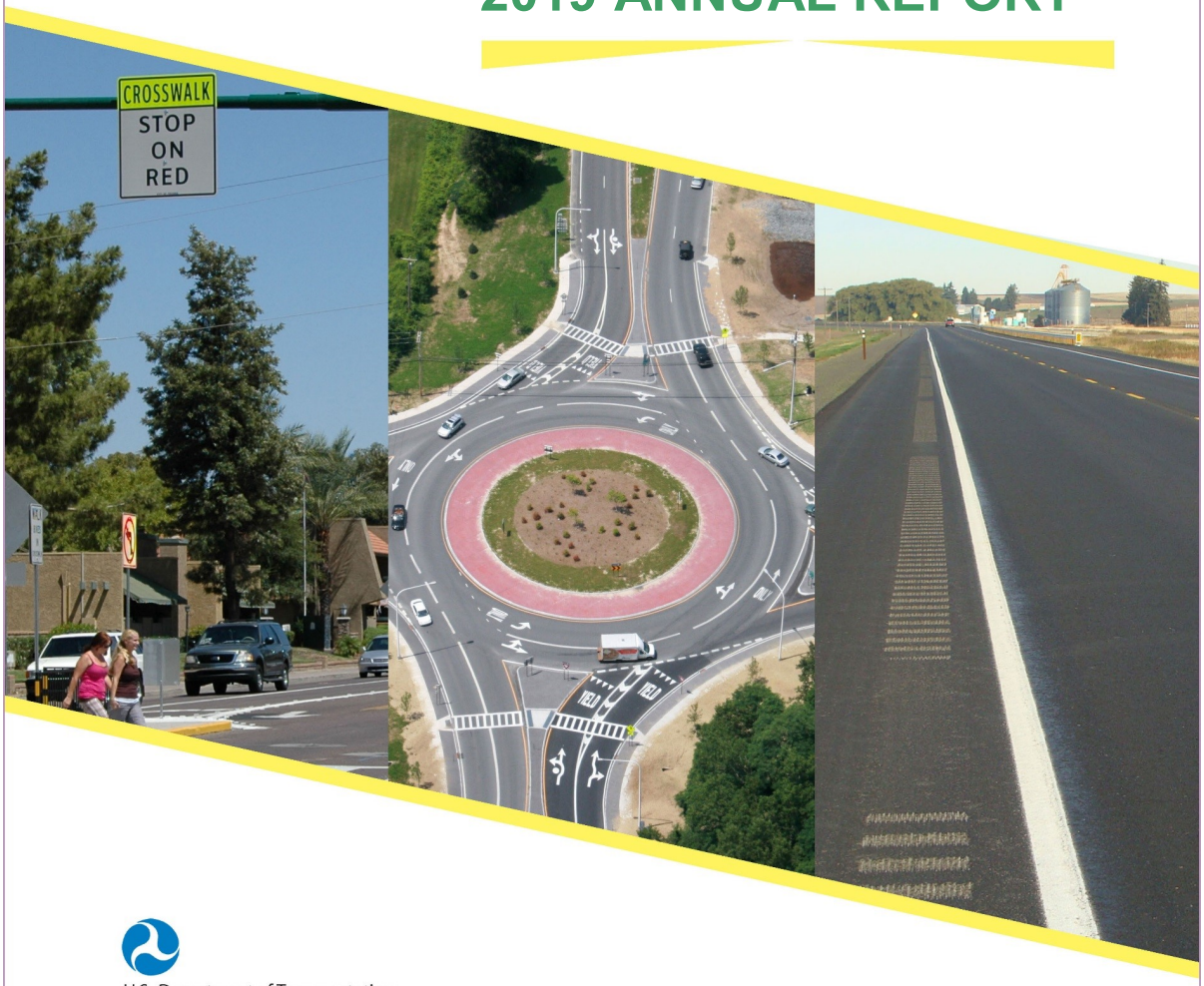
MINNESOTA

HIGHWAY SAFETY IMPROVEMENT PROGRAM

2019 ANNUAL REPORT



U.S. Department of Transportation
Federal Highway Administration

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Disclaimer

Protection of Data from Discovery Admission into Evidence

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

23 U.S.C. 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. After a revision to the state crash reporting system in 2016, Minnesota experienced a 77 percent increase in serious injuries reported. As the years have passed, we have seen reductions of 7 to 8 percent annually; while the new levels are higher, Minnesota now sees continued successes in serious injury reduction.

Recently the consistent reductions in fatalities 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

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

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 with representatives from State-Aid and MnDOT District Traffic Engineers, prioritize the local HSIP projects for each Area Transportation Partnership (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 continued through 2018.

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

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

Describe coordination with internal partners.

MnDOT's Office of Traffic Engineering (OTE) 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.

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

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.

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.

Program Methodology

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

Yes
FileName:
HSIP funding guide FINAL.pdf

See attachment "HSIP funding guide FINAL.pdf"

Select the programs that are administered under the HSIP.

- HSIP (no subprograms)

Program: HSIP (no subprograms)

Date of Program Methodology:8/1/2015

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

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

What project identification methodology was used for this program?

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

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

What percentage of HSIP funds address systemic improvements?

55

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

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

What process is used to identify potential countermeasures?

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

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

Moving forward, the Minnesota CAV-X office will be funded separate from HSIP with state money set aside by the Legislature. ITS projects will continue to be competitive in HSIP solicitation rather than program support.

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

No

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.

Project Implementation

Funds Programmed

Reporting period for HSIP funding.

State Fiscal Year

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

FUNDING CATEGORY	PROGRAMMED	OBLIGATED	% OBLIGATED/PROGRAMMED
HSIP (23 U.S.C. 148)	$42,720,475	$10,906,202	25.53%
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)	$6,833,072	$6,832,072	99.99%
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	$49,553,547	$17,738,274	35.8%

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

50%

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

3%

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

2%

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

0%

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?

$35,455,243

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. 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.

