Meeting Notes

Date:	July 18, 2019 10:00 A.M. – 12:30 P.M.	**Notes Taken By:**	Rail Vision Team
Place:	Transportation Board Room 10 Park Plaza, 2nd floor	**Project Name:**	MBTA Rail Vision Advisory Committee – Meeting 6

ATTENDANCE

Advisory Committee Members

Representative Carolyn Dykema
Mayor Mike Cahill
Jim Aloisi, TriMount Consulting
Rick Dimino, ABC
Ben Forman, MassInc
Rick Jakious Santos, Representative Moulton's Office
Michael Lambert, Brockton Area Transit
Paul Matthews, 495 Partnership
Joshua Ostroff, T4MA
Travis Pollack, MAPC
Susanne Rasmussen, City of Cambridge

MassDOT/MBTA

Scott Hamwey, MassDOT
Mike Muller, MBTA
Alexandra Markiewicz, MassDOT

CTPS

Scott Peterson
Bruce Kaplan

Consultant Team

Kristine Wickham, VHB
Mike Gordon, VHB
Austin White, VHB
Nancy Farrell, RVA
Amanda Poggenburg, RVA
Darrell Smith, Steer

Public

Bobby Molina
Jeremy Thompson
K. Carlson, ABC
David Melly, Rep. Dykema's office

This document summarizes the discussion at the July 18, 2019 MassDOT/MBTA Rail Vision Advisory Committee meeting. All references to slides relate to the presentation that has been posted to the project website.

WELCOME

S. Hamwey, MassDOT Project Manager, and N. Farrell, RVA, welcomed the members and outlined the meeting agenda consisting of a brief status update, review of the general findings and methodology for Tier 2 Alternatives, and an in-depth review of the preliminary findings for Tier 2 Alternatives 1-3. The public was welcomed to make comments or ask questions at the end of the meeting.

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STATUS UPDATE

Stakeholder Engagement

S. Hamwey gave an overview of the engagement the project team has been undertaking, in addition to the Advisory Committee meetings, to reach out to stakeholders. Team members have participated in 40 briefings around the region at City Council, Select Board, Metropolitan Planning Organization, and other meetings. He reviewed comments the team has been hearing from the public, such as requests for more frequent service, new service patterns to respond to the needs of the future (bi-directional), to be visionary and not fiscally constrained, consider full or partial electrification, and to be transformational.

REVIEW OF TIER 2 ALTERNATIVES

Comparing Alternatives

S. Hamwey explained that this meeting would review the relative benefits and costs of Alternatives 1-3. He noted that the project team has rebranded Alternative 1 from "Optimize Existing System" to "Higher Frequency Commuter Rail." He highlighted a summary slide comparing the Alternatives (1-3) on frequency, accessibility, electrification and inclusion of expansion projects. The presentation outlines the general findings for Alternatives 1-3 and evaluates relative benefits and costs. (Later slides provided the details.)

Comments from the Advisory Committee:

- J. Aloisi asked if there was anything specific the project team would like feedback on at this meeting and, if so, when the Advisory Committee members should offer it. S. Hamwey said he would list feedback requests later in the presentation. He also explained that the next steps for the Advisory Committee will be a meeting in September to present findings on the rest of the Alternatives. The project team will also be meeting with a delegation from Toronto to discuss moving from planning to implementation.

Methodology – No-Build Demand (2040)

S. Hamwey explained that the project team is looking at travel demand for 2040 using data for projected growth of areas served by the MBTA. The team tests the Alternatives to see how the suite of investments affects ridership. The Alternatives are modeled using the CTPS regional travel demand model and are then compared to a 2040 No-Build Scenario, which assumes existing MBTA services, with expansions and other improvements that are already planned and funded. The projected rate of growth for commuter rail in the No-Build Scenario is 19%, higher than the rate of growth for other modes, including rapid transit. The project team has also broken the ridership data into North Side and South Side, as they essentially function as two separate systems. The projected growth on the South Side is higher than the growth on the North Side, partially due to South Coast Rail being included in No-Build. The South Side also appears to have more ridership growth due to more rapid employment growth in areas well-served by South Side lines.

