

Meeting Notes

Date: October 18, 2019
10:00 A.M. – 12:30 P.M.
Place: Transportation Board Room
10 Park Plaza, 2nd floor

Notes Taken By: Rail Vision Team
Project Name: MBTA Rail Vision
Advisory Committee – Meeting 7

ATTENDANCE

Advisory Committee Members

Senator William Brownsberger
Mayor Mike Cahill
Mayor Daniel Rivera
Wade Blackman, Congresswoman Clark's Office
Kathryn Carlson, A Better City
Stephanie Cronin, Middlesex 3
Rick Dimino, A Better City
Peter Forman, South Shore Chamber of Commerce
Helena Fruscio Alstman, EOHED
Michael Lambert, Brockton Area Transit
Paul Matthews, 495 Partnership
Chris Osgood, City of Boston
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
Betsy Harvey

Consultant Team

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

Public

Andrew Bettinelli
Francois Bodet
Peter Brassard
Hon. John A. Businger
Peter Chechile
Paul Christner
Caitlin Connelly
Joshua Davidson
Governor Mike Dukakis
Sarah Hamilton
Bill Hanson
Grant Hauber
Andrew Jennings
Andre Kostonsov
Andy Koziol
John Kyper
David Melly, Rep. Dykema's office
Christian Mineil

Meeting Notes

Connor Moulton
D. Nelson
Steve Olanoff
Roy Palmeri
Christopher Parker
Roger Ray
Andrew Reker
Lindiwe Rennert
Clint Richmond
Bob Seay
Steve Silveira

Neil Shah
Clay Shofield
Astrid Stumpf
Jeremy Thompson
Michael Tormey
Hoai Tran
William Van Renterghem
Lindsey Vickers
Casey Waskiewicz
Garrett Wollman

This document summarizes the discussion at the October 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, welcomed the members and outlined the meeting agenda consisting of a brief status update on Alternatives 1-3, an in-depth review of the preliminary findings for Alternatives 4-6, and additional findings on air quality and equity for Alternatives 1-6. The public was invited to make comments or ask questions at the end of the meeting. S. Hamwey welcomed comments from Governor Mike Dukakis.

Gov Dukakis stated that there should be a sense of urgency around this issue as it is a serious metropolitan, state, and regional problem. He expressed his support for the North South Rail Link (NSRL) to be considered as part of the Rail Vision project and explained that it is important to connect North and South Stations when thinking of a regional rail system.

STATUS UPDATE

Updates Since July Preliminary Results

Fleet Sizing

S. Hamwey reviewed updates to the preliminary results around fleet size as the project team has incorporated peak direction demands for all alternatives. He explained that the team previously used the manufacturers' standards for crowding but reverted to the MBTA's Service Delivery Policy standards which resulted in a reduction in the estimated required fleet size. The team has also adjusted assumptions on the use of bi-level EMUs, which could be produced for a large order.

Meeting Notes

Fleet Costs

S. Hamwey explained that the project team has identified additional future investments in the fleet that would be required to bring the existing fleet to a State of Good Repair and adjusted the projected costs to exclude those investments.

Updated Alternative 1-3 Results

S. Hamwey provided a brief review of the updated Alternative 1-3 results based on the updated information on fleet sizing and costs.

REVIEW OF ALTERNATIVES

Review of Alternatives – Key Characteristics

S. Hamwey explained that Alternatives 4 and 5 demonstrate an Urban Rail that provides more frequency for the inner core. Alternative 4 demonstrates a diesel version of the Urban Rail and Alternative 5 demonstrates electric. Alternative 6 is a full system transformation that provides more frequency throughout the entire system and includes NSRL to connect the North and South sides.

PRELIMINARY FINDINGS: ALTERNATIVES 4-6

Preliminary Findings: Alternative 4 Urban Rail (Diesel)

S. Hamwey explained that Alternative 4 focuses on urban rail – high frequency, rapid-transit-like service to stations in the inner core – using diesel-powered train sets. The inner core would receive bi-directional service every 15 minutes all day with more modest service increases at other stations. There would not be urban rail service on the Old Colony lines, as the Red Line already provides that service. South Station Expansion is included in this Alternative, as the team was unable to reach the 15-minute frequencies without it.

