

# NEBRASKA

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**DEPARTMENT OF TRANSPORTATION**



Pete Ricketts, Governor

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The "Nebraska HSIP and RHCP Expenditures Plan, 2021-2026 has been approved for use.

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# Nebraska HSIP & RHCP Expenditures Plan 2021-2026

## I. Overview

The Nebraska Division of the Federal Highway Administration (FHWA) and the Nebraska Department of Transportation (NDOT) have collaborated on a list of countermeasures to sustain consistent obligations of Federal Highway Safety Improvement Program (HSIP) funds. Use of these funds helps to promote NDOT's strategic goal for Safety by developing projects to reduce the frequency and severity of crashes on Nebraska's roads. The strategic plan also supports NDOT's strategic goal of Fiscal Responsibility by providing the framework for the prudent selection of projects.

This expenditures plan is intended as an implementation document for the Nebraska Strategic Highway Safety Plan (SHSP). Towards implementing the SHSP, it will variously address each of the critical emphasis areas of the SHSP. The 2017-2021 SHSP identifies the following six critical emphasis areas:

- Increasing Safety Belt Usage
- Reducing Roadway Departure Crashes
- Reducing Impaired Driving Crashes
- Reducing Intersection Crashes
- Reducing Young Driver Crashes
- Reducing Older Driver Crashes

NDOT will also continue to use a crash data driven analysis approach to justify the expenditures of HSIP funds. Safety projects will be identified and developed through the Department's existing HSIP process involving multi-disciplinary safety committees.

Recognizing that certain types of roadway crashes occur randomly along the length of the system, a systemic approach to project implementation will also be used. In these cases, the data may apply to the system as a whole and not to site specific projects. In addition, national research that identifies best practices and FHWA endorsements of specific

practices will be referenced for justification purposes. NDOT and FHWA further recognize that the benefit-cost calculation is only one tool for justifying the use of HSIP funds. Additional factors will be considered on a case-by-case basis.

Part II of this document will describe proposed safety countermeasures under this plan. In Part III, NDOT will list the proposed projects of a six-year HSIP expenditure plan to implement these countermeasures. This plan will be closely aligned with the overall Nebraska Surface Transportation Program and includes local public agency projects to address crashes on local roads. When the estimated costs of HSIP projects exceed the HSIP fund apportionments, projects will be prioritized for project delivery. In Part IV, NDOT will include a list of proposed Rail-Highway Crossing Program improvement projects which may include transfers of HSIP funds to the Rail-Highway Crossing Program.

The attached plan does not include countermeasures that are routinely provided as part of a broader Federal-aid project that would generally be funded from the same source as the broader project. While this continues to be the policy of the FHWA, split-funded projects using HSIP funds can be approved on a case by case basis.

NDOT will conduct follow-up studies as appropriate to guide and update the list of countermeasures for utilization of HSIP funding.

The plan also incorporates planned projects and funding for the Rail Highway Crossing Program (RHCP), an integral part of NDOT's Safety Program.

This plan and the attachments will be updated by the Traffic Engineering Division and the Local Assistance Division annually.

## **II. Proposed Countermeasures Utilizing HSIP Funds**

- 1. Pavement Widening On Rural Roadways.** Widening pavements that are narrower in width than the recommended minimum has been proven to reduce roadway

departure crashes. In accordance with NDOT policy, this would include constructing beveled edges to facilitate the re-entry of vehicles to the roadway.

Typical projects may include widening the pavement and shoulders beyond that width required by the 3R Minimum Design Standards. These projects may also include constructing appurtenances (e.g., roadside safety hardware, grading, culvert extensions, etc.) made necessary by this widening.

