



MEMORANDUM

To: STP Project Selection Committee

From: CMAP Staff

Date: August 4, 2022

Subject: STP Shared Fund Methodology - Corridor or Small Area Safety Projects

Purpose: Staff requests committee discussion of the attached proposal to modify the Transportation Impact scoring for this project type

Action Requested: Discussion

The STP Shared Fund scoring methodology was designed to provide an analysis of both the need for and benefit of projects relative to one another, rather than providing an absolute numeric score. Throughout the methodology numeric scores are calculated, but most are scaled relative to all project applications, or all applications with the project type category. One prominent exception is the “need” component of the Corridor or Small Area Safety projects, which provides one of five absolute point values with no scaling. These absolute scores can provide either an advantage or disadvantage to these project types over other project types. Additionally, the CMAP Safety Resource Group has identified speed-related crashes and crashes involving vulnerable road users as a high priority for the region, thus project locations with higher instances of these types of crashes can be considered to have a higher need for improvement than other locations with otherwise similar safety need.

To address these issues, staff proposes the attached modifications to the scoring methodology. These modifications will introduce some gradation in the scoring and elevate scores for projects that are experiencing higher priority crash types relative to peer projects.

Corridor/small area safety improvements

Existing Condition/Need

The need score for safety projects consists of two parts: the safety road index (SRI) and the percentage of crashes that are considered high risk. High risk crashes are those that are speed related and/or involve vulnerable road users. The total need score will be the sum of the SRI Score and the High Risk Crash Types Score.

SRI Score (0 – 16 points)

The SRI score is calculated using IDOT's safety road index (SRI) for roadway segments and intersections. The SRI is based on the location's [Potential for Safety Improvement](#)¹ (PSI) score. IDOT developed SRI scores for local and state routes and categorized them by peer group into critical, high, medium, low, or minimal. Within each peer group, locations categorized as critical have the highest PSIs, and locations categorized as minimal are less likely to have safety benefits from treatments. ~~The proposed project's need score will be the~~ highest SRI category along the project location will be used to determine 80% of the project's need score using the scale below. This will include both segment and intersection locations.

SRI Score	Points
Critical	20 <u>16</u>
High	15 <u>12</u>
Medium	10 <u>8</u>
Low	5 <u>4</u>
Minimal	0

High Risk Crash Types Score (0 – 4 points)

The CMAP Safety Resource Group has identified both speed-related crashes and crashes involving vulnerable road users as emphasis areas for improving safety. Locations with a high percentage of these types of crashes are therefore a higher priority for safety improvement projects. Up to two additional points will be awarded based on the percentage of speed related crashes that occurred within the project limits and up to two more points will be added to the need score based on the percentage of crashes involving vulnerable road users that occurred within the project limits. Crash data used to determine these percentage will be the most recent five years for which data was available from IDOT or provided by the applicant. No points will be given for speed-related or vulnerable user-involved crashes if the project scope does not include countermeasures to address reduction of these types of crashes. A crash that was both speed related and involved a vulnerable user would be counted in both parts of this scoring.

Points = (Percentage of speed related crashes x 2) + (Percentage of vulnerable user-involved crashes x 2)

¹ https://rspcb.safety.fhwa.dot.gov/noteworthy/html/projident_il.aspx?id=8

Improvement

This score is based on the improvements made by the project and the planning level expected safety benefit (reduction of crashes) after implementing the improvement. CMAP staff has developed a list of common improvement types (countermeasures) and the accompanying planning level CRFs using information from IDOT, the Crash Modification Clearinghouse, and the Highway Safety Manual. These values are included in the Safety worksheet of the application workbook. CMAP staff will review project details to determine the relevant countermeasure and the assigned planning level CRF for that countermeasure. If multiple countermeasures are part of the project, CMAP staff will use the maximum planning level CRF for the project. The maximum CRF will be multiplied by the number of fatal and serious injury (K and A) crashes occurring within the project limits within the most recent five years for which data was available from IDOT or provided by the applicant, to determine the potential crash reduction due to the project. Cost effectiveness will be determined by dividing the project's total cost by the potential crash reduction to determine the cost per reduced crash.

The cost effectiveness of all projects within the corridor or small area safety category will be indexed to a scale of 0-20.