Highway Safety Improvement Program (HSIP)<br>Michigan Department of Transportation<br>2015 Annual Report

The 2015 HSIP Annual Report for the Michigan Department of Transportation (MDOT) will be for the one year time period of FY 2014 which commenced on October 1, 2013 and ended on September 30, 2014. This report addresses safety improvements funded through MDOT on both trunkline and nontrunkline roadways including the High Risk Rural Roads Program (HRRRP).

## HSIP Program Structure

## Program Administration

## State Trunkline Program

For the State Trunkline Program, safety funds are administered by the Safety Template Program Manager in Traffic and Safety (Central Office). For FY 2014, $\$ 19$ M in safety funding was available, of which $\$ 15.6 \mathrm{M}$ was allocated to the seven MDOT Regions as funding targets. The allocations were based on the percentage of fatalities and serious injuries, lane miles and Vehicle Miles Traveled in each Region. The goal is that all Regions receive a minimum of 5 percent of the Safety Target.

Beyond the allocated $\$ 15.6 \mathrm{M}$, an additional $\$ 2 \mathrm{M}$ of the safety funds was reserved by Traffic and Safety 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 $\$ 17.6 \mathrm{M}$ of project funding described above, in which project selection was by central office staff, each Region was given $\$ 200 \mathrm{~K}$ 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) is 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 2014 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 2014, the use of HSIP funding ( $\$ 18.6 \mathrm{M}$ ) 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 Roadways Program
For the Local HSIP, the funds ( $\$ 15.1 \mathrm{M}$ ) are administered by the Local Agency Programs Safety Engineer located in Central Office. Typically, only the construction phase is eligible for federal aid. Preliminary
engineering costs were eligible for federal participation if it was for a projects identified on the Transparency (5\%) Report, a project identified by the Local Safety Initiative, a Road Safety Audit (RSA) or a traffic signal optimization project. Otherwise, preliminary engineering is not eligible for federal safety funds. Projects are federally funded at 80 or 90 percent up to an amount not to exceed $\$ 600 \mathrm{~K}$ Federal, with a 20 or 10 percent local match, respectively.

All Local Agencies within MPO areas must coordinate with their MPO to ensure inclusion of their project in the area's 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. Local Agency Programs (LAP) coordinates with MDOT Planning to ensure these projects are included in the STIP.

## Program Methodology

## State Trunkline Program

The annual 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 2014 and FY 2015 Safety Call request was made to the Regions on December 13, 2010. 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 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 improvement. A minimum of the latest three years of available crash data is to be used in the TOR analysis. For FY 2013 and FY 2015 projects, in which 2007 to 2009 crash data was used, three TOR criteria were established:

- Stand alone safety improvement - TOR of 7 years or less
- Stand alone safety improvement for location on the current Transparency Report - TOR of 10 years or less.
- Safety improvement in conjunction with a Construction project - TOR of 10 years or less.

Each Region's submittal was reviewed by the Central office review team to ensure all criteria were 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 and the TOR values for projects beyond funding targets to allocate the $\$ 2 \mathrm{M}$ funds statewide.

For FY 2014 and FY 2015, 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. The RSA should be done prior to 30
percent completion of the plans. The purpose of the audit is to ensure the appropriate safety fixes are incorporated into the overall design.

New to the Safety Call starting in FY 2014 is the opportunity for each Region to allocate up to a set percent of their funding target for low cost safety improvements. This amount is in addition to the SWA funding. The focus is to be on systemwide safety improvements done by work authorization or through the letting process. A TOR justification is not be required if the proposed improvement is selected from the list of approved and proven safety systemwide fixes (Eligibility Guidelines for Low Cost Safety Improvement Projects). For FY 2014 through FY 2017, the percentage is 10 percent. For FY 2018 through 2020 this percentage was increased to 25 percent. New for FY 2020 is the allocation of $\$ 1$ million toward additional low cost safety improvements for regions meeting or exceeding their target amount in project proposals. To accommodate this change, the $\$ 2$ million of discretionary funding as described on page 1 has been reduced from $\$ 2$ million to $\$ 1$ million. For FY 2021 the percentage submitted shall be a minimum of 25 percent up to a maximum of 50 percent.

In an effort to incorporate the Highway Safety Manual (HSM) into MDOT's business process all safety projects submitted for FY 2019 and 2020, 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, all submitted concepts must address two or more fatal and/or serious injury crashes.

## Local Roadways Program

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 June 22, 2012 memorandum to submit proposed projects for consideration as part of an annual call-for projects (CFP).

The emphasis of the local FY 2014 CFP was to address those locations with correctable fatality and injury crashes to support the department's efforts of reducing fatalities and serious injuries. Per the CFP, the local agency was to provide a TOR analysis showing how the proposed improvement would address fatalities and 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 2014 projects, 2007 to 2011 (or the current availability) crash data was used.

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

For the FY 2014 CFP, a greater emphasis is placed on the identification of correctable fatalities and serious injuries, both in the selection and prioritization of safety projects. In addition, in FY 2014, a small portion of the local safety funds were allocated to five subprograms: Centerline and Shoulder Rumble Strips (\$200 K), Guardrail Upgrades and Clear Zone Improvements (\$1.5 M), and Traffic Signal Optimization - all red phasing ( $\$ 150 \mathrm{~K}$ ), Road Safety Audits ( $\$ 50 \mathrm{~K}$ ) and Non-motorized Facility/Pedestrian Improvements ( $\$ 100 \mathrm{~K}$ ). Local agencies were informed that this money is reserved for the listed strategic improvements, and encouraged to submit conforming projects.

## Progress in Implementing the HSIP Projects

HSIP Funds Programmed

| HSIP State Trunkline Project Funding |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Reporting Period: 10/01/2013 to 09/30/2014 |  |  |  |  |  |
| Funding Category | Programmed* | Obligated |  |  |  |
| HSIP (Section 148) | $\$ 36,259,028$ | $\$ 32,231,514$ |  |  |  |
| Hazard Elimination (Section 152) |  |  |  |  |  |
| Penalty Funds (154 and 164) |  | $\$ 36,075$ |  |  |  |
| Other Federal Funds (STG and RP) | $\$ 107,584$ |  |  |  |  |
| Incentive Grants (Sections 406, 163) |  | $\$ 2,045,713$ |  |  |  |
| State and Local Funds | $\$ 1,785,669$ | $\$ 34,313,302$ |  |  |  |
| Total |  |  |  | $\$ 38,152,281$ |  |


| HSIP Local Roadway Project Funding |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Reporting Period: 10/01/2013 to 09/30/2014 |  |  |  |  |  |
| Funding Category | Programmed | Obligated |  |  |  |
| HSIP (Section 148) | $\$ 13,093,014$ | $\$ 10,279,885$ |  |  |  |
| Hazard Elimination (Section 152) |  |  |  |  |  |
| Penalty Transfer (154 and 164) |  |  |  |  |  |
| Other Federal Funds |  |  |  |  |  |
| Incentive Grants (Sections 406, 163) |  |  |  |  |  |
| State and Local Funds |  | $\$ 10,279,885$ |  |  |  |
| Total |  |  |  | $\$ 13,093,014$ |  |

* "Available" (Programmed) funds refer to those funds that have been programmed in the Statewide Transportation Improvement Program (STIP) and can be expended on highway safety improvement projects.

During the reporting period 1.1 percent of the programmed and 1.2 percent of the obligated funds for the state trunkline system were directed to non-infrastructure safety items such as road safety audits, SHSP activities, outreach, educational efforts, and data collection. In addition, \$2,657,416 of federal/state funding from the road and bridge programs was transferred into the HSIP to support additional work being incorporated into safety projects. On the local side no HSIP funds were directed toward tribal safety projects. Overall, 26 percent of the programmed and 23 percent of the obligated funds were directed to local safety projects.

## General Listing of Projects

Attached are the general listings of projects for both the State Trunkline (Attachment A) and Local Roadways Programs (Attachment B). The costs shown are obligated construction costs and other phases obligated for the projects. Not all design or right-of-way costs were accrued in FY 2014.

## Progress in Achieving Safety Performance Targets

The Safety Program is a major component in the department's emphasis of addressing locations with safety concerns as part of the transportation program. More importantly the Safety Program is a means by which the department can support the goals of the SHSP. The purpose of the SHSP is to identify the key safety needs in the state and guide investment decisions to achieve significant reductions in highway fatalities and serious injuries on all public roadways. MDOT developed and began the implementation of a SHSP in 2003. Specific focus areas included intersection safety, roadway departure, pedestrian and
bicycle safety, and elderly mobility. In late 2004, the Governor’s Traffic Safety Advisory Commission (GTSAC) requested the development of a statewide, multi-disciplinary highway Michigan SHSP. The plan resulted in the identification of 12 strategic focus areas for reducing fatalities to 1.0 per 100 million vehicle miles traveled by 2008. As a result of creating emphasis areas that targeted over 80 percent of Michigan's highway fatalities the goal was met with 0.97 fatalities per 100 million vehicle miles traveled in 2008. In 2008, the SHSP was updated to reflect current needs and number the goals from a rate to a more meaningful goal of an incremental reduction of the frequency of fatalities and serious injuries. The revised goals address both fatalities and serious injuries. The 2008 SHSP goals were to reduce traffic fatalities and serious injuries from 1,084 and 7,485 in 2007 to 850 and 5,900 in 2012.

Since that initial SHSP Michigan is on its third plan with the 2013 SHSP. The new SHSP goals are to reduce statewide traffic fatalities and serious injuries from 889 and 5,706 respectively in 2011 to 750 and 4,800 in 2016. The new SHSP is focused on four broad emphasis areas; High-risk Behaviors, At-risk Road Users, Engineering Infrastructure and System Administration. Within these emphasis areas, the following action teams have been created to provide more targeted guidance:

| Traffic Records and Information Systems | Pedestrian and Bicycle Safety | Motorcycle Safety |
| :--- | :--- | :--- |
| Traffic Safety Engineering | Traffic Incident Management | Impaired Driving |
| Commercial Motor Vehicle Safety | Occupant Protection | Distracted Driving |

Given the four year SHSP update cycle, each action team is tasked with providing more immediate updates based upon shorter-term changes in traffic crashes, injuries, and fatalities. This is done through annual updates to the action plans, which capture changes in key performance measures, in addition to documenting those policies and programs that have been implemented. In addition to allowing for adaptive responses, these annual updates also provide useful information to the safety stakeholders in Michigan, as well as other states. The primary measures used to evaluate progress with respect to the SHSP process are the changes in the number of traffic-related fatalities and serious injuries that occur on an annual basis. Michigan currently maintains a traffic records system that is among the best in the country, allowing for timely feedback as to how various traffic safety trends are changing over time. Attachment C shows the progress of statewide fatalities and serious in meeting the goals of the 2013 SHSP. The values shown in the graphs are not 5-Year Rolling Averages but year specific.

## Overview of General Highway Safety Trends

In review of the 5-Year Rolling Average for statewide, state trunkline and local roadways (Attachment D, Table 1), both fatalities and serious injuries have decreased at minimum 4.03 percent from 2006-2010 to 2010-2014. The greatest reductions were for serious injuries, ranging from 17.62 to 21.40 percent. In regard to rates while the fatality and serious injury rates are lower on state trunkline the percent decrease over the analysis time period is consistent between the two roadway networks. For both statewide and state trunkline the fatality rate has been below 1.0 fatality per 100 million vehicle miles traveled since 2006-2010 and below 1.0 for state trunkline during the entire analysis time period. Fatality and serious injury frequencies and rates for the various functional classes are shown in Attachment D, Table 2.

## SHSP Emphasis Areas

For the analysis time period the 5 -Year Rolling Average for fatality and serious injury frequencies and rates has decreased for all the engineering related SHSP Emphasis Areas; Intersections, Lane Departure, and Pedestrian and Bicycle Safety except the fatality and fatality rate for Pedestrian and Bicycle Safety (Attachment E). The number of Pedestrian and Bicycle fatalities has remained virtually unchanged except for the last two 5-Year Rolling Average (2009-2013 and 2010-2014) when the frequency increased
from 154 to 162 and 167 respectfully. The largest gains are in serious injuries for all three emphasis areas. Statewide, the percent reduction is as follows:

| SHSP Emphasis Area | Fatalities | Serious Injuries |
| :--- | :--- | :--- |
| Intersections | $10.11 \%$ | $18.94 \%$ |
| Lane Departure | $10.19 \%$ | $20.46 \%$ |
| Pedestrian and Bicycle Safety | $-8.30 \%$ | $16.09 \%$ |

## Application of Special Rules - High Risk Rural Road Safety

Per notification from FHWA the High Risk Rural Roads Safety special rule does not apply to Michigan.

## Application of Special Rules - Older Drivers

23 U.S.C. 148(g)(2) states 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, that State shall be required to include, in the subsequent State SHSP, strategies to address the increases in those rates, taking into account the recommendations included in the FHAW publication entitled 'Highway Design Handbook for Older Drivers and Pedestrians'. Using the 5-Year Rolling Average of fatalities and serious injuries for drivers and pedestrians 65 years of age and older and the number of people 65 Years of age and older (Per 1,000 Total Population), as provided by FHWA, the rate has decreased from 4.45 for 2007-2011 to 3.96 for 2009-2013. With this decrease the special rule does not apply. The calculations are shown in Attachment F.