**2. Statewide Systemic Projects.** Several countermeasures proven to reduce crashes can be implemented on a statewide basis, providing a systemic solution. These projects may include the following:

- a. Statewide rumble strips
- b. Statewide rumble stripes
- c. Statewide roadside safety hardware
- d. Statewide bridge rail

**3. Surfaced Shoulder Construction To Enable Placement Of Shoulder Rumble Strips On Rural Roadways.** Shoulder rumble strips are a proven countermeasure for roadway departure crashes. In many places around the state, the shoulders were in a condition that prevented the installation of shoulder rumble strips during the statewide installation projects. In other locations, the surfaced shoulders or rumble strips have deteriorated to the point where the rumble strips are no longer an effective countermeasure.

Typical projects may include:

- a. Reconstructing existing surfaced shoulders where the existing surfaced shoulders are too distressed to have rumble strips installed
- b. Widening existing surfaced shoulders to six feet or greater; sufficient to construct standard rumble strips and accommodate non-motorized traffic
- c. Constructing new surfaced shoulders to six feet or greater; sufficient to construct standard rumble strips and accommodate non-motorized traffic

**4. Flattening The Foreslopes And Widening The Safety Section To Reconstruction Standards On The Interstate With Resurfacing, Restoration, Or Rehabilitation (3R) Type Projects.** Large portions of the Interstate system were originally constructed with 1:4 foreslopes on both the median and outside slopes. In addition, the outside foreslopes were originally constructed to a 30 foot wide horizontal clear zone. The intent of the design standard for Interstate 3R-type projects is to perpetuate the cross section to which the roadways were initially constructed or reconstructed. Therefore, the re-grading to a 1:6 or flatter foreslope, widening of the surfaced shoulder, and expansion of the clear zone to 35 feet to meet current New and Reconstruction standards of the Nebraska Minimum Design Standards is eligible for HSIP funding.

NDOT and FHWA recognize that roadway departure crashes on the Interstate system can be mitigated by flattening foreslopes and extending the clear zone. However, the occurrences and locations of roadway departure crashes tend to be random. This requires a systemic approach to mitigating such crashes.

Typical projects may include flattening of foreslopes, widening of surfaced shoulders, and extending horizontal clear zones as well as the appurtenant culvert work on 3R type projects.

**5. Installing, Upgrading, And/Or Replacing Signing And Durable Pavement Markings.** Improving the retro-reflectivity of overhead and ground mounted signing and improving permanent striping has been proven to mitigate driver confusion and consequently to reduce the frequency of crashes. Improvements shall be in accordance with standards in the “Manual on Uniform Traffic Control Devices for Streets and Highways” (MUTCD) and the Nebraska supplement thereto.

Typical projects may include:

- a. Replacing or upgrading guide signs and, if necessary, the sign structure

- b. Replacing existing pavement markings with durable and retro-reflective markings
- c. Replacing existing pavement markings with wider markings
- d. Replacing or upgrading regulatory, warning, and guide signs to a higher grade retro-reflective sign sheeting
- e. Replacing and/or installing object markers and delineators
- f. Data gathering and software for sign inventories to better manage sign replacement needs.

**6. Installing Intelligent Transportation System (ITS) Elements.** Installing ITS elements has been proven to reduce driver confusion and thereby reduce crashes by providing traveler information, managing the flow of traffic, and mitigating inclement-weather road conditions.

Typical projects may include:

- a. Dynamic message signs
- b. Safety rest area kiosks
- c. Anti-icing systems
- d. Automated gates
- e. Adaptive signal control technology

**7. Constructing Complete Safety Rest Area Facilities Including Truck Parking Facilities.** Interstate safety rest areas are proven countermeasures for roadway departure crashes associated with fatigue. Truck-involved crashes also have a higher degree of severity. Both the Federal Motor Carrier Safety Administration and FHWA have sponsored studies that indicate the need for safety rest area facilities and the safety benefit to the public of such facilities.

Typical projects may include constructing safety rest areas with appropriately sized rest room facilities as well an appropriate number of car and truck parking stalls.

