

ROSSWALK STOP ON RED

# **NEBRASKA**

# HIGHWAY SAFETY IMPROVEMENT PROGRAM 2018 ANNUAL REPORT

U.S. Department of Transportation Federal Highway Administration

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. 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**

State FY 2018 (July 1, 2017 - June 30, 2018) was a highly successful year for the Nebraska HSIP Program. Over \$7 million was obligated for forty-one projects. Six major new projects were let for bids of over \$5.3 million. In addition, over \$1 million was obligated for Preliminary Engineering on eleven projects that will be constructed in the future.

Completed HSIP projects were shown to be effective, with seven evaluations resulting in an overall Benefit-Cost Ratio of 6.68. Although statewide fatalities increased slightly from 2016 to 2017, the fatality rate of 1.085 fatalities per hundred million vehicle miles traveled is lower than the rate of ten years ago. A continuing bright spot is the reduction in Serious Injuries. Serious Injuries declined by nearly 7% in 2017, when compared to 2016. Since 2008, Serious Injuries have decreased by over 20%.

# 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 HSIP in Nebraska is administered by the NDOT under the direction of the State Traffic Engineer. The NDOT maintains three separate committees that are responsible for identifying projects that qualify for HSIP funding. The long-standing Safety Committee is made up of members from several NDOT Divisions, local governments, and the FHWA Division Safety Engineer. They review crash studies in an attempt to find countermeasures for a location, both at sites identified by NDOT's High Crash Locations computer program and those requested by others. When they find a potential project, a benefit/cost study is prepared by Traffic Engineering's Highway Safety/Accident Records section. Local governments or their consultants also present potential projects to the Committee. If the B/C ratio shows significant benefit, the Committee may vote to advance the proposal as an HSIP project.

The Strategic Safety Infrastructure Team was created by the NDOT when HSIP funding was significantly raised by Congress. It is made up of several NDOT division heads and a District Engineer. Higher cost projects (typically over \$400,000) that are approved by the Safety Committee are passed up to the SSIT for final approval and determination of funding splits. The committee also identifies projects on its own, especially systemic projects. The committee developed and maintains a five-year HSIP and RHCP Expenditures Plan.

A High Risk Rural Roads committee was formed by NDOT when specific funding for HRRR projects was available. The Department has elected to maintain this committee, even though the dedicated HRRR funding no longer exists. The committee is made up of representatives from NDOT's Traffic Engineering Division, Local Assistance Division, LTAP, and a representative from the Nebraska Association of County Officials. They work to find viable HSIP projects on rural county roads.

Approved HSIP projects generally go through NDOT's letting system. Many completed projects are evaluated to see whether or not they were effective in reducing crashes.

# Where is HSIP staff located within the State DOT?

Engineering

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

The State Traffic Engineer is ultimately responsible for the HSIP program. Analysis and technical support is provided by the Highway Safety/Accident Records Section of the Traffic Engineering Division.

### How are HSIP funds allocated in a State?

Central Office via Statewide Competitive Application Process SHSP Emphasis Area Data

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

The NDOT has three teams that determine projects for HSIP funding. The Strategic Safety Infrastructure Team has final approval over higher cost jobs. The Highway Safety/Accident Records Section supplies these teams with crash data analysis which can lead to projects at specific sites or systemic projects. These must support the SHSP critical emphasis areas. Project proposals can also be brought to these teams by local governments, District Engineers, or other NDOT engineers.

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

Local road projects are regularly funded under the HSIP. The NDOT's various safety committees identify potential locations for projects and send this information to local governments for their consideration as HSIP projects. City governments are encouraged to submit potential projects to the NDOT for consideration. Representatives of the state's four largest cities, Omaha, Lincoln, Bellevue, and Grand Island regularly attend Safety Committee meetings and officials from the smaller cities are always welcome. Representatives from the Nebraska LTAP Center and the Nebraska Highway Superintendents Association sit on the High Risk Rural Roads committee, which continues to function despite the loss of dedicated funding. The number of projects built on local roads varies from year to year. Over \$5.4 million in HSIP funds were spent on local projects in State FY 2018.

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

Traffic Engineering/Safety Design Planning Operations Districts/Regions Local Aid Programs Office/Division Governors Highway Safety Office Other-Program Management Other-Communication Other-Project Development

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

All of these areas have some part in the HSIP process, some more than others. Most of them are represented on at least one of our three safety committees.

