

Draft Memorandum for the Record Boston Region Metropolitan Planning Organization Transportation Improvement Program (TIP) Project Cost Ad Hoc Committee Meeting Summary

June 17, 2021, Meeting

10:00 AM–11:30 AM, Zoom Video Conferencing Platform

Eric Bourassa, MPO Chair, representing the Metropolitan Area Planning Council (MAPC)

Materials

Materials for this meeting included the following:

1. [Transportation for America \(T4MA\) Benefit Cost Analysis report](#)
2. [Transportation for America \(T4MA\) TIP Criteria Recommendations](#)
3. [Transportation for America \(T4MA\) Cost Effectiveness Presentation](#)
4. ["Municipal \(Local\) Contributions to Transportation Project Costs" memo](#)

Meeting Agenda and Summary of Discussion

1. Introductions

See attendance on page 11.

E. Bourassa (MAPC) greeted attendees, read the accessibility statement, and called the roll of the committee.

2. Public Comments

None.

3. Discussion of Transportation Improvement Program (TIP) Project Cost Trends—*Matt Genova, MPO Staff*

M. Genova stated that the data used in the presentation's analyses were a sample of 50 TIP projects the MPO funded between federal fiscal year (FFY) 2016 and FFY 2026.

The largest cost increases occurred between the Massachusetts Department of Transportation (MassDOT) Project Review Committee's (PRC) approval and the 25 percent design stage. He said that on average, there was a 43 percent cost increase at this stage and a median cost increase of 28 percent. He noted that costs increased throughout the projects' development timeline but at a lower rate.

Ken Miller (Federal Highway Administration) asked if the data sample included projects funded by MassDOT. M. Genova said it only included Regional Target-funded projects.

K. Miller asked whether projects were distinguished by ones that were designed by a municipality and ones that were designed by MassDOT. He expressed interest in obtaining this information. Lenard Diggins (Regional Transportation Advisory Council) expressed interest as well.

M. Genova stated that 10 percent of projects in the sample (five projects) had cost decreases and the remaining 90 percent experienced cost increases. A majority of those projects had cost increases of 40 percent or greater. He said that the longest timelines between each design milestone occurred between PRC approval and the 25 percent design stage. From there, the number of months between milestones decreased with each step in the process. He said that the overall median design timeline was 78 months, or 6.5 years. Last year, MassDOT began requiring project proponents to place a designer under contract within two years of being PRC approved. If a proponent does not accomplish that, the project would be deactivated and would have to be reapproved by the PRC to move forward in the TIP process.

M. Genova conducted an analysis for the 23 projects in the sample that made it to the 100 percent design stage to show whether there was a relationship between how long a project took to be designed and how much its cost increased. He found that the relationship between the project development timeline and cost increases is very weak.

M. Genova conducted the same analysis for the 48 projects in the sample at the 25 percent design stage. The results showed a stronger relationship between timeline and cost increases, but the relationship is not clear. He said that the median TIP project has a 44 percent cost increase and 6.5-year development timeline and that 70 percent of projects have a cost increase of 20 percent or greater.

Discussion

L. Diggins asked whether the baseline value was the initial cost at the PRC-approval stage. M. Genova clarified the methodology and explained that cost comparisons were examined at each design stage.

Brian Kane (MBTA Advisory Board) asked whether cost increases were caused by scope changes, inflation, or other underlying issues. M. Genova expressed interest in analyzing each of those issues.

Ben Muller (MassDOT) expressed interest in seeing projects categorized by MPO Investment programs.

Jim Fitzgerald (City of Boston [Boston Planning & Development Agency]) suggested that a consultant be placed under contract when projects are at the pre-25 percent design stage to expedite the timeline rather than placing a designer under contract through 100 percent design within two years of PRC approval.

K. Miller noted that the correlation between project cost increases and the number of months to 25 percent design is much steeper between zero and 50 months. He said that cost estimates are not the actual costs of the project and requested more information about the awarded amounts of money.

John Bechard (MassDOT Highway Division) said there is a delay between PRC approval and the hiring of a designer, which is why communities are given a 24-month timeframe to meet MassDOT's policy. If a community cannot do it, MassDOT sends reminder notifications offering help. He said that some communities face financial challenges and his colleagues are looking at phasing of the contracts so as to not place a financial burden on project proponents.

E. Bourassa asked when the 24-month policy was introduced by MassDOT. J. Bechard said it was introduced four years ago, approximately during summer 2017. E. Bourassa said that a majority of projects encountered by the MPO are not subject to this policy.

E. Bourassa asked why municipalities do not act to advance projects that have gone through the PRC approval process. J. Bechard said some cities and towns are less experienced with the process and may need more support to sufficiently scope their projects. MassDOT works with communities prior to the 25 percent project design submission to address items from its pre-25 percent design checklist and scoping session.