**8. Adding Truck Parking At Existing Safety Rest Areas.** National studies have indicated that there is a safety benefit to providing public parking stalls to allow

truck drivers to get their required rest. There are many existing safety rest areas that do not provide a sufficient number of stalls, but that are in good condition and would not otherwise be reconstructed in the near future.

Typical projects include adding pull-through truck parking stalls to existing safety rest area facilities.

- 9. Placing High Friction Surface Treatments.** Placing high friction surface treatments on curves, bridges, or steep grades is a proven countermeasure to reduce roadway departure crashes, particularly under wet and icy road conditions. In some instances, this approach may be used in lieu of anti-icing systems.

Typical projects include placing high friction surface treatments at select locations.

- 10. Constructing Left-Turn Lanes In Lieu Of Fly-By-Lanes.** Fly-by lanes are no longer considered to be state-of-the-practice. While it is acceptable in some instances to leave fly-by lanes in place, these should typically be reconfigured as left-turn lanes. This will improve driver visibility and reduce potential crashes.

A typical project would include converting fly-by lanes to left-turn lanes

- 11. Rural Right-Turn Lanes.** Right-turn lanes at high-speed, rural, non-signalized intersections have exhibited a history of severe right-angle crashes that occur when a through vehicle is “shadowed” by a vehicle turning right. An offset configuration of a right-turn lane is a proven crash mitigation strategy. Warranted right-turn lanes will generally be reconstructed as offset right-turn lanes as part of a project, unless costs are prohibitive and there is no record of a crash history problem.

A typical project would include converting standard right-turn lanes to offset right-turn lanes.

- 12. Improving The Horizontal And Vertical Alignment of Rural Roadways On 3R**

**Projects To Attain The Recommended Values For Design Speed.** In conformance with TRB Special Report 214 “Designing Safer Roads,” NDOT generally does not correct horizontal or vertical curvature on 3R projects. In general, signing is provided consistent with the MUTCD to warn or advise drivers of non-standard alignments. In some instances, even though crash data does not substantiate reconstructing the horizontal or vertical alignment, improving a particular alignment may be prudent on the basis of potential crashes.

Typical projects may include reconstructing sections of roadway to improve the horizontal and/or vertical alignment.

- 13. Non-Infrastructure HSIP Safety Projects.** Non-infrastructure projects are used to augment government safety initiatives and for workforce development related to transportation safety.

Typical projects may include projects such as:

- a. Work zone traffic control device packages for local governments
- b. Traffic control device packages for emergency responders
- c. Workforce development e.g. safety conferences, training materials, and safety related manuals and publications.

- 14. Intersection Improvement Projects.** These types of projects improve the operation and safety of intersections by means of geometric modifications, widening, installing or modifying signals, or reconstruction.

Typical projects may include:

- a. Adding auxiliary lanes
- b. Lane widening
- c. Constructing or modifying medians
- d. Improving radii
- e. Installing or modifying traffic signals
- f. Installing flashing warning beacons and signs at intersections or crosswalks



- g. Installing overhead lighting
- h. Realigning approach roadways
- i. Constructing alternative intersection designs, such as, but not limited to
  - i. Roundabouts
  - ii. Median u-turns and restricted crossing u-turns (RCUTs)
  - iii. Displaced left-turn intersections
  - iv. Diverging diamond interchanges (DDIs)
  - v. Continuous flow modified left-turn movements.

**15. Urban Roadway Corridor Safety Improvement Projects.** These projects improve the operation and safety of urban roadways on a corridor wide basis.

Typical projects may include:

- a. Roadway diet/reconfiguration (e.g. converting 4-lanes to 3-lanes, complete streets)
- b. Overhead roadway lighting
- c. Adaptive signal control technology (ASCT).