General Listing of Projects

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

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
YELLOW MEDICINE COUNTY WIDE: INSTALL 6" SOLID LINE PAINT EDGE MARKINGS	Roadway delineation	Longitudinal pavement markings - remarking	26.4	Miles	$7724	$8582	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	
AITKIN COUNTYWIDE: INSTALL 6" CENTERLINE EPOXY STRIPING & 6" GROUND-IN WET REFLECTIVE EDGELINE STRIPING ON VARIOUS CSAH'S THROUGHOUT AITKIN COUNTY	Roadway delineation	Longitudinal pavement markings - remarking	34	Miles	$124200	$138000	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	
AITKIN COUNTYWIDE: INSTALL INTERSECTION LIGHTING ON VARIOUS CSAH'S THROUGHOUT AITKIN COUNTY	Lighting	Intersection lighting	8	Intersections	$102400	$113778	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Intersections	
COTTONWOOD COUNTYWIDE: INSTALL CONTINUOUS SINUSOIDAL RUMBLE STRIPS WITH GROUND-IN WET REFLECTIVE STRIPING ON VARIOUS CSAH'S THROUGHOUT COTTONWOOD CO.	Roadway	Rumble strips - edge or shoulder	46.2	Miles	$245888.29	$273209.21	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	
COTTONWOOD CSAH 1: FROM TH 30 TO BROWN CO. LN- MILL & OVLY, EDGELINES, PAVED	Roadway	Rumble strips - edge or shoulder	4	Miles	$151062.08	$513894.5	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
SHOULDERS, RUMBLE STRIPS, SAFETY EDGE & GROUND-IN WET REFLECTIVE STRIPING															
CSAH 10 & CSAH 59: AT US 61 IN WABASHA- INTERSECTION RELALIGNMENT (EXTENDING CSAH 10 ACROSS US 61 TO CONNECT WITH CSAH 59)	Intersection geometry	Intersection geometrics - realignment to align offset cross streets	1	Intersections	$596415.53	$722683.92	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Intersections	
CSAH 10: FROM US 59 IN KITTSON COUNTY TO ROSEAU COUNTY LN- BIT OVERLAY, 2' PAVED SHOULDERS, RUMBLE STRIPS, SAFETY WEDGE & 6" EDGELINE PVMT MARKINGS	Shoulder treatments	Shoulder treatments - other	12.7	Miles	$222616.4	$247351.55	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	
CSAH 13: FROM 600' W OF CR 40 TO 500' N OF CSAH 33 IN ELK RIVER- CONSTRUCT ROUNDABOUTS AT CSAH 33 & CR 40, LIGHTING, ADA & TRAIL AT ROUNDABOUTS	Intersection traffic control	Modify control - two-way stop to roundabout	2	Intersections	$900000	$1000000	HSIP (23 U.S.C. 148)			0		County Highway Agency	Spot	Intersections	
CSAH 16: TH 32 TO US 59 IN THIEF RIVER FALLS- RUMBLE STRIPS & ON CSAH 8: CSAH 17 TO TH 59 - SHOULDER PAVING, SAFETY EDGE,RUMBLE STRIPS & PVMT MARKINGS	Roadway	Rumble strips - edge or shoulder	2.4	Miles	$80100	$89000	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
CSAH 17: AT CSAH 18 IN HAM LAKE/COLUMBUS - CONSTRUCT NEW SIGNAL, CONVERT BYBASS LANE TO LEFT TURN LANE ON CSAH 17	Intersection geometry	Auxiliary lanes - add left-turn lane	1	Intersections	$760648.41	$845164.9	HSIP (23 U.S.C. 148)			0		County Highway Agency	Spot	Intersections	
CSAH 18 (BROADWAY AVE): FROM CR 19 TO CSAH 62 IN COLUMBUS- CONSTRUCT RIGHT TURN LANES, BYPASS LANES, SHOULDER WIDENING & OVERLAY	Intersection geometry	Auxiliary lanes - extend acceleration/deceleration lane	2.4	Miles	$990000	$1443044.28	HSIP (23 U.S.C. 148)			0		County Highway Agency	Spot	Intersections	
CSAH 38: FROM S COUNTY LN TO CSAH 31- SHOULDER PAVE, RUMBLE STRIPS, SAFETY EDGE, PVMT MARKINGS, BIT OVLY & ON CSAH 36, TH 200 TO N COUNTY LN, BIT OVLY	Roadway	Rumble strips - edge or shoulder	6	Miles	$152910	$2073900	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	
CSAH 39: HART BLVD IN MONTICELLO TO 653' W OF ODEAN AVE IN OTSEGO- TURN LNS, STRIPING FOR CONTINUOUS CENTER LEFT TURN LN (TWLTL) & INTERSECT. WIDENING	Intersection geometry	Auxiliary lanes - add two-way left-turn lane	1	Intersections	$1305000	$4400000	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Intersections	
CSAH 4: FROM 585TH ST. TO CR 86 IN WABASHA COUNTY- BIT RECLAMATION,	Roadway	Rumble strips - edge or shoulder	8.5	Miles	$300000	$333333	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
SHOULDER PAVING, EDGELINE STRIPING, RUMBLE STRIPS & SAFETY EDGE															
CSAH 44 (SILVER LAKE RD): 200' S OF ERIN CT. TO 400' N OF GREGORY DR. IN NEW BRIGHTON-CONST REFUGE MEDIAN, PEDESTRIAN RAMPS & RAILROAD GATES (CONT.)	Pedestrians and bicyclists	Medians and pedestrian refuge areas	1	Crosswalks	$325112	$390135	HSIP (23 U.S.C. 148)			0		County Highway Agency	Spot	Pedestrians	
CSAH 46 (BAGLEY AVE): AT TH 19 (JUST W OF I-35) IN RICE COUNTY - INTERSECTION REALIGNMENT	Intersection geometry	Intersection geometrics - realignment to align offset cross streets	1	Intersections	$596520	$1500821.94	HSIP (23 U.S.C. 148)			0		County Highway Agency	Spot	Intersections	
CSAH 9: FROM US 2 TO CSAH 26-BITUMINOUS RECLAMATION, 2' PAVED SHOULDER WITH RUMBLE STRIPS, RUMBLE STRIPS, SAFETY WEDGE & PAVEMENT MARKINGS	Roadway	Rumble strips - edge or shoulder	6.9	Miles	$213117.41	$236797.12	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	
D-1 DISTRICTWIDE: INSTALL SHOULDER RUMBLE STRIPS AT VARIOUS LOCATIONS ALONG US 2 & MN 61	Roadway	Rumble strips - edge or shoulder	48.5	Miles	$126000	$140000	HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	
D-1 ST LOUIS COUNTYWIDE: INSTALL 6" EPOXY EDGELINE	Roadway delineation	Longitudinal pavement markings - remarking	28.6	Miles	$65172.08	$72413.42	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
STRIPES AT VARIOUS LOCATIONS THROUGHOUT ST LOUIS COUNTY															
D-2 DISTRICTWIDE: AT VARIOUS LOCATIONS THROUGHOUT D-2- INSTALL 6" WIDE EDGELINE & CENTERLINE STRIPING	Roadway delineation	Longitudinal pavement markings - remarking	434.6	Miles	$284180.79	$323318.86	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	
D-4 DISTRICTWIDE: INSALL 6" EDGELINE STRIPING AT VARIOUS LOCATIONS THROUGHOUT D-4	Roadway delineation	Longitudinal pavement markings - remarking	1175	Miles	$1006589.25	$1118432.5	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	
DISTRICTWIDE: ON TH 73 AT TH 1 NEAR COOK & ON TH 18 AT TH 65 NEAR MCGRATH-RURAL INTERSECTION CONFLICT WARNING SYSTEMS (RICWS) & LIGHTING	Advanced technology and ITS	Advanced technology and ITS - other	2	Intersections	$177934.5	$197705	HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Intersections	
HENNEPIN CSAH 15: AT CSAH 19 IN ORONO: RECONSTRUCT INTERSECTION, TURN LANES & REPLACE SIGNAL	Intersection traffic control	Modify traffic signal - miscellaneous/other/unspecified	1	Intersections	$896013	$1867913	HSIP (23 U.S.C. 148)			0		County Highway Agency	Spot	Intersections	
I-35E: (ELLA) FROM 1.2 MI N OF CR 81 (ASH ST/CR J) IN LINO LAKES TO I-35E/I-35W SPLIT IN COLUMBUS-	Roadside	Barrier - cable	5	Miles	$867744.29	$964160.32	HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Lane Departure	

