

HSIP

Highway Safety Improvement Program

For State Fiscal Years 2024 and 2025

Scoring Guidance for Proactive and Reactive Projects

Minnesota Department of Transportation
Metro District Traffic Engineering
February 2020

SCORING GUIDANCE FOR PROACTIVE PROJECTS:

Proactive Project Scoring:

| Criteria and Measures | Points | % of Total Points |
|---|---------------|--------------------------|
| 1. Connection to 2014-19 MN Strategic Highway Safety Plan (SHSP) | 100 | 10% |
| 2. Cost per user exposure | 300 | 30% |
| 3. Correctable fatal and serious injury crashes (10 years, 2009-2018) | 100 | 10% |
| 4. Crash reduction factor | 200 | 20% |
| 5. Part of a plan | 200 | 20% |
| 6. Pedestrian and bicycle safety | 100 | 10% |
| Total | 1,000 | 100% |
| | | |

1. Connection to 2014-19 Minnesota Strategic Highway Safety Plan (SHSP) (100 Points) – The [Minnesota Strategic Highway Safety Plan](#) provides insight and direction on how to reduce traffic-related crashes that involve motor vehicles on Minnesota’s roads. The plan has 20 focus-area priorities and associated strategies identified for Minnesota. This measure rewards project applications that help to further strategies (shown as bullet points below) in this plan. The pertinent infrastructure-based focus areas and strategies include the following:

1. Lane Departure

- Install shoulder and centerline rumble strips
- Install enhanced pavement markings and edge line rumble strips on roads with narrow or no paved shoulders
- Provide buffer space between opposite travel directions
- Provide wider shoulders, enhanced pavement markings and chevrons for high-risk curves
- Eliminate shoulder drop-offs, provide safety edges and widen or pave shoulders

2. Intersections

- Use indirect left-turn treatments and access management to minimize conflicts at divided highway intersections
- Provide dynamic warning signs to alert drivers of conflicts at stop-controlled intersections
- Improve intersection visibility by providing enhanced signing, delineation and lighting
- Provide roundabouts at appropriate locations
- Optimize signal operations with phasing, timing, coordination and clearance intervals
- Supplement conventional red-light running enforcement with traffic signal confirmation lights and other technology enhancements that support enforcement efforts

3. Inattentive Driving

- Install edge and centerline rumble strips on at-risk rural roads to alert drivers of possible lane departure
- Install lighting and dynamic warnings at rural intersections to improve visibility of other vehicles and roadway user

4. Speed

- Install dynamic speed feedback signs at rural/urban transitions, school zones and work zones
- Incorporate curbs, sidewalks, lighting and other design elements to indicate lower speeds in transition areas

5. Pedestrians

- Strategies aimed specifically at improving safety for pedestrians

6. Bicyclists

- Strategies aimed specifically at improving safety for bicyclists

7. Trains

- Strategies aimed specifically at improving safety at train crossings

SCORING GUIDANCE

Projects will be awarded between 0 and 5 points based on the ability of the project to implement one or more of the strategies identified in the Minnesota Strategic Highway Safety Plan. Applicants could be awarded full points for either proposing a project that strongly advances one of the Plan’s strategies or for a project that implements multiple strategies.

Scorers will respond to the following statement:

The project implements one or more of the strategies listed in the Minnesota Strategic Highway Safety Plan.

Strongly disagree: 0 points

Disagree: 1 point

Neutral: 2 points

Slightly Agree: 3 points

Agree: 4 points

Strongly agree: 5 points

Multiple projects can receive 5 points in this scoring measure. Points awarded (0-5) will be multiplied by 20 to get a final score out of 100 points possible.

2. Cost Per User Exposure (300 Points) – This criterion will assess cost effectiveness of the infrastructure being proposed. Each application for a linear project will be scored on its total million vehicle miles (MVM) while each application at an intersection will be scored on its total million entering vehicles (MEV).

LINEAR PROJECTS

- Total project cost: _____
- Project MVM: _____
- Cost effectiveness (project MVM / project cost): _____

INTERSECTION PROJECTS

- Total project cost: _____
- MEV: _____
- Cost effectiveness (project MEV / project cost): _____

SCORING GUIDANCE

The linear project application with the highest cost effectiveness will be awarded full points. Remaining applications will receive a proportionate share of the full points. Similarly, the intersection project with the highest cost effectiveness will be awarded full points with remaining applicants receiving a proportionate share. For example if the linear application being scored was 0.089 MVM per cost and the highest-rated project was 0.0110 MVM per cost, the application would receive $(0.089/0.0110)*300$ points or 243 points.

Note: Because of the two different scales, two projects will be awarded the full 300 points.

3. Correctable Fatal and Serious Injury Crashes (100 Points) – This criterion measures the history of fatal and serious injury crashes from 2009 to 2018 that have occurred along the proposed project. Total fatal and serious injury crashes for 2009-2018 will be tallied with each fatal crash being worth two times the number of each serious injury crash.

