MINNESOTA

HIGHWAY SAFETY IMPROVEMENT PROGRAM

2022 ANNUAL REPORT

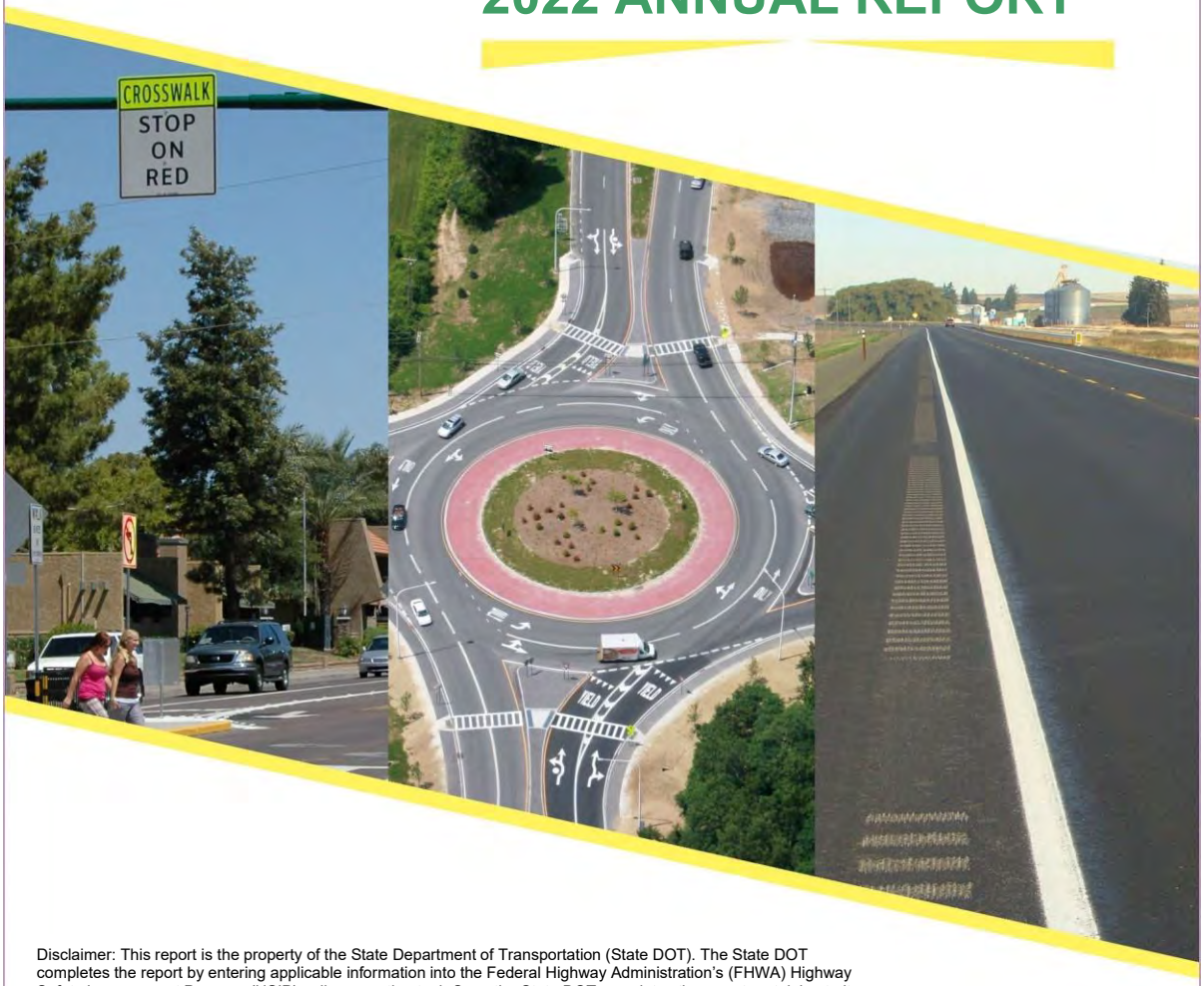

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Photo source: Federal Highway Administration

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

Executive Summary

Many of the challenges Minnesota saw in 2020 have persisted and further developed in 2021. From 2015-2019, statewide traffic fatalities decreased 6% annually. In 2020, there was a 3% increase from 2019; last year in 2021, there was a 24% increase from these already elevated traffic fatalities of 2020! Minnesota has been monitoring these trends for fears of a “plateau” in the traffic safety successes we have historically seen. We are now firmly on the plateau. Furthermore, while vehicle miles traveled in 2021 are still below 2019 we have seen a 11% increase from 2020. More exposure will continue to compound any dangerous changes to traffic and behavior patterns. Many of those patterns seen in 2020 confirm that Minnesota should continue to support our HSIP initiatives while committing to innovative strategies that will get Minnesota off the plateau in traffic safety. Minnesota uses a Toward Zero Deaths (TZD) approach to coordinate regional, grassroots safety efforts. This inter-agency, inter-disciplinary approach has consistently focused on improving traffic safety culture and driver behaviors including impairment, speeding, distraction, and seat belt use. Minnesota is leveraging this structure to develop Strategic Highway Safety Plan (SHSP) action teams that will drive changes across the state. The Department of Transportation distributes HSIP funds geographically across all regions, setting aside funds for local agencies. These funds are allocated based on the number of fatal and serious injury crashes by region and roadway jurisdiction. Beginning in 2026, new revised targets have recognized the shift in severe crashes onto the local systems and have adapted to allocate more funds to these jurisdictions. Proactive safety and local planning have allowed wide-deployment of traffic safety countermeasures across all public roads, particularly the state and county systems.

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

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.

After the new crash reporting system was implemented in 2016, Minnesota experienced an increase in Suspected Serious Injury (A) crashes. This change was not uniform across all roadway jurisdictions. MnDOT is in the process of updating the HSIP targets based on the updated crash data. Current HSIP targets are approximately 40% state agency, 60% local agencies; revised targets would change the HSIP targets to approximately 30% state agency, 70% local agencies. These new revised distribution targets begin in 2026.

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 phased update is continuing.

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 review the priorities of the HSIP selection committees to ensure compliance with long range goals. The annual HSIP solicitation briefings provide an overview of the process.

MnDOT planning staff and FHWA completed a review of coordination with MPOs across all programs. The report highlighted HSIP coordination in Greater Minnesota (i.e. outside Twin Cities metro) needs improvement. The HSIP solicitation guidance has been updated to place greater emphasis on early coordination with MPOs.

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

See attachment "HSIP funding guide FINAL.pdf" for current guidance. Minnesota anticipates updating the HSIP manual to better reflect the process for how applicants will coordinate and solicit approval from our eight Metropolitan Planning Organizations. This document is anticipated in late 2021 or early 2022.

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?

- Crash frequency
- Crash rate
- 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?

59

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

- Cable Median Barriers
- Clear Zone Improvements
- High friction surface treatment
- Horizontal curve signs
- Install/Improve Lighting
- Install/Improve Pavement Marking and/or Delineation
- Install/Improve Signing
- 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. HSIP funds are no longer directly funding this program as it is supported by other state funds. www.mndot.gov/automated/index.html

The Minnesota CAV-X office is 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?

Yes

Please describe how the State uses the HSM to support HSIP efforts.

Minnesota does not use the more advanced, predictive methods in the HSM. However, CMFs are used to rank and select reactive safety projects.

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.

Currently the full HSM predictive models and IHSDM software are used for corridor studies and larger MnDOT projects to evaluate alternatives.

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)	$46,439,145	$18,927,029	40.76%
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)	$14,717,019	$9,867,018	67.04%
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	$61,156,164	$28,794,047	47.08%

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

46%

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

25%

The distribution of HSIP funds is based on fatal and serious injury crashes by district and split based on percent occurring on state vs. local roads. MnDOT has updated the distribution formula to better reflect the new MNCRASH system: beginning in 2026, this results in a shift of more money to the local system (from 60% of program target to 70% of program target).

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

5%

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

7%

Non-infrastructure projects in Minnesota tend to support statewide, or multiple district priorities--e.g., Toward Zero Deaths initiative, crash data support, countermeasure evaluations and/or communications plans), or systemic safety planning.

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

0%

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

0%

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

MnDOT now programs HSIP funds to 100% apportionment and will monitor for effects on obligation rate. We expect this over-programming of safety will continue to raise the obligation rate. OTE continues to have on-going discussions with MnDOT Districts on creating shelf ready safety projects to better capitalize on any cost-savings in the HSIP projects.