## Assessment of the Effectiveness of the Improvements (Program Evaluation)

## Systemic Treatments

As reported in previous HSIP Reports the department undertook two system wide initiatives in FY 2008: freeway median barrier and non-freeway rumble strips. Both initiatives address lane departure, which is part of one of the 12 focus areas in the SHSP. Lane departure related crashes accounted for at least 396 fatalities statewide in 2014 ( 45 percent of all fatalities). A primary objective for this focus area is to identify cost effective strategies that help reduce unintentional lane departures, as well as alert the driver should a lane departure occur. The secondary objective is to assist the driver in returning to the travel lane safely and minimize departure consequences by creating roadside clear zones.

Rumble strips are a proven and cost-effective countermeasure to lane departure crashes brought on by driver drowsiness, distraction, and/or inattention. Since the late 1990s, MDOT has been systematically installing rumble strips on freeway shoulders. In 2007, MDOT pursued expanding rumble strips onto the rural, non-freeway system, as part of a three-year funding effort. MDOT's innovation was to make this a network-wide implementation. Rumble strip milling was incorporated in the annual pavement marking program and coordinated with MDOT's pavement engineers. To implement this effort, \$3 M a year of additional funding was added to the pavement marking program for 2008 through 2010. The result is approximately 5,400 miles of centerline rumbles and 2,700 lane miles of shoulder rumbles.

To determine the overall effectiveness of the effort Wayne State University completed the 'Evaluation of Non-Freeway Rumble Strip-Phase II' for the department. The goal was to determine a cost/benefit ratio, estimated crash reduction factors, public acceptance and an implementation guide for local agencies. The safety performance analysis indicated statistically significant reductions in the range of 50 percent in all types of target crashes after centerline rumble strips were installed. Researchers identified 2,488 target crashes in the three years before installation of centerline rumble strips and 1,306 in the three years after installation. They noted a 43 percent to 55 percent reduction in head-on, sideswipe opposite and single-
vehicle run-off-the-road crashes. Overall fatal and injury crashes were cut in half, with a 51 percent reduction in fatal crashes and a 47 percent reduction in injury crashes.

The economic analysis produced equally significant results. Researchers estimated a cost benefit of nearly $\$ 80$ million over three years as a result of the crash reductions from centerline rumble strip installation. They estimated that centerline rumble strips on two-lane rural highways will produce benefit-to-cost ratios between $58: 1$ and 18:1, depending on how the cost is spread out over time. Researchers performed a sensitivity analysis that produced a range of benefit-cost ratio data for state and local agency use. The online road user survey drew responses from 380 drivers, ranging in age from under 20 to over 60. Of these respondents, 79 percent strongly agreed or agreed that centerline rumble strips are an effective safety measure, and the majority would recommend installing rumble strips on additional state roadways.

Rumble strips are proving to be a cost-effective countermeasure to lane-departure crashes on Michigan's state highways. MDOT is reaching out to local agencies to increase their understanding of the benefits of rumble strips and to encourage interest in installing them on county, city and township roads either systemwide or at specific sites. To support this effort, MDOT has developed concise, user-friendly design and installation guidelines for use by local agencies.

Freeway median barriers minimize departure consequences. MDOT staff evaluated the state trunkline to project how many lives might be saved in Michigan through the installation of median barrier on candidate roadways. The crash analysis examined all freeway corridors without median protection which experienced four or more crossover type crashes during 2002 through 2006. Using a 90 percent reduction factor to estimate the benefit of median protection a total of 340 miles was identified. These corridors, with medians widths not requiring protection per MDOT's standards, experienced 66 fatalities and 257 serious injuries. Cable median barrier projects were done in conjunction with road/bridge projects when possible, or as corridor projects. To implement this effort, $\$ 14 \mathrm{M}$ a year of additional funding was added to the safety template for 2008 through 2010. Since this initial funding effort cable barrier projects have been supported in the annual Safety Call for Projects. To date 333 miles of cable median barrier has been installed through 2014.

The goal of 'Study of High Tension Cable Barrier on Michigan Roadways’ research project was to determine the effectiveness of MDOT's high tension cable barrier installations in reducing the frequency of cross-median crashes and resultant injuries and fatalities. The results of the research show that cable median barriers have been highly effective at reducing crossover crashes in Michigan. After the barriers were installed, crossover crash rates on those highway segments fell by 87 percent, and the barriers successfully contained 97 percent of the vehicles that hit them. Cable barriers have improved overall safety at the locations where they have been installed. The most serious crash types-fatal and severe injury crashes-decreased by 33 percent after cable median barriers were installed, according to rigorous statistical analysis. Since their installation, cable barriers are estimated to have saved 20 lives and prevented over 100 serious injuries in Michigan. As expected, low-severity crashes increased following the cable barrier installation; crashes involving only property damage or minor injuries increased by 155 percent. Researchers' analysis showed that placing the cable barrier farther from the roadway (toward the center of the median) would result in fewer low-severity crashes, but this can be impractical because of soil conditions, slope grade, drainage characteristics, or increased installation and maintenance costs.

Overall, cable median barriers were slightly more prone to penetration by a vehicle than thrie-beam guardrail or concrete barrier, but they were the most effective in preventing redirection back into the travel lanes. Other findings include:

- Motorcycles: Cable barriers did not significantly impact motorcycle crash trends.
- Winter roadway conditions: Crash frequency increased in times of adverse weather and road conditions, but the cable barriers continued to contain vehicles as intended.
- Rollovers: Median rollover crash rates decreased by 50 percent after cable barriers were installed.

MDOT has fully embraced implementation of TZD as a safety program in and of itself and has developed several related action plans. MDOTs North Region analyzed recently implemented safety projects and compared that to crash trends for the region. In an effort to more closely align the problem with the goal, they developed a Region TZD Implementation Plan that heavily emphasizes strategies focused on reducing lane departure and stop-controlled intersection fatal and serious injury crashes. Other regions across the state are also developing plans for their areas. The Traffic \& Safety Section created and is actively tracking a TZD Strategic Plan for the purpose of increasing "awareness of MDOT’s TZD efforts within the State of Michigan by 1) identifying effective strategies to distribute the TZD logo and create logo recognition, and 2) gaining TZD partnerships. This Strategic Plan is designed to capture a widespread audience including: MDOT Employees and State agencies/employees, Local Agencies (County, City, Village, Township, etc.), private organizations, and the general public."

Communication is a key aspect of implementing TZD and in addition to the action plans, MDOT has developed a number of tools and resources. A sample of the TZD-focused resources include a website, rest area posters, internal and external newsletter articles, crash statistics postcard, safety fact sheet with actionable items for pedestrians, bicyclists, motorcyclists and drivers and a safety programs brochure. MDOT also communicates the year-to-date fatalities across a number of different media including a weekly email listserv, messaging on our digital messaging signs and social media outlets. This effort has let to numerous related news stories by media outlets across the state.

## High Risk Rural Roads Program (HRRRP)*

## Program Administration

For the High Risk Rural Roads Program (HRRRP) the funds are administered by the Local Agency Programs (LAP) Safety Engineer located in the Central Office. MDOT allocates funds for this program to only local roadways that qualify.

Only the construction phase is eligible for federal aid. Federal funds are capped at $\$ 400 \mathrm{~K}$ per project. Right of way and construction engineering are not eligible for these funds. Preliminary engineering costs for projects identified on the Transparency (5\%) Report or by the Local Safety Initiative are eligible for federal participation; otherwise, preliminary engineering is not eligible for federal HRRR funds. Projects are federally funded at 90 percent, with a 10 percent local match, or funded with 100 percent federal funds for projects consisting entirely of traffic control signalization, safety, pavement marking, rail-highway crossing closure, or installation of traffic signs, traffic lights, guardrails, impact attenuators, concrete barrier end treatments, breakaway utility poles, or priority control systems.

Local agencies within MPO areas must coordinate with their MPO to ensure inclusion of their project in the area's 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. LAP coordinates with MDOT Planning to ensure these projects are included in the STIP.

## Program Methodology

Local agencies were invited by a May 25, 2012 memorandum to submit proposed projects for consideration as part of the FY 2014 CFP.

SAFETEA-LU defined a HRRR as; 1) any roadway functionally classified as rural major or minor collector or a rural local road that the accident rate for fatalities and incapacitating injuries exceeds the statewide average for those functional classes of roadway, or 2 ) any roadway functionally classified as rural major or minor collector or a rural local road that will likely have increases in traffic volumes that are likely to create an accident rate for fatalities and incapacitating injuries that exceeds the statewide average for those functional classes.

MDOT used the following data to determine the required statewide, average accident rate:

| 76,116 | Total miles of roadway functionally classified as rural major or minor collector or rural <br> local road |
| :---: | :--- |
| 9,646 | Total number of crashes resulting in fatalities or incapacitating injuries, located on <br> roadway classified as described above, for the time period, 2004 - 2009 |
| 0.13 | Statewide average frequency of such accidents per mile of such roadway over a 5 year <br> time period |

This data lead to the calculation of a crash frequency that exceeds the statewide, average accident rate, at a minimum: Within the most recent 5 year time period of available crash data, at least one crash, resulting in fatalities (K) or incapacitating (A) injuries, has occurred within a segment of eligible roadway no longer than 7.70 miles (1/0.13).

The 2014 eligibility requirements for roadways in the HRRR program were:

1. The roadway is functionally classified as rural major or minor collector or rural local road.
2. Within the most recent 5 year time period of available crash data, at least 1 intersection crash, resulting in fatalities or incapacitating injuries has occurred; or 1 such serious crash has occurred within a 7.70 mile long segment of such roadway.

The proposed projects had to demonstrate a direct correlation to correct an area related to the fatal or incapacitating crashes. The proposed project limits must be relevant to the roadway features attributable to the crashes. Eligible projects must meet current standards and warrants.
The local agency is required to submit a project evaluation form to show the effectiveness of the project when three years of crash data are available after project construction.

## Progress in Implementing the HRRRP Projects

HRRRP Funds Available ${ }^{1}$

| HRRRP Project Funding* |  |  |
| :--- | :---: | :---: |
| Reporting Period: 10/01/2013 to 09/30/2014 |  |  |
| Funding Category |  | Programmed |
| HRRRP | $\$ 2,954,187.70$ | Obligated* |
| HSIP | $\$ 0.00$ | $2,755,063.00$ |
| State and Local funds |  |  |
| Total | $\$ 2,954,187.70$ | $\$ 2,796,219.97$ |

[^0]During the selection process, MAP-21 was approved and the HRRRP was eliminated. MDOT committed to meeting the federal funding offered in the HRRRP CFPs with HSIP money, as needed.

General Listing of Projects
The general listing of projects for the HRRRP is shown in Attachment G.

## Assessment of the Effectiveness of HRRR Improvements (Program Evaluation)

Table 2 of Attachment D summarizes the safety trends for rural major collector, minor collector, and rural local roads in Michigan. The 5-Year Rolling Average for fatality and serious injury frequencies and rates has decreased during the analysis time period for the three National Functional Classes that comprise the HRRR except for the fatality rate on rural major collector which remains relatively unchanged. The greatest reductions are on both rural minor collector and rural local with double digit reductions for all measures. As noted earlier the High Risk Rural Roads Safety special rule does not apply to Michigan.

| National Functional Class | 2006_2010 | 2010_2014 | \% Diff |
| :---: | :---: | :---: | :---: |
| 5 Year Rolling Average <br> Fatalities |  |  |  |
| 7-Major Collector (Rural) | 144 | 135 | $6.24 \%$ |
| 8-Minor Collector (Rural) | 20 | 17 | $18.63 \%$ |
| 9-Local (Rural) | 99 | 89 | $10.87 \%$ |
| 5 Year Rolling Average <br> Serious Injuries |  |  |  |
| 7-Major Collector (Rural) | 855 | 677 | $20.77 \%$ |
| 8-Minor Collector (Rural) | 111 | 75 | $32.55 \%$ |
| 9-Local (Rural) | 645 | 479 | $25.67 \%$ |
| 5 Year Rolling Average <br> Fatality Rate |  |  |  |
| 7-Major Collector (Rural) | 1.72 | 1.76 | $-2.24 \%$ |
| 8-Minor Collector (Rural) | 2.11 | 1.76 | $16.89 \%$ |
| 9-Local (Rural) | 4.19 | 3.77 | $10.13 \%$ |
| 5 Year Rolling Average <br> Serious Injury Rate |  |  |  |
| 7-Major Collector (Rural) | 10.17 | 8.76 | $13.85 \%$ |
| 8-Minor Collector (Rural) | 11.55 | 7.93 | $31.32 \%$ |
| 9-Local (Rural) | 27.20 | 20.34 | $25.23 \%$ |