# Describe coordination with internal partners.

All of the above named disciplines play a role in the HSIP process. Highway Safety prepares collision diagrams, spot maps, or lists of high accident locations and presents them to committee members at their monthly meetings. They coordinate with the engineering divisions to get estimated project costs, from which they calculate benefit-cost ratios. They also complete evaluations of completed projects and present them to the group for use in making future decisions. Proposed projects on the state highway system are sent to the appropriate District Engineer for concurrence. The DE often submits the required paperwork to begin the project process. The Traffic Engineering Division is the lead office for all HSIP activity. All HSIP projects are approved by either the NDOT Safety Committee or the Strategic Safety Infrastructure Team. The usual procedure is for an approved HSIP project to be assigned to Roadway Design Division, Traffic Engineering Division, or Local Assistance Division as the lead element, depending on the type of project and whether or not it is on a local road. These units work with Program Management to get the project scheduled and to make sure it is progressing adequately through the steps in the Clarity software, which is used for project programming. This includes the important step of working with the Environmental Section to make sure all environmental concerns are met. The lead units either design the project or oversee the design of a consultant and prepare the project for letting. If railroad property is involved in the project, the Rail and Public Transportation Section of Local Assistance Division must also be consulted. The Operations Division has taken the lead on projects involving bridge anti-icing systems, dynamic message signs, and required engineering analysis. The NDOT has begun using the Highway Safety Manual procedures in the analysis and evaluation of some HSIP projects. The Communication Division prepares professional documents for use in the HSIP program, such as the Strategic Highway Safety Plan, as well as print, television and radio spots focusing on highway safety improvements, like roundabouts and flashing yellow arrows.

# Identify which external partners are involved with HSIP planning.

Regional Planning Organizations (e.g. MPOs, RPOs, COGs) Governors Highway Safety Office Local Technical Assistance Program Local Government Agency FHWA Other-City of Omaha Public Works Department Other-City of Lincoln Public Works Department Other-City of Bellevue Other-City of Grand Island

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

Each of these partners sit on one or more of our Safety Committees, giving them the opportunity for input into the project selection process.

# Describe coordination with external partners.

Most of the interaction with our external partners occurs through one of our three safety committees. Representatives from the Public Works departments of our two largest cities, Omaha and Lincoln, regularly attend the monthly meetings of the long-standing Safety Committee, reviewing crash locations, making suggestions for countermeasures, presenting project proposals, and agreeing to make low cost changes or do further studies at locations within their own jurisdiction. Delegates from other cities attend less often, but do come when they have a project proposal to present.

LTAP has proven to be very helpful to the High Risk Rural Roads committee. Not only have they been involved in the development of projects, they have agreed to serve as liaison with the individual counties, recruiting them to take part in systemic projects. The County Highway Superintendent's representative helps NDOT better see the picture from the county's point of view. The FHWA Division Safety Engineer provides all of the committees with good information on whether ideas are likely to qualify for HSIP funding.

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

No

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

Yes

# Describe other aspects of HSIP Administration on which the State would like to elaborate.

NDOT's RFP for a new crash database went out earlier this year. A vendor was tentatively selected and negotiations on a contract are currently taking place. A new crash report, which follows Version 5 of MMUCC, has been designed to work in conjunction with the new database.

# Program Methodology

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

Yes

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

File Name: HSIP Process Document 2015.doc

# Select the programs that are administered under the HSIP.

HSIP (no subprograms) HRRR

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

While Nebraska may include projects that fall under many of these categories in our HSIP, we have no specific programs, such as those that would require that a certain amount of money be spent each year on a given category of projects.

# Program:HRRRDate of Program Methodology:2/23/2015What is the justification for this program? [Check all that apply]Other-22% of NE fatalities occur on rural local roadsOther-22% of NE fatalities occur on rural local roadsWhat is the funding approach for this program? [Check one]Competes with all projectsWhat data types were used in the program methodology? [Check all that apply]CrashesExposureAll crashes

Lane miles

**Roadside features** 

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

Crash frequency Crash rate

Fatal and serious injury crashes only

# 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?

No

**Describe the methodology used to identify local road projects as part of this program.** Crash frequency and crash types at specific locations or systemically

# 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 : 1 Available funding : 2

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

The Rate Quality Control method is used to identify high crash locations on state highways. This same method is not used on local roads because traffic volume data is incomplete, preventing valid comparisons of different sites.

