



District Solicitation for HSIP Funding

Greater Minnesota, 2021 through 2024

September 2019

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Funds Available

The Office of Traffic Engineering is soliciting for both HSIP and Section 164 funding for SFY 2021 through 2024. See tables below for approximate HSIP funds available by district; Section 164 funds total approximately \$5 million annually.

Applications for projects are strongly encouraged as additional safety funds may become available.

OTE strongly encourages submitting more projects than the minimum targets listed as savings can provide more dollars for quality projects. If funds are left unallocated in the first two years of the STIP after this solicitation, those funds may go to a project that can be delivered in the necessary timeframe.

District	2021	2022	2023	2024
1	0	0	0	1,300,000
2	0	0	700,000	700,000
3	0	0	525,000	2,300,000
4	0	0	1,700,000	1,700,000
6	312,000	0	1,440,000	1,440,000
7	0	600,000	1,200,000	1,200,000
8	20,000	0	1,100,000	1,100,000
Total	332,500	600,000	6,665,000	9,740,000

Submittal Instructions

An electronic version of the application can be found at www.mndot.gov/trafficeng/safety/hsip.html.

Email application packets (preferably PDF) to SafetyProject.DOT@state.mn.us by **November 27, 2019**. Applications submitted by November 8 can opt for an initial review and recommendation; please specify in your electronic application.

Contacts

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Timeline

Timeframe	Action
September	Solicitation will be sent out to all eligible agencies by early September.
September – November	Each eligible agency selects projects and compiles an application packet based on the criteria guidelines. Districts are encouraged to document initial screening of which projects are submitted for transparency and annual reporting on project selection.
November 8	Applications submitted by November 8 can opt for an initial review and recommendations; please note this with application.
November 27	Applications should be submitted to OTE by November 27.
December – January	A Selection Committee will review each application for compliance with HSIP criteria guidelines and scoring. A preliminary list of prioritized projects will be developed.
January – February	Preliminary list of selected projects is reviewed by MPOs where applicable.
February (end)	Notification is sent to applicants and respective planning offices announcing selected projects.
March	Selected projects enter the STIP review and publication process.

Project Selection

MnDOT Policy OP016

The Minnesota Department of Transportation will use an objective and transparent process to select construction projects on the state highway system to be included in the Capital Highway Investment Plan (CHIP) and State Transportation Improvement Program (STIP).

MnDOT will document and make publicly available for each selection process or program:

- The criteria and process for assigning a numeric score and selecting projects
- The list of candidate projects considered
- The scores assigned to projects and reasoning behind selection decisions not included in the score

For more information on MnDOT Project Selection Policy, see www.mndot.gov/policy/operations/op016.html

Eligibility

The Highway Safety Improvement Plan (HSIP) selection committee will evaluate each application, prioritize and determine the best funding source for each. Independent of the source from which funding will be secured; certain requirements must be met to receive funding.

1. Application must be received on or before **November 27, 2019**.
2. Application materials must be complete: scoring metrics not provided will be considered null.
3. Safety countermeasures must have a documented fatal and serious injury crash reduction.
Those strategies included in a District Safety Plan can reference the plan. Strategies not included in a District Safety Plan should document a crash modification factor (see CMF Clearinghouse in resources).

Selection Committee

Applications will be reviewed by a five member selection committee composed of:

- State Safety Engineer
- District Traffic Engineer
- Assistant District Engineer
- District Planner
- District Planner

Scoring

“Two types of projects are candidates for HSIP funding: (1) reactive or sustained crash locations, and (2) systemic, risk-based projects. Sustained crash locations are areas where, statistically, there are higher number of crashes associated with a particular location when compared to other similar locations throughout the state. Sustained crash locations greatly exceed statewide averages and can be determined by using a critical crash rate to establish if a location has a sustained crash problem. Systemic projects tend to apply known risk factors to address high frequency but very low density crashes. These projects deploy cost-effective strategies across many miles of roadway to be effective.”

