Local Solicitation for HSIP Funding

Greater Minnesota, 2020 through 2023

September 2018

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Funds Available

The Office of Traffic Engineering is soliciting for HSIP funding for the years 2020 through 2023. See tables below for approximate HSIP funds available by ATP.

This solicitation is the only way for HSIP funds to be applied to a project.

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.

ATP	2020	2021	2022	2023
1	0	0	0	0
2	704,339	274,365	700,000	700,000
3	0	426,153	1,895,000	3,200,000
4	0	0	1,200,000	1,200,000
6	72,400	198,000	2,100,000	2,100,000
7	1,455,190	993,864	1,300,000	1,300,000
8	220,174	519,405	650,000	1,000,000
Total	**2,452,103**	**2,411,787**	**9,150,000**	**9,500,000**

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 21, 2018.**

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Timeline

Timeframe	Action
September	Solicitation will be sent out to all eligible agencies by Labor Day.
September – November	Each eligible agency selects projects and compiles an application packet based on the criteria guidelines.
November 21	Applications should be submitted to OTE by November 21.
December – January	A Selection Committee will review each application for compliance with HSIP criteria guidelines. 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.

Eligibility

Requirements

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. Applications must be received on or before **November 21, 2018.**

2. Federal funds listed above are available to Greater Minnesota counties and agencies within those counties with the ability to receive State Aid; **any non-State Aid submitting agency must be sponsored by their respective county.**

3. Only stand-alone projects will be considered. It is recognized that portions of larger projects have elements that improve the safety of an intersection or section of roadway. Safety features, such as guardrail, that are routinely provided as part of a broader project should be funded from the same source as the broader project.

4. Applicants submitting a proactive/systemic project identified in a County Road Safety Plan **need only fill out the application form, attach the appropriate pages from the plan, and provide a letter from any other agencies involved in the project.**

   Applicants submitting a reactive/spot location must include a benefit-cost calculation. See Appendix B and procedure documented in the Traffic Engineering Manual (TEM).

5. Projects submitted in coordination with a MnDOT District must be evaluated using the District HSIP Scoring Criteria documented in District Announcement: www.mndot.gov/trafficeng/safety/hsip.html.

6. Applicants must indicate roadway and specify both a beginning and ending point; this will expedite the environmental review and historical site evaluation process.

7. Applicants must agree to maintain any selected projects for the life of the project; see Appendix C for FHWA Recommended Service Life tables.

Reactive Projects

A maximum of 30% of the projects awarded to each ATP will be reactive. Reactive projects must have a B/C greater than 1.00 to be considered for funding. The criteria that will be used to select these projects are detailed in this section of the document.

Locations must have a significant crash history that includes a fatal or serious injury crashes. Significant crash history can be determined in a number of ways, it is suggested that critical crash rates be used to assess significance. Consult the TEM or contact OTE regarding details on critical crash rates.

Please provide crash data for the prior 5 years of crashes.

Ineligible Projects

- Road Safety Audits
- Overlays
- Guardrail Updates
- Sign Upgrades
- "Force Account" work: all projects must be done by a qualified contractor through the design-bid-build process.

Edgeline restriping projects will be considered for 6-inch edgelines only; these projects will be selected based on risk as identified in the County Road Safety Plans.

New or reconstructed signals will be considered if they meet the criteria contained in Appendix D

Project Selection

The County Road Safety Plan should be the starting point for selecting projects for this solicitation. Projects that originate from a road safety plan specifically focused on reducing fatalities and serious injuries will be given highest priority. The higher priority given to the project in the safety plan, the more points that project will receive during the selection process.

Projects that are part of a longer range plan (e.g. Road Safety Audit, other safety plan) focusing on reducing fatalities and serious injuries will receive more points during the selection process. If not a County Road Safety Plan, please include an excerpt from the existing plan.

Application and Submission Process

In the spirit of a more simplified and transparent solicitation process, the Office of Traffic Engineering revised the application for HSIP funds in 2017.

Projects will be evaluated and selected using the same criteria as previous solicitations; however, the selection committee will be using metrics to score projects. These metrics will ensure consistency across project selection, improve transparency, and provide feedback to applicants for future solicitations.

While the use of rubrics and standard scores are well used techniques in project selection, this is new territory for HSIP solicitations. Going forward, we anticipate improvements as we fine tune the process.

Application Form

NOTE: The application form will be identical to the solicitation from November 2017.

In reviewing the solicitation process, the Office of Traffic Engineering recognized that forms used in prior solicitations did not conform to best practices. Applicants were asked to enter redundant information with little structure on what supporting documentation would be most useful to the selection committee.

The goal of the HSIP program is to reduce fatal and serious injury crashes on Minnesota roadways. With finite resources, it was decided that more time selecting an appropriate safety project is a better use of resources than data entry.

