MINNESOTA

HIGHWAY SAFETY IMPROVEMENT PROGRAM

2018 ANNUAL REPORT

U.S. Department of Transportation
Federal Highway Administration

Photo source: Federal Highway Administration

Table of Contents

Disclaimer

Protection of Data from Discovery Admission into Evidence

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

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

Executive Summary

Minnesota has a consistent history of reductions in traffic fatalities and serious injuries through the Highway Safety Improvement Program. The program is structured to (1) encourage widespread deployment of safety countermeasures, (2) engage local and state agencies, and (3) emphasize effective treatments through countermeasure evaluation.

While Minnesota funds sustained high crash locations, the program emphasizes systemic projects. These systemic projects identify locations based on factors associated with fatal and serious injury crashes to treat locations with higher risk before these severe crash occurs.

Furthermore, fatal and serious injury crashes are widely distributed across public roads. Thus, Minnesota HSIP has emphasized low-cost, high-benefit safety countermeasures that can be deployed over many miles or sites.

Minnesota HSIP funding is divided between state and local agencies based on distribution of fatal and serious injury crashes. The Office of Traffic Engineering (OTE) at MnDOT solicits for applications annually to approve high quality safety projects. Furthermore, OTE and State Aid for Local Transportation (SALT) provide local traffic safety resources including systemic planning documents. These County Road Safety Plans identify high risk locations and provide project recommendations to streamline the local HSIP project development process. Currently, MnDOT is in the process of updating these safety plans with new data and projects beyond low-hanging fruit.

In recent years, Minnesota has demonstrated a commitment to proven, effective countermeasures by reemphasizing evaluation of projects. A statewide structure for project tracking, evaluation contracts, and report repository is in development to support these efforts.

Collaboration between internal and external, state and local partners has been key to current successes. Over the last 15 years, the Minnesota Toward Zero Deaths (TZD) program has been instrumental in coordinating engagement with partners and facilitating relationships. These regional partnerships help connect stakeholders to state agencies without derailing local grassroots safety organizing.

Minnesota has experienced consistent decreases in traffic fatalities and serious injuries since 2003. Recently these reductions have been less than previous years. While decreasing, this may suggest a plateau. Minnesota will continue to emphasize these successful elements of HSIP while looking for new opportunity to bend the curve.

Introduction

The Highway Safety Improvement Program (HSIP) is a core Federal-aid program with the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads. As per 23 U.S.C. 148(h) and 23 CFR 924.15, States are required to report annually on the progress being made to advance HSIP implementation and evaluation efforts. The format of this report is consistent with the HSIP Reporting Guidance dated December 29, 2016 and consists of five sections: program structure, progress in implementing highway safety improvement projects, progress in achieving safety outcomes and performance targets, effectiveness of the improvements and compliance assessment.

Program Structure

Program Administration

Describe the general structure of the HSIP in the State.

The Minnesota HSIP program is split between Local and State projects. MnDOT Office of Traffic Engineering (OTE)--formerly Office of Traffic, Safety and Technology (OTST)--solicits projects from local governing units for the next four years; a parallel solicitation for State projects is issued to the districts. These solicitations aim to fully program safety projects in the next two years, but projects three to four years out are awarded to ensure planning. A parallel process is conducted within the Minneapolis-St Paul Metro that is coordinated through the MPO. Funding is distributed between Local and State based on fatal and serious injury crashes; distribution between each district or Area Transportation Partnership is based on the location of these fatal and serious injury crashes.

OTE approves all State and Local HSIP projects before they are entered in the STIP: the award memo received is the basis for being allowed to enter the STIP.

Where is HSIP staff located within the State DOT?

Operations

Enter additional comments here to clarify your response for this question or add supporting information.

HSIP staff provide engineering support within the Office of Traffic Engineering within the Operations Division of MnDOT.

How are HSIP funds allocated in a State?

Central Office via Statewide Competitive Application Process
Formula via Districts/Regions

Enter additional comments here to clarify your response for this question or add supporting information.

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

MnDOT distributes funds to local roads through the Greater Minnesota Combined Solicitation. OTE (formerly OTST) with representatives from State-Aid and MnDOT District Traffic Engineers, prioritize the local HSIP projects for each ATP. Districts are given the opportunity to comment on the prioritization of projects.

The allocation of HSIP funds is based on the distribution of fatal and A-injury crashes. Funds are distributed as follows:

Step 1: Funds are split based on % of K and A crashes in each District.
Step 2: Funds are split again based on % of K and A crashes occurring on State vs. local system.

MnDOT has worked to develop a County Road Safety Plan for all 87 counties within the state based on systemic risk assessment. These plans are given priority in the selection process. Stand-alone safety projects rather than countermeasures within larger projects are given priority.

A subset of counties has opted to join OTE in updating the County Road Safety Plan: this process has begun in 2017.

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

Traffic Engineering/Safety
Districts/Regions
Local Aid Programs Office/Division

Enter additional comments here to clarify your response for this question or add supporting information.

Describe coordination with internal partners.

MnDOT's Office of Traffic Engineering (OTE)--formerly Office of Traffic, Safety and Technology--works closely with the State Aid for Local Transportation (SALT) office as well as district traffic engineers in the distribution of HSIP funds.

A representative from the state aid office sits on the both the steering and selection committees for HSIP. The offices work together to educate local agencies and district personnel on the HSIP program. Once projects are selected the state aid office coordinates with the local agencies and provides support as necessary.

The HSIP project selection committee asks for input from the district traffic engineers during the selection and award processes. District traffic engineers provide vital background information on proposed projects as well as adding the local perspective. Additionally, local partners are asked to provide some documentation that the district traffic engineer is aware of and supportive of their prospective project if it impacts MnDOT roadways.

MnDOT also holds quarterly TEO (Traffic Engineering Organization) Safety Subcommittee meetings, at which additional HSIP coordination occurs.

Identify which external partners are involved with HSIP planning.

Regional Planning Organizations (e.g. MPOs, RPOs, COGs)
Governors Highway Safety Office
FHWA
Other-City Engineer Safety Committee
Other-County Engineer Safety Committee

Enter additional comments here to clarify your response for this question or add supporting information.

Describe coordination with external partners.

Districts and Counties collaborate extensively to develop and implement safety plans as funded by HSIP; a subset of Minnesota's 87 counties have opted in to updating these plans. MPOs are involved in reviewing HSIP solicitations within their respective boundaries before awards are published. Beginning in 2016, a traffic safety culture project in Park Rapids, MN has begun planning processes with local enforcement, public health, healthcare providers, emergency response, county commissioners, and chamber of commerce; these partners collaborate to develop local initiatives. Evaluation of this community/cultural approach are forthcoming.

Minnesota's Toward Zero Deaths program is the primary way local partners can integrate and become involved in Statewide safety programming. TZD regional coordinators build coalitions through outreach and workshops helping to direct action among local partners.

Have any program administration practices used to implement the HSIP changed since the last reporting period?

No

Are there any other aspects of HSIP Administration on which the State would like to elaborate?

No

Program Methodology

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

Yes

To upload a copy of the State processes, attach files below.

File Name:
HSIP funding guide FINAL.pdf

Select the programs that are administered under the HSIP.

Enter additional comments here to clarify your response for this question or add supporting information.

Program: HSIP (no subprograms)

Date of Program Methodology: 8/1/2015

What is the justification for this program? [Check all that apply]

Addresses SHSP priority or emphasis area

What is the funding approach for this program? [Check one]

Competes with all projects

What data types were used in the program methodology? [Check all that apply]

Crashes	Exposure	Roadway
Fatal and serious injury crashes only	Volume Lane miles	

What project identification methodology was used for this program? [Check all that apply]

Critical rate
Probability of specific crash types
Excess proportions of specific crash types

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

Yes

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

Yes

Describe the methodology used to identify local road projects as part of this program.

How are projects under this program advanced for implementation?

Competitive application process
selection committee

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

Rank of Priority Consideration

Ranking based on B/C : 5
Available funding : 5
Cost Effectiveness : 5

Other-Treatment Effectiveness : 5
Other-Site Selection: planning or spot location : 5

Enter additional comments here to clarify your response for this question or add supporting information.

MnDOT has been charged with improving transparency in the selection of state highway projects. As such, OTE has developed a preliminary rubric of points and weights to be implemented in the solicitation for HSIP funding in the Fall of 2018. While the program and practice of HSIP project selection will not change, the forthcoming policy will assign points to objective metrics to better explain this process.

What percentage of HSIP funds address systemic improvements?

72

HSIP funds are used to address which of the following systemic improvements? Please check all that apply.

Cable Median Barriers
Rumble Strips
Pavement/Shoulder Widening
Install/Improve Signing
Install/Improve Pavement Marking and/or Delineation
Safety Edge
Install/Improve Lighting
Horizontal curve signs

Enter additional comments here to clarify your response for this question or add supporting information.

What process is used to identify potential countermeasures? [Check all that apply]

Road Safety Assessment
Crash data analysis
SHSP/Local road safety plan
Data-driven safety analysis tools (HSM, CMF Clearinghouse, SafetyAnalyst, usRAP)

Enter additional comments here to clarify your response for this question or add supporting information.

Does the State HSIP consider connected vehicles and ITS technologies?

Yes

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

Connected vehicle and ITS projects are considered for HSIP funding in Minnesota. Funds for these initiatives are available from multiple sources, so while the projects are competitive in HSIP solicitation, investments and investigations in Minnesota have been funded outside of HSIP. MnDOT has created a standalone Connected Autonomous Vehicle (CAV-X) office to advance connected and automated vehicle and other advanced ITS technologies in Minnesota; a minimal amount of Section 164 funds will help support safety investigations in these areas.

www.mndot.gov/automated/index.html

Does the State use the Highway Safety Manual to support HSIP efforts?

No

Enter additional comments here to clarify your response for this question or add supporting information.

Minnesota does not use the more advanced, predictive methods in the HSM.

Central Office performs a limited form of Highway Safety Manual analysis at the request of District Traffic Engineering staff. Reactive projects use a simplified form of HSM methods. Spot location projects are evaluated based on prior crash history weighted by the appropriate crash modification factor for the crash type and countermeasure proposed; the resulting benefit-cost ratio is used to prioritize which of these reactive projects receive funding. While training on the HSM predictive analysis continues, widespread use for proactive projects has not been adopted: Minnesota has developed risk factors for proactive projects rather than a prediction of total crashes.

Have any program methodology practices used to implement the HSIP changed since the last reporting period?

No

Are there any other aspects of the HSIP methodology on which the State would like to elaborate?

No

Project Implementation

Funds Programmed

Reporting period for HSIP funding.

State Fiscal Year

Enter additional comments here to clarify your response for this question or add supporting information.

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

FUNDING CATEGORY	PROGRAMMED	OBLIGATED	% OBLIGATED/PROGRAMMED
HSIP (23 U.S.C. 148)	$46,287,987	$13,861,134	29.95%
HRRR Special Rule (23 U.S.C. 148(g)(1))	$0	$0	0%
Penalty Funds (23 U.S.C. 154)	$0	$0	0%
Penalty Funds (23 U.S.C. 164)	$10,322,055	$7,098,916	68.77%
RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2))	$0	$0	0%
Other Federal-aid Funds (i.e. STBG, NHPP)	$0	$0	0%
State and Local Funds	$0	$0	0%
Totals	$56,610,042	$20,960,050	37.03%

Enter additional comments here to clarify your response for this question or add supporting information.

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

41%

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

4%

Enter additional comments here to clarify your response for this question or add supporting information.

Minnesota divides HSIP funds between local and state highways based on prevalence of fatal and serious injury crashes. Due to late letting dates and current accounting practice, the majority of local projects are funded via Advanced Construction options which is not included in obligation amounts.

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

3%

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

8%

Enter additional comments here to clarify your response for this question or add supporting information.

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

$0

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

$17,500,000

Enter additional comments here to clarify your response for this question or add supporting information.

Minnesota transferred half of apportionment from HSIP for federal fiscal years 2017 and 2018 to STP funds. In FFY 2017, $17.5 million was transferred; an additional $17.9 million will be transferred in FFY 2018.

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

A program review was completed in May 2016 to better understand factors relating to a lower than average obligation rate in Minnesota. Historically, HSIP apportionment amounts have varied considerably from year-to-year, but there appeared to be miscommunications regarding the target programming levels as they remained constant. While the vast majority of projects are selected and let as programmed, a larger than anticipated number of projects were not delivered. Estimated costs both for local projects and on the state system were consistently higher than bids.

MnDOT is discussing strategies for more efficient reporting of programming amounts as well as communication between offices at the Department. New regular updates by programming office on programmed and let projects to help OTST reallocate HSIP funds back to HSIP projects. Further investigation has revealed differing accounting practices between MnDOT and Federal obligation reports. Minnesota has made a consistent practice of using the oldest funds available first: as a result, obligation rates appear lower than actual safety programming. MnDOT is continuing to work to improve obligation rate numbers while maintaining a robust safety program.

Development of shelf/flex projects that can be escalated quickly to meet HSIP goals have been discussed with MnDOT Division and District leadership. MnDOT has obtained IDIQ SEP-14 approval to better meet obligations; projects have been identified that will use this process moving forward.

Does the State want to elaborate on any other aspects of it's progress in implementing HSIP projects?

No

General Listing of Projects

List the projects obligated using HSIP funds for the reporting period.