**16. Local Road Safety Plans And Road Safety Assessments (RSAs).** Local road safety plans are designed to build on the foundation established by the SHSP. These plans will provide the basis for systemic implementation of safety measures across a jurisdiction. Local jurisdictions will have the flexibility to leverage the road safety plan to meet their specific needs. RSAs are formal safety performance evaluations of existing or future roads or intersections by an independent, multidisciplinary team. RSAs report on potential road safety issues and identify opportunities for improvements.

A typical project may include funding the assessment and preparation of the subsequent report.

**17. Improving Data Systems Necessary For Data-Driven Safety Analysis And To Implement HSIP Performance Measures.** Data driven safety analysis is important to promoting the integration of safety performance into highway safety decisions.

Improving safety data systems will enhance capabilities in safety management and project development, and may result in fewer fatal and serious injury crashes.

Typical projects may supplement funding initiatives such as a web-based automatic collision diagramming system, predictive safety analysis and performance software, the collection and storage of required data.

**18. Improving Highway-Railroad Grade Crossings.** In accordance with 23 USC 130(d), each State is required to conduct and systematically maintain a survey of all highways to identify crossings that may require separation, relocation, or warning devices, and establish and implement a schedule of projects for this purpose. Due to significant coal, oil, and intermodal container freight train traffic that passes through Nebraska via the BNSF Railway and Union Pacific Railroad mainline corridors, there is a need for railroad grade separation projects. The costs of such structures, however, exceed the availability of Railway-Highway Crossing Program funding dedicated to that purpose.

Typical projects may be to fund in whole or in part grade separation projects. This may include transfer of HSIP funds to the Rail-Highway Crossing Program.

**Highway Safety Improvement Program**

**Strategic Plan**

**Part III - HSIP Summary**

FY	Carryover Balance	Apportionment	Total Funds Available	FY Obligations	End Balance
2021	\$ 20,980,043.72	\$ 15,713,289.00	\$ 36,693,332.72	\$ 35,516,327.00	\$ 1,177,005.72
2022	\$ 1,177,005.72	\$ 16,000,000.00	\$ 17,177,005.72	\$ 6,382,000.00	\$ 10,795,005.72
2023	\$ 10,795,005.72	\$ 16,000,000.00	\$ 26,795,005.72	\$ 21,135,000.00	\$ 5,660,005.72
2024	\$ 5,660,005.72	\$ 16,000,000.00	\$ 21,660,005.72	\$ 19,950,000.00	\$ 1,710,005.72
2025	\$ 1,710,005.72	\$ 16,000,000.00	\$ 17,710,005.72	\$ 16,000,000.00	\$ 1,710,005.72
2026	\$ 1,710,005.72	\$ 16,000,000.00	\$ 17,710,005.72	\$ 16,000,000.00	\$ 1,710,005.72

