HSIP

Highway Safety Improvement Program

For State Fiscal Years 2030 and 2031

Metro District
Program Criteria

Minnesota Department of Transportation
Metro District Traffic Engineering
April 2026

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Appendix:

Introduction

This document explains the requirements and gives guidance for the Highway Safety Improvement Program (HSIP) to applicants desiring to obtain federal funds under the Federal Infrastructure Investment and Jobs Act (IIJA) legislation. In IIJA, the purpose of HSIP is to achieve a significant *reduction in traffic fatalities and serious injuries* on all public roads. Projects submitted should have the greatest potential of achieving this objective. See Appendix B for a timeline flowchart of the HSIP solicitation, application, and evaluation process.

General Policies:

1. HSIP funds are available to MnDOT; the counties of Anoka, Carver, Chisago, Dakota, Hennepin, Ramsey, Scott, and Washington; and the State Aid eligible cities and towns within those counties. Applicants that are not State Aid cities in the eight-county metro area, those with populations under 5,000, must contact the MnDOT Metro State Aid Office prior to submitting their application to determine if a public agency sponsor is required.

2. The maximum HSIP federal award is $2,000,000 per project. A minimum local match of 10% of the total project cost is required. The match must be in "hard dollars." Soft matches (i.e., volunteer labor, donated materials, professional services) cannot be included in the match.

3. HSIP funding cannot be used as a "payback" source of funding, whereby local agencies construct a project and anticipate future reimbursement from HSIP funds.

4. This solicitation is for both Proactive and Reactive safety projects. Distribution of funds between these two project types will depend on a number of factors including the dollar amount and number of projects submitted in each category, types of projects submitted and geographic balance of projects throughout the Metro District.

5. Funding is for roadway construction and reconstruction projects designed to decrease the frequency and/or severity of crashes. These crashes can involve pedestrians, bicycles, and other non-motorized vehicles. The project must be a permanent improvement. Right-of-way, design, and construction engineering costs are not fundable and shall not be included in the project cost. Please refer to https://safety.fhwa.dot.gov/hsip/

6. The amount of federal funds awarded is based upon the original submission. Any increase in scope or costs will be the responsibility of the applicant.

7. Projects awarded funding through the regional HSIP solicitation are subject to the Region's Program Year Policy and Scope Change Policy available at https://metrocouncil.org/Council-Meetings/Committees/Transportation-Advisory-Board-TAB/Policies.aspx

8. Applicants may apply for both Regional Solicitation and HSIP, but projects can only be awarded funds from one of the two federally funded programs.

9. The amount of funding available for this 2026 Metro District solicitation for State Fiscal Years 2030 and 2031 is approximately $30 million for the two-year period. Additional funding may be available in State Fiscal Year 2028, or 2029.

10. Based on policy guidance in the 2050 Transportation Policy Plan, there is a soft target to split the competitive Metro District HSIP funding based on the percentage of the total fatal and serious injuries in the region that involve bicyclists and pedestrians. This would suggest that approximately 31% of the funding should be awarded to either standalone bike and pedestrian safety projects or to other roadway projects that include bike and pedestrian safety elements.

11. Two training sessions will be offered by MnDOT staff to help applicants with the HSIP process. The sessions will cover topics such as: Reactive vs Proactive safety categories, Crash Data, CMF selection, Benefit/Cost, Part of a Plan, Cost per User Exposure, Bike and Pedestrian Safety, etc. There will be an opportunity for applicants to ask questions. Dates to be determined.

Qualifying Criteria

The objective of the Highway Safety Improvement Program (HSIP) is to identify, evaluate, and implement cost effective construction safety projects with a primary goal of **reducing and preventing fatal and serious injury crashes on all public roads.**

Priority will be given to smaller stand-alone, low-cost/high-benefit projects. Applicants should submit focused safety projects and not asset replacement projects unless the replacement project by itself increases safety. See Appendix C for additional traffic signal requirements. Safety features, such as guardrails, that are routinely provided as part of a broader project should be funded from the same source as the broader project. In some instances, narrow shoulder paving in conjunction with resurfacing projects may be allowed. See Appendix D for this exception.

FOR PROACTIVE SAFETY PROJECTS:

For MnDOT Metro District and the Metro counties, their road safety plans should be the starting point for selecting projects for this solicitation. For state and county roads, projects that originate from a road safety plan will be given priority. For local streets, a city may propose strategies similar to their regional/county/local safety action plans, if applicable.

The following crash data is provided to assist cities in focusing on the types of projects to submit. On city roads in the Metro District over the latest 5-year period available (2020-2024, preliminary) there have been 1,559 fatal and serious injury crashes:

- 1,067 (68%) involved an intersection
- 345 (22%) involved a pedestrian
- 136 (9%) involved a bicyclist
- 421 (27%) involved lane departure

The majority of fatal and serious injury crashes fall into the four categories listed above, so the focus should be on low-cost solutions that are geared toward impacting these types of crashes.

Projects should propose safety improvements that directly address the types of crashes experienced within the project area.

Priority will be given to applications that are making cost effective impacts throughout a network (at multiple locations) or via a corridor-based approach.