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
INSTALL HIGH TENSION CABLE MEDIAN BARRIER															
I-90 (WB) FROM 0.18 MI W OF CSAH 12 TO 1.25 MI W OF MN/WI STATE LN & I-90 (EB) FROM 0.31 MI W OF CSAH 12 TO 0.75 MI E OF CSAH 12 & ON US 61 (Cont.)	Roadside	Barrier - cable	4.9	Miles	$626887	$626887	Penalty Funds (23 U.S.C. 164)			0		State Highway Agency	Systemic	Lane Departure	
I-94 & I-394:EB EXIT RAMPS ONTO 2ND AVE N IN MPLS-INSTALL & MONITOR WRONG WAY VEHICLE DETECTION & ALTERTING SYSTEM,INCLS PLAN DEVELOP,DESIGN & TESTING	Advanced technology and ITS	Advanced technology and ITS - other	2	Ramps	$184000	$184000	Penalty Funds (23 U.S.C. 164)			0		State Highway Agency	Spot	Lane Departure	
ISANTI COUNTYWIDE: INSTALL 6" GROUND IN WET-REFLECTIVE PAVEMENT MARKINGS AT VARIOUS LOCATIONS ON ISANTI CSAH'S 6, 7, 13, & 15	Roadway delineation	Longitudinal pavement markings - remarking	20.9	Miles	$111558.49	$123953.88	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	
ISANTI CSAH 5: AT THE INTERSECTION OF MN 47- RURAL INTERSECTION CONFLICT WARNING SYSTEM (RICWS) AND LIGHTING	Advanced technology and ITS	Advanced technology and ITS - other	1	Intersections	$129600	$144000	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Intersections	
KANDIYOHI COUNTWIDE: ON VARIOUS CSAH'S	Roadway delineation	Longitudinal pavement markings - remarking	53.7	Miles	$192661.48	$214068.32	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
THROUGHOUT KANDIYOHI COUNTY-GROUND-IN 6" SOLID LINE PAINT															
McLEOD COUNTYWIDE: INSTALL 6" EDGELINE PAVEMENT MARKINGS AT VARIOUS LOCATIONS THROUGHOUT McLEOD COUNTY	Roadway delineation	Longitudinal pavement markings - remarking	78.6	Miles	$50022.96	$55581.06	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	
MEEKER COUNTYWIDE: CHEVRON SIGN INSTALLATION AT VARIOUS CURVES THROUGHOUT MEEKER COUNTY	Roadway delineation	Delineators post-mounted or on barrier	38	Curves	$28681.2	$31868	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	
METROWIDE: APPLY HIGH FRICTION SURFACE TREATMENT ON I-35W NB FROM 900' TO 3397' N OF McANDREWS RD& I-35W FROM TH36 TO CR B2 & I-94WB RAMP ONTO I-394WB	Roadway	Pavement surface - high friction surface	3	Interchanges	$716586.03	$796206.7	HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Intersections	
MN 6: FROM 0.7 MI N OF OLANDER RD TO 0.2 MI S OF CSAH 1 IN EMILY & FROM 0.2 MI N OF CSAH 1 TO JUST N OF CSAH 58 - MILL & OVLY (cont)	Shoulder treatments	Pave existing shoulders	14.1	Miles	$217194.89	$241327.66	HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	
MORRISON COUNTYWIDE: INSTALL GROUND IN WET-	Roadway delineation	Longitudinal pavement markings - remarking	70.6	Miles	$317254.52	$352505.02	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
REFLECTIVE PAVEMENT MARKINGS ON VARIOUS CSAH'S THROUGHOUT MORRISON COUNTY															
MORRISON COUNTYWIDE: INSTALL GROUND-IN PAVEMENT MARKINGS ON VARIOUS CSAH'S AND COUNTY ROADS THROUGHOUT MORRISON COUNTY	Roadway delineation	Longitudinal pavement markings - remarking	153	Intersections	$81185.4	$90206	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Intersections	
OTTER TAIL COUNTYWIDE: INSTALL LATEX EDGELINES ON VARIOUS CSAH'S & CR'S THROUGHOUT OTTER TAIL COUNTY	Roadway delineation	Longitudinal pavement markings - remarking	279.2	Miles	$175896	$195440	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	
REDWOOD COUNTYWIDE: ON CSAH'S 15, 5, 8, 10 & 16; INSTALL PAVEMENT MARKINGS, 6" SOLID LINE MULTI COMPONENT GROUND-IN (WR)	Roadway delineation	Longitudinal pavement markings - remarking	106	Miles	$476000	$528889	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	
RENVILLE COUNTYWIDE: EDGELINES, CENTER LINES & SOLID LINE MULTI COMPONENT (GROUND-IN WET REFLECTIVE) MARKINGS ON VARIOUS CSAH'S THROUGHOUT RENVILLE CO	Roadway delineation	Longitudinal pavement markings - remarking	339.3	Miles	$179959.73	$257588.35	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
SCOTT CSAH 8 & CSAH 27: AT VARIOUS LOCATIONS ALONG CSAH 8 & AT THE INTERSECTION OF CSAH 27 AND FLAG TRL-CONSTRUCT TURN LANES	Intersection geometry	Auxiliary lanes - miscellaneous/other/unspecified	8	Intersections	$1603800	$1782000	HSIP (23 U.S.C. 148)			0		County Highway Agency	Spot	Intersections	
ST. LOUIS COUNTYWIDE: INSTALL INTERSECTION PAVEMENT MARKINGS AT VARIOUS LOCATIONS THROUGHOUT ST. LOUIS COUNTY	Intersection traffic control	Pavement markings - refresh existing pavement markings	127	Intersections	$166703.4	$185226	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Intersections	
ST. LOUIS COUNTYWIDE: SIGNAL SYSTEM REVISIONS & EMERGENCY VEHICLE PREEMPTION SYSTEMS (EVP) AT VARIOUS LOCATIONS THROUGHOUT THE DULUTH METRO AREA	Intersection traffic control	Modify traffic signal - add emergency vehicle preemption	59	Intersections	$600000	$600000	Penalty Funds (23 U.S.C. 164)			0		County Highway Agency	Systemic	Intersections	
STATEWIDE: SFY 2020 TZD REGIONAL COORDINATORS, SALARIES & EXPENSES FROM 7/1/2019 - 6/30/2020	Non-infrastructure	Outreach	7	Regions	$775000	$775000	HSIP (23 U.S.C. 148)			0		State Highway Agency	Non-infrastructure	Traffic Safety Culture and Awareness	
STEARNS CO: VARIOUS INTERSECTIONS ALONG CSAH 75 (ST JOSEPH TO ST CLOUD)& MN 15 (ST CLOUD TO	Intersection traffic control	Modify traffic signal - miscellaneous/other/unspecified	13	Intersections	$49500	$55000	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Intersections	

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
SARTELL)-INSTALL ENFORCEMENT (SIGNAL CONFIRMATION) LIGHTS															
STEARNS COUNTYWIDE: INSTALL & IMPROVE LIGHTING SYSTEMS AT INTERSECTIONS ON VARIOUS CSAH'S & CR'S THROUGHOUT STEARNS COUNTY	Lighting	Intersection lighting	19	Intersections	$291600	$324000	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Intersections	
STEARNS COUNTYWIDE: INSTALL 6" SOLID LINE MILTI-COMP GROUND-IN WET REFLECTIVE PAVEMENT MARKINGS ON VARIOUS STEARNS COUNTY ROADS	Roadway delineation	Longitudinal pavement markings - remarking	36.3	Miles	$359042.43	$398936.03	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	
TH 23: FROM 2075' W OF CSAH 7 TO 975' E OF CSAH 7 IN MARSHALL - CONSTRUCT J-TURN (INTERSECTION MODIFICATION), LIGHTING AND ADA	Intersection traffic control	Intersection traffic control - other	1	Intersections	$1935113.36	$2151125.95	HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Intersections	
TH 28: FROM 0.5 MI E OF TH 29 IN STARBUCK TO 270' W OF 6TH ST NW IN GLENWOOD-RECLAMATION & SHOULDER WIDENING	Shoulder treatments	Widen shoulder - paved or other	7.6	Miles	$1025964.72	$1139960.8	HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
TH 60: 0.2 MI W OF CSAH 24 TO 0.1 MI E OF CSAH 24-CONSTRUCT J TURNS, ADA & LIGHTING	Intersection traffic control	Intersection traffic control - other	1	Intersections	$3443862.43	$3444862.43	Penalty Funds (23 U.S.C. 164)			0		State Highway Agency	Spot	Intersections	
TH 60: CR 112 IN LAKE CRYSTAL TO S JCT US 169 & ON US 169, FROM S JCT TH 60 TO BLUE EARTH RVR (E OF CSAH 69)-CONST HIGH TENSION CABLE MEDIAN BARRIER	Roadside	Barrier - cable	9.5	Miles	$1080000	$1200000	HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Lane Departure	
TH 62: JUST EAST & WEST OF CSAH 17 (FRANCE AVE) IN EDINA- REHAB BR 7263, WIDEN RAMPS, CONST PARALLEL ACCEL LN AT EB ENT RAMP FROM FRANCE AVE (CONT.)	Intersection traffic control	Modify traffic signal - add flashing yellow arrow	1	Interchanges	$1085418.19	$1803200.87	HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Intersections	
TH 65: AT TH 107-CONST INTERSECTION SAFETY IMP. (REDUCED CONFLICT INT.), SIGNAL SYS, LIGHTING & ON TH 65(SB), 0.34 MI N OF LINCOLN DR, REPLC CULV	Intersection traffic control	Intersection traffic control - other	1	Intersections	$2017922.67	$2275426.9	HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Intersections	
TH 95: FROM 70TH ST S TO TH 61 IN COTTAGE GROVE-CONSTRUCT RIGHT TURN LANES, WIDEN SHOULDERS, MILL & OVLY, AND SIGNAL	Shoulder treatments	Widen shoulder - paved or other	4.8	Miles	$1200000	$1200000	Penalty Funds (23 U.S.C. 164)			0		State Highway Agency	Spot	Roadway Departure	

