



VIRTUAL

MEETING

Transportation Improvement Program (TIP) Project Cost Ad Hoc Committee Meeting

July 8, 2021



VIRTUAL

MEETING

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简体中文 (Simplified Chinese)

如果需要使用其它语言了解信息，请联系波士顿大都会规划组织 (Boston Region MPO) 《民权法案》第六章专员，电话 857.702.3700。

繁體中文 (Traditional Chinese)

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Kreyòl Ayisyen (Haitian Creole)

Si yon moun vle genyen enfòmasyon sa yo nan yon lòt lang, tanpri kontakte Espesyalis Boston Region MPO Title VI la nan nimewo 857.702.3700.

Español (Spanish)

Si necesita esta información en otro idioma, por favor contacte la Boston Region MPO al 857.702.3700.

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Caso estas informações sejam necessárias em outro idioma, por favor, contate o MPO da Região de Boston pelo telefone 857.702.3700.

Read the full notice of your rights and protections at www.bostonmpo.org/mpo_non_discrimination.



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Accessibility Statement

This meeting is accessible to people with disabilities. Zoom products are compliant, with exceptions, with the following standards: Web Content Accessibility Guidelines 2.1 Level AA Standards and Revised Section 508 Standards.

If you require any additional accommodations in order to participate fully in this meeting, please contact Kate White, MPO staff, at kwhite@ctps.org or 857.702.3658.



VIRTUAL

MEETING

Guidelines

1. All participants will join the meeting with muted microphones.
2. Please rename yourself to include your first name, last name and affiliation.
3. Participants can mute and unmute themselves
4. To participate in the discussion, please select the “raise hand” function. Find this by clicking either on the “Participants” button at the bottom of the screen, and a window will pop up with a “Raise Hand” button at the bottom, or the “Reactions” button in the toolbar. The presenters will then call on participants.
5. If you are on the phone, you can use *9 to raise your hand.
6. If you have any technical difficulties, please contact Kate White via the chat box, kwhite@ctps.org or 857.702.3658.

July 8, 2021

AGENDA

1. **Introductions**
2. Public Comments
3. Discussion of TIP 25 Percent Design Programming Options
4. Discussion of Potential TIP Cost-Effectiveness Policies
5. Discussion of Opportunities for TIP Project Proponent Engagement
6. Members' Items
7. Next Meeting

Introductions

Introductions of ad hoc committee members in attendance



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Public Comments

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Discussion of TIP 25 Percent Design Programming Options

July 8, 2021

Matt Genova, TIP Manager

Boston Region Metropolitan Planning Organization

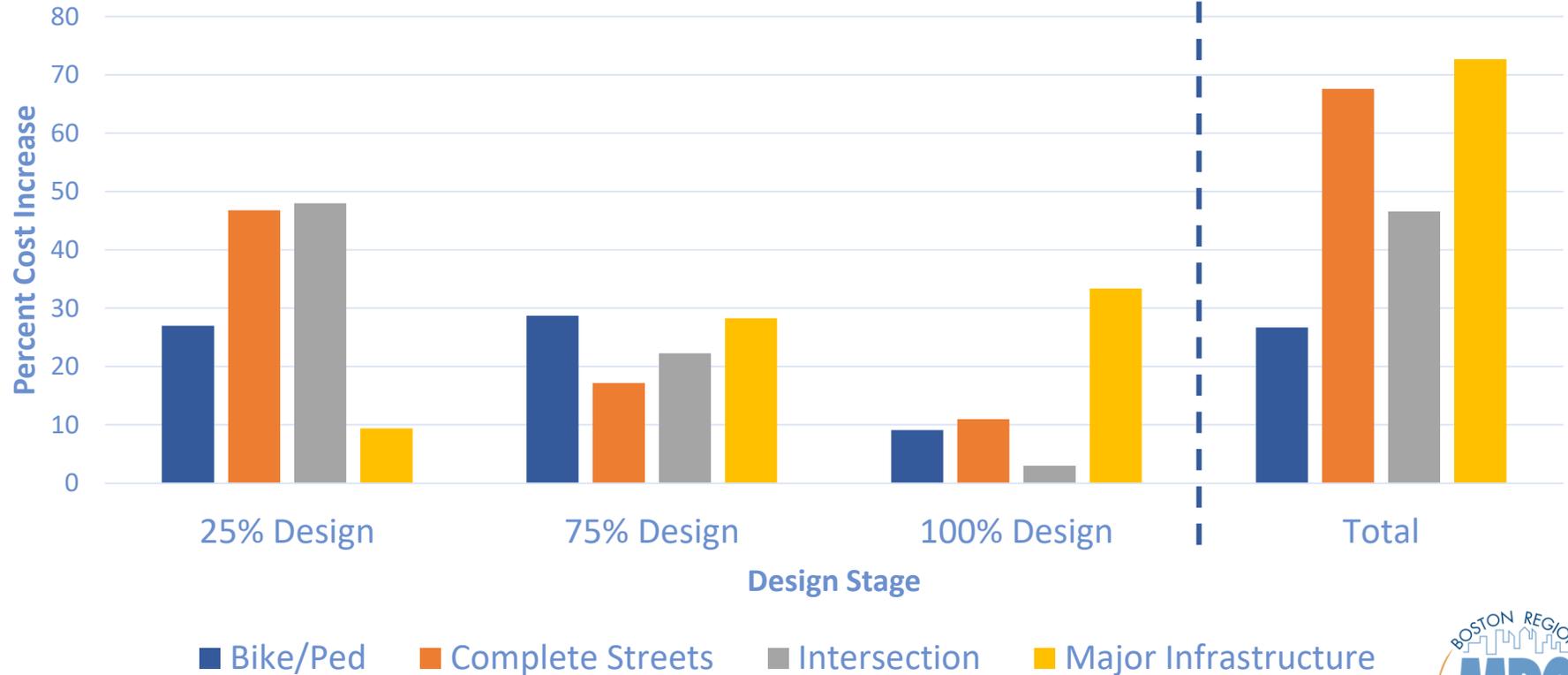
July 8, 2021

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Last Meeting: Project Cost Increases by MPO Investment Program

Average Cost Increase by Design Stage for MPO-Funded TIP Projects (FFYs 2016–26)



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FFY = federal fiscal year.