Attachment C



Attachment D
Overview of General Highway Safety Trends
Table 1

| Michigan Statewide Safety <br> Trends |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| 5 Year Rolling Average | $\mathbf{2 0 0 6 \_ 2 0 1 0}$ | $\mathbf{2 0 0 7 \_ 2 0 1 1}$ | $\mathbf{2 0 0 8 \_ 2 0 1 2}$ | $\mathbf{2 0 0 9 \_ 2 0 1 3}$ | 2010_2014 | \% Diff |
| Fatalities | 993 | 953 | 923 | 917 | 918 | $7.55 \%$ |
| Serious Injuries | 6,881 | 6,492 | 6,121 | 5,833 | 5,511 | $\mathbf{1 9 . 9 2 \%}$ |
| Fatality Rate | 0.98 | 0.96 | 0.95 | 0.96 | 0.97 | $1.97 \%$ |
| Serious Injury Rate | 6.83 | 6.56 | 6.33 | 6.10 | 5.79 | $\mathbf{1 5 . 1 3 \%}$ |
|  |  |  |  |  |  |  |
| MDOT Roads |  |  |  |  |  |  |
| 5 Year Rolling Average | $\mathbf{2 0 0 6 \_ 2 0 1 0}$ | $\mathbf{2 0 0 7 \_ 2 0 1 1}$ | $\mathbf{2 0 0 8 \_ 2 0 1 2}$ | $\mathbf{2 0 0 9 \_ 2 0 1 3}$ | $\mathbf{2 0 1 0 \_ 2 0 1 4}$ | \% Diff |
| Fatalities | 416 | 409 | 395 | 396 | 400 | $4.03 \%$ |
| Serious Injuries | 2,737 | 2,585 | 2,440 | 2,360 | 2,255 | 17.62\% |
| Fatality Rate | 0.83 | 0.83 | 0.80 | 0.80 | 0.80 | $3.67 \%$ |
| Serious Injury Rate | 5.45 | 5.22 | 4.98 | 4.79 | 4.51 | $17.28 \%$ |
|  |  |  |  |  |  |  |
| Local Roads |  |  |  |  |  |  |
| 5 Year Rolling Average | $\mathbf{2 0 0 6 \_ 2 0 1 0}$ | $\mathbf{2 0 0 7 \_ 2 0 1 1}$ | $\mathbf{2 0 0 8 \_ 2 0 1 2}$ | $\mathbf{2 0 0 9 \_ 2 0 1 3}$ | $\mathbf{2 0 1 0 \_ 2 0 1 4}$ | \% Diff |
| Fatalities | 576 | 544 | 528 | 521 | 517 | $10.11 \%$ |
| Serious Injuries | 4,121 | 3,887 | 3,664 | 3,458 | 3,239 | $21.40 \%$ |
| Fatality Rate | 1.14 | 1.10 | 1.11 | 1.13 | 1.12 | $1.51 \%$ |
| Serious Injury Rate | 8.15 | 7.88 | 7.69 | 7.47 | 7.02 | $13.91 \%$ |

Attachment D
Overview of General Highway Safety Trends
Table 2

| National Functional Class |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| 5 Year Rolling Average Fatalities | 2006_2010 | 2007_2011 | 2008_2012 | 2009_2013 | 2010_2014 |
| 1-Principal Arterial - Interstate (Rural) | 25 | 25 | 23 | 22 | 21 |
| 2-Principal Arterial - Other (Rural) | 64 | 57 | 52 | 52 | 49 |
| 6-Minor Arterial (Rural) | 106 | 100 | 91 | 89 | 90 |
| 7-Major Collector (Rural) | 144 | 140 | 137 | 137 | 139 |
| 8-Minor Collector (Rural) | 20 | 17 | 17 | 16 | 17 |
| 9-Local (Rural) | 99 | 96 | 94 | 90 | 89 |
| 11-Principal Arterial - Interstate <br> (Urban) | 70 | 69 | 69 | 71 | 77 |
| 12-Principal Arterial - Other Freeway <br> (Urban) | 29 | 30 | 29 | 28 | 28 |
| 14-Principal Arterial - Other (Urban) | 183 | 179 | 174 | 181 | 178 |
| 16-Minor Arterial (Urban) | 141 | 137 | 140 | 138 | 138 |
| 17-Collector (Urban) | 50 | 48 | 45 | 43 | 41 |
| 19-Local (Urban) | 56 | 49 | 42 | 38 | 41 |


| National Functional Class |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| 5 Year Rolling Average Serious <br> Injuries | 2006_2010 | 2007_2011 | 2008_2012 | 2009_2013 | 2010_2014 |
| 1-Principal Arterial - Interstate (Rural) | 166 | 162 | 152 | 142 | 133 |
| 2-Principal Arterial - Other (Rural) | 381 | 348 | 305 | 290 | 242 |
| 6-Minor Arterial (Rural) | 578 | 545 | 517 | 481 | 446 |
| 7-Major Collector (Rural) | 855 | 806 | 778 | 719 | 704 |
| 8-Minor Collector (Rural) | 111 | 104 | 92 | 86 | 75 |
| 9-Local (Rural) | 645 | 599 | 559 | 524 | 479 |
| 11-Principal Arterial - Interstate <br> (Urban) | 425 | 394 | 367 | 363 | 364 |
| 12-Principal Arterial - Other Freeway <br> (Urban) | 138 | 129 | 137 | 138 | 144 |
| 14-Principal Arterial - Other (Urban) | 1,468 | 1,387 | 1,318 | 1,267 | 1,202 |
| 16-Minor Arterial (Urban) | 1,184 | 1,136 | 1,078 | 1,041 | 986 |
| 17-Collector (Urban) | 356 | 337 | 310 | 299 | 285 |
| 19-Local (Urban) | 501 | 463 | 426 | 404 | 377 |

Attachment D
Overview of General Highway Safety Trends
Table 2 (continued)

| National Functional Class |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| 5 Year Rolling Average Fatality Rate | 2006_2010 | 2007_2011 | 2008_2012 | 2009_2013 | 2010_2014 |
| 1-Principal Arterial - Interstate (Rural) | 0.45 | 0.46 | 0.42 | 0.41 | 0.41 |
| 2-Principal Arterial - Other (Rural) | 1.00 | 0.99 | 1.01 | 1.15 | 1.19 |
| 6-Minor Arterial (Rural) | 1.50 | 1.44 | 1.33 | 1.34 | 1.39 |
| 7-Major Collector (Rural) | 1.72 | 1.68 | 1.67 | 1.71 | 1.76 |
| 8-Minor Collector (Rural) | 2.11 | 1.76 | 1.83 | 1.73 | 1.76 |
| 9-Local (Rural) | 4.19 | 4.02 | 3.93 | 3.82 | 3.77 |
| 11-Principal Arterial - Interstate <br> (Urban) | 0.44 | 0.44 | 0.45 | 0.45 | 0.47 |
| 12-Principal Arterial - Other Freeway <br> (Urban) | 0.52 | 0.54 | 0.52 | 0.50 | 0.48 |
| 14-Principal Arterial - Other (Urban) | 0.99 | 1.00 | 1.00 | 1.07 | 1.04 |
| 16-Minor Arterial (Urban) | 0.84 | 0.83 | 0.89 | 0.90 | 0.90 |
| 17-Collector (Urban) | 0.88 | 0.88 | 0.90 | 0.89 | 0.84 |
| 19-Local (Urban) | 0.81 | 0.72 | 0.61 | 0.56 | 0.59 |


| National Functional Class <br> 5 Year Rolling Average Serious <br> Injury Rate |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| 2006_2010 | 2007_2011 | 2008_2012 | 2009_2013 | 2010_2014 |  |
| 1-Principal Arterial - Interstate (Rural) | 3.01 | 2.99 | 2.83 | 2.68 | 2.63 |
| 2-Principal Arterial - Other (Rural) | 5.96 | 6.03 | 5.85 | 6.26 | 5.87 |
| 6-Minor Arterial (Rural) | 8.22 | 7.84 | 7.56 | 7.17 | 6.84 |
| 7-Major Collector (Rural) | 10.17 | 9.66 | 9.48 | 8.98 | 8.76 |
| 8-Minor Collector (Rural) | 11.55 | 10.93 | 9.70 | 9.11 | 7.93 |
| 9-Local (Rural) | 27.20 | 25.17 | 23.44 | 22.11 | 20.34 |
| 11-Principal Arterial - Interstate <br> (Urban) | 2.68 | 2.53 | 2.38 | 2.30 | 2.22 |
| 12-Principal Arterial - Other Freeway <br> (Urban) | 2.48 | 2.33 | 2.48 | 2.46 | 2.45 |
| 14-Principal Arterial - Other (Urban) | 7.91 | 7.71 | 7.59 | 7.49 | 7.00 |
| 16-Minor Arterial (Urban) | 7.00 | 6.91 | 6.83 | 6.76 | 6.44 |
| 17-Collector (Urban) | 6.27 | 6.25 | 6.18 | 6.18 | 5.87 |
| 19-Local (Urban) | 7.32 | 6.75 | 6.21 | 5.84 | 5.40 |

Attachment E SHSP Emphasis Areas

| SHSP Emphasis Areas Intersection |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5 Year Rolling Average | $\mathbf{2 0 0 6 \_ 2 0 1 0}$ | $\mathbf{2 0 0 7 \_ 2 0 1 1}$ | $\mathbf{2 0 0 8 \_ 2 0 1 2}$ | $\mathbf{2 0 0 9 \_ 2 0 1 3}$ | $\mathbf{2 0 1 0 \_ 2 0 1 4}$ | \% Diff |
| Fatalities | 267 | 251 | 242 | 242 | 240 | $10.11 \%$ |
| Serious Injuries | 2,310 | 2,183 | 2,077 | 2,000 | 1,872 | $18.94 \%$ |
| Fatality Rate | 0.27 | 0.25 | 0.25 | 0.25 | 0.25 | $4.82 \%$ |
| Serious Injury Rate | 2.29 | 2.21 | 2.15 | 2.09 | 1.97 | $14.16 \%$ |
|  |  |  |  |  |  |  |
| SHSP Emphasis Areas <br> Lane Departure |  |  |  |  |  |  |
| 5 Year Rolling Average | $\mathbf{2 0 0 6 \_ 2 0 1 0}$ | $\mathbf{2 0 0 7 \_ 2 0 1 1}$ | $\mathbf{2 0 0 8 \_ 2 0 1 2}$ | $\mathbf{2 0 0 9 \_ 2 0 1 3}$ | $\mathbf{2 0 1 0 \_ 2 0 1 4}$ | \% \% Diff |
| Fatalities | 485 | 465 | 450 | 439 | 436 | $10.19 \%$ |
| Serious Injuries | 2,681 | 2,539 | 2,380 | 2,262 | 2,132 | $20.46 \%$ |
| Fatality Rate | 0.48 | 0.47 | 0.47 | 0.46 | 0.46 | $4.69 \%$ |
| Serious Injury Rate | 2.66 | 2.57 | 2.46 | 2.37 | 2.24 | $15.70 \%$ |
|  |  |  |  |  |  |  |
| SHSP Emphasis Areas |  |  |  |  |  |  |
| Ped and Bike |  |  |  |  |  |  |
| 5 Year Rolling Average | $\mathbf{2 0 0 6 \_ 2 0 1 0}$ | $\mathbf{2 0 0 7 \_ 2 0 1 1}$ | $\mathbf{2 0 0 8 \_ 2 0 1 2}$ | $\mathbf{2 0 0 9 \_ 2 0 1 3}$ | $\mathbf{2 0 1 0 \_ 2 0 1 4}$ | \% Diff |
| Fatalities | 154 | 154 | 154 | 162 | 167 | -8.30\% |
| Serious Injuries | 664 | 633 | 600 | 584 | 557 | $16.09 \%$ |
| Fatality Rate | 0.15 | 0.16 | 0.16 | 0.17 | 0.18 | $-14.65 \%$ |
| Serious Injury Rate | 0.66 | 0.64 | 0.62 | 0.61 | 0.59 | $11.13 \%$ |

Attachment F
Application of Special Rules - Older Drivers

| Occupants/people/parties for 1/1/2007 through 12/31/2013 in the state of Michigan filtered by Party Type |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (Motor vehicle driver or Pedestrian and Person Age 65 years old and older) |  |  |  |  |  |  |  |  |
| v Party Type \| Accident Year | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 |  |
| Motor vehicle driver K\&A | 519 | 510 | 460 | 528 | 543 | 594 | 579 |  |
| Motor vehicle driver K only | 143 | 121 | 105 | 111 | 111 | 125 | 131 |  |
| Motor vehicle driver A only | 376 | 389 | 355 | 417 | 432 | 469 | 448 |  |
| Pedestrian K\&A | 54 | 46 | 46 | 53 | 44 | 55 | 63 |  |
| Pedestrian K only | 17 | 17 | 20 | 26 | 14 | 22 | 24 |  |
| Pedestrian A only | 37 | 29 | 26 | 27 | 30 | 33 | 39 |  |
| Total KA | 573 | 556 | 506 | 581 | 587 | 649 | 642 |  |
| Total Fatalities | 160 | 138 | 125 | 137 | 125 | 147 | 155 |  |
| Total Serious Injuries | 413 | 418 | 381 | 444 | 462 | 502 | 487 |  |
| *Population | 150 | 146 | 141 | 138 | 134 | 130 | 127 |  |
| fatality \& serious injury rate | 3.820000 | 3.808219 | 3.588652 | 4.210145 | 4.380597 | 4.992308 | 5.055118 |  |
| fatality rate | 1.066667 | 0.945205 | 0.886525 | 0.992754 | 0.932836 | 1.130769 | 1.220472 |  |
| serious injury rate | 2.753333 | 2.863014 | 2.702128 | 3.217391 | 3.447761 | 3.861538 | 3.834646 |  |
|  |  | K\&A Rates | 2007-2011 | 4.445364 |  |  |  |  |
|  |  |  | 2009-2013 | 3.961523 |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  | K Rates | 2007-2011 | 1.032671 |  |  |  |  |
|  |  |  | 2009-2013 | 0.964797 |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  | A Rates | 2007-2011 | 3.412693 |  |  |  |  |
|  |  |  | 2009-2013 | 2.996725 |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Special rule does NOT apply to Michigan |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| * Number of people in Michigan age 65 + per 1000 population as provided by FHWA |  |  |  |  |  |  |  |  |

