

MBTA Strategic Plan Update

December 14, 2018

INTRODUCTION

The MBTA Strategic Plan issued by the Fiscal and Management Control Board in April 2017 called for the plan to be “regularly revisited and updated.” Such reviews serve the dual purpose of measuring progress toward achieving Strategic Plan goals while also helping to ensure that both the Plan and the Authority adapt to evolving needs and circumstances, from changing rider demographics to the impacts of climate change.

This document provides an initial review of the progress made toward achieving the high-level priorities set in the Plan’s introduction. The FMCB will conduct the first in-depth, biennial update of the Strategic Plan in 2019, a practice this Board believes should be continued by future MBTA boards.

KEY PRIORITY 1

While improving customer experience across the system, focus on buses: reinvent the bus system with reliable and predictable service, improved vehicle and stop amenities and a comprehensive redesign of the entire bus network.

Better Bus Project

Buses are an essential feature of the MBTA’s transit network. But while more than one-third of all trips on the MBTA are on its bus fleet, bus service performance has suffered from poor reliability, infrequency, and limited coverage in recent years. To improve bus service, the MBTA launched the Better Bus Project (BBP) in May 2018 to address the many challenges facing bus operations. The BBP’s goals, which are directly responsive to Key Priority 1, are just part of a range of planned fleet and service delivery improvements that include retrofitting the entire bus fleet and better leveraging municipal partnerships to, among other things, establish more dedicated bus lanes to address congestion that precludes improving reliability and predictability.

The Better Bus Project updates the service delivery aspect of bus transit, including re-mapping bus routes and re-setting timetables. It focuses on routes and corridors with high and moderate passenger counts and trips. The Project is iterative, meaning that it will begin with quarterly service changes on existing routes but will expand to larger initiatives such as route extensions and the integration of infrastructure and technology upgrades, such as transit signal prioritization.

Project milestones through September 2018 include:

- Reliability improvements across dozens of routes that decreased the weekday schedule gap (i.e. difference between scheduled and actual run times) by 3 percent between FY17 and FY18, despite generally worsening congestion;
- Comfort improvements on the Routes 7 and 9 in South Boston;
- Introduction of the SL3, new Silver Line service from ~~Everett~~ Chelsea to the Seaport and South Station;

- Hired four additional operators to improve Route 111 reliability and off-peak frequency and adopted a new policy on dropped trips on Route 111;
- Implementing dedicated bus lanes and pilot bus lanes that will speed service on Broadway in Everett, Washington St. Roslindale, Massachusetts Ave. in Cambridge and Arlington, and Mt. Auburn St. in Watertown on multiple routes (1, CT1, 30, 34/34E, 35, 36, 37, 40, 50, 71, 73, 77, 79, 97, 104, 109, 110, 112 and 350).
- Launched an early morning bus pilot program in April 2018 and late-night bus pilot program in September 2018 serving communities/corridors with high demand during these time periods, including Boston, Chelsea, Everett, Lynn, and Revere.

While these are significant adjustments, much more work remains to bring MBTA buses and bus service up to the standards riders rightly expect. Looking ahead, the MBTA anticipates implementing further improvements in 2019 and beyond.

Network Redesign

The network of routes and route types (local, express, and limited) that define MBTA bus services is determined based on demand, geography, engineering, and coverage. However, in some cases these decisions were made many years or even decades ago, when both services and the region looked and operated differently. To keep up with changes in Boston and the region, the MBTA is moving forward with a comprehensive redesign of the Authority's bus network.

If the Better Bus Project that focuses on the infrastructure and service delivery protocols of high and moderate capacity routes is considered Phase I, then the network redesign is Phase II. The network redesign initiative is comprehensive and system-wide and will extend to lower-ridership bus routes and corridors not addressed in the Better Bus Project. An update of the goals and progress of the network redesign will be part of the Strategic Plan update.

Customer Experience Department

In July 2018, the MBTA hired Danny Levy as the Chief Customer Officer. The Customer Experience Department is charged with helping to improve the daily experience of MBTA riders, including better customer communications and expanded marketing efforts. Improving the rider experience for bus passengers, including enhanced communications, will be a particular focus of the department. The Department works with all MBTA departments that interact with the public in order to make sure that a customer-focused approach is incorporated into all MBTA planning and operations.