Preliminary Ridership (2040)

This Alternative shows a 53% increase in commuter rail ridership, with a greater percentage increase on the North Side lines but a greater absolute growth on the South Side lines. There was a greater increase in ridership with walk access compared to drive access and a small reduction in trips on other modes of transit (which had a ridership reduction of 2%). The project team unconstrained parking at the Urban Rail termini to better understand demand.

Preliminary Capital Needs

The team has identified areas that would need additional infrastructure and investments to implement Alternative 4, such as station upgrades, trackwork, signals, bridges/structures, additional fleet, and expansions.

Preliminary Capital Costs

S. Hamwey explained that the initial projected capital cost for Alternative 4 is \$8.9B in 2020 dollars or \$12.6B in 2030 dollars. These costs include an entirely new DMU fleet. The project team has identified fleet and system expansion costs as the highest capital costs for this Alternative.

Meeting Notes

Preliminary Findings: Alternative 5 Urban Rail (Electric)

S. Hamwey explained that the Alternative 5 urban rail would use electric-powered train sets but would maintain bi-directional service every 15 minutes all day to the inner core. Like Alternative 4, there would not be urban rail service on the Old Colony lines. This Alternative includes South Station Expansion, South Coast Rail (SCR) Full Build, and the Grand Junction shuttle.

Preliminary Ridership (2040)

This Alternative shows a 54% increase in commuter rail ridership, with a greater increase in walk access ridership. There's a higher percentage growth on the North Side but greater absolute growth on the South Side.

Preliminary Ridership (2040) – Modified for Lower Fares

S. Hamwey explained that the project team created a second version of Alternative 5 to model lower fares on the urban rail to understand the impact fares have on ridership. The team designated a discount fare of \$3.40 for the stations in the urban rail zone that have fares greater than subway fares. The new discounted rate showed a further 7% growth in ridership, with the highest benefit on the North Side. S. Hamwey explained that the team did not model lower fares in the farther Gateway Cities, as was suggested by one of the Committee members, as the Regional Travel Demand Model is only able to look at trip making behavior that is happening today to project 2040 trip making behavior. He further explained that modeling reduced fare for Lynn provided a good understanding of ridership and fare policy due to the different demographics in the city.

Comments from the Advisory Committee:

- S. Rasmussen asked how the team came up with the discounted fare of \$3.40. S. Hamwey replied that the team had discussions with those working on the fare policy to help determine the discount fare. The team didn't want to be too aggressive and \$3.40 was a reasonable compromise, providing a more gradual fare increase between zones. S. Rasmussen asked if the ridership growth is linear. S. Hamwey replied that the team would have to test that.
- P. Forman asked if the model is based on past behaviors. S. Hamwey replied that the behavior in the model is based on a statewide travel survey. P. Forman asked if the team was able to see how past changes in cost affected travel behaviors. S. Peterson replied that the team has looked at past research on the sensitivity of cost changes. This exercise was focused solely on fares and trying to understand travel decisions and behaviors.
- W. Brownsberger asked if the \$3.40 fare was applied to all stations. S. Hamwey replied that the discount fare was applied to stations inside the inner core area. He explained that the zones with fares that are already lower than the discount fare were maintained but the inner core zones farther out, such as zone 4, were priced with the discount fare rather than the current fare.