Attachment A
General Listing of Projects - State Trunkline

| Project | Improvement Category | Output | HSIP Cost* | Total Cost* | Funding | Functional Classification**,^ | AADT** | Speed** | Roadway Ownership^ | Relationship to SHSP |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (see Attachment 4) | (i.e. \#, miles) |  |  | Category ${ }^{\wedge}$ |  |  |  |  | Emphasis Area^ | Strategy |
| TSC Wide, Brighton TSC | Intersection Traffic Control - Pavement Marking - Other | 545 each | \$160,914 | \$160,914 | HSIP | Other | Other | Other | State Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| Region Wide, North Region | Intersection Traffic Control - Pavement Marking - Other | 1360 each | \$446,190 | \$446,190 | HSIP | Other | Other | Other | State Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| TSC Wide, Jackson TSC | Intersection Traffic Control - Pavement Marking - Other | 927 each | \$203,227 | \$203,227 | HSIP | Other | Other | Other | State Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| TSC Wide, Lansing TSC | Intersection Traffic Control - Pavement Marking - Other | 357 each | \$115,588 | \$115,588 | HSIP | Other | Other | Other | State Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| TSC Wide, Marshall TSC | Intersection Traffic Control - Pavement Marking - Other | 1638 each | \$339,410 | \$339,410 | HSIP | Other | Other | Other | State Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| Region Wide, Superior Region | Roadway Delineation - Longitudinal Pavement Marking - Remarking | 25446745 ft | \$1,983,553 | \$1,983,553 | HSIP | Other | Other | Other | State Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| Region Wide, North Region | Roadway Delineation - Longitudinal Pavement Marking - Remarking | 30332702 ft | \$2,224,991 | \$2,224,991 | HSIP | Other | Other | Other | State Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| TSC Wide, Coloma TSC | Roadway Delineation - Longitudinal Pavement Marking - Remarking | 8124296 ft | \$913,159 | \$913,159 | HSIP | Other | Other | Other | State Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| Region Wide, Metro Region | Roadway Delineation - Longitudinal Pavement Marking - Remarking | 15565638 ft | \$2,653,494 | \$2,653,494 | HSIP | Other | Other | Other | State Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| TSC Wide, Kalamazoo TSC | Roadway Delineation - Longitudinal Pavement Marking - Remarking | 5768173 ft | \$580,700 | \$580,700 | HSIP | Other | Other | Other | State Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| Region Wide, Grand Region | Roadway Delineation - Longitudinal Pavement Marking - Remarking | 17427669 ft | \$2,118,813 | \$2,118,813 | HSIP | Other | Other | Other | State Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| TSC Wide, Brighton TSC | Roadway Delineation - Longitudinal Pavement Marking - Remarking | 7798564 ft | \$1,268,727 | \$1,268,727 | HSIP | Other | Other | Other | State Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| TSC Wide, Jackson TSC | Roadway Delineation - Longitudinal Pavement Marking - Remarking | 5679476 ft | \$523,182 | \$523,182 | HSIP | Other | Other | Other | State Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| TSC Wide, Marshall TSC | Roadway Delineation - Longitudinal Pavement Marking - Remarking | 6071651 ft | \$637,418 | \$637,418 | HSIP | Other | Other | Other | State Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| Region Wide, Bay Region | Roadway Delineation - Longitudinal Pavement Marking - Remarking | 23649577 ft | \$2,371,903 | \$2,371,903 | HSIP | Other | Other | Other | State Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| Region Wide, Metro Region | Intersection Traffic Control - Pavement Marking - Other | 4004 each | \$715,482 | \$715,482 | HSIP | Other | Other | Other | State Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| TSC Wide, Lansing TSC | Roadway Delineation - Longitudinal Pavement Marking - Remarking | 9410838 ft | \$1,221,038 | \$1,221,038 | HSIP | Other | Other | Other | State Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| Statewide, Statewide | Non-infrastructure - Road Safety Audits | 18 studies | \$164,561 | \$164,561 | HSIP | n/a | n/a | n/a | n/a | Other | Reduce Fs and As |
| M-15, Davison Road to North City Limits of Davison | Intersection Geometry - Auxiliary lanes Add Left-Turn Lane | 0.5 miles | \$1,006,234 | \$1,006,234 | HSIP | Rural Principal Arterial - Other | 13000 | 55 | State Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| M-20, at Leaton Road | Roadway - Other | 0.5 miles | \$2,867,377 | \$2,867,377 | HSIP | Rural Principal Arterial - Other | 14400 | 55 | State Highway Agency | Keeping vehicles in the roadway | Reduce Fs and As |
| M-20, at Patrick Road Crossover | Intersection Geometry - Other | 1 loc | \$1,429,867 | \$1,443,872 | HSIP,EDA | Rural Principal Arterial - Other | 21800 | 45 | State Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| M-90, at Black River Road | Intersection Geometry - Auxiliary lanes Add Left-Turn Lane | 1 loc | \$469,060 | \$469,060 | HSIP | Rural Minor Arterial | 8000 | 45 | State Highway Agency | Improving the design and operation of highway intersections | duce Fs and |


| I-94 BL, from Water Street to Quay Street | Intersection Traffic Control - Systemic Improvements - Signal Controlled | 0.2 miles | \$0 | \$366,109 | RRRF | Urban Principal Arterial - Other | 14400 | 25 | State Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| I-94 BL, at 10th Avenue and Scott Avenue | Intersection Geometry - Other | 2 locs | \$0 | \$237,000 | RRRF | Urban Principal Arterial - Other | 26900 | 35 | State Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| 1-96, Ionia West County Line to <br> M-66 | Roadside - Barrier - Cable | 12 miles | \$1,740,677 | \$1,740,677 | HSIP | Rural Principal Arterial - Interstate | 37000 | 70 | State Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| M-37, at Sparta Avenue | Intersection Geometry - Auxiliary lanes Add Left-Turn Lane | 1 loc | \$436,412 | \$436,412 | HSIP | Rural Minor Arterial | 15400 | 55 | State Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| I-196, West of Market Avenue to East of Butterworth Street | Roadside - Barrier - Cable | 2.1 miles | \$314,039 | \$314,039 | HSIP | Urban Principal Arterial - Interstate | 44400 | 70 | State Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| I-196, Chicago Drive east to Market Avenue | Roadside - Barrier - Metal | 0.7 miles | \$452,846 | \$452,846 | HSIP | Urban Principal Arterial - Interstate | 44400 | 70 | State Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| M-19, at New Haven Road | Intersection Geometry - Auxiliary lanes Add Left-Turn Lane | 1 loc | \$0 | \$2,454,232 | RRRF | Rural Minor Arterial | 11700 | 45 | State Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| I-94, Hannan Road to west of the Rouge River | Roadside - Barrier - Metal | 3.2 miles | \$762,320 | \$762,320 | HSIP | Urban Principal Arterial - Interstate | 142200 | 70 | State Highway Agency | Making walking and street crossing easier | Reduce Fs and As |
| M-10, at Randolph Street | Pedestrians and Bicyclists - Modify Existing Crosswalk | 1 loc | \$286,358 | \$286,358 | HSIP | Urban Principal Arterial - Other | 29600 | 30 | State Highway Agency | Making walking and street crossing easier | Reduce Fs and As |
| M-39, at Outer Drive | Pedestrians and Bicyclists - Modify Existing Crosswalk | 1 loc | \$255,987 | \$255,987 | HSIP | Urban Principal Arterial - Other Free | 130200 | 55 | State Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| M-66, at M-55 (South Junction) | Intersection Geometry - Auxiliary lanes Add Right-Turn Lane | 1 loc | \$236,458 | \$236,458 | HSIP | Rural Principal Arterial - Other | 5500 | 55 | State Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| I-94, Puetz Road to I-196 | Roadside - Barrier - Cable | 11.9 miles | \$3,276,522 | \$3,276,522 | HSIP | Rural Principal Arterial - Interstate | 65000 | 70 | State Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| M-26, Royce Road to Military Road | Intersection Geometry - Auxiliary lanes Add Left-Turn Lane | 1.2 miles | \$1,594,937 | \$1,594,937 | HSIP | Rural Minor Arterial | 6700 | 55 | State Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| 1-96, Clinton County line to Canal Road | Roadside - Barrier - Cable | 6.3 miles | \$1,487,834 | \$1,487,834 | HSIP | Rural Principal Arterial - Interstate | 50800 | 70 | State Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| M-59, at Hacker Road | Intersection Geometry - Auxiliary lanes Add Left-Turn Lane | 1 loc | \$863,097 | \$863,097 | HSIP | Rural Principal Arterial - Other | 17500 | 55 | State Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| Statewide, Statewide | Non-infrastructure - Outreach | 480 each | \$55,000 | \$55,000 | HSIP | n/a | n/a | n/a | n/a | Increasing seat belt use and improving airbag effectivenes | Reduce Fs and As |
| Statewide, Statewide | Non-infrastructure - Outreach | 5000 each | \$25,000 | \$25,000 | HSIP | n/a | n/a | n/a | n/a | Increasing driver safety awareness | Reduce Fs and As |
| Statewide, Statewide | Non-infrastructure - Data/traffic Records | 1 each | \$90,000 | \$90,000 | HSIP | n/a | n/a | n/a | n/a | Improving information and decision support systems | Reduce Fs and As |
| Statewide, Statewide | Non-infrastructure - Training and Workforce Develoment | 1 each | \$0 | \$18,000 | RP | n/a | n/a | n/a | n/a | Improving information and decision support systems | Reduce Fs and As |
| Statewide, Statewide | Non-infrastructure - Data/traffic Records | 6093 miles | \$75,000 | \$75,000 | HSIP | n/a | n/a | n/a | n/a | Improving information and decision support systems | Reduce Fs and As |
| Countywide, Monroe County | Roadway Signs and Traffic Control Other | 1 each | \$0 | \$34,335 | STG | n/a | n/a | n/a | State Highway Agency | Increasing driver safety awareness | Reduce Fs and As |
| US-2, Countywide | Roadway Signs and Traffic Control Other | 62.3 miles | \$0 | \$22,237 | M | Rural Principal Arterial - Other | 4500 | 55 | State Highway Agency | Increasing driver safety awareness | Reduce Fs and As |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Total | \$36,367,372 | \$39,513,290 |  |  |  |  |  |  |  |


| Job <br> Number | Route | Location |
| :---: | :---: | :---: |
|  | 119076 TSC Wide | Brighton TSC |
|  | 119079 Region Wide | North Region |
|  | 119082 TSC Wide | Jackson TSC |
|  | 119084 TSC Wide | Lansing TSC |
|  | 119086 TSC Wide | Marshall TSC |
|  | 121453 Region Wide | Superior Region |
|  | 121455 Region Wide | North Region |
|  | 121456 TSC Wide | Coloma TSC |
|  | 121457 Region Wide | Metro Region |
|  | 121458 TSC Wide | Kalamazoo TSC |
|  | 121459 Region Wide | Grand Region |
|  | 121462 TSC Wide | Brighton TSC |
|  | 121463 TSC Wide | Jackson TSC |
|  | 121465 TSC Wide | Marshall TSC |
|  | 121454 Region Wide | Bay Region |
|  | 119087 Region Wide | Metro Region |
|  | 121464 TSC Wide | Lansing TSC |
|  | 124154 Statewide | Statewide |
|  | 113003 M-15 | Davison Road to North City Limits of Davison |
|  | 110754 M-20 | at Leaton Road |
|  | $113512 \mathrm{M}-20$ | at Patrick Road Crossover |
|  | 113459 M-90 | at Black River Road |
|  | 123128 I-94 BL | from Water Street to Quay Street |
|  | 124599 I-94 BL | at 10th Avenue and Scott Avenue |
|  | 113684 I-96 | Ionia West County Line to M-66 |
|  | 112143 M-37 | at Sparta Avenue |
|  | 113683 I-196 | West of Market Avenue to East of Butterworth Street |
|  | 117337 I-196 | Chicago Drive east to Market Avenue |
|  | 116508 M-19 | at New Haven Road |
|  | 113818 I-94 | Hannan Road to west of the Rouge River |
|  | 119629 M-10 | at Randolph Street |
|  | 121292 M-39 | at Outer Drive |
|  | 113721 M-66 | at M-55 (South Junction) |
|  | 113461 I-94 | Puetz Road to I-196 |
|  | 113705 M-26 | Royce Road to Military Road |
|  | 113078 I-96 | Clinton County line to Canal Road |
|  | 113554 M-59 | at Hacker Road |
|  | 122726 Statewide | Statewide |
|  | 122869 Statewide | Statewide |
|  | 124124 Statewide | Statewide |
|  | 124595 Statewide | Statewide |
|  | 124729 Statewide | Statewide |
|  | 105627 Countywide | Monroe County |
|  | 124286 US-2 | Countywide |