Signalized intersections in urban areas tend to involve more risk than other types of intersections. A focus on signalized intersections, such as countdown timers, enforcement lights, curb extensions, etc. would have an impact on these target crashes. Other types of upgrades that are mainly capacity focused are much less likely to address target crashes, so typically are not eligible for HSIP funds.

The following is a list of example projects that would be considered for Proactive safety funding with this program:

J-Turns/Median U-Turns
Rumble strips/stripes
Wider striping (6”)
Embedded wet reflective striping
Delineation for sharp curves (chevrons)
Cable median barrier
Crosswalk enhancements (ex. RRFBs or Pedestrian Hybrid Beacons)
Intersection lighting
Corridor lighting
Curb extensions (bump-outs)
Sight distance improvements
Remove hazards in clear zones
Pedestrian countdown timers
Construct ped refuge islands and raised medians
Enforcement lights on signals
Turn lanes
New guardrail (not replacement)
Frontage roads (with access removals)
Sidewalks or trails
Narrow shoulder paving (see Appendix D)
Signal interconnect (fiber)
Pavement messages
Roundabouts
Stop bars
Safety edge
Friction treatments
Road diets
Signing upgrades for conspicuity/increased retroreflectivity

FOR REACTIVE SAFETY PROJECTS:

For this solicitation, proposed projects qualify for the HSIP program by having a benefit/cost (B/C) ratio of 1.0 or greater*. Note: The B/C ratio shall exclude right-of-way costs. The cost used should be the total project cost, not the amount of requested HSIP dollars.

Note: a B/C ratio of 1.0 is required to submit a Reactive safety project. Depending on funding available and the number/type of projects submitted, and scores for other categories, a B/C significantly above 1.0 may be needed to compete in the Reactive safety category.

*Only crashes contained within the Minnesota Department of Public Safety's database can be used to determine the B/C for project submittals. If the agency applying has access to MnCMAT, crash data from that system can be used as part of submittal. MnCMAT data will be reviewed by the HSIP committee to ensure accuracy. Crash data can also be obtained from MnDOT if an agency does not have access to MnCMAT. MnDOT Metro District Traffic Office will provide a crash listing, upon request.

If an individual crash is not in the DPS crash database, it cannot be included in the analysis or the submittal, unless the agency provides acceptable proof of the existence of the crash. Acceptable proof is a copy of the police or citizen accident report. If a crash report was not written, the crash may not be included. If the crash had no injuries and the minimum dollar amount was not met ("N" in the "$min" box on a police report), the crash cannot be included.

See Appendix A for MnDOT crash data contacts.

Prioritization Criteria

The HSIP project evaluation committee will determine if the submitted projects have met the intent of the qualifying criteria and HSIP. This will consider information regarding how a project was prioritized, including details on how the potential project will improve safety.

Pedestrian and bicycle crashes are a focus area in the Minnesota Strategic Highway Safety Plan. Additional consideration will be given to projects which address pedestrian and bicycle safety. **To account for the greater proportion of severe injuries of bike and pedestrian crashes, each bike and pedestrian crash should be entered as two crashes on the B/C worksheet.**

FOR PROACTIVE SAFETY PROJECTS:

For Proactive safety projects, priority will be given to projects identified in road safety plans and projects that have the highest possibility of reducing the chances of fatal and serious injury crashes. The following criteria will be used in ranking proactive safety projects:

- Cost per user exposure
- Connection to the 2025-2029 Minnesota Strategic Highway Safety Plan (SHSP) – other plans can be used to support the project, but they should reflect the project types outlined in the SHSP. This plan can be found at the following link: Minnesota Strategic Highway Safety Plan - MnDOT (state.mn.us)
- Correctable fatal and serious injury crash history (10 years, 2016 - 2025)
- Expected risk reduction in fatal or serious injury crashes - crash modification factor for the specific strategy
- Part of a plan (safety plan or road safety audit recommendations) – include a link to or an excerpt from the existing plan
- Improvements for people outside of vehicles

FOR REACTIVE SAFETY PROJECTS:

The reactive safety projects will be prioritized by:

- Expected reduction in fatal and serious injury crashes. Highest B/C ratio, based on crash data from 2021-2025.
- The scoring committee will review the projects to determine how well they meet the qualifying criteria and intent of the HSIP program, to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. In addition to crash history, the

existence of risk factors and experience with crash types that are risk factors for more severe crashes are relevant here.

- Correctable fatal and serious injury crash history (10 years, 2016 - 2025)
- Improvements for people outside of vehicles

EVALUATION PROCESS:

Project proposals will be reviewed by MnDOT's Metro District Traffic Engineering unit initially to determine if they meet the qualifying criteria. The HSIP committee will finalize a prioritized list of projects to be funded.