General Listing of Projects

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

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
#0014345 (SP 0702-131) D-7 : US-14 RCIS	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	3	Intersections	$800000	$888889	Penalty Funds (23 U.S.C. 164)	N/A	N/A	0	0	State Highway Agency	Systemic	Intersections	Reduced conflict intersection
#0043304 (SP 7904-44S) D-6 : US-14/US-61/MN-43 ROUNDABOUT	Intersection traffic control	Modify control – Modern Roundabout	1	Intersections	$3150000	$3500000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Spot	Intersections	Roundabout
#0053328 (SP 6932-14S) D-1 : MN-194/US-53 RCI	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	1	Intersections	$675000	$750000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Intersections	Reduced conflict intersection
#0055316 (SP 1909-99S) D-M : MN-55 HTCB	Roadside	Barrier – cable	4.5	Miles	$1788270	$1986967	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Spot	Roadway Departure	High tension cable median barrier
#0061344 (SP 7904-44S) D-6 : US-61/MN-42 RCI	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.5	Intersections	$1220000	$1220000	Penalty Funds (23 U.S.C. 164)	N/A	N/A	0	0	State Highway Agency	Spot	Intersections	Reduced conflict intersection
#0061344 (SP 7904-44S) D-6 : US-61/MN-42 RCI	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.5	Intersections	$140126	$140126	Penalty Funds (23 U.S.C. 164)	N/A	N/A	0	0	State Highway Agency	Spot	Intersections	Reduced conflict intersection
#0071332 (SP 0410-50) D-2 : US-71/CSAH-59 AND CSAH-52 RCIS	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	2	Intersections	$2611000	$2895088	Penalty Funds (23 U.S.C. 164)	N/A	N/A	0	0	State Highway Agency	Systemic	Intersections	Reduced conflict intersection
#0077306 (SP 2758-77S) D-M : MN-77 HIGH TENSION CABLE BARRIER	Roadside	Barrier – cable	4.6	Miles	$112185	$124650	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Roadway Departure	High tension cable median barrier
#0122229 (SP 001-070-007) AITKIN CO : ENHANCED EDGELINES COUNTYWIDE	Roadway delineation	Wider Edge Lines (6 inch markings)	35.4	Miles	$207090	$230100	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Lane Departure	Enhanced edgelines
#0222161 (SP 002-601-056) ANOKA CO : CSAH-1/MSAS-119 INSTALL SIGNAL HEADS/FYA	Intersection traffic control	Modify traffic signal – add flashing yellow arrow	1	Intersections	$405000	$486000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Spot	Intersections	Improve signal operations

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
#0322238 (SP 003-070-015) BECKER CO : COUNTYWIDE RUMBLE STRIPS	Roadway	Rumble strips – edge or shoulder	45.8	Miles	$88623	$98470	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Roadway Departure	Rumble stripEs
#0422097 (SP 004-070-033) BELTRAMI CO : CSAH-5 2-FT SHOULDER, RUMBLE STRIPES	Roadway	Rumble strips – edge or shoulder	5.4	Miles	$161591	$179545	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Roadway Departure	Rumble stripEs
#0422099 (SP 004-070-034) BELTRAMI CO : MULTIROUTE, INSTALL LED STOP SIGNS	Roadway signs and traffic control	Roadway signs and traffic control - other	7	Intersections	$19498	$21664	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Intersections	Improve visibility
#0422100 (SP 004-070-035) BELTRAMI CO : CSAH-12/CSAH-19 6-INCH GIWR EDGELINES	Roadway delineation	Wider Edge Lines (6 inch markings)	8.3	Miles	$37768	$41964	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Lane Departure	Enhanced edgelines
#0422126 (SP 004-070-036) BELTRAMI CO : MULTIROUTE, UPGRADE SIGNS/PAVEMENT MARKINGS	Intersection traffic control	Pavement markings	11	Intersections	$44632	$49591	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Intersections	Delineate intersection maneuvers
#0422127 (SP 004-070-037) BELTRAMI CO : CHEVRON SIGNING	Roadway signs and traffic control	Curve-related warning signs and flashers	2	Curves	$6723	$7470	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Roadway Departure	Delinate curves
#0522110 (SP 0504-20S) D-3 : MN-23 ROUNDABOUT IN FOLEY	Intersection traffic control	Modify control – Modern Roundabout	1	Intersections	$907349	$1107349	Penalty Funds (23 U.S.C. 164)	N/A	N/A	0	0	State Highway Agency	Systemic	Intersections	Roundabout
#1322128 (SP 013-623-010) CHISAGO CO : CSAH-23/-24 ROUNDABOUT	Intersection traffic control	Modify control – Modern Roundabout	1	Intersections	$1512000	$2567605	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Spot	Intersections	Roundabout
#1722069 (SP 017-070-010) COTTONWOOD CO : CSAH-2 2-FOOT SHOULDER, RUMBLE STRIPES	Roadway	Rumble strips – edge or shoulder	13.9	Miles	$407423	$452693	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Roadway Departure	Rumble stripEs
#1722087 (SP 017-070-012) COTTONWOOD CO : COUNTYWIDE STOP BAR/STOP AHEAD MARKINGS	Intersection traffic control	Pavement markings	87	Intersections	$349001	$387779	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Intersections	Delineate intersection maneuvers
#1822045 (SP 1810-99) D-3 : MN-371/CR-125 AND CR-126 RCIS	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	2	Intersections	$3297705	$3664116	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Intersections	Reduced conflict intersection
#1822146 (SP 018-070-021) CROW WING CO : COUNTYWIDE CENTERLINE MUMBLE STRIPS	Roadway	Rumble strips – center	35.7	Miles	$69750	$77500	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Lane Departure	Rumble stripEs

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#1822207 (SP 018-070-019/-020) CROW WING CO : COUNTYWIDE LEFT TURN LANES	Intersection geometry	Add/modify auxiliary lanes	4	Intersections	$1130400	$1707188	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Intersections	Reduce rear-ends
#1922055 (SP 1901-192S) D-M : MN-13/CSAH-26 SIGNAL IMPROVEMENTS	Intersection geometry	Add/modify auxiliary lanes	0.5	Intersections	$37306	$82902	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Intersections	Improve signal operations
#1922055 (SP 1901-192S) D-M : MN-13/CSAH-26 SIGNAL IMPROVEMENTS	Intersection geometry	Add/modify auxiliary lanes	0.5	Intersections	$287100	$813000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Intersections	Improve signal operations
#1922089 (SP 1921-90S) D-M : MN-3/CSAH-66 ROUNDABOUT	Intersection traffic control	Modify control – Modern Roundabout	0.5	Intersections	$34267	$38075	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Spot	Intersections	Roundabout
#1922089 (SP 1921-90S) D-M : MN-3/CSAH-66 ROUNDABOUT	Intersection traffic control	Modify control – Modern Roundabout	0.5	Intersections	$1713000	$2787797	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Spot	Intersections	Roundabout
#1923004 (SP 1910-56S) D-M : MN-55/DOYLE PATH SIGNAL IMPROVEMENTS	Intersection geometry	Add/modify auxiliary lanes	1	Intersections	$1276800	$1501004	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Intersections	Improve signal operations
#2422159 (SP 024-070-030) FREEBORN CO : CSAH-10 2-FT SHOULDER, RUMBLE STRIPES	Roadway	Rumble strips – edge or shoulder	5.5	Miles	$239400	$1866147	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Roadway Departure	Rumble stripEs
#2422160 (SP 024-070-031) FREEBORN CO : CSAH-35 2-FT SHOULDER, RUMBLE STRIPES	Roadway	Rumble strips – edge or shoulder	4.9	Miles	$232965	$2058607	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Roadway Departure	Rumble stripEs
#2522059 (SP 2514-125) D-6 : US-61/MN-316 ROUNDABOUT	Intersection traffic control	Modify control – Modern Roundabout	1	Intersections	$3100000	$3704037	Penalty Funds (23 U.S.C. 164)	N/A	N/A	0	0	State Highway Agency	Spot	Intersections	Roundabout
#2522059 (SP 2514-126) D-6 : US-61/CSAH-18 RCI	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	1	Intersections	$783000	$1179127	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Spot	Intersections	Reduced conflict intersection
#2622039 (SP 026-070-010/-011) GRANT CO : CSAH-10 CURVE REALIGNMENTS, PAVED SHOULDER, RUMBLE STRIPE	Roadway	Rumble strips – edge or shoulder	9	Curves	$1614459	$1974032	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Roadway Departure	Rumble stripEs
#2622225 (SP 026-070-013) GRANT CO : PAVE OUTSIDE SHOULDERS ON CURVES	Roadway	Roadway widening - curve	18	Curves	$315000	$350000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Roadway Departure	Recoverable roadside
#2722062 (SP 027-030-050) HENNEPIN CO : 42ND ST PEDESTRIAN CROSSINGS	Pedestrians and bicyclists	Medians and pedestrian refuge areas	5	Intersections	$828000	$1030000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Pedestrians	Improve midblock crossings