The department is acting to improve communication between the MBTA and its many stakeholders, including raising the bar on the type and quality of the information the MBTA provides to its customers for their daily commutes. The Authority also seeks to improve specific communication channels, including a more robust presence on social media by the addition of a dedicated social media unit. A Customer Advocacy Unit is being created to make sure that there is follow-through on issues raised by customers.

The upcoming 2019 Strategic Plan update will further detail progress on improving the customer experience.

KEY PRIORITY 2

Accelerate capital delivery spending to eliminate the State of Good Repair backlog in 15 years rather than the previous 25-year target

Capital Spending

In FY18, the MBTA delivered more in capital projects than ever before. In total, the Authority spent \$875 million to upgrade and improve its assets and infrastructure, including \$720 million on State of Good Repair (SGR) projects and \$155 million on system expansion projects, including the Green Line Extension. Major initiatives in FY18 included Commuter Rail Positive Train Control, New Flyer Bus Procurement, the Red and Orange Line Vehicle Procurement, Red and Orange Line Infrastructure upgrades, Wollaston Station reconstruction, Commuter Rail Coach overhauls, Green Line overhauls, and On-Call services for facilities, track improvements, and parking and paving.

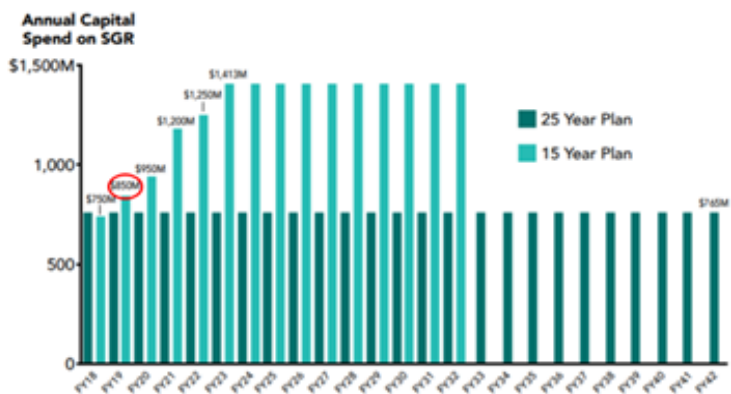
Notably, the capital program awarded \$639 million in upcoming SGR construction contracts over the course of FY18, nearly twice the amount awarded in FY17 and nearly five times more than was awarded in FY16. In fact, the level of spending in FY18 exceeds the total amount of construction contracts collectively awarded during the previous four years. Combined with other new contract awards such as the procurement of a new fare collection system (AFC 2.0) and the selection of a new GLX design-build vendor, spending on future commitments in the MBTA Capital Program reached \$2.2 billion in FY18, nearly triple the \$619 million spent in FY17. Looking to FY2019, the MBTA anticipates investing \$1 billion in state of good repair capital projects and awarding another \$650 million in new SGR construction contracts.

More important than the above achievements, the MBTA must develop a clearer assessment of what its 15 year obligation to “fix the T” will cost. The FMCB was clear in its first annual report that the \$7.3 billion SGR backlog as presented by staff, was not to be relied upon. There were limitations in the

replacement cost modelling, elements of the system (such as significant needs of the Commuter Rail) not accounted for and a lack of analysis of inflationary pressures over the 15 year period.



SGR Spend Plan To Eliminate Backlog in 15 YEARS Compared To Original 25 year Timeline



Note: Dollar figures shown above are 2015 dollars and uninflated

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Also worth noting is that the FMCB adopted a modernization/SGR combined approach. The strategic intent is not to repair facilities and services to their original intent but for the region’s needs today and into the next decades. This is best demonstrated by the example of the Red Line where we committed to improving peak period headways from five minutes to three minutes. That commitment requires a premium be spent on more cars, better signaling, more robust power etc.

One critical update for the 2019 Strategic Plan update will be to calibrate the dollars necessary to complete this full modernization/SGR catch up by FY 2032, which is 15 years from the FMCB’s initial commitment.