													RELATIONSHIP TO SHSP	
PROJECT NAME	**IMPROVEMENT CATEGORY**	**SUBCATEGORY**	**OUTPUTS**	**OUTPUT TYPE**	**HSIP PROJECT COST($)**	**TOTAL PROJECT COST($)**	**FUNDING CATEGORY**	**FUNCTIONAL CLASSIFICATION**	**AADT**	**SPEED**	**OWNERSHIP**	**METHOD FOR SITE SELECTION**	**EMPHASIS AREA**	**STRATEGY**
OTTER TAIL CO: (PHASE III) LANE DEPARTURE ENHANCED EDGE LINE MARKINGS ON VARIOUS CSAH'S & CR'S	Roadway delineation	Longitudinal pavement markings - remarking	40.5	Miles	$208914	$232126	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
OTTER TAIL CO: (PHASE IIIA) LANE DEPARTURE SHOULDER PAVING & RUMBLE STRIPS ON CURVES	Shoulder treatments	Shoulder treatments - other	60	Curves	$254082	$282341	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
CSAH 36/CSAH 2: RECLAMATION, GROUND-IN EDGELINE PVMT MARKINGS, STOP AHEAD/STOP BARS & AGG SHLDRING	Roadway delineation	Longitudinal pavement markings - remarking	27.7	Miles	$91143	$189565	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Intersections	
CSAH 11: CSAH 2 TO CO LINE SHOULDER PAVING, EDGELINE, RUMBLE STRIPS, GUARDRAIL & RESURFACING	Roadway delineation	Longitudinal pavement markings - remarking	6.3	Miles	$235845	$1628829	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
CSAH 3: TH 60 TO TH 63- SHOULDER PAVE, EDGELINE STRIPING, RUMBLE STRIPS, BITUMINOUS RECLAMATION	Shoulder treatments	Shoulder treatments - other	5.8	Miles	$316550.3	$1857384	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
TODD COUNTYWIDE: ON VARIOUS TODD COUNTY RDWYS- INSTALL 6" EDGELINE PAVEMENT MARKINGS	Roadway delineation	Longitudinal pavement markings - remarking	168.5	Miles	$133664.26	$168510	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
TODD CO: INSTALL GROUND-IN WET REFLECTIVE PAVEMENT MARKINGS	Roadway delineation	Longitudinal pavement markings - new	36.8	Miles	$189950.42	$211056	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
DOUGLAS COUNTYWIDE: AT VARIOUS LOCATIONS THROUGHOUT DOUGLAS CO- ENHANCED PAVEMENT MARKINGS	Roadway delineation	Longitudinal pavement markings - new	33	Intersections	$70805	$78672	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Intersections	

													RELATIONSHIP TO SHSP	
PROJECT NAME	**IMPROVEMENT CATEGORY**	**SUBCATEGORY**	**OUTPUTS**	**OUTPUT TYPE**	**HSIP PROJECT COST($)**	**TOTAL PROJECT COST($)**	**FUNDING CATEGORY**	**FUNCTIONAL CLASSIFICATION**	**AADT**	**SPEED**	**OWNERSHIP**	**METHOD FOR SITE SELECTION**	**EMPHASIS AREA**	**STRATEGY**
CSAH 16 AT CSAH 25, PRELIM ENGINEERING RURAL INTERSECTION CONFLICT WARNING SYSTEM	Advanced technology and ITS	Advanced technology and ITS - other	1	Intersections	$90000	$100000	HSIP (23 U.S.C. 148)		0		County Highway Agency	Spot	Intersections	
CSAH 16 AT CSAH 25 INSTALL RURAL INTERSECTION CONFLICT WARNING SYSTEM	Advanced technology and ITS	Advanced technology and ITS - other	1	Intersections	$88287	$98097	HSIP (23 U.S.C. 148)		0		County Highway Agency	Spot	Intersections	
D-1 DISTRICTWIDE: INSTALL INTERSECTION, MAINLINE DYNAMIC WARNING SYSTEMS	Advanced technology and ITS	Advanced technology and ITS - other	8	Intersections	$396000	$460026	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Intersections	
ISANTI CO: INSTALL GROUND-IN WET REFLECTIVE MARKINGS, 6" EDGELINE MARKINGS	Roadway delineation	Longitudinal pavement markings - new	41.1	Miles	$213228	$236920	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
CSAH 3: SHOULDER PAVING & MILL AND OVERLAY	Shoulder treatments	Shoulder treatments - other	3.2	Miles	$248400	$549776	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
CROW WING CO: INSTALL 6" GROUND-IN WET REFLECTIVE PAVEMENT MARKINGS	Roadway delineation	Longitudinal pavement markings - remarking	36.1	Miles	$187513.69	$208349	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
D-4 DISTRICTWIDE: INSTALL INTERSECTION LIGHTING	Lighting	Intersection lighting	6	Intersections	$421000	$567690	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Intersections	
CSAH 5: FROM W CO LN (LAC QUI PARLE) TO US 212- MILL & STRIPING 6" EDGELINE EPOXY	Roadway delineation	Longitudinal pavement markings - remarking	11.3	Miles	$43092	$82824	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
CSAH 5/9: SHLDR PAVING, SAFETY WEDGE & RUMBLES, BIT OVLY, CHEVRONS & INTERSECTION IMPROVEMENTS	Shoulder treatments	Shoulder treatments - other	9.9	Miles	$142840.56	$989473	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
CSAH 19: SHOULDER PAVING, RUMBLE STRIPS, SHOULDER PAVING, BIT MILL & RECLAMATION	Shoulder treatments	Shoulder treatments - other	9	Miles	$419000	$3382870	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
ITASCA CO: INSTALL 6" CENTERLINE EPOXY STRIPING & 6" GROUND-IN WET	Roadway delineation	Longitudinal pavement markings - remarking	43.6	Miles	$313200	$567151	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	

													RELATIONSHIP TO SHSP	
PROJECT NAME	**IMPROVEMENT CATEGORY**	**SUBCATEGORY**	**OUTPUTS**	**OUTPUT TYPE**	**HSIP PROJECT COST($)**	**TOTAL PROJECT COST($)**	**FUNDING CATEGORY**	**FUNCTIONAL CLASSIFICATION**	**AADT**	**SPEED**	**OWNERSHIP**	**METHOD FOR SITE SELECTION**	**EMPHASIS AREA**	**STRATEGY**
REFLECTIVE EDGELINE STRIPING														
ST LOUIS CO: INSTALL CENTERLINE RUMBLE STRIPS	Roadway	Rumble strips - center	81	Miles	$233044	$258938	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
ST LOUIS CO: INSTALL GROUND-IN WET REFLECTIVE EDGELINE MARKINGS	Roadway delineation	Longitudinal pavement markings - remarking	48.5	Miles	$94858	$105398	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
KANDIYOHI CO: INSTALL (WET-REFLECTIVE) 6" EDGE STRIPE HIGH BUILD	Roadway delineation	Longitudinal pavement markings - remarking	76	Miles	$190415.86	$211573	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
LESUEUR CO: RUMBLE STRIPS/STRIPES, EDGELINE AND CENTERLINE PVMT MARKINGS	Roadway	Rumble strips - edge or shoulder	106.1	Miles	$551430	$633606	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
JACKSON COUNTYWIDE: IMPROVED CURVE DELINEATION AT VARIOUS LOCATIONS THROUGHOUT JACKSON COUNTY	Roadway signs and traffic control	Curve-related warning signs and flashers	61	Curves	$153977	$171086	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
BLUE EARTH CO: CURVE & INTERSECTION IMPROVEMENTS (INCLS SIGNING, STRIPING & BITUMINOUS SHOULDERING)	Roadway signs and traffic control	Roadway signs (including post) - new or updated	54	Locations	$312783	$347537	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Intersections	
D-6 DISTRICTWIDE: INSTALL GROUND-IN WET REFLECTIVE EDGELINE PAVEMENT MARKINGS	Roadway delineation	Longitudinal pavement markings - remarking	1057.2	Miles	$1704617.91	$1894020	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
LYON CO: SYSTEMATIC DURABLE (EPOXY) PAVEMENT MARKINGS	Roadway delineation	Longitudinal pavement markings - new	35.3	Miles	$228285	$253650	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
D-2 DISTRICTWIDE: IN VARIOUS COUNTIES ON MULTIPLE ROUTES, INSTALL INTERSECTION LIGHTING	Lighting	Intersection lighting	21	Intersections	$277650	$308500	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Intersections	
D-2 DISTRICTWIDE: INSTALL 6" WIDE EDGELINE PAVEMENT MARKINGS AT	Roadway delineation	Longitudinal pavement markings - new	536	Miles	$319573.31	$419039	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	

													RELATIONSHIP TO SHSP	
PROJECT NAME	**IMPROVEMENT CATEGORY**	**SUBCATEGORY**	**OUTPUTS**	**OUTPUT TYPE**	**HSIP PROJECT COST($)**	**TOTAL PROJECT COST($)**	**FUNDING CATEGORY**	**FUNCTIONAL CLASSIFICATION**	**AADT**	**SPEED**	**OWNERSHIP**	**METHOD FOR SITE SELECTION**	**EMPHASIS AREA**	**STRATEGY**
VARIOUS LOCATIONS THROUGHOUT D-2														
CSAH 46: AT CSAH 86, CONSTUCT ROUNDABOUT (SCOTT & RICE CO.)	Intersection traffic control	Modify control - all-way stop to roundabout	1	Intersections	$811540.43	$901712	HSIP (23 U.S.C. 148)		0		County Highway Agency	Spot	Intersections	
MORRISON COUNTYWIDE: INSTALL EDGELINE SINUSOIDAL RUMBLE STRIPS ON VARIOUS MORRISON CSAH ROUTES	Roadway	Rumble strips - edge or shoulder	20	Miles	$241820.1	$268689	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
I-90: FROM SD STATE LN TO W OF WORTHINGTON, INSTALL HIGH TENSION CABLE MEDIAN BARRIER	Roadside	Barrier - cable	41	Miles	$3482114.18	$3869016	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Lane Departure	
MILLE LACS COUNTYWIDE: INSTALL GROUND-IN, WET REFLECTIVE PAVEMENT MARKINGS ON MULTIPLE COUNTY ROADS	Roadway delineation	Longitudinal pavement markings - remarking	14.7	Miles	$86644.44	$96272	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
TH 23 AT LYON STREET - CONSTRUCT J-TURN & RESTRICTED LEFT TURN LN	Intersection traffic control	Intersection traffic control - other	2	Intersections	$1440000	$1604250	HSIP (23 U.S.C. 148)		0		State Highway Agency	Spot	Intersections	
WADENA CO: INSTALL 6" EPOXY EDGELINE PAVEMENT MARKINGS	Roadway delineation	Longitudinal pavement markings - remarking	112.1	Miles	$238248	$329831	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
WADENA COUNTWIDE: INSTALL 6" EPOXY EDGELINE PAVEMENT MARKINGS ON VARIOUS COUNTY ROADS	Roadway delineation	Longitudinal pavement markings - remarking	112.3	Miles	$113416	$331620	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
HENN CO/MPLS: GREEN THERMOPLASTIC BIKE LANES + WHITE DASHED POLY-PREFORM AT INTERSECTION APPROACHES	Pedestrians and bicyclists	Miscellaneous pedestrians and bicyclists	23	Intersections	$171720	$192124	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Bicyclists	
STEARNS COUNTYWIDE: INSTALL GROUND-IN, WET REFLECTIVE	Roadway delineation	Longitudinal pavement markings - remarking	50.1	Miles	$365740	$406378	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	

													RELATIONSHIP TO SHSP	
PROJECT NAME	**IMPROVEMENT CATEGORY**	**SUBCATEGORY**	**OUTPUTS**	**OUTPUT TYPE**	**HSIP PROJECT COST($)**	**TOTAL PROJECT COST($)**	**FUNDING CATEGORY**	**FUNCTIONAL CLASSIFICATION**	**AADT**	**SPEED**	**OWNERSHIP**	**METHOD FOR SITE SELECTION**	**EMPHASIS AREA**	**STRATEGY**
EPOXY MARKINGS ON VARIOUS STEARNS COUNTY ROADS														
TH 169, TH 22 TO N OF 270TH ST: INSTALL DYNAMIC MSG. SIGNS, HIGH TENSION CABLE BARRIER & LIGHTING	Roadside	Barrier - cable	14.9	Miles	$1247293.73	$1385882	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Lane Departure	
SHERBURNE CO: 6" EDGELINE STRIPING, RR PVMT MARKING, + CR 43: CHEVRONS	Roadway delineation	Longitudinal pavement markings - remarking	18.5	Miles	$535344	$594827	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
D-2 DISTRICTWIDE: INSTALL INTERSECTION LIGHTING AT VARIOUS LOCATIONS	Lighting	Intersection lighting	20	Intersections	$335468.35	$372743	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Intersections	
D-4 DISTRICTWIDE: SHOULDER REPAIRS & MILLED RUMBLE STRIPS AT VARIOUS LOCATIONS ON I-94 & MN 114	Roadway	Rumble strips - edge or shoulder	30.8	Miles	$1760573.47	$1956193	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Lane Departure	
ST LOUIS CO: INSTALL 6" PAINT EDGELINE MARKINGS	Roadway delineation	Longitudinal pavement markings - remarking	48.5	Miles	$52200	$64428	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
TH 22: CSAH 15 TO CSAH 90, MILL & OVLY, ROUNDABOUT & CSAH 90: CONSTRUCT ROUNDABOUT	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	$1104963.01	$1227737	HSIP (23 U.S.C. 148)		0		State Highway Agency	Spot	Intersections	
CSAH 33 AT CSAH 34 IN NORWOOD YOUNG AMERICA: CONSTRUCT ROUNDABOUT	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	$1516709	$1885440	HSIP (23 U.S.C. 148)		0		County Highway Agency	Spot	Intersections	
TH 52: S OF I-90 TO TH 63- BIT OVERLAY, CABLE MEDIAN BARRIER	Roadside	Barrier - cable	4.7	Miles	$645505.2	$717228	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Lane Departure	
TH 55: ROCKFORD TO THEO. WIRTH PKWY-RUMBLES, GUARDRAILS, CONC WALK, CURB & GUTTER	Shoulder treatments	Shoulder treatments - other	22.3	Miles	$1152159	$1640179	HSIP (23 U.S.C. 148)		0		State Highway Agency	Spot	Lane Departure	
CSAH 78 (HANSON BLVD): FROM CSAH 1 TO CSAH 14 IN COON RAPIDS- SIGNAL INTERCONNECT	Intersection traffic control	Modify traffic signal timing - signal coordination	16	Intersections	$233550	$259500	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Intersections	

