



BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

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TECHNICAL MEMORANDUM

DATE: September 23, 2021

TO: Boston Region Metropolitan Planning Organization (MPO)

FROM: Matt Genova, Transportation Improvement Program (TIP) Manager

RE: Draft Programming Policies to Address TIP Project Cost Increases

This memorandum outlines a three-pronged approach to addressing the issue of cost increases for those projects funded using the Boston Region MPO's Regional Target funds. These policy interventions are based on work conducted by the TIP Project Cost Ad Hoc Committee over six meetings from June 3, 2021, to September 2, 2021. This committee is comprised of nine MPO board members and was established by the board in April 2021 in response to significant cost increases for projects previously selected for funding by the MPO in the TIP.

1 INTERVENTION #1: REQUIRE MORE ADVANCED DESIGN STATUS AT PROJECT PROGRAMMING

1.1 Current Approach

Projects may be selected for funding by the MPO at any stage of design. This means a significant number of projects are first placed on the TIP having only been approved by the Massachusetts Department of Transportation's (MassDOT) Project Review Committee (PRC), the earliest possible stage at which a project may be selected for funding.

1.2 Resulting Issue

In the sample of 50 projects selected for funding by the MPO since federal fiscal year (FFY) 2016, projects saw the largest cost increases when advancing from PRC approval to 25 percent design, with a median cost increase at this stage of 28 percent. While costs still tend to increase later in project development, these increases are more modest. The median increase when advancing from 25 percent design to 75 percent design is 15 percent, and the median increase from 75 percent design to 100 percent design is nine percent. The earlier in design a project is selected for funding, the greater the uncertainty with respect to its final cost.

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1.3 Recommended Policy

The MPO should require that projects submit 25 percent design plans and obtain an updated cost estimate from MassDOT based on these plans prior to being selected for TIP funding. This policy would apply to all projects considered for funding by the MPO, including those programmed in the MPO's Long-Range Transportation Plan.

Coupled with this higher programming threshold, the MPO should make three complementary policy changes:

1. Formalize a preliminary project evaluation step that would offer proponents guidance on how their projects would score using the MPO's criteria before proponents invest local resources to reach 25 percent design. This preliminary scoring could be done any time after a project has been PRC-approved.
2. Establish year-over-year benchmarks for project design progress to set clear expectations for project proponents at the outset of the programming process. These benchmarks would be used to gauge the extent to which projects are advancing at an appropriate pace and can act as an early warning sign for those projects that see their schedules lag.
3. Create additional instructional materials on the TIP process to support project proponents. This should take the form of a TIP how-to guide and outline all of the key steps and requirements of having a project funded in the TIP. Specific guidance should be provided on how project costs are determined so that all parties are aware of current MPO and MassDOT practices on cost inflation and contingencies.

2 INTERVENTION #2: CREATE ADDITIONAL TOUCH POINTS BETWEEN PROJECT PROPONENTS, MPO STAFF, THE MPO BOARD, AND MASSDOT STAFF

2.1 Current Approach

Interactions between project proponents and the MPO are largely focused on the development of each year's TIP. During the early stages of TIP development in the fall and winter, the most engaged proponents tend to be those who have projects being scored and considered for funding. Proponents of projects that have already been programmed in the TIP tend to interact with MPO staff and the MPO board the most when a concern has arisen about their projects' cost or schedule. Project proponents are not required to attend MPO meetings at any point during their projects' life cycle in the TIP. MPO staff's interactions with MassDOT Highway District staff are mostly concentrated during early TIP development in the fall when MPO staff are sourcing new projects to be considered for funding.

2.2 Resulting Issues

In the absence of regular, established check-in points between all parties, project-related issues often only rise to the surface at MassDOT's annual TIP project readiness meetings in February. While this information is useful, the timing allows the MPO only six or seven weeks to find solutions for any project cost or schedule issues that come to light before the new TIP must be drafted. Given the limited amount of time at this stage, it is difficult for all parties to exchange high-quality information so that informed programming decisions can be made for the new TIP. The lack of ongoing project monitoring also means that MPO staff and the MPO board may not know when a project's scope has changed.