4. Discussion of Peer MPO Practices for TIP Project Benchmarking— *Matt Genova, MPO Staff*

M. Genova said MPO staff support many project proponents through MassDOT's PRC approval process and coordinate with MassDOT District staff. District staff help project proponents fill out project initiation forms. M. Genova said that once a project is approved by the PRC, the proponent receives a letter with guidance about advancing the project. Some projects advance in design with or without TIP funding. He said it is up to the MassDOT project manager, the project proponent, and their consultant (not MPO staff) to set the project's development timeline. Every year, MPO staff attend TIP Readiness Day in February to discuss each project with MassDOT staff, flagging those that have cost increases or that are at risk of being delayed. The flagged projects are shared with the MPO board during TIP programming discussions every spring.

M. Genova said the Cape Cod Commission (CCC) uses a “requirements based” approach for project benchmarking that sets specific milestones that projects must hit to advance in each TIP cycle. He said that the Southeastern Regional Planning and Economic Development District (SRPEDD) uses a “guidance based” approach to project benchmarking. SRPEDD staff provide proponents with a detailed guidebook to facilitate a smoother project development process rather than requiring specific design milestones. He said MPO staff are working on reviving a similar type of document created several years ago for the Boston Region MPO.

Jay Monty (City of Everett) asked for MassDOT’s perspective on CCC’s approach of setting strict timelines. He said the municipality probably carries the burden of the timeline requirements although multiple parties, including MassDOT, are involved in the project’s development.

B. Muller said MassDOT staff have had discussions internally about similar issues and have laid out different long-term approaches, but none have been approved.

E. Bourassa said that under CCC’s approach, municipalities carry greater risk because they put resources into advancing a project without guarantee it will be put on the TIP.

J. Monty said the municipality is not the only party responsible for keeping a project on schedule; agencies such as MassDOT and the MPO are also involved.

E. Bourassa asked if the MPO has a policy regarding the level of design projects must be at to be programmed in the TIP. M. Genova said the MPO relies on MassDOT’s review process as part of TIP Readiness Days each year. He said that the MPO waits longer than CCC to enforce project timelines.

Steve Tupper (CCC) said the CCC’s guidelines were written by its staff but reflect views of its Joint Transportation Committee members, which is mostly comprised of towns’ Department of Public Works staff who were seeking more guidance to keep projects moving along. The CCC’s Joint Transportation Committee makes recommendations to its MPO.

Colleen Medeiros (CCC) said there is a problem because too many projects are eligible for later year funding in the TIP. She said the CCC’s approach helps in making funding decisions for projects that are further along in design phases.

B. Kane asked why the TIP is a five-year process. B. Muller said that MassDOT is aiming to accelerate the project development process, but that current project timelines tend to be longer than the five-year timeline outlined by CCC.

K. Miller said the PRC approval process helps determine the eligibility of projects and is not a guarantee of MPO funding. He is concerned about accelerating every project through the TIP process as not all will be programmed.

J. Bechard said that once a project is PRC approved it moves through the development process as efficiently as possible based on its completeness and readiness. MassDOT staff continue to improve their project delivery procedures.

L. Diggins said the amount of time needed for design, community input and approval is reasonable. He said that the current practice of adding four percent to projects is a low estimate for inflation, which leaves little room for error.

B. Muller said a benefit of the CCC and SRPEDD approach is the closer engagement between their respective MPOs, MPO staff, and the project proponents. He said there is an opportunity to do the same at the Boston Region MPO and to increase contact with all parties involved.

E. Bourassa said smaller MPOs may be dealing with only one District office with fewer municipalities, whereas the Boston Region MPO works with multiple District offices and more municipalities.

M. Genova said that not all projects take a long time to move through the TIP process. It is mostly smaller, less complex projects that move quickly. He said that two-thirds of projects in the current TIP were first programmed when they were at the PRC approval stage. Most projects (55 percent) in the current TIP are at the 25 percent design milestone. If CCC's framework were applied to projects on the current TIP, 70 percent of projects would be behind schedule. He said that the Boston Region MPO currently lacks any formal milestone requirements for project development. Keeping projects on tighter timelines may help limit project cost increases and would foster a more reliable TIP process with fewer early-year funding gaps like what has been seen in two of the last three TIP cycles.

JR Frey (Town of Hingham) asked if the 25 percent designed projects depicted had been approved or are still awaiting approval of their 25 percent plans by MassDOT. M. Genova said some, but not all, projects have MassDOT-approved 25 percent plans. Some projects remain in the 25 percent design phase for a while. J. Frey said that there is a potential for increases in scope or complexity, thus increasing costs, when projects remain in the 25 percent design process for an extended period of time.