The application form is simplified to a one-page cover sheet for your application packet. Key evaluation metrics will be based on information provided on this sheet: please enter information (or N/A) on all lines. Metrics not provided will be considered null.

Application Fields

MPO

If any portion of the proposed project falls within the boundaries of a Metropolitan Planning Organization (MPO), enter the name of the MPO here. A link is provided detailing the 8 Minnesota MPOs.

Joint Project

Check the box if the proposed project includes a partnership between multiple agencies

(e.g. multiple counties, MnDOT district and local, etc.)

Estimated Outputs

Enter an estimate for the number of miles, intersections, and/or curves improved as appropriate. For example, a lane departure strategy installed over 28.4 miles may cross multiple intersections and curves, but if the is not intended to improve safety at intersections the value would be zero intersections.

Roadway Jurisdictions

Check the box next to the roadway jurisdiction if any portion of the project improves that roadway type. Multiple jurisdictions may be checked.

"Describe any prioritization used in site selection"

Briefly describe any rationale used in prioritizing which sites were included and which were not.

> Example 1: if submitting from a County Road Safety Plan it is sufficient to state "high priority sites were X stars and above."

Example 2: if submitting a project as part of a long term safety plan, please detail any goals, e.g. "part of a long range strategy to improve A over the next B years."

Supporting Documents

Check any supporting documents that are included in the application. Common and suggested documentation is provided; if including other information, please enter a description.

While metrics will be determined from the application form, supporting documentation is critical to the Selection Committee understanding the scope and details of the project, countermeasure, and location.

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: please verify the Cost per Crash amounts against the crash costs provided by MnDOT OTSM; for the purposes of this solicitation, the cost of a Fatal crash will be equal to double that of a Serious Injury (A) crash.

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: 2013-2017. In April 2018, shapefiles of crashes January 2016 through March 2018 were provided via SALT for use in a format that is similar to MnCMAT. In this time of data transition, please specify if the source of crash data is different that these files.

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 calculation of an annual costs, the following inputs are default for HSIP submission worksheet, available online at www.mndot.gov/trafficeng/safety/hsip.html:

- Traffic Growth Factor: 0.5% (This default is a conservative statewide average. The worksheet can input a different value but additional documentation will be required if modified.)
- Discount Rate: 2%
- Salvage Value of Right of Way and Change in Maintenance Costs: negligible.

HSIP worksheet

Control Section	T.H. / Roadway	Location	Beginning Ref. Pt.	Ending Ref. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends
	I-494	Portland Ave to Nicollet Ave	3+00.848	4+00.357	Hennepin Co.	1/1/2012	12/31/2014

Description of Proposed Work: Construct Westbound auxiliary lane between Portland and Nicollet

Accident Diagram Codes			1 Rear End	2 Sideswipe Same Direction	3 Left Turn Main Line	5 Right Angle	4,7 Ran off Road	8, 9 Head On/ Sideswipe - Opposite Direction	Pedestrian	6, 90, 99 Other	Total
Study Period: Number of Crashes	Fatal	F									
	Personal Injury (PI)	A									
		B									
		C	5								5
	Property Damage	PD	7	3							10
% Change in Crashes *Use Desktop Reference for Crash Reduction Factors	Fatal	F									
	PI	A									
		B									
		C	-25%								
	Property Damage	PD	-25%	-25%							
Change in Crashes = No. of crashes x % change in crashes	Fatal	F									
	PI	A									
		B									
		C	-1.25								-1.25
	Property Damage	PD	-1.75	-0.75							-2.50

Year (Safety Improvement Construction): 2018

		Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
Project Cost (exclude Right of Way)	$ 600,000					
Right of Way Costs (optional)		F			$ 1,140,000	
Traffic Growth Factor	0.5%	A			$ 570,000	
Capital Recovery		B			$ 170,000	
1. **Discount Rate**	2%	C	-1.25	-0.42	$ 83,000	$ 34,583
2. **Project Service Life (n)**	30	PD	-2.50	-0.83	$ 7,600	$ 6,333
		Total				$ 40,917

B/C= 1.66

Using present worth values,

B= $ 998,370

C= $ 600,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology **August 2015**

Appendix C – Recommended Service Life Tables

Service life in years for a sample of safety installations. This list should not be considered exhaustive of 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 – HSIP and Signals

Revised October 10, 2012

In most cases, traffic signals are not safety control devices. They assign right of way for vehicles and are necessary for operational purposes. However, in some cases they can improve safety. The objective of the Highway Safety Improvement Program (HSIP) is to "reduce the occurrence of and the potential for fatalities and serious injuries resulting from crashes on all public roads" (23 CRF 924.5). Signal projects will be considered for funding provided they meet the following criteria.

