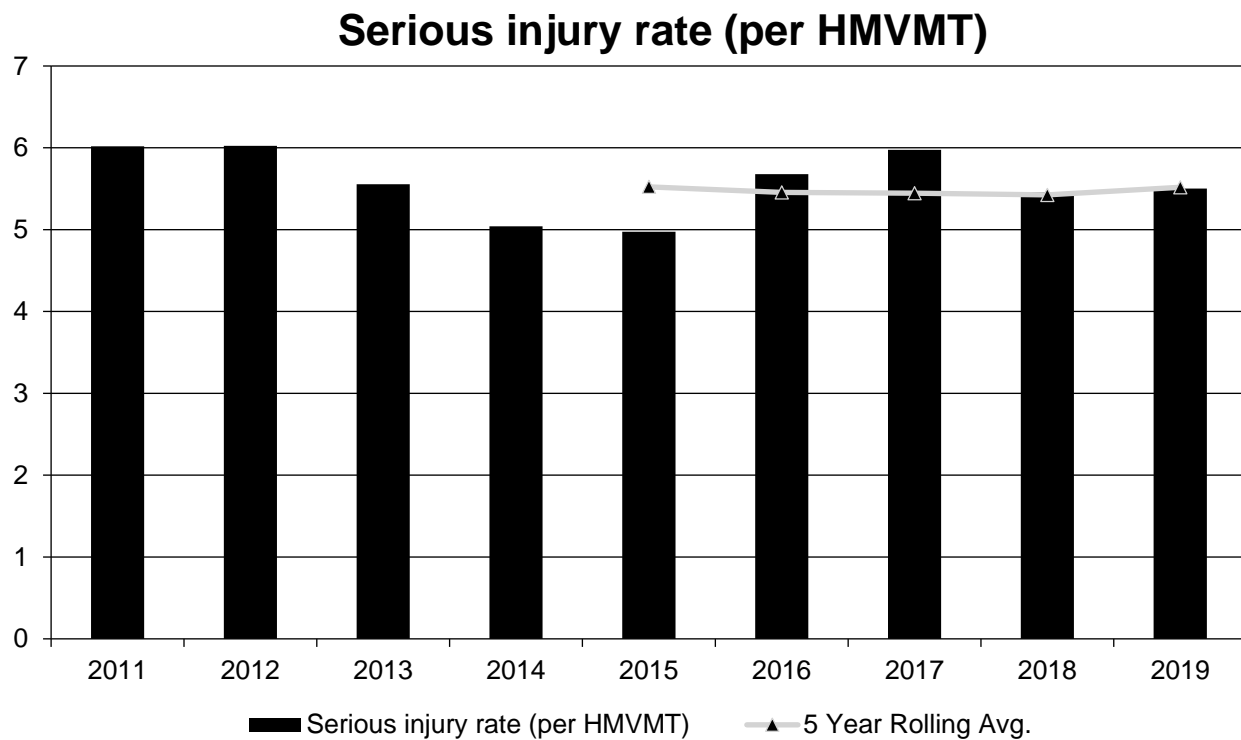
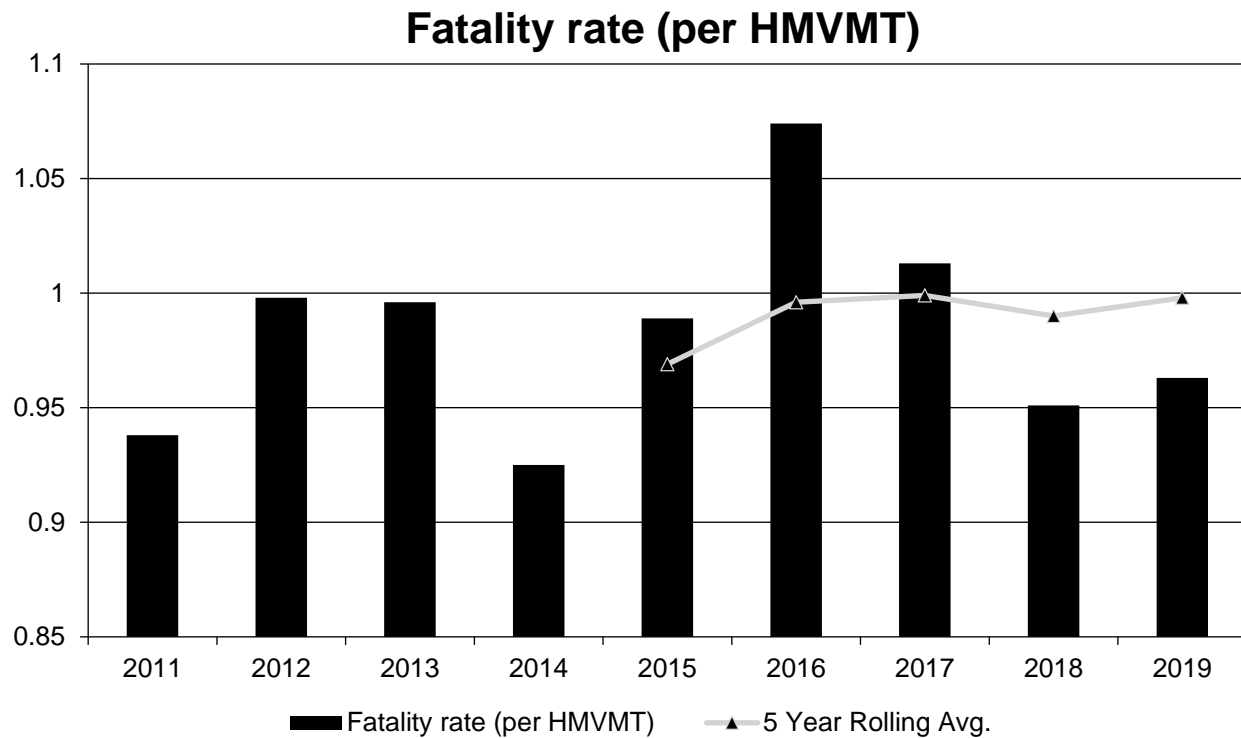
PERFORMANCE MEASURES	2011	2012	2013	2014	2015	2016	2017	2018	2019
Fatalities	889	940	947	901	967	1,065	1,031	974	985
Serious Injuries	5,706	5,676	5,283	4,909	4,865	5,634	6,084	5,586	5,629
Fatality rate (per HMVMT)	0.938	0.998	0.996	0.925	0.989	1.074	1.013	0.951	0.963
Serious injury rate (per HMVMT)	6.019	6.025	5.555	5.040	4.974	5.679	5.976	5.455	5.502
Number non-motorized fatalities	166	155	178	174	205	204	181	167	177
Number of non-motorized serious injuries	580	533	568	517	556	536	617	573	628