Traffic Engineering Manual, 11-7.01.01

Projects will be scored based on five criteria that capture the intent of HSIP; however, the measures and thresholds between proactive and reactive projects will be separated. Thus, in the final scores reactive and proactive projects can be scored on an even footing to how well the project meets the intent of HSIP.

NOTE: Scores will be derived from information provided by you the applicant with minimal supplemental information as requested by the Selection Committee. If a necessary field is missing or incomplete, it will not be possible to receive points for this criteria.

Weighting	Scoring Criteria
20	A. Screening Criteria
20	B. Coverage
30	C. Expected Impact
10	D. Planning
20	E. Alignment with Program Goals

100 Total Points

A. Screening Criteria

	Proactive/Systemic Project Selection	Reactive Project Selection
Selection Target	Location(s) have characteristics of a sustained K+A crash site, i.e. identified via risk based safety analysis focusing on K+A crashes.	Location(s) have a sustained K+A crash history.
Relevant Criteria	Method of site selection.	K+A Critical Rate (FAR Index)*, K+A Crash Rate (FAR)

* A critical index will be optional in this solicitation. There are not currently established statewide comparison groups. Any reported indices must match the published numbers from the 2015 Toolkit: manual calculations will not be considered appropriate for this solicitation.

B. Coverage

	Proactive/Systemic Project Selection	Reactive Project Selection
Selection Target	Wide deployment, systemic approach.	Wide deployment, systemic approach.
Relevant Criteria	Number of miles or sites treated.	Number of miles or sites treated.

C. Expected Impact

Proactive projects are developed at sites that do not have a crash history but have the characteristics associated with fatal and serious injury crashes. In the District Safety Plan, thresholds based on the number of risk factors are established for each District to denote “High” and “Low” risk sites. Expected number of crashes at these sites are derived from similar sites statewide in five categories: (1) rural segments, (2) rural intersections, (3) urban segments, (4) urban intersections, and (5) curves. The metric calculates an expected present value of reductions in fatal and serious injury crashes—comparable to a reactive B-C ratio.

	Proactive/Systemic Project Selection	Reactive Project Selection
Selection Target	Cost effective, i.e. estimated B/C > 1.00	Cost effective, i.e. B/C > 1.00
Relevant Criteria	Benefit-cost ratio derived from DSP using: CRF, Service Life, High/Low Risk status.	Benefit-cost ratio provided by applicant.

D. Planning

	Proactive/Systemic Project Selection	Reactive Project Selection
Selection Target	Project identified in a planning document, preference given for safety plans.	Project identified in a planning document, preference given for safety plans.
Relevant Criteria	What plan(s) support this project?	What plan(s) support this project?

E. Alignment With Program Goals

	Proactive/Systemic Project Selection	Reactive Project Selection
Selection Target	Meets the spirit of HSIP in reducing fatalities and serious injuries.	Meets the spirit of HSIP in reducing fatalities and serious injuries.
Relevant Criteria	Assigned by Selection Committee.	Assigned by Selection Committee.

Appendix A – Resources

Annual HSIP Report

FHWA maintains annual reports on the Highway Safety Improvement Program within each state. These reports highlight successes and challenges in administering the program and meeting performance measures.

www.safety.fhwa.dot.gov/hsip/reports

Benefit/Cost Ratio

To facilitate the calculation of a benefit/cost ratio, OTE has provided a worksheet available online at www.mndot.gov/trafficeng/safety/hsip.html. This worksheet is **required** for reactive project applications.

NOTE: The benefit/cost worksheet has been updated in September 2019 to reflect changes in the crash data fields. See Appendix B or contact Eric DeVoe with any questions.

Crash Costs

Crash costs are maintained by MnDOT Office of Transportation System Management (OTSM) online at “Benefit-Cost Analysis for Transportation Projects,” Appendix A: www.mndot.gov/planning/program/appendix_a.html

NOTE: for the purposes of this solicitation, the cost of a fatal crash will be equal to double that of a serious injury (A) crash and not the value published online.