Comments from the Advisory Committee:

- J. Aloisi asked if there is a way to look at the demographics. S. Hamwey explained that the demographic data is included in MAPC's model. CTPS looks at potential growth in the core and assigns growth to other communities. The project team is using the best forecast data available.
- R. Dimino expressed concern about using the CTPS model instead of the more dynamic models that are used today. He asked which model was used to generate the forecast. S. Hamwey replied that the team is using the CTPS regional travel demand model. R. Dimino said that the use of the Regional Dynamic Model (RDM) early could help complement the data presented, since the model will take population and employment shifts that result from transportation investments into consideration.
- P. Matthews stated that some Advisory Committee members have concerns over the CTPS analysis using data from 2010. He expressed the concern that the 2010 estimates do not accurately reflect transit usage, and he asked if there's a more dynamic tool using more recent data. S. Hamwey replied that the information the model is using from the 2010 household travel survey is focused on the factors which influence people's decisions about what mode to use for what trips. While the availability of transit or proximity to transit may have changed since then, these factors influencing decisions have likely not changed (e.g.,travel time, convenience, etc.). He also recognized that MassDOT cannot treat the CTPS results as the only factor in developing the Rail Vision.

<u>General Findings and Methodology – Capital Needs</u>

S. Hamwey stated that capital costs for the No-Build are not included in the cost estimates for each alternative, and that order-of-magnitude costs vary by Alternative. He identified major investments as station upgrades for additional platforms and/or accessibility improvements, track and signal upgrades, fleet and layover/maintenance areas to support additional service for each alternative (existing and planned MBTA layover/maintenance facilities are assumed to remain and/or be upgraded), and electrification.

<u>General Findings and Methodology – Fleet and Consist Sizing</u>

S. Hamwey explained that this is an area where the project team would like input from the Advisory Committee. The fleet sizes are calculated based on the service plans and the projected demand. The team is estimating lengths of trains based on the CTPS ridership estimates to provide enough capacity for the demand. Traditionally, commuter rail demand is heavily related to AM trips into Boston and PM trips away from Boston, but because the Alternatives are designed to be bi-directional, some of the ridership growth is due to those trips. The current preliminary fleet cost estimates anticipate an increase in fleet above the current size, and assigns that cost to the Alternatives.

Comments from the Advisory Committee:

- J. Aloisi asked for clarification on what the project team means by fleet size: does this refer to number of locomotives or coach size? With EMUs there might be more coverage due to the faster service. S. Hamwey replied that he will get into that issue more with the Alternatives.

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General Findings and Methodology – Order-of-Magnitude (OOM) Capital Costs

The project team is looking at costs in 2020 dollars and 2030 dollars. S. Hamwey explained that with this project, it was difficult to come up with mid-year construction cost estimates as the construction duration would vary by Alternative, so the team identified the year 2030 to estimate costs in future dollars. All cost estimates are based on similar existing MBTA and similar peer agency project costs. Fleet costs are based on market conditions and industry comparisons. The expansion cost estimates are based on previous work. The team has also built in costs for fleet and layover/maintenance, but do not account for life cycle costs. The largest costs are typically for fleet and layover/maintenance, and electrification.

General Findings and Methodology – Operating and Maintenance (O&M) Costs

S. Hamwey stated that the operating and maintenance (O&M) costs are based on existing O&M costs for the current system or comparable costs for peer systems, where they involve processes currently not relevant to our system (e.g., maintenance of electric vehicles) All Alternatives result in increased operating costs because of the increase in service.

Comments from the Advisory Committee:

- M. Lambert asked what it meant that the costs are not offset by revenue. S. Hamwey replied that the team is making comparisons to baseline costs. He explained that fare revenue today helps offset operating costs, but he wanted to flag that the O&M costs presented are not. M. Lambert said that he would like to consider that the Alternatives will result in increased revenues (including broader revenues from economic development, parking, etc.) and would like to see that philosophy applied. S. Hamwey said the team will review any revenue projections that can be determined from the regional travel demand model results and report back at the next meeting.