Administrative Reorganization

In April 2015, the Governor’s MBTA Special Panel reported that the Authority’s internal project delivery process was bottlenecked to such a degree that the condition of the entire transit network was rapidly falling into disrepair. Specifically, ineffective project development and budgeting processes, data collection and analysis limitations, and other counterproductive protocols across the capital program led to critical inefficiencies and oversights that had significant repercussions on services.

The MBTA has since launched an aggressive reorganization of Capital Delivery and Capital Program administration:

- Creation of an executive-level Capital Planning Office;
- Recruited and hired 63 additional new Capital Delivery and Capital Program oversight staff, including managers, coordinators, engineers, inspectors, and budget and project analysts;

- Developed a new organization chart, installing an office of the Chief Engineer Office as the link between capital and operations;
- Outlined and organized the department relative to the various functions and steps across a project lifespan;
- Instituted Capital Acceleration meetings with the General Manager;
- Began the implementation of eBuilder Project Management Information System (PMIS);
- Pivoted from funds-based to project-based tracking and reporting.

In addition to leading to record levels of spending by the Capital Delivery team, the Authority now has the internal capacity and resources to develop higher-quality contracts with top-tier vendors and can expect higher returns on investment for MBTA capital projects.

Establishment of and spending from “Lockbox”

In 2016, the MBTA established a reserve account for capital projects called the Pay-Go Lockbox. The Lockbox, which holds the balance of funds transferred from operating budget savings, revenue from real estate ventures and sales, excess debt reserves, and money from other sources, is used to fund projects that directly improve the customer experience. Specific Pay-Go projects approved in the past year include Station Wayfinding and Brightening, Bus Location Instant Tracking, Park Street Signal Improvements, and North Station Floor Repairs. Next year’s Strategic Plan revision will provide updates on these and other capital projects.

In FY18, MBTA administrators further refined the process for allocating Pay-Go funds, including a more robust screening process overseen by a committee of senior managers from across the Authority. This Pay-Go Committee has focused on using these funds to make near-term capital improvements that benefit the riding public and to provide seed funding for longer-term capital investments that are expected in the following year’s CIP. To date, the Lockbox has been the source of more than \$200 million in capital spending, with an additional \$300 million of capital projects in progress.

State of Good Repair

In response to new federal requirements, the MBTA has developed a Transit Asset Management Plan (TAMP) to outline a strategy for achieving and maintaining SGR across the system. As part of this effort, the Authority undertook a massive data collection effort to develop a comprehensive inventory of all MBTA assets, including vehicles, equipment, facilities, stations, parking, power, signals, track, bridges, tunnels, and more. This information will support a thorough reevaluation and assessment of the Authority’s capital needs, including a re-estimate of the SGR backlog and that can be added to the modernization premium. That analysis will be presented in the summer 2019 issuance of the updated Strategic Plan.

KEY PRIORITY 3

As part of the effort to deliver reliable service at affordable fares, have a new Automated Fare Collection system in place by FY2021, operating under a new fare structure that simultaneously drives revenue and ridership, while addressing affordability.

AFC 2.0 Technology

The MBTA selected Cubic|John Laing (Cubic) as the System Integrator for AFC 2.0 in November 2017 and finalized the contract in March 2018. Since then, the MBTA's AFC 2.0 team has been working with Cubic to develop and design the physical hardware of the new fare collection system (including inspection devices, fare gates, vehicle and platform validators, and fare vending machines) as well as the back-end software that will collect, process, and store fare and payment information.

As of September 2018, the design for the inspection devices is in the review phase and the designs for the fare gates, vehicle validators, platform validators, and fare vending machines are near final design. Following the approval of design specifications for the physical hardware, Cubic will oversee their manufacture by the yet-to-be-selected AFC 2.0 Design Build (DB) partner.

AFC 2.0 Policy

The transition to AFC 2.0 will fundamentally change how the MBTA interacts with its customers. The new opportunities and options for fare payment and communicating with the Authority requires updating several policies and procedures that relate to customer experiences, such as the privacy policy, the fare policy, the location of fare vending machines and retail sales locations, and protocols for proof-of-payment inspections. Because these policies each fall under the AFC 2.0 umbrella and are interdependent, the team is developing them simultaneously.