The HSIP committee will consist of:

- MnDOT Metro District Traffic Engineer - Program Support
- MnDOT Metro Traffic Safety Specialist
- MnDOT State Traffic Safety Engineer
- Two County/City Engineers
- Metropolitan Council Regional Highway Planner

Required Materials and Special Instructions

Following is a list of materials **required** to be submitted per project. Failure to provide this information may exclude the submission from consideration:

- HSIP Application (Form 1) (See Appendix for Form 1)
- Project Information Sheet (Form 2) (See Appendix for Form 2)
- Location map
- A paragraph explaining the methods the applicant used to choose the project and how it was selected over other potential projects within the applicant's city or county. The description should focus on any safety analysis or ranking involved in the selection process and explain the methodology used.
- A photograph showing the existing conditions within the project area. If awarded funds, this photograph will be utilized in the Metropolitan Council's online mapping tool to show a before-and-after comparison of the improvement. By submitting the application, the applicant is agreeing to allow the Metropolitan Council to use this photograph.
- Project plan or preliminary layout/scope of work proposed.
- Provide the AADT or the average AADT for the project area. If an intersection project, also provide the AADT for the minor road. Applicants may use AADT volume from the MnDOT Traffic Mapping Application (instructions under the Help Document).
- For intersection projects, provide collision diagrams. MnDOT will not provide collision diagrams.
- Include crash listings (2016-2025) obtained from MnDOT or MnCMAT.
- A list of commonly used Crash Modification Factors (CMFs) has been created. Applicants should use these CMFs (included in Appendix G), when applicable.
- For applications where a CMF is not chosen from the list, the applicant will provide a reasonable CMF from the FHWA's CMF Clearinghouse (MUST include a printout of the CMF reference page) http://www.cmfclearinghouse.org/
  The applicant is required to write a brief logical explanation on why they chose a particular CMF.
- If an appropriate CMF cannot be found, the applicant should provide research support for the crash modification used to calculate the crash reduction. In the unlikely event

that no research exists, the application may contain an estimate of crash reductions based upon logical assumptions.

- The applicant must include a letter of support from the agency that owns/operates the facility (if different from the applicant) indicating that it is aware of and understands the project being submitted, and that it commits to operate and maintain the facility for its design life.

- The project applicant must send written notification regarding the proposed project to all affected state and local units of government prior to submitting the application.

- Projects on MSAS and CSAH roadways must meet State Aid standards.

- The project must comply with the Americans with Disabilities Act (ADA).

- In order for a selected project to be included in the Transportation Improvement Program (TIP) and approved by USDOT, the public agency sponsor must either have a current Americans with Disabilities Act (ADA) self-evaluation or transition plan that covers the public right of way/transportation, as required under Title II of the ADA. The transition plan must be completed by the local agency before the HSIP application deadline.

  ☐ The applicant is a public agency that employs 50 or more people and has a completed ADA transition plan that covers the public right of way/transportation. Date plan completed by governing body and link to plan: _____

  ☐ The applicant is a public agency that employs fewer than 50 people and has a completed ADA self-evaluation that covers the public rights of way/transportation. Date self-evaluation completed and link to plan: _____

FOR PROACTIVE SAFETY PROJECTS:

- Provide total miles of strategy deployment.

- Number of fatal and serious injuries in the past 10 years (2016-2025) that have occurred where the applicant proposes to implement an HSIP project. If the agency submitting the application has access to MnCMAT, crash data from that system can be used as part of submittal. MnCMAT data will be reviewed by the HSIP committee to ensure accuracy. Crash data can also be obtained from MnDOT if an agency does not have access to MnCMAT. MnDOT Metro District Traffic Office will provide a crash listing, upon request (see Appendix A for contact information). Crash data should include all crash types and severities, including pedestrian and bicycle crashes. Projects may be eligible for HSIP even if no fatal or severe injuries have occurred in your implementation area.

- Collision diagrams may be submitted but are not required.

- If project is on a trunk highway, provide an approved Intersection Control Evaluation (ICE) report for proposed intersection traffic control changes.

- MnDOT and counties, please attach copy of the appropriate page(s) from your highway safety action plan for projects submitted that are referenced in your plan. These strategies can also be identified in related safety plans and studies, but they need to align with those identified in the SHSP and be HSIP eligible.

- Discuss how the project will improve safety for people outside of vehicles. Safety countermeasures for pedestrians and bicyclists can include those identified as part of the Safe Systems Approach, or by the FHWA as part of its Safe Transportation for Every Pedestrian program or others in its Proven Safety Countermeasures (e.g., pedestrian refuge islands, raised crosswalks, pedestrian hybrid beacons, leading pedestrian intervals). More information about pedestrian and bicycle safety is also available in MnDOT's Best Practices for Pedestrian/Bicycle Safety.

FOR REACTIVE SAFETY PROJECTS:

- The crash data shall include crashes from calendar years 2021-2025. Only crashes contained within the Minnesota Department of Public Safety's database can be included. This is to ensure that all project proposals can be compared equally. If the agency submitting application has access to MnCMAT, crash data from that system can be used as part of submittal. MnCMAT data will be reviewed by the HSIP committee to ensure accuracy. Crash data can also be obtained from MnDOT if an agency does not have access to MnCMAT. MnDOT Metro District Traffic Office will provide a crash listing, upon request (see Appendix A for contact information). Crash data should include all crash types and severities, including pedestrian and bicycle crashes.

- If an individual crash is not in the DPS crash database, it cannot be included in the analysis or the submittal, unless the agency provides acceptable proof of the existence of the crash. Acceptable proof is a copy of the police or citizen accident report. If a crash report was not written, the crash may not be included. If the crash had no injuries and the minimum dollar amount was not met ("N" in the "$min" box on a police report), the crash cannot be included.