K. Miller asked why the projects at the 75 percent design stage have not moved into an earlier year of the TIP while ones at the 25 percent design stage could be moved into a

later year of the TIP. M. Genova said the MPO takes guidance recommendations from MassDOT at TIP Readiness Days. The shared goal is to not move projects into later years in the TIP unless it is necessary.

K. Miller asked whether the MPO has ever not programmed a project because of its low score. E. Bourassa said the MPO has not funded projects due to low scores within the last five years. Scoring has improved and the MPO has become more specific about why projects have not scored well. M. Genova said the conversation about programming low scoring projects does not happen as often as it could at the MPO.

B. Muller said MassDOT focuses on the first few years in the TIP and identifies projects that will not make it to their advertising dates. He said that the MPO staff recommends the highest scoring projects for programming, which has been well received.

5. Discussion of Past MPO Conversations on TIP Project Cost-Effectiveness—*Matt Genova, MPO Staff*

M. Genova said that the topic of cost-effectiveness was first brought to the MPO after some board members attended a Transportation Leadership Academy in 2016. MPO staff followed up with a 2016 memo, "[Municipal \(Local\) Contributions to Transportation Project Costs.](#)" In 2017 and 2019, Transportation for America (T4America) provided technical assistance to the MPO on benefit-cost analysis, TIP project selection criteria, and cost-effectiveness scoring. All materials provided by T4America are posted to the [MPO meeting calendar](#). They include T4America Executive Director Beth Osborne's presentation to the MPO board in January 2020 describing case studies from the Virginia Department of Transportation, the Atlanta-Region Transit Link Authority, and the Metropolitan Transportation Commission in San Francisco.

Discussion

B. Kane asked if there is an example of a tiered funding approach where only a portion of a project's total cost is funded (based on criteria set by the funding agency).

E. Bourassa asked whether CCC staff has removed projects from the TIP for not meeting milestones. S. Tupper said it has not happened yet and the CCC approach has been in effect for more than a year.

6. Discussion of Next Steps for the TIP Project Cost Ad Hoc Committee—*E. Bourassa, MPO Vice Chair*

E. Bourassa expressed interest for more conversation about getting projects on the TIP as advanced in design as possible, tracking their progress, and developing policies for incorporating cost-effectiveness into project scoring.

J. Monty said there is a need to look at how costs are assigned and project timelines. He suggested the possibility of the MPO funding the early design stage and programming the project later in the TIP. J. Monty agreed with B. Kane's earlier comment about equity considerations and possibly funding percentages of projects' total costs based on equity value. He said rescoring for cost benefit is not getting to the root of this issue and may cause tension between communities. If the MPO funds the early stage of design it may take pressure off the communities and allow for decisions that will not as severely harm them.

J. Romano said to focus on the period between the project's PRC approval to just after the 25 percent design public hearing to determine what is driving costs in that segment of the design process as there are the most unknowns and uncertainties during that period. He suggested developing a checklist to track costs. He agreed that removing projects from the TIP may not be a viable solution and getting to the root causes of cost increases and ways to reduce or control them is a better way to proceed.

B. Muller said there are many unknowns at the 25 percent design milestone. He said that cost-effectiveness discussions must consider other available funding opportunities and alignment with goals in the Long-Range Transportation Plan. He said that there are risks with federally funded design.

L. Diggins asked for more information about those risks and the design monitoring process. Obtaining control of early design stages may curb or provide insight on reasons for early year cost issues, which could help in the project selection process.

B. Kane agreed that there may be an equity issue around funding design and expressed concern about potentially developing another set of scoring criteria. He said the MPO does not always have to fund projects to 100 percent design and could partially fund projects.

J. Romano voiced no position regarding funding or not funding design.

Matthew Petersen (TransitMatters) said he is interested in the tiered approach to project funding and incorporating cost-benefit analyses. It may enable greater communication with the MPO board on project changes and development over time.

E. Bourassa asked for feedback on possibly adopting a policy like CCC's approach.

J. Monty said there should be consideration of how to balance risk across all involved parties, as the CCC's approach places a heavy burden on the party responsible for 25 percent design.

L. Diggins said the committee should study the causes of cost increases between the PRC approval and 25 percent design stages.

E. Bourassa said MassDOT may have differing policies on MPO-funded designs.

B. Muller said that assisting municipalities with project development requires staff time for additional technical support, which MassDOT will work on providing within the next two years.

E. Bourassa suggested making short-term recommendations and long-term recommendations on addressing cost issues. He said there is not much enthusiasm for incorporating cost-benefit analyses into the process or removing projects from the TIP in later stages.

L. Diggins expressed interest in exploring a cost-benefit analysis and determining the appropriate denominator in the equation (i.e. cost per mile).