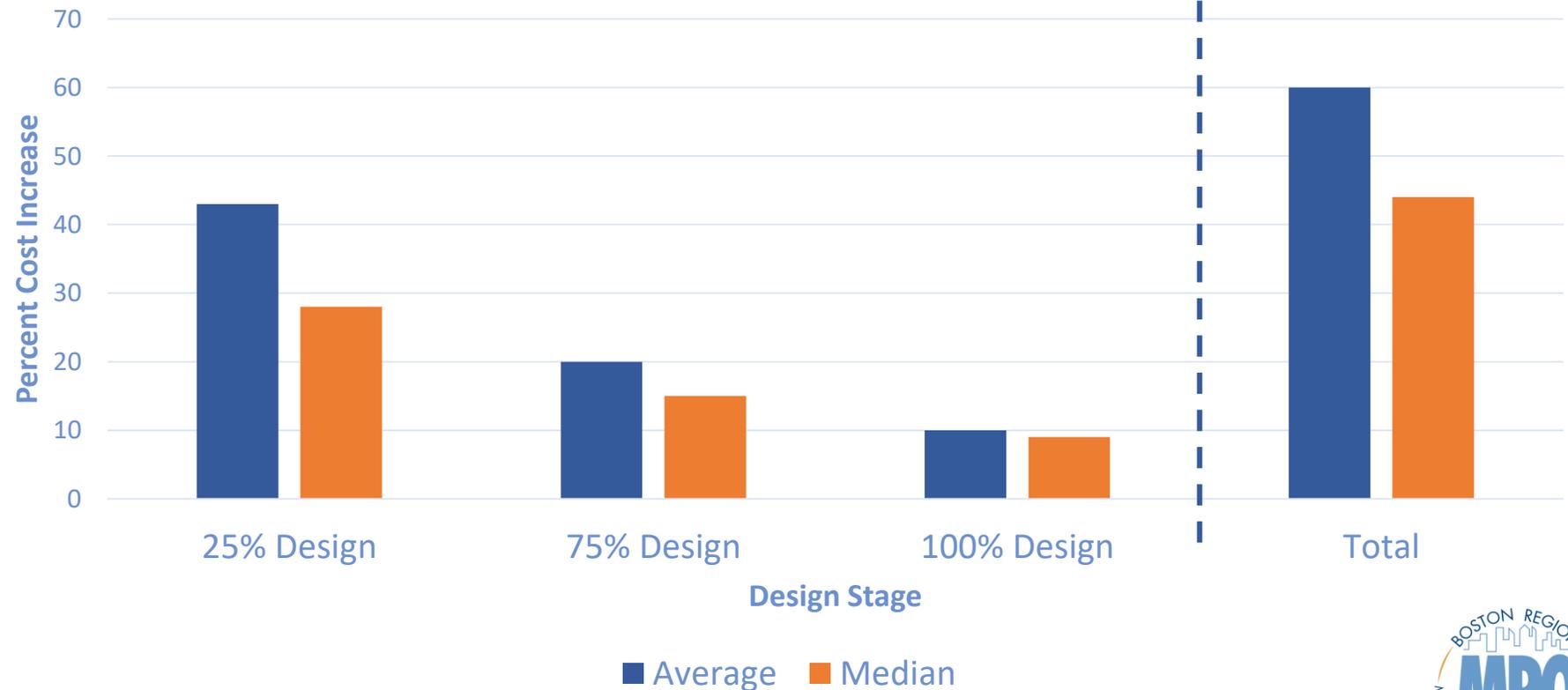
July 8, 2021

AGENDA

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2. Public Comments
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7. Next Meeting

Cost Changes by Design Stage

Cost Increase by Design Stage for MPO-Funded TIP Projects
(FFYs 2016–26)