Crash data requests to MnDOT should be made as soon as possible. Requests made after June 15th may be significantly delayed due to limited resources. MnDOT will not provide collision diagrams.

- Number of fatal and serious injuries in the past 10 years (2016-2025) that have occurred where the applicant proposes to implement a HSIP project. See explanation above for acceptable methods and sources of crash data. Projects may be eligible for HSIP even if no fatal or serious injuries have occurred in your implementation area.

- HSIP B/C Worksheet – A sample HSIP B/C worksheet is included in Appendix E. Refer to Appendix F for recommended service life criteria. You can find an Excel version of a HSIP Benefit Cost Worksheet on this web page under Reference Material. Note: The Discount Rate has changed significantly from previous versions of the B/C worksheet, ensure you are using the most up to date version from the website.

- If project is on a trunk highway, provide signed Intersection Control Evaluation (ICE) report for proposed intersection traffic control changes.

- Description of how the project meets the intent of the HSIP program (i.e., reduce fatal and serious injury crashes within the proposed project area).

- Proposed roundabouts must address mini-roundabouts as an option.

- Discuss how the project will improve safety for people outside of vehicles. Safety countermeasures for pedestrians and bicyclists can include those identified by the Safe Systems Approach, or the FHWA as part of its Safe Transportation for Every Pedestrian program or others in its Proven Safety Countermeasures (e.g., pedestrian refuge islands, raised crosswalks, pedestrian hybrid beacons, leading pedestrian intervals). More information about pedestrian and bicycle safety is also available in MnDOT's Best Practices for Pedestrian/Bicycle Safety.

SUBMISSION OF APPLICATION:

Applicants will send applications electronically. There will be no paper copies needed. Within two business days, applicants should receive notice that their application was received. If no response is received, the applicant should reach out to contacts in Appendix A to verify the application was received.

Documents should have "recognize text" enabled when converting to PDF. This helps the review process by enabling the use of the search function.

Electronic submittal to: Ashley.Hansen@state.mn.us

Crash Modification Factors

A Crash Modification Factor (CMF) is the inverse of the percentage of crash reduction that may be expected after implementing a given countermeasure. A CMF should be regarded as a generic estimate of the effectiveness of a countermeasure. The estimate is a useful guide, but it remains necessary to apply engineering judgment and to consider site-specific environmental, traffic volume, traffic mix, geometric, and operational conditions, which will affect the safety impact of a countermeasure.

If possible, an application should reference the FHWA Crash Modification Factors identified in the list of commonly used CMFs (included in Appendix G). If an appropriate CMF is not included for the proposed countermeasure, applicants may use a one from FHWA's CMF Clearinghouse. The Clearinghouse can be found at the following website http://www.cmfclearinghouse.org/.

For all applications, the applicant is required to write a brief, logical explanation on why they chose a particular CMF.

When an appropriate CMF cannot be found in the recommended list, other CMFs from the clearinghouse should be used. If neither of those are available, crash reduction percentages from studies not found in the Crash Modification Clearinghouse may be used. Lastly, if no studies can be found to provide a crash reduction, proposals may contain an estimate of crash reductions based upon logical assumptions. The proposal will have to thoroughly demonstrate in a logical fashion how each improvement will impact each type of crash. The HSIP Committee will review the documentation for accuracy and concurrence with logic.

The applicant may contact a member of the MnDOT review team (see Appendix A) to discuss crash modification assumptions for each improvement project prior to submittal.

If only one improvement is included in the proposed project, the CMFs from the FHWA CMF Clearinghouse, or a modification based on an estimated procedure described above can be entered directly into the benefit/cost (B/C) worksheet. If two improvements are included in the proposed project, the overall crash modification factor should be determined using the "multiple safety improvement crash modification formula" described below. No more than two CMFs can be used in the Multiple Safety Improvements Crash Reduction Formula.

Multiple Safety Improvement Crash Modification Formula:

- **Multiple CMF = CMF #1 x CMF #2**

CMF is the overall crash reduction factor expressed as a decimal (to two significant digits) to be used on the B/C worksheet.
CMF #1 is the crash reduction factor for the first improvement expressed as a decimal.
CMF #2 is the crash reduction factor for the second improvement expressed as a decimal.

- **Each crash may only be used on one B/C worksheet.**
- **Use the total cost of the project in the denominator on the B/C worksheet(s).**
- **All individual B/C worksheets must be submitted, and the application must include an overall B/C calculation.**
- **If using multiple CMFs providing your calculation is required.**
- **No more than two CMFs per crash (using the formula) will can be applied. For example: a crash that occurs where multiple countermeasures are proposed – median construction, lighting, stop sign improvements – an applicant will need to choose which two CMFs will be used for the Multiple Safety Improvement Crash Modification Formula calculation to be used in the B/C worksheet. The crash cannot then be used in in another B/C worksheet, effectively applying more than two modifications factors to a single crash. The CMFs chosen for the formula must directly apply to any crashes included on the B/C worksheet.**