The initial location of fare vending machines has been determined by the requirements for geographic coverage on streets, at retail locations, and in station in the AFC2 RFP. As planned, these coverage requirements are to be augmented by additional locations that meet local needs. The AFC 2.0 policy team will develop protocols and process for the placement of additional machines both at launch and throughout the term of the contract.

In order to update the privacy policy that covers customer data, MBTA departments are reviewing their data use and needs. The AFC 2.0 policy team expects the draft privacy policy to be available for public review late this year or early in 2019.

AFC 2.0 will provide major benefits to the riders, the MBTA, and the communities served. It will, for example, make paying for transit easier through use of a fare card, a smartphone, or a contactless credit card, helping to speed up buses, the Green Line, and the Mattapan Trolley by letting riders board at any door. For the system, AFC 2.0 will enable much better data collection to help the Authority better understand, plan, and manage service.

KEY PRIORITY 4

In order to eliminate the need for annually appropriated supplemental operating support while ensuring that the MBTA provides great value to users and taxpayers, continue to drive down operating costs and increase non-fare, own-source revenue to \$100 million by FY2021

FY2018 Operating Budget

At the August 13, 2018 meeting of the FMCB meeting, it was announced that the MBTA had successfully balanced its operating budget for the first time since FY2008. This milestone was achieved through a combination of own-source revenue gains and cost-control measures. Core operating expense growth was held flat for third straight year in FY2018. The MBTA controlled costs by actively managing materials and services spend and renegotiating existing vendor contracts. The Authority also enjoyed favorable collective bargaining terms from previously renegotiated contracts.

The adoption of innovative advertising tools and new partnerships with third parties have brought in \$88 million and are among two funding opportunities that have proven to be successful own-source revenue streams. These new funding opportunities have put the MBTA on track to meet the goal of raising \$100 million in own-source revenue by FY2021.

The MBTA has also been able to mitigate annual growth in operating expense through a combination of zero-based budgeting, optimizing the size and organization of the workforce, selectively contracting out operations and customer experience tasks, debt restructuring, and renegotiating union contracts.

KEY PRIORITY 5

Complete planning for fleet and facilities, as well as service, on a specific capacity target (to be established by the end of 2017) for the core MBTA system (commuter rail, rapid transit, ferry and bus) to accommodate ridership growth generated by economic development, population growth and demand for reliable transit service

Reliability Targets for the Red and Orange Lines

Anticipating ridership growth and additional service demand in the coming years, the MBTA is instituting a variety of upgrades to improve the reliability of the Red and Orange lines. Current reliability on these lines is challenged by old equipment, facilities and systems that have not been properly maintained or replaced. Passenger frustration mounts from the realization that these systems received massive investments in the 1975-1990 timeframe. Conditions were allowed to deteriorate. The FMCB is committed to a pathway to ensure this deterioration is not repeated. The FMCB has demanded that a service delivery “guarantee” be made to the public that can be maintained for 30 years.

In August 2018, MBTA staff presented the FMCB with a catalog of vehicle and infrastructure improvements that will both add capacity to the two heavy rail lines as well as improve performance and reliability. In addition to an entirely new fleet of subway cars, each line will undergo signal redesign, several signal sections will be rebuilt, maintenance facilities and car houses will be expanded, and Automatic Train Operation (ATO) will be introduced. A specific and public asset management reinvestment plan will be developed and included for the Orange and Red Lines in the 2019 strategic plan update. Following the implementation of these upgrades, MBTA staff expects reliability (based on a possibly more user-friendly calculation) to average 95 percent on the Red Line and 96 percent on the Orange Line.

A commitment to sustained service delivery metrics will be extended to the Green and Blue Lines. The FMCB has adopted a 4 phase multibillion-dollar plan for the Green Line. We need to address a diverse number of issues with the Blue Line, including issues related to power & signal, vehicle fleet, climate change and possible expansion needs. Each of these lines (Blue and Red) will present program to completion summaries in the 2019 Strategic Plan.

Ridership/Capacity goal

In the fall of 2017, the Office of Performance Management and Innovation (OPMI) and the Office of Transportation Planning (OTP) gave a series of presentations on ridership and capacity trends. These presentations explored the current capacity of the system and future needs of the region. The FMCB agreed that the MBTA should have a goal to maintain or increase its market share as population in the region grows. This means planning for future capacity to match projected growth and undertaking actions to make the MBTA’s services competitive, such as working with municipalities to improve bus lanes. This goal is informing the capital fleet and facilities planning as well as the Better Bus Project (BBP) and Network Redesign.