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#2722156 (SP 027-605-030; 027-030-050) HENNEPIN CO : D LINE PED SAFETY (CURB EXTENSIONS, LIGHTING, ADA, MARKINGS)	Pedestrians and bicyclists	Medians and pedestrian refuge areas	5	Intersections	$3825000	$7523189	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Pedestrians	Improve midblock crossings
#2722163 (SP 107-020-071; 027-634-010) HENNEPIN CO : CSAH-34/98TH ST PED IMPROVEMENTS	Intersection geometry	Splitter island – remove from one or more approaches	1	Intersections	$1170000	$1404000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Spot	Pedestrians	Improve intersection crossings
#2722165 (SP 107-409-010) BLOOMINGTON : MSAS-409/CSAH-1 LEFT TURN LANES	Intersection geometry	Add/modify auxiliary lanes	1	Intersections	$563213	$850000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	City or Municipal Highway Agency	Spot	Intersections	Reduce rear-ends
#2722166 (SP 027-635-038) HENNEPIN CO : PED COUNTDOWN TIMERS	Pedestrians and bicyclists	Pedestrian signal - other	5	Intersections	$846000	$1650000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Spot	Pedestrians	Improve signal operations
#2723007 (SP 2750-97) D-M : US-169 HIGH TENSION CABLE BARRIER	Roadside	Barrier – cable	5.5	Miles	$2070000	$2300000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Roadway Departure	High tension cable median barrier
#3022228 (SP 030-070-015) ISANTI CO : 6-INCH GIWR EDGELINES	Roadway delineation	Wider Edge Lines (6 inch markings)	22.4	Miles	$161280	$179200	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Lane Departure	Enhanced edgelines
#3422211 (SP 034-070-013) KANDIYOHI CO : COUNTYWIDE GIWR EDGELINES	Roadway delineation	Wider Edge Lines (6 inch markings)	73.7	Miles	$239826	$266474	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Lane Departure	Enhanced edgelines
#4222241 (SP 042-070-014) LYON CO : COUNTYWIDE EPOXY MARKINGS	Roadway delineation	Longitudinal pavement markings - remarking	91.8	Miles	$350000	$388889	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Lane Departure	Delineate roadway
#4322058 (SP 4310-93) D-8 : US-212/CSAH-1 RCI	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.5	Intersections	$618587	$687719	Penalty Funds (23 U.S.C. 164)	N/A	N/A	0	0	County Highway Agency	Spot	Intersections	Reduced conflict intersection
#4322058 (SP 4310-93) D-8 : US-212/CSAH-1 RCI	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.5	Intersections	$1550301	$1722556	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Spot	Intersections	Reduced conflict intersection
#4322217 (SP 043-070-017) MCLEOD CO : COUNTYWIDE 6-INCH EDGELINES	Roadway delineation	Wider Edge Lines (6 inch markings)	61.5	Miles	$45415	$50461	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Lane Departure	Enhanced edgelines
#4722213 (SP 047-070-012) MEEKER CO : COUNTYWIDE 6-INCH EDGELINES	Roadway delineation	Wider Edge Lines (6 inch markings)	127.2	Miles	$94131	$104590	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Lane Departure	Enhanced edgelines

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
#4722214 (SP 047-070-011) MEEKER CO : COUNTYWIDE GIWR EDGELINES	Roadway delineation	Wider Edge Lines (6 inch markings)	42.4	Miles	$276604	$307338	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Lane Departure	Enhanced edgelines
#4922176 (SP 049-070-028) MORRISON CO : CSAH-15 2-FT SHOULDER, RUMBLE STRIPES	Roadway	Rumble strips – edge or shoulder	8.8	Miles	$414363	$2464016	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Spot	Roadway Departure	Rumble stripEs
#5523036 (SP 5501-40) D-6 : US-14 HIGH TENSION CABLE BARRIER	Roadside	Barrier – cable	7.1	Miles	$2232000	$2480000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Roadway Departure	High tension cable median barrier
#6222017 (SP 062-678-018) RAMSEY CO : CSAH-78/CSAH-51 INTERSECTION REVISIONS	Intersection traffic control	Systemic improvements – signal-controlled	1	Intersections	$746690	$1355849	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Spot	Intersections	Improve signal operations
#6222018 (SP 6285-160S) D-M : CSAH-44/I-694 RAMPS SIGNAL IMPROVEMENTS	Intersection geometry	Splitter island – remove from one or more approaches	1	Interchanges	$141614	$839371	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Spot	Pedestrians	Improve intersection crossings
#6222019 (SP 6216-141S) D-M : MN-51 HIGH TENSION CABLE BARRIER	Roadside	Barrier – cable	2.7	Miles	$1374023	$1559361	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Roadway Departure	High tension cable median barrier
#6222091 (SP 062-634-005S) RAMSEY CO : UNIVERSITY AVE RRFB	Pedestrians and bicyclists	Rapid Rectangular Flashing Beacons (RRFB)	4	Intersections	$504000	$560000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Spot	Pedestrians	Improve midblock crossings
#6222175 (SP 164-010-078) D-M : MN-51/ENGLEWOOD SIGNAL IMPROVEMENTS	Pedestrians and bicyclists	Pedestrian signal - other	1	Intersections	$200000	$400000	Penalty Funds (23 U.S.C. 164)	N/A	N/A	0	0	City or Municipal Highway Agency	Systemic	Pedestrians	Improve intersection crossings
#6622170 (SP 066-070-024) RICE CO : CSAH-15 2-FT SHOULDER, RUMBLE STRIPES	Roadway	Rumble strips – edge or shoulder	8.1	Miles	$529429	$4498397	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Roadway Departure	Rumble stripEs
#6622180 (SP 066-070-025) RICE CO : CSAH-38 2-FT SHOULDER, RUMBLE STRIPES	Roadway	Rumble strips – edge or shoulder	2.1	Miles	$173328	$1474933	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Roadway Departure	Rumble stripEs
#6922011 (SP 6947-55) D-1 : MN-37/CSAH-7 ROUNDABOUT	Intersection traffic control	Modify control – Modern Roundabout	1	Intersections	$2117007	$2357179	Penalty Funds (23 U.S.C. 164)	N/A	N/A	0	0	State Highway Agency	Spot	Intersections	Roundabout
#6922076 (SP 069-070-046) D-1 : US-169/CSAH-137 RCI	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.5	Intersections	$350000	$388889	Penalty Funds (23 U.S.C. 164)	N/A	N/A	0	0	County Highway Agency	Systemic	Intersections	Reduced conflict intersection

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
#6922076 (SP 6935-93) D-1 : US-169/CSAH-137 RCI	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.5	Intersections	$350000	$388889	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Intersections	Reduced conflict intersection
#6922085 (SP 069-070-044) ST. LOUIS CO : MN-33/CSAH-7 RCI	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	1	Intersections	$467115	$519017	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Intersections	Reduced conflict intersection
#6922182 (SP 069-070-043) ST. LOUIS CO : COUNTYWIDE ENHANCED EDGELINES	Roadway delineation	Wider Edge Lines (6 inch markings)	57.6	Miles	$43983	$48870	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Lane Departure	Enhanced edgelines
#7022040 (SP 7001-123S) D-M : MN-13/CSAH-8 ROUNDABOUT	Intersection traffic control	Modify control – Modern Roundabout	1	Intersections	$1408730	$2822326	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Intersections	Roundabout
#7022186 (SP 7009-85S) SHAKOPEE : US-169 RCIS	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	4	Intersections	$964800	$1072000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Spot	Intersections	Reduced conflict intersection
#7122208 (SP 071-070-043) SHERBURNE CO : COUNTYWIDE MUMBLE STRIPS	Roadway	Rumble strips – edge or shoulder	37.1	Miles	$135000	$150000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Roadway Departure	Rumble stripEs
#7322190 (SP 073-070-024) STEARNS CO : COUNTYWIDE RURAL INTERSECTION LIGHTING	Lighting	Intersection lighting	6	Intersections	$86400	$96000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Intersections	Intersection lighting
#7322221 (SP 073-070-023) STEARNS CO : COUNTYWIDE CHEVRONS	Roadway signs and traffic control	Curve-related warning signs and flashers	67	Curves	$216000	$240000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Roadway Departure	Delinate curves
#7422172 (SP 074-070-005) STEELE CO : COUNTYWIDE CHEVRONS	Roadway signs and traffic control	Curve-related warning signs and flashers	62	Curves	$184140	$204600	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Roadway Departure	Delinate curves
#7722200 (SP 077-070-015) TODD CO : CSAH-14 GIWR EDGELINES	Roadway delineation	Wider Edge Lines (6 inch markings)	30.6	Miles	$192000	$214055	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Lane Departure	Enhanced edgelines
#8222188 (SP 192-108-028) WOODBURY : MSAS-108 4-TO-3 CONVERSION	Pedestrians and bicyclists	Pedestrians and bicyclists – other	1.8	Miles	$1620000	$2100000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	City or Municipal Highway Agency	Spot	Pedestrians	Improve midblock crossings
#8622202 (SP 086-070-021) WRIGHT CO : CSAH-35/DAGUE AVE ROUNDABOUT	Intersection traffic control	Modify control – Modern Roundabout	1	Intersections	$400000	$2044863	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Intersections	Roundabout