### Annual Fatalities

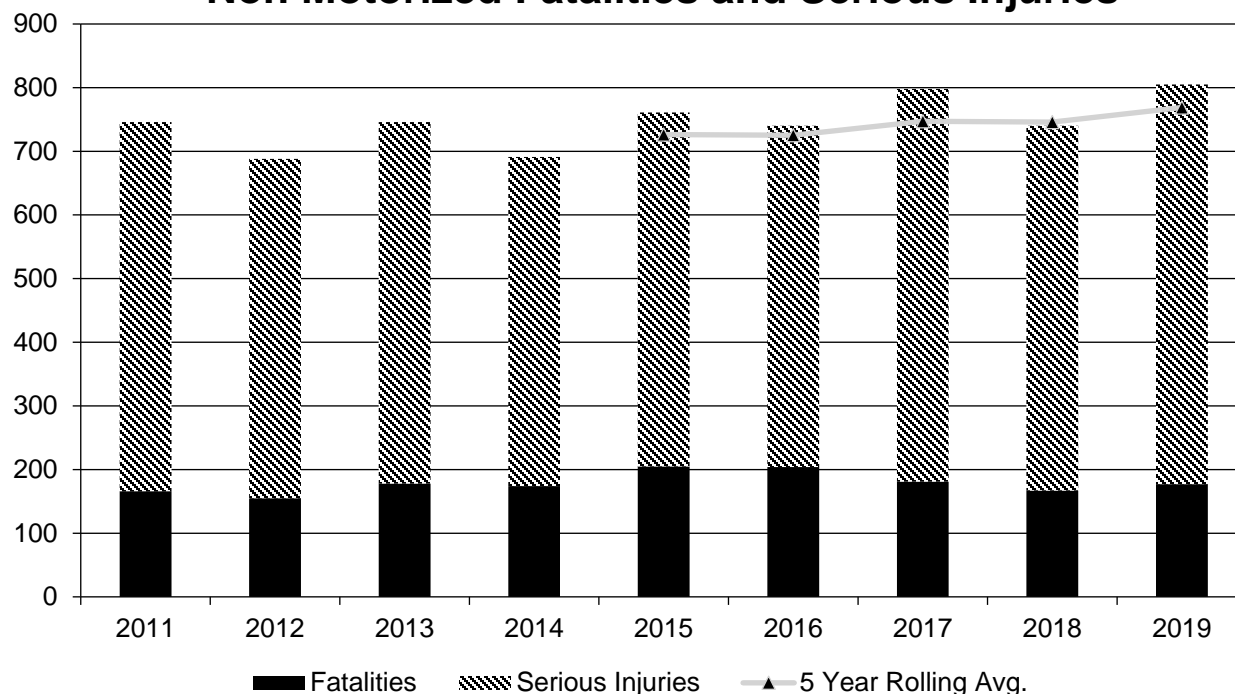


### Annual Serious Injuries





## Non Motorized Fatalities and Serious Injuries



FARS data is used for the 2011 thru 2019 fatality data. All other data included in the report uses Michigan's Statewide Crash database for reporting (Emphasis Areas, Road Classification, Road Ownership, etc)

### Describe fatality data source.

FARS

FARS data is used to calculate the 2021 performance targets and 2011 thru 2019 Fatality data. All other data included in the report uses Michigan's Statewide Crash database for reporting (Emphasis Areas, Road Classification, Road Ownership, etc)

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

### Year 2019

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	20.4	105.2	0.37	1.91
Rural Principal Arterial (RPA) - Other Freeways and Expressways	10.2	53.6	0.38	2.04
Rural Principal Arterial (RPA) - Other	50	213.2	1.18	5.04

## 2020 Michigan Highway Safety Improvement Program

<b>Functional Classification</b>	<b>Number of Fatalities (5-yr avg)</b>	<b>Number of Serious Injuries (5-yr avg)</b>	<b>Fatality Rate (per HMVMT) (5-yr avg)</b>	<b>Serious Injury Rate (per HMVMT) (5-yr avg)</b>
Rural Minor Arterial	90.6	441.4	1.33	6.46
Rural Minor Collector	13.8	72	1.52	8
Rural Major Collector	140.4	634.4	1.71	7.73
Rural Local Road or Street	74.8	426.4	3.18	18.19
Urban Principal Arterial (UPA) - Interstate	74.8	398.4	0.42	2.25
Urban Principal Arterial (UPA) - Other Freeways and Expressways	29.8	177.8	0.47	2.78
Urban Principal Arterial (UPA) - Other	216.4	1,233.6	1.23	7
Urban Minor Arterial	164.6	1,035.8	1.04	6.56
Urban Minor Collector	1.4	4.4	1.38	4.65
Urban Major Collector	51.8	300.6	1.62	5.93
Urban Local Road or Street	56.8	401.2	0.77	5.43



# 2020 Michigan Highway Safety Improvement Program

## 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)
State Highway Agency				
Non-Trunkline (County, City, Local Owned Roadways)	576.6	3,196.6	1.22	6.76
Trunkline (State Owned Roadways)	426.2	2,348.4	0.8	4.39
County Highway Agency				
Town or Township Highway Agency				
City or Municipal Highway Agency				
State Park, Forest, or Reservation Agency				
Local Park, Forest or Reservation Agency				
Other State Agency				
Other Local Agency				
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 8.6 percent over the 5 year span. State trunkline fatalities had an overall increase of 6.7 percent while local roadway fatalities had an overall increase of 10.2 percent.

Serious injuries statewide have seen an increase of 5.1 percent over the 5 year rolling average. State trunkline serious injuries had an overall increase of 7.4 percent while local roadway serious injuries had an overall increase of 3.6 percent.