Program:	HSIP (no subprograms)							
Date of Program Methodology:	2/23/2015							
What is the justification for this prog	gram? [Check all that apply]							
Addresses SHSP priority or emphasis a	area							
What is the funding approach for this program? [Check one]								
Competes with all projects								
What data types were used in the program methodology? [Check all that apply]								
Crashes	Exposure	Roadway						
All crashes	Volume	Other-Roadway Departure, Intersection, or other						
What project identification methodo	logy was used for this program? [C	Check all that apply]						
Relative severity index Critical rate								
Are local roads (non-state owned and operated) included or addressed in this program?								
Yes								
Are least read presidentified using the same methodology as state reads?								

No

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

2018 Nebraska Highway Safety Improvement Program Crash frequency and crash type at specific locations

# 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 : 1 Available funding : 2

# What percentage of HSIP funds address systemic improvements?

22.8

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

Rumble Strips Install/Improve Pavement Marking and/or Delineation Upgrade Guard Rails Safety Edge Install/Improve Lighting Horizontal curve signs

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

The percentage of HSIP funds used for Systemic Projects will vary from year to year.

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

Engineering Study Crash data analysis Stakeholder input

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

Does the State HSIP consider connected vehicles and ITS technologies?

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

NDOT has not considered any connected vehicle technology for HSIP funding. We have funded projects for dynamic message signs, anti-icing systems on bridges, and Adaptive Traffic Signal systems that were considered ITS.

# 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.

Highway Safety Manual techniques are used to determine benefit/cost ratios for some project proposals.

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

No

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

Yes

# Describe other aspects of the HSIP methodology on which the State would like to elaborate.

The NDOT is partnering with the University of Nebraska-Lincoln on the development of a new high crash software package. The Rate Quality Control method which we currently use is based on 1950's research. The new program will select locations using the Empirical Bayes method, similar to what is used in the Highway Safety Manual.

# **Project Implementation**

# Funds Programmed

# **Reporting period for HSIP funding.**

State Fiscal Year

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

Since the latest Federal Fiscal Year will not be over at the time the HSIP Report is due, we are reporting on the State Fiscal Year, July 1, 2017 to June 30, 2018.

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

FUNDING CATEGORY	PROGRAMMED	OBLIGATED	% OBLIGATED/PROGRAMMED		
HSIP (23 U.S.C. 148)	\$10,232,932	\$7,173,399	70.1%		
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)	\$2,606	\$2,606	100%		
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	\$1,249,570	\$797,044	63.79%		
Totals	\$11,485,108	\$7,973,049	69.42%		

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

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

\$6,566,641

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

\$5,407,044

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

The percentage of HSIP that goes to local projects varies significantly from year to year. The FY 2018 percentage was on the high end. Incidentally, 42.56% of the local funding went to Omaha.

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

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

\$47,000

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

All of the current Nebraska non-infrastructure projects are crash records type projects.

# 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

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

No fund transfers were made in FY 2018.

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

As projects become more expensive and more complex, it often takes longer to move them from the planning stage to completion. We have been successful, however, in obligating most of our available HSIP funds. We have an expenditure plan in place which should allow us to continue at this pace into the future. At this point in time, we don't have any serious impediments to HSIP obligation.