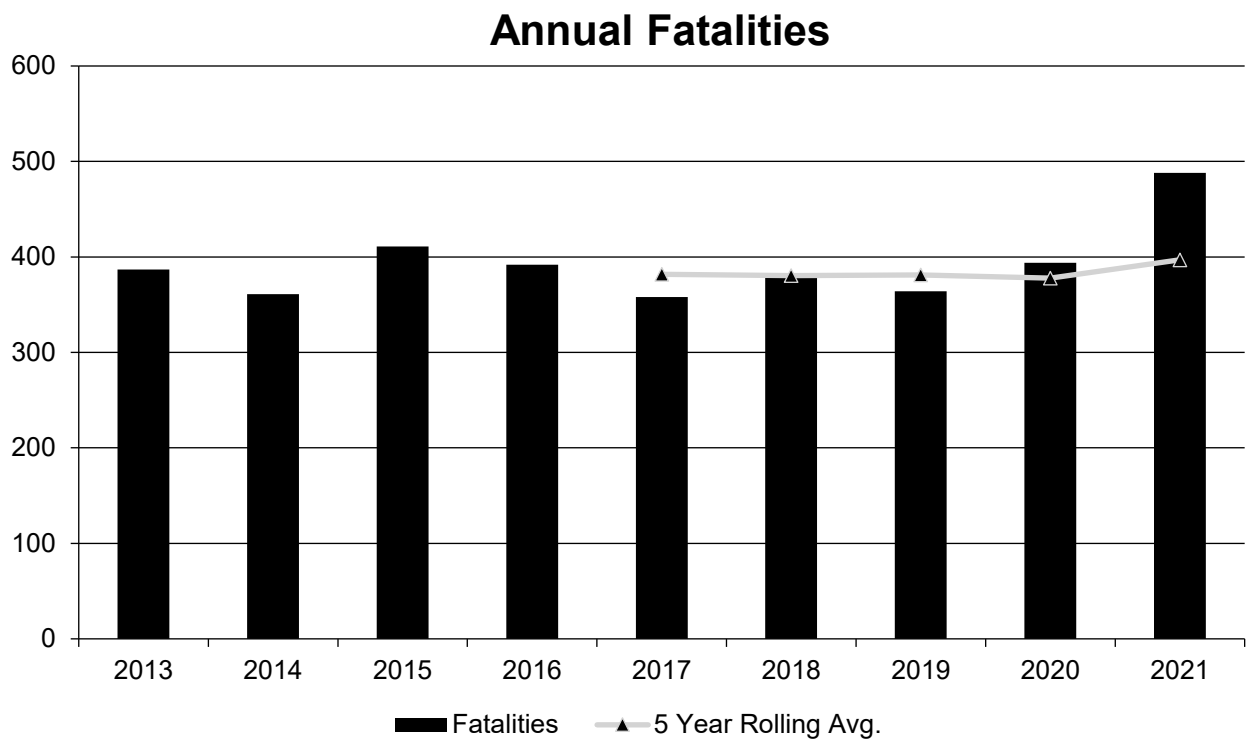
PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
#8622206 (SP 086-070-019/-020) WRIGHT CO : COUNTYWIDE LEFT TURN LANES	Intersection geometry	Add/modify auxiliary lanes	3	Intersections	$675000	$1136478	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Intersections	Reduce rear-ends
#8822008 (SP 8825-701) HENNEPIN/SCOTT CO : HIGH FRICTION SURFACE TREATMENTS	Roadway	Pavement surface – high friction surface	7	Ramps	$601637	$668486	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Roadway Departure	Keep vehicles on road
#8822036 (SP 8816-3151) D-1,-3,-M : PED COUNTDOWN TIMERS PHASE 2	Pedestrians and bicyclists	Pedestrian signal - other	69	Intersections	$245950	$245950	Penalty Funds (23 U.S.C. 164)	N/A	N/A	0	0	State Highway Agency	Systemic	Pedestrians	Improve signal operations
#8822044 (SP 088-070-078) GRANT/DOUGLAS CO : INTERSECTION LIGHTING	Lighting	Intersection lighting	26	Intersections	$63167	$70186	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	County Highway Agency	Systemic	Intersections	Intersection lighting
#8822071 (SP 8816-3243) STATEWIDE : RRFB STANDARDS	Miscellaneous	Transportation safety planning	1	Program	$75000	$75000	Penalty Funds (23 U.S.C. 164)	N/A	N/A	0	0	Non-infrastructure	Systemic	Traffic Safety Culture & Awareness	Safety studies
#8822072 (SP 8816-3244) STATEWIDE : RCI COMMUNICATIONS AND ENGAGEMENT PLAN	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	1	Program	$75000	$75000	Penalty Funds (23 U.S.C. 164)	N/A	N/A	0	0	Non-infrastructure	Systemic	Intersections	Reduced conflict intersection
#8822073 (SP 8816-3241) STATEWIDE : STATEWIDE SPEED LIMIT SPATIAL DATABASE	Miscellaneous	Data collection	1	Speed limit geodatabase	$50000	$50000	Penalty Funds (23 U.S.C. 164)	N/A	N/A	0	0	State Highway Agency	Systemic	Data	Safety studies
#8822102 (SP 088-070-066) STATEWIDE : DISTRICT SAFETY PLAN UPDATES	Miscellaneous	Local road safety plans	8	Safety plans	$1200000	$1200000	Penalty Funds (23 U.S.C. 164)	N/A	N/A	0	0	State Highway Agency	Systemic	Data	Safety studies
#8822205 (SP 880CSEC164CDI-22) STATEWIDE : ENHANCE CRASH MAPPING (MNGEO)	Miscellaneous	Data analysis	1	Crash geodatabase	$107000	$107000	Penalty Funds (23 U.S.C. 164)	N/A	N/A	0	0	State Highway Agency	Systemic	Data	Safety studies
#8822234 (SP 8816-3299) STATEWIDE : SAFETY ANALYSIS SOFTWARE CONFIGURATION/IMPLEMENTATION	Miscellaneous	Data analysis	1	Program	$900000	$900000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	Non-infrastructure	Systemic	Data	Safety studies
#8823041 (SP 880C-TZDC-21) STATEWIDE : TOWARD ZERO DEATHS COORDINATORS	Miscellaneous	Transportation safety planning	9	Regional coordinators	$900000	$900000	Penalty Funds (23 U.S.C. 164)	N/A	N/A	0	0	Non-infrastructure	Systemic	Traffic Safety Culture & Awareness	Improve outreach and coordination with safety partners