Crash Data

Five years of crash data is appropriate: 2014-2018. Crash data may be sources from Oracle BI, CrashMART, or other extracts; please specify the source of the data.

NOTE: Remember that after 2016, the fields and codes for crash data are not identical. If you are unsure, double-check against a data dictionary for the correct codes.

Crash Modification Factor (CMF)

Crash Modification Factors, i.e. recommended percent change in crashes, should be referenced from FHWA’s CMF Clearinghouse: www.cmfclearinghouse.org. If multiple CMFs are provided, please provide a brief one to three sentence explanation of how the CMF provided was selected.

Critical Crash Rate

A detailed explanation of how to calculate the critical rate, critical index, and other screening metrics is available in the TEM, “Chapter 11 – Traffic Safety” (page 9). www.mndot.gov/trafficeng/publ/tem/2015/chapter11.pdf

Minnesota Strategic Highway Safety Plan (SHSP), 2014

See “Appendix A: Focus Area Fact Sheets” (page 39) for a statewide summary of focus area trends and crash characteristics. See “Appendix C: Detailed Crash Data and Methodology for Analysis” (page 136) for focus area definitions and codes using crash data prior to 2016.

www.mndot.gov/trafficeng/safety/shsp/Minnesota_SHSP_2014.pdf

Traffic Engineering Manual (TEM)

www.mndot.gov/trafficeng/publ/tem/index.html

Traffic Safety Fundamentals Handbook, 2015

www.mndot.gov/trafficeng/publ/fundamentals/2015-mndot-safety-handbook-reduced.pdf

Appendix B – Sample Benefit-Cost Calculations

In the interest of standardizing the computations, please enter information into Section A through Section E. Note that Section D is optional: you may consider a second crash modification factor if relevant to the project.

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project



A. Roadway Description		
Route _____	District _____	County _____
Begin RP _____	End RP _____	Miles _____
Location _____		

B. Project Description	
Proposed Work _____	
Project Cost* _____	Installation Year _____
Project Service Life _____	Traffic Growth Factor _____
* exclude Right of Way from Project Cost	

C. Crash Modification Factor	
Fatal (K) Crashes _____	Reference _____
Serious Injury (A) Crashes _____	
Moderate Injury (B) Crashes _____	Crash Type _____
Possible Injury (C) Crashes _____	
Property Damage Only Crashes _____	www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)	
Fatal (K) Crashes _____	Reference _____
Serious Injury (A) Crashes _____	
Moderate Injury (B) Crashes _____	Crash Type _____
Possible Injury (C) Crashes _____	
Property Damage Only Crashes _____	www.CMFclearinghouse.org

E. Crash Data		
Begin Date _____	End Date _____	o years
Data Source _____		
Crash Severity	< enter target crashes >	< optional 2nd CMF >
K crashes		
A crashes		
B crashes		
C crashes		
PDO crashes		

Appendix C – Recommended Service Life Tables

The countermeasures below provide a sampling of values for benefit-cost analysis; the list should NOT be considered exhaustive of all safety countermeasures eligible for HSIP funding.

Intersection and Traffic Control

Service Life	Description
20	Construct turning lanes
20	Provide traffic channelization
20	Improve sight distance
10	Install traffic signs
2	Install pavement marking
10	Install delineators
20	Install illumination
20	Upgrade traffic signals
20	Install new traffic signals
5	Retime coordinated system
20	Construct roundabout

Pedestrian and Bicycle Safety

Service Life	Description
20	Construct sidewalk
30	Construct pedestrian and bicycle overpass/underpass
10	Install fencing or pedestrian barrier
20	Construct bikeway