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

No

# General Listing of Projects

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

													RELATIONS	HIP TO SHSP
PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST(\$)	TOTAL PROJECT COST(\$)	FUNDING CATEGORY	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	EMPHASIS AREA	STRATEGY
00868 Advance Railroad Signing for County Roads	Roadway signs and traffic control	Roadway signs (including post) - new or updated		Approaches	\$44648	\$308452	HSIP (23 U.S.C. 148)	Varies	0	50	County Highway Agency	Systemic	Intersections	Making drivers aware they are approaching a railroad crossing
00975 Flagging Training	Roadway signs and traffic control	Roadway signs and traffic control - other		Numbers	\$10000	\$10100	HSIP (23 U.S.C. 148)	Not Applicable	0		Not Applicable	Systemic	Work Zones	Teach flaggers proper techniques in work zones
00976 Work Zone Training	Roadway signs and traffic control	Roadway signs and traffic control - other			\$10000	\$10100	HSIP (23 U.S.C. 148)	Varies	0		County Highway Agency	Systemic	Work Zones	Teach county personnel how to properly set up work zones
00984 Nebraska Vehicle Crash Information Portal	Non-infrastructure	Data/traffic records	1	Numbers	\$27000	\$30000	HSIP (23 U.S.C. 148)	Not Applicable	0		Not Applicable	Systemic	Data	Creating a computer system to easily determine crash data by location
12944 Lincoln - 14th Street & Cornhusker Highway (US-6) (PE)	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	\$147336	\$2838596	HSIP (23 U.S.C. 148)	Urban Minor Arterial	46,280	40	City of Municipal Highway Agency	Spot	Intersections	Rebuild stop sign controlled intersection as a roundabout
13147 Lincoln - S. Coddington Ave. & W. Van Dorn Street	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	\$39987	\$2344368	HSIP (23 U.S.C. 148)	Urban Minor Arterial	11,015	40	City of Municipal Highway Agency	Spot	Intersections	Rebuild stop sign controlled intersection as a roundabout
13227 Lincoln - 66th & Fremont Street	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	\$493127	\$763429	HSIP (23 U.S.C. 148)	Urban Major Collector	7,400	35	City of Municipal Highway Agency	Spot	Intersections	Rebuild stop sign controlled intersection as a roundabout
13249 Palmyra Southwest (PE)	Alignment	Horizontal curve realignment	1	Curves	\$12786	\$947978	HSIP (23 U.S.C. 148)	Rural Minor Collector	260	50	County Highway Agency	Spot	Roadway Departure	Prevent vehicles from running off the road
13347 Lincoln - 56th Street & Yankee Hill Road (PE)	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	\$441275	\$3062405	HSIP (23 U.S.C. 148)	Urban Minor Arterial	9,085	45	City of Municipal Highway Agency	Spot	Intersections	Rebuild stop sign controlled intersection as a roundabout
13349 Lincoln - I- 80/I-180 Interchange	Roadway signs and traffic control	Roadway signs (including post) - new or updated	1	Intersections	\$208953	\$233269	HSIP (23 U.S.C. 148)	Urban Principal Arterial (UPA) - Interstate	73,800	60	State Highway Agency	Spot	Intersections	Clarify directional guidance in complex interchange area
13367 Malcolm Signs	Roadway signs and traffic control	Roadway signs (including post) - new or updated	1	Village	\$1000	\$1000	HSIP (23 U.S.C. 148)	Varies	0		City of Municipal Highway Agency	Agreed to be part of pilot program	Reduce crashes in villages	Ensure villages have proper signage
13368 Syracuse Signs	Roadway signs and traffic control	Roadway signs (including post) - new or updated	1	Second Class City	\$5000	\$5000	HSIP (23 U.S.C. 148)	Varies	0		City of Municipal Highway Agency	Agreed to be part of pilot program	Reduce crashes in Second Class Cities	Ensure Second Class Cities have proper signage