Meeting Notes

- W. Brownsberger asked if the change in ridership is a subset of the system. S. Hamwey replied that it is. He explained that the model is designed to look at regional scale changes, which is why the change in total daily boardings is noted on the entire system. Looking at the changes by individual station would be more complicated, but the team can report on the stations included in the zones affected by the discount fare.
- P. Matthews thanked the team for including unconstrained parking and fare issues in the models.
- M. Cahill asked if the team is concerned about riders who would normally walk to a station driving to the lower fare zone. S. Hamwey replied that they are worried about that issue and the model showed those diversions, but the team feels good about the walk access ridership increase.
- R. Dimino asked if the operational capacity would accommodate the increased ridership. S. Hamwey replied that the team estimated fleet size based on the demand reflected in the model. The team did not run the fleet size estimate with the lower fare, but there would be an increase in fleet size required to meet that demand.
- M. Lambert stated that unless there is certainty that the Red Line can handle trains coming at the increased frequency during peak periods, the team needs to be careful when considering Alternatives. S. Hamwey replied that the team assumes 3-minute headways on the Red Line with the models.
- D. Rivera asked how much fare revenue is lost with the lower fares. S. Hamwey replied that they would have that information on later slides.
- T. Pollack stated that it's important to continue the discussion on fare structure to see how it fits with the Alternatives because it could change things.

Preliminary Capital Needs

The team has identified areas that would need additional infrastructure and investments to implement Alternative 5, such as station upgrades, trackwork, signals, bridges/structures, additional fleet, expansions, and electrification.

Preliminary Capital Costs

S. Hamwey explained that Alternative 5 would cost an estimated \$10.6 billion in 2020 dollars or \$14.9 billion in 2030 dollars. The project team has identified fleet, system expansion and electrification costs as the highest capital costs for this Alternative.

Key Takeaways for Urban Rail Alternatives

S. Hamwey reviewed how Alternatives 4, 5, and the modified lower fare Alternative 5 compare against each other. He explained that the operating costs shown are an increase from the current \$380 million per year by at least \$304 million per year to operate the system, almost doubling the current operating and maintenance costs. He explained that there is revenue growth associated with each of the Alternatives, though the growth for the lower fare Alternative 5 is significantly lower. The estimated revenues reflect the diversion from higher cost suburban stations to unconstrained parking stations or lower fare stations. S. Hamwey stated that the model can only show existing tripmaking behavior, so there could be further growth for trips that are not happening today.

Meeting Notes

Comments from the Advisory Committee:

- R. Dimino stated that he would like to see cost per rider and fare recovery ratio data to see how it's related to the Alternatives. S. Hamwey replied that the team can look at that information.

Preliminary Findings: Alternative 6 Full Transformation

S. Hamwey explained that Alternative 6 would also electrify the entire system and is the only Alternative to include NSRL. Other system expansions included in this Alternative are South Coast Rail (SCR) Full Build and Grand Junction shuttle. Alternative 6 focuses on regional rail and urban rail to provide high frequency service throughout the network. The fleet would be electric multiple units (EMUs). All stations would receive 15/15 bi-directional service.

Preliminary Ridership (2040)

This Alternative shows a 150% increase in commuter rail ridership, with 189% increase on the North Side and a 133% increase on the South Side. Alternative 6 includes NSRL, SCR Full Build, and the Grand Junction shuttle, all of which contribute to the increase. S. Hamwey explained that the team modeled the discount urban rail fare in this Alternative as well as including unconstrained parking at most stations.

Ridership Growth Analysis for Alternative 6 – Full Transformation

S. Hamwey explained that the significant growth in ridership was impacted by unconstrained parking, reduced fares, and improved service.

Preliminary Capital Needs

The team has identified areas that would need additional infrastructure and investments to implement Alternative 6, such as station upgrades, trackwork, signals, bridges/structures, additional fleet, expansions, and electrification.

Preliminary Capital Costs

S. Hamwey explained that with Alternative 6, costs include an entirely new EMU fleet. Expansions and fleet are the highest costs, followed by electrification. This brings the predicted costs to \$28.9 billion in 2020 dollars or \$40.7 billion in 2030 dollars.

