Chicago Metropolitan Agency for Planning

FFY 2022 – 2026 STP-Shared Fund Scoring Documentation

Introduction

This document describes the methodologies used by CMAP staff to complete the scoring of STP – Shared Fund applications received in the 2021 Call for Projects Cycle. The document is organized by scoring criteria which are presented in the same order as the program application booklet.

All submitted applications were first reviewed for eligibility. Seven applications were determined to be ineligible. All eligible applications were then reviewed in each project type category requested by applicants in the project's application workbook to determine a preliminary score. Upon completion of the preliminary scoring, the highest scoring project type category for each project was determined and all lower-scoring instances of each project that was scored in multiple categories was removed from further consideration. The need and improvement scores, which are calculated relative to all applications within each project type were adjusted based on the final set of highest scoring eligible projects. The results of this second round of scoring are presented in the Final Draft scores. Both the preliminary scores and the Final Draft scores are being released to the STP Project Selection Committee (PSC), the Council of Mayors planning liaisons, and the sponsor contact listed in each application for review from June 11 to June 18, 2021. The planning liaisons are responsible for sharing the scores with non-applicant members and interested parties.

Following the receipt of applicant comments, any necessary adjustments will be made. After making all adjustments, the scores will be recalculated for the final time to determine all projects' final ranking, which will be used to develop the staff recommended active and contingency programs. The staff recommendation will be presented to the STP PSC on July 1, 2021. Following that meeting, a public comment period will be held through July 30, 2021. The STP PSC will meet on August 19, 2021 to review public comment and a final program recommendation will be developed for STP PSC consideration on September 9, 2021.

Project Eligibility: Minimum Cost or Partnership

Project financial data was reviewed to confirm that the minimum total cost of each project exceeded the $5 million requirement. For projects with total cost less than $5 million, application attachments were reviewed to confirm that partnership criteria (3 of more partners, including at least one municipality, contributing financially) were met.

One project was determined not to meet these criteria and was eliminated from consideration.

Project Eligibility: Inclusion in Plans

Sponsor responses to the "Inclusion in Plans" questions in the application workbook were screened first for "yes" or "no". If the sponsor answered "no" to both questions (project identified in plan and project type supported in plan), the project was deemed ineligible. If the sponsor answered "yes" to either question, the referenced plan was reviewed by staff to confirm inclusion of the project/project type.

Four projects were determined not to meet this criteria and were eliminated from consideration.

Project Eligibility: Phase 1 Engineering Complete

Sponsor responses to the "Preliminary Engineering Status" question in eTIP were reviewed as an initial screening. If "Engineering Completed" or "Design Approval Granted" was selected, the attached quarterly status update form and other attached documents were reviewed to confirm the selected status. If no supporting documents were attached and the status could not be validated by staff, IDOT was contacted for verification. For all other responses to the preliminary engineering status question, IDOT field engineers were contacted to confirm the status of Phase 1 Engineering. If design approval was received, the project was deemed eligible for funding consideration. If design approval was not received, IDOT staff was asked to provide

their opinion on the validity of the scope of work and cost estimate. If IDOT's opinion was that ENG1 was "substantially complete", the project was deemed eligible for funding consideration. For transit projects, the process was similar, with a review of the quarterly status update form serving as the main source of information, supplemented by project narratives and other attachments.

Five projects were determined not to meet this criteria and were eliminated from consideration.

Engineering/ROW Completion

Engineering/ROW completion was scored in two parts: Phase 2 status and ROW status/need.

For phase 2 engineering, 5 points were given if "yes" was selected in eTIP in response to the "Phase 2 Engineering is Complete?" field and attached documents confirmed this status. If "no" was selected or no supporting documents were attached, the "current implementation status" field response, financial table, schedule info section, and attached documents were reviewed to determine the appropriate points to assign. In many cases, where applications were for additional funds for an existing TIP project, review of the existing project record provided evidence of status. IDOT D1 BLRS or Division of Highways staff were consulted if staff was unable to verify status.

For ROW, 5 points were given if "no" was selected in eTIP in response to the "Project requires right of way" field. If "yes" was selected, 5 points were given if "yes" was selected in the "If yes, has right of way been acquired?" field.