Work Description

Permanent Pavement Markings - Special Markings<br>Permanent Pavement Markings - Special Markings<br>Permanent Pavement Markings - Special Markings<br>Permanent Pavement Markings - Special Markings<br>Permanent Pavement Markings - Special Markings<br>Permanent Pavement Markings<br>Permanent Pavement Markings<br>Permanent Pavement Markings<br>Permanent Pavement Markings<br>Permanent Pavement Markings<br>Permanent Pavement Markings<br>Permanent Pavement Markings<br>Permanent Pavement Markings<br>Permanent Pavement Markings<br>Permanent Pavement Markings<br>Permanent Pavement Markings - Special Markings<br>Permanent Pavement Markings<br>Road Safety Audits<br>Install Center Left Turn Lane<br>Construct a Narrow Boulevard<br>Install Roundabout<br>Install Center Left Turn Lane<br>Upgrade Traffic Signal Operations/Pedestrian Facilities<br>Install Intersection Improvements<br>Install Cable Median Barrier<br>Install Indirect Left Turn Lane<br>Install Cable Median Barrier<br>Extend Guardrail<br>Install Center Left Turn Lane and Right Turn tapers<br>Install Guardrail<br>Improve Pedestrian Facilities<br>Install Sidewalk Ramp Improvements<br>Install Offset Right Turn Lane<br>Install Cable Median Barrier<br>Install Center Left Turn Lane<br>Install Cable Median Barrier<br>Install Center Left Turn Lane<br>Click It or Ticket It Signs<br>Safety Education Campaigns for the Public<br>Synchro Softward Update<br>Scan of Missouri DDIs/Development of DDI Guidance<br>Non-freeway Speed Limit Study<br>Install Emergency Route Signing<br>Install Mile Markers

| Improvement Category | Output |
| :---: | :---: |
| Intersection Traffic Control - Pavement Marking - Other | 545 each |
| Intersection Traffic Control - Pavement Marking - Other | 1,360 each |
| Intersection Traffic Control - Pavement Marking - Other | 927 each |
| Intersection Traffic Control - Pavement Marking - Other | 357 each |
| Intersection Traffic Control - Pavement Marking - Other | 1,638 each |
| Roadway Delineation - Longitudinal Pavement Marking - Remarking | 25,446,745 ft |
| Roadway Delineation - Longitudinal Pavement Marking - Remarking | 30,332,702 ft |
| Roadway Delineation - Longitudinal Pavement Marking - Remarking | 8,124,296 ft |
| Roadway Delineation - Longitudinal Pavement Marking - Remarking | 15,565,638 ft |
| Roadway Delineation - Longitudinal Pavement Marking - Remarking | 5,768,173 ft |
| Roadway Delineation - Longitudinal Pavement Marking - Remarking | 17,427,669 ft |
| Roadway Delineation - Longitudinal Pavement Marking - Remarking | 7,798,564 ft |
| Roadway Delineation - Longitudinal Pavement Marking - Remarking | 5,679,476 ft |
| Roadway Delineation - Longitudinal Pavement Marking - Remarking | 6,071,651 ft |
| Roadway Delineation - Longitudinal Pavement Marking - Remarking | 23,649,577 ft |
| Intersection Traffic Control - Pavement Marking - Other | 4,004 each |
| Roadway Delineation - Longitudinal Pavement Marking - Remarking | 9,410,838 ft |
| Non-infrastructure - Road Safety Audits | 18 studies |
| Intersection Geometry - Auxiliary lanes - Add Left-Turn Lane | 0.5 miles |
| Roadway - Other | 0.5 miles |
| Intersection Geometry - Other | 1 loc |
| Intersection Geometry - Auxiliary lanes - Add Left-Turn Lane | 1 loc |
| Intersection Traffic Control - Systemic Improvements - Signal Controlled | 0.2 miles |
| Intersection Geometry - Other | 2 locs |
| Roadside - Barrier - Cable | 12.0 miles |
| Intersection Geometry - Auxiliary lanes - Add Left-Turn Lane | 1 loc |
| Roadside - Barrier - Cable | 2.1 miles |
| Roadside - Barrier - Metal | 0.7 miles |
| Intersection Geometry - Auxiliary lanes - Add Left-Turn Lane | 1 loc |
| Roadside - Barrier - Metal | 3.2 miles |
| Pedestrians and Bicyclists - Modify Existing Crosswalk | 1 loc |
| Pedestrians and Bicyclists - Modify Existing Crosswalk | 1 loc |
| Intersection Geometry - Auxiliary lanes - Add Right-Turn Lane | 1 loc |
| Roadside - Barrier - Cable | 11.9 miles |
| Intersection Geometry - Auxiliary lanes - Add Left-Turn Lane | 1.2 miles |
| Roadside - Barrier - Cable | 6.3 miles |
| Intersection Geometry - Auxiliary lanes - Add Left-Turn Lane | 1 loc |
| Non-infrastructure - Outreach | 480 each |
| Non-infrastructure - Outreach | 5,000 each |
| Non-infrastructure - Data/traffic Records | 1 each |
| Non-infrastructure - Training and Workforce Develoment | 1 each |
| Non-infrastructure - Data/traffic Records | 6,093 miles |
| Roadway Signs and Traffic Control - Other | 1 each |
| Roadway Signs and Traffic Control - Other | 62.3 miles |

Obligated Obligated Obligated Obligated Obligated Obligated Obligated Construction-Fed Construction-St Construction-Lc Construction

| \$141,045 | \$15,672 | \$0 | \$156,717 | \$4,197 | \$0 | \$160,914 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \$395,250 | \$43,917 | \$0 | \$439,166 | \$7,024 | \$0 | \$446,190 |
| \$143,735 | \$15,971 | \$0 | \$159,705 | \$43,522 | \$0 | \$203,227 |
| \$104,029 | \$11,559 | \$0 | \$115,588 | \$0 | \$0 | \$115,588 |
| \$298,926 | \$33,214 | \$0 | \$332,140 | \$7,270 | \$0 | \$339,410 |
| \$1,749,409 | \$194,379 | \$0 | \$1,943,788 | \$39,765 | \$0 | \$1,983,553 |
| \$1,993,763 | \$221,529 | \$0 | \$2,215,293 | \$9,698 | \$0 | \$2,224,991 |
| \$821,843 | \$91,316 | \$0 | \$913,159 | \$0 | \$0 | \$913,159 |
| \$2,334,187 | \$270,329 | \$0 | \$2,604,516 | \$48,978 | \$0 | \$2,653,494 |
| \$522,630 | \$58,070 | \$0 | \$580,700 | \$0 | \$0 | \$580,700 |
| \$1,898,566 | \$210,952 | \$0 | \$2,109,518 | \$9,295 | \$0 | \$2,118,813 |
| \$1,137,528 | \$126,392 | \$0 | \$1,263,920 | \$4,807 | \$0 | \$1,268,727 |
| \$463,422 | \$51,491 | \$0 | \$514,914 | \$8,268 | \$0 | \$523,182 |
| \$568,147 | \$63,127 | \$0 | \$631,275 | \$6,143 | \$0 | \$637,418 |
| \$2,111,513 | \$245,829 | \$0 | \$2,357,342 | \$14,561 | \$0 | \$2,371,903 |
| \$609,639 | \$96,928 | \$0 | \$706,567 | \$8,915 | \$0 | \$715,482 |
| \$1,097,201 | \$121,911 | \$0 | \$1,219,113 | \$1,925 | \$0 | \$1,221,038 |
| \$135,000 | \$15,000 | \$0 | \$150,000 | \$14,561 | \$0 | \$164,561 |
| \$774,886 | \$86,098 | \$0 | \$860,984 | \$145,250 | \$0 | \$1,006,234 |
| \$2,150,686 | \$238,965 | \$0 | \$2,389,651 | \$139,326 | \$338,400 | \$2,867,377 |
| \$1,120,415 | \$110,485 | \$14,005 | \$1,244,906 | \$198,966 | \$0 | \$1,443,872 |
| \$337,461 | \$37,896 | \$0 | \$375,357 | \$90,826 | \$2,877 | \$469,060 |
| \$0 | \$316,109 | \$0 | \$316,109 | \$50,000 | \$0 | \$366,109 |
| \$0 | \$60,000 | \$0 | \$60,000 | \$177,000 | \$0 | \$237,000 |
| \$1,370,547 | \$152,283 | \$0 | \$1,522,829 | \$217,848 | \$0 | \$1,740,677 |
| \$306,177 | \$34,020 | \$0 | \$340,196 | \$96,216 | \$0 | \$436,412 |
| \$238,088 | \$23,147 | \$3,307 | \$264,543 | \$49,496 | \$0 | \$314,039 |
| \$378,958 | \$38,253 | \$3,853 | \$421,064 | \$31,782 | \$0 | \$452,846 |
| \$0 | \$1,420,368 | \$652,597 | \$2,072,964 | \$381,268 | \$0 | \$2,454,232 |
| \$593,270 | \$63,994 | \$1,925 | \$659,189 | \$103,131 | \$0 | \$762,320 |
| \$242,447 | \$28,979 | \$0 | \$271,425 | \$14,933 | \$0 | \$286,358 |
| \$174,267 | \$16,943 | \$2,420 | \$193,630 | \$62,357 | \$0 | \$255,987 |
| \$157,158 | \$17,462 | \$0 | \$174,620 | \$61,838 | \$0 | \$236,458 |
| \$2,588,376 | \$287,597 | \$0 | \$2,875,973 | \$400,549 | \$0 | \$3,276,522 |
| \$1,332,527 | \$148,059 | \$0 | \$1,480,586 | \$114,351 | \$0 | \$1,594,937 |
| \$1,187,850 | \$131,983 | \$0 | \$1,319,834 | \$168,000 | \$0 | \$1,487,834 |
| \$657,493 | \$73,055 | \$0 | \$730,548 | \$132,549 | \$0 | \$863,097 |
| \$49,500 | \$5,500 | \$0 | \$55,000 | \$0 | \$0 | \$55,000 |
| \$22,500 | \$2,500 | \$0 | \$25,000 | \$0 | \$0 | \$25,000 |
| \$81,000 | \$9,000 | \$0 | \$90,000 | \$0 | \$0 | \$90,000 |
| \$14,400 | \$3,600 | \$0 | \$18,000 | \$0 | \$0 | \$18,000 |
| \$67,500 | \$7,500 | \$0 | \$75,000 | \$0 | \$0 | \$75,000 |
| \$18,075 | \$0 | \$0 | \$18,075 | \$16,260 | \$0 | \$34,335 |
| 0 | \$22,237 | \$0 | \$22,237 | \$0 | \$0 | \$22,237 |


| HSIP | Total | Relationship to SHSP | Strategy |
| :--- | :--- | :--- | :--- |
| Cost | Cost | Emphasis Area |  |

\$160,914
\$446,190
\$203,227
\$115,588
\$339,410
\$1,983,553
\$2,224,991
\$913,159
\$2,653,494
\$580,700
\$2,118,813
\$1,268,727
\$523,182
\$637,418
\$2,371,903
\$715,482
\$1,221,038
\$164,561
\$1,006,234
\$2,867,377
\$1,429,867
\$469,060
\$1,740,677
\$436,412
\$314,039
\$452,846
\$0
\$762,320
\$286,358
\$255,987
\$236,458
\$3,276,522
\$1,594,937
\$1,487,834
\$863,097
\$55,000
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\$160,914 Improving the design and operation of highway intersections
$\$ 446,190$ Improving the design and operation of highway intersections
$\$ 203,227$ Improving the design and operation of highway intersections
\$115,588 Improving the design and operation of highway intersections
$\$ 339,410$ Improving the design and operation of highway intersections
$\$ 1,983,553$ Minimizing the consequences of leaving the road
$\$ 2,224,991$ Minimizing the consequences of leaving the road
$\$ 913,159$ Minimizing the consequences of leaving the road
$\$ 2,653,494$ Minimizing the consequences of leaving the road
$\$ 580,700$ Minimizing the consequences of leaving the road
$\$ 2,118,813$ Minimizing the consequences of leaving the road
\$1,268,727 Minimizing the consequences of leaving the road
$\$ 523,182$ Minimizing the consequences of leaving the road
$\$ 637,418$ Minimizing the consequences of leaving the road
$\$ 2,371,903$ Minimizing the consequences of leaving the road
\$715,482 Improving the design and operation of highway intersections
$\$ 1,221,038$ Minimizing the consequences of leaving the road \$164,561 Other
\$1,006,234 Improving the design and operation of highway intersections
$\$ 2,867,377$ Keeping vehicles in the roadway
\$1,443,872 Improving the design and operation of highway intersections \$469,060 Improving the design and operation of highway intersections \$366,109 Improving the design and operation of highway intersections \$237,000 Improving the design and operation of highway intersections
$\$ 1,740,677$ Minimizing the consequences of leaving the road
$\$ 436,412$ Improving the design and operation of highway intersections
$\$ 314,039$ Minimizing the consequences of leaving the road
$\$ 452,846$ Minimizing the consequences of leaving the road
$\$ 2,454,232$ Improving the design and operation of highway intersections
$\$ 762,320$ Making walking and street crossing easier
$\$ 286,358$ Making walking and street crossing easier
\$255,987 Improving the design and operation of highway intersections
$\$ 236,458$ Improving the design and operation of highway intersections
$\$ 3,276,522$ Minimizing the consequences of leaving the road
$\$ 1,594,937$ Improving the design and operation of highway intersections
$\$ 1,487,834$ Minimizing the consequences of leaving the road
\$863,097 Improving the design and operation of highway intersections
$\$ 55,000$ Increasing seat belt use and improving airbag effectivenes
$\$ 25,000$ Increasing driver safety awareness
\$90,000 Improving information and decision support systems
$\$ 18,000$ Improving information and decision support systems
\$75,000 Improving information and decision support systems
\$34,335 Increasing driver safety awareness
\$22,237 Increasing driver safety awareness

Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As Reduce Fs and As

| Functional Classification**,^ | AADT** | Speed** | Roadway Ownership^ |  |
| :---: | :---: | :---: | :---: | :---: |
| Other | Other | Other | State Highway Agency | HSIP |
| Other | Other | Other | State Highway Agency | HSIP |
| Other | Other | Other | State Highway Agency | HSIP |
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| n/a | n/a | n/a | n/a | HSIP |
| Rural Principal Arterial - Other | 13,000 |  | 55 State Highway Agency | HSIP |
| Rural Principal Arterial - Other | 14,400 |  | 55 State Highway Agency | HSIP |
| Rural Principal Arterial - Other | 21,800 |  | 45 State Highway Agency | HSIP,EDA |
| Rural Minor Arterial | 8,000 |  | 45 State Highway Agency | HSIP |
| Urban Principal Arterial - Other | 14,400 |  | 25 State Highway Agency | RRRF |
| Urban Principal Arterial - Other | 26,900 |  | 35 State Highway Agency | RRRF |
| Rural Principal Arterial - Interstate | 37,000 |  | 70 State Highway Agency | HSIP |
| Rural Minor Arterial | 15,400 |  | 55 State Highway Agency | HSIP |
| Urban Principal Arterial - Interstate | 44,400 |  | 70 State Highway Agency | HSIP |
| Urban Principal Arterial - Interstate | 44,400 |  | 70 State Highway Agency | HSIP |
| Rural Minor Arterial | 11,700 |  | 45 State Highway Agency | RRRF |
| Urban Principal Arterial - Interstate | 142,200 |  | 70 State Highway Agency | HSIP |
| Urban Principal Arterial - Other | 29,600 |  | 30 State Highway Agency | HSIP |
| Urban Principal Arterial - Other Freeways | 130,200 |  | 55 State Highway Agency | HSIP |
| Rural Principal Arterial - Other | 5,500 |  | 55 State Highway Agency | HSIP |
| Rural Principal Arterial - Interstate | 65,000 |  | 70 State Highway Agency | HSIP |
| Rural Minor Arterial | 6,700 |  | 55 State Highway Agency | HSIP |
| Rural Principal Arterial - Interstate | 50,800 |  | 70 State Highway Agency | HSIP |
| Rural Principal Arterial - Other | 17,500 |  | 55 State Highway Agency | HSIP |
| n/a | n/a | n/a | n/a | HSIP |
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| n/a | n/a | n/a | n/a | HSIP |
| n/a | n/a | n/a | n/a | RP |
| n/a | n/a | n/a | n/a | HSIP |
| n/a | n/a | n/a | State Highway Agency | STG |
| Rural Principal Arterial - Other | 4,500 |  | 55 State Highway Agency | M |

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Other
Lump Sum Payment
Other
Negotiated Contract
Let
Frc Acct / Wk Order

| Project | Improvement Category | Output | HSIP Cost | Total Cost | Funding Category | FunctionalClassification | AADT | Speed | Roadway Ownership | Relationship to SHSP |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (see Attachment 4) | (i.e. \#, miles) |  |  |  |  |  |  |  | Emphasis Area | Strategy |
| 669 (Maple City Highway between US-31 and Bowers Road | Roadside - Removal of roadside objects (trees, poles, etc.) | 1.9 Miles | 533,778 | \$43,359 | HSIP | Rural Minor Atterial | 2100 | 55 | County Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| Lapeer Road at Charter Oaks Dive | Intersection geometry - Auxiliary lanes - add auxiliary through lane | 0.1 Miles | 133,961 | \$148,8 | HSIP | an Minor Arterial | 12458 | 45 | County Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| South Long Lake Road between Wintergreen Road and Gingerwood Road | Roadside - Barrier - metal | 1.9 Miles | \$72,136 | \$90,169 | HSIP | Rural Major Collector | 8800 | 55 | County Highway | Minimizing the consequences of leaving the road | Reduce Fs and As |
| Williams Road at DeCamp Road | Alignment - Verical alignment or elevation change | Intersection | \$198,000 | \$262,260 | HSIP | Rural Local | 500 | 55 | County Highway Agency | Keeping vehicles in the roadway | Reduce Fs and As |
| Shoeman Road at Barry Road | Aligment - Verical alignment or elevation change | Intersection | \$336,000 | \$484,879 | HSIP | Urban Major Collector | 5300 | 55 | County Highway Agency | Keeping vehicles in the roadway | Reduce Fs and As |
| Locations on Hanover Road, Kibby Road @ Weatherwax Road, Liberty Road between Gillette and Springport, Springbrook Road E of Horton Road and Springbrook Road at Kimmel Road | Roadside - Barier - metal | 0.8 Miles | \$141,458 | \$176,822 | HSIP | Rural Major Collector | Varies | 55 | County Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| Locations along Austin Road, Clear Lake Road, Hewitt Road, Seymour Road, Territorial Road and Trist Road and Trist Road | Roadside - Barrier - metal | 1.1 Miles | \$145,188 | \$181,486 | HSIP | Rural Minor Atterial | ies | 55 | County Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| 12th Street from Parkview Avenue to 0.6 miles south | Roodway - roadway widening - travel lanes | Miles | \$413,797 | 459,774 | HSIP | Urban Minor Atterial | 7013 | 45 | $\underset{\text { Agency }}{\substack{\text { County High } \\ \text { Ag }}}$ | Keeping vehicles in the roadway | Reduce Fs and As |
| Shippy Road near Lucas Road | Intersection Geometry - intersection geometry other | 0.7 Miles | \$232,701 | \$290,876 | HSIP | Rural Major Collector | 470 | 55 | County Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| 68th Street from Plaza Center Drive east to the Plaster Creek | Roadway - roadway widening - add lanes along segment | 0.9 Miles | \$600,000 | ,110,926 | HSIP | Urban Mi | 13200 | 55 | County Highway Agncy | Keeping vehicles in the roadway | Reduce Fs and As |
| Wolverine Road at 10 Mile Road | Intersection traffic control - modify traffic signal - modernization/replacement | Intersection | \$69,502 | S86,877 | HS | Urban Principal Arterial - Other | 19153 |  | County Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| Gratiot Lake Road from approximately 1475' NW of Gratiot Lake Drive to approximately 215' NW of Gratiot Lake Drive | Roadside - Barrier - metal | 0.2 Miles | \$106,848 | \$133,560 | HSIP | Rural Major Collector | 150 | 55 | County Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| Lake Pleasant Road at Newark Road | Intersection Traffic Control - Modify control - twoway stop to all-way stop | Intersection | \$636,578 | \$706,528 | HSIP | Rural Minor Arterial | 4425 | 55 | County Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| 13 Mile Road at Little Mack Avenue | Intersection Geometry - intersection geometry - add right turn lane | Intersection | \$296,037 | \$370,391 | HSIP | Urban Minor Atrerial | 25000 | 35 | City or Municipal Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| Intersections of Metropolitan Parkway at: Ryan, Dodge Park, Utica, Garfield, Moravian, Harper, Union Lake and Jefferson | Intersection traffic control - modify traffic signal modernization/replacement | Intersection | \$582,83 | \$656,6 | HSIP | Urban Principal Arterial - Other | Varies | es | County Highway | Improving the design and operation of highway intersections | Reduce Fs and As |
| Garfield at Moran, 12 Mile at Schoenherr, Harper at Wellington Crescent, 25 Mile Road at Mound, 32 Mile at Romeo Plank and 21 mile at Garfield | Intersection traffic control - modify traffic signal modernization/replacement | Intersection | \$600,000 | \$1,065,510 | HSIP | Urban Principal Arterial - Other | Varies | Varies | $\begin{gathered} \hline \begin{array}{c} \text { County Highway } \\ \text { Agency } \end{array} \\ \hline \end{gathered}$ | Improving the design and operation of highway intersections | Reduce Fs and As |
| Grand River Avenue at Haggerty Road | Intersection Geometry - intersection geometry - add right turn lane | ction | \$148,527 | 030 | HSIP | Urban Principal Arterial - Other | 1586 | 45 | City or Municipal Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| Orchard Lake Road at 14 Mile Road | Intersection Traffic Control - Modify control - traffic signal to roundabout | Intersection | \$480,000 | \$9,974,668 | HSIP | Urban Principal Arterial - Other | 479 |  | County Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| Coolidge Highway at W. Thirteen Mile Road | Intersection traffic control - modify traffic signal modernization/replacement | Intersection | \$71,520 | \$138,995 | HSIP | Urban Principal Arterial - Other | 34240 | 35 | City or Municipal Highway Agency | Improving the design and operation of highwav intersections | Reduce Fs and As |
| Williams Lake Road at Airport Road | Intersection Geometry - intersection geometry - add right turn lane | Miles | \$496,000 | \$1,087,152 | HSIP | Urban Minor A | 14145 | 45 | County Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| 192nd Avenue from 0.25 miles north of Warren Road to Scout Road | Roodway - roadway widening - travel lanes | 0.8 Miles | \$368,000 | \$637,480 | HSIP | Rural Major Collector | 1100 | 55 | County Highway Agency | Keeping vehicles in the roadway | Reduce Fs and As |
| Otawa Beach Road at 144th Avenue | Intersection Geometry - intersection geometry - add <br> left turn lane | section | \$236,000 | \$438,399 | HSIP | Urban Principal Arterial - Other | 16644 | 45 | County Highway Agency | Improving the design and operation of highway intersections | As |
| Island Lake Road at Wylie Road | Alignment - Vertical alignment or elevation change | Intersection | \$244,193 | \$311,087 | HSIP | Urban Major Collector | 3600 | 55 | County Highway Agency | Keeping vehicles in the roadway | Reduce Fs and As |
| Plymouth Road at Curtis Road | Intersection Geometry - intersection geometry - add left turn lane | Intersection | \$194,500 | \$293,428 | HSIP | Rural Minor Arterial | 8216 | 55 | County Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| Plymouth Road at Ford Road | Intersection Traffic Control - Intersection traffic control - other | Intersection | \$376,000 | \$551,816 | HSIP | Rural Minor Atterie | 12329 | 55 | County Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| Hayes Street from 8 Mile Rd to Harper Road and Chalmers Street from 7 Mile Rd to Jefferson Avenue | Intersection traffic control - modify traffic signal modernization/replacement | Miles | 427,500 | \$552,950 | HSIP | Urban Minor Atrerial | Var | 30 | City or Municipal Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| Houston Whittier/Whittier from Gratiot to Harper and Fenkell from 200' E of Wyoming to Oakman Blvd | Intersection traffic control - modify traffic signal - modernization/replacement | Miles | \$596,000 | \$798,567 | HSIP | Urban Principal Arterial - Other | Varies | 30 | City or Municipal Highway Agency | Improving the design and operation of highway intersections | duce Fs and As |
| Bagley at Clifford, Conant at McNichols E, Evergreen at Schoolcraft, Forest E at VanDyke, Jeffries Fwy Srv Drives at Livernois, John R at McNichols E, Livernois at Tireman and McNichols E at Oakland | Intersection traffic control - modify traffic signal - modernization/replacement | 8 Intersections | \$580,500 | \$789,420 | HSIP | Urban Principal Arterial - Other | Varies | 30 | City or Municipal Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| Wyoming Street from 8 Mile to Tireman Street | Intersection traffic control - modify traffic signal - modernization/replacement | 6.5 Miles | \$468,000 | \$688,442 | HSIP | Urban Principal Arterial - Other | Varies | 30 | City or Municipal Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |


| Pointe Aux Peaux Road between Brest Road and Lagoona Road | Roadside - Roadside - other | 0.2 Miles | \$224,937 | \$249,930 | HSIP | Urban Major Collector | 3933 | 45 | County Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GeddesRoad at Gallup park entrance, Fuller Road approximately 400ft east of Cedar Bend (between UM Lots), S. University at Tappan | Pedestrian and bicyclists - Pedestrian beacons | 3 Crosswalks | \$33,792 | \$47,971 | HSIP | Urban Minor Arterial | Varies | 25 | City or Municipal Highway Agency | Making walking and crossing the street easier | Reduce Fs and As |
| Deerfied Road from Crawford Road to Mission Road | Roadway - roadway widening - add lanes along segment | 1.0 Mile | \$400,000 | \$1,147,203 | HSIP | Urban Local | 6719 | 45 | $\begin{gathered} \text { County Highway } \\ \text { Agency } \\ \hline \end{gathered}$ | Keeping vehicles in the roadway | Reduce Fs and As |
| Redield Street at Stateline Road | Intersection Traffic Control - Intersection traffic control - other | Intersection | \$2,34 | \$2,930 | HSIP | Urban Major Collector | 325 | 55 | $\begin{gathered} \text { County Highway } \\ \text { Agency } \end{gathered}$ | Improving the design and operation of highway intersections highway intersections | Reduce Fs and As |
| E. Main Street / Stage Road from Prairie Creek northeasterly to Buewater Hwy (M-21) | Shoulder treatments - Pave existing shoulders | 2.3 Miles | \$315,597 | \$465,367 | HSIP | Rural Local | 861 |  | $\begin{gathered} \text { County Highway } \\ \text { Agency } \end{gathered}$ | Keeping vehicles in the roadway | Reduce Fs and As |
| Safety Program Report | Non-Infrastuctre - DataTraffic Records | N/A | \$17,656 | \$19,618 | HSIP | N/A | N/A | N/A | N/A | Improving information and decision support | Reduce Fs and As |