**Part III - HSIP Pogrammed Projects**

Project	Control No.	Project No.	Letting Date	Obligated	Fiscal Year
Statewide Lighting	00959	HSIP-STWD(142)	11/19/2020	\$ 425,327.00	2021
NTIP System, Phase3	01030	STWD(187)	Purchase	\$ 675,000.00	2021
N 27th St. Adaptive Signal	13244	HSIP-5231(14)	2/25/2021	\$ 2,290,000.00	2021
Saltillo Rd, 27th - 68th, Lincoln	13391	HSIP-5280(2)	ROW	\$ 873,000.00	2021
Utica - Lincoln Median Guardrail	13448	HSIP-80-8(164)	6/17/2021	\$ 8,955,000.00	2021
I-80 - Fort St, Omaha	22585	NH-HSIP-680-9(39)	2/25/2021	\$ 1,193,000.00	2021
US-275, 25th St - 23rd St	22630	HSIP-NH-275-7(198)	2/25/2021	\$ 760,000.00	2021
5-Points Intersection	42863	HSIP-5409(3)	9/30/2021	\$ 1,914,000.00	2021
Grand Island Area Bridges	42911	HSIP-80-7(170)	2/25/2021	\$ 1,585,000.00	2021
Paxton East Culvert Extensions	61680	HSIP-80-3(166)	9/30/2021	\$ 250,000.00	2021
Lexington East & West Culvert Extensions	61681	HSIP-80-4(156)	9/30/2021	\$ 566,000.00	2021
SIMPCO Safety Projects	TBD			\$ 30,000.00	2021
Transfer to RR Grade Separation Projects	NA			\$ 16,000,000.00	2021
District 1 & 4 Culverts	01013	HSIP-STWD(179)	1/27/2022	\$ 300,000.00	2022
N-370, Omaha	22602	NH-HSIP-50-2(135)	8/25/2022	\$ 1,052,000.00	2022
SIMPCO Safety Projects	TBD	TBD	Const	\$ 30,000.00	2022
Transfer to RR Grade Separation Projects				\$ 5,000,000.00	2022
Saltillo Rd, 27th - 68th, Lincoln	13391	HSIP-80-8(179)	8/24/2023	\$ 5,632,000.00	2023
US-81/N Main St near Madison	32350	HSIP-81-3(147)	8/24/2023	\$ 473,000.00	2023
Safety Projects	TBD	TBD	Const	\$ 10,000,000.00	2023
SIMPCO Safety Projects	TBD	TBD	Const	\$ 30,000.00	2023
Transfer to RR Grade Separation Projects				\$ 5,000,000.00	2023
York - Utica Median Guardrail	42923	HSIP-80-8(165)	5/1/2024	\$ 4,950,000.00	2024
Safety Projects				\$ 10,000,000.00	2024
Transfer to RR Grade Separation Projects				\$ 5,000,000.00	2024
Safety Projects				\$ 16,000,000.00	2025
Safety Projects				\$ 16,000,000.00	2026

**Highway Safety Improvement Program**

**Strategic Plan**

**Part IV - RHCP Summary - Hazard Elimination**

FY	Carryover Balance	Apportionment	HSIP Funds Transferred to RHCP	Total Funds Available	Planned FY Obligations	Balance
2021	\$ 1,435,380.20	\$ 1,941,324.00	\$ 16,000,000.00	\$ 19,376,704.20	\$ 19,268,842.00	\$ 107,862.20
2022	\$ 107,862.20	\$ 1,949,979.00	\$ 5,000,000.00	\$ 7,057,841.20	\$ -	\$ 7,057,841.20
2023	\$ 7,057,841.20	\$ 1,949,979.00	\$ 5,000,000.00	\$ 14,007,820.20	\$ 8,000,000.00	\$ 6,007,820.20
2024	\$ 6,007,820.20	\$ 1,949,979.00	\$ -	\$ 7,957,799.20	\$ 7,000,000.00	\$ 957,799.20
2025	\$ 957,799.20	\$ 1,949,979.00	\$ -	\$ 2,907,778.20	\$ -	\$ 2,907,778.20
2026	\$ 2,907,778.20	\$ 1,949,979.00	\$ -	\$ 4,857,757.20	\$ -	\$ 4,857,757.20

**Part IV - RHCP Programmed Projects - Hazard Elimination**

Project	Control No.	Project No.	Letting Date	Obligated	Fiscal Year
12th Ave., Columbus - Advance Construction Conversion for ROW	31925	RRZ-TMT-6061(8)	1/24/2019	\$ 2,886,842.00	2021
East 29th, Platte County	32190	RRZ-71(33)	8/20/2020	\$ 10,382,000.00	2021
Lexington East	61457	1705(3)	10/29/2020	\$ 6,000,000.00	2021
					2022
BNSF, Bridgeport	51299	26-1(161)	2/25/2021	\$ 8,000,000.00	2023
N-14, Central City	42013	RRZ-TMT-14-2(123)		\$ 7,000,000.00	2024
Hazard Elimination Projects in FFY-25 being prioritized				\$ -	2025
Hazard Elimination Projects in FFY-26 being prioritized				\$ -	2026