Comparison of Alternatives – Key Characteristics

S. Hamwey described the differences between key characteristics in the three Alternatives.

PRELIMINARY FINDINGS: TIER 2 ALTERNATIVES 1-3

Preliminary Findings: Alternative 1 Higher Frequency Commuter Rail

Preliminary Operations

S. Hamwey reviewed the opportunities and limitations of Alternative 1. In general, 30-minute peak and 60-minute off peak frequency might not seem like a significant increase, but it would provide considerably greater frequency in the reverse peak direction and during off-peak periods. Interlining is incorporated to hit these frequency targets. The Old Colony lines will not be brought up to the same frequency as the rest of the lines in this Alternative due to track constraints and ensuring consistency with South Coast Rail Phase 1 service patterns.

Preliminary Ridership (2040)

This Alternative shows a 13% increase in commuter rail ridership, with a greater increase on the North Side lines. The South Side has more stations and lines that are already operating close to the target frequency near peak times. S. Hamwey reviewed the ridership growth breakdown by lines, explaining that

there is an overall increase in the number of trips, though the Franklin/Fairmount Line does not show as much growth, and the Old Colony service is the same as in the No-Build since its schedule is the same.

Preliminary Capital Needs

The team has identified areas that would need additional infrastructure and investments to implement Alternative 1, such as station upgrades, trackwork, signals, bridges/structures, and additional fleet needs.

Preliminary Capital Costs

S. Hamwey reviewed the initial projected capital costs for Alternatives 1: $2.2B in 2020 dollars or $3.1B in 2030 dollars, subject to change based on additional ridership data that will help refine the consist sizing. The project team has identified fleet and layover/maintenance facility costs as the highest capital costs for this Alternative.

Preliminary Operations and Maintenance Costs

Projected annual O&M costs, in 2020 dollars, would increase by $122M per year, subject to change based on additional ridership data and associated consist sizing.

Comments from the Advisory Committee:

- P. Matthews asked if any of the costs outlined in the presentation are already in the Capital Investment Plan (CIP). S. Hamwey replied that they did not burden the Alternatives with costs already in the CIP.
- S. Rasmussen stated that there should be some investments included in the baseline. She suggested that the MBTA can't assume the system will be able to continue without investment. She also asked for clarification around why the team identified 2030 for the future costs. S. Hamwey replied that there will be some level of continued investment in commuter rail over the life of this project to keep the system running as it does or better than it does today, but the team does not have a number to use for the project. Regarding the 2020 versus 2030 costs, S. Hamwey explained that it would be typical to use a midpoint of construction estimate, but due to the number of projects and amount of work, the potential timing of implementation across alternatives would not be consistent, so the team reported the mid-year of the planning horizon.
- M. Moran asked about the assumptions being made with the Needham Line, stating that it's already difficult to schedule, so increasing to 30-minute frequency would be a challenge. He asked why additional tracks and platforms aren't needed for the improvements in frequency. S. Hamwey replied that an additional platform and track work would be needed at and around Needham Heights. He also noted that the team's assumptions for dwell times differ for the Needham Line compared to other lines to make the frequencies work without additional infrastructure. He welcomed further discussion outside of this meeting.
- C. Dykema asked if there are any improvements with Alternative 1 to reduce climate impacts, or if there is a way to estimate climate impacts. S. Hamwey replied that climate impacts will be an element of the criteria the team will look at, and the CTPS model will estimate emissions generated from each of the Alternatives. That information will be shared with the Advisory Committee at a later date.

- M. Moran requested a comparison of capital costs to other non-commuter rail assets that would be needed without investment in the rail system (e.g., additional roadway investments). S. Hamwey replied that, while it would be something that would be worth looking into, it is not a task the project team is scoped to do with this project. R. Dimino seconded the interest in the comparison. S. Hamwey explained that the Toronto group that the team will be meeting with in the future developed a robust business case explaining why the improvements are an important investment, but it was after this part of the process. He offered to share this case with the group and said that the Toronto delegation will be speaking to the Fiscal and Management Control Board (FMCB) at the September 23 meeting.
- M. Lambert stated that he would like to see a bigger note on capacity, because congestion could degrade service. S. Hamwey explained that the team has modeled many different strategies and tradeoffs, particularly with the Old Colony lines.