| Project | Improvement Category | Output | HRRR/HSIP Cost | Total Cost | Funding Category | Functional Classification | AADT | Speed | Roadway Ownership | Relationship to SHSP |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (see Atachment 4) | (i.e.\#, miles) |  |  |  |  |  |  |  | Emphasis Area | Strategy |
| Bamfield Road @ Au Sable Road in Curis Township | Aligment - Horizontal curve realigment | 0.8 Miles | \$355,500.00 | \$483,785.00 | HSIP | Rural Major Collector | 500 | 55 | County Highway Agency | Keeping vehicles in the roadway | Reduce Fs and As |
| Indian Hill Road from Deadstream Road to Hooker Road | Roadside - Removal of Roadside Objects | 2.5 Miles | \$48,784.52 | \$57,014.03 | HSIP | Rural Major Collector | 1,375 | 55 | County Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| Case Road @Homestead Road, Weldon Road @ Lindy Road and Homestead Road @ Pioneer Road | Roadway signs and traffic control - roadway signs (including post) - new or updated | 3 Intersections | \$8,458.45 | \$9,768.89 | HSIP | Rural Major Collector | Varies | 55 | County Highway Agency | Keeping vehicles in the roadway | Reduce Fs and As |
| Morrish Road at Calkins Road | Roadway signs and traffic control - roadway signs (including post) - new or updated | Intersection | \$17,708.00 | \$17,708.00 | HSIP | Rural Minor Collector | 2,631 | 50 | County Highway Agency | Keeping vehicles in the roadway | Reduce Fs and As |
| Seymour Road at Grand Blanc Road | Roadway signs and traffic control - roadway signs (including post) - new or updated | Intersection | \$28,160.00 | \$28,160.00 | HSIP | Rural Major Collector | 4,653 | 55 | County Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| Lewis Road at Wilson Road | Roadway signs and traffic control - roadway signs (including post) - new or updated | Intersection | \$27,690.00 | \$27,690.00 | HSIP | Rural Major Collector | 3,410 | 55 | County Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| Baldwin Road from Duffield Road to VanVleet Road | Roadside - Barrier - metal | 2.0 Miles | \$76,942.00 | \$85,492.00 | HSIP | Rural Local | 321 | 55 | County Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| McCumsey Road Culvert crossing Pine Run Creek | Roadside - Barrier - metal | 0.2 Miles | \$3,802.00 | \$40,891.00 | HSIP | Rural Local | 180 | 55 | County Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| D Avenue at 2nd Street | Alignment - Verical aligment or elevation change | 0.4 Miles | \$311,146.00 | \$345,718.00 | HSIP | Rural Major Collector | 2,500 | 55 | County Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| 52nd Street from Aster Road to S Branch Road, S Branch Road from 52nd Street north to W Stevenson Road, W Stevenson Road from S Branch Road to N Tyndall Road | Roadway Delineation - Longitudinal pavement markings new | 12.4 Miles | \$207,627.00 | \$204,616.00 | HSIP | Rural Major Collector | 550 | 55 | County Highway Agency | Keeping vehicles in the roadway | Reduce Fs and As |
| Baldwin Road from Davison Lake Road to Calley Road | Aligment - Verical aligment or elevation change | 4.0 Miles | \$365,587.00 | \$500,536.00 | HSIP | Rural Major Collector | 700 | 55 | County Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| Marathon Road from Klam Road to LeValley Road | Roadway - Rumble Strips - edge or shoulder | 4.4 Miles | \$77,636.00 | \$86,262.00 | HSIP | Rural Major Collector | 1,700 | 55 | County Highway Agency | Reducing head-on and across median crashes | Reduce Fs and As |
| McDowell Road from Washburn Road to Gray Road | Roadside - Barrier - metal | 4.0 Miles | \$146,259.00 | \$184,811.00 | HSIP | Rural Local | 300 | 55 | County Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| Hollenbeck Road from Marathon Road to Klam Road | Roadway - Rumble Strips - edge or shoulder | 1.1 Miles | \$173,144.00 | \$223,468.00 | HSIP | Rural Minor Collector | 550 | 55 | County Highway Agency | Reducing head-on and across median crashes | Reduce Fs and As |
| West County Line Road at Kendaville Road | Roadway signs and traffic control - roadway signs (including post) - new or updated | Intersection | \$32,596.00 | \$36,218.00 | HSIP | Rural Major Collector | 1,606 | 55 | County Highway Agency | Keeping vehicles in the roadway | Reduce Fs and As |
| Federal Road at Kendaville Road | Intersection Geometry - Auxiliary lanes - add left-turn lane | Intersection | \$270,824.00 | \$300,916.00 | HSIP | Rural Major Collector | 6,602 | 55 | County Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| Austin Road from M-52 to Clinton Road | Roadside - Barrier - metal | 1.7 Miles | \$379,000.00 | \$452,797.00 | HSIP | Rural Major Collector | 4,103 | 55 | County Highway Agency | Minimizing the consequences of leaving the road | Reduce Fs and As |
| Cherry Hill Road at Prospect Road | Roadway signs and traffic control - roadway signs (including post) - new or updated | Intersection | \$191,200.00 | \$212,445.00 | HSIP | Rural Major Collector | 400 | 55 | County Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
| 7 Locations Countywide | Intersection Traffic Control - Intersection traffic control other | 7 Intersections | \$41,156.00 | \$41,156.00 | HRRRP | Rural Major Collector | Varies | 55 | County Highway Agency | Improving the design and operation of highway intersections | Reduce Fs and As |
|  |  |  |  | \$3,339,451.92 |  |  |  |  |  |  |  |


| Score 1 | Score 2 | Average Score | CS | Lead Agency | Contact Person | Project Name |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 138 | 126 | 132 | 39609 | Kalamazoo County Road Commission | Jim Hoekstra | D Avenue/2nd Street |
| 123 | 121 | 122 | 01609 | Alcona Road Commission | Jesse Campbell | Bamfield Road |
|  |  |  |  |  |  | West County Line Road/Kendaville |
| 121 | 123 | 122 | 59609 | Montcalm County Road Commission | Mark Christensen | Road |
| 126 | 116 | 121 | 81609 | Washtenaw County Road Commission | Brent Schlack | Cherry Hill Road/Prospect Road |
| 119 | 116 | 117.5 | 44609 | Lapeer County Road Commision | Ryan Doyle | Baldwin Road |
| 119 | 114 | 116.5 | 44609 | Lapeer County Road Commision | Ryan Doyle | Marathon Road |
| 112 | 118 | 115 | 44609 | Lapeer County Road Commision | Ryan Doyle | McDowell Road |
| 108 | 113 | 110.5 | 43609 | Lake County Road Commission | Steve Leonard | Various Routes |
| 110 | 111 | 110.5 | 59609 | Montcalm County Road Commission | Mark Christensen | Federal Road/Kendaville Road |
| 110 | 110 | 110 | 10609 | Benzie County Road Commission | Heather Jamison | Indian Hill Road |
|  |  |  |  |  |  | Case Road/Homestead Road, Weldon Road/Lindy Road, |
| 113 | 107 | 110 | 10609 | Benzie County Road Commission | Heather Jamison | Homestead Road/Pioneer Road |
| 110 | 110 | 110 | 25609 | Genesee County Road Commission | Kenneth Johnson | Morrish Road/Calkins Road |
| 111 | 108 | 109.5 | 81609 | Washtenaw County Road Commission | Brent Schlack | Austin Road |
| 109 | 109 | 109 | 25609 | Genesee County Road Commission | Kenneth Johnson | Seymour Road/Grand Blanc Road |
| 109 | 109 | 109 | 44609 | Lapeer County Road Commision | Ryan Doyle | Hollenbeck Road |
| 108 | 108 | 108 | 25609 | Genesee County Road Commission | Kenneth Johnson | Lewis Road/Wilson Road |
| 103 | 105 | 104 | 03609 | Allegan County Road Commission | Craig Atwood | 16th Street |
| 104 | 103 | 103.5 | 25609 | Genesee County Road Commission | Kenneth Johnson | McCumsey Road |
| 100 | 103 | 101.5 | 25609 | Genesee County Road Commission | Kenneth Johnson | Baldwin Road |
| 102 | 96 | 99 | 70609 | Ottawa County Road Commission | Brett Laughlin | 120th Avenue |
| 102 | 95 | 98.5 | 22609 | Dickinson County Road Commission | Lance Malburg | CR 573 (Hamilton Lakes Road) |
| 98 | 96 | 97 | 25609 | Genesee County Road Commission | Kenneth Johnson | Thompson Road/Jennings Road |
| 86 | 89 | 87.5 | 58609 | Monroe County Road Commission | Janeen Abar | S Stony Creek Road |
| 49 | 55 | 52 | 72609 | Roscommon County Road Commission | Brad Stauffer | St. Helen Road North |
| - | - | NOT HRRR Eligible - Move to Safety | 19609 | Clinton County Road Commission | Dan Armentrout | County Wide |
| - | - | NOT HRRR Eligible - Move to Safety | 25609 | Genesee County Road Commission | Kenneth Johnson | Morrish Road |
| - | - | NOT HRRR Eligible - Move to Safety | 25609 | Genesee County Road Commission | Kenneth Johnson Stanley | Seymour Road |
| - | - | NOT HRRR Eligible - Move to Safety | 30609 | Hillsdale County Road Commission | Clingerman | East Camden Road |
| 127 | 120 | NOT HRRR Eligible - Move to Safety | 33609 | Ingham County Road Commission | Robert Peterson | Shoeman Road/Barry Road |
| - | - | NOT HRRR Eligible - Move to Safety | 38609 | Jackson County Road Commission | Joseph Michalsky | 6 Locations |
| - | - | NOT HRRR Eligible - Move to Safety | 58609 | Monroe County Road Commission | Janeen Abar | Ida West road |
| 138 | 132 | NOT HRRR Eligible - Move to Safety | 64609 | Oceana County Road Commission | Sandra Griffin | 192nd Avenue |
| - | - | DOES NOT MEET WARRANTS | 77609 | St. Clair County Road Commission | William Hazelton | King Road/Meisner Road |

## Local Agency High Risk Rural Roads Program FY2014

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number | Cont Sect | Job Num | Lead Agency | Contact Person | Project Name | Project Limits | Work Type | Project Est | Federal | Fed HRRR - PE | Local | Length | split | PE Spl |
| 1 | 01609 | 118853 | Alcona Road Comnission | esse Campeell | Bamfield Road | Bantied Road @ Au Salle Road in Curis Township |  | \$375,000.00 | \$337,500.00 |  | \$37,500.00 | 1 mi | . 90 |  |
|  |  |  | Allegan Couny Poad Commission |  |  |  | Clearing, culvert replacements, vericial alignment and oad | \$183,500.00 | \$165,550.00 |  |  |  | 0.90 |  |
| 3 | 10609 | 111885 | Benzie County Road Commisision | Heather Jamison | Indian Hill Road | Indian Hill Foad fom Deadstream Road to Hooke | Tree cleaing and removal of fteed objects | \$44,000.00 | \$33,600.00 | \$2200.00 | \$4,400.00 | 28mi | 0.90 | 0.50 |
| 4 | 10609 | 118855 | Benzie Count Road Commission | Heater Jamison | Case Road/Homestead Road, Weldon Road/Lindy Road, Ho Road/Pioneer Road | Case Road @Homestead Road, Weldon Road @ Lindy Road and Homestead Road @ Pioneer Road | Signing upgrades and vegetaito clearing at 3 locaions | s9.000.00 | 88,100.00 | 455.00 | 0.00 | Intersection | 0.90 | 0.50 |
| 5 | 2509 | 18856 | Genesee County Road Commission | Kenneth Johnson | Morish Road/calkin PRoad | Morish Road @ Cakkins Road in Finint Towshtip |  | 10.00 | 10.00 |  | s0.00 | Inersection | 1.00 |  |
| 6 | 5569 | 18859 | Genesee Count Poad Commission | Kennet Johnson | Seymur Road/GIand Blanc Road | Seymour Road @ Grand Blanc Road in Gaines Township | reflectorized sheeining on sigin posts | \$34,720.00 | \$34,720.00 |  | 0.00 | ersection | 1.00 |  |
| 7 | 25009 | 118861 | Genesee Count Road Commission | Kenneth Johnson | Lewis Roadwison Road | Road @ Wison Road |  | \$31.154.00 | \$31.154.00 |  | 90.00 | neresection | 1.00 |  |
| 8 | 25609 | 118897 | Senesee County Road Commission | Kemeet Johnson | Baldwin Road | VanVleet Road in Gaines Township | New guardrail on culvert Road to Van Vleet Road | 995.611.00 | \$86,049.90 |  | 9.561 .10 | 2 mi | . 90 |  |
| 9 | 25609 | 118896 | Genesee Count Road Commission | Kement Johnson | McCumsey Road | ${ }_{\text {Townssip }}^{\text {Mecumad }}$ |  | 969.053.00 | \$62.147.70 |  | S6,905.30 | 12 mi | 0.90 |  |
| 10 | 39609 | 118862 | Kalamzzoo County Road Commision | Jim Hoeksta | ${ }^{\text {a Avenue/2nd Street }}$ | Avenue @ 2nd Street in Alamo Tounstip |  | \$365, 270.00 | s328,743.00 |  | s36,527.00 | Intersection | 0.90 |  |
| 11 | 43609 | 118863 | Lake Countr Road Commisision | Steve Leonard | various Routes | 52nd Stroet from Aster Road to S Branch Road <br> S Branch Road from 52nd Street noth to Wtevenson Road, | Upgrade pavement makings and signs, instal refective sign sheeting on al stop | S175, 824.00 | \$175,824,00 | S8.792.00 | 50.0 | Various | 1.00 |  |
| 12 | 44609 | 118864 | Lapeer Couny Road Commision | Ryan oove | Baldwin Road | Baldwin Road from Davison Lake Road to Calley Road in Hadley and Motamora Township | Verical curve modifications, removal of fixed objects (trees, headwall) upgrade signs and install reflective sheeting on sign posts | \$386,208.00 | \$337,587,20 |  | \$38.620.80 | 4 mi | 0.90 |  |
| 13 | 46609 | 118865 | Lapeer County Road Commision | Ryan Dove | Maratoon Road | Morarton Road trom Kam Road to Levalley Road in Ebiba and Oregon |  | \$124,559.00 | S112.103.10 |  | \$12.45.90 | 4.3 mi | 0.90 |  |
| 14 | 44609 | 118866 | Lapeer Couny Road Commision | Ryan Doyle | Mcoowell Road |  |  | \$142.510.00 | \$128,259.00 |  | \$14.251.00 | 4 mi | 0.90 |  |
| 15 | 44609 | 118867 | Lapeer Count Road Comnision | Ryan Dove | Hollenbeck Road | Hollenbeck Road from Marathon Road to Klam Road in Marathon Township | Install flashing beacon at Hollenbeck/Marathon intersection, install centerline reflective strips on sign posts, HMA paving at 90 degree curve at Klam Road and | \$172.382.00 | \$155, 143.30 |  | \$17,238.20 | 1.1 mi | \%.90 |  |
| 16 | 5960 | 18868 | Calm Count Road Commision | Mark Chisiensen | ${ }^{\text {Weast }}$ Weouny Line Roadkendavile | Towerstio of West Couny Lne Road and kendaylie Road in Peers |  | \$30.502.00 | S27 451.80 |  | 050, 20 | ion | 0.90 |  |
| 17 | 59609 | 118869 | Montcalm County Road Commission | Mark Chisiensen | Federal Roadkendavill Reoad | Federal Road @ Kendavilie Road in Pierson Townstip | Adding center left turn lanes/right turn lanes on Federal Road, correcting vertical curve and improving curb radiithroat widths | \$382.938.00 | \$334, 64, 20 |  | \$38,293.80 | Intersection | 0.90 |  |
| 18 | 81609 | 118872 | ty Road Commision | Schlack | ad | om M.52 2 c Clinton Road |  | \$380,000.00 | ${ }^{\text {s342, 000.00 }}$ | \$19.000.00 | \$38.000.00 | 1.8 mi | . 90 |  |
| 19 | 81609 | 118977 | Washtenaw Couny Road Commision | Brent Schack | Cherry Hill RoadProsseet Road | Cherry Hill Road @ Prospect Road | Install overhead flashing beacon and ground mounted flashing beacons, upgrade and install additional warning signs, intersection realignment, drainage improvements | \$230,000.00 | 520,000.00 | \$11.500.00 | \$23,000.00 | Intersection | 0.90 | ${ }_{0}^{0.50}$ |
|  |  |  |  |  |  |  |  |  | \$2.954,187.70 | \$41.942.00 | S2,996,129.70 |  |  |  |