													RELATIONSHIP TO SHSP	
PROJECT NAME	**IMPROVEMENT CATEGORY**	**SUBCATEGORY**	**OUTPUTS**	**OUTPUT TYPE**	**HSIP PROJECT COST($)**	**TOTAL PROJECT COST($)**	**FUNDING CATEGORY**	**FUNCTIONAL CLASSIFICATION**	**AADT**	**SPEED**	**OWNERSHIP**	**METHOD FOR SITE SELECTION**	**EMPHASIS AREA**	**STRATEGY**
TH 10: THURSTON AVE IN ANOKA TO TH 101 IN ELK RIVER, INSTALL CABLE MEDIAN BARRIER	Roadside	Barrier - cable	9.1	Miles	$1000642.49	$1113325	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Lane Departure	
TH 65: HAM LAKE TO EAST BETHEL, CONSTRUCT RCIS & 1ST SIGNALIZED RCUT INTERSECTION	Intersection traffic control	Intersection traffic control - other	14	Intersections	$3577500	$3975000	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Intersections	
TH 10: TH 47 TO CR J, INSTALL CONTINUOUS FREEWAY LIGHTING	Lighting	Continuous roadway lighting	3	Miles	$876289.03	$973654	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Lane Departure	
TH 73: 0.1 MI N OF 3RD AVE IN KETTLE RIVER TO 0.7 MI N OF CR 129, PAVE SHOULERS, RUMBLE STRIPS	Shoulder treatments	Shoulder treatments - other	7.7	Miles	$268679.12	$298532	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Lane Departure	
TH 10: "ELLA", AT CSAH 7 IN LAKE PARK, RIGHT, LEFT, & THRU LANE, ADA, INSTALL SIGNALS, LIGHTING	Intersection geometry	Auxiliary lanes - miscellaneous/other/unspecified	1	Intersections	$388067.6	$646366	HSIP (23 U.S.C. 148)		0		State Highway Agency	Spot	Intersections	
TH 2: AT CASS CSAH 75 (BINGO PALACE RD), INTERSECTION IMPROVEMENT (TURN LANES), BIT SURF, LIGHTING	Intersection geometry	Auxiliary lanes - miscellaneous/other/unspecified	1	Intersections	$523747.49	$581942	HSIP (23 U.S.C. 148)		0		State Highway Agency	Spot	Intersections	
CSAH 19: CSAH 28 TO FALCON AVE - RECONSTRUCT HORIZ. ALIGNMENT, ADD TURN LNS & PAVE SHOULDERS	Intersection geometry	Auxiliary lanes - miscellaneous/other/unspecified	0.5	Miles	$477000	$964225	HSIP (23 U.S.C. 148)		0		County Highway Agency	Spot	Intersections	
MSAS 129: MOORHEAD- BIT M&O, SHARED-USE PATH, LIGHTING, SIGNALS, SIGNING, STRIPING, ADA	Lighting	Intersection lighting	1	Intersections	$135688	$204525	HSIP (23 U.S.C. 148)		0		City of Municipal Highway Agency	Systemic	Intersections	
CSAH 38: CSAH 31 TO MN 3 - CONVERT FROM 2-LANE TO 3-LANE ROADWAY	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	2.2	Miles	$1144800	$2879677	HSIP (23 U.S.C. 148)		0		County Highway Agency	Spot	Pedestrians	
MPLS: 6INSTALL MAST ARMS AT 5 EXIST. SIGNALs, INSTALL PEDESTRIAN CURB EXTENSIONS	Pedestrians and bicyclists	Miscellaneous pedestrians and bicyclists	17	Intersections	$2807542	$3326703	HSIP (23 U.S.C. 148)		0		City of Municipal Highway Agency	Systemic	Pedestrians	

													RELATIONSHIP TO SHSP	
PROJECT NAME	**IMPROVEMENT CATEGORY**	**SUBCATEGORY**	**OUTPUTS**	**OUTPUT TYPE**	**HSIP PROJECT COST($)**	**TOTAL PROJECT COST($)**	**FUNDING CATEGORY**	**FUNCTIONAL CLASSIFICATION**	**AADT**	**SPEED**	**OWNERSHIP**	**METHOD FOR SITE SELECTION**	**EMPHASIS AREA**	**STRATEGY**
CSAH 22: TH 75 TO N JCT CSAH 5, RUMBLE STRIPS, STRIPING & SHLDR BASE AGGREGATE	Roadway	Rumble strips - edge or shoulder	6.1	Miles	$149036	$165596	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
TH 42: AT THE INTERSECTION OF CSAH 9- CONSTRUCT ROUNDABOUT	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	$1607508.34	$1787120	HSIP (23 U.S.C. 148)		0		State Highway Agency	Spot	Intersections	
MSAS 141 (GRAND AVE): HAMLINE AVE TO VICTORIA ST - PEDESTRIAN/BIKE SAFETY IMPROVEMENTS	Pedestrians and bicyclists	Miscellaneous pedestrians and bicyclists	1.1	Miles	$566907	$629897	HSIP (23 U.S.C. 148)		0		City of Municipal Highway Agency	Spot	Pedestrians	
NB I-35E RAMP TO TH 36 EB IN LITTLE CANADA, REALIGN RAMP USING CONCRETE PVMT, TMS, & LIGHTING	Lighting	Site lighting - interchange	1	Intersections	$1111658.82	$1235176	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Intersections	
CSAH 75 AT GROVER AVE NW & CSAH 17 AT CR 139 - INTERSECTION LIGHTING	Lighting	Intersection lighting	2	Intersections	$36000	$40000	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Intersections	
D-3 DISTRICTWIDE: RETIME TRAFFIC SIGNALS, INSTALL SIGNAL CAMERA, FIBER OPTICS & COMMUNICATION EQUIP	Intersection traffic control	Modify traffic signal timing - signal coordination	92	Intersections	$495000	$550000	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Intersections	
I-35W:CR B2 TO CR 53,CONST MnPASS LN FROM CR C TO LEXINGTON AV (CSAH 17)	Roadway	Roadway widening - travel lanes	11.7	Miles	$448335.99	$498151	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Lane Departure	
I-494(EB): E BUSH LAKE RD TO W BUSH LAKE RD , REPLACE CABLE MEDIAN BARRIER WITH CONC MEDIAN BARRIER	Roadside	Barrier - concrete	1.1	Miles	$1890035.37	$2100039	HSIP (23 U.S.C. 148)		0		State Highway Agency	Spot	Lane Departure	
AC US 169/MN 37 ROUNDABOUT + MN 37 FR JCT US 169/MN 37 MILL & OVERLAY (AC PAYBACK 1 OF 1)	Intersection traffic control	Modify control - traffic signal to roundabout	1	Intersections	$1095000	$1095000	HSIP (23 U.S.C. 148)		0		State Highway Agency	Spot	Intersections	
AC DISTRICTWIDE LOCAL HSIP - LIGHTING, VARIOUS LOCATIONS (AC PAYBACK, 1 OF 1)	Lighting	Intersection lighting	42	Intersections	$360900	$360900	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Intersections	

													RELATIONSHIP TO SHSP	
PROJECT NAME	**IMPROVEMENT CATEGORY**	**SUBCATEGORY**	**OUTPUTS**	**OUTPUT TYPE**	**HSIP PROJECT COST($)**	**TOTAL PROJECT COST($)**	**FUNDING CATEGORY**	**FUNCTIONAL CLASSIFICATION**	**AADT**	**SPEED**	**OWNERSHIP**	**METHOD FOR SITE SELECTION**	**EMPHASIS AREA**	**STRATEGY**
CSAH 7, FROM CSAH 15 TO 390TH ST, OVERLAY, CURVE SHOULDER PAVING AND RUMBLE STRIPES	Shoulder treatments	Shoulder treatments - other	1.3	Miles	$17250	$436800	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
CSAH 7, FROM CSAH 15 TO CSAH 13, OVERLAY, PAVE SHOULDERS AND RUMBLE STRIPES	Shoulder treatments	Shoulder treatments - other	3.3	Miles	$126000	$1123200	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
AC CSAH 39, W OF CO RD 122 TO TH 9, SHOULDER PAVING, RUMBLES & SAFETY WEDGE (AC PAYBACK 1 OF 1)	Shoulder treatments	Shoulder treatments - other	9.8	Miles	$83644	$83644	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
CSAH 9/CSAH 8, SHOULDER PAVING AT CURVES, RUMBLE STRIPES, CHEVRONS AND INTERSECTION IMPROVEMENTS	Shoulder treatments	Shoulder treatments - other	3.8	Miles	$36000	$1260175	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
CSAH 57, TH 60 N RAMPS TO ST JAMES, BIT SHOULDERS AND GRND-IN WET REFLECTIVE PVMT MARKINGS	Shoulder treatments	Shoulder treatments - other	1.2	Miles	$15750	$665950	HSIP (23 U.S.C. 148)		0		County Highway Agency	Systemic	Lane Departure	
ELLA US 10, FROM NORTH BENTON DRIVE TO WEST OF EAST ST GERMAIN ST, INSTALL CABLE MEDIAN BARRIER	Roadside	Barrier - cable	6.2	Miles	$600455	$667172	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Lane Departure	
ELLA I-35, FROM IOWA BORDER TO I-90, CABLE MEDIAN BARRIER	Roadside	Barrier - cable	13.8	Miles	$1146055	$1273394	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Lane Departure	
AC CSAH 27 AT CSAH 68 IN CREDIT RIVER TWP - CONSTRUCT ROUDNABOUT (AC PAYBACK 1 OF 1)	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	$954000	$954000	HSIP (23 U.S.C. 148)		0		County Highway Agency	Spot	Intersections	
METROWIDE - INSTALL SIGNS ON HORIZONTAL CURVES TO COMPLY WITH NEW MMUTCD STANDARDS	Roadway signs and traffic control	Curve-related warning signs and flashers	53	Locations	$477000	$530000	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Lane Departure	
XING STRATEGIES 1: SPEED & CRASH REDUCTION INCLS PVMT MARKINGS,	Shoulder treatments	Shoulder treatments - other	85	Intersections	$285883.34	$285883.34	Penalty Funds (23 U.S.C. 164)		0		State Highway Agency	Systemic	Intersections	

													RELATIONSHIP TO SHSP	
PROJECT NAME	**IMPROVEMENT CATEGORY**	**SUBCATEGORY**	**OUTPUTS**	**OUTPUT TYPE**	**HSIP PROJECT COST($)**	**TOTAL PROJECT COST($)**	**FUNDING CATEGORY**	**FUNCTIONAL CLASSIFICATION**	**AADT**	**SPEED**	**OWNERSHIP**	**METHOD FOR SITE SELECTION**	**EMPHASIS AREA**	**STRATEGY**
PAINTED MEDIANS & RUMBLE STRIPES														
XING STRATEGIES 2: SPEED & CRASH REDUCTION INCLS PVMT MARKINGS, PAINTED MEDIANS & RUMBLE STRIPES	Shoulder treatments	Shoulder treatments - other	85	Intersections	$900000	$900000	Penalty Funds (23 U.S.C. 164)		0		State Highway Agency	Systemic	Intersections	
LANE DEPARTURE STRATEGIES & DELINEATORS ON VAR. 4LN RDWYS	Roadway signs and traffic control	Roadway signs (including post) - new or updated	1475.9	Miles	$1063248	$1063248	Penalty Funds (23 U.S.C. 164)		0		State Highway Agency	Systemic	Lane Departure	
TH 33: AT JCT OF I-35 RAMPS IN CLOQUET-INTERSECTION IMPROVEMENTS, CONST ROUNDABOUT	Interchange design	Interchange design - other	2	Intersections	$2206785	$2207200	Penalty Funds (23 U.S.C. 164)		0		State Highway Agency	Spot	Intersections	
STATEWIDE: MN CRASH MAPPING ANALYTICAL TOOL (MNCMAT) UPDATE	Non-infrastructure	Data/traffic records	1	Tool	$378000	$378000	Penalty Funds (23 U.S.C. 164)		0		Computer Program	Noninfrastructure	Data	
DEVELOPING AN ONGOING EVALUATION PROGRAM FOR SAFETY IMPROVEMENTS THROUGHOUT MN	Non-infrastructure	Transportation safety planning	1	Program	$400000	$400000	Penalty Funds (23 U.S.C. 164)		0		Evaluation Program	Noninfrastructure	Data	
TH 4 AT CSAH 29 - ROUNDABOUT, LIGHTING & LIVING SNOW FENCE/LANDSCAPING	Intersection geometry	Auxiliary lanes - add two-way left-turn lane	1	Intersections	$1791273.5	$1791773.5	Penalty Funds (23 U.S.C. 164)		0		State Highway Agency	Spot	Intersections	
STATEWIDE: DEVELOP STATE HIGHWAY SAFETY PLAN (SHSP)-PROJECT MANAGEMENT SUPPORT	Non-infrastructure	Transportation safety planning	1	Plan Support	$100000	$100000	Penalty Funds (23 U.S.C. 164)		0		Other State Agency	Noninfratructure	Planning	
TH 19/US71: REDWOOD FALLS ADA, TWLTL & SIGNALS TWO-WAY LEFT TURN LN	Intersection geometry	Auxiliary lanes - add two-way left-turn lane	2.5	Miles	$900000	$900000	Penalty Funds (23 U.S.C. 164)		0		State Highway Agency	Systemic	Pedestrians	
STATEWIDE: STATE HIGHWAY SAFETY PLAN (SHSP) TECHNICAL SUPPORT	Non-infrastructure	Transportation safety planning	1	Plan Support	$115000	$115000	Penalty Funds (23 U.S.C. 164)		0		Other State Agency	Noninfrastructure	Planning	
MN19, FROM 0.35 MI W OF CSAH 3 TO CSAH 89, CONSTRUCT CENTER	Intersection geometry	Auxiliary lanes - add two-way left-turn lane	0.6	Miles	$422924	$422924	Penalty Funds (23 U.S.C. 164)		0		State Highway Agency	Systemic	Intersections	

													RELATIONSHIP TO SHSP	
PROJECT NAME	**IMPROVEMENT CATEGORY**	**SUBCATEGORY**	**OUTPUTS**	**OUTPUT TYPE**	**HSIP PROJECT COST($)**	**TOTAL PROJECT COST($)**	**FUNDING CATEGORY**	**FUNCTIONAL CLASSIFICATION**	**AADT**	**SPEED**	**OWNERSHIP**	**METHOD FOR SITE SELECTION**	**EMPHASIS AREA**	**STRATEGY**
LEFT & RIGHT TURN LANES AND LIGHTING														
2018 COUNTY ROAD SAFETY PLAN UPDATE-YEAR 3 UP TO 15 COUNTIES	Non-infrastructure	Transportation safety planning	1	Plan Support	$1000000	$1250000	Penalty Funds (23 U.S.C. 164)		0		Other Local Agency	Noninfrastructure	Planning	
TOWARD ZERO DEATH (TZD) COORDINATORS FROM 7/1/2018 TO 6/30/2019, SALARIES & EXPENSES	Non-infrastructure	Outreach	1	Program	$750000	$750000	Penalty Funds (23 U.S.C. 164)		0		Other State Agency	Noninfrastructure	Traffic Safety Culture	

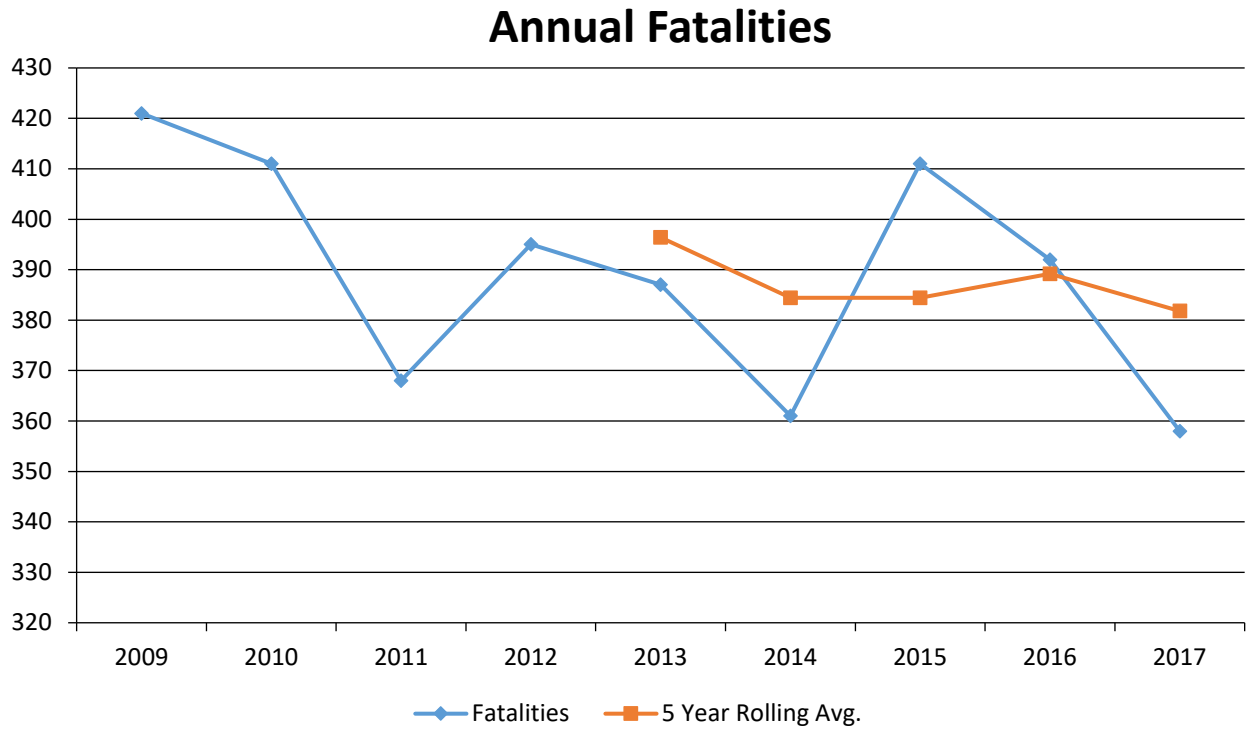
Enter additional comments here to clarify your response for this question or add supporting information.