Integrated Fleet and Facilities Plan

The Integrated Fleet and Facilities Plan (IFFP) is the MBTA’s strategy for restoring and maintaining the Authority’s fleet of subway and light rail cars, buses, commuter trains, paratransit vehicles, and ferries.

The IFFP team works closely with the Focus40 team to ensure that the MBTA has enough revenue vehicles to meet ridership projections and capacity goals (see above) under a range of different scenarios. An initial assessment of MBTA vehicles and maintenance facilities was conducted in early 2017, following groundbreakings of upgrade projects at Orange (Wellington) and Red (Cabot) Line maintenance yards and the completion of a draft version of the IFFP in December 2017. Specific milestones include:

- Wellington Yard Rebuild - construction began March 2018, expected substantial completion March 2021;
- Cabot Yard Rebuild – construction began January 2018, expected substantial completion May 2022;
- Procuring new 60-foot Battery Electric Buses for the Silver Line fleet - expected delivery 2018[
- Began overhaul of Kawasaki commuter rail coaches - full delivery 2021;
- Added 2 ferries to the MBTA-owned fleet currently in service - delivered 2017 and 2018;
- Procurement of 24 new Type 9 Green Line cars - delivered 2018;
- Selective overhaul of Type 7 Green Line fleet – currently underway.
- We need a completion date on a masterplan for the Bus maintenance facilities for 2019 report and then a by 2032 plan for completion to be delivered by then as well.

Rail Vision

Launched in February 2018, the goal of MBTA’s Rail Vision study is to determine how to best make the commuter rail an engine for not just mobility, but for improving economic outcomes and supporting environmental sustainability objectives. Rail Vision brings together a variety of stakeholders, including MBTA planning staff and an Advisory Committee. Rail Vision is comprised of 10 tasks, including reviewing previous studies and collecting primary data; conducting a peer market comparison; identifying service alternatives; investigating ridership projections and operating costs; and developing an implementation plan.

The Rail Vision hit several project milestones by September 2018, including setting objectives for the project and holding two Advisory Committee meetings, one in June and one in September. The Rail Vision team is identifying potential service alternatives and testing initial results using conceptual operations and ridership modeling tools. Up to eight system-wide service alternatives are now being finalized and the team plans to seek approval from the Board in January 2019 to move the alternatives into the second round of analysis, which will use more rigorous modeling tools.

Implementation of any of these alternatives would require increased capital and operating expenditures. The Rail Vision process will be complete in the fall of 2019, at which time the team will present the final preferred alternative and estimated associated costs to the Board.

CONCLUSION

Today's MBTA is an improved organization from what it was when the FMCB first met three years ago. While this improvement may not be apparent to enough MBTA customers - many of whom still face delays and other inconveniences caused by an aging system that was allowed to deteriorate over decades - improved system performance and customer experience is the overriding goal of this Board, MBTA management, and the system's dedicated employees.

This overview highlights how key priorities laid out in the Strategic Plan are being implemented in ways that set the stage for a much improved rider experience. These range from major investments in Green, Red, and Orange Line vehicles and other infrastructure to the Better Bus Project's focus on improving bus service across the system to a much more customer-focused automated fare collection system. The Authority has also gotten its fiscal house in order, investing operating budget savings directly into system upgrades. And it has made major changes and hired new staff to better assure that capital delivery is not only accelerated and improved, but that it more directly connects to customer outcomes.

The FMCB will conduct a more extensive review next year of how well the Authority is achieving the goals outlined in the Strategic Plan. Working with staff and stakeholders, the Board will update Plan goals where appropriate. For all the hard work and progress of the last few years, this Board is just as aware and as impatient as MBTA customers that the MBTA still needs to get much better.

The Strategic Plan laid out a vision for a safe, reliable, and high-performing MBTA. Clear progress has been made, but this Board and MBTA management knows that the job is far from done. Working with MBTA staff, customers, and others, we will continue – diligently and transparently -- to drive toward sustained improvement. System riders and taxpayers deserve and expect nothing less.