- Total crashes = 2* “Fatal” crashes + “Serious Injury” crashes

SCORING GUIDANCE

Correctable crashes are those that the treatment being proposed is anticipated to mitigate. The applicant with the highest number of fatal and serious injury crashes will receive the full points for the measure. Remaining projects will receive a proportionate share of the points. For example, if the application being scored had 10 total crashes and the top application had 30 crashes, this application would receive $(10/30)*100$ points, or 33 points.

4. Crash Reduction Factor (200 Points) – This criterion awards points based on the crash reduction factor (CRF). Applicants must provide a reasonable crash reduction factor (CRF) via printout from the [Crash Modification Factor Clearinghouse](#).

The score will be based on the aggregate of up to the maximum of two CRFs.

SCORING GUIDANCE

The applicant with the highest CRF for the proposed improvement will be awarded full points. Remaining applications will receive a proportionate share of the full points. For example if the application being scored has a CRF of 36 and the highest-rated project has a CRF of 48, the application would receive $(36/48)*200$ points or 150 points.

5. Part of a Plan (200 Points) – The project or the transportation problem/need that the project addresses must be in a planning or programming document. Reference the name of the appropriate safety plan, road safety audit, Safe Routes to School plan, corridor study document, or other official plan or program of the applicant agency that the project is included in and/or a transportation problem/need that the project addresses. Studies on a trunk highway must be supported by the Minnesota Department of Transportation and the Metropolitan Council. Applicants should include a link to a plan or plan excerpt and list the applicable:

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Projects will be awarded points as follows:

200 pts – if the project is specifically listed or addresses a specific transportation need that is included in a standalone SAFETY plan such as a County Safety Plan, District Safety Plan, Road Safety Audit, Road Safety Analysis, etc.

100 pts – If the project addresses a transportation need that is part of a safety discussion in a larger broader plan such as a City Comprehensive Plan, etc.

0 pts – the project is not included in nor addresses a safety need in a plan.

6. Pedestrian Safety (100 Points) – Discuss how the project will improve safety for pedestrians. Safety countermeasures for pedestrians can include those identified 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 safety best practices is also available in MnDOT’s Best Practices for Pedestrian/Bicycle Safety.

SCORING GUIDANCE

The project that will provide the most improvement to pedestrian safety will receive full points. Remaining projects will receive a share of the full points at the scorer’s discretion.

SCORING GUIDANCE FOR REACTIVE PROJECTS:

Reactive Project Scoring:

| Criteria and Measures | Points | % of Total Points |
|--|--------------|-------------------|
| 1. Benefit/Cost (B/C) Ratio | 600 | 60% |
| 2. Meets Intent of the HSIP Program | 200 | 20% |
| 3. Correctable Fatal and Serious Injury Crashes (10 years) | 100 | 10% |
| 4. Pedestrian and bicycle safety | 100 | 10% |
| Total | 1,000 | 100% |

1. Benefit/Cost Ratio (600 Points) – Only projects with a B/C ratio of 1.0 or greater can be funded. Projects with a higher B/C ratio will receive more points.

SCORING GUIDANCE:

The applicant with highest B/C ratio will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had a B/C ratio of 7.5 and the top project had a B/C ratio of 11.0, this applicant would receive $(7.5/11.0)*600$ points or 409 points. The scoring committee may reduce the points awarded if the methodology or data provided by the applicant is not reasonable.

2. Meets Intent of the HSIP Program (200 Points) – Projects will be scored based on their ability to achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

SCORING GUIDANCE

Projects will be awarded between 0 and 5 points based on the ability of the project to reduce fatal and serious injuries crashes. Scorers will assess the types of crashes that have occurred in the project area and the potential for the proposed solution to reduce the fatal and serious injury crash risk that has been documented.

Scorers will respond to the following statement:

The proposed project meets the intent of the HSIP program.

Strongly disagree: 0 points

Disagree: 1 point

Neutral: 2 points

Slightly Agree: 3 points

Agree: 4 points

Strongly agree: 5 points

Multiple projects can receive 5 points in this scoring measure. Points awarded (0-5) will be multiplied by 40 to get a final score out of 200 points possible.

3. Correctable Fatal and Serious Injury Crashes (100 Points) – This criterion measures the history of fatal and serious injury crashes from 2009 to 2018 that have occurred along the proposed project. Total fatal and serious crashes for 2009-2018 will be tallied with each fatal crash being worth two times the number of each serious injury crash.

- Total crashes = 2* “Fatal” Crashes + “Serious Injury” Crashes

SCORING GUIDANCE

Correctable crashes are those that the treatment being proposed is anticipated to mitigate. The applicant with the highest number of fatal and serious injury crashes will receive the full points for the measure. Remaining projects will receive a proportionate share of the points. For example, if the application being scored had 10 total crashes and the top application had 30 crashes, this application would receive $(10/30)*100$ points, or 33 points.

4. Pedestrian and Bicycle Safety (100 Points) – Discuss how the project will improve safety for pedestrians and bicyclists. Safety countermeasures for pedestrians and bicyclists can include those identified 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 bicyclists safety best practices is also available in MnDOT’s Best Practices for Pedestrian/Bicycle Safety.

SCORING GUIDANCE

The project that will provide the most improvement to pedestrian and bicycle safety will receive full points. Remaining projects will receive a share of the full points at the scorer’s discretion.