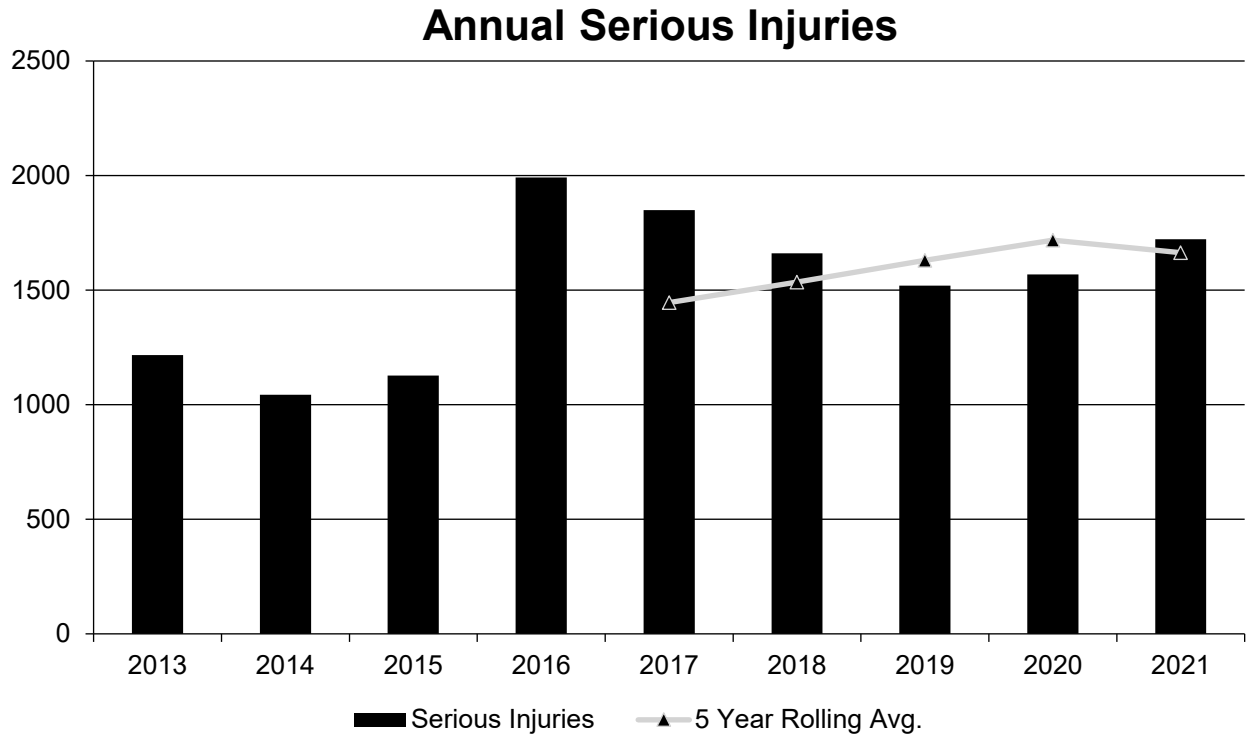
Safety Performance

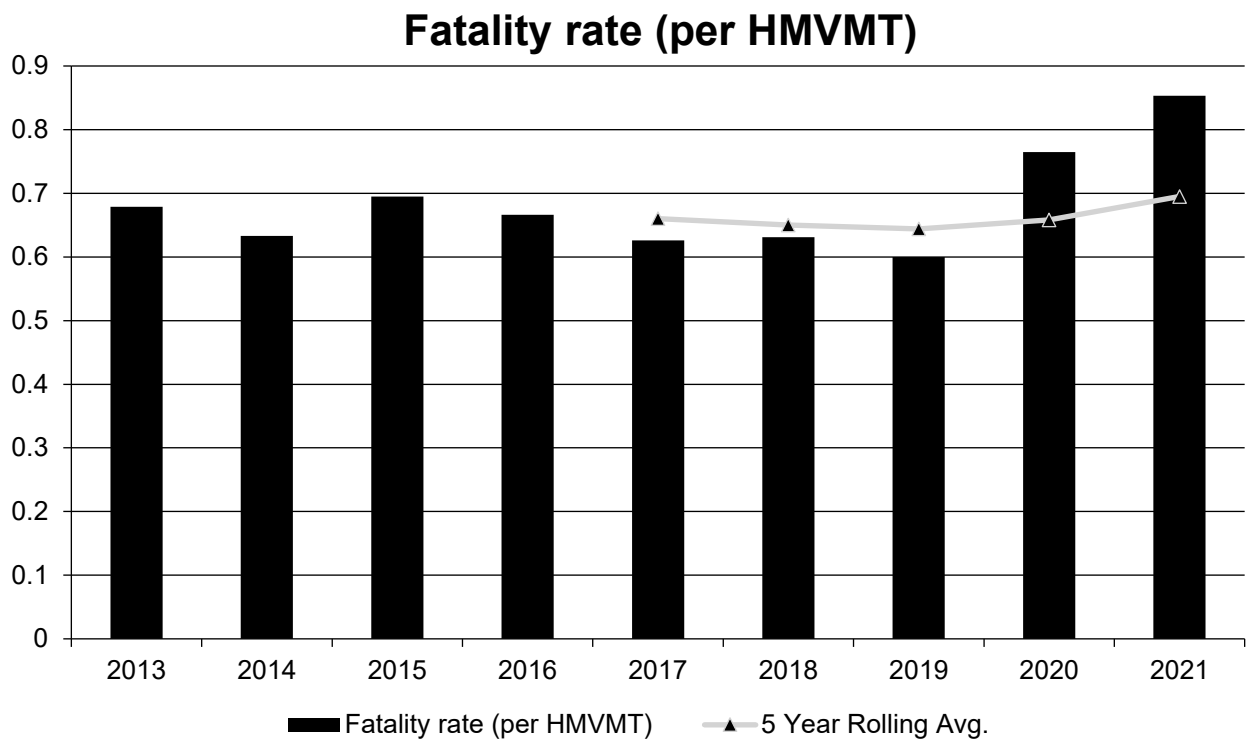
General Highway Safety Trends

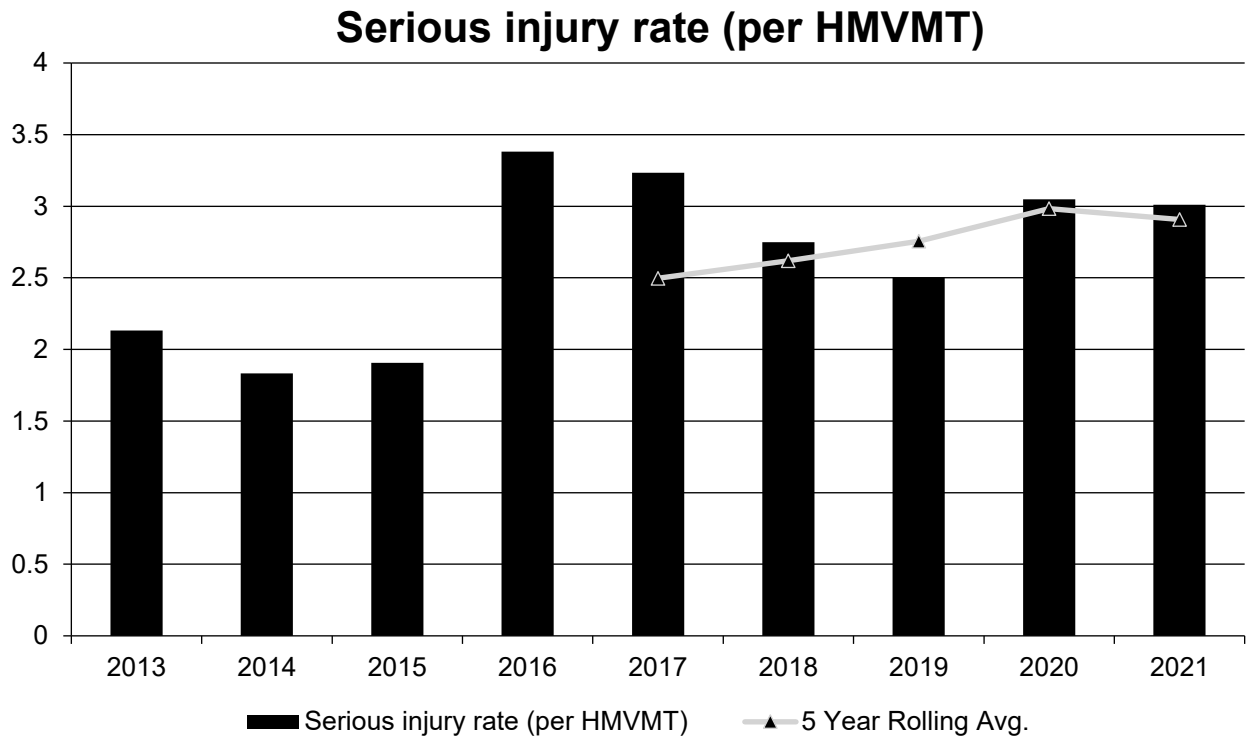
Present data showing the general highway safety trends in the State for the past five years.

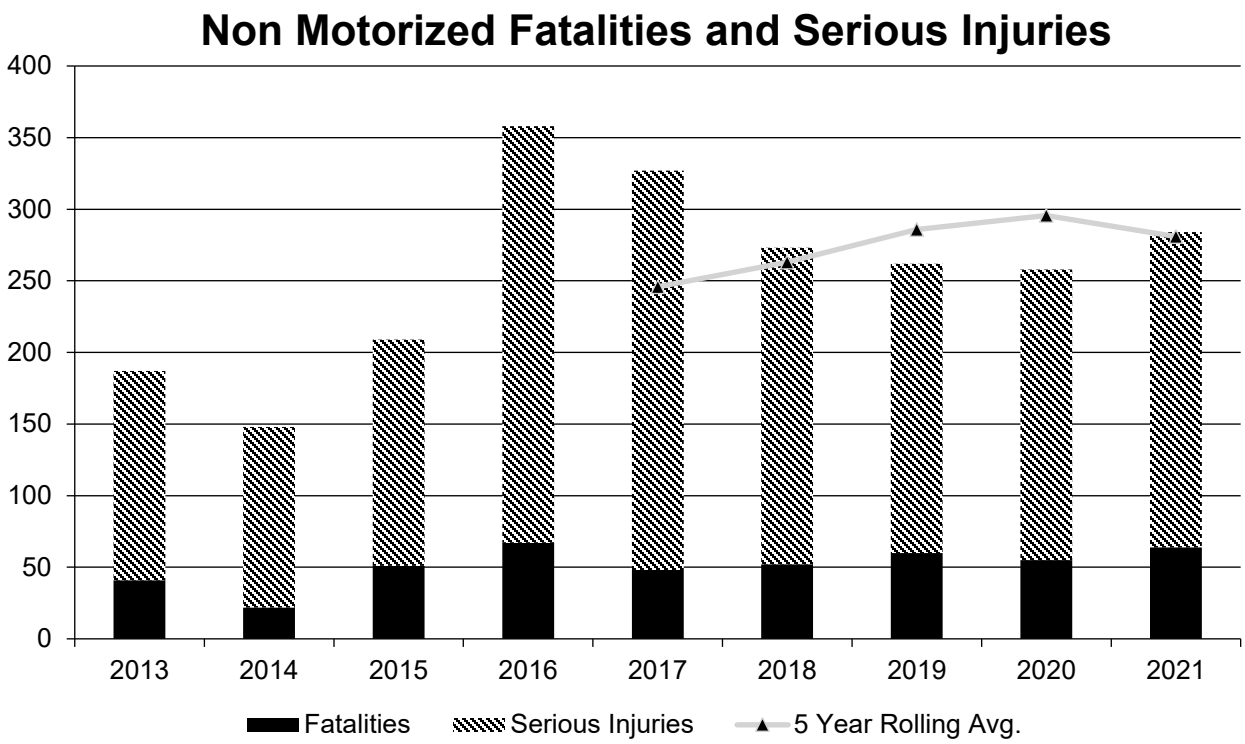
PERFORMANCE MEASURES	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fatalities	387	361	411	392	358	381	364	394	488
Serious Injuries	1,216	1,044	1,127	1,992	1,849	1,660	1,520	1,569	1,722
Fatality rate (per HMVMT)	0.679	0.633	0.695	0.666	0.626	0.631	0.600	0.765	0.853
Serious injury rate (per HMVMT)	2.133	1.832	1.907	3.382	3.233	2.748	2.504	3.047	3.010
Number non-motorized fatalities	41	22	51	67	48	52	60	55	64
Number of non-motorized serious injuries	146	126	158	291	279	221	202	203	220


Annual Fatalities
600
500
400
300
200
100
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
2500
2000
1500
1000
500
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
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
2013
2014
2015
2016
2017
2018
2019
2020
2021
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 2020

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				
Rural Principal Arterial (RPA) - Other Freeways and Expressways				
Rural Principal Arterial (RPA) - Other				
Rural Minor Arterial				
Rural Minor Collector				
Rural Major Collector				

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 Local Road or Street				
Urban Principal Arterial (UPA) - Interstate				
Urban Principal Arterial (UPA) - Other Freeways and Expressways				
Urban Principal Arterial (UPA) - Other				
Urban Minor Arterial				
Urban Minor Collector				
Urban Major Collector				
Urban Local Road or Street				

Year 2021

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	181.2	443.4	0.55	1.33
County Highway Agency	143	676.4	1.04	4.89
Town or Township Highway Agency	23.8	123.4	1.96	10.19
City or Municipal Highway Agency	49	420.8	0.52	4.44
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				

Safety Performance Targets

Safety Performance Targets

Calendar Year 2023 Targets *

Number of Fatalities:352.4

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

Based on the recent uptick in fatalities, it was not considered feasible to maintain the prior method marking progress toward the 2025 SHSP goal. This would require a 55% annual reduction in fatalities for 2 years; from 2017-2021 there was a 7% annual increase in traffic fatalities statewide. Minnesota does not find it acceptable set safety targets greater than prior years: as such the 2023 Target is set equal to the 2022 Target. To achieve this target, it is estimated that traffic fatalities must be reduced by 36% annually for 2 years.