In regard to rates, the fatality and serious injury rates are lower on state trunkline than on local roadways. Overall, the fatality rate increased 3.5 percent while the serious injury rate decreased 0.04 percent. The state trunkline saw a 0.16 percent decrease in the fatality rate and a 0.67 percent serious injury rate increase. The local roadways saw a 6.6 percent fatality rate increase and a 0.12 percent serious injury rate decrease.

For both statewide and state trunkline the fatality rate has been at or below 1.0 fatality per 100 million vehicle miles traveled for 2011-2015 to 2015-2019. The local roadway fatality rate was at or below 1.22 during the entire analysis time period, while the state trunkline fatality rate was at or below 0.80 for the same time period.

## ***Safety Performance Targets***

### **Safety Performance Targets**

#### **Calendar Year 2021 Targets \***

***Number of Fatalities:968.6***

#### ***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 886 fatalities in CY 2020, and 967 in 2021. 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:5533.6***

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

The model predicts 4,960 serious injuries in CY 2020, and 5,409 in 2021. 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:0.982**

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

VMT values have been predicted for CYs 2019, 2020 and 2021. 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 1.040 for CY 2020, and 0.945 for CY 2021. 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:5.609**

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

VMT values have been predicted for CYs 2019, 2020 and 2021. 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 1.040 for CY 2020, and 0.945 for CY 2021. The annual serious injury rates of 5.822 for CY 2020, and 5.287 for CY 2021. 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:771.2**

**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 714 for CY 2020, and 799 for CY 2021. 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 2020 and CY 2021 along with the actual values from CY 2017 to 2019 to determine the 2021 Targets (five-year rolling average) are shown in the table. In addition, actual values dating back to CY 2011 are included as part of the determination of the 2019 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 2019 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	1023.2	1004.4
Number of Serious Injuries	5406.8	5559.6

## 2020 Michigan Highway Safety Improvement Program

<b>Fatality Rate</b>	1.020	0.998
<b>Serious Injury Rate</b>	5.410	5.518
<b>Non-Motorized Fatalities and Serious Injuries</b>	759.8	768.8

Based on the Targets vs. actual, Michigan will preliminary meet 2 out of 5 performance targets for FY 2019.

### ***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.**

<b>PERFORMANCE MEASURES</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Number of Older Driver and Pedestrian Fatalities	160	126	133	172	155	159	159
Number of Older Driver and Pedestrian Serious Injuries	413	434	393	506	558	509	574

Data has been updated with 2019 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 pavement markings, delineation, and other systemic treatments like rumble strips and fixed object removal.

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

MDOT plans on conducting a Trunkline before and after study evaluation for years 2012, 2013, and 2014 in the next fiscal year. Any future before and after study will utilize the data-driven approach to safety decisions focusing on the Towards Zero Deaths initiative.

A non-trunkline evaluation will also be conducted in the next fiscal year for FY 2014.