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
TODD COUNTYWIDE: INSTALL GROUND-IN WET REFLECTIVE MULTI-COMPONENT EDGE LINES ON VARIOUS CR'S & CSAH'S THROUGHOUT TODD COUNTY	Roadway delineation	Longitudinal pavement markings - remarking	38.5	Miles	$206255.05	$229172.27	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	
US 212: AT CSAH 41 BENTON TWP AND AT CSAH 36 IN DAHLGREN TWP - CONSTRUCT REDUCED CONFLICT INTERSECTIONS, ADA, LIGHTING & DRAINAGE	Intersection traffic control	Intersection traffic control - other	1	Intersections	$1699200	$1949000	HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Intersections	
US 53: AT JCT OF CSAH 7 IN ST. LOUIS COUNTY- CONSTRUCT J-TURN, MILL & OVLY, AND LIGHTING	Intersection traffic control	Intersection traffic control - other	1	Intersections	$350000	$800000	HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Intersections	
US 61: NB LN FROM TH 42 TO 1.7 MI NW OF TH 60, CONTINUE NB & SB LN'S TO 0.4 MI N OF STAEHLI PARK RD (315TH ST) EXCLUDES W ELM ST IN LAKE CITY (CONT)	Intersection traffic control	Intersection traffic control - other	3	Intersections	$2001286.92	$2223652.13	HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Intersections	
US 63: FROM 1.06 MI N OF I-90 TO 570' S OF US 52 IN ROCHESTER- INSTALL HIGH TENSION CABLE MEDIAN BARRIER	Roadside	Barrier - cable	7.3	Miles	$777322.17	$777322.17	Penalty Funds (23 U.S.C. 164)			0		State Highway Agency	Systemic	Lane Departure	

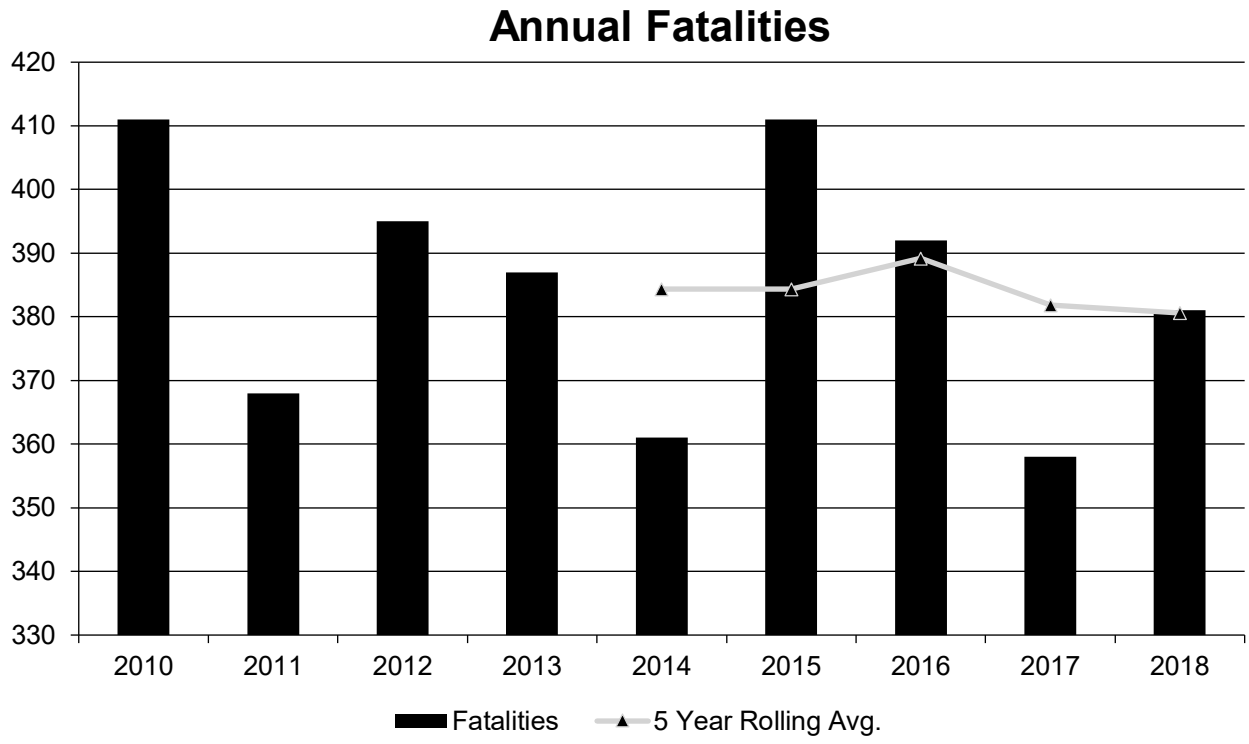
PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
US 71: 750' S OF CSAH 15/CSAH 53 TO 8TH ST E IN PARK RAPIDS-BIT REPLACEMENT & RECONSTRUCT CSAH 15/CSAH 53 INTERSECTION INCLS RNDABOUT, LIGHTING & ADA	Intersection traffic control	Modify control - modifications to roundabout	1	Intersections	$1015295.86	$1266995.4	HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Intersections	
US 8: FROM 925' E OF I-35 IN FOREST LAKE TO MN/WI STATE LINE- INSTALL 6" WET-REFLECTIVE STRIPING	Roadway delineation	Longitudinal pavement markings - remarking	22.1	Miles	$486000	$540000	HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	
WABASHA COUNTWIDE: ON VARIOUS CSAH'S & CR'S THROUGHOUT WABASHA CO-SHOULDER PAVING, RUMBLE STRIPS & SAFETY EDGE	Roadway	Rumble strips - edge or shoulder	64	Curves	$1323221.72	$1470246.36	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	
WRIGHT COUNTYWIDE: ALONG CSAH'S 34, 35 & 37 - CENTERLINE MILLED SINUSOIDAL RUMBLE STRIPS & CENTERLINE STRIPING	Roadway	Rumble strips - edge or shoulder	29.4	Miles	$95634	$106260	HSIP (23 U.S.C. 148)			0		County Highway Agency	Systemic	Roadway Departure	