Number of Serious Injuries:1463.4

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

Based on the recent outcomes, it was not considered feasible to maintain the prior method marking progress toward the 2025 SHSP goal. This would require a 34% annual reduction in serious injuries for 2 years; from 2017-2021 there was a 2% annual reduction in traffic fatalities statewide. Minnesota does not find it acceptable set safety targets greater than prior years: as such the 2023 Target is set equal to the 2022 Target. To achieve this target, it is estimated that serious injuries must be reduced by 19% annually for 2 years.

Fatality Rate:0.582

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

Based on the recent uptick in fatalities, it was not considered feasible to maintain the prior method marking progress toward the 2025 SHSP goal. This would require a 64% annual reduction in fatality rate for 2 years; from 2017-2021 there was a 8% annual increase in statewide fatality rate. Minnesota does not find it acceptable set safety targets greater than prior years: as such the 2023 Target is set equal to the 2022 Target. To achieve this target, it is estimated that the statewide fatality rate must be reduced by 44% annually for 2 years.

Serious Injury Rate:2.470

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

Based on the recent outcomes, it was not considered feasible to maintain the prior method marking progress toward the 2025 SHSP goal. This would require a 43% annual reduction in serious injury rate for 2 years; from 2017-2021 there was a 1% annual reduction in statewide serious injury rate. Minnesota does not find it acceptable set safety targets greater than prior years: as such the 2023 Target is set equal to the 2022 Target. To achieve this target, it is estimated that the statewide serious injury rate must be reduced by 22% annually for 2 years.

Total Number of Non-Motorized Fatalities and Serious Injuries:258.4

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

Based on the recent outcomes, it was not considered feasible to maintain the prior method marking progress toward the 2025 SHSP goal (i.e., scaled by the involvement of bicyclists and pedestrians killed or seriously injured). This would require a 25% annual reduction in bicyclists and pedestrians killed or seriously injured for 2 years; from 2017-2021 there was a 3% annual reduction. Minnesota does not find it acceptable set safety targets greater than prior years: as such the 2023 Target is set equal to the 2022 Target. To achieve this target, it is estimated that bicyclists and pedestrians killed or seriously injured statewide must be reduced by 10% annually for 2 years.

While Minnesota supports setting aspirational safety targets, these must be achievable. Given the outcomes of 2020 and 2021, a large sustained reduction would be necessary in all measures to maintain our prior methodology. Given the short timeframe on these targets--and limited ability to make programmatic changes in this period--Minnesota supports setting all 2023 Targets equal to 2022 Targets. This will require innovative thinking and sustained support to achieve these goals.

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

Methodologies were coordinated between MnDOT and Department of Public Safety based on input from respective stakeholders. Given the recent safety challenges, it was recognized the targets should (1) take into account the pandemic spike in fatalities; (2) measure progress toward Strategic Highway Safety Plan goal rather than prior trends alone; and (3) not be set higher than prior years. This last point was particularly important to our MPO partners. Furthermore, we heard from stakeholders and leadership that targets should be set to inspire action but not be unachievable.

Does the State want to report additional optional targets?

No

Describe progress toward meeting the State's 2022 Safety Performance Targets (based on data available at the time of reporting). For each target, include a discussion of any reasons for differences in the actual outcomes and targets.

PERFORMANCE MEASURES	TARGETS	ACTUALS
Number of Fatalities	352.4	397.0
Number of Serious Injuries	1579.8	1664.0
Fatality Rate	0.582	0.695
Serious Injury Rate	2.606	2.908
Non-Motorized Fatalities and Serious Injuries	281.2	280.8

Traffic safety in Minnesota was a significant challenge in 2020. Unexpected changes in behaviors (i.e. increases in higher risk strategic focus areas) coupled with unintuitive increases in fatalities while decreases in vehicle miles traveled significantly impacted safety performance metrics. Historically, Minnesota has seen approximately 10% annual reductions in fatalities and 9% annual reductions in serious injuries; in 2020, fatalities increased 24% while serious injuries increased 10%.

Minnesota does not anticipate meeting the 2021 Targets: given the changes in traffic and behavior patterns, we continue to strive for any reductions in fatalities and serious injuries. Despite increases in fatalities and serious injuries overall, non-motorized outcomes have been able to sustain a downward trend toward our 2025 SHSP goals. Sustained focus on this area will be important.

Applicability of Special Rules

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

No

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

PERFORMANCE MEASURES	2015	2016	2017	2018	2019	2020	2021
Number of Older Driver and Pedestrian Fatalities	79	77	68	59	68	61	92
Number of Older Driver and Pedestrian Serious Injuries	88	160	164	150	174	130	166

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.

Prior trends in Minnesota were consistent downward trends in fatal and serious injury crashes on all systems. Beginning in 2020 and persisting into 2021, we see a rise in fatalities on the local system (with slight uptick on the state system). This year, we also have an increase in serious injuries. As of the writing of this report, 2021 traffic fatalities and fatality rates have not been this high in 14 years (i.e., since 2007). This suggests that there may be behavior changes and/or safety challenges that may not be currently addressed in HSIP. Furthermore, this pattern suggests that Minnesota is on a clear plateau of traffic safety successes. The new "TZD 2.0" initiative was developed to address this plateau by analyzing where traffic safety programming statewide can coordinate, reallocate, and pivot toward new strategies.

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

- Other-Under consideration

Minnesota has developed Action Teams around key SHSP focus areas: these teams hope to develop leading indicators on how to measure progress toward implementing SHSP strategies. These action teams fall under the umbrella of the Toward Zero Deaths stakeholder initiatives.

Furthermore, Minnesota has initiated was has been termed a "TZD 2.0" program evaluation of the Toward Zero Deaths program to analyze where challenges persist and resources can be better coordinated.

Describe significant program changes that have occurred since the last reporting period.

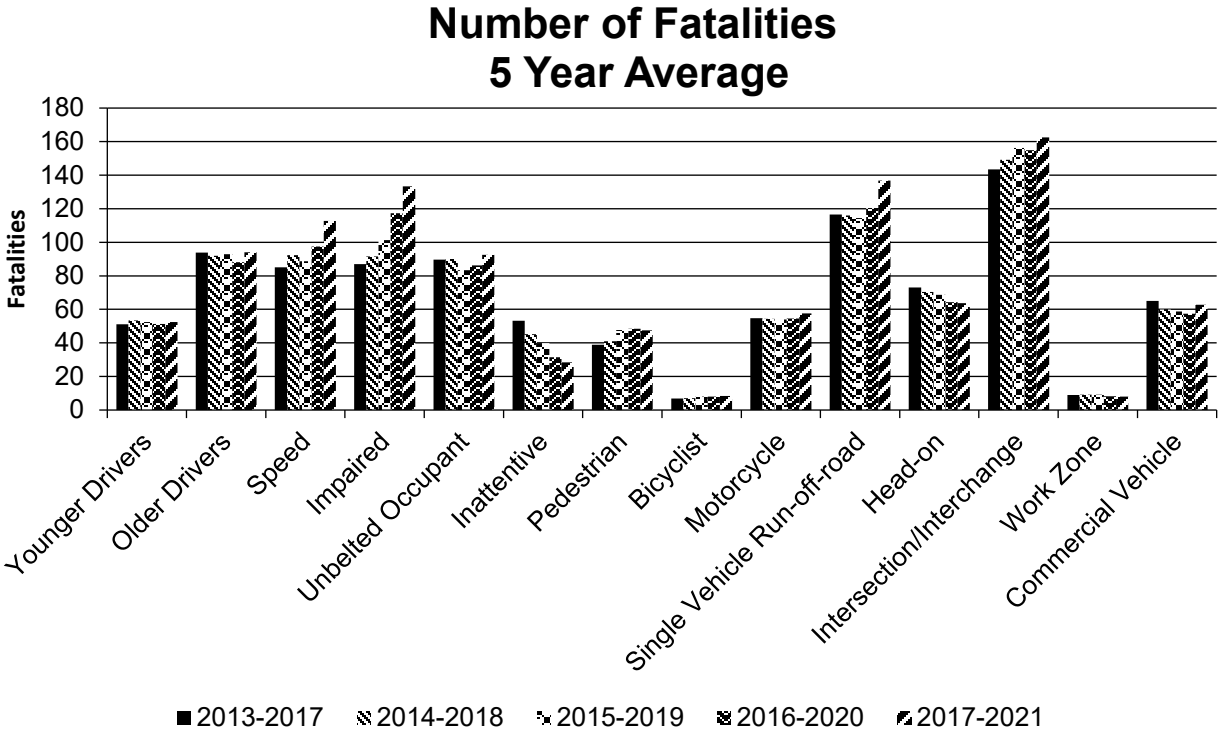
Minnesota was required to submit an HSIP Implementation Plan for failing to meet or make significant progress in 2020 performance targets. The attached document outlines not only the HSIP Implementation Plan but also provides an overview of the MnDOT traffic safety program. With this enhanced transparency and streamlined documentation, Minnesota and the HSIP can better communicate our safety programming.