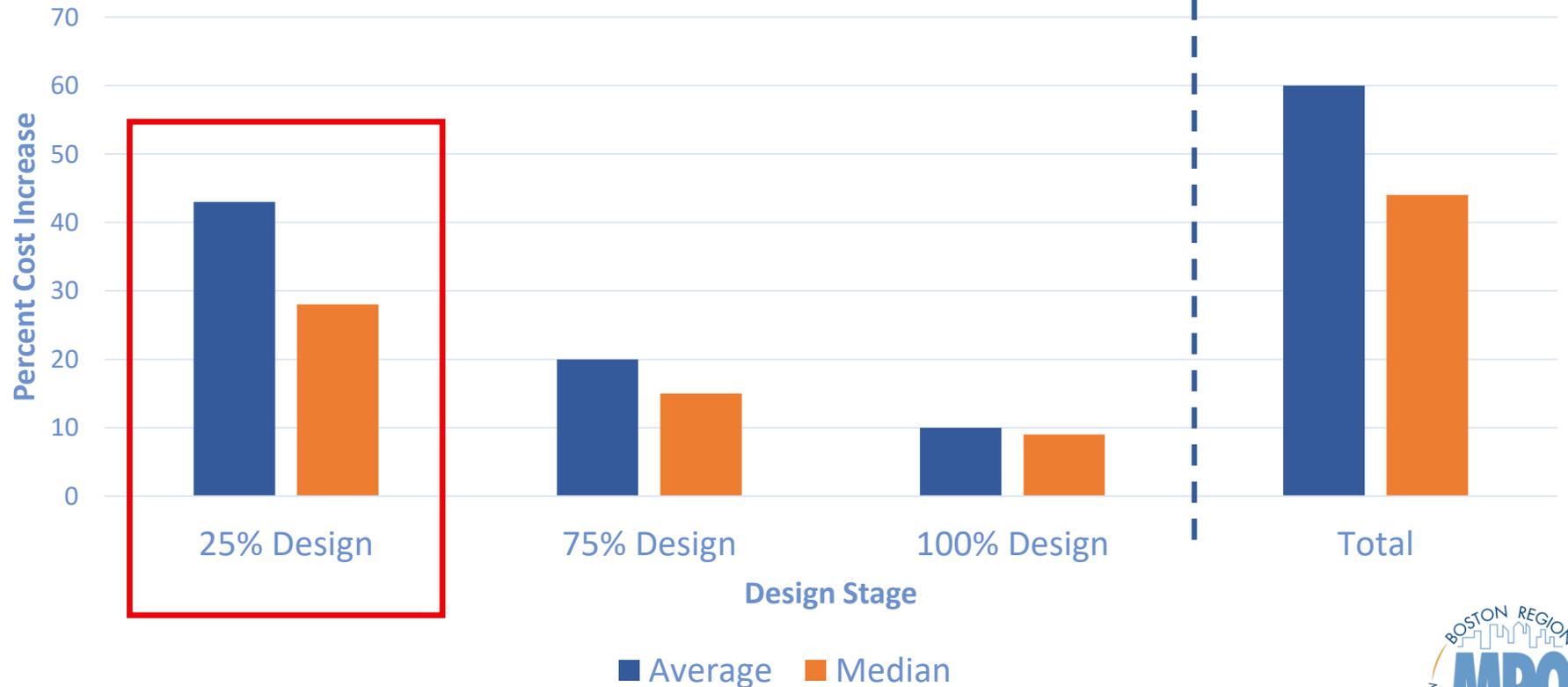
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Cost Changes by Design Stage

Cost Increase by Design Stage for MPO-Funded TIP Projects (FFYs 2016–26)



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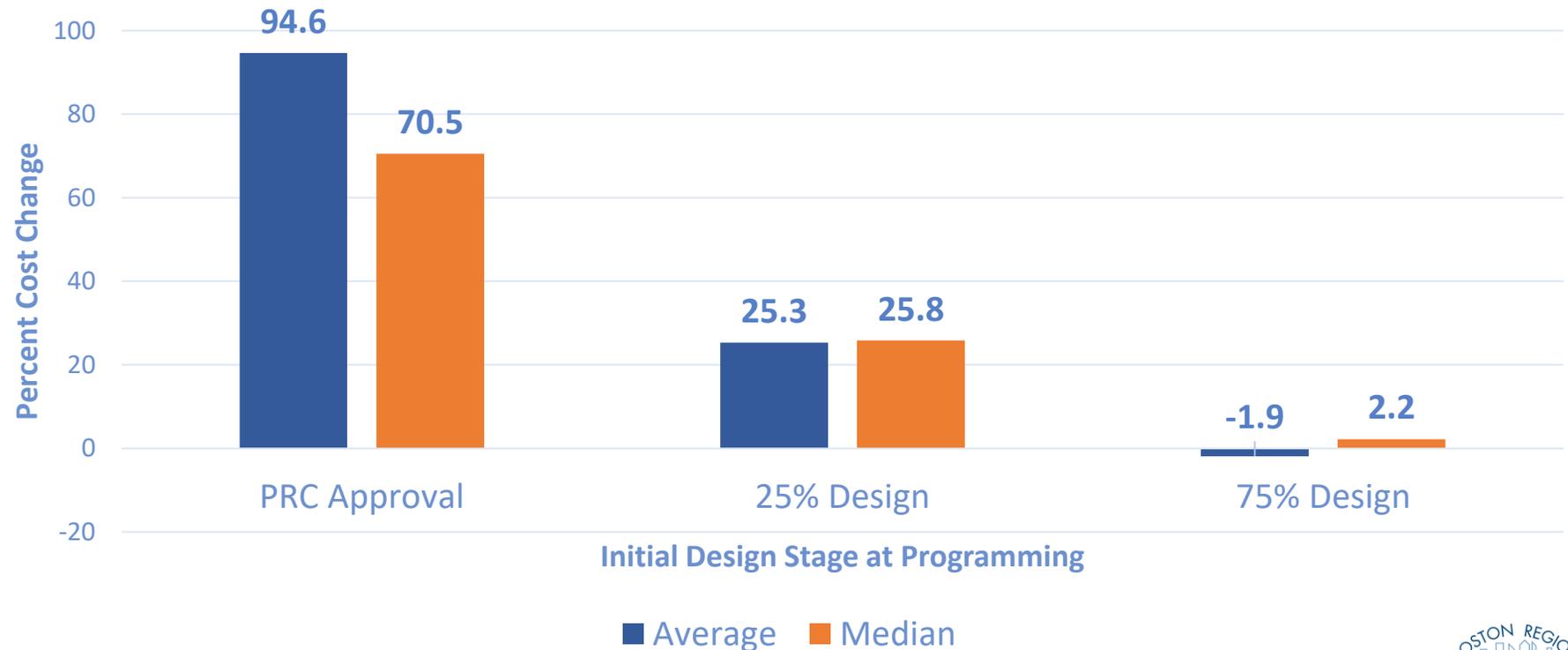
July 8, 2021