Roadway and Roadside

Service Life	Description
20	Widen travel way (no lanes added)
20	Add lane(s) to travel way
20	Construct median for traffic separation
20	Widen or improve shoulder
20	Realign roadway (except at railroads)
10	Overlay for skid treatment
10	Groove pavement for skid treatment

Service Life	Description
10	Install breakaway sign supports
10	Install breakaway utility poles
20	Relocate utility poles
10	Install guardrail end treatment
10	Upgrade guardrail
20	Upgrade or install concrete median barrier
10	Upgrade or install high tension cable median barrier
10	Install impact attenuators
20	Flatten or re-grade side slopes
10	Install bridge approach guardrail transition
20	Remove obstacles
7	Install edge treatments
7	Install centerline rumble strips

Structures

Service Life	Description
20	Widen or modify bridge for safety
30	Replace bridge for safety
30	Construct new bridge for safety
20	Replace/improve minor structure for safety
20	Upgrade bridge rail

Appendix D – Proactive/Systemic Project Application Instructions

A project should be submitted as either a Proactive/Systemic or Reactive project.

Project Name

Provide a brief description of the project.

Location

Provide a list of the routes and description of general project limits. Specify within which MnDOT district(s) and MPO, if any, the project falls. Specify “Yes” or “No” if the application is for a joint project with a local agency.

Requested Year

Check the preferred funding year(s).

Estimated Costs

Provide the estimated costs by funding source. Requested federal funds are “HSIP”; there is a 10% match necessary for HSIP funds. If submitting a joint project, provide the local agency amount (federal + local match).

Planning

This space is provided to list any planning document(s) that identifies this project. Please specify whether the plan is specifically focused on traffic safety with “Yes” or “No.” If the recommendation from the plan differs from the proposed project, please include.

Screening Criteria

Briefly describe any analysis performed that identified the location(s) as at risk for fatal and serious injury crashes. For example, if a project is identified in a District Safety Plan, it is sufficient to state “District Safety Plan.” If star risks from a Safety Plan are applied to a site that was not initially included in the plan, you might write “District Safety Plan stars applied to site not initially included.”

Safety Impact

An estimated benefit-cost ratio will be derived based on similar sites from District Safety Plans. Provide the number of miles, intersections, or curves for each section. Where the number of sites is greater than zero, list the treatment(s), expected service life, and CMF. If it is necessary to estimate a CMF, please note that in the notes section. Where the number of sites is zero, no additional information is needed.

Appendix E – Reactive Project Application Instructions

A project should be submitted as either a Proactive/Systemic or Reactive project.

Project Name

Provide a brief description of the project.

Location

Provide a list of the routes and description of general project limits. Specify within which MnDOT district(s) and MPO, if any, the project falls. Specify “Yes” or “No” if the application is for a joint project with a local agency.

Requested Year

Check the preferred funding year(s).

Estimated Costs

Provide the estimated costs by funding source. Requested federal funds are “HSIP”; there is a 10% match necessary for HSIP funds. If submitting a joint project, provide the local agency amount (federal + local match).

Planning

This space is provided to list any planning document(s) that identifies this project. Please specify whether the plan is specifically focused on traffic safety with “Yes” or “No.” If the recommendation from the plan differs from the proposed project, please include.

Safety Impact

Provide an estimate of the number of miles, intersections, and curves addressed in this project. Use the HSIP Benefit-Cost Ratio Calculator worksheet to calculate a B/C ratio; list the calculated value here.

Screening Criteria

Reactive projects should be at sustained fatal and serious injury crash locations. Please provide the list of sites and the respective fatal and serious injury crash rate (FAR) and critical rate comparison* (FAR Index). If in addresses multiple sustained crash locations it is logical to add sites that do not exceed the critical rate, this will not automatically disqualify the project; please note this in the additional notes section.

* A critical index will be optional in this solicitation. There are not currently established statewide comparison groups. Any reported indices must match the published numbers from the 2015 Toolkit: manual calculations will not be considered appropriate for this solicitation.