2.3 Recommended Policy

1. Establish biannual check-ins between MPO staff, project proponents, and MassDOT Highway District staff. These check-ins will provide an opportunity to regularly discuss project progress and address challenges and questions as they arise.
2. Encourage proponents to include MPO staff on design submissions to MassDOT. This will keep MPO staff informed in the event that there are significant changes to a project's scope or design as it advances.
3. Require that proponents present to the MPO board in the event of major project cost or scope changes. This provides an opportunity for the MPO board to directly engage proponents to learn why changes have occurred and to assess the appropriate course of action for addressing such changes.

In the event that project proponents do not meet the requirements for engagement in the TIP process, the MPO board may elect to make changes to a project's status, such as delaying the project to a later FFY or removing the project from the TIP.

3 INTERVENTION #3: ESTABLISH A POLICY FOR RESCORING PROJECTS WHEN COSTS INCREASE BEYOND A SPECIFIED THRESHOLD

3.1 Current Approach

Projects are only scored by the MPO when they are under consideration for new funding. No action is taken to reconsider projects when they experience a cost change of any magnitude.

3.2 Resulting Issues

Without a formal mechanism to reconsider projects that have significant cost changes, the MPO has historically maintained its funding commitments to all programmed projects. This includes covering any cost increases and accommodating scope or schedule changes without a great degree of scrutiny. Funding cost increases across the board limits the MPO's financial capacity to program new projects. In the absence of a formal, clear, and transparent policy, any enforcement action taken on a project for a cost increase could be considered arbitrary or unfair.

3.3 Recommended Policy

1. Set a cost increase threshold of \$2,500,000 or 25 percent of project cost. If a project exceeds either threshold in any given TIP cycle, the project proceeds to Step 2.
2. Proponents of projects that have exceeded either threshold above must attend an MPO board meeting to explain the cause of the cost increase. Proponents should provide a short presentation and any supporting design documentation for the board's review, as needed or requested. The MPO may also reserve the right to request presentations by project proponents that do not exceed either of the above thresholds in the event that significant questions arise about a project.
 - a. At this stage, proponents have the opportunity to have their project rescored if the cost change is due to a scope or design change. This updated score would be shared with the MPO alongside the project's new cost.
 - b. Projects would be plotted using a model like the Atlanta-Region Transit Link Authority's four-quadrant approach, where cost/point is plotted against project evaluation score, to compare relative value across projects (see Figure 1). Changes in project tier (e.g., from Tier 1 to Tier 2) would be flagged.
 - c. This plotting exercise would be done for all projects regardless of cost-change status, as this allows the MPO to set a baseline cost-effectiveness value for each project. Complementary cost-effectiveness metrics, such as cost/mile or cost/user, can be provided to the MPO to aid in making programming decisions.

**Figure 1
Cost Per Point for MPO-Funded TIP Projects (FFYs 2016–26)**



FFY = federal fiscal year.

3. In response to the proponent’s presentation and the project’s rescoring, the MPO board may elect to make changes to the project’s status. In making this decision, the board may also consider other factors, such as
 - a. the cost, evaluation score, and status of other funded and unfunded projects;
 - b. the availability of funds in any given FFY;
 - c. the historical performance of the project in question, including any past cost increases or readiness issues; and/or
 - d. the distribution of funds across the MPO’s six investment programs (Complete Streets, Intersection Improvements, Bicycle Network and Pedestrian Connections, Transit Modernization, Community Connections, and Major Infrastructure).
4. Decisions made by the MPO on a project’s status may include the following scenarios:
 - a. Full MPO funding of the cost increase in the project’s current FFY
 - b. Full MPO funding of the cost increase in another FFY (i.e., the project may be delayed due to a lack of available funding in a given FFY)
 - c. Denial of MPO funding at the increased cost, with a possible request that the project proponent seek alternative funding sources to cover the cost difference or seek ways to value-engineer the project to reduce the cost increase
 - d. Removal of the project from the TIP
5. Project proponents may request that the MPO board reconsider any project status decisions through currently established communication channels, including via written letter to the MPO or verbal public comments at an MPO meeting.