Scores ranged from 0 to 7.5 points. The maximum possible score was 10 points. 7 applicants received 2.5 points, 11 applicants received 5 points, and 2 applicants received 7.5 points. The remaining applicants received zero points.

Financial Commitment

The individual financial line items exported from eTIP were used to sum the funding by phase for each TIP ID, Federal Fiscal Year, and Fund Source. Costs for ineligible/non-participating items were identified and subtracted from the federally-eligible share of the total. Committed funds from all sources were identified and the amount of local match provided for the requested funds and any other federal funds committed were verified. The funding amount requested was compared to the STP Shared Fund eligible share, and financial commitment points were assigned based on the percentage of the eligible cost that was requested as detailed in the application booklet.

Scores ranged from 0 to 5 points, with 5 applicants requesting less than 20% of eligible costs and 4 applicants requesting 20-40%. Seven applicants requested toll credits, receiving zero financial commitment points. The majority of applicants requested funding for 80-100% of the eligible costs, receiving 1 financial commitment point.

Transportation Impact – Jobs and Households

Staff began the analysis by matching the segments and points selected in eTIP for each project with travel demand model links. A matrix of trips on the model links from and to each traffic analysis zone was produced. For each project, the number of trips using the project links and the percentage of all trips using the project links were calculated to/from each zone. A travelshed was defined from the zones serving as the top 85% of origins and destinations for those trips using the project links. The number of households and jobs within each zone of the travelshed were summed to determine the total jobs and households served by the project. The totals were then converted to a 10 point scale based on their percent rank among all projects.

The raw number of jobs plus households served by projects ranges from 17,600 to 2 million, resulting in scores ranging from 0.2 to 9.5 points.

Transportation Impact – Need and Improvement by project type

Bicycle/Pedestrian Barrier Elimination Projects

The type of barrier – road, rail, or water – for each project was determined based on the data provided in the application workbook and project description.

For road barriers, the level of traffic stress for the roadway being crossed was determined and scaled to a maximum of ten points for the route characteristics portion of the need score. If the barrier was fully eliminated by the project, the level of traffic stress was assumed to be reduced to zero and therefore the level of traffic stress value divided by the total cost of the project determined the cost effectiveness of the improvement.

For rail barriers, the quintile values for average daily trains and proximity to rail operations bottelnecks were determined from the maps published in the application booklet. In cases where quintile values varied over the project limits, the highest point value was selected. If the barrier was fully eliminated, the improvement was calculated by dividing the sum of the quintile scores by the total project cost to determine the cost effectiveness of the improvement.

For water barriers, staff verified the distance to the nearest existing crossing and assigned points using the scale in the application booklet. These points were divided by the total project cost to determine the cost effectiveness of the improvement.

For all barrier types, if the barrier was not eliminated by the project, the improvement was determined to be zero and the project was dropped from further consideration in this category, except in the case of one project that was only evaluated in this category. The cost effectiveness of all projects were converted to a 20 point scale based on their percent rank among all projects.

For all barrier types, the population and employment density and transit availability quintiles portion of the market for facility element of the need score were determined from the maps provided in the application booklet. Staff verified that schools listed in the application workbook were within 1 mile of the project and assigned points according to the methodology. Staff also verified applicant responses regarding connectivity with regional greenways and trails and assigned points according to the methodology.

Sixteen projects were initially evaluated in this category. After the preliminary scoring was complete, 4 projects remained for final scoring.

Bridge Rehab or Reconstruct projects

The NBI sufficiency rating for all bridges/structures within the project limits were determined by looking up the structure numbers in the NBI database. The structure within the project limits with the lowest sufficiency rating was deemed the most critical structure, and was used for determining scores in this category and in the bridge projects' improvement category.

Need points were calculated by subtracting the NBI sufficiency rating from 100 (the maximum rating) to determine the "need", and dividing the result by 5 to convert to a 20 point scale. For projects involving multiple structures, points were calculated based on the least sufficient structure.

To calculate improvement scores, data from all NBI database fields noted in the methodology were determined for the critical structure within each project and were utilized to calculate the raw values for each portion of the improvement score. The sum of these values was divided by the total project cost to determine the cost effectiveness. Cost effectiveness values were converted to a 20 point scale based on their percent rank among all projects.

Four projects were initially evaluated in this category. After the preliminary scoring was complete, 1 project remained for final scoring.