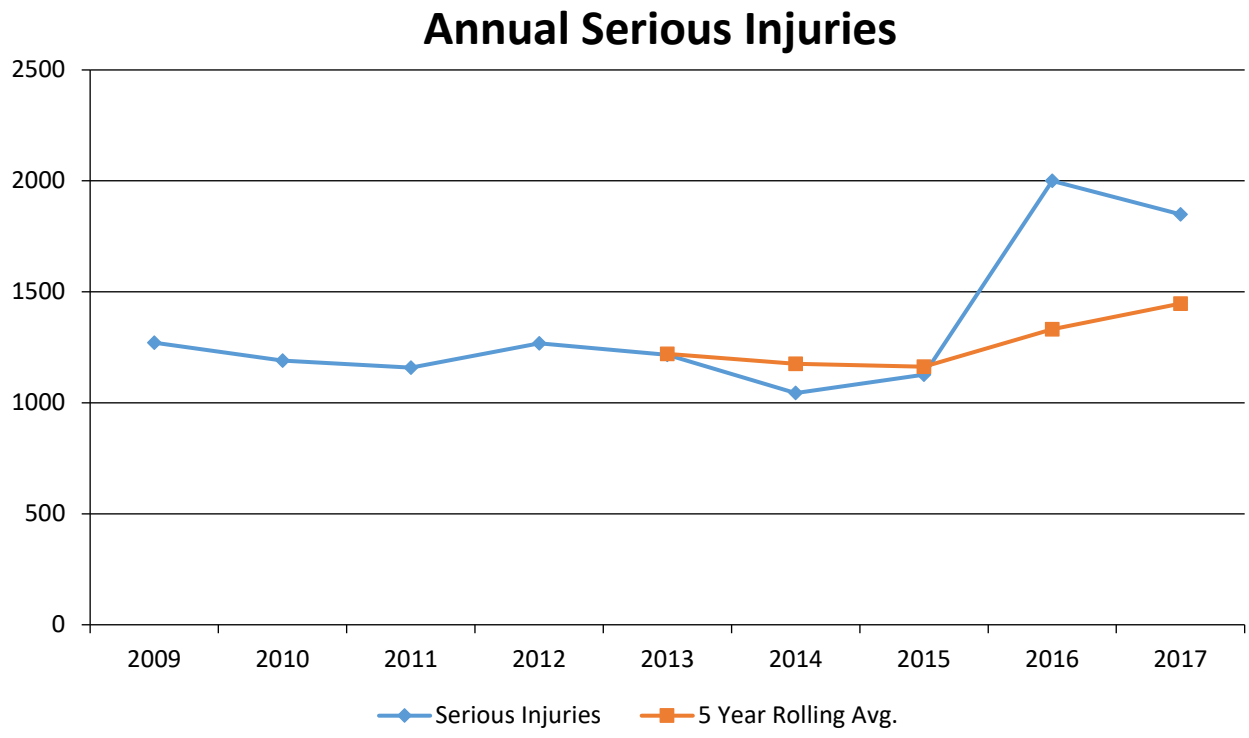
Safety Performance

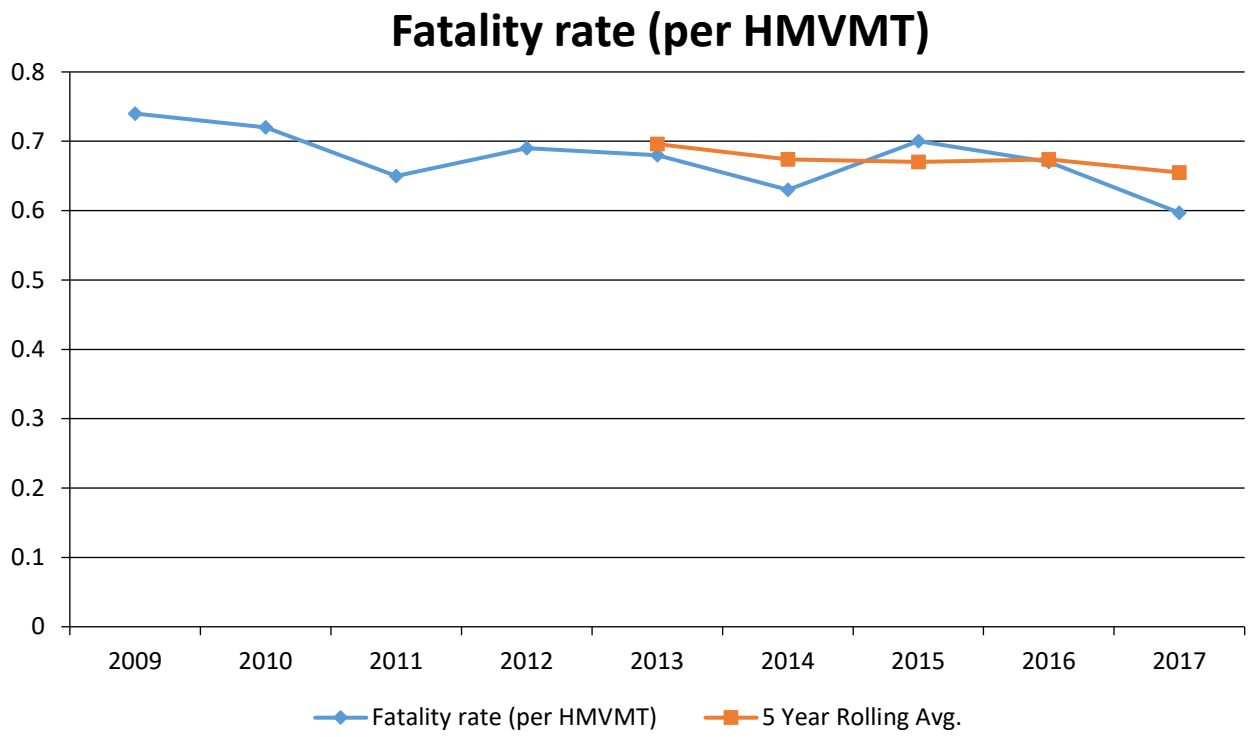
General Highway Safety Trends

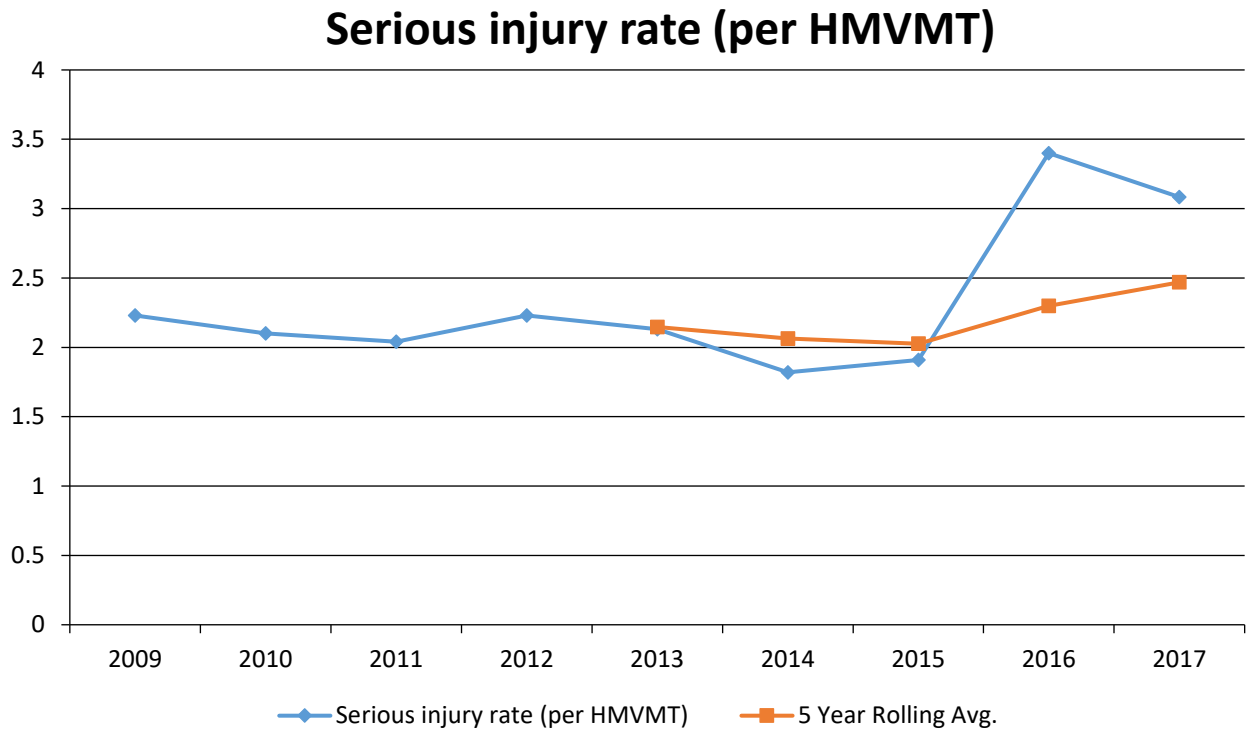
Present data showing the general highway safety trends in the State for the past five years.

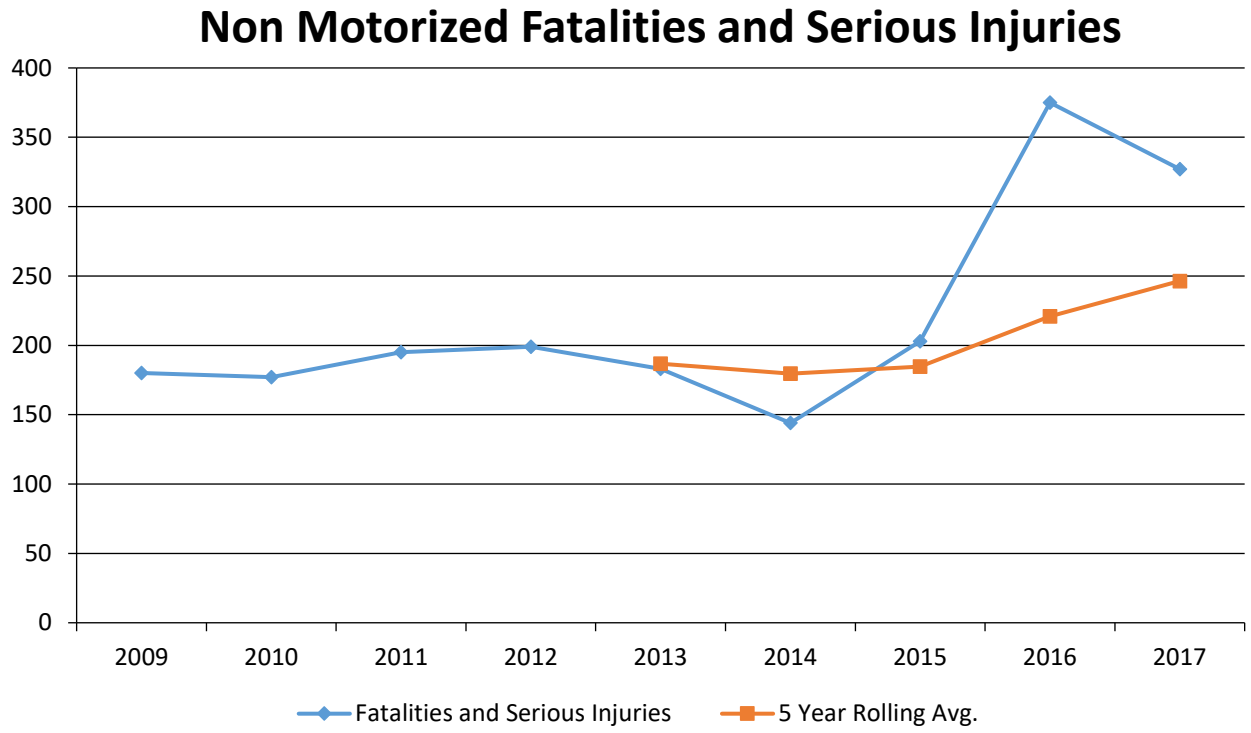
PERFORMANCE MEASURES	2009	2010	2011	2012	2013	2014	2015	2016	2017
Fatalities	421	411	368	395	387	361	411	392	358
Serious Injuries	1,271	1,191	1,159	1,268	1,216	1,044	1,127	2,000	1,849
Fatality rate (per HMVMT)	0.740	0.720	0.650	0.690	0.680	0.630	0.700	0.670	0.597
Serious injury rate (per HMVMT)	2.230	2.100	2.040	2.230	2.130	1.820	1.910	3.400	3.083
Number non-motorized fatalities	51	45	45	47	39	20	50	67	48
Number of non-motorized serious injuries	129	132	150	152	144	124	153	308	279


Annual Fatalities
430
420
410
400
390
380
370
360
350
340
330
320
2009
2010
2011
2012
2013
2014
2015
2016
2017
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
2500
2000
1500
1000
500
0
2009
2010
2011
2012
2013
2014
2015
2016
2017
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2009
2010
2011
2012
2013
2014
2015
2016
2017
Fatality rate (per HMVMT)
5 Year Rolling Avg.