6. Project rescoring in the event of a cost increase would occur when a decision by the MPO is required on project funding. This means rescoring would take place during the drafting of a new TIP or when an amendment to the existing TIP is required.
7. The MPO may reserve the right to suspend the above process in the event that exceptional circumstances arise. Such circumstances may include a significant influx of new funding or a meaningful change in funding priorities at the MPO level.

4 OTHER KEY PROGRAMMING PRACTICE RECOMMENDATIONS

In addition to the above policy interventions, the TIP Project Cost Ad Hoc Committee has discussed other miscellaneous programming practice adjustments. Recommendations for addressing each of those topics are below.

4.1 Four Percent Cost Inflation Rate

Current Approach

The MPO's current practice for applying an inflation rate to project costs mirrors that of MassDOT and meets the minimum rate recommended by the Federal Highway Administration. A four percent cost premium is added to a project's base cost beginning in the second programming year of the TIP, with an additional four percent added each following year (eight percent in year three, 12 percent in year four, etc.). This inflation is not compounded.

Recommendation

Although projects funded by the MPO have historically seen costs rise at a rate higher than four percent per year, this rate should remain unchanged at this time. The policy interventions outlined above are designed to prevent significant cost increases for projects funded by the MPO. Therefore, the MPO should implement the above recommendations, assess their effectiveness, and then consider revisiting the inflation rate at a later date if cost increases remain a challenge.

4.2 Allocation of Available TIP Funding

Current Approach

Historically, the MPO has allocated all of its available funding to projects in every FFY. This practice was suspended during the development of the FFYs 2022–26 TIP due to significant cost increases for programmed projects, which prompted the formation of the TIP Project Cost Ad Hoc Committee. The MPO agreed to hold these funds until the committee finished its work and the board adopted a new set of programming policies. The use of these funds will be determined during a forthcoming TIP cycle.

Recommendation

The MPO should resume its practice of fully allocating all available funding in each FFY of the TIP. As noted above, the policy recommendations outlined in this memorandum are designed to limit the scale of project cost increases. Given that, the need to retain unallocated funds in any given FFY should be reduced. Programming a project in the TIP provides a valuable signal to the project proponent and MassDOT that design work should continue. Fully allocating available funding maximizes the MPO's ability to keep projects moving through the TIP process towards construction—the ultimate goal of all TIP-related policies. Furthermore, leaving funding unallocated signals to proponents that the MPO may provide financial leeway in the event that project costs rise. A central goal of all of the above policies is to discourage cost increases, not to suggest that cost increases may be accommodated.

4.3 Timeline for Policy Implementation

Recommendation

While the policies outlined in this memorandum represent a significant departure from recent MPO practices, the MPO should not shy away from implementing these policies as soon as is feasible. Rolling out these changes in unison during the FFYs 2023–27 TIP cycle will help to establish a common baseline of expectations for all stakeholders. The MPO can assess these policies as they are implemented, retaining the option to adjust them later based on the extent to which these policies are working as intended and on the evolving needs of the board.

5 NEXT STEPS

Should the MPO desire to move forward with the committee's recommendations above, a vote may be taken at the September 23, 2021, MPO meeting to release these recommendations for public comment. During this time, feedback can be gathered from regional stakeholders including current and prospective project proponents, advocacy organizations, partner agencies, and the public. This feedback may be reviewed by the committee and the full board before the MPO votes to endorse any final policy changes.

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