#### 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

N/A

### *Effectiveness of Groupings or Similar Types of Improvements*

#### Present and describe trends in SHSP emphasis area performance measures.

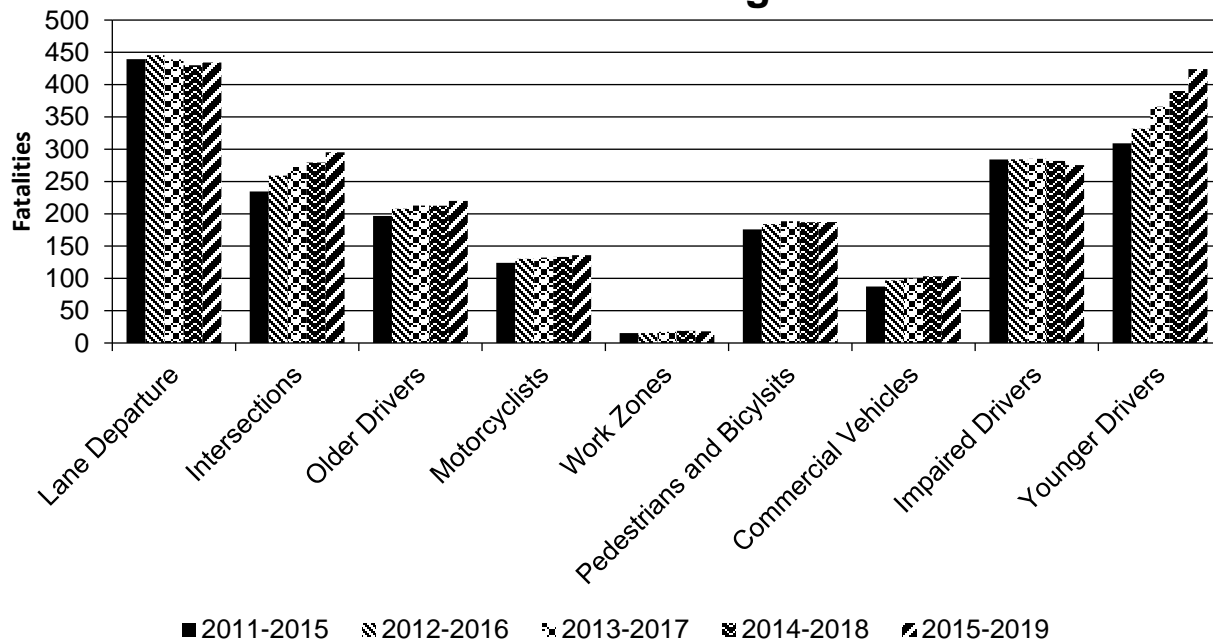
Year 2019

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	Cross median, fixed object, side swipe, head-on, run off road	434.2	1,975.8	0.43	1.96
Intersections	Intersections	295.4	2,081.6	0.3	2.06
Older Drivers	All	220	1,012.4	0.22	1

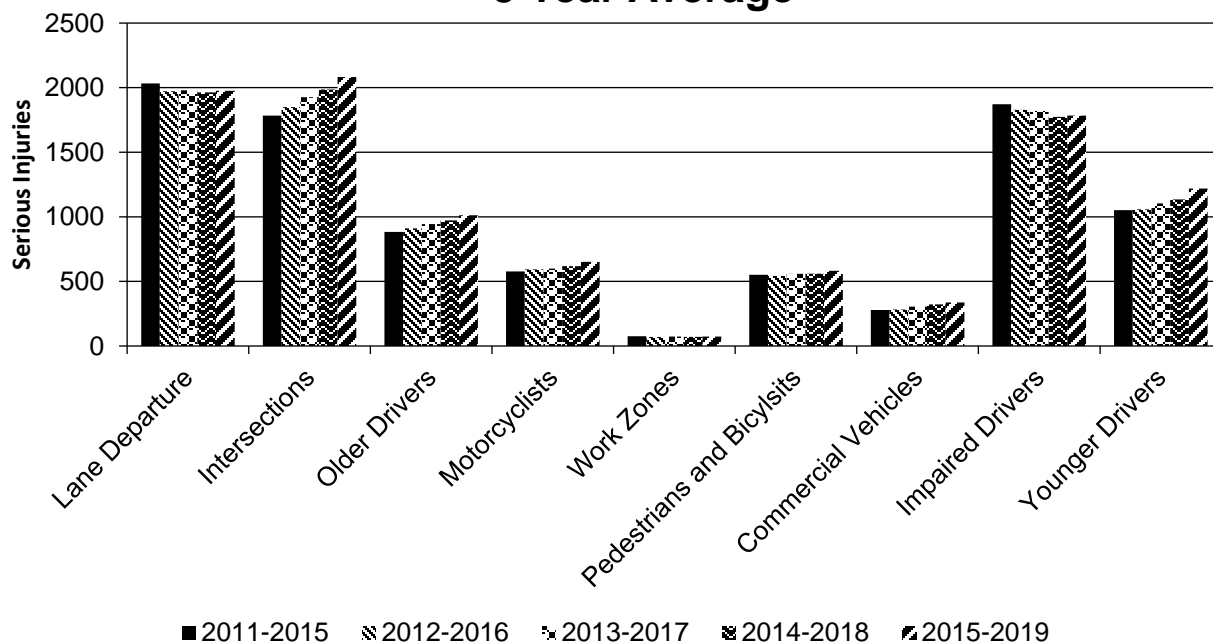
## 2020 Michigan Highway Safety Improvement Program