Section 4 of the Minnesota Manual on Uniform Traffic Control Devices can be found at the link below:
www.mndot.gov/trafficeng/publ/mutcd/mnmutcd2014/mnmutcd-4.pdf

New Signals

Warrant 7, Crash Experience from the MMUTCD must be met. Specifically, "Five or more reported crashes, of the types susceptible to correction by a traffic control signal, have occurred within a 12-month period". Exceptions to meeting this warrant may be made if an adequate case is made on how the new signal will reduce the number of, or potential for, fatalities and serious injuries.

All new signals shall meet current MnDOT design standards. If exceptions to incorporating these standards are necessary due to site specific conditions, explanation should be included with the application.

Installation of red light running (enforcement) lights is strongly encouraged. Installation costs are low when installed with new signals and they provide the benefit of red light running enforcement to be accomplished by one law enforcement officer, instead of two.

Documentation should be provided confirming that other intersection types were considered but are not feasible. Those considered should include intersection types that reduce the probability of severe right-angle crashes. Roundabouts restricted crossing u-turn (RCUT) intersections, and some other alternative intersection types fall into this category.

Existing Signals

Rebuilding an existing signal system is only eligible for HSIP funding if it is necessary for implementation of a geometric improvement (constructing new lanes). The signal system is incidental to the primary safety improvement on these projects, which is geometric.

Retiming of Signal Systems

The development and implementation of new signal timing plans for a series of signals, a corridor or the entire system is eligible.

Appendix E – Narrow Shoulder Paving Guidelines

Guidelines for HSIP-funded narrow shoulder paving in conjunction with county resurfacing projects.

The HSIP steering committee agrees that when narrow shoulder paving projects have been funded through HSIP, it makes sense under certain circumstances to do the work in conjunction with a resurfacing project, rather than as a separate, stand-alone project. The steering committee is proposing revised guidelines on this issue that will affect future project selection.

The County Road Safety Plans (CRSPs) are identifying **6 miles per county per year** for narrow shoulder paving. This work involves the paving of existing aggregate or turf shoulders with 1 to 2 feet of pavement and the addition of a safety edge and a shoulder rumble strip or edgeline rumble stripe. The following guidelines are proposed for the selection of future HSIP projects on the local system:

- Narrow shoulder paving can be done in conjunction with resurfacing if the project is along one of the segments specifically identified in the CRSP for this type of work.

- The project can be at a different location than those identified in the CRSP if it is along a higher-risk segment, as identified in the CRSP. The CRSP assigns a risk rating to highway segments based on the following criteria: traffic volume, rate and density of road departure crashes, curve density and edge assessment. The risk rating ranges from 0 (lower risk) to 5 (higher risk). **If the proposed project is along a highway segment with a rating of 4 or 5, then it can be done in conjunction with a resurfacing project.** This process ensures that narrow shoulder paving is being done at locations of higher risk rather than being driven by the schedule of pavement rehabilitation projects.

- The shoulder paving must include a safety edge and either shoulder or edgeline rumble strips.

- The County should use regular construction dollars to upgrade guardrail and other safety hardware as part of the resurfacing project.

At this time, all other HSIP-funded project types on the local system will continue to be funded as separate, stand-alone projects.

Appendix F – Delegated Contract Process

A brief overview of the Delegated Contract Process (DCP) has been provided below. The outlined criteria must be completed to meet the April 15th deadline requirement for all selected projects:

1. Environmental document prepared by sponsoring agency and approved by DSAE and SALT.
2. Right of way certificate approved or condemnation proceedings have been formally initiated*.
3. District State Aid Engineer (DSAE) approval of plans and a satisfactory review by State Aid that project plans are complete and reflect the project that was selected.
4. Engineer's Estimate and working days estimate including how working days were computed*.
5. Special provision information*.
6. Utility relocation certificate*.
7. Request for Lab Services form*.
8. Permits received or NPDES permit application filled out by sponsoring agency*.
9. SALT requests DBE goal.
10. Plans reviewed and approved by SALT.
11. SALT requests authorization for HSIP or HRRRP projects.
12. Bid opening can be set after authorization by SALT and sponsoring agency.
13. Sponsoring agency prepares proposal, sells project documents and advertises per State Statute (required ad language provided by SALT).
14. Bid opening should be within 90 days of authorization.
15. DBE clearance must be given by Mn/DOT Office of Civil Rights before project is awarded by sponsoring agency (if applicable).
16. Submit above information for all projects that will be included in the construction contract. Above Federal requirements will apply to all work included in the construction contract.

* These items are all submitted to SALT along with DSAE approved plan set.

Additional Resources

For detailed information about the FEDERAL (DCP) process, please visit our website: www.mndot.gov/stateaid/projectdelivery/pdp/dcp/dcp-checklist.pdf

If you have any questions about the Federal Aid process, please contact your DSAE or Merry Daher (SALT) at Merry.Daher@state.mn.us or (651) 366-3821.