**Part IV - RHCP Summary - Protective Devices**

FY	Carryover Balance	Apportionment	Total Funds Available	Planned FY Obligations	End Balance
2021	\$ 9,840,763.06	\$ 2,000,000.00	\$ 11,840,763.06	\$ 1,600,000.00	\$ 10,240,763.06
2022	\$ 10,240,763.06	\$ 2,000,000.00	\$ 12,240,763.06	\$ 2,000,000.00	\$ 10,240,763.06
2023	\$ 10,240,763.06	\$ 2,000,000.00	\$ 12,240,763.06	\$ 1,600,000.00	\$ 10,640,763.06
2024	\$ 10,640,763.06	\$ 2,000,000.00	\$ 12,640,763.06	\$ 1,600,000.00	\$ 11,040,763.06
2025	\$ 11,040,763.06	\$ 2,000,000.00	\$ 13,040,763.06	\$ 2,000,000.00	\$ 11,040,763.06
2026	\$ 11,040,763.06	\$ 2,000,000.00	\$ 13,040,763.06	\$ 1,600,000.00	\$ 11,440,763.06

**Part IV - RHCP Programmed Projects - Protective Devices**

Project	Control No.	Project No.	Letting Date	RHCP Funds Estimate	Fiscal Year
CR 4 - near Richland	TBD	TBD	Const	\$ 400,000.00	2021
CR 7- near Schuyler	TBD	TBD	Const	\$ 400,000.00	2021
CR 14 - near Schuyler	TBD	TBD	Const	\$ 400,000.00	2021
90th Rd - Near Alda	TBD	TBD	Const	\$ 400,000.00	2021
Cameron Rd - near Wood River	TBD	TBD	Const	\$ 400,000.00	2022
Schaupville Rd - near Wood River	TBD	TBD	Const	\$ 400,000.00	2022
385th Street, south edge of Tarnov, NE	TBD	TBD	Const	\$ 400,000.00	2022
CR 11 - Near North Bend	TBD	TBD	Const	\$ 400,000.00	2022
CR 2150 West Airport Rd - Near Grand Island	TBD	TBD	Const	\$ 400,000.00	2022
CR 2150 West Airport Rd - Near Grand Island	TBD	TBD	Const	\$ 400,000.00	2023
CR 2150 West Airport Rd - Near Grand Island	TBD	TBD	Const	\$ 400,000.00	2023
CR 2150 West Airport Rd - Near Grand Island	TBD	TBD	Const	\$ 400,000.00	2023
CR 2150 West Airport Rd - Near Grand Island	TBD	TBD	Const	\$ 400,000.00	2023
Road P - Near York	TBD	TBD	Const	\$ 400,000.00	2024
Road V - Near York	TBD	TBD	Const	\$ 400,000.00	2024
Road O - Near York	TBD	TBD	Const	\$ 400,000.00	2024
A Road - near Bertrand	TBD	TBD	Const	\$ 400,000.00	2024
Adams Street - near St. Paul	TBD	TBD	Const	\$ 400,000.00	2025
West South Airport Road - near Norfolk	TBD	TBD	Const	\$ 400,000.00	2025
West Stolley Park Road - near Grand Island	TBD	TBD	Const	\$ 400,000.00	2025
East 39th Street - near Kearney	TBD	TBD	Const	\$ 400,000.00	2025
CR-Railroad Street - near Central City	TBD	TBD	Const	\$ 400,000.00	2025
Springs Road - near Maxwell	TBD	TBD	Const	\$ 400,000.00	2026
Maple Street - near Gibbon	TBD	TBD	Const	\$ 400,000.00	2026
Lakota Road - near Gibbon	TBD	TBD	Const	\$ 400,000.00	2026
N-S SEC - County Road 58 - near Alliance	TBD	TBD	Const	\$ 400,000.00	2026