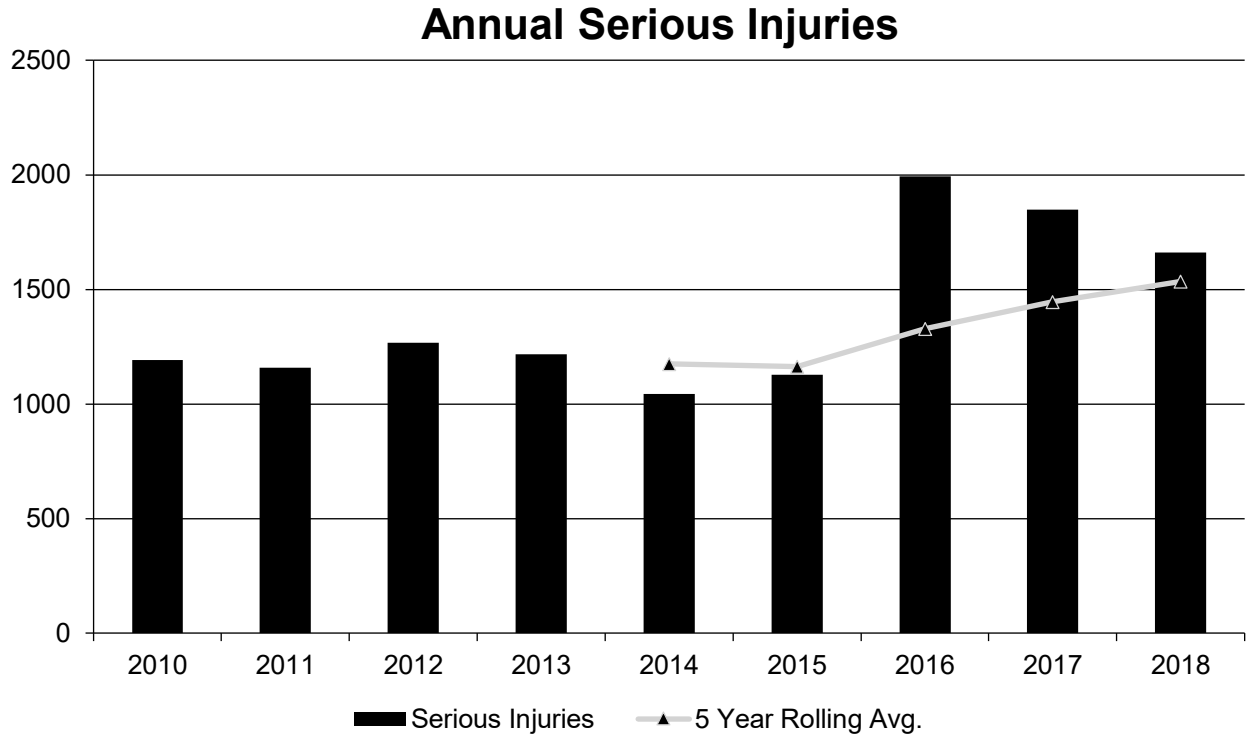
Safety Performance

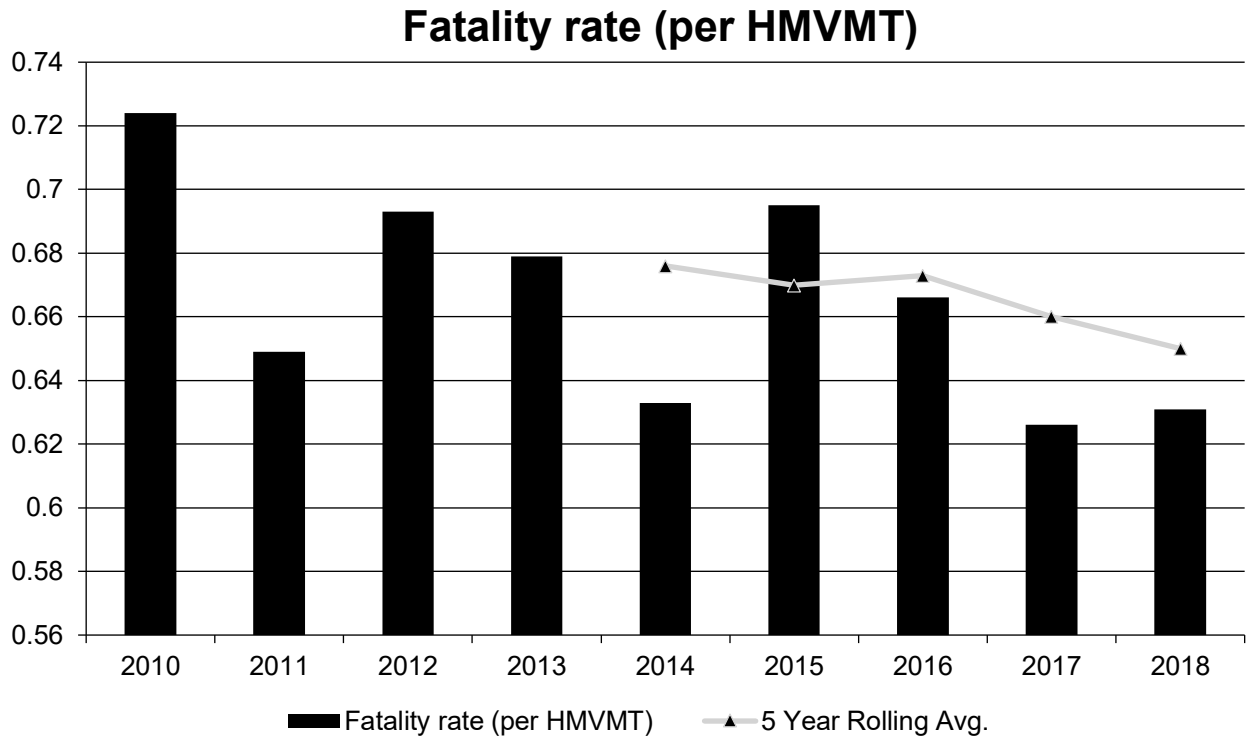
General Highway Safety Trends

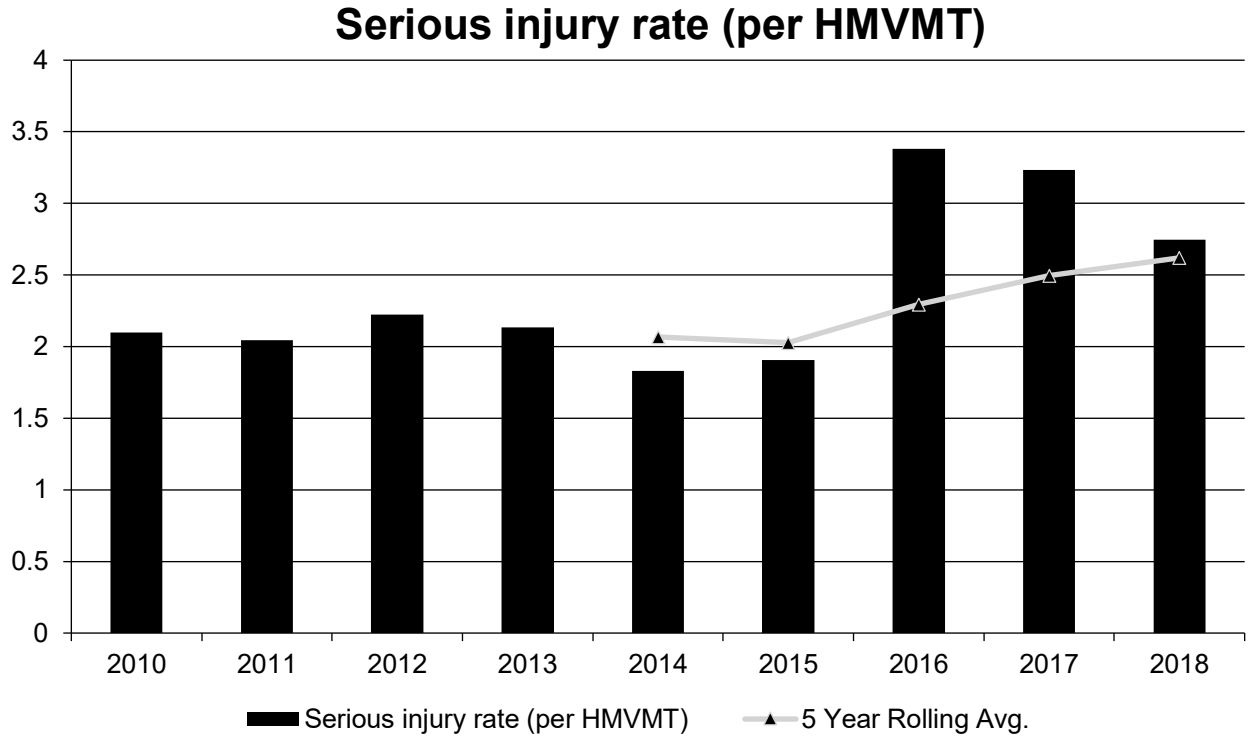
Present data showing the general highway safety trends in the State for the past five years.