Comments from the Advisory Committee:

- D. Rivera asked if the team included new parking structures for unconstrained parking in the cost estimates. S. Hamwey replied that they did not. He explained that parking is a constraint today, but the team didn't want to assume people couldn't access commuter rail service due to a lack of parking. D. Rivera asked if the team has parking needs available. S. Hamwey replied that it's included on future slides.
- M. Cahill asked where the separation is for urban rail versus not urban rail. S. Hamwey replied that Route 128, Anderson/Woburn, the entirety of the Needham line, Beverly Depot, a new station north of Reading, a new station at Riverside, and a new station west of Brandeis/Roberts would be the outer edges of the urban rail.

Meeting Notes

- C. Osgood asked how much additional ridership growth the system can actually sustain. S. Hamwey replied that the models are used to determine demand and the team builds a fleet size estimate around that demand, which is why fleet costs are so high.
- S. Cronin asked for more information about inbound ridership compared to outbound ridership. S. Hamwey replied that they see growth in reverse commuting. S. Cronin asked if that growth was in similar proportions to the inbound ridership growth. S. Hamwey replied that the team would have to look into that.
- R. Dimino stated that he would like to see an analytical comparison with SSX as an element in Alternative 6 instead of NSRL to see the relative difference in ridership and cost between those system expansions. S. Hamwey replied that the team made the decision to model SSX and NSRL separately because they provide similar opportunities for growth on the South Side. The team doesn't believe SSX is needed for Alternative 6 because NSRL allows for the 15-minute service on both sides. SSX is a lower cost solution than NSRL, but Alternative 6 uses NSRL as an integrated part of the urban rail network.
- J. Ostroff asked if the Old Colony lines have cost implications to reach the 15-minute frequency. S. Hamwey replied that the team increased capacity along those lines in Alternative 6, and the model includes that data.

Summary of Alternatives 1-6

Review of Operations Assumptions

S. Hamwey reviewed the service and operations assumptions the team used for the modeling process.

Comments from the Advisory Committee:

- W. Brownsberger asked if there is a financial framework on these Alternatives to look at return on investment on a line-by-line basis. He stated that, for decision makers, it would be helpful to see information on what lines would and would not pay off in terms of making an investment, since it is unlikely that all improvements could be made at the same time. S. Hamwey replied that the Alternatives are beyond what's currently budgeted in the 5-year Capital Investment Plan. He stated that the ridership growth shown in the models is impressive, but there's a larger discussion around environmental goals and other goals, that it goes beyond just ridership and improvements. He explained that the models are about seeing what works by looking at different components of the system, such as electrification, not about just choosing one Alternative.
- M. Lambert stated that land use and commitment from communities will be important when a framework is developed.
- J. Ostroff asked for a strategic level analysis and a cost/benefit analysis, which would include how the transportation improvements would help with climate goals and the environment, for example. S. Hamwey replied that there are some investments that will be building blocks for several Alternatives that can be implemented to start building a foundation.

Meeting Notes

- R. Dimino stated that he would like to see an economic impact analysis, and that some of the improvements might be part of early actions.
- W. Brownsberger asked the team for line-level data to understand how each line performed in each Alternative.

O&M Costs and Revenues in Alternatives 1-6

S. Hamwey reviewed the O&M costs and revenue estimates by Alternative. Alternative 6 O&M costs are significantly higher as that Alternative has 15-minute service all day throughout the system.

Comments from the Advisory Committee:

- K. Carlson asked if the higher O&M costs for Alternative 6 come from the service increase or if there are other things included in that cost. S. Hamwey replied that the increased costs are from the frequency of service as well as fleet maintenance. The team can break down the cost and share it with the group.
- D. Rivera asked why Alternative 5 has such a low revenue estimate. S. Hamwey replied that the lower fares are the reason for low revenue. He explained that some people will choose to drive to the lower fare stations.

Parking Capacity and Demand in Alternatives 1-6

S. Hamwey explained that roughly 43,000 parking spaces are available for MBTA parking today. He reviewed the additional parking spaces needed to meet the demand for each Alternative. The team did not incur costs for additional parking in modeling the Alternatives.