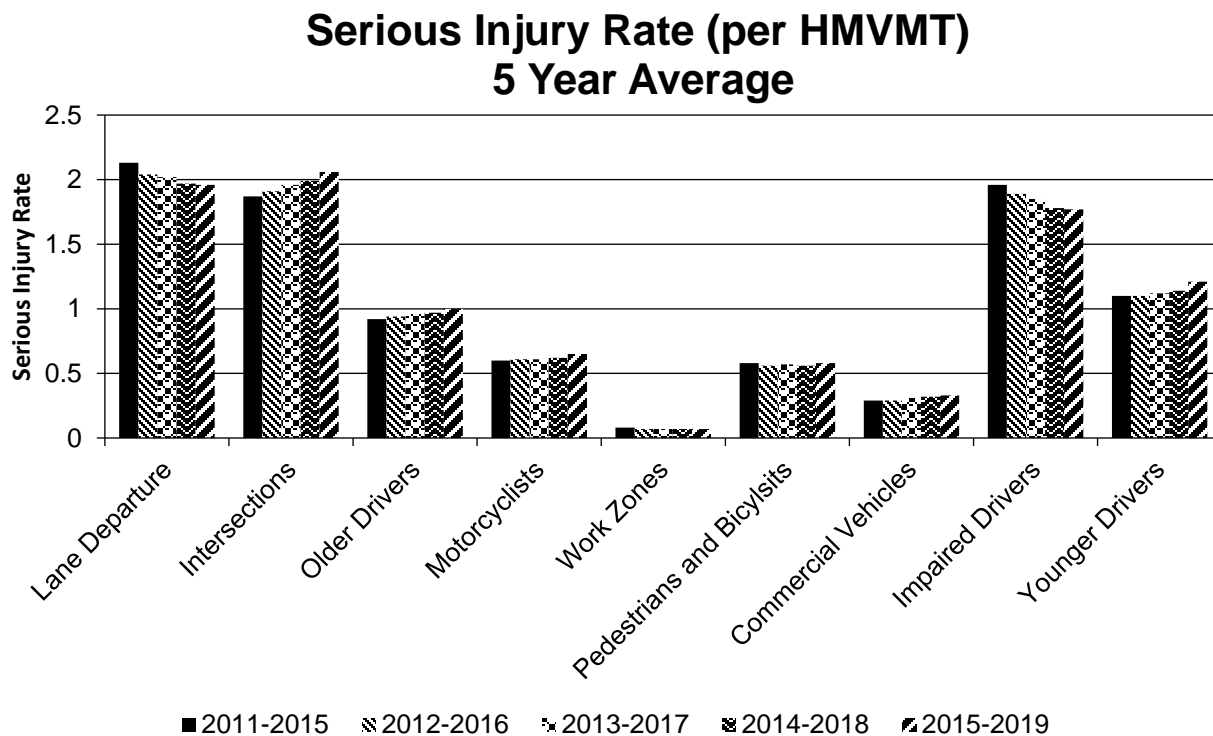
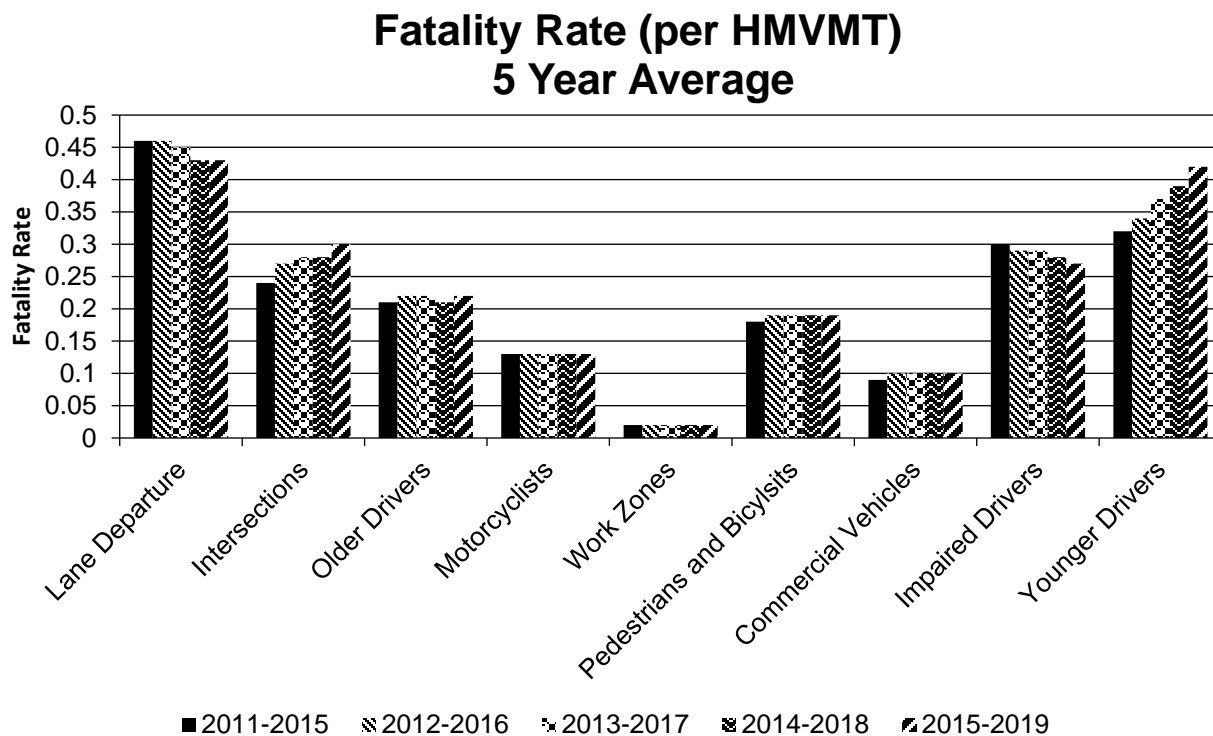
<b>SHSP Emphasis Area</b>	<b>Targeted Crash Type</b>	<b>Number of Fatalities (5-yr avg)</b>	<b>Number of Serious Injuries (5-yr avg)</b>	<b>Fatality Rate (per HMVMT) (5-yr avg)</b>	<b>Serious Injury Rate (per HMVMT) (5-yr avg)</b>
Motorcyclists	All	136	651.4	0.13	0.65
Work Zones	All	18.2	73	0.02	0.07
Pedestrians and Bicyclists	All	187.4	582	0.19	0.58
Commercial Vehicles	All	103.6	336.4	0.1	0.33
Impaired Drivers	All	275.4	1,784.2	0.27	1.77
Younger Drivers	All	424.2	1,218.2	0.42	1.21