AGENDA

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2. Public Comments
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Cost Changes by Design Stage at Time of Programming

Cost Change to 100 Percent Design for MPO-Funded TIP Projects (FFYs 2016–26)



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PRC = Project Review Committee.

July 8, 2021

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Project Requirements After PRC Approval

Within two years, a project proponent must:

- Receive MassDOT approval of project scope and work hours
- Secure signed contract with design consultant for entire design process
- Identify full design funding

Note: Resubmission to PRC may be required if there is a significant increase in cost or change in scope over the life of the project.

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MassDOT = Massachusetts Department of Transportation.



July 8, 2021

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Project Development Timeline to 25 Percent Design

Project Development Timeline through 25 Percent Design



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July 8, 2021

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25 Percent Design Programming Policy Options

Option 1: High Flexibility, High Uncertainty

- No change from current practice
- Approve projects at any design stage

Pros

- Maximizes number of projects MPO can consider for funding
- Provides municipalities with early capital funding commitment

Cons

- Fails to mitigate cost increase risk to MPO
- Maximizes potential for projects to change from MPO's original scoring



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7. Next Meeting

25 Percent Design Programming Policy Options

Option 2: Low Flexibility, Low Uncertainty

- Require projects to reach 25 percent design approval before TIP programming
- Have not required this since at least the 2014–17 TIP (nine TIP cycles ago)

Pros

- Mitigates significant portion of cost increase risk to MPO
- Minimizes potential for projects to change from MPO's original scoring

Cons

- Limits number of projects MPO can consider for funding
- Requires municipalities to fund 25 percent design without certainty of capital funding

July 8, 2021

AGENDA

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25 Percent Design Programming Policy Options

Option 3: Moderate Flexibility, Moderate Uncertainty

- Require projects to reach pre-25 percent scope approval before TIP programming
- Cape Cod Commission sets this threshold

Pros

- Mitigates some cost increase risk to MPO
- Reduces some potential for projects to change from MPO's original scoring

Cons

- Limits number of projects MPO can consider for funding
- Requires municipalities to fund 25 percent design without certainty of capital funding



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July 8, 2021

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25 Percent Design Programming Policy Options

Option 4: Another Approach?

- Include scaled cost contingency based on design stage at programming
- Program projects at any stage, but require proponents to cover increases
- Other ideas?

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6. Members' Items
7. Next Meeting

Questions for Consideration

1. What is the appropriate balance between flexibility and certainty in the project selection process?
2. What, if anything, should be done for proponents that need additional support to reach 25 percent design?
3. Do policies on programming projects at a certain design stage change for Long-Range Transportation Plan projects?



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Discussion of Potential TIP Cost-Effectiveness Policies

July 8, 2021

Matt Genova, TIP Manager

Boston Region Metropolitan Planning Organization

July 8, 2021

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7. Next Meeting

Goals for Cost-Effectiveness Scoring

1. Provide a measure of project efficiency in accomplishing MPO goals for the region
2. Act as a tool for reevaluating projects when costs or scopes change
3. Encourage value engineering



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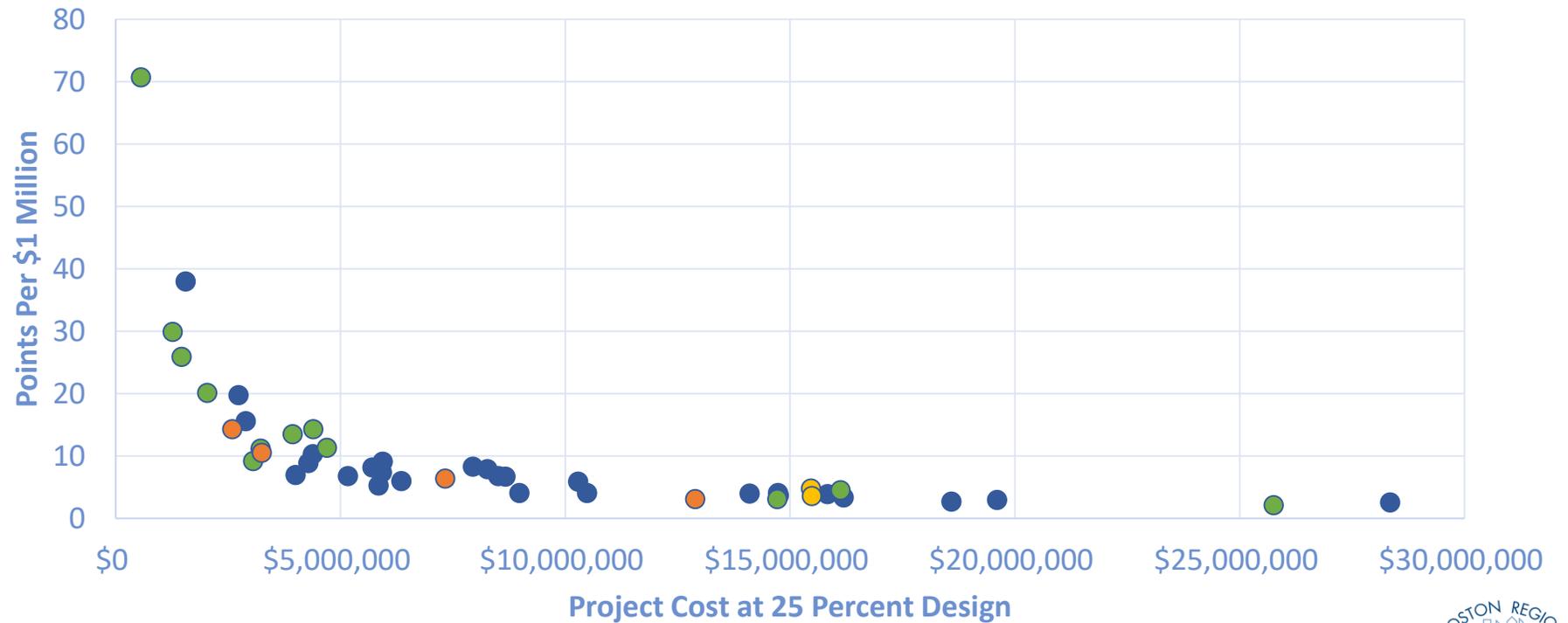
July 8, 2021