Comments from the Advisory Committee:

- S. Cronin asked if parking costs were included in the analysis. S. Hamwey replied that the models do not include any parking construction costs or parking revenue. He explained that the model assumes there is a fee to park and builds that into a decision tree for ridership analysis.
- In response to a question from D. Rivera, S. Hamwey replied that the model tries to assign a path to someone trying to travel from a location to Boston. The model knows how much parking costs at a station and might send someone to another parking location if the team constrains parking. The team unconstrained parking to show the demand but did not incur the costs of constructing additional parking.
- J. Ostroff asked if it's fair to say there are first/last mile solutions. S. Hamwey agreed that there could be first/last mile solutions but replied that the team didn't want to build assumptions for first/last mile connections for all stations.

Comparison of Alternatives 1-6 – Preliminary Results

S. Hamwey reviewed the summary of the results from all Alternatives.

Meeting Notes

Additional Findings: Air Quality, Equity

Automobile Use Projections

S. Hamwey explained that the model generates information, such as vehicle travel in the region, and summarizes it. He reviewed the change in automobile use by Alternative.

Projections for Changes in Total Emissions

S. Hamwey explained the projected changes in emissions by Alternative. Alternatives 3, 5, and 6, which feature electrification, have the greatest decrease in emissions.

Comments from the Advisory Committee:

- W. Brownsberger asked for clarification around the increase in emissions with Alternatives 1, 2, and 4. S. Hamwey replied that these Alternatives feature frequent service using diesel, and in some cases the emissions reductions associated with taking cars off the road does not outweigh the increase in emissions from running diesel equipment frequently throughout the day. W. Brownsberger asked why particulate matter and in some cases the emissions reductions associated with taking cars off the road does not outweigh the increase in emissions from running diesel equipment frequently throughout the day. S. Hamwey responded that this was driven by the increase in train service, including from source emissions to generate electricity.
- P. Forman asked if these projections net out the vehicle use. S. Hamwey replied that they do. He also explained that the team also accounted for changes in technology.
- W. Brownsberger stated that the team did not account for improvements in power generation.
- W. Brownsberger stated that adding service to lines that don't perform well doesn't help. He also stated that implementing these changes only on lines that perform well would look different. S. Hamwey replied that the team will try to get line-by-line information out to the group so they can address this point as they move forward.
- S. Rasmussen asked the team to do a sensitivity test of how the emissions would change assuming 100% renewable electricity in the electrified alternatives.
- D. Rivera added that making the team should be cautious in making an assumption of 100% renewable electricity unless there are plans to get there.
- J. Ostroff stated that the idea of getting an electric delivery system built for over 400 miles of track is a difficult task, which might be challenging to fulfill. It would require a huge transformation to the landscape and is something that the region will have to consider as this moves forward.

Environmental Justice Analysis

S. Hamwey explained that all Alternatives benefit environmental justice communities through accessibility, mobility, and environmental issues.

Comments from the Advisory Committee:

Meeting Notes

- T. Pollack asked for more detail on the environmental justice analysis, stating that some of the details would be important on a line-by-line basis. S. Hamwey replied that he can connect him to CTPS offline.
- K. Carlson asked if there's going to be a better breakout and weight on the environmental justice analysis. S. Hamwey replied that this analysis was about whether the environmental justice communities will be disproportionately affected, not about specifically what they'll benefit from. K. Carlson asked for clarification when this is presented further, as people might misinterpret this slide. B. Harvey replied that this analysis is consistent with the certification process. The team has more in-depth information for all the Alternatives.
- W. Brownsberger asked if it's possible that something being implemented on one line that could be bad for environmental justice communities would be offset by something good on a different line. B. Harvey replied that the analysis is shown on a systemwide basis to look at the entire package of improvements on each Alternative. W. Brownsberger stated that problems could emerge. He suggested looking at this analysis on a line-by-line basis. S. Peterson replied that the level of geography used for this analysis is near census level and that information could be provided line-by-line.
- P. Matthews stated that there's a need to focus on environmental justice community benefits.