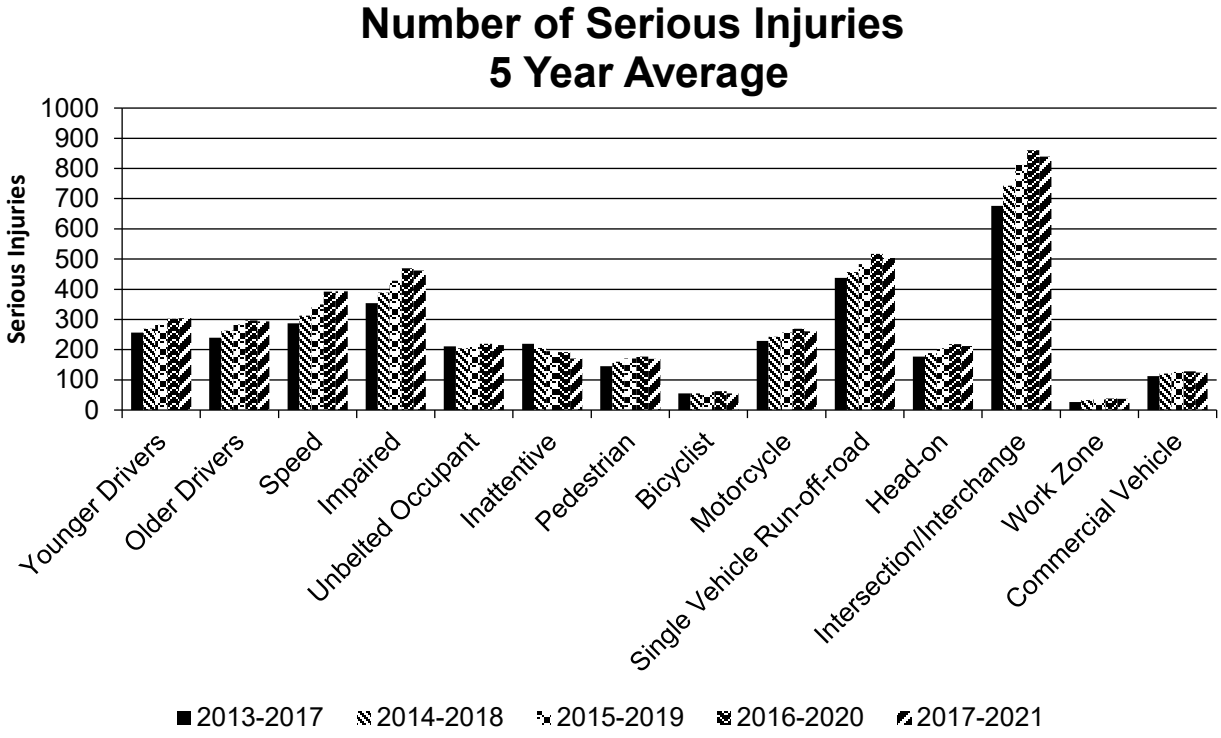
Effectiveness of Groupings or Similar Types of Improvements

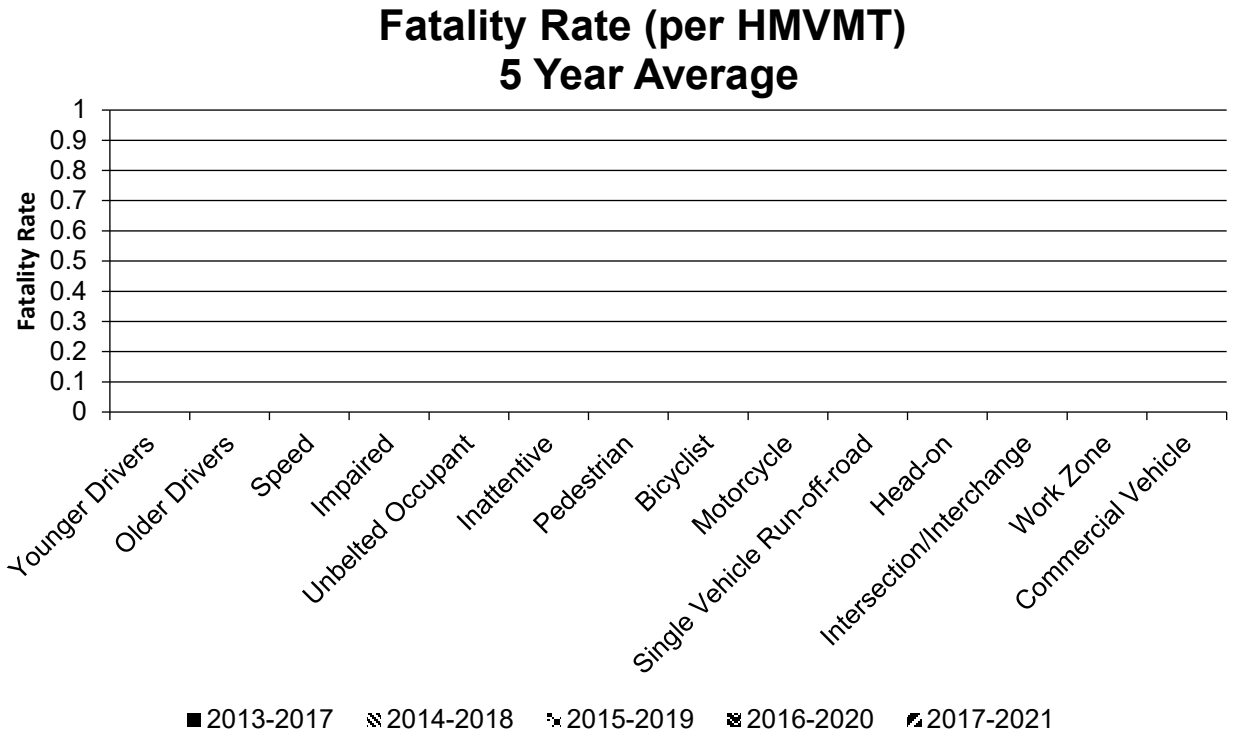
Present and describe trends in SHSP emphasis area performance measures.