Preliminary Findings: Alternatives 2 and 3 Regional Rail to Key Stations

S. Hamwey provided an overview of Alternatives 2 and 3, noting the difference between Alternatives in peak/off-peak headways. Alternative 2 does not have 15-minute headways to key stations on the South Side of the system because it does not include an expanded South Station.

Comments from the Advisory Committee:

- C. Dykema asked if the team is certain that the level of service on the South Side will meet the increased demand. S. Hamwey replied that the project team is assuming there will be a fleet large enough to accommodate the projected demand, and the trains are sized so they could accommodate the demand.

Preliminary Findings: Alternative 2 Regional Rail to Key Stations (Diesel)

<u>Preliminary Ridership (2040)</u>
S. Hamwey explained that Alternative 2 focuses on regional rail: high frequency service for longer distance trips to key stations. Key stations would receive 15/15 bi-directional service on the North Side and 30/30 bi-directional service on the South Side with more modest service increases at other stations. Based on discussions with the Advisory Committee, the project team did not limit parking supply at key stations for Alternative 2. The team found that the 15-minute frequency on the North Side rail resulted in significant growth (52% increase). S. Hamwey noted the decrease in ridership on the Old Colony lines due to the effect of unconstrained parking in Alternative 2. With Braintree Station included as one of the key stations, unconstrained parking at this station would draw existing Old Colony riders to drive to Braintree for the Red Line.

Comments from the Advisory Committee:

- T. Pollack asked if there is evidence that the Red Line could handle the increase in ridership. S. Hamwey replied that the model is broken into time periods (a 3-hour time span) and that the Red Line could probably handle that level over a three-hour period, but it may not be able to handle the ridership during peak times within the peak period.

- P. Matthews asked how much of an element service time is versus parking, because based on this analysis, it appears as though parking is a key factor. S. Hamwey replied that though the service on the South Side is not at the 15-minute frequency, the application of unconstrained parking supports the change in how many people will want to use the service, particularly on the Framingham/Worcester line.

Preliminary Capital Needs

S. Hamwey reviewed the areas that would need additional infrastructure and investments to implement Alternative 2, such as station upgrades, trackwork, signals, bridges/structures, and additional fleet needs.

Preliminary Capital Costs

S. Hamwey explained that Alternative 2 would cost an estimated $5.3 billion in 2020 dollars or $7.5 billion in 2030 dollars, subject to change based on additional ridership data and associated consist sizing. He noted that the fleet costs are based on incremental fleet for diesel options.

Preliminary Operations and Maintenance Costs

Alternative 2 would result in an increase of $337 million in annual O&M costs, subject to change based on additional ridership data and associated consist sizing. S. Hamwey noted that these are preliminary estimates, and that costs are not offset by revenue.

Preliminary Findings: Alternative 3 Regional Rail to Key Stations (Electric)

S. Hamwey explained that Alternative 3 would electrify the entire system, significantly increase South Side capacity with expansions (including South Station Expansion), and introduce West Station. Alternative 3 focuses on regional rail: high frequency service for longer distance trips to key stations. The fleet would be electric multiple units (EMUs). Key stations would receive 15/15 bi-directional service with more modest service increases at other stations.

Preliminary Ridership (2040)

S. Hamwey explained that not only did ridership on the North Side rise in this alternative by 62%, but the South Side ridership increased by 23%, a significant gain compared to Alternative 2. Alternative 3 includes South Station Expansion, the Full Build of South Coast Rail, and the Grand Junction shuttle, all of which contribute to the increase. He explained that growth could be even higher if not for the reduced ridership on the Old Colony lines due to unconstrained parking at Braintree and interlining.

Comments from the Advisory Committee:

- M. Moran asked if it is possible to turn unconstrained parking off for Braintree Station. S. Hamwey replied that the team has four more Alternatives to analyze and can look at one of those Alternatives with constrained parking at Braintree to see what that effect would be.
- P. Matthews observed that the increase in ridership to the overall commuter rail is notable.

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Preliminary Capital Needs

S. Hamwey reviewed the areas that would need additional infrastructure and investments to implement Alternative 3, such as station upgrades, trackwork, signals, bridges/structures, additional fleet needs, electrification, and expansions.