Bus Speed Improvement projects

Need scores were calculated based on two factors: current on-time performance and the difference between bus travel time and auto travel time. On-time performance scores were calculated by averaging the applicant-provided on-time performance for all bus routes affected by the project. Points were assigned by subtracting the on-time percentage from 100 to determine the "need". Bus travel time and auto travel time came from a review of schedules and travel time estimates from Google maps. The percent difference was calculated and converted to a percentile score. The two scores were scaled to the total possible points (20).

Improvement points were calculated based on two factors: the change in on-time performance and the change in the difference between bus travel time and auto travel time. Change in on-time performance scores were calculated by subtracting the average of applicant-provided on-time performance for all bus routes affected by the project before the project from the average of applicant-provided on-time performance after the project. The percent increase in bus travel time from before the project to after the project was calculated to determine the travel time improvement points. The raw improvement score was calculated by adding the two scores together and dividing by the total cost of the project. The percent rank of each raw score was calculated and multiplied by the total possible points (20).

Two projects were evaluated in this category during both preliminary and final scoring.

Corridor or Small Area Safety projects

The SRI value (minimal, low, medium, high, or critical) for each segment and intersection included in each project were determined from a visual inspection of IDOT safety tier maps. Projects were assigned a point value of 0, 5, 10, 15, or 20 for the need score based on the segment or intersection with the worst SRI value.

To determine improvement scores, staff reviewed the safety improvements included in each project, as indicated by applicants, and determined the highest CRF value that could address the crash types occurring within the project limits. The CRF was multiplied by the number of crashes (K&A) occurring within the project limits within the last five years of available IDOT data, to determine the potential crash reduction. The project's total cost was then divided by the potential crash reduction to determine the cost per reduced crash, which was scaled to 20 points based on the percent rank of each project.

Fifteen projects were initially evaluated in this category. After the preliminary scoring was complete, 9 projects remained for final scoring.

Highway Rail Grade Crossing projects

The score for each DOT crossing number within the project limits was determined from the map data provided in the application booklet and the crossing within the project limits with the highest need score was used to assign points. Scores were made up of two parts: rank (up to 15 points) and priority locations (5 points). Rank points were determined by multiplying each crossing's percentile rank by the 15 available points. The percentiles were calculated based on the rank of the sum of individual points for trucks, safety, delay, and buses. For projects involving multiple crossings, the highest score was used.

For full grade separations, delay and safety conflicts will be completely eliminated, so the sum of each crossing's safety and delay scores was divided by the total project cost (in millions) to determine the improvement score. For projects improving but not separating crossings, incremental changes to the delay and/or safety scores were applied prior to summing and dividing by total project cost; if the project involved improvement to train movements, 0.5 x delay score was used; if the project involved improvement to the crossing (gates, signals, etc.), 0.5 x safety score was used. The percent rank was calculated, and multiplied by the total possible points

(20) in the category. For projects involving multiple crossings, the highest score was used for determining the percent rank.

Seven projects were initially evaluated in this category. After the preliminary scoring was complete, 2 projects remained for final scoring.

Road Reconstruction and Road Expansion projects

Project location segments were matched to condition, mobility, and reliability data to determine the raw values for each factor, which were scaled from 0 to 100 points. The project segment with the most critical SRI score was determined and also scaled to 100 points. The weighting called for in the application booklet was applied to each measure to determine the total needs score, which was scaled to the total possible points (20).

The improvement in mobility (for expansion projects) or condition (for reconstruction projects) was scaled to 10 points. Points for inclusion of certain scope elements listed in the application booklet were added and the result was divided by the total project cost to obtain a raw improvement score. The percent rank of each was calculated and multiplied by the total possible points (20).

Twenty-two projects were initially evaluated in the road expansion category. After the preliminary scoring was complete, 16 projects remained for final scoring. Thirty-four projects were initially evaluated in the road reconstruction category. After the preliminary scoring was complete, 19 projects remained for final scoring.