Use of Fatal Crashes

Type of Crash	Crash Severity	Cost per Crash
Fatal (F)	1 Fatal Crash (K)	$16,500,000
Personal Injury (PI)	2 Serious Injury (A)	$1,700,000
Personal Injury (PI)	3 Minor Injury (B)	$380,000
Personal Injury (PI)	4 Possible Injury (C)	$180,000
Property Damage (PD)	5 Property Damage Only (N)	$18,000

Since fatal crashes are often randomly located, there is considerable debate as to whether they should be treated as personal injury crashes or as fatalities. Furthermore, the value assigned is subject to many considerations. With the above in mind, the following criteria shall be used when computing expected crash reduction benefits:

1. The cost assigned to a fatal crash may be used if there are two or more correctable fatal crashes being addressed by the same proposed improvement, within the five-year period.

or

2. The cost for a fatal crash may be used when there is at least one correctable fatal crash ***and*** two or more correctable serious injury crashes being addressed by the same proposed improvement, within the five-year period.

If the above criteria are not satisfied, a correctable fatal crash shall be treated as two serious injury type crashes when computing the benefit-cost ratio. To do this, enter the correctable fatal crash as two serious injury crashes on the HSIP B/C worksheet.

For example, if there is a project with two fatal crashes within the project limits, both being at an intersection that is being modified by a roundabout project that would address both crashes, it would be acceptable to count two fatal crashes at the fatal crash cost.

Alternatively, if one of two fatal crashes within the project limits was a right-angle crash that occurred at an intersection being modified by a roundabout project, and the other fatal crash was a run-off-road hitting a tree within the rumble strip installation portion of the same project, the use of a fatal crash cost in the B/C worksheet would not be allowed – in this case each fatal would be entered as two serious injury crashes.
If there are questions about using the full fatal value or the 2x serious injury crash value, please contact Kaare Festvog or Ashley Hansen to discuss the issue.