Preliminary Capital Costs

S. Hamwey explained that with Alternative 3, costs include an entirely new EMU fleet. Fleet and electrification are the highest costs, followed by expansions. This brings the predicted costs to $23.6 billion in 2020 dollars or $33.3 billion in 2030 dollars, subject to change based on additional ridership data and associated consist sizing.

Comments from the Advisory Committee:

- M. Cahill asked what station costs entail and if high level platforms are included. S. Hamwey replied that, in some cases, the MBTA will have to rebuild stations. The costs include the assumption that every key station will have high level, fully accessible platforms. He explained that a lot of stations are currently single side platforms, but with the 15-minute, bi-directional service, the service often requires platforms with access to two tracks.
- J. Aloisi stated that it is important to see the cost of expansions and assumptions included in each Alternative and that he would like to see those assumptions and costs.

Preliminary Operations and Maintenance Costs

S. Hamwey stated that the annual O&M costs are expected to more than double with Alternative 3, increasing by $823 million annually, subject to change based on additional ridership data and associated consist sizing.

Comments from the Advisory Committee:

- J. Aloisi asked why the vehicle maintenance and operations costs are so high. S. Hamwey replied that the project team looked at peer systems that are operating similar fleets and based the costs on those numbers. J. Aloisi said he thought it would be less expensive to operate EMUs than diesel. K. Wickham-Zimmerman replied that each EMU requires maintenance while a diesel fleet has a locomotive pushing the coaches, with each coach requiring less maintenance than EMUs, so there are higher costs. Alternative 3 also has a much larger fleet. J. Aloisi stated that when the information is presented to the public, it should be presented in a way that avoids misunderstandings. S. Hamwey replied that the project team can put information together on a per train basis.

General Discussion

The Advisory Committee moved to a general discussion of the issues.

- B. Forman stated that Alternatives 2 and 3 should have different titles because the changes include more than just diesel versus electric, as the names suggest. S. Hamwey replied that the team will have time to make some changes prior to presenting to the Fiscal Management and Control Board (FMCB) and can clarify these differences.

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- R. Dimino stated that some costs included in the Alternatives should be considered as part of the No-Build because some work will need to be done on the current system in the meantime. He asked about using a different base number and stated his concern that the costs of the Alternatives may be inflated. S. Hamwey replied that the only investments currently known are in the 5-Year Capital Plan, and outside of that, the team doesn't have a cost analysis for those future investments. R Dimino suggested that some of the costs would be included in a 10-20-year asset management plan. S. Hamwey replied that the team would need to find out what investments beyond the 5-Year Capital Plan should be considered and will present this question to the FMCB.
- S. Rasmussen shared concerns around the baseline costs. S. Hamwey stated that there is an allocated budget for commuter rail, so the team is comparing future costs with the existing budget. S. Rasmussen stated that it's not a true comparison if they aren't assuming any investment in the system. S. Hamwey replied that the team isn't burdening the Alternatives with state of good repair investments, but rather that the investments identified are for above and beyond need to deliver the service Alternatives. He offered to hold an optional session to further discuss the costs.
- M. Moran stated that he would like a better understanding of the impacts on locations that would need the improvements identified for the Alternatives, specifically noting that he would like to see JFK/UMass Station with additional capacity and ADA improvements at other stations.
- J. Ostroff asked if there was a cost associated with the removal of parking constraints to build additional parking. S. Hamwey replied that the team has not included costs for unconstrained parking.
- T. Pollack stated that it is important to note that the information presented doesn't include all of the metrics, such as a change in travel time, job access, etc. S. Hamwey said the team will add that information in the next steps. The team assumed ridership and costs were the most important metrics to show at this point. T. Pollack suggested a slide to show that these metrics are yet to be determined. (There is a footnote with this information.)
- B. Forman suggested that ridership estimates may exclude lower wage workers because the model assumes the existing fare structure. S. Hamwey said the team will flag that assumption and added that the model is based on how people travel in the region today.
- R. Dimino stated that there are other benefits that should be captured in a slide, such as congestion reduction. He requested the addition of a benefits slide and an assumptions slide. S. Hamwey agreed, stating that the team needs to have this discussion with the FMCB.
- M. Moran stated that the CTPS model is extremely price sensitive and asked if there is a way to run the Alternatives to test a lower fare to determine the impact on ridership. S. Hamwey replied that the team will test a lower fare in one of the Urban Rail alternatives to get a better idea on how sensitive demand is to price. M. Muller stated that the team is modeling different options with the Alternatives, but that the assumption is that the final vision will include a variety of different components from the options the team has been modeling. B. Forman suggested changing the name from "Alternatives" to "Scenarios."