Transit Station projects

The need score was based on two factors: the cost weighted average of TERM scores of station elements and the presence of sidewalks and bicycle parking infrastructure within the station area. The cost weighted average of existing TERM scores (provided by applicants) was calculated by dividing the sum of the replacement cost ($ value) times TERM score for each element by the sum of the replacement cost for all elements. The result for each project was subtracted from the maximum possible TERM score (5) to determine the "need", which was scaled to 20 to assign condition need points. Next, the percentage of roads in the station area with no sidewalk was determined from CMAP's sidewalk inventory and the existence of bicycle parking infrastructure reported by applicants was verified and points were assigned according to the methodology. For projects that include both station improvements and bike/ped access improvements, the final need score was determined by weighting each of the above by 50%. For projects only improving the station, only the TERM score was used.

Improvement scoring was also based on two factors: the improvement in TERM scores and the improvement to bike/ped access. The cost weighted average of TERM scores after the project (provided by applicants) was calculated by dividing the sum of the replacement cost ($ value) times the TERM score for each element by the sum of the replacement cost for all elements. The "before" weighted TERM score was subtracted from the "after" score to determine the raw improvement, which was scaled to 20 to assign condition improvement points. For projects improving bike/ped access, the amount of new plus improved sidewalk added by the project was calculated as a percentage of two times the total linear feet of roadway within the station area and scaled to 15 raw points. 5 additional raw points were added if bicycle parking infrastructure was being added as a result of the project. The higher of the raw improvement to the TERM scores or improvement to bike/ped access was retained and divided by the total project cost to determine the cost effectiveness of the improvements, and the percent rank of each project was calculated and multiplied by the total possible points (20).

Two projects were evaluated in this category during both preliminary and final scoring.

Truck Route Improvement projects

Scores for condition, mobility, reliability, and safety factors were calculated as described for Road Reconstruction and Road Expansion projects. The length-weighted average of the truck volumes using all project segments were calculated, then scaled to the same 100-point scale as the other factors. Points for

geometric deficiencies were assigned according to the methodology. The weighting described in the methodology was applied to determine the total needs score, which was then scaled to the total possible points (20).

Points for improvements to geometric deficiencies were calculated and added to points assigned according to the methodology for systematic improvements and mitigation of negative impacts and mobility improvement points to determine the raw improvement which was divided by the total cost of the project to determine the cost effectiveness. The percent rank of each cost effectiveness score was calculated and multiplied by the total possible points (20).

Six projects were initially evaluated in this category, but none were carried through to the final scoring.

Planning Factors

Inclusive Growth

Staff located project segments (roadway and/or transit) on the Inclusive Growth map and assigned points according to the scale contained in the application booklet. For projects with multiple segments, the segment with the highest percentage was used.

Complete Streets

Sponsor responses to the "Complete Streets" questions in the application workbook were screened first for "yes" or "no". If the sponsor answered "no" to both questions, zero points were given. If the sponsor answered "yes" to having a complete streets policy, the referenced attachments or links were reviewed by staff to confirm the cited ordinance/policy was eligible. Raw points were assigned for inclusion of complete streets elements in the project and scaled according to the methodology.

Green Infrastructure

Sponsor responses to the "Green Infrastructure" questions in the application workbook were screened first for "yes" or "no". If the sponsor answered "no" to both questions, zero points were given. If the sponsor answered "yes" to either question, the referenced attachments were reviewed by staff to confirm the cited ordinance/policy was eligible and the project description and detailed cost estimate were reviewed to confirm inclusion of the listed elements.

Freight Movement

Sponsor responses to the "Freight policy" questions in the application workbook were reviewed and points were assigned based on the methodology. Staff verified whether the project is located on a regional freight network and assigned 3 points to projects that are. The two scores were added together.

Transit Supportive Land Use

Staff reviewed the zoning information provided in the application workbook and assigned points in three parts. "Land Use" points were assigned for residential density and building height according to the scale contained in the application booklet, and the points in the two categories were averaged to determine the score for this part. "Parking" points were assigned by giving one point for each innovative parking element listed in the application booklet, up to a maximum of 2.5 points. "Mixed Use" points were assigned by giving one point for each zoning element listed in the application booklet, up to a maximum of 3 points. The scores in each part were added together to determine the total points.

Subregional Priority Points

Priorities designated by councils and CDOT were received via email and points were assigned according to the methodology after review of the justifications provided for priorities located outside of the boundaries of the council. Council and CDOT staff were given an opportunity to review the assigned priorities prior to final scoring.