Serious injury rate (per HMVMT)
4
3.5
3
2.5
2
1.5
1
0.5
0
2009
2010
2011
2012
2013
2014
2015
2016
2017
Serious injury rate (per HMVMT)
5 Year Rolling Avg.



Enter additional comments here to clarify your response for this question or add supporting information.

Describe fatality data source.

State Motor Vehicle Crash Database

Enter additional comments here to clarify your response for this question or add supporting information.

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

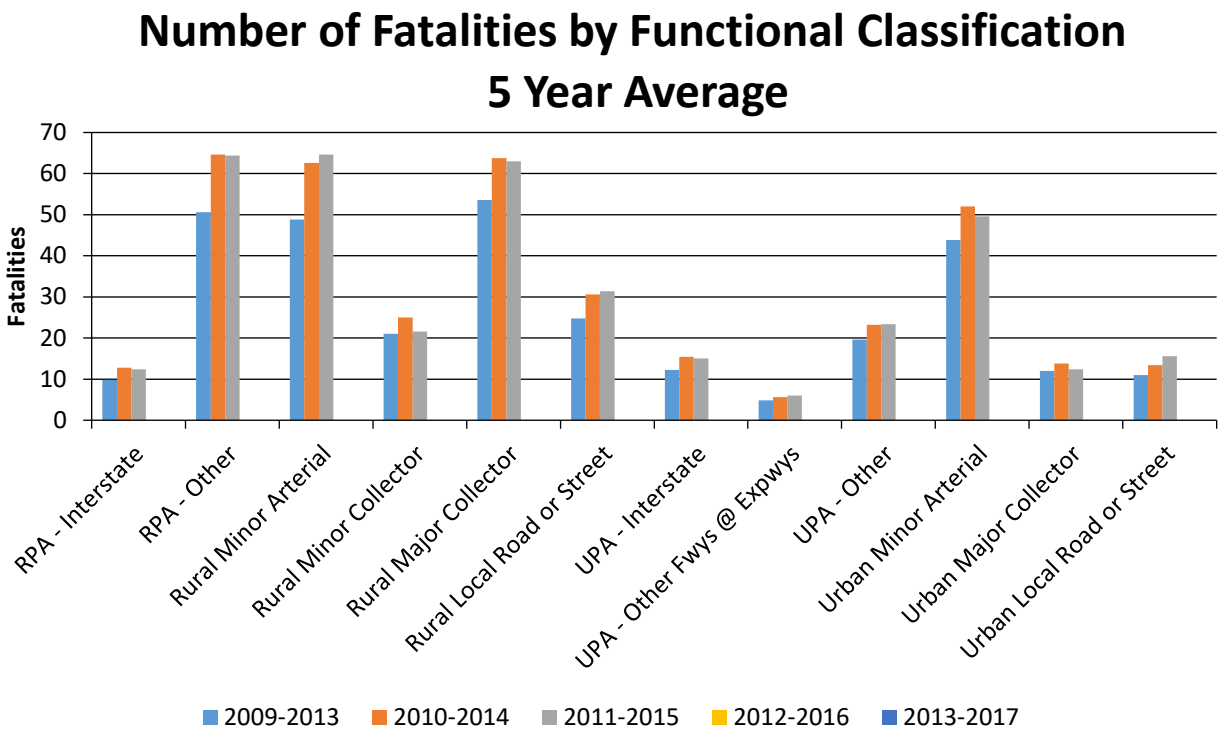
Year 2015

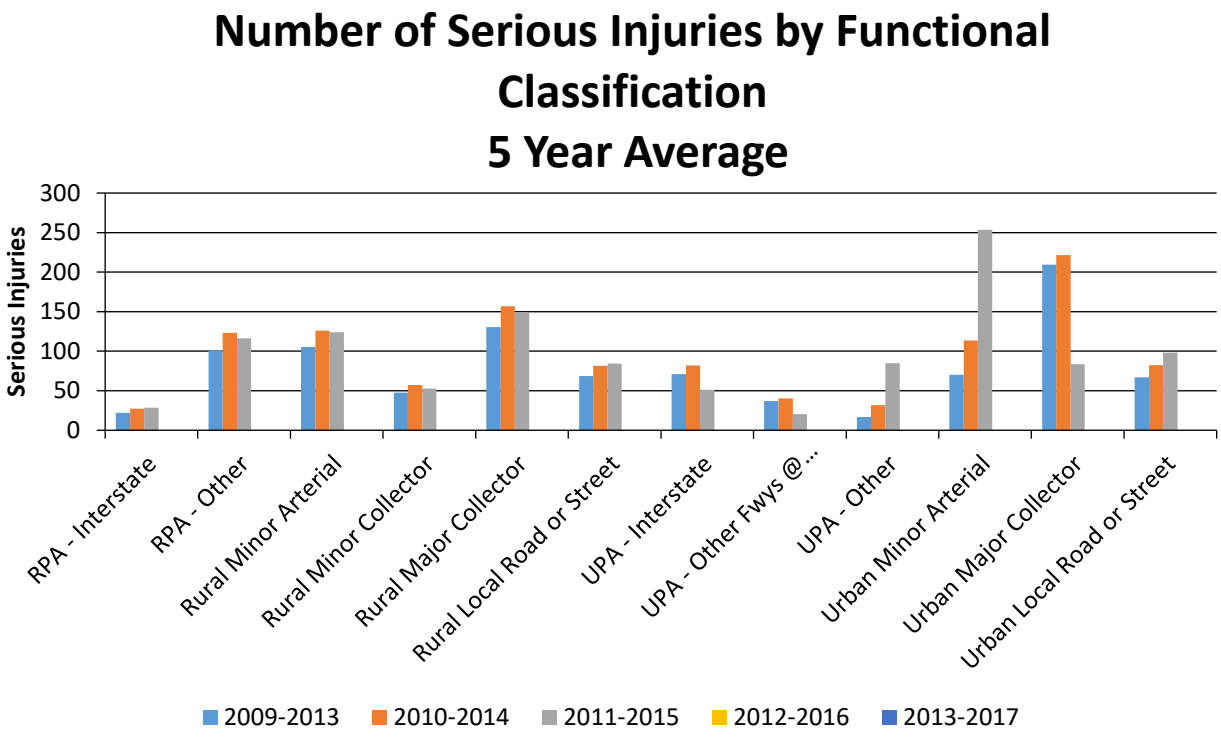
Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Rural Principal Arterial (RPA) - Interstate	12.4	28.4		
Rural Principal Arterial (RPA) - Other Freeways and Expressways				
Rural Principal Arterial (RPA) - Other	64.4	116.4		
Rural Minor Arterial	64.6	124.2		
Rural Minor Collector	21.6	52.6		

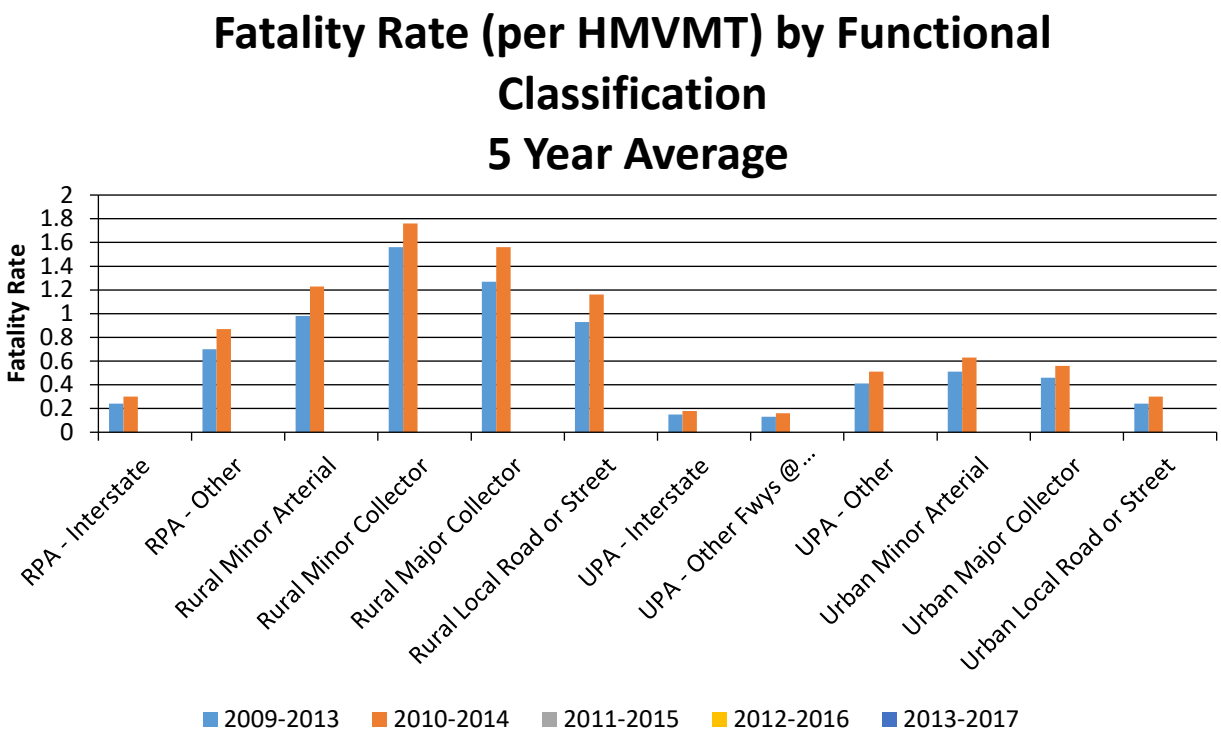
Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Rural Major Collector	63	149.6		
Rural Local Road or Street	31.4	84.2		
Urban Principal Arterial (UPA) - Interstate	15	51.2		
Urban Principal Arterial (UPA) - Other Freeways and Expressways	6	20.4		
Urban Principal Arterial (UPA) - Other	23.4	84.8		
Urban Minor Arterial	49.6	253.6		
Urban Minor Collector				
Urban Major Collector	12.4	83.4		
Urban Local Road or Street	15.6	98		

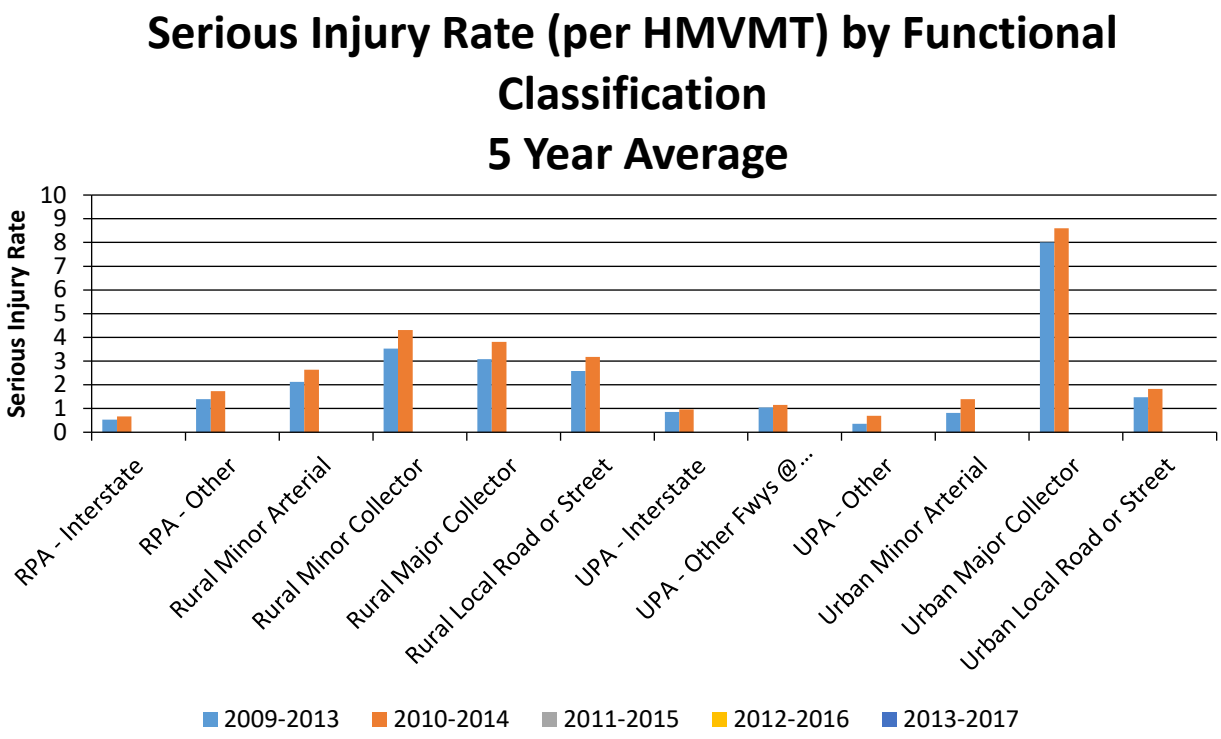
Year 2017

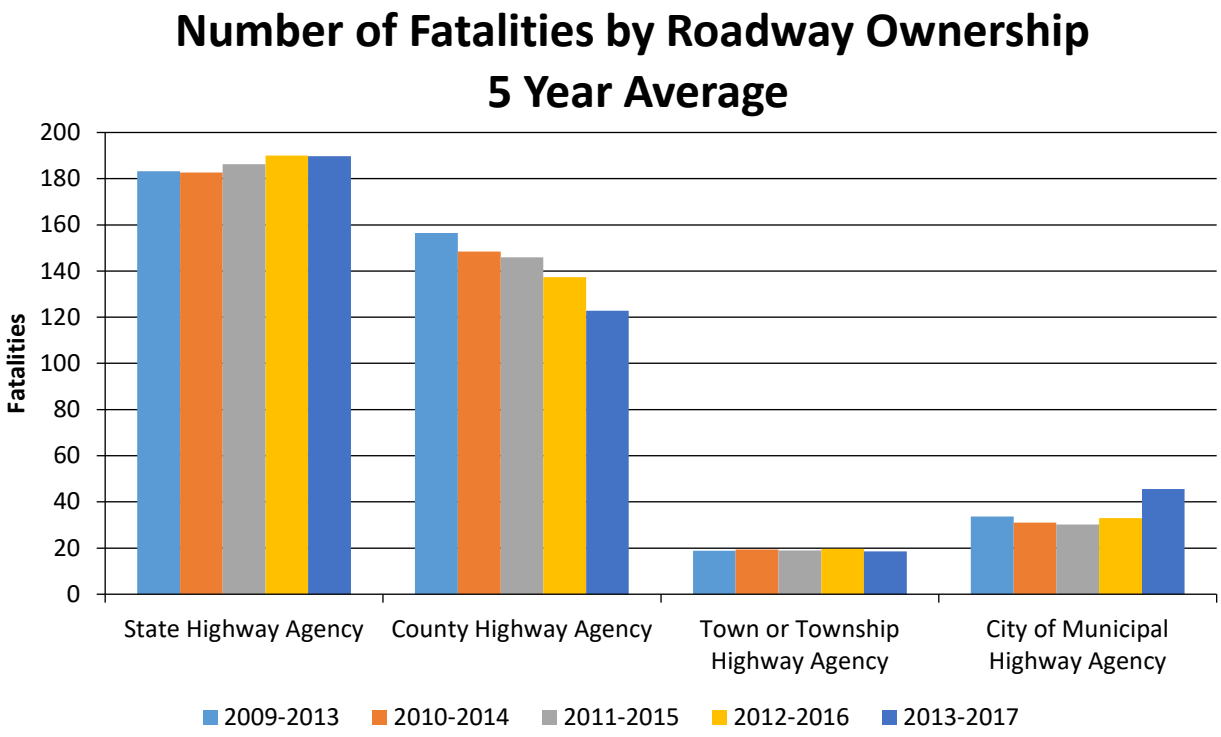
Roadways	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
State Highway Agency	189.8	435.6	0.56	1.29
County Highway Agency	122.8	503	0.87	3.55
Town or Township Highway Agency	18.6	61	1.62	5.31
City of Municipal Highway Agency	45.6	381	0.49	4.05
State Park, Forest, or Reservation Agency				
Local Park, Forest or Reservation Agency				
Other State Agency				
Other Local Agency				
Private (Other than Railroad)				
Railroad				
State Toll Authority				
Local Toll Authority				
Other Public Instrumentality (e.g. Airport, School, University)				
Indian Tribe Nation				