J. Monty said he was unsure how to do a cost-benefit analysis in a fair way.

B. Kane agreed on the need to define the denominator and who will benefit from the cost-benefit analyses.

E. Bourassa said there could be potential rescoring of projects. He said focusing on the PRC to 25 percent design timeframe may address the problem.

L. Diggins suggested testing an algorithm for a cost-benefit analysis and stated that he does not want to dismiss the idea.

B. Muller said incorporating some cost-benefit analysis into the process is beneficial, but there are considerations about when to introduce it into the scoring process and the burden on parties involved.

E. Bourassa suggested that, if the board opted not to fund all projects in their entirety, MPO funding could be used to fund more projects, which may encourage proponents to leverage additional outside funding.

B. Kane suggested applying different weights to fund different project types, considering projects serving equity populations.

B. Muller said there are risks in using multiple funding sources as MassDOT cannot advertise a project if it is not fully funded. When obligating federal funds to projects, every dollar must be accounted for.

J. Monty said that there are smaller communities, not exclusively environmental justice communities, that may struggle to fund design as they may have fewer resources.

E. Bourassa pointed out that the communities with the greatest share of people with low incomes tend to be in cities with larger populations, and the cities have more resources. In contrast, some suburban areas have wealthier populations while the municipalities may not have sufficient resources. He said that the proposed policy could end up benefitting the smaller suburban, wealthier communities, which is something to consider when making policies at the MPO.

L. Diggins said that people who travel through communities may not match the demographic makeup of that community, but they will use a bike path to get to important destinations. He is interested in exploring the concept further and developing bold initiatives that are not confined to the Ad Hoc committee's temporary duration. There are near-term solutions, but the MPO may want to extend the Ad Hoc Committee's term to explore other creative ideas.

Tegin Teich (MPO staff) asked for feedback about the option of creating a policy that states that once projects are programmed in the TIP the MPO will not provide more funding. She said it may be a motivation for proponents to control costs and avoids rescore projects.

B. Kane expressed concern that it would be easier but may incentivize municipalities to inflate their costs up front.

L. Diggins said the MPO could set funding amounts for a certain amount of design and, if the project goes over the fixed amount, proponents would need to find additional funds elsewhere.

J. Monty said the initial cost estimate must be accurate to enforce that policy. It would be simpler but requires an accurate number.

B. Muller said a benefit of the 25 percent design submission process is that the project gets refined by town administration and by District staff who identify its risks and limitations. He said that if the MPO is leaning towards a cap, it should be set closer to the 25 percent design submission's cost rather than the PRC approval estimation.

E. Bourassa said his greatest takeaway is the big increase in project cost between PRC approval and 25 percent design. And, the MPO programs a lot of projects on the TIP before the 25 percent design stage. He recognized there is a tension between who bears the risk of advancing the project.

J. Monty said that the 25 percent design milestone is probably a better decision point than the PRC approval milestone used today. The biggest part of the equation is how risks are assigned to get to the 25 percent milestone.

J. Romano said to consider adding a certain percentage to the cost estimate at the PRC approval milestone, like the MPO does with the four percent cost increase to account for inflation every year, as the starting figure to be put into the TIP. The PRC approval cost is more of an estimation and the 25 percent design milestone's cost is more accurate.

B. Muller said the Ad Hoc Committee should consider engaging more closely with District staff, who could offer more insight on the projects.

E. Bourassa suggested inviting staff from District 3, 4, and 6 to an upcoming meeting.

7. Members Items

There were none.

8. Next Meeting

The next meetings are scheduled for July 8, July 29, and August 19.

9. Adjourn

A motion to adjourn was made by John Romano and seconded by Brian Kane. The motion carried.

Attendance

Members	Representatives and Alternates
At-Large City (City of Everett)	Jay Monty
City of Boston (Boston Planning & Development Agency)	Jim Fitzgerald
MassDOT Highway Division	John Bechard
MassDOT Highway Division	John Romano
MBTA Advisory Board	Brian Kane
Metropolitan Area Planning Council	Eric Bourassa
Regional Transportation Advisory Council	Lenard Diggins

Other Attendees	Affiliation
Ben Muller	MassDOT (Office of Transportation Planning)
Colleen Medeiros	Cape Cod Commission
Constance Raphael	MassDOT District 4
Jon Rockwell	TEC, Inc.
Jon Seward	MoveMass
JR Frey	Town of Hingham
Ken Miller	Federal Highway Administration
Matthew Petersen	TransitMatters
Steven Tupper	Cape Cod Commission

MPO Staff/Central Transportation Planning Staff

Anne McGahan
Annette Demchur
Ariel Patterson
Betsy Harvey
Kate White
Matt Archer
Matt Genova
Michelle Scott
Sandy Johnston
Tegin Teich

DRAFT

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