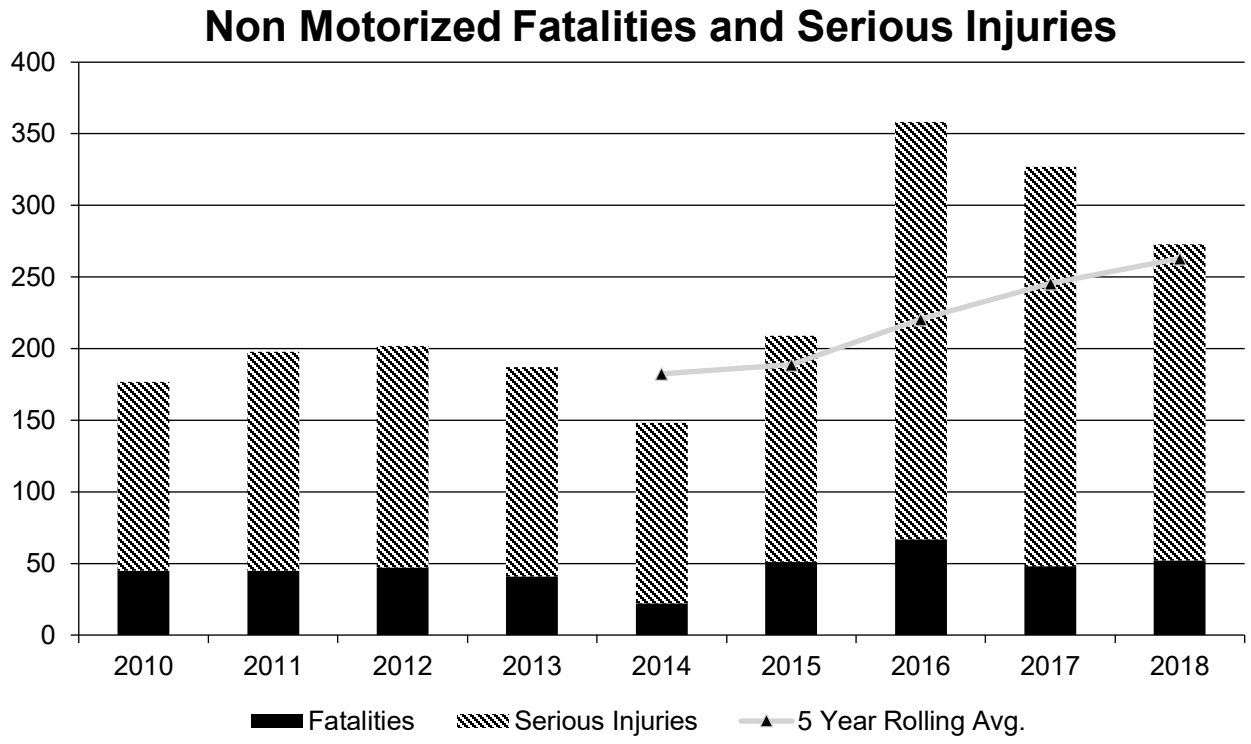
PERFORMANCE MEASURES	2010	2011	2012	2013	2014	2015	2016	2017	2018
Fatalities	411	368	395	387	361	411	392	358	381
Serious Injuries	1,191	1,159	1,268	1,216	1,044	1,127	1,992	1,849	1,660
Fatality rate (per HMVMT)	0.724	0.649	0.693	0.679	0.633	0.695	0.666	0.626	0.631
Serious injury rate (per HMVMT)	2.097	2.044	2.225	2.133	1.832	1.907	3.382	3.233	2.748
Number non-motorized fatalities	45	45	47	41	22	51	67	48	52
Number of non-motorized serious injuries	132	153	155	146	126	158	291	279	221


Annual Fatalities
420
410
400
390
380
370
360
350
340
330
2010
2011
2012
2013
2014
2015
2016
2017
2018
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
2500
2000
1500
1000
500
0
2010
2011
2012
2013
2014
2015
2016
2017
2018
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
0.74
0.72
0.7
0.68
0.66
0.64
0.62
0.6
0.58
0.56
2010
2011
2012
2013
2014
2015
2016
2017
2018
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
2010
2011
2012
2013
2014
2015
2016
2017
2018
Serious injury rate (per HMVMT)
5 Year Rolling Avg.



Describe fatality data source.

State Motor Vehicle Crash Database

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

Year 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		
Rural Major Collector	63	149.6		
Rural Local Road or Street	31.4	84.2		

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)**
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 2018

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	186.8	449.6	0.55	1.32
County Highway Agency	127.4	582.2	0.89	4.07
Town or Township Highway Agency	19.2	66.8	1.68	5.85
City or Municipal Highway Agency	39.8	396.8	0.42	4.16
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				

The databases at MnDOT are not structured in a way to quickly and reliably query crashes by functional classification. Roadway ownership is a derived field in the crash report and can be reported reliably.

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 2018, the number of serious injuries has begun to level off to a new normal with the definition.

Safety Performance Targets

Safety Performance Targets

Calendar Year 2020 Targets *

Number of Fatalities:375.4

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

Projections of current annual percent reduction over the last THREE years (i.e. since the implementation of the new state crash reporting system) were used, 1.4% reduction annually.

Number of Serious Injuries:1714.2

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

Projections of current annual percent reduction over the last THREE years (i.e. since the implementation of the new state crash reporting system) were used, 7.5% reduction annually.

Fatality Rate:0.626

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

Projections of current annual percent reduction over the last THREE years (i.e. since the implementation of the new state crash reporting system) were used, 1.4% reduction annually, with an assumed conservative increase in VMT of 0.5% annually.

Serious Injury Rate:2.854

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

Projections of current annual percent reduction over the last THREE years (i.e. since the implementation of the new state crash reporting system) were used, 7.5% reduction annually, with an assumed conservative increase in VMT of 0.5% annually.

Total Number of Non-Motorized Fatalities and Serious Injuries:317.0

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

Based on halting the current increasing trends in non-motorist fatalities and serious injuries (i.e. 0% reductions annually); as a state, Minnesota is not comfortable setting a safety goal that INCREASES.

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

Minnesota DOT and DPS coordinate to develop three scenarios with a recommendation for the safety performance targets. Discussion regarding how attainable or aggressive these targets should be were conducted with the MPO directors as well as MnDOT Senior Leadership Committee.

Does the State want to report additional optional targets?

No

Describe progress toward meeting the State's 2018 Safety Performance Targets (based on data available at the time of reporting). For each target, include a discussion of any reasons for differences in the actual outcomes and targets.

Based on 2018 data, Minnesota has achieved performance targets for 3 of the 5 measures for 2018; it is anticipated that Minnesota has made significant progress (i.e. lower than the 2012-2016 baseline) in number of fatalities and fatality rate.

The 2018 performance targets were the second iteration of safety targets by Minnesota. As the process is better streamlined, we recognize process improvements to ensure the targets set reflect the direction of Minnesota safety programming.

Calculated Values (2014-2018 Average)

- Fatalities = 380.6
- Fatality Rate = 0.644
- Serious Injuries = 1,534.4
- Serious Injury Rate = 2.590
- Non-motorized Fatalities + Serious Injuries = 263.0

Applicability of Special Rules

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

No

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

PERFORMANCE MEASURES	2012	2013	2014	2015	2016	2017	2018
Number of Older Driver and Pedestrian Fatalities	60	59	63	53	82	68	60
Number of Older Driver and Pedestrian Serious Injuries	83	93	89	105	170	164	158

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

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. While overall fatal and serious injury crashes are declining, further investigation is necessary into (1) potential plateauing of fatalities, and (2) inconsistencies in reporting serious injuries after instrumentation change at the beginning of 2016. MnDOT publishes these trends in an annual pocket-sized Trivia Card for stakeholder and public use.