AGENDA

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7. Next Meeting

Cost-Effectiveness Test: Points Per \$1 Million

Cost-Effectiveness Scores for MPO-Funded TIP Projects
(FFYs 2016–26)



Bicycle and Pedestrian

Complete Streets

Intersection Improvements

Major Infrastructure



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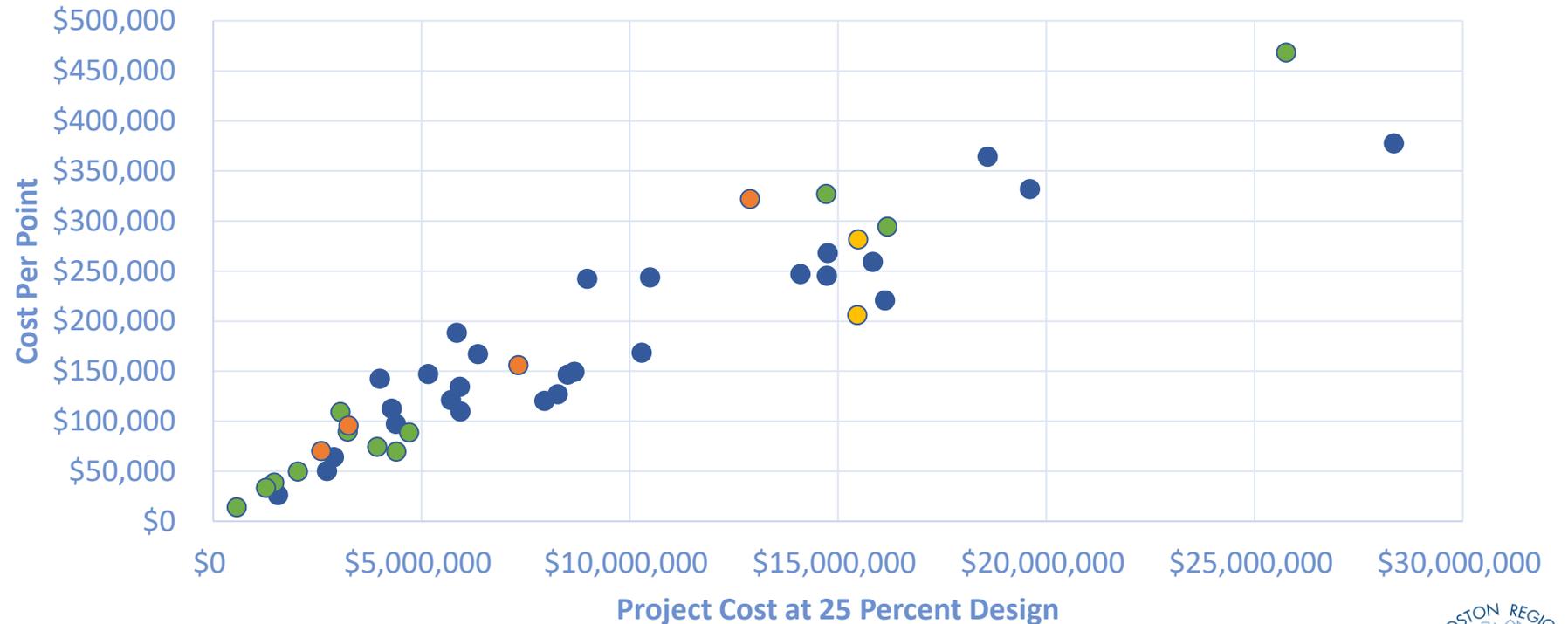
July 8, 2021

AGENDA

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6. Members' Items
7. Next Meeting

Cost-Effectiveness Test: Cost Per Point

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



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6. Members' Items
7. Next Meeting

Cost-Effectiveness Test Scoring

- Generally, low-cost projects fare best in cost-effectiveness scoring
 - Ranking projects on cost per point or points per \$1 million would tend to prioritize low-cost projects, even when the projects do not score well
- **Result:** In hypothetical TIP cycle with \$100 million to allocate, 24 projects could be funded
 - Only three of these projects would rank outside of the top 24 lowest-cost projects