### Number of Fatalities 5 Year Average



### Number of Serious Injuries 5 Year Average







***Project Effectiveness***

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

N/A

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

In 2019 MDOT implemented a new signing standard SIGN-145 for 2 way and all way stop controls.  
<https://mdotjboss.state.mi.us/TSSD/getTSDocument.htm?docGuid=30b16e2f-7295-4b3e-8ef3-0aa643b61977&fileName=SIGN-145-A.pdf>

MDOT hosted a mini-roundabout training in 2019 with FHWA for MDOT and Local agencies of Michigan.

In FY 2018 and 2019 installed sinusoidal mumble strips as a pilot project. Analysis of the functionality of the effectiveness of the installation will be conducted during FY 2019 and 2020. Rumble strips are proving to be a cost-effective countermeasure to lane-departure crashes on Michigan’s state highways. A final analysis will be completed in FY 2020.

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

[https://www.michigan.gov/documents/msp/SHSP\\_2019-2022\\_22\\_web\\_no\\_draft\\_678858\\_7.pdf](https://www.michigan.gov/documents/msp/SHSP_2019-2022_22_web_no_draft_678858_7.pdf)

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

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]	80	95								
	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					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				
	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]

The table has been updated to reflect the most current completion percentages.

**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.

## **Optional Attachments**

Program Structure:

MDOT Safety Programs Manual July 2020.pdf

HSIP Manual Trunkline September 2020.pdf

Local Agency HSIP Manual\_August 2019.pdf

FY 2019 Highway Call for Projects.pdf

Project Implementation:

Safety Performance:

Evaluation:

FY 2013 Before-After Study\_Local Safety.pdf

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.