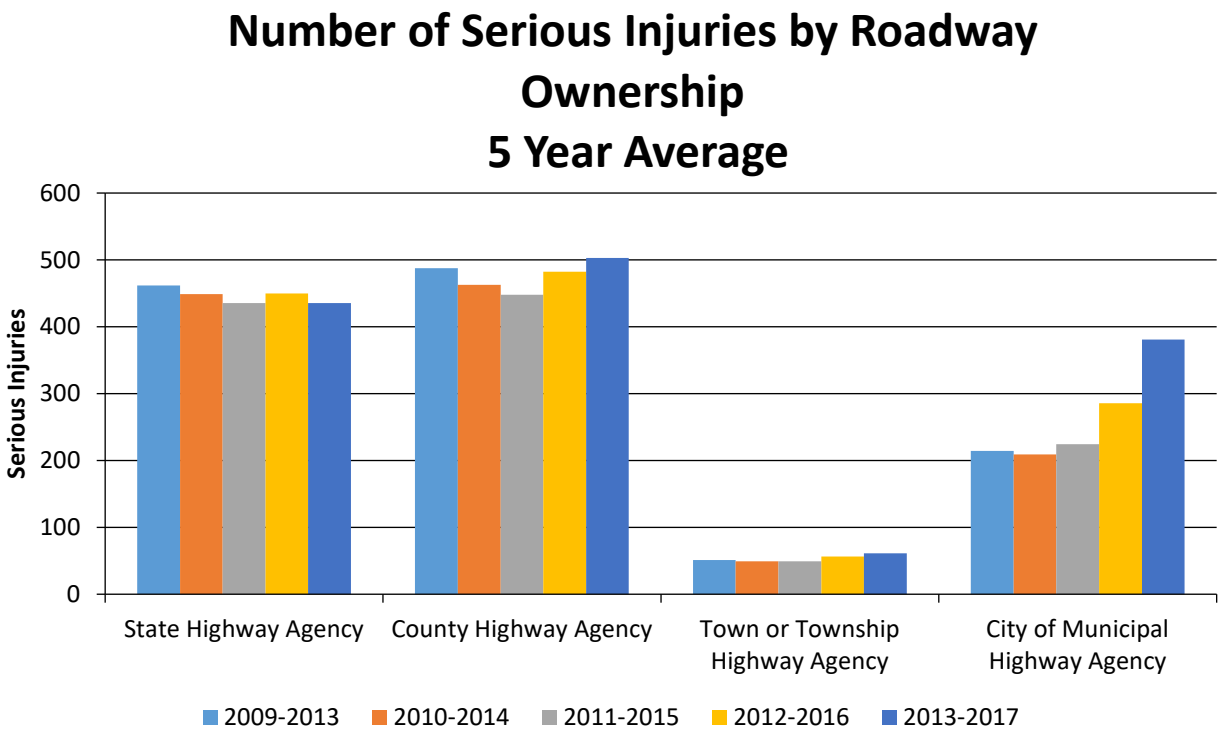

Number of Fatalities by Functional Classification
5 Year Average
Fatalities
70
60
50
40
30
20
10
0
RPA - Interstate
RPA - Other
Rural Minor Arterial
Rural Minor Collector
Rural Major Collector
Rural Local Road or Street
UPA - Interstate
UPA - Other Fwys @ Expwys
UPA - Other
Urban Minor Arterial
Urban Major Collector
Urban Local Road or Street
2009-2013
2010-2014
2011-2015
2012-2016
2013-2017

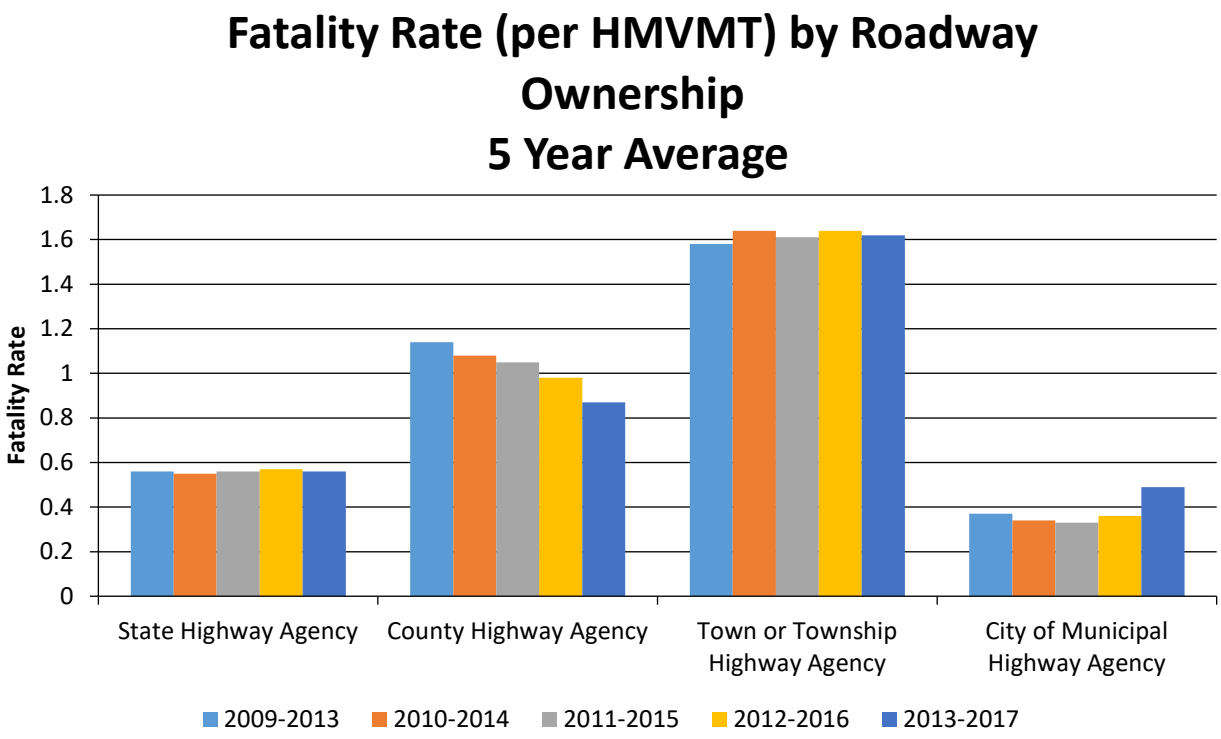

Number of Serious Injuries by Functional Classification
5 Year Average
Serious Injuries
300
250
200
150
100
50
0
RPA - Interstate
RPA - Other
Rural Minor Arterial
Rural Minor Collector
Rural Major Collector
Rural Local Road or Street
UPA - Interstate
UPA - Other Fwys @...
UPA - Other
Urban Minor Arterial
Urban Major Collector
Urban Local Road or Street
2009-2013
2010-2014
2011-2015
2012-2016
2013-2017

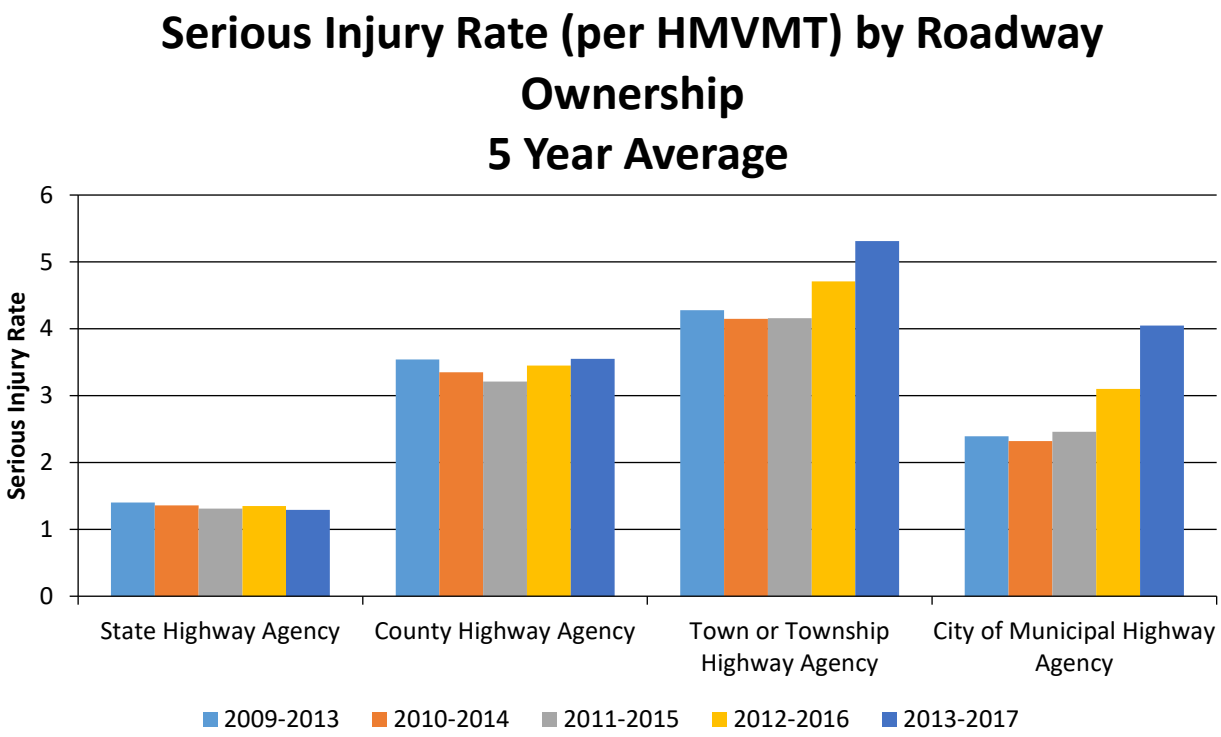

Fatality Rate (per HMVMT) by Functional Classification
5 Year Average
Fatality Rate
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
RPA - Interstate
RPA - Other
Rural Minor Arterial
Rural Minor Collector
Rural Major Collector
Rural Local Road or Street
UPA - Interstate
UPA - Other Fwys @...
UPA - Other
Urban Minor Arterial
Urban Major Collector
Urban Local Road or Street
2009-2013
2010-2014
2011-2015
2012-2016
2013-2017


Serious Injury Rate (per HMVMT) by Functional Classification
5 Year Average
Serious Injury Rate
10
9
8
7
6
5
4
3
2
1
0
RPA - Interstate
RPA - Other
Rural Minor Arterial
Rural Minor Collector
Rural Major Collector
Rural Local Road or Street
UPA - Interstate
UPA - Other Fwys @...
UPA - Other
Urban Minor Arterial
Urban Major Collector
Urban Local Road or Street
2009-2013
2010-2014
2011-2015
2012-2016
2013-2017


Number of Fatalities by Roadway Ownership
5 Year Average
Fatalities
200
180
160
140
120
100
80
60
40
20
0
State Highway Agency
County Highway Agency
Town or Township Highway Agency
City of Municipal Highway Agency
2009-2013
2010-2014
2011-2015
2012-2016
2013-2017


Number of Serious Injuries by Roadway Ownership
5 Year Average
Serious Injuries
600
500
400
300
200
100
0
State Highway Agency
County Highway Agency
Town or Township Highway Agency
City of Municipal Highway Agency
2009-2013
2010-2014
2011-2015
2012-2016
2013-2017


Fatality Rate (per HMVMT) by Roadway Ownership
5 Year Average
Fatality Rate
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
State Highway Agency
County Highway Agency
Town or Township Highway Agency
City of Municipal Highway Agency
2009-2013
2010-2014
2011-2015
2012-2016
2013-2017



Enter additional comments here to clarify your response for this question or add supporting information.

At this time, Minnesota is unable to query our crash data by functional classification.

Are there any other aspects of the general highway safety trends on which the State would like to elaborate?

Yes

Provide additional discussion related to general highway safety trends.

Minnesota released a new crash report in 2016. While the definition of a serious injury did not change, the text displayed to the officer added "Suspected," i.e. "Suspected Serious Injury (A)". With the revised phrasing, we have seen A injuries reported at higher numbers than previously seen (2,299 serious injuries reported in 2016 versus an average of 955 over the last five years). Part of this may be due to the new definition but part also concerns training of officers: Minnesota plans to review training material for crash data collection. As of 2017, the number of serious injuries has begun to level off to a new normal with the definition.

Moving forward, Minnesota will be looking for best practices for planning and setting goals to maintain consistency in HSIP programming over this update. Several key data fields utilized in establishing SHSP focus area definitions have been removed or substantially modified; however, new fields are available to supplement with more information.