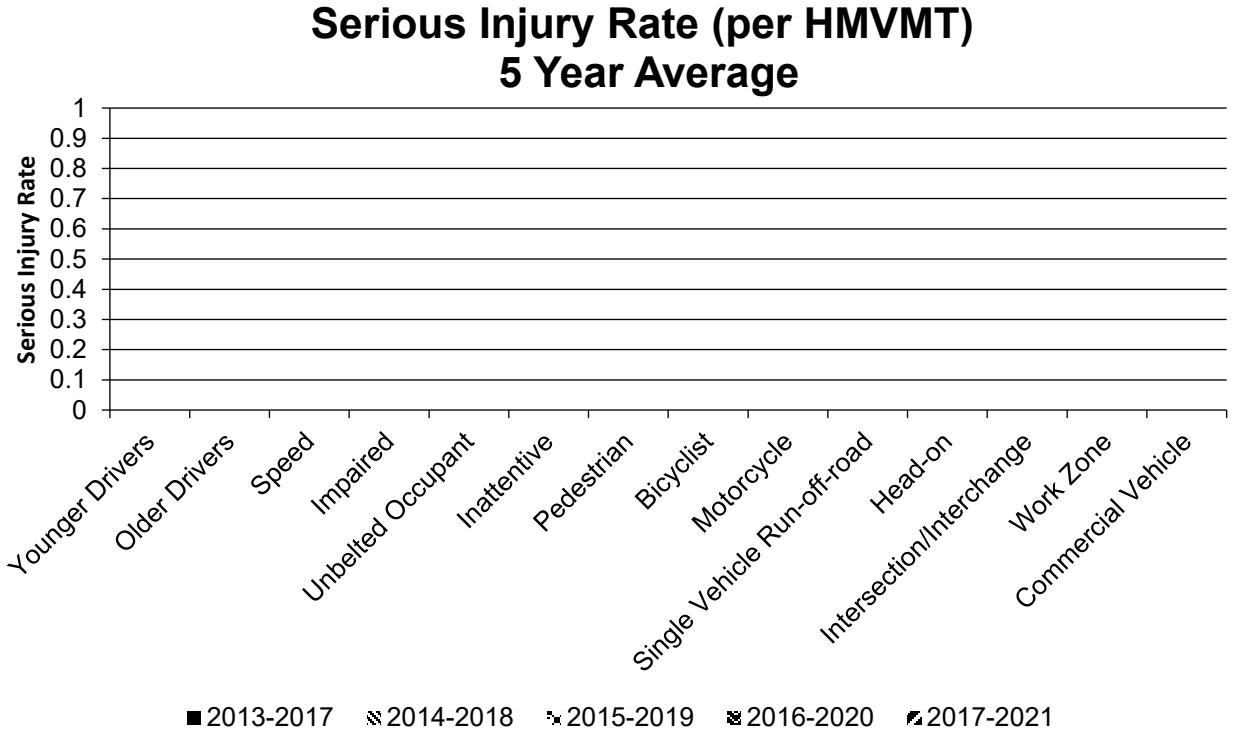
Year 2021

SHSP Emphasis Area	Targeted Crash Type	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)	NUMBER OF K CRASHES	NUMBER OF A CRASHES	NUMBER OF K AND A CRASHES
Younger Drivers		52.4	304	0	0	47.2	239.2	286.4
Older Drivers		94	293.8	0	0	86.2	236.4	322.6
Speed		112.8	392.8	0	0	102.4	309.8	412.2
Impaired		133.4	462.4	0	0	123.8	370.4	494.2
Unbelted Occupant		92.6	215.2	0	0	92.6	177.8	270.4
Inattentive		28.4	171	0	0	26.8	138.8	165.6
Pedestrian		47.4	169.6	0	0	47.2	165	212.2
Bicyclist		8.4	55.4	0	0	8.6	54.8	63.4
Motorcycle		57.6	260.2	0	0	56.8	239.4	296.2
Single Vehicle Run-off-road		136.8	503.4	0	0	131	437.2	568.2
Head-on		63.8	211.8	0	0	54	144.6	198.6
Intersection/Interchange		162.6	838.8	0	0	152.4	709.6	862
Work Zone		8	36.8	0	0	7.8	32.4	40.2
Commercial Vehicle		62.8	123.8	0	0	58	99.2	157.2


Number of Fatalities
5 Year Average
Fatalities
180
160
140
120
100
80
60
40
20
0
Younger Drivers
Older Drivers
Speed
Impaired
Unbelted Occupant
Inattentive
Pedestrian
Bicyclist
Motorcycle
Single Vehicle Run-off-road
Head-on
Intersection/Interchange
Work Zone
Commercial Vehicle
2013-2017
2014-2018
2015-2019
2016-2020
2017-2021


Number of Serious Injuries
5 Year Average
Serious Injuries
1000
900
800
700
600
500
400
300
200
100
0
Younger Drivers
Older Drivers
Speed
Impaired
Unbelted Occupant
Inattentive
Pedestrian
Bicyclist
Motorcycle
Single Vehicle Run-off-road
Head-on
Intersection/Interchange
Work Zone
Commercial Vehicle
2013-2017
2014-2018
2015-2019
2016-2020
2017-2021





Metrics tracked include (1) number of fatalities in that crash type, (2) number of serious injuries in that crash type, (3) number of fatal (i.e., K) crashes, (4) number of serious injury (i.e., A) crashes, and (5) number of fatal and serious injury crashes combined. NOTE: for unbelted occupants, pedestrians, bicyclists, and motorcyclists the number of fatalities and serious injuries are for those specific person types only; for all other crash types,

the number of fatalities and serious injuries corresponds to any person killed or seriously injured in that type of crash.

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:	Install reduced conflict intersection
Description:	The RCI is an alternative intersection layout that is intended to provide safety benefits by limiting the number of points within an intersection that two or more vehicle paths might intersect. Specifically, the design of the intersection is intended to reduce the likelihood that vehicles travelling in different directions will collide at various angles thereby reducing the number of crashes that result in fatalities or serious injuries. This report includes the results of both a before-after an
Target Crash Type:	Angle
Number of Installations:	45
Number of Installations:	45
Miles Treated:	
Years Before:	
Years After:	
Methodology:	Non-regression cross-section
Results:	The before-after analysis yielded the following significant results: 69% decrease in KA crashes, 70% decrease in angle crashes (100% decrease in KA angle crashes), 103% increase in rear-ends. No significant changes in sideswipe or total crashes. The cross-sectional analysis delivered similar results. Severity shift in crashes has been seen at Minnesota RCIs. A comparison between RCI to rural signals and low-volume interchanges shows fewer crashes than interchanges and fewer angle crashes than signals.

File Name: evaluation_rci.pdf

CounterMeasures:	Install auxiliary buffer lanes
Description:	The RCI is an alternative intersection layout that is intended to provide safety benefits by limiting the number of points within an intersection that two or more vehicle paths might intersect. Specifically, the design of the intersection is intended

	to reduce the likelihood that vehicles travelling in different directions will collide at various angles thereby reducing the number of crashes that result in fatalities or serious injuries. This report includes the results of both a before-after an
Target Crash Type:	Other (define)
Number of Installations:	13
Number of Installations:	13
Miles Treated:	
Years Before:	
Years After:	
Methodology:	Case-control
Results:	The before-after analysis yielded the following significant results: 69% decrease in KA crashes, 70% decrease in angle crashes (100% decrease in KA angle crashes), 103% increase in rear-ends. No significant changes in sideswipe or total crashes. The cross-sectional analysis delivered similar results. Severity shift in crashes has been seen at Minnesota RCIs. A comparison between RCI to rural signals and low-volume interchanges shows fewer crashes than interchanges and fewer angle crashes than signals.

File Name: evaluation_buffer-lanes.pdf

Project Effectiveness

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

Compliance Assessment

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

07/01/2020

What are the years being covered by the current SHSP?

From: 2020 To: 2024

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

2024

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

*Based on Functional Classification (MIRE 1.0 Element Number) [MIRE 2.0 Element Number]

ROAD TYPE	*MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
ROADWAY SEGMENT	Segment Identifier (12) [12]	100	100					100	100	100	90
	Route Number (8) [8]	100	100								
	Route/Street Name (9) [9]	100	100								
	Federal Aid/Route Type (21) [21]	100	100								
	Rural/Urban Designation (20) [20]	100	100					100	100		
	Surface Type (23) [24]	100	100					100	80		
	Begin Point Segment Descriptor (10) [10]	100	100					100	100	100	90
	End Point Segment Descriptor (11) [11]	100	100					100	100	100	90
	Segment Length (13) [13]	100	100								
	Direction of Inventory (18) [18]	100	100								
	Functional Class (19) [19]	100	100					100	100	100	90

ROAD TYPE	*MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
	Median Type (54) [55]	100	100								
	Access Control (22) [23]	100	100								
	One/Two Way Operations (91) [93]	100	100								
	Number of Through Lanes (31) [32]	100	100					100	100		
	Average Annual Daily Traffic (79) [81]	100	100					100	100		
	AADT Year (80) [82]	100	100								
	Type of Governmental Ownership (4) [4]	100	100					100	100	100	90
INTERSECTION	Unique Junction Identifier (120) [110]			95	100						
	Location Identifier for Road 1 Crossing Point (122) [112]			95	100						
	Location Identifier for Road 2 Crossing Point (123) [113]			95	100						
	Intersection/Junction Geometry (126) [116]			95	100						
	Intersection/Junction Traffic Control (131) [131]			95	100						
	AADT for Each Intersecting Road (79) [81]			95	100						
	AADT Year (80) [82]			95	100						
	Unique Approach Identifier (139) [129]			95	100						
INTERCHANGE/RAMP	Unique Interchange Identifier (178) [168]					95	100				
	Location Identifier for Roadway at					100	100				

ROAD TYPE	*MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
	Beginning of Ramp Terminal (197) [187]										
	Location Identifier for Roadway at Ending Ramp Terminal (201) [191]					100	100				
	Ramp Length (187) [177]					100	100				
	Roadway Type at Beginning of Ramp Terminal (195) [185]					100	100				
	Roadway Type at End Ramp Terminal (199) [189]					100	100				
	Interchange Type (182) [172]					95	100				
	Ramp AADT (191) [181]					100	100				
	Year of Ramp AADT (192) [182]					100	100				
	Functional Class (19) [19]					100	100				
	Type of Governmental Ownership (4) [4]					70	100				
Totals (Average Percent Complete):		**100.00**	**100.00**	**95.00**	**100.00**	**96.36**	**100.00**	**100.00**	**97.78**	**100.00**	**90.00**

*Based on Functional Classification (MIRE 1.0 Element Number) [MIRE 2.0 Element Number]

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

Minnesota has made great strides in achieving complete MIRE FDE access: based on a recent FHWA review, Minnesota is collecting 84.5% of the MIRE FDEs. Going forward, a process for cataloging metadata and documenting in a data dictionary is the priority. While the fields are available, the Office of Transportation System Management is reviewing to ensure that every element has a corresponding source that is reliably updated. This will improve clarity and data quality for further safety analysis and to meet the requirement of full access by September 30, 2026.

Optional Attachments

Program Structure:

HSIP funding guide FINAL.pdf
Project Implementation:

Safety Performance:

analysis_statewide-pedestrian-safety.pdf
Evaluation:

Highway Safety Improvement Program Implementation Plan-CY2020.pdf
evaluation_rci.pdf
evaluation_buffer-lanes.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.