http://www.mndot.gov/trafficeng/publ/triviacard/

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

- Other-Under consideration

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

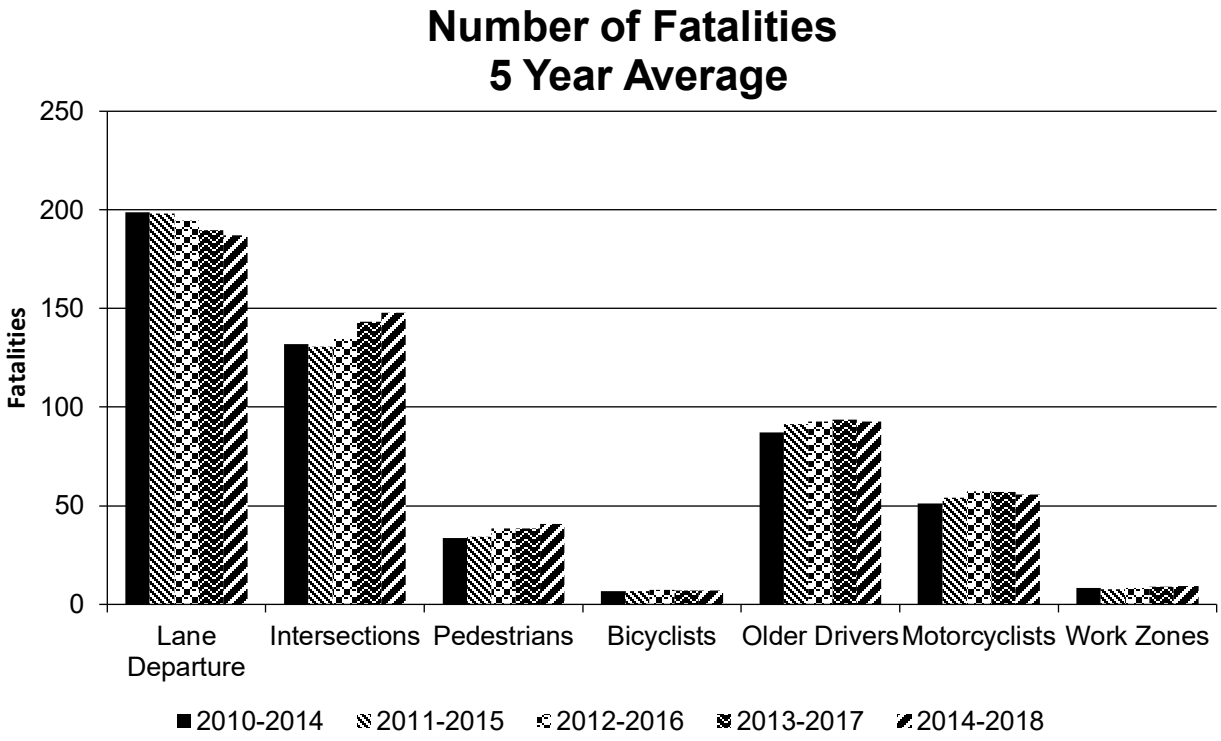
Effectiveness of Groupings or Similar Types of Improvements

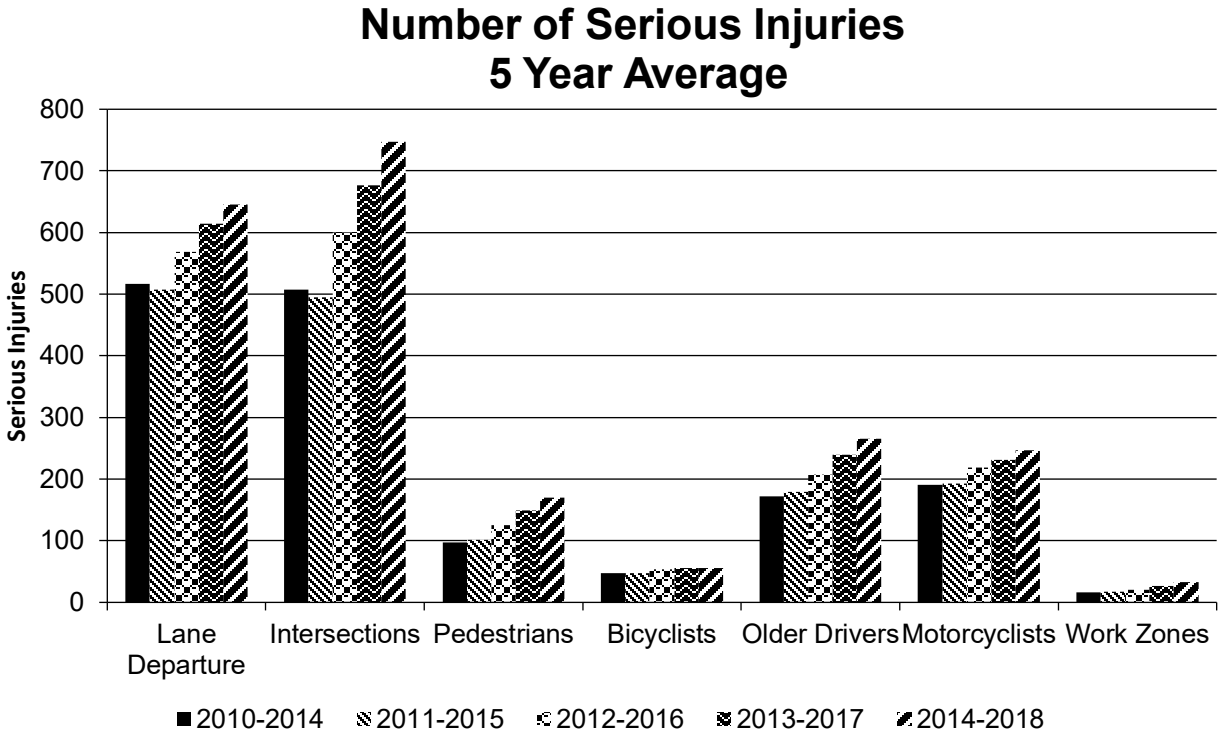
Present and describe trends in SHSP emphasis area performance measures.