## Local Agency High Risk Rural Roads Program FY2014

| HRRR | PROPO | D PROJ | Ts |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number |  | Job Num |  | Lead Agency | Project Name | Proiect Limits |  |  | Priect Est | Federal | Fed HRRR－PE |  |
| 1 | 01609 | 118853 | － | Acona Road Commisision | Samield Road |  |  |  | \＄375．00．00 | \＄337．500．00 |  | \＄37，500．00 |
| 2 | 03609 | 118871 |  | Allegan Couny Poad Commision | 16th Steet | 16th Street from 3000＇south of 140th Avenue to 1500＇south of | Clearing，culvert replacements，vertical alignment and roadway |  | \＄183．500．00 | \＄165．150．00 |  | \＄18，350．00 |
| 3 | 10609 | 118854 |  | Benzie Couny Road Commision | Indian Hill Road | Indian Hill Road trom Deasstream Road to Hooker Road | Tree clearing and removal of fixed objects | Obligated＇C＇Phase 12．05．2013 Imf－Obligated＇ A ＇Phase 06．07．2014 Imf | \＄44，000．00 | \＄39，600．00 | s2，200．00 | 54，400．00 |
| 4 | 10609 | 11885 |  | Benzie County Road Comm |  |  | Signing upgrades and vegetaioo clearing a 3 l locaions | Obligated＇C＇Phase 12．05．2013 Imf－Obligated＇$A$＇Phase 06．05．2014 Imf | 89．000．00 | 8．100．00 | 9450．00 | 5900．00 |
| 5 | 25609 | 118856 | $\bigcirc$ | Sensese Couny Poad Commission | Morish R Poallcakinin Road | Morish Road＠Cakins Road in Finit Township |  | obigated 02.13 .2014 mmf | 21．010．00 | 221000．00 |  | 50.00 |
| 6 | 25609 | 18859 | $\bigcirc$ | Senesee Couny Poad Commission | Seymour Road／liand Blanc Road | Seymur Read＠Grand Blanc Road in Gaines Towship | 隹 | obigated 02．13：2014 lmf | s34，720．00 | \＄34，720．00 |  | s0．00 |
| 7 | 25609 | 11881 | $\bigcirc$ | Sensese County Poad Commisision | ewis Roadwison Road | Lewis Road＠Wilson Road |  | obigated 02．13．2014 1 mf | 33，154，00 | 83，154，00 |  | s0．00 |
| 8 | 2509 | 118897 | $\bigcirc$ | Sensee Count Road Commision | 3aldwin Road |  | Now |  | 995．611．00 | 986，049．90 |  | 99．561．10 |
| 9 | 2509 | 118896 | $\bigcirc$ | Sensese Couny Road Commission | McCumsey Road | McCumsey Road Culvert crossing Pine Run Creek in Thetford | the Pine Run Creek on the border of Thetford and Vienna Townships | Ohigated 04．29．2014 lmf | 969．053．00 | \＄62．147．70 |  | \＄6．905．30 |
| 10 | 39609 | 118862 | 。 | Kalamzzo Count Poad Commision | D Avenuel2n Street |  | gravel，tree removal and installation of ground mounted flashing beacons | Obligated 01．31．2014 mf | \＄365．720．00 | \＄388，743．00 |  | \＄36．527．00 |
| 11 | 43609 | 118863 | 。 | ake County Poad Commission | Various Roules | 52nd Street from Aster Road to S Branch Road， S Branch Road from 52nd Street north to W Stevenson Road， W Stevenson Road from S Branch Road to N Tyndall Road | Upgrade pavement markings and signs，instal reflective sign | Obigated Lump Sum 0.0 .02 .2014 | \＄175．824．00 | \＄175， 22.00 | ${ }_{\text {s8，792．00 }}$ | s0．00 |
| 12 | 44609 | 118864 | － | apeer Couny Road Commision | Baldwin Road | Baldwin Road from Davison Lake Road to Calley Road in Hadley | Verical curve modifications，upgrade signs and install reflective sheeting on sign | Obligate LLump Sum 03．25．2014 | \＄386，208，00 | ${ }^{\text {S347 } 58720}$ |  | \＄38．620．80 |
| 13 | 44609 | 1886 | 。 | apeer Count Poad Commision | Maraton Road | Marathon Road from Klam Road to LeValley Road in Elba and Oregon Townships | Install centerline corrugations and guardrail，remove fixed objects （trees，headwall），upgrade signs and add reflective sheeting on sign posts | obigated 0．3．30．2014 mm | \＄124．559．00 | \＄112．103．10 |  | \＄12，45．90 |
| 14 | 609 | 118866 | － | apeer Couny Poad Commision | Mcoowell Road | McDowell Road from Washburn Road to Gray Road in Oregon Township | Upgrade／install guardrail，remove fixed objects（trees，headwall） upgrade signs and install reflective sheeting on sign posts | obigated 01．30．2014 mmf－Lump summed | \＄142，510．00 | S128，259．00 |  | \＄14，251．00 |
| 15 | 44609 | 118867 | 。 | apeer Couny Road Commision |  | Hollenbeck Road from Marathon Road to Klam Road in Marathon <br> ownship | centerline corrugations，install guardrail，remove fixed objects， upgrade signs and install reflective strips on sign posts，HMA paving at 90 degree curve at Klam Road | Obigated 02.04 .2014 mmf －Lump summed | \＄172，382．00 | \＄155．143．80 |  | \＄17，238．20 |
| 16 | 5969 | 118868 | － | Montcalm Count Poad Commision |  |  |  |  | \＄30．50200 | S27， 45180 |  | 53，5020 |
| 17 | 5960 | 118869 | － | Montalm County Road Commission | Federal Roadkendavill R Road | Federal Road＠Kendavile Road in Pierson Township | Adeding enenereret tur lanestight turn haes on Federar Road |  | \＄382．938．00 | \＄344，644．20 |  | ¢38．293．80 |
| 18 | 81609 | 118872 |  | henaw Couny Poad Commision | Aussin Road | Austin Road trom M．52 2 c cliton Road | Signing upgrades with reflective sheeting on posts，install additiona | Obligated C Phase on 10．21．2013／A phase on 04．21．2014－lump summed | \＄380，000．00 | \＄322000．00 | ¢19，000．00 | \＄38，000．00 |
| 19 | 8160 | 11897 |  | Washenaw Couny Road Commisision | Chery Hill Roadiprospect Poad | Cherry Hill Road＠Prospect Road | Install overhead flashing beacon and ground mounted flashing beacons，upgrade and install additional warning signs，intersection realignment，drainage improvements | Obligated C Phase on 10．212．2013／A Phase on 0．3．312．2014 | s230，00 | 5207，00 | s11，500．00 | \＄23，000．00 |


| NON－S | LECTED | HRRR P | ROJECTS |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number | ${ }_{\text {cont Sect }}^{\text {19609 }}$ | Job Num | Leaat Agency Cinton Couny Poad Commission | ${ }^{\text {Project Name }}$ Couny Wide | ${ }_{\text {Promer Limits }}^{\text {Pount Wide }}$ | Work Type Upgrade avaraced waring signs |  | ${ }_{\text {Project St }}^{\text {Pat }}$ |  | Fed HRRR－PE | ${ }_{\text {Local }}^{\text {so．00 }}$ |
| 21 | 22609 |  | ekinson Count Poad Connission | CR 573 （Hamition Lakes Road） | CR 573 （Hamilton Lakes Road）from the Canadian Northern RR north to US－2 | Crush and stape，widen lanes and pave stoulders |  | \＄300，00 | \＄270．00 |  | \＄38．000．00 |
| 22 | 2509 |  | Senesee Couny Paad Commission | Morish Road |  | new guarcralal on approaches and new brigge railing |  | צ35．559．00 | s35．959．00 |  | s0．00 |
| 23 | 25609 |  | Sensese County Road Commision | Sermour Road | Seymour Road from Cole Road to Rolston Road in Argentine Township | install signs and install reflectorized sheeting on sign posts on two |  | s23，210．00 | \＄23，210．00 |  | 90．00 |
| 24 | 25609 |  | Senesee County Road Commission | Thompson Roadjuenning Poad |  |  |  | \＄35，710．00 | ¢35，710．00 |  | 90．00 |
| 25 | 3069 |  | ilissale Count Poad Commission | East Camden Road | East Camden Road from Waldron Road to Meridian Road in Wright <br> Township | 3.03 miles of crush and shape，new HMA，gravel shoulders， |  | 8975，000．00 | s877，500．00 |  | 599，500 |
| 26 | ${ }^{33609}$ |  | monham Count Road Commission | Shoeman Roadiarar R Road | Shoeman Road＠Barr Road in Wililamston Township | ${ }_{\text {Recen }}^{\text {Reconstruct inesesecioo and veritiaa aligment，vegeation }}$ |  | \＄400．000．00 | \＄360．000．00 | \＄20．000．00 | \＄40，000．00 |
| 27 | 38609 |  | Jackson Couny Road Commisision | 6 Locaions |  |  |  | \＄352．514．00 | \＄352．514．00 |  | s0．00 |
| 28 | 5860 |  | Momroe Count Poad Commission | Ida West road | dia Road West trom Summeried R Road to Haines Road | Guardrail improvements，signing upgrades，flashers at two |  | \＄111，000．00 | s99，900．00 |  | s11，100．00 |
| 29 | 58609 |  | Monroe Count Reod Commission | s Stony creek Road | S Stony Creek Road trom Seffas Road to Exeerer Road | Removal of fixed objects in road clear zone，shoulder widening |  | \＄380．000．00 | \＄342．000．00 |  | \＄38，000．00 |
| 30 | 64609 |  | crana Count Paad Commisision | 192 d Avenue | 192nd Avenue from 0.25 miles north of Warren Road to Scout Road in Newfield and Leavitt Townships． | Reconstruct roadway including the widening of lanes，correcting cross slope，paving shoulders，flattening slopes，installing guardrail，tree clearing and improving vertical sight distance， guardrail，tree clearing and improving vertical sight reconstruct the 192nd and Scout Road intersection |  | S440，000．00 | 8396，000．00 |  | \＄44，000．00 |
| 31 | 70609 |  | otawa Count Pooad Commision | 120 h Avenue | （1） |  |  | 5700，000．00 | 6630，000．00 |  | 570．000．00 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }_{33}^{32}$ | 77609 |  | Rescommen counf foad conmiss |  |  | matains |  |  |  |  |  |
|  |  |  |  |  |  | Total＇rRRR＇Non－Selected Amount＝ |  | S4，609，167．00 | \＄4，232，989．60 | s20，000．00 | ${ }_{\text {S37\％，177，40 }}$ |


[^0]:    * "Available" (Programmed) refers to the HRRRP funds that have been programmed in the Statewide Transportation Improvement Program (STIP) and can be expended on HRRR projects.