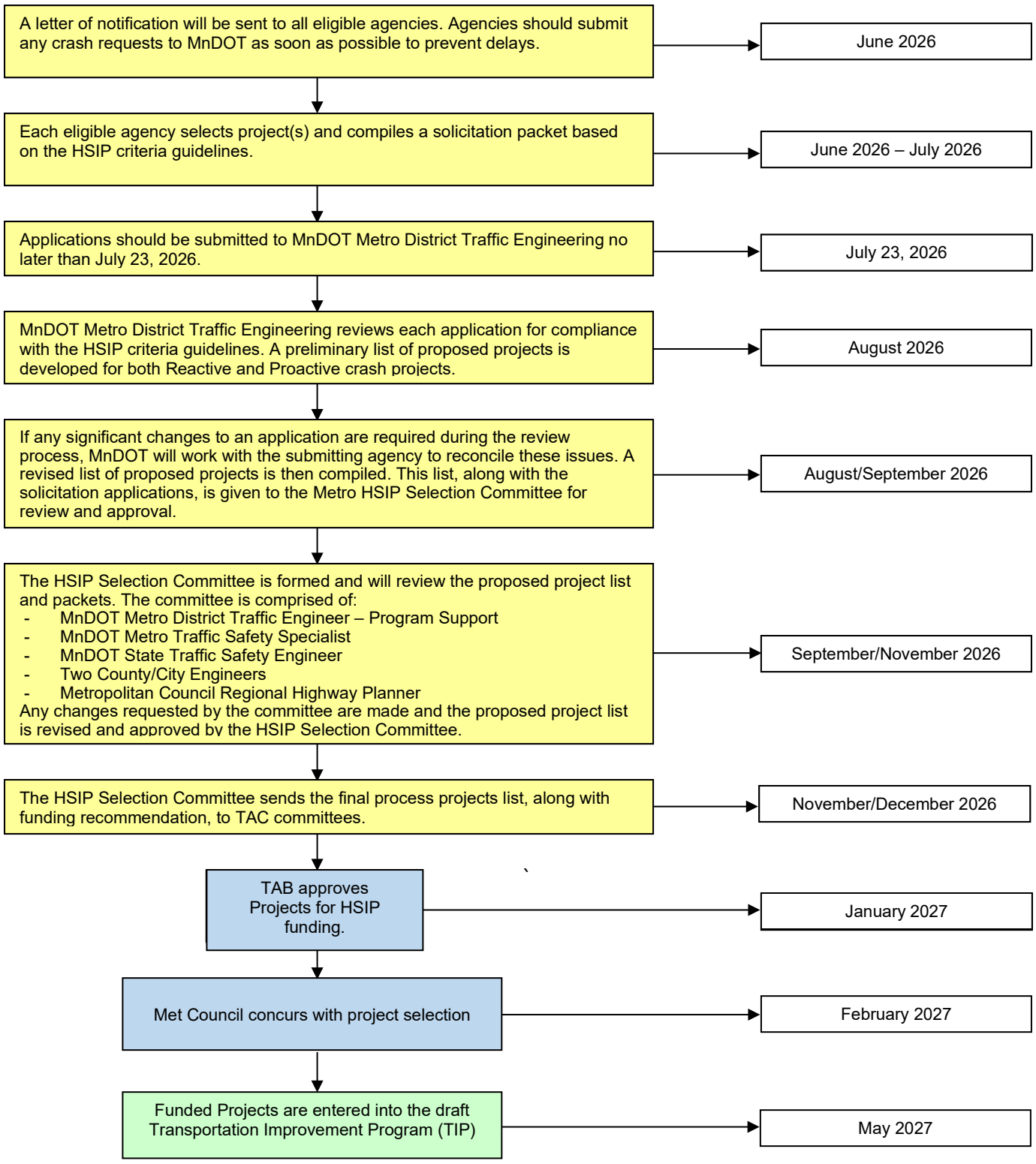
Appendix A

MnDOT Metro District Traffic Engineering
Program Support Contacts

Information	Contact	E-Mail	Phone Number
Proposal Content	Kaare Festvog	kaare.festvog@state.mn.us	(651) 440-2855
Proposal Content	Ashley Hansen	ashley.hansen@state.mn.us	(651) 775-9497
Crash Information	Cherzon Riley	cherzon.riley@state.mn.us	(612) 322-1080

Appendix B

Highway Safety Improvement Program (HSIP)
Metro District Process Timeline (2026)



Appendix C

Traffic Signals:

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 for the Highway Safety Improvement Program is "to significantly reduce 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.

1. New Signals:
   - Warrant 7, Crash Experience from the Minnesota Manual on Uniform Traffic Control Devices (MN MUTCD) must be met. Signal Warrant 7 – Crash Experience (Section 4C.08) should be followed. 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" as required by the IIJA.

   - All new signals on a trunk highway 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, J-Turns, Median U-Turns, and some alternative intersection types fall into this category.

2. Existing Signals:
   - Rebuilding an existing signal system may be eligible for HSIP funding if it is necessary for implementation of a geometric improvement where the signal system cost is incidental to the primary geometric safety improvement on the project.

   - Rebuilding an existing signal system without geometric improvements may be eligible for HSIP funding if additional safety devices are included, such as: adding mast arms, adding signal heads, interconnect with other signals, etc.

3. Retiming of Signal Systems:
   - The development and implementation of new signal timing plans for a series of signals, a corridor, or the entire system are not eligible for HSIP funds if the work is done with internal personnel. If an agency wishes to submit a timing project, the application must show how the timing will specifically improve roadway safety. Capacity specific

improvements are not HSIP eligible. However, it may be eligible if retiming is required after construction of a project including signals.

Appendix D

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

If narrow shoulder paving projects are 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. Work involving the paving of existing aggregate or turf shoulders with 1 to 2 feet of pavement may be allowed within the following guidelines:

- Narrow shoulder paving can be done in conjunction with resurfacing if the project is along one of the segments specifically identified in the County Road Safety Plan 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 or mumble strips.

- If a project is required to construct more than 2-foot shoulders per State Aid standards, or if the applicant plans for more than 2-foot shoulders, HSIP funding cannot be used for any additional width beyond 2 feet (local funds may be used for the additional width).

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

Appendix E

Updated 07/25/2023

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route		**Distric**		**County**	
Begin I		**End RP**		**Miles**	
Locatic					

B. Project Description

Proposed Work			
Project Cost*		**Installation Yea**	
Project Service		**Traffic Growth I**	

**exclude Right of Way from Project Cost*

C. Crash Modification Factor

	Fatal (K) Crashes	**Referen**	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crash	**Crash Ty**	
	Possible Injury (C) Crashe		
	Property Damage Only Cra		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

	Fatal (K) Crashes	**Referen**	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crash	**Crash Ty**	
	Possible Injury (C) Crashe		
	Property Damage Only Cra		www.CMFclearinghouse.org

E. Crash Data

Begin Date _____ **End Date** _____ 0 years

Data Source _____

Crash Severity	**< enter target crashes >**	**< optional 2nd CMF >**
K crashes		
A crashes		
B crashes		
C crashes		
PDO crashes		

F. Benefit-Cost Calculation

$0	**Benefit (present**	**B/C Ratio = N/A**

$0 Cost B/C Ratio = N/A

Proposed project expected to reduce 0 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,600,000
A crashes	$800,000
B crashes	$250,000
C crashes	$130,000
PDO crashes	$15,000

Link: mndot.gov/planning/program/appendix_a.ht

Real Discount	0.8%	Default
Traffic Growth	0.0%	Default
Project Service	10 years	Default

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	0.00	0.00	$0
C crashes	0.00	0.00	$0
PDO crashes	0.00	0.00	$0
			$0

H. Amortized Benefit

Total = $0

Year	Crash Benefits	Present Value
[illegible]	$0	$0
[illegible]	$0	$0
[illegible]	$0	$0
[illegible]	$0	$0
[illegible]	$0	$0
[illegible]	$0	$0
[illegible]	$0	$0
[illegible]	$0	$0
[illegible]	$0	$0
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[illegible]	$0	$0
[illegible]	$0	$0
[illegible]	$0	$0
[illegible]	$0	$0

Appendix F

Recommended Service Life Criteria (in years)