Safety Performance Targets

Safety Performance Targets

Calendar Year 2019 Targets *

Number of Fatalities 372.0

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

The number of fatalities was developed using a 5 year rolling average and projecting forward to a target year. Additional slight adjustments were made to the measures based on local knowledge gathered from stakeholders; this did not result in a substantial change in the measures.

Number of Serious Injuries 1711.0

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

The number of serious injuries was developed using a 5 year rolling average and projecting forward to a target year. This percentage reduction was applied to the 2016 number (81% increase) and projected forward to the 2019 time period. Additional slight adjustments were made to the measures based on local knowledge gathered from stakeholders; this did not result in a substantial change in the measures.

Fatality Rate 0.620

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

Fatality ate was developed using a 5 year rolling average and projecting forward to a target year. Additional slight adjustments were made to the measures based on local knowledge gathered from stakeholders; this did not result in a substantial change in the measures.

Serious Injury Rate 2.850

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

Serious injury rate was developed using a 5 year rolling average and projecting forward to a target year. This percentage reduction was applied to the 2016 number (81% increase) and projected forward to the 2019 time period. Additional slight adjustments were made to the measures based on local knowledge gathered from stakeholders; this did not result in a substantial change in the measures.

Total Number of Non-Motorized Fatalities and Serious Injuries 267.5

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

The number of non-motorized fatalities and serious injuries was developed using a 5 year rolling average and projecting forward to a target year. Additional slight

adjustments were made to the measures based on local knowledge gathered from stakeholders; this did not result in a substantial change in the measures.

Enter additional comments here to clarify your response for this question or add supporting information.

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

Active participation by State agencies and the 8 MPOs in Minnesota established recommendations and input for the leadership team to adopt safety performance targets.

Does the State want to report additional optional targets?

No

Enter additional comments here to clarify your response for this question or add supporting information.

Applicability of Special Rules

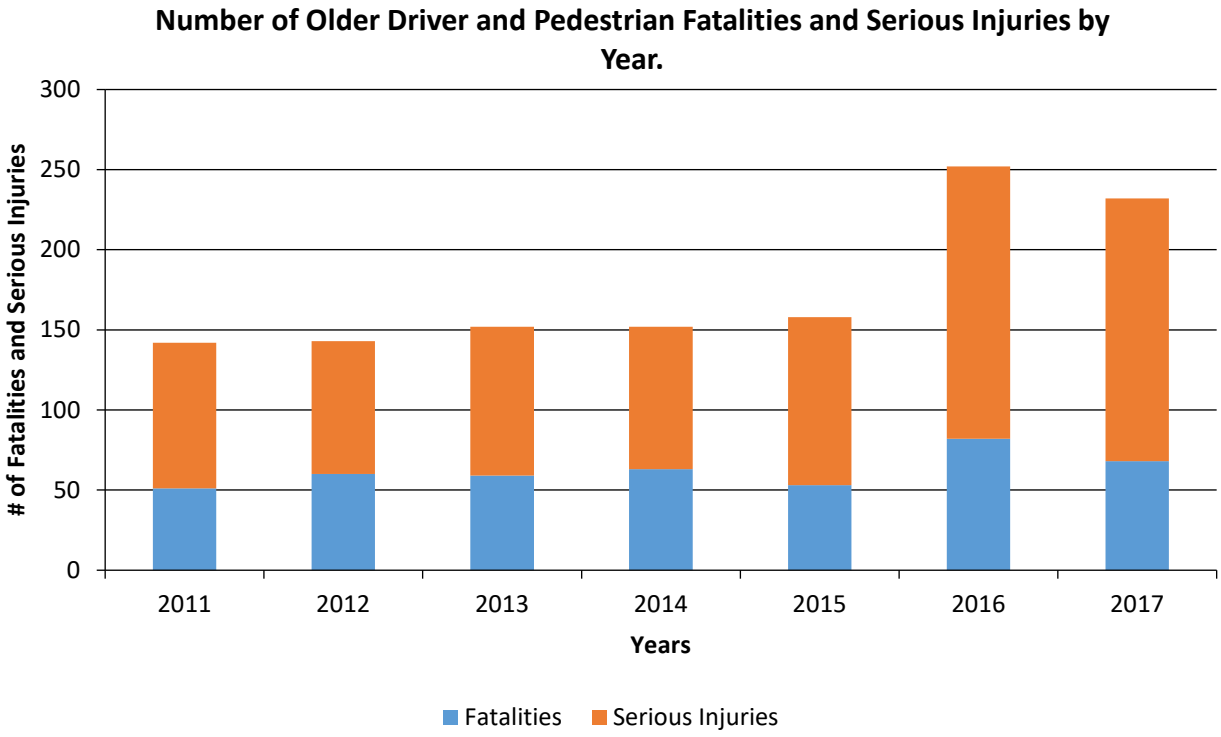
Does the HRRR special rule apply to the State for this reporting period?

No

Enter additional comments here to clarify your response for this question or add supporting information.

Provide the number of older driver and pedestrian fatalities and serious injuries 65 years of age and older for the past seven years.

PERFORMANCE MEASURES	2011	2012	2013	2014	2015	2016	2017
Number of Older Driver and Pedestrian Fatalities	51	60	59	63	53	82	68
Number of Older Driver and Pedestrian Serious Injuries	91	83	93	89	105	170	164



Enter additional comments here to clarify your response for this question or add supporting information.

In 2016, Minnesota revised the crash reporting system to be in compliance with "Suspected Serious Injury (A)" definitions; with the new language presented to reporters, we have seen a general uptick in the reported injury severities across all crash types.

Evaluation

Program Effectiveness

How does the State measure effectiveness of the HSIP?

Change in fatalities and serious injuries
Other-Change in fatal and serious injury crashes

Enter additional comments here to clarify your response for this question or add supporting information.

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

The Minnesota SHSP has a defined scorecard to measure fatal and serious injury crashes for each focus area. MnDOT publishes these trends in an annual pocket-sized Trivia Card for stakeholder and public use. www.mndot.gov/trafficeng/publ/triviacard/ While overall fatal and serious injury crashes are declining, vigilance is necessary to ensure that these declines have not plateaued as the program addresses the "low hanging fruit".

Currently, MnDOT is negotiating contracts for a large scale HSIP countermeasure effectiveness evaluation project to complement the program.

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

Other-Under consideration

Enter additional comments here to clarify your response for this question or add supporting information.

Leading indicators for HSIP performance are currently still under consideration by MnDOT leadership. At this time, no further indicators have been adopted.

Are there any significant programmatic changes that have occurred since the last reporting period?

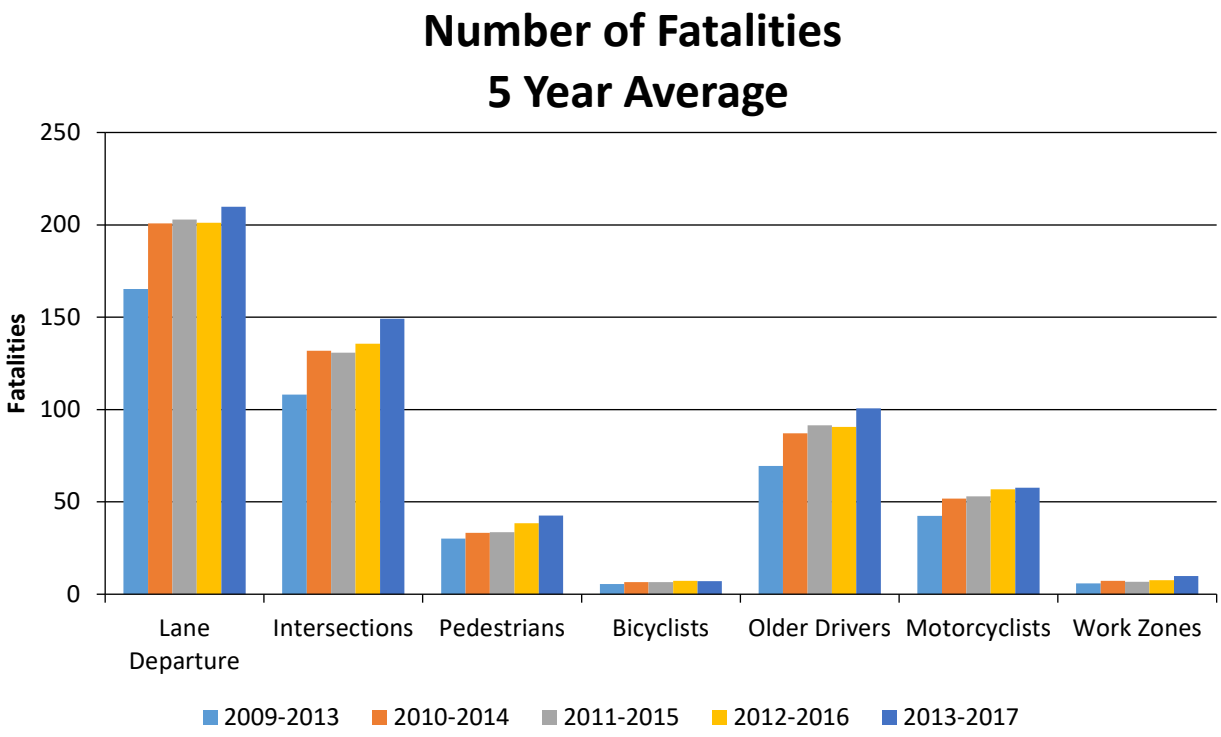
No

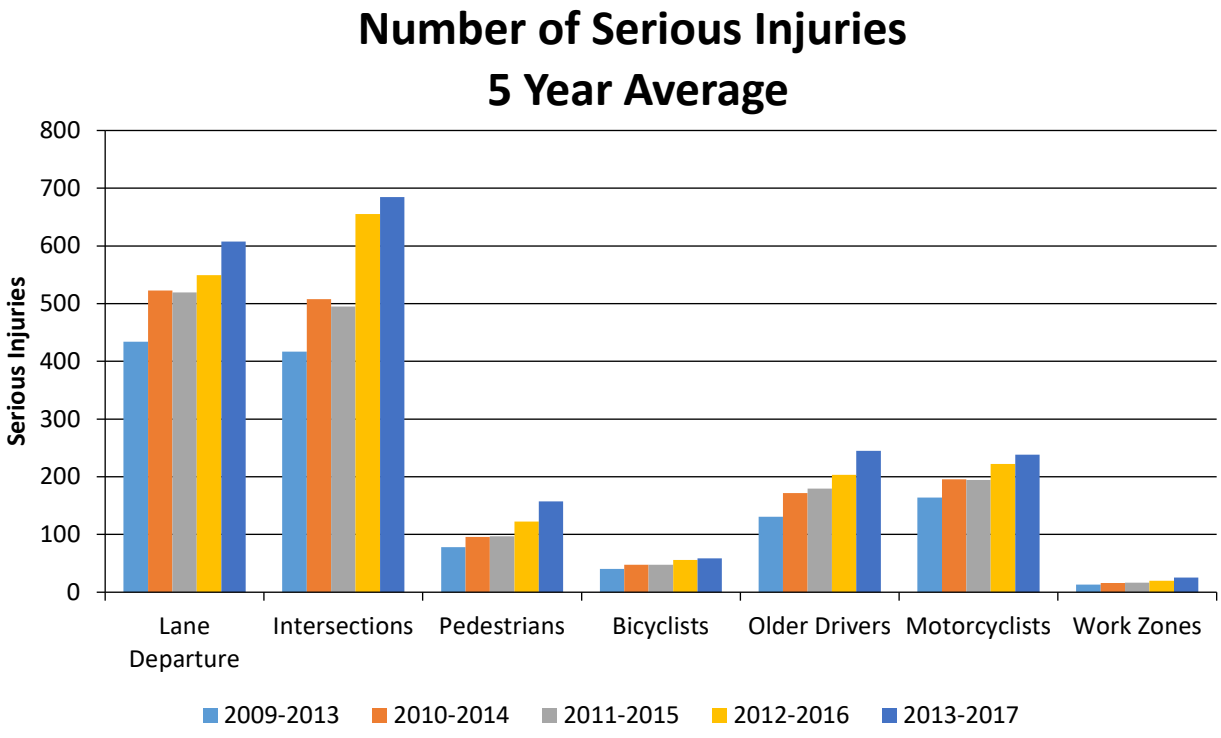
Effectiveness of Groupings or Similar Types of Improvements

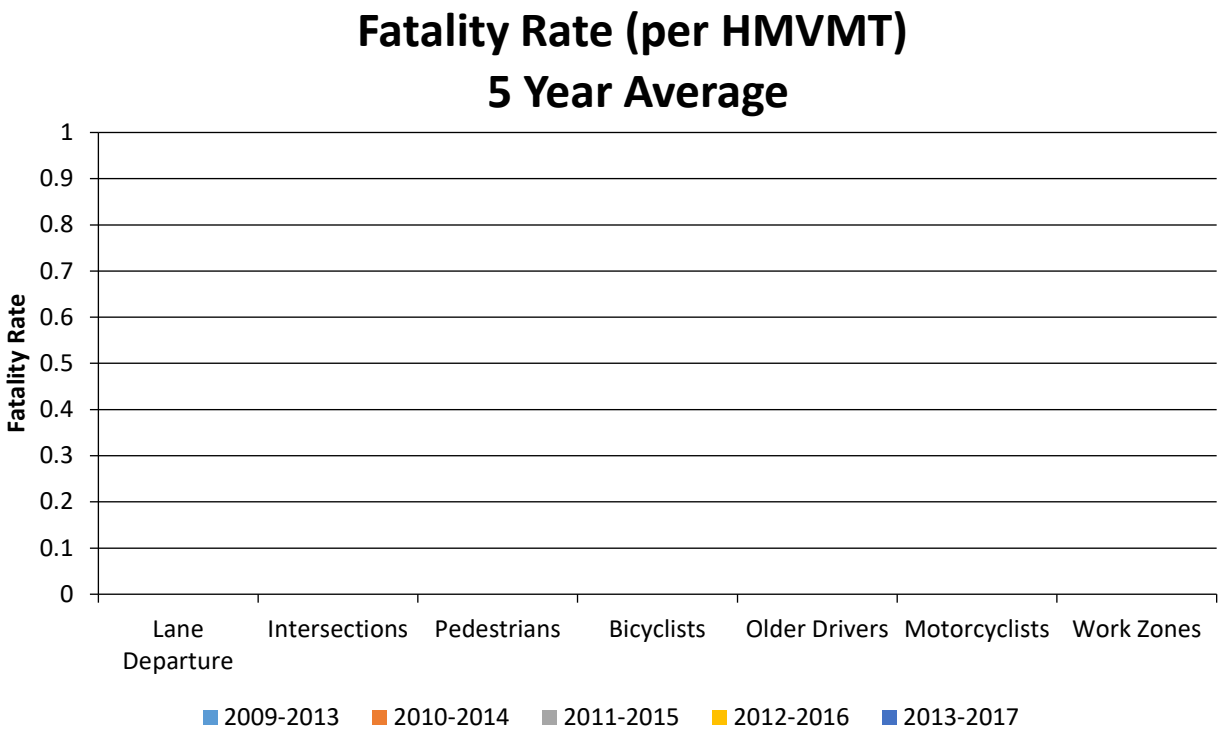
Present and describe trends in SHSP emphasis area performance measures.