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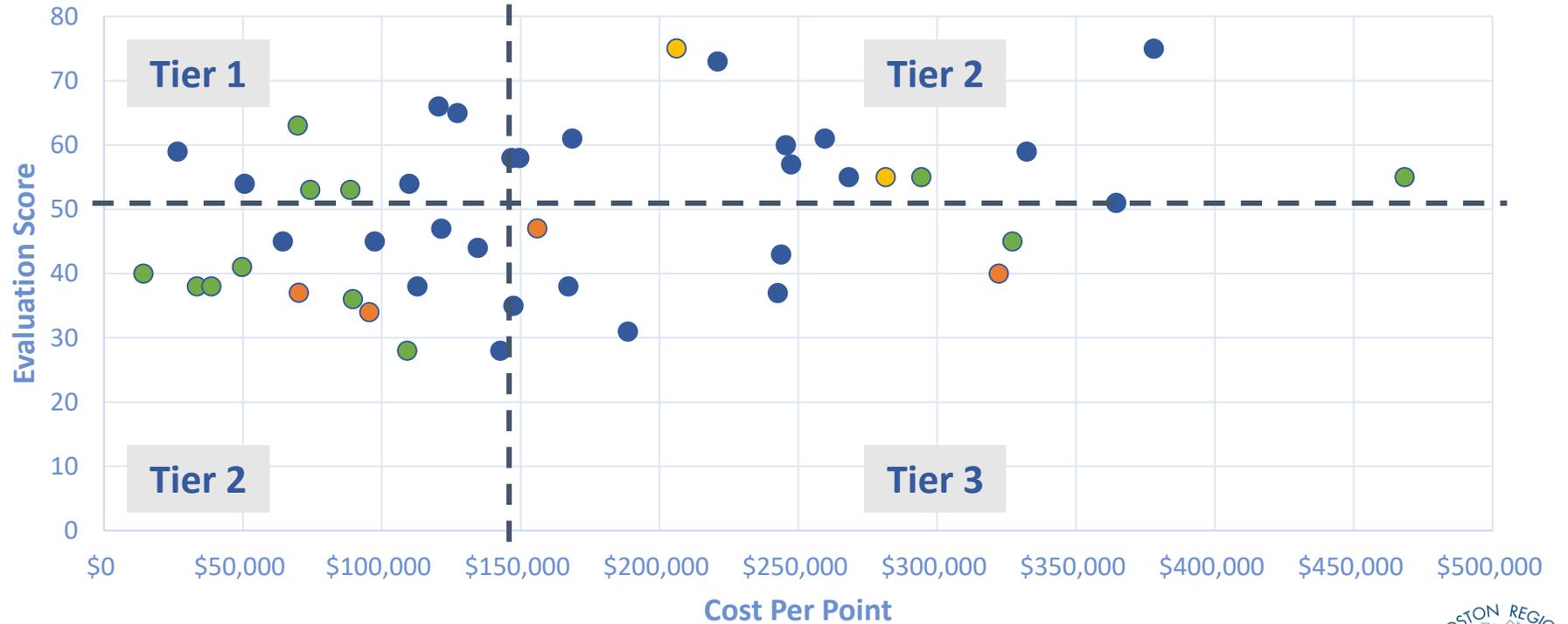
July 8, 2021

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6. Members' Items
7. Next Meeting

Cost-Effectiveness Test: Four-Quadrant Model

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



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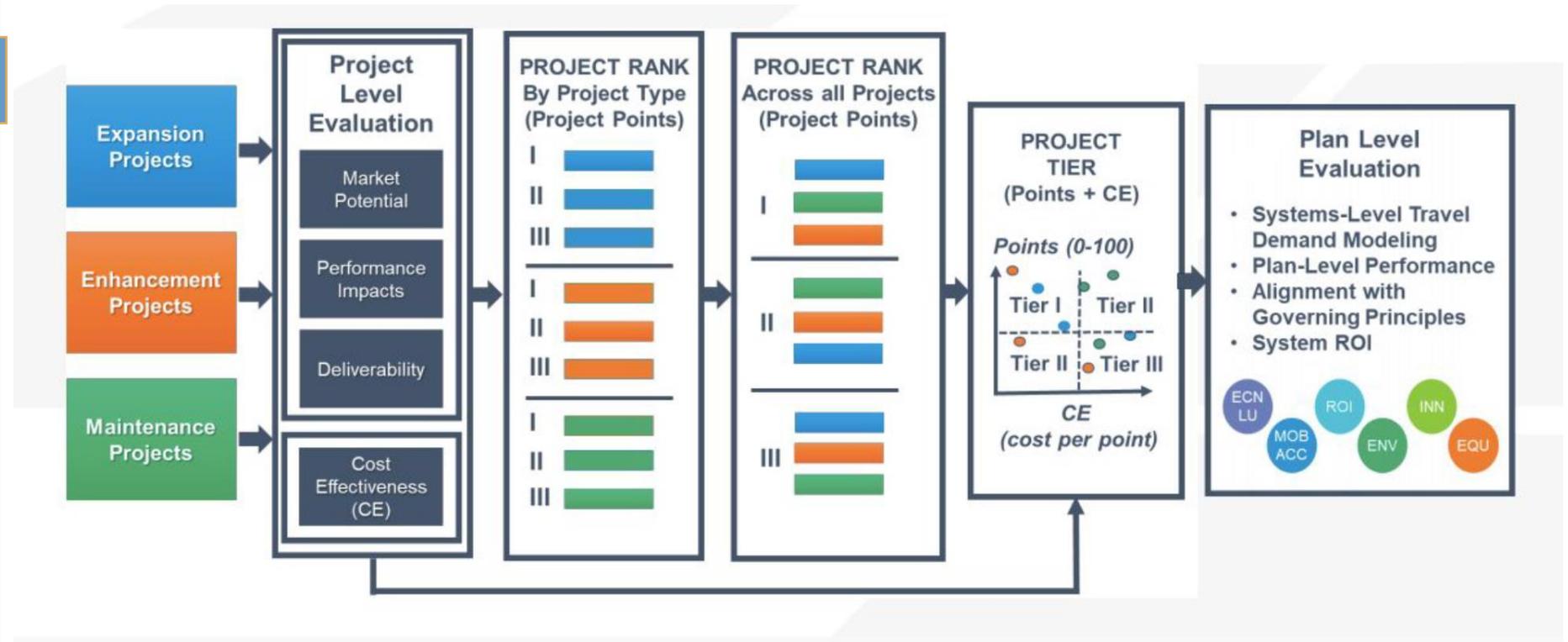
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July 8, 2021