Intersection & Traffic Control	
Construct/Lengthen Turn Lanes	20
Provide Traffic Channelization	20
Improve Sight Distance (non-vegetation)	20
Install Traffic Signs	15
Install Oversized Stop Sign, Gated Stop Signs	15
Upgrade to Solar Powered LED Sign	5
Update to Wired LED Sign	10
Increase Sign Retroreflectivity	15
Install Pavement Markings (paint)	1
Install Pavement Markings (wet-reflective, tape, thermoplastic)	5
Install Delineators	5
Install Illumination	15
Install/Upgrade Traffic Signals	10
Retime Coordinated System	5
Improve Signal Head Visibility	10
Implement Flashing Yellow Arrow	10
Construct Roundabout	20
Construct J-Turn/Median U-Turn	20

Pedestrian & Bicycle Safety	
Construct Sidewalk	20
Construct Pedestrian & Bicycle Overpass/Underpass	30
Install Fencing & Pedestrian Barrier	10
Construct Dedicated Bike Facility at Intersection	20
Install Bike Lane	20
Install Curb Extensions and Medians	20
Install Pedestrian Refuge Island	20
Install RRFB/Pedestrian Hybrid Beacon	10
Install Pedestrian Countdown Timer	10
Install Leading Pedestrian Interval	10

Roadway & Roadside	
Change Pavement Width	20
Add Lane(s) to Traveled Way	20
Construct Two Way Left Turn Lane	20
Implement Road Diet	20
Construct Median for Traffic Separation	20
Widen or Improve Shoulder	20
Realign Roadway (except at railroads)	20
Groove Pavement for Skid Treatment	10
Apply High Friction Surface Treatment	10
Install Breakaway Sign Supports	15
Install Breakaway Utility Poles	15
Relocate Utility Poles	20
Install Guardrail End Treatment	10
Change Barrier Type	25
Upgrade or Install Concrete Median Barrier	25
Upgrade or Install Cable Median Barrier	25
Install Impact Attenuators	10
Install Outside Guardrail/Barrier	25
Install Chevron Signs	15
Flatten or Re-Grade Side Slopes	20
Relocate/Remove Fixed Object	20
Install Edge Treatments	10
Provide Milled Center Line/Edge Line Rumble Strips/Stripes	10

Structures	
Upgrade Bridge Rail	25
Widen or Modify Bridge for Safety	30
Replace Bridge for Safety	30
Construct New Bridge for Safety	30

Source: Federal Highway Administration (FHWA) Countermeasure Service Life Guide

Appendix G

Recommended CMF List

CMF Guide

Project Type	Additional Qualifiers	Area Type	CMF	Value	Star Rating	Crash Type	Crash Severity
		Pedestrian					
Median Construction	Marked, Uncontrolled Pedestrian Crossing	Urban/Suburban	175	0.54	3	Veh/Ped	All
Median Construction	Uncontrolled Pedestrian Crossing, Marked or Unmarked	Urban/Suburban	8800	0.742	4	All	All
High Visibility Crosswalk	High Visibility Crosswalk	Urban	4123	0.6	2	Veh/Ped	All
Install Shared Path	No Shared Path Present	Urban	9250	0.75	2	Veh/Bicycle	All
Install Bike Lanes	No Bike Facilities Present	Urban	4658	0.855	2	Veh/Ped	All
Install Rectangular Rapid Flashing Beacon (RRFB)	No Rectangular Rapid Flashing Beacon	All	11158	0.31	4	Veh/Ped	All
Install Pedestrian Hybrid Beacon (PHB or HAWK)	No Pedestrain Hybrid Beacon	Urban/Suburban	10585	0.883	5	All	All
		J-Turn					
J Turn	Previously Two Way Stop Controlled	All	10384	0.42	4	All	All
		Intersection					
Turn Lane	Install Left Turn Lane	Rural	7853	0.69	2	All	All
Turn Lane	Left Turn Land on Both Major Approaches	Rural	268	0.52	4	All	All
Turn Lane	Right Turn Lanes	All	289	0.74	4	All	All
Turn Lane	Two Way Left Turn Lanes	All	2337	0.775	4	All	All
Turn Lane	Two Way Left Turn Lanes	All	2337	0.775	4	All	All
Turn Lane	Improve Angle of Channelized Right Turn Lane	Not Specified	8431	0.397	4	Right Turn, Other	All
Single Lane Roundabout	Originally Stop Controlled	Rural	229	0.29	3	All	All
Single Lane Roundabout	Originally Stop Controlled	Urban	206	0.28	4	All	All
Single Lane Roundabout	Originally Signalized	All	225	0.52	3	All	All
Single Lane Roundabout	Originally All Way Stop Controlled	All	4932	1.114	1	All	All
Single Lane Roundabout	Originally All Way Stop Controlled	All	4933	0.544	2	All	K, A, B, C
Multi Lane Roundabout	Originally Stop Controlled	All	4927	0.367	2	All	K, A, B, C
Multi Lane Roundabout	Originally Stop Controlled	All	4926	1.06	1	All	All
Mini Roundabout	Stop Controlled to Mini Roundabout	Urban/Suburban	11522	0.633	4	All	All
Turbo Roundabout	Install Turbo Roundabout	Not Specified	2121	0.239	1	All	All
Signal Head	Add Signal (Additional Primary Head)	Urban	1414	0.72	N/A	All	All
Signal Head	Convert Signal From Pedistal-Mounted to Mast Arm	Not Specified	1420	0.51	1	All	All
Signal Head	Add Signal (One Over Each Approach Lane)	Urban	1485	0.54	1	Angle	All
Signal Head	Replace 8" Red with 12"	Not Specified	2334	0.97	4	All	All
Signal Phasing	Leading Pedestrian Interval	Urban	1993	0.413	4	Veh/Ped	All
Intersection Traffic Control	Change Permissive Left to Protected/Permissive	Urban	4140	0.58	2	All	All
Intersection Traffic Control	Change Protected/Permissive to Flashing Yellow Arrow	Urban	4177	0.806	3	Left Turn	All
Intersection Traffic Control	Install Pedestrian Countdown Timer	Not Specified	8790	0.912	5	All	All
Intersection Traffic Control	Install Pedestrian Countdown Timer	Not Specified	5272	0.3	3	Veh/Ped	All
Intersection Traffic Control	Install Adaptive Traffic Signal Control	Urban/Suburban	6858	0.79	3	All	All
Intersection Traffic Control	Change Permissive Only to Flashing Yellow Arrow	Not Specified	7684	0.598	3	Left Turn	All
Intersection Traffic Control	Change Permissive Only to Flashing Yellow Arrow	Not Specified	7690	0.901	3	All	All
Advanced Technology and ITS	Install Red-Light Indicator Lights	Not Specified	8824	0.713	5	Other	All
		Roadway					
Lighting	Provide Highway Lighting	All	191	0.31	3	All	Fatal
Lighting	Provide Highway Lighting	All	192	0.72	3	Nighttime	A, B, C
Lighting	Provide Highway Lighting	All	193	0.83	3	Nighttime	PDO
Wet-Reflective Pavement Markin	Previously Standard Markings	Not Specified	8101	0.887	5	All	All
Median	Install Cable Median Barrier (High Tension)	Rural	1967	0.04	3	Cross Median, Frontal and Opposing Direction Sideswipe, Head On	All
Install Centerline and Shoulder F	No Existing Rumble Strips	Rural	6942	0.653	5	All	All
Improve Pavement Friction	Increased Pavement Friction	All	194	0.76	5	All	All
Road Diet	Preiously Four Lane Undivided	Urban	5553	0.748	4	All	All
		Shoulder Treatments					
Widen Shoulder	Previously Narrow Paved Shoulder	Rural	6657	0.771	4	All	All
		Grade Separated					
Convert to Interchange	At-Grade Intersection	Not Specified	459	0.5	1	All	All