													RELATIONS	HIP TO SHSP
PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST(\$)	TOTAL PROJECT COST(\$)	FUNDING CATEGORY	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	EMPHASIS AREA	STRATEGY
22449 Omaha - 144th Street Adaptive Traffic Signals, F St. to Arbor St. (PE)	Advanced technology and ITS	Advanced technology and ITS - other	7	Traffic Signals	\$9000	\$1235512	HSIP (23 U.S.C. 148)	Urban Principal Arterial (UPA) - Other	28,730	45	City of Municipal Highway Agency	Corridor	Intersections	Improve traffic signal coordination
22438 Omaha - 132nd St. Adaptive Traffic Control System, Farnam St. to Cuming St. (PE)	Advanced technology and ITS	Advanced technology and ITS - other	7	Traffic Signals	\$9000	\$947540	HSIP (23 U.S.C. 148)	Urban Minor Arterial	23,005	40	City of Municipal Highway Agency	Corridor	Intersections	Improving Traffic Signal Coordination
22482 Omaha - Dodge St. Adaptive Traffic Control System, 93rd St. to 69th St.	Advanced technology and ITS	Advanced technology and ITS - other	9	Traffic Signals	\$1413803	\$2168948	HSIP (23 U.S.C. 148)	Urban Principal Arterial (UPA) - Other	53,950	3545	City of Municipal Highway Agency	Corridor	Intersections	Improving Traffic Signal Coordination
22506 Omaha - 24th Street Road Diet, L St. to Leavenworth St. (PE)	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	1.37	Miles	\$64109	\$3626475	HSIP (23 U.S.C. 148)	Urban Minor Arterial	10,405		City of Municipal Highway Agency	Corridor	Reduce rear-end, left-turn collisions	Provide a safer street for pedestrians, bicyclists, as well as drivers
22629 Omaha - 132nd St. & West Center Road (PE)	Intersection geometry	Auxiliary lanes - add left-turn lane	1	Intersections	\$6174	\$6889016	HSIP (23 U.S.C. 148)	Urban Principal Arterial (UPA) - Other	48,450	45	City of Municipal Highway Agency	Spot	Intersections	Add dual left-turn lanes, close medians, upgrade signals
22660 Ralston - 84th Street (N-85) & Ralston Avenue	Intersection geometry	Intersection geometry - other	1	Intersections	\$73318	\$199405	HSIP (23 U.S.C. 148)	Urban Principal Arterial (UPA) - Other	31,165	45	State Highway Agency	Spot	Intersections	Install median to prevent left-turns from westbound Ralston Ave.
22695 Omaha - 84th St. Adaptive Traffic Control, Lincoln St. (Papillion) to W. Center Rd	Advanced technology and ITS	Advanced technology and ITS - other	23	Traffic Signals	\$2981278	\$3971818	HSIP (23 U.S.C. 148)	Urban Principal Arterial (UPA) - Other	27,085	3545	City of Municipal Highway Agency	Corridor	Intersections	Improve Traffic Signal Coordination
22702 Omaha - 72nd & Maple St. (N-64) (PE)	Intersection geometry	Auxiliary lanes - add left-turn lane	2	Approaches	\$18971	\$4700783	HSIP (23 U.S.C. 148)	Urban Principal Arterial (UPA) - Other	47,940	40	City of Municipal Highway Agency	Spot	Intersections	Build dual left- turns on Maple St. to reduce congestion in left- turn lane
22706 Omaha - 30th St. Road Diet, Cuming St. to Ames Ave. (PE)	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	1.11	Miles	\$10001	\$2686643	HSIP (23 U.S.C. 148)	Urban Minor Arterial	8,920	35	City of Municipal Highway Agency	Corridor	Reduce left-turn collisions	Provide a safer street for pedestrians, bicyclists, as well as drivers
31417A Norfolk - US-275 & 37th Street	Intersection traffic control	Modify control - traffic signal to roundabout	1	Intersections	\$27595	\$7037818	HSIP (23 U.S.C. 148)	Urban Principal Arterial (UPA) - Other	8,650	50	State Highway Agency	Spot	Intersections	Reduce crash and crash severity by building a roundabout
42809 District 4 Shoulders	Shoulder treatments	Shoulder treatments - other	16.79	Miles	\$126234	\$1768947	HSIP (23 U.S.C. 148)	Rural Principal Arterial (RPA) - Other	2,615	60	State Highway Agency	Systemic	Roadway Departure	Resurface existing shoulders and install shoulder rumble strips

													RELATIONS	HIP TO SHSP
PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST(\$)	TOTAL PROJECT COST(\$)	FUNDING CATEGORY	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	EMPHASIS AREA	STRATEGY
42812 Grand Island - Stolley Park Rd road reconfiguration, Webb Rd to Locust St.	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	2.06	Miles	\$1135056	\$1307111	HSIP (23 U.S.C. 148)	Urban Minor Arterial	9,570	35	City of Municipal Highway Agency	Corridor	Reduce rear-end, left-turn collisions	Provide a safer street for pedestrians, bicyclists, as well as drivers
42863 Grand Island - Five Points Intersection (State St., Broadwell Ave., Eddy St.) (PE)	Intersection traffic control	Modify control - traffic signal to roundabout	1	Intersections	\$12000	\$2221500	HSIP (23 U.S.C. 148)	Urban Minor Arterial	17,335		City of Municipal Highway Agency	Spot	Intersections	Reduce crash and crash severity by building a roundabout
51507 Scottsbluff - Minatare (Jct. of US-26 & L79E)	Intersection geometry	Auxiliary lanes - modify right-turn lane offset	1	Intersections	\$128406	\$4156574	HSIP (23 U.S.C. 148)	Rural Principal Arterial (RPA) - Other	6,170	60	State Highway Agency	Spot	Intersections	Offset eastbound right-turn lane (Safety project included with larger project)
71018 Benkelman Northeast (PE)	Roadway	Roadway widening - travel lanes	0.40	Miles	\$43966	\$230617	HSIP (23 U.S.C. 148)	Rural Major Collector	215	50	County Highway Agency	Spot	Roadway Departure	Grading to widen and realign roadway to improve sight distance
71166 Grant North (N-61)	Shoulder treatments	Pave existing shoulders	10.93	Miles	\$881375	\$4607573	HSIP (23 U.S.C. 148)	Rural Minor Arterial	2,745	60	State Highway Agency	Systemic	Roadway Departure	Add surfaced shoulders and install shoulder rumble strips