AGENDA

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7. Next Meeting

Project Prioritization: Atlanta-Region Transit Link Authority



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System ROI = System Return on Investment

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7. Next Meeting

Four-Quadrant Model Test

- Tiered system adds nuance to cost-effectiveness ranking
 - **Tier 1:** Low cost per point, high score
 - **Tier 2:** Low cost per point/score, high cost per point/score
 - **Tier 3:** High cost per point, low score
- Tiers can be set according to policy preferences
 - Test shows cutoffs at medians for project score and cost per point



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Four-Quadrant Model Test: Results

- **Tier 1 (Low Cost, High Score):** Nine projects
 - Six of these are in middle third of cost range
- **Tier 2 (Low Cost/Score):** 14 projects
 - Includes five of top six least expensive projects
- **Tier 2 (High Cost/Score):** 14 projects
 - Includes four most expensive projects
- **Tier 3 (High Cost, Low Score):** Eight projects
 - Five of these are in middle third of cost range



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7. Next Meeting

Key Takeaways: Cost-Effectiveness Test Scoring

- Generally, low-cost projects fare best in cost-effectiveness scoring
 - Ranking projects on cost per point or points per \$1 million would tend to prioritize low-cost projects, even when the projects do not score well
- Tiered system supports greater understanding of relative project value without inherently prioritizing low-cost projects
- Both systems rely on project evaluation score as sole measure of benefit
 - Does not include cost/mile, cost/user, or similar measures

July 8, 2021

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7. Next Meeting

Questions for Implementation

1. When should cost-effectiveness scoring be used in the TIP programming process?
2. How should benefits be measured, if not by MPO evaluation score?
3. Should projects be rescored after cost/scope changes of a certain scale?
 - What, if anything, happens when a project drops to a lower tier or below a certain threshold of cost-effectiveness?



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Discussion of Opportunities for TIP Project Proponent Engagement

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Matt Genova, TIP Manager

Boston Region Metropolitan Planning Organization

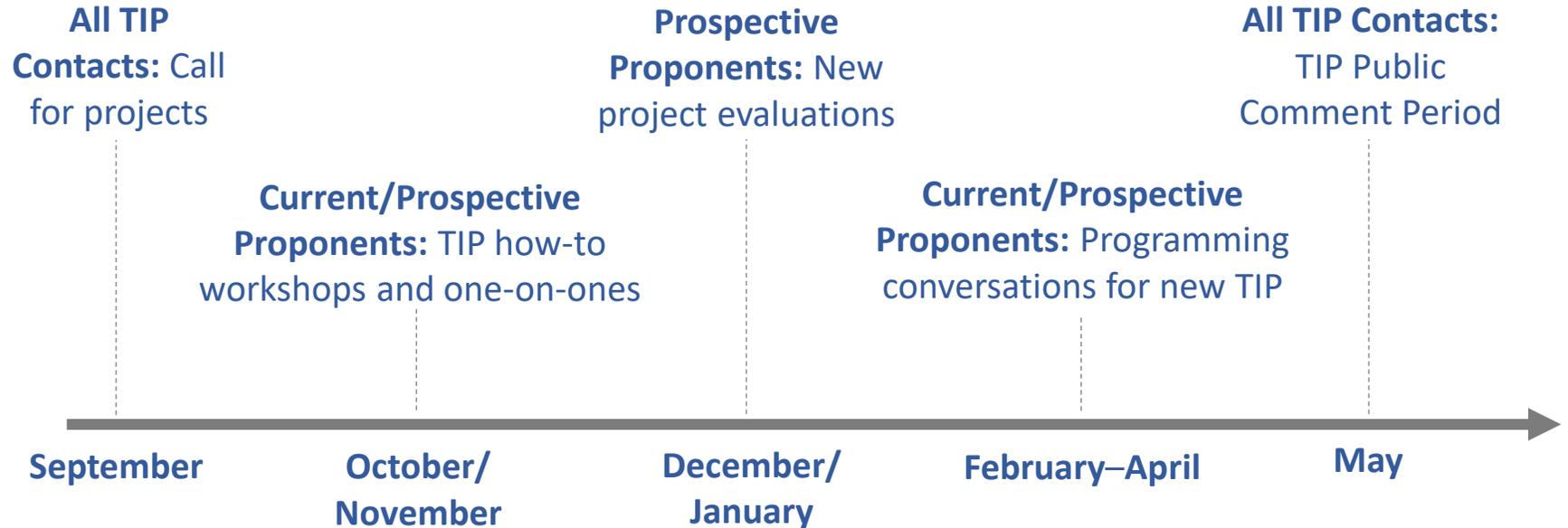
July 8, 2021

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Current Annual Timeline for Proponent Engagement