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South Station Expansion Needed for Target Frequencies

S. Hamwey explained that an expansion of South Station is needed to hit the target frequencies in Alternative 3 for the South Side lines. He reviewed the projected growth for Alternatives 1-3, noting again that the South Side ridership grows significantly in Alternative 3, where there is an increase in frequency and electrification. He observed that the largest increase in North Side ridership occurs when shifting from Alternative 1 to Alternative 2, implying that frequency accounts for more ridership growth than electrification. MetroLinx, Toronto's system, is planning to deliver increased frequency as quickly as possible by adding electrification on a line-by-line basis. Electrification may not be the most significant factor in improving ridership (although it offers other benefits), but it can be phased in over time.

Comments from the Advisory Committee:

- J. Aloisi stated that a lot can be done operationally with modest changes that don't require the investment in South Station Expansion (SSX). The real issue is about increasing capacity at South Station. S. Hamwey replied that the team highlighted that particular expansion because SSX provides increased South Station capacity. J. Aloisi stated that there are other things that can increase capacity at South Station without relying on SSX; he will soon share a Transit Matters paper proposing other ways to increase capacity.

Seeking Your Feedback

S. Hamwey asked how the team should consider fleet costs in assessing results. He reviewed the current approach for fleet estimates, which builds incrementally on the existing fleet, compared to the potential variation, which would assume a fully new fleet. S. Hamwey also asked Advisory Committee members to send the team thoughts on the feedback issues listed on slide 45.

Comments from the Advisory Committee:

- R. Jakious asked about the life of locomotives; he recently attended a briefing on overhauls. S. Hamwey said that's another option for the fleet costs, considering overhauls and leasing. This cost is not built into these capital estimates.
- J. Aloisi asked if the team has considered a phased approach to electrification. S. Hamwey replied that Alternative 2 looks at electrification of the Providence line, so that is a way to test the different levers included in the alternatives.
- M. Moran stated that, at some point, all of the fleet will be phased out, so the team should look at that cost and deduct it out from each alternative. S. Hamwey replied that there are options and investments to test out, but the team also needs feedback from the FMCB.
- R. Dimino asked which approach the project team used. S. Hamwey replied that the team used the incremental approach, that it was the easiest, cleanest way to run it. R. Dimino stated that they could potentially show the 2030 cost with a fully electric fleet, with the phasing idea. S. Hamwey invited the Advisory Committee to share their thoughts with the project team.
- T. Pollack stated that looking at fares is important and asked if there's a way the team can look at different fare structures. He also asked if there's a way to talk about how the project fits in with other overall plans, such as the future of transportation, greenhouse gases, and traffic congestion.

He also asked how the team is integrating Focus40. S. Hamwey replied that frequency is important for ridership, but when diesel locomotives run every 15 minutes, emissions increase, so the team will flag that, and that those results will be provided later. He also said that the team will start to look at current investments and how they affect the Alternatives.

- J. Ostroff asked how quickly the team could provide the needed clearances for bridges. S. Hamwey replied that the team included those considerations in the costs, but also said that a phasing approach could consider lines that would be less affected by structures. J. Aloisi hopes the team isn't assuming every bridge or clearance needs to be changed. K. Wickham-Zimmerman replied that for planning purposes, the procedure has been to use a per mile cost for electrification.

NEXT STEPS

S. Hamwey explained that the project team will be reviewing the last set of Alternatives and will be looking for feedback from the group at the next Advisory Committee meeting on **September 12**. The project team will be presenting at the joint MassDOT/FMCB meetings on July 22 and September 16. Representatives of Toronto's MetroLinx will be presenting at the September 23 FMCB meeting. In the meantime, the team will continue additional modeling to support the findings.

PUBLIC COMMENT

S. Hamwey invited public comment. There were no speakers and the meeting was adjourned.