Federal HSIP Funding Application (Form 1)

INSTRUCTIONS: Complete and return completed form and application packet to Ashley Hansen ashley.hansen@state.mn.us.

Applications must be received by 4:30 pm on July 23, 2026.

***Be sure to complete and attach the Project Information form.** (Form 2)

I. GENERAL INFORMATION

1. APPLICANT:			
2. JURISDICTIONAL AGENCY (IF DIFFERENT):			
3. MAILING ADDRESS:			
CITY:	STATE:	ZIP CODE:	4. COUNTY:
5. CONTACT PERSON:	TITLE:		PHONE NO. ( )
CONTACT E-MAIL ADDRESS:			

II. PROJECT INFORMATION

6. PROJECT NAME:

7. BRIEF PROJECT DESCRIPTION - Include location, road name, type of improvement, etc. (A complete description can be submitted separately):

8. HSIP PROJECT CATEGORY – Check which project grouping in which you wish your project to be scored.

☐ Proactive ☐ Reactive

III. PROJECT FUNDING

9. Are you applying, or have you applied for funds from other source(s) to fund this project? Yes ☐ No ☐

If yes, please identify the source(s):

10. FEDERAL AMOUNT*: $	13. MATCH % OF PROJECT TOTAL:
11. MATCH AMOUNT: $	14. SOURCE OF MATCH FUNDS:
12. PROJECT TOTAL: $	15. REQUESTED PROGRAM YEAR(S): **SEE NOTE BELOW**** ☐ 2030 ☐ 2031 ☐ Either year
16. SIGNATURE:	17. TITLE:

***Would you accept a federal award that covers 80% of the total project cost if non-HSIP federal funds were awarded? Yes ☐ No ☐**

****NOTE: If funding becomes available in 2028, or 2029 could this project be advanced to meet this schedule? Yes ☐ No ☐ Which years would work? ☐ 2028 ☐ 2029**

PROJECT INFORMATION (Form 2)

(To be used to assign State Project Number after project is selected.)

Please fill in the following information as it pertains to your proposed project. Items that do not apply to your project, please label N/A. **Do not send this form to the State Aid Office. For project solicitation package only.**

County, City, or Lead Agency _____

Functional Class of road _____

Road System _____ (TH, CSAH, MSAS, County Road, Township Road, City Street)

Name of road _____ (Example: 1st Street, Main Avenue)

Zip code where the majority of work is being done _____

Approximate begin construction date (MO/YR) _____

Approximate end construction date (MO/YR) _____

Location: From: _____

To: _____

(Do not include legal description.)

TYPE OF WORK _____

_____

(Examples: Grade, Agg Base, Bit Base, Bit Surf, Sidewalk, Curb and Gutter, Storm Sewer, Signals, Lighting, Guardrail, Bike Path, Ped Ramps, Bridge, Park and Ride, etc.)