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

# Safety Performance

# General Highway Safety Trends

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

PERFORMANCE MEASURES	2009	2010	2011	2012	2013	2014	2015	2016	2017
Fatalities	223	190	181	212	211	225	246	218	228
Serious Injuries	1,944	1,750	1,768	1,661	1,536	1,620	1,520	1,588	1,478
Fatality rate (per HMVMT)	1.165	0.973	0.947	1.103	1.092	1.147	1.216	1.053	1.085
Serious injury rate (per HMVMT)	10.153	8.965	9.251	8.640	7.949	8.260	7.514	7.668	7.034
Number non-motorized fatalities	12	10	9	15	15	11	24	13	23
Number of non-motorized serious injuries	132	110	156	139	132	130	125	113	121







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

# Describe fatality data source.

FARS

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

The Nebraska FARS operation is located within the Highway Safety/Accident Records Section of Traffic Engineering (NDOT). Consequently, the FARS data and the state fatality data should always be the same.

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

Year 2017

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	19.6	84	0.7	2.98
Rural Principal Arterial (RPA) - Other Freeways and Expressways	6.6	72.6	0.64	7.09
Rural Principal Arterial (RPA) - Other	41	136	1.77	5.86
Rural Minor Arterial	40.8	161.8	1.73	6.85

Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Rural Major Collector	20.2	149.8	1.35	10.02
Urban Principal Arterial (UPA) - Interstate	6	54.6	0.4	3.6
Urban Principal Arterial (UPA) - Other	20	271.6	0.94	12.72
Urban Minor Collector	0	1.6	0	9.7
Urban Local Road or Street	13.6	97	1.04	7.38

Roadways	Number of Fatalities (5-yr avg) Number of Serious Fatality Rate Injuries (per HMVMT) (5-yr avg) (5-yr avg) (5-yr avg)		Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
State Highway Agency	131.6	713.8	1.02	
County Highway Agency	55.4	313.8	2.39	13.56
Town or Township Highway Agency				
City of Municipal Highway Agency	38.6	519	0.78	10.5
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				

# Year 2017



# **Number of Fatalities by Functional Classification**









# Number of Fatalities by Roadway Ownership 5 Year Average



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

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

Yes

# Provide additional discussion related to general highway safety trends.

As we move farther away from the recession years, when fatalities were lower, the 5-year rolling averages for fatalities and fatality rate continue to increase. Given the increases in traffic volume, this result is not surprising. On the other hand, the 5-year rolling averages for serious injuries and serious injury rate have declined. Non-motorist fatality and serious injury numbers are small, but pedestrian fatalities have risen in the last few years, as have motorcycle fatalities.

# Safety Performance Targets Safety Performance Targets

# Calendar Year 2019 Targets \*

**Number of Fatalities** 

239.0

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

This target was selected based on the trend line of fatalities over the last several years. Based on this trend, we believe this is a realistic goal. If we meet this target, or fall below it, the basic goal of the SHSP, the reduction of fatalities, will be advanced.

### Number of Serious Injuries 1540.0

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

This target was selected based on the trend line of serious injuries over the last several years. Based on this trend, we believe this is a realistic goal. If we meet this target, or fall below it, the basic goal of the SHSP, the reduction of serious injuries, will be advanced.

# Fatality Rate1.180

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

This target was selected based on the trend line of the fatality rate over the last several years. Based on this trend, we believe this is a realistic goal. If we meet this target, or fall below it, the basic goal of the SHSP, the reduction of fatalities, will be advanced.

### Serious Injury Rate 7.500

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

This target was selected based on the trend line of the serious injury rate over the last several years. Based on this trend, we believe this is a realistic goal. If we meet this target, or fall below it, the basic goal of the SHSP, the reduction of serious injuries, will be advanced.