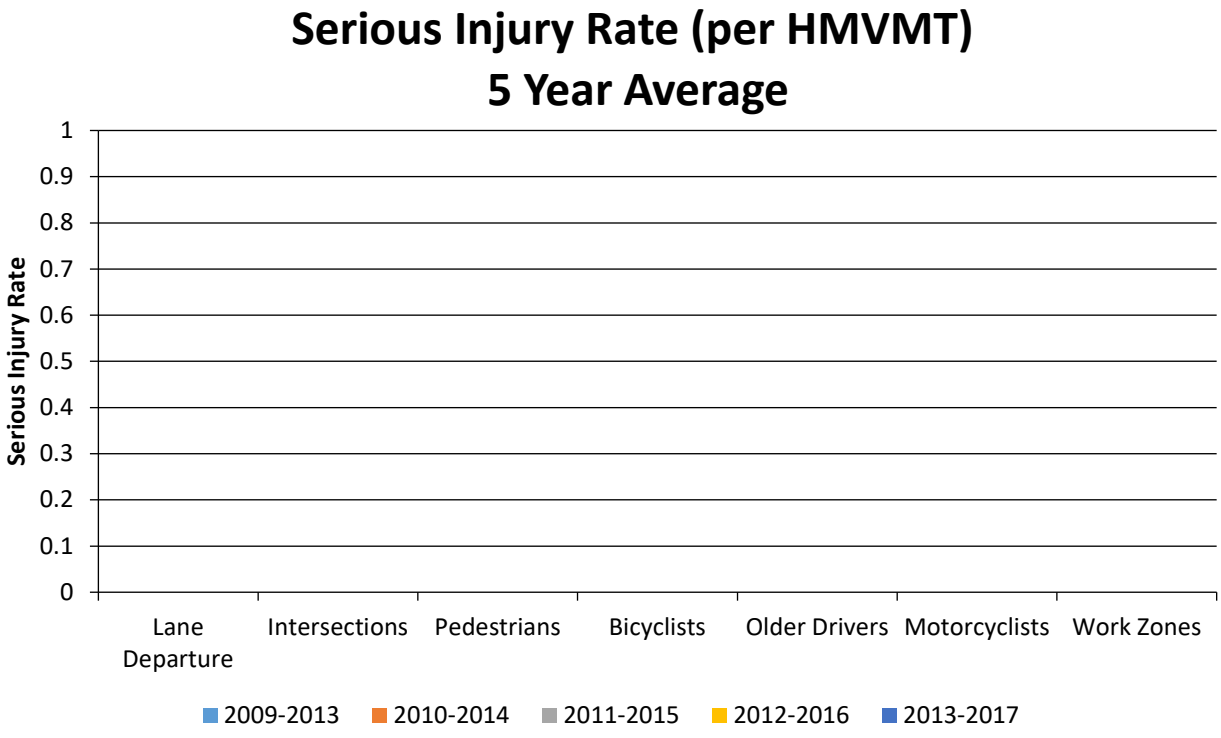
Year 2017

SHSP Emphasis Area	Targeted Crash Type	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Lane Departure		209.8	607.8		
Intersections		149.2	684.8		
Pedestrians		42.6	157.4		
Bicyclists		7	58.4		
Older Drivers		100.6	245.2		
Motorcyclists		57.6	238.4		
Work Zones		9.8	25.2		


Number of Fatalities
5 Year Average
Fatalities
250
200
150
100
50
0
Lane Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
2009-2013
2010-2014
2011-2015
2012-2016
2013-2017


Number of Serious Injuries
5 Year Average
Serious Injuries
800
700
600
500
400
300
200
100
0
Lane Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
2009-2013
2010-2014
2011-2015
2012-2016
2013-2017





Enter additional comments here to clarify your response for this question or add supporting information.

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

Yes

Please provide the following summary information for each countermeasure effectiveness evaluation.

CounterMeasures:	Single Lane Roundabout
Description:	
Target Crash Type:	All
Number of Installations:	
Number of Installations:	
Miles Treated:	
Years Before:	
Years After:	
Methodology:	
Results:	Roundabouts in Minnesota have had over an 80% reduction in fatal and serious injury crashes. At the time of this report, there still has not been a multi-vehicle fatality in a roundabout in Minnesota.
File Name:	roundaboutstudy.pdf
CounterMeasures:	Roundabout
Description:	
Target Crash Type:	Other (define)
Number of Installations:	
Number of Installations:	
Miles Treated:	
Years Before:	
Years After:	
Methodology:	
Results:	Based on an approximate 60% reduction in crash rates and crash densities, roundabouts may be offering an overall higher performance of pedestrian safety.
File Name:	roundaboutsafetyaddendum.pdf
CounterMeasures:	Median Acceleration Lanes
Description:	
Target Crash Type:	
Number of Installations:	
Number of Installations:	
Miles Treated:	
Years Before:	
Years After:	
Methodology:	Case-control

Results:	50% decrease in fatal and serious injury crashes at median acceleration lane sites; 18% increase in total crashes at these sites.
File Name:	Acceleration Lane Memo - 2-17-2017.pdf
CounterMeasures:	Reduced Conflict Intersections
Description:	
Target Crash Type:	
Number of Installations:	
Number of Installations:	
Miles Treated:	
Years Before:	
Years After:	
Methodology:	Before/after using comparison group
Results:	Statistical testing of the RCI sites compared to a representative control group showed the treatment was statistically significant for lowering the number of severe right-angle crashes, severe crashes, overall severity of crashes, and reducing number of total right-angle crashes.
File Name:	A Study of the Traffic Safety at RCIs in Minnesota_2017_v1.1.pdf

Project Effectiveness

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

LOCATION	FUNCTIONAL CLASS	IMPROVEMENT CATEGORY	IMPROVEMENT TYPE	PDO BEFORE	PDO AFTER	FATALITY BEFORE	FATALITY AFTER	SERIOUS INJURY BEFORE	SERIOUS INJURY AFTER	ALL OTHER INJURY BEFORE	ALL OTHER INJURY AFTER	TOTAL BEFORE	TOTAL AFTER	EVALUATION RESULTS (BENEFIT/COST RATIO)
N/A														

Enter additional comments here to clarify your response for this question or add supporting information.

Are there any other aspects of the overall HSIP effectiveness on which the State would like to elaborate?

Yes

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

Through the Toward Zero Deaths initiative, Minnesota is building the groundwork for improved safety using traffic safety culture shifts. From weekly safety messaging on changeable message signs, to pilot projects and working groups on potential interventions this investment is expected to aid HSIP and traffic safety moving forward. Evaluation of these long term methods is possible but forthcoming.

Compliance Assessment

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

01/20/2015

What are the years being covered by the current SHSP?

From: 2014 To: 2019

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

2020

Enter additional comments here to clarify your response for this question or add supporting information.

Provide the current status (percent complete) of MIRE fundamental data elements collection efforts using the table below.

	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
MIRE NAME (MIRE NO.)	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
ROADWAY SEGMENT										
Segment Identifier (12)	100	0					0	100	0	90
Route Number (8)	100	0								
Route/Street Name (9)	100	0								
Federal Aid/Route Type (21)	100	0								
Rural/Urban Designation (20)	100	0					0	100		
Surface Type (23)	100	0					0	80		
Begin Point Segment Descriptor (10)	100	0					0	100	0	90
End Point Segment Descriptor (11)	100	0					0	100	0	90
Segment Length (13)	100	0								
Direction of Inventory (18)	100	0								
Functional Class (19)	100	0					0	100	0	90
Median Type (54)	100	0								
Access Control (22)	100	0								

MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
One/Two Way Operations (91)	100	0								
Number of Through Lanes (31)	100	0					0	100		
Average Annual Daily Traffic (79)	100	0					0	100		
AADT Year (80)	100	0								
Type of Governmental Ownership (4)	100	0					0	100	0	90
INTERSECTION										
Unique Junction Identifier (120)			85	0						
Location Identifier for Road 1 Crossing Point (122)			85	0						
Location Identifier for Road 2 Crossing Point (123)			85	0						
Intersection/Junction Geometry (126)			85	0						
Intersection/Junction Traffic Control (131)			85	0						
AADT for Each Intersecting Road (79)			85	0						
AADT Year (80)			85	0						
Unique Approach Identifier (139)			85	0						
INTERCHANGE/RAMP										
Unique Interchange Identifier (178)					95	0				
Location Identifier for Roadway at Beginning of Ramp Terminal (197)					100	0				
Location Identifier for Roadway at Ending Ramp Terminal (201)					100	0				
Ramp Length (187)					100	0				
Roadway Type at Beginning of Ramp Terminal (195)					100	0				
Roadway Type at End Ramp Terminal (199)					100	0				

MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
Interchange Type (182)					95	0				
Ramp AADT (191)					100	0				
Year of Ramp AADT (192)					100	0				
Functional Class (19)					100	0				
Type of Governmental Ownership (4)					70	0				
Totals (Average Percent Complete):	**100.00**	**0.00**	**85.00**	**0.00**	**96.36**	**0.00**	**0.00**	**97.78**	**0.00**	**90.00**

*Based on Functional Classification

Enter additional comments here to clarify your response for this question or add supporting information.

Describe actions the State will take moving forward to meet the requirement to have complete access to the MIRE fundamental data elements on all public roads by September 30, 2026.

At this time, Minnesota has extensive coverage of MIRE fundamental data elements but is continuing to work on improving accuracy of values. With the upgraded linear referencing system (LRS), characteristics of the local system were found to be updated on an ad hoc basis. Thus, default values persist in tandem with updated traffic volumes, surface types, and functional classification. Manual review and updates continue.

The LRS used by MnDOT does not track interchanges; OTE is working with partners to build a comprehensive database of all interchanges and intersections on public roads. This database will compile relevant fields across datasets to better report MIRE fields. At this time, OTE is continuing to build and evaluate the scripting and development process.

Provide the suspected serious injury identifier, definition and attributes used by the State for both the crash report form and the crash database using the table below. Please also indicate whether or not these elements are compliant with the MMUCC 4th edition criteria for data element P5. Injury Status, suspected serious injury.

CRITERIA	SUSPECTED SERIOUS INJURY IDENTIFIER(NAME)	MMUCC 4TH EDITION COMPLIANT *	SUSPECTED SERIOUS INJURY DEFINITION	MMUCC 4TH EDITION COMPLIANT *	SUSPECTED SERIOUS INJURY ATTRIBUTES(DESCRIPTORS)	MMUCC 4TH EDITION COMPLIANT *
Crash Report Form	Suspected Serious Injury (A)	Yes	N/A	Yes	N/A	Yes
Crash Report Form Instruction Manual	Suspected Serious Injury (A)	Yes	An incapacitating injury is any injury, other than a fatal injury, which prevents the injured person from walking, driving or normally continuing the activities the person was capable of performing before the injury occurred.	Yes	Inclusions: severe lacerations, broken or distorted limbs, skull or chest injuries, abdominal injuries, unconsciousness at or when taken from the accident scene, unable to leave the accident without assistance Exclusions: momentary unconsciousness	Yes
Crash Database	Suspected Serious Injury (A)	Yes	N/A	Yes	N/A	Yes
Crash Database Data Dictionary	Suspected Serious Injury (A)	Yes	A suspected serious injury is any injury other than fatal which results in one or more of the following:	Yes	severe laceration resulting in exposure of underlying tissues/muscle/organs or resulting in significant loss of blood; broken or distorted extremity (arm or leg); crush injuries; suspected skull, chest or abdominal injury other than bruises or minor lacerations; significant burns (second and third degree burns over 10% or more of the body); unconsciousness when taken from the crash scene; paralysis	Yes

Enter additional comments here to clarify your response for this question or add supporting information.

Did the State conduct an HSIP program assessment during the reporting period?
No

When does the State plan to complete it’s next HSIP program assessment.

2020

Enter additional comments here to clarify your response for this question or add supporting information.

A program review was completed in May 2016 to review factors associated with the lower than average HSIP obligation rate: the Minnesota obligation rate was 66% compared to a national average of 83%. The primary recommendation of the review was to establish an 80% minimum obligation goal.

Optional Attachments

Program Structure:

HSIP funding guide FINAL.pdf

Project Implementation:

Safety Performance:

Evaluation:

roundaboutstudy.pdf
roundaboutsafetyaddendum.pdf
Acceleration Lane Memo - 2-17-2017.pdf
A Study of the Traffic Safety at RCIs in Minnesota_2017_v1.1.pdf

Compliance Assessment:

Glossary

5 year rolling average	means the average of five individuals, consecutive annual points of data (e.g. annual fatality rate).
Emphasis area	means a highway safety priority in a State's SHSP, identified through a data-driven, collaborative process.
Highway safety improvement project	means strategies, activities and projects on a public road that are consistent with a State strategic highway safety plan and corrects or improves a hazardous road location or feature or addresses a highway safety problem.
HMVMT	means hundred million vehicle miles traveled.
Non-infrastructure projects	are projects that do not result in construction. Examples of non-infrastructure projects include road safety audits, transportation safety planning activities, improvements in the collection and analysis of data, education and outreach, and enforcement activities.
Older driver special rule	applies if traffic fatalities and serious injuries per capita for drivers and pedestrians over the age of 65 in a State increases during the most recent 2-year period for which data are available, as defined in the Older Driver and Pedestrian Special Rule Interim Guidance dated February 13, 2013.
Performance measure	means indicators that enable decision-makers and other stakeholders to monitor changes in system condition and performance against established visions, goals, and objectives.
Programmed funds	mean those funds that have been programmed in the Statewide Transportation Improvement Program (STIP) to be expended on highway safety improvement projects.
Roadway Functional Classification	means the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide.
Strategic Highway Safety Plan (SHSP)	means a comprehensive, multi-disciplinary plan, based on safety data developed by a State Department of Transportation in accordance with 23 U.S.C. 148.
Systematic	refers to an approach where an agency deploys countermeasures at all locations across a system.
Systemic safety improvement	means an improvement that is widely implemented based on high risk roadway features that are correlated with specific severe crash types.
Transfer	means, in accordance with provisions of 23 U.S.C. 126, a State may transfer from an apportionment under section 104(b) not to exceed 50 percent of the amount apportioned for the fiscal year to any other apportionment of the State under that section.