NEXT STEPS

S. Hamwey explained that there will be a public meeting on October 23. The Advisory Committee will be meeting with the Fiscal and Management Control Board (FMCB) on October 28 to chart next steps on the process. The team will present at an upcoming FMCB meeting in November to identify what the next steps will be and any early action items.

Comments from the Advisory Committee:

- S. Cronin asked if the team is looking for a vote. S. Hamwey replied that it's not set up as a voting process, but that Committee members will have a chance to speak with the Board.
- S. Rasmussen asked what the next steps for this group will be. S. Hamwey replied that they will see what happens at the meeting on October 28 before they can see what things look like beyond November.

PUBLIC COMMENT

S. Hamwey invited public comment.

- Hon. J. Businger expressed his support for the NSRL. He stated that there should be a permanent connection between North and South Stations, that it's not a regional rail when the North Side and South Side are disconnected. He stated that he wants the Governor to ask for federal money to fund the project, and for the environmental process to resume.

Meeting Notes

- C. Richmond stated that the Sierra Club is a leading advocate for the NSRL and that he also believes Grand Junction should be mandatory. He stated that the high investment costs make people lose sight of the goals for increasing transit. He said that electrification has to be the goal for the commuter rail.
- G. Wollman stated that the projected 4 trains per hour should be a minimum but it's being treated like a maximum. He said that the vehicle estimates are ridiculous, and that he hopes the team isn't looking at inefficient, obsolete, slow cars.
- D. Nelson asked for more detail on the service configuration, specifically around interlining. He asked how the team intends to run the Franklin Line service. He also asked if half of the trains running inner core service will come from afar or if the outer distance trains will run express to the inner core.
- C. Parker asked if the team accounted for impacts in the network due to some trains only running service on the inner core. S. Hamwey replied that the team did take that into consideration. C. Parker also asked what assumptions were made for the diesel emissions.
- G. Hauber recommended disaggregating as much data as possible and providing data on a line-by-line or jurisdiction-by-jurisdiction basis. He stated that the high frequency bi-directional rail service is important for people not directly along the line, but he would also like to see how these Alternatives interact with multi-modal services. He provided the example of the NSRL, stating that it should be considered with other investments to show the benefits. G. Hauber stated that the plan could be broken down into prioritized time-based elements so the benefits would be seen in timeframes that would be helpful to constituents. He noted that the estimates shown for the Alternatives are probably the base level of benefit provided, and that other factors, such as congestion pricing, could help increase the benefits.
- C. Moulton stated that the commuter rail has failed him and that he drives because the train does not provide frequent enough service between Franklin and Boston. He stated that there should be better capacity, availability, and performance, such as the 15-minute frequency with EMUs and the NSRL. He suggested making commuter rail more available and cost effective to get people off the road.
- C. Shofield stated that if the team is going to decide the future of rail and transportation for Boston, they need to do it right. He stated that there's very little technical data to compare the NSRL and SSX as options for increasing capacity. He suggested that the team look at comparison data that's already been done.
- J. Kyper stated that Alternatives 1-5 provide limited utility to people in the inner city but would help reduce subway congestion. He stated that the NSRL would provide great utility to riders on the subway system. He suggested turning the Fairmount Line in Mattapan and Dorchester into a rapid transit line that would continue through downtown Boston to allow people in those neighborhoods direct access to the North Side.
- An attendee stated that the Commonwealth has committed to a transition to a lower carbon future. She stated that the Committee should only consider Alternatives that don't incorporate diesel, as it's bad for climate change and the environment. She asked if the team could separate the environmental effects of emitting diesel from the environmental effects of generating electricity through the grid.

Meeting Notes

- A. Kostonsov stated that he spends about 3-4 hours commuting each day and it has a negative impact on quality of life. He asked what extent the team has considered macroeconomic factors when modeling the factors because he believes the models should show a greater savings and impact on changing consumer behavior and commuter patterns. He stated that anything short of a complete overhaul of the system would be a half measure and would cost dearly and be more expensive to remedy. He stated that the Committee needs to have a bold vision to provide long-term benefits because conditions will continue to change rapidly.