Total Number of Non-Motorized	140.0
Fatalities and Serious Injuries	140.0

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

This target was selected based on the trend line of non-motorized fatalities and serious injuries over the last several years. Based on this trend, we believe this is a realistic goal. If we meet this target, or fall below it, the basic goal of the SHSP, the reduction of fatalities and serious injuries, will be advanced.

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

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

The NDOT Highway Safety Office is also located within the Traffic Engineering Division, so it is easy for us to get together to establish performance targets. Since their annual Highway Safety Plan must be to NHTSA by

July 1, it is necessary for us to determine the targets we share with them early, which we did. This year we held a teleconference with our MPOs to discuss target setting. We explained to them again their responsibilities under the rule and offered to provide crash data and VMT data to them.

# Does the State want to report additional optional targets?

No

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

### Applicability of Special Rules

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

No

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

The fatality rate on Nebraska's High Risk Rural Roads (Rural Major Collectors, Rural Minor Collectors, and Rural Local roads) was 2.214 fatalities per 100 million vehicle miles traveled for the 5-year period from 2010 to 2014. For the comparable 5-year period from 2012 to 2016, the fatality rate was 2.143 fatalities/100 million VMT. Since the rate decreased, the HRRR special rule does not apply to Nebraska.

# 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	2010	2011	2012	2013	2014	2015	2016
Number of Older Driver and Pedestrian Serious Injuries	181	186	182	161	182	199	233



Number of Older Driver and Pedestrian Fatalities and Serious Injuries by Year.

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

Using the population of drivers and pedestrians age 65 and older included in the Special Rule Guidance, the 5year rolling average through 2014 and through 2016 are both, when rounded, 0.8. Thus, the Special Rule does not apply to Nebraska.

# Evaluation

# Program Effectiveness

# How does the State measure effectiveness of the HSIP?

Change in fatalities and serious injuries Benefit/Cost Ratio

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

NDOT uses benefit/cost analysis in the selection of most HSIP projects and then evaluates completed projects to see if they were effective in reducing crashes. A few projects that are not chosen on the basis of crash data will not be evaluated.

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

The Nebraska HSIP Program was very successful in State FY 2018. The combined benefit-cost ratio for all the HSIP projects evaluated during this year was 6.68. Although our fatality numbers have fluctuated up and down in recent years, even the highest years have been significantly below the numbers recorded in the first decade of this century. Serious injuries, on the other hand, have steadily declined during this same time period.

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

More systemic programs Policy change Increased focus on local road safety HSIP Obligations

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

We have been successful in increasing our HSIP obligations over the last several years. Although we do not reserve a specific amount of funding for them, we try to include some High Risk Rural Roads projects each year. We have instituted several systemic projects in recent years and hope to include more of them in our HSIP program. Several improvements that started as HSIP projects have become agency policy, such as shoulder rumble strips and the beveled edge.

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

No

# Effectiveness of Groupings or Similar Types of Improvements

Present and describe trends in SHSP emphasis area performance measures.

# Year 2017

SHSP Emphasis Area	Targeted Crash Type	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)	
Intersections	Intersections	77.6	798.2	0.38	3.96	



# Number of Serious Injuries 5 Year Average





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

2012-2016

2013-2017

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

2011-2015

2009-2013 2010-2014

No

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

# 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)
Omaha - I-80 & 84th Street Interchange - WB Off-Ramp	Urban Principal Arterial (UPA) - Interstate	Intersection geometry	Auxiliary lanes - add right-turn lane	62.00	40.00			1.00		18.00	3.00	81.00	43.00	4.58
NW of Columbus - Jct. of US-81 & N- 22	Rural Principal Arterial (RPA) - Other Freeways and Expressways	Intersection geometry	Auxiliary lanes - modify right-turn lane offset	4.00	2.00	1.00		3.00		2.00	1.00	10.00	3.00	14.05
Hamilton County - I-80 Bridges over BNSF RR (RP 327+93) & Co. Rd "M" (RP 328+15)	Rural Principal Arterial (RPA) - Interstate	Advanced technology and ITS	Advanced technology and ITS - other	5.00	1.00			1.00		2.00	1.00	8.00	2.00	2.74

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

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

Yes

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

The NDOT has increased the effectiveness of its HSIP Program over the last several years. We are obligating a higher percentage of our available funds and are building projects that have a positive affect on crashes, fatalities, and serious injuries based on Benefit-Cost Analysis.

# **Compliance Assessment**

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

03/31/2017

What are the years being covered by the current SHSP?