Typical Annual Proponent Engagement Schedule for MPO-funded TIP Projects



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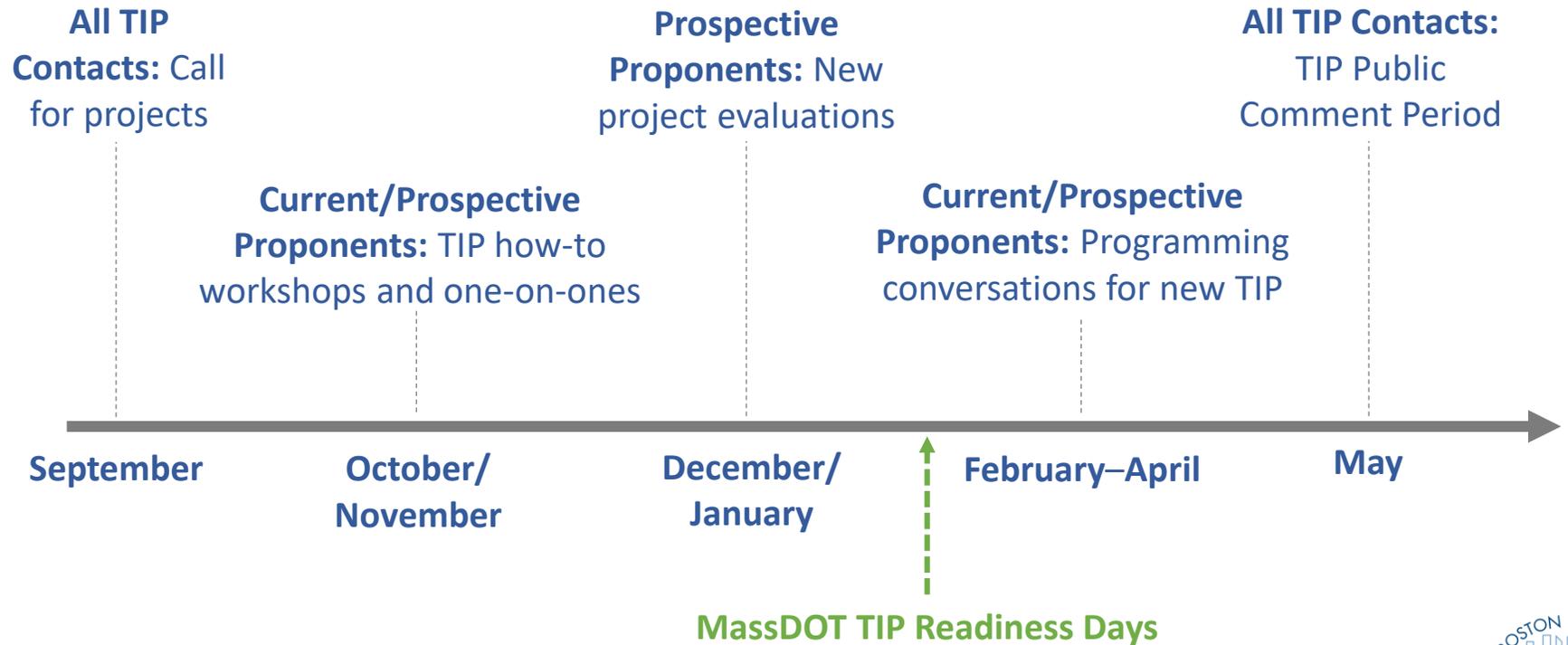
July 8, 2021

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Key Takeaways: Current Proponent Engagement

1. Communications focused on developing new TIP, not project monitoring
2. Direct proponent engagement with MPO staff and board not explicitly required at any point
3. TIP Readiness Day drives proponent engagement
 - Focus on projects with cost/schedule issues in first two years of TIP
4. Engagement with MassDOT Highway Districts and project managers on an as-needed basis



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Possible New Engagement Options

MPO Staff

- Proponent check-ins at regular calendar intervals
- Proponent check-ins at major development milestones
- Proponent provision of updated documentation as project design advances
- MassDOT Highway District and project manager check-ins at regular calendar intervals
- Creation of additional TIP how-to materials

MPO Board

- Required presentations at MPO meeting when project changes cost or scope beyond specific threshold
- Proponent-MPO funding agreement in addition to MassDOT PRC letter
- Presentations on new projects being considered for funding
- Information sharing upon project completion



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Questions for Consideration

1. Should certain proponent actions be required? If so, how should this be enforced?
 - **Factors to consider:** Thresholds for action, proponent bandwidth
2. What is the best format for MPO members to receive updates on projects?
 - **Factors to consider:** MPO meeting time, level of detail desired, future of TIP committee(s)
3. Which engagement options are most important to implement?
 - **Factors to consider:** MPO staff bandwidth, proponent bandwidth

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Members' Items

Reports and notices by MPO members, including regional concerns and local community issues

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Next Meeting

The committee will confirm the date and timing of the next meeting. The proposed next date is Thursday, July 29, 2021, at 10:00am.



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