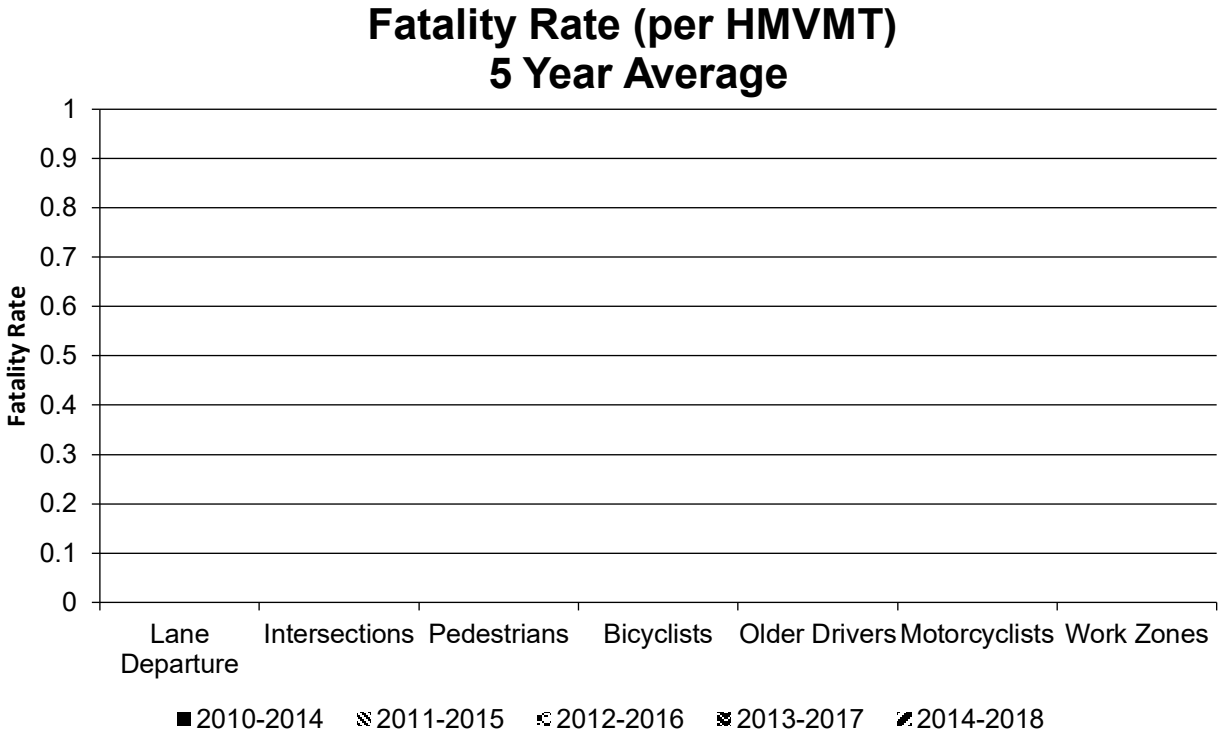
Year 2018

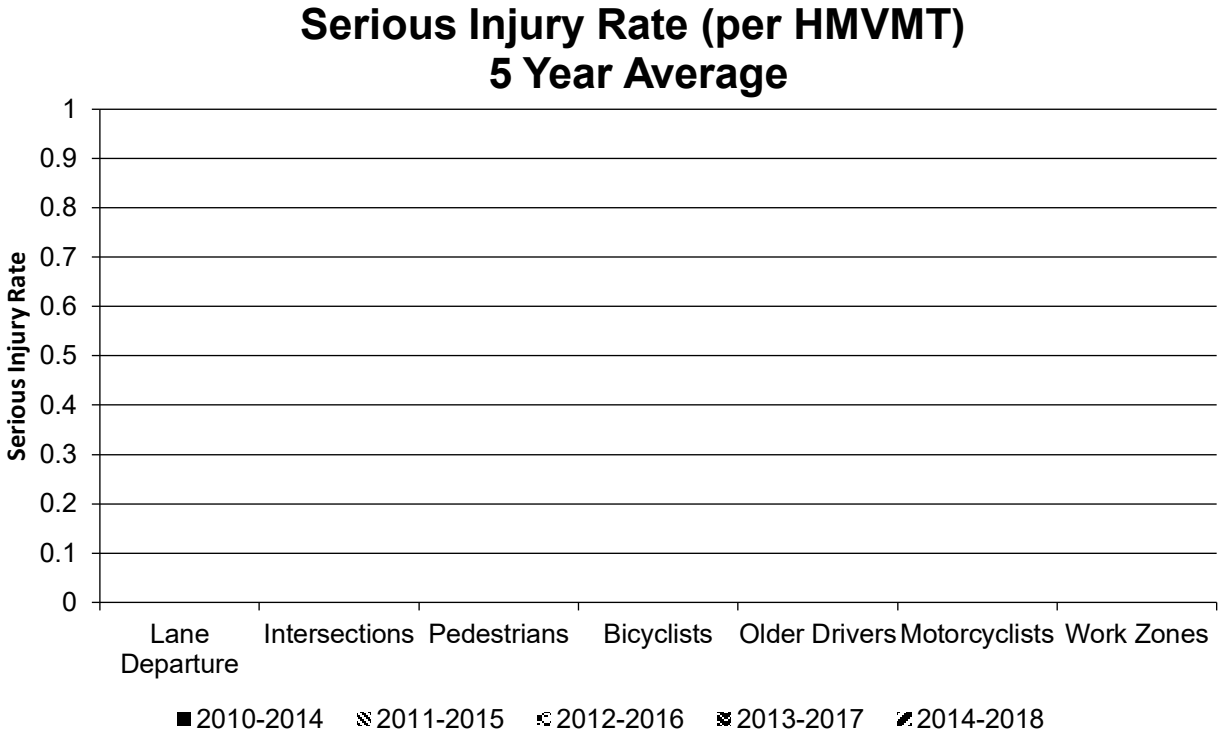
SHSP Emphasis Area	Targeted Crash Type	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Lane Departure	Single Vehicle Run Off Road + Head On Crashes	187.2	645.8		
Intersections	Crashes at intersections and interchanges	148	746.8		
Pedestrians	Crashes with at least one	40.8	169.6		

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)
	pedestrian involved				
Bicyclists	Crashes with at least one bicyclist involved	7	56		
Older Drivers	Crashes with at least one driver invovled age 65+	92.6	265.2		
Motorcyclists	Crashes with at least one motorcycle involved	55.8	246.4		
Work Zones	Crashes occurring within a work zone	9.4	32.4		


Number of Fatalities
5 Year Average
Fatalities
250
200
150
100
50
0
Lane Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
2010-2014
2011-2015
2012-2016
2013-2017
2014-2018


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
2010-2014
2011-2015
2012-2016
2013-2017
2014-2018





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:	Rural Intersection Conflict Warning System
Description:	
Target Crash Type:	
Number of Installations:	66
Number of Installations:	66
Miles Treated:	
Years Before:	3
Years After:	3
Methodology:	Before/after using comparison group
Results:	Both a before and after study and a comparative study were completed to assess the effectiveness that RICWS systems have on rural roadway safety. The before and after study yielded no indication that the crash rate at RICWS sites significantly increased or decreased after the implementation of the system. Since both RICWS and control sites produced similar results, the change in crash recording is neither washing out nor enhancing the apparent performance of RICWS. In addition, the comparison test also produced no indication that a difference in crash rate exists between RICWS and control sites. While this study did not produce the expected results, the two tests did not indicate that the installation of RICWS significantly increased crash rates at rural intersections.

File Name: 2019-ricws-report.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)
None at this time.														

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

Beginning in 2019, Minnesota has invested more resources in programmatic evaluations. This has provided a consistent stream of evaluations both internally and using external evaluators to inform future policy decisions.

Compliance Assessment

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

12/01/2014

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

Minnesota will not meet the December 2019 deadline: we are working in coordination with the FHWA Division Office to approve the final document in early 2020. A final draft of the updated Minnesota SHSP will be completed in December 2019; however, it is anticipated that final approval may extend into January 2020.

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

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

ROAD TYPE	MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	
	Access Control (22)	100	100								
	One/Two Way Operations (91)	100	100								
	Number of Through Lanes (31)	100	100					100	100		
	Average Annual Daily Traffic (79)	100	100					100	100		
	AADT Year (80)	100	100								
	Type of Governmental Ownership (4)	100	100					100	100	100	90
INTERSECTION	Unique Junction Identifier (120)			85	100						
	Location Identifier for Road 1 Crossing Point (122)			85	100						
	Location Identifier for Road 2 Crossing Point (123)			85	100						
	Intersection/Junction Geometry (126)			85	100						
	Intersection/Junction Traffic Control (131)			85	100						
	AADT for Each Intersecting Road (79)			85	100						
	AADT Year (80)			85	100						
	Unique Approach Identifier (139)			85	100						
INTERCHANGE/RAMP	Unique Interchange Identifier (178)					95	100				
	Location Identifier for Roadway at Beginning of Ramp Terminal (197)					100	100				
	Location Identifier for Roadway at Ending Ramp Terminal (201)					100	100				

ROAD TYPE	MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	
	Ramp Length (187)					100	100				
	Roadway Type at Beginning of Ramp Terminal (195)					100	100				
	Roadway Type at End Ramp Terminal (199)					100	100				
	Interchange Type (182)					95	100				
	Ramp AADT (191)					100	100				
	Year of Ramp AADT (192)					100	100				
	Functional Class (19)					100	100				
	Type of Governmental Ownership (4)					70	100				
Totals (Average Percent Complete):		**100.00**	**100.00**	**85.00**	**100.00**	**96.36**	**100.00**	**100.00**	**97.78**	**100.00**	**90.00**

*Based on Functional Classification

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.

MnDOT Office of Transportation System Management (OTSM) collects and maintains MIRE fundamental element data and quality. Minnesota has highly reliable data elements on state highways in compliance with MIRE; on the local systems, work is on going to update default "legacy values" with more accurate data. A source accuracy field denotes these default values at this time to cull data which has not been verified through another method. Currently local roadway data comes to OTSM in various formats where it is translated by linear referencing system (LRS) editors into the required formatting. OTSM estimates that all characteristics are updated at least annually.

All route data and MIRE elements maintained by MnDOT OTSM are published weekly to the State of Minnesota GeoCommons website for consumption by partners and the general public. At this time, there are no direct links maintained by regional or local partners to interface with the state roadway information system.

Non-local Paved Roads are defined here as trunk highways: in Minnesota, all of these roads are owned by the State. MnDOT has maintained an inventory of intersections and interchanges with trunk highways. OTSM will continue to maintain reasonable estimates and make avenues available for local agencies to enter and maintain additional fields.

Did the State conduct an HSIP program assessment during the reporting period?

No

When does the State plan to complete its next HSIP program assessment.

2020

Optional Attachments

Program Structure:

HSIP funding guide FINAL.pdf
Project Implementation:

Safety Performance:

Evaluation:

2019-ricws-report.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.