From: 2017 To: 2021

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

2022

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

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

	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
MIRE NAME (MIRE NO.)	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
ROADWAY SEGMENT										
Segment Identifier (12)	100	100					100	100	100	100
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	100		
Begin Point Segment Descriptor (10)	100	100					100	100	100	100
End Point Segment Descriptor (11)	100	100					100	100	100	100
Segment Length (13)	100	100								
Direction of Inventory (18)	100	100								
Functional Class (19)	100	100					100	100	100	100
Median Type (54)	100	100								
Access Control (22)	100	100								

	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAV	/ED ROADS	UNPAVED ROADS	
MIRE NAME (MIRE NO.)	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
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	100
INTERSECTION										
Unique Junction Identifier (120)			100	100						
Location Identifier for Road 1 Crossing Point (122)			100	100						
Location Identifier for Road 2 Crossing Point (123)			100	100						
Intersection/Junction Geometry (126)			100	100						
Intersection/Junction Traffic Control (131)			100	100						
AADT for Each Intersecting Road (79)			100	100						
AADT Year (80)			100	100						
Unique Approach Identifier (139)			100	100						
INTERCHANGE/RAMP										
Unique Interchange Identifier (178)					100	100				
Location Identifier for Roadway at Beginning of Ramp Terminal (197)					100	100				
Location Identifier for Roadway at Ending Ramp Terminal (201)					100	100				
Ramp Length (187)					100	100				
Roadway Type at Beginning of Ramp Terminal (195)					70	70				
Roadway Type at End Ramp Terminal (199)					70	70				

	NON LOCAL PAVEDNON LOCAL PAVEDROADS - SEGMENTROADS - INTERSECTION		AL PAVED TERSECTION	NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS		
MIRE NAME (MIRE NO.)	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
Interchange Type (182)					100	100				
Ramp AADT (191)					100	100				
Year of Ramp AADT (192)					100	100				
Functional Class (19)					100	100				
Type of Governmental Ownership (4)					100	100				
Totals (Average Percent Complete):	100.00	100.00	100.00	100.00	94.55	94.55	100.00	100.00	100.00	100.00

\*Based on Functional Classification

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

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

The NDOT is already collecting all the required MIRE fundamental data elements. We are still populating the two elements shown as 70% complete, but should have no trouble meeting the 2026 deadline.

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

CRITERIA	SUSPECTED SERIOUS INJURY IDENTIFIER(NAME)	MMUCC 4TH EDITION COMPLIANT *	SUSPECTED SERIOUS INJURY DEFINITION	MMUCC 4TH EDITION COMPLIANT *	SUSPECTED SERIOUS INJURY ATTRIBUTES(DESCRIPTORS)	MMUCC 4TH EDITION COMPLIANT *
Crash Report Form	Suspected Serious Injury	Yes	N/A	Yes	N/A	Yes
Crash Report Form Instruction Manual	Suspected Serious Injury	Yes	Suspected Serious Injury Severe laceration resulting in major blood loss, broken or distorted arm or leg, crush injuries, suspected skull, chest or abdominal injury, significant burns (second and third degree burns over 10% or more of the body), unconsciousness or paralysis.	Yes	Severe laceration resulting in major blood loss, broken or distorted arm or leg, crush injuries, suspected skull, chest or abdominal injury, significant burns (second and third degree burns over 10% or more of the body), unconsciousness or paralysis.	Yes
Crash Database	Suspected Serious Injury	Yes	N/A	No	N/A	No
Crash Database Data Dictionary	Suspected Serious Injury	Yes	None	No	None	No

# Please describe the actions the State is taking to become compliant by April 15, 2019.

The Suspected Serious Injury Identifier is included in all four of the locations required. We are receiving reports with this identifier on all electronic submissions from law enforcement. Although the change has been made for printing the paper form, which accounts for less than 20% of our police reports, we have a large backlog of older reports, where the only difference is the Serious Injury definition, that we have elected to use up before distributing any new reports. The lengthy definition appears in the Instruction Manual, but is left off the other documents because of lack of space. We are in the process of creating a new MMUCC 5 crash report that will have the full definition listed.

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

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

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

2020

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

No specific date for a program assessment has been discussed. Our FHWA Division Office has recently added a Safety Engineer, so it would probably depend on when he is ready to get involved in this project.

# **Optional Attachments**

Program Structure:

HSIP Process Document 2015.doc

Project Implementation:

Safety Performance:

Evaluation:

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.