

APRIL 2017

FISCAL AND MANAGEMENT CONTROL BOARD

# STRATEGIC PLAN

## THE FISCAL AND MANAGEMENT CONTROL BOARD THANKS THE MANY STAKEHOLDERS WHO PROVIDED HELPFUL INPUT AND REVIEW OF THIS PLAN.

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April 2017

To Our Customers, Funders, Stakeholders and Employees:

The Fiscal and Management Control Board (FMCB) was established by Governor Charles Baker and the Legislature in July 2015 to oversee and improve the finances, management, and operations of the Massachusetts Bay Transportation Authority (MBTA). This document fulfills the requirements of the FMCB enabling legislation that requires development of a plan.

Over the past twenty months, our work, supported by the efforts of MBTA management and employees, has been first, to diagnose systemic problems and second, to address them through focused reform and improvements. Transparency has been a paramount goal throughout this process to ensure that we are shining a light on challenges and imperatives for change. This is meant to restore public confidence in the MBTA and reestablish its place as a premier regional asset for supporting economic growth.

The FMCB is a temporary body, with its term expiring in June 2020. As such, we are beginning now to lay the

foundation for lasting change with this strategic plan. This effort has been supported by, and would have been impossible without, the office of Secretary of Transportation Stephanie Pollack, MassDOT's long-range planning efforts (Focus40) and the relentless efforts of MBTA managers and employees to stabilize and restore the system so that it can sustain 21st century mobility and economic growth in the region.

This strategic plan is a blueprint for institutionalizing that energy as a pathway of continuous improvement that will fulfill the vision of the MBTA that is needed to support our region's broader goals.

Respectfully Submitted,



Joseph Aiello, Chair



Steven Poftak, Vice Chair



Lisa A. Calise



Brian Lang



Monica Tibbits-Nutt



Not pictured here, but also a member of the FMCB, is Director Monica Tibbits-Nutt



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# VISION/MISSION/VALUES STATEMENT

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## VISION

The MBTA will provide globally premier, safe, reliable, convenient, accessible, cost-effective, and sustainable transit service to its communities and customers.

## MISSION

The MBTA provides access and moves people while strengthening and improving the economic health of the region.

## VALUES

All members of the MBTA community will embrace:

- Safety of the public and staff as top priority
  - Delivering a superior customer experience
  - Serving a diverse customer base
  - Transparency in the way business is conducted
  - Honesty in all matters
  - Respect for the public, all employees, and private partners
  - Flexibility to adapt and evolve
  - Commitment to data-driven decision-making
  - Accountability to our customers and funders
  - Continuous focus on driving productivity and operating the system most efficiently
  - Environmental stewardship
-

# EXECUTIVE SUMMARY



In the spring of 2016 the Fiscal and Management Control Board initiated a strategic planning process to clearly articulate priority initiatives to reinvent the MBTA as a 21st century organization. This plan represents an FMCB consensus on the actions that must be undertaken by the MBTA and its stakeholders to ensure the Authority is put on a pathway of continuous improvement in all its metrics. Our goal is to strive to be a best-in-class transit system that exceeds the expectations of its customers and stakeholders.

This plan begins with a summary of the state of the MBTA in 2015 to set the context for the improvements needed. Following this are ten sections, each focused on a specific theme, an overarching objective, and specific strategies needed to accomplish those objectives. It reflects the ongoing work of the FMCB, underway for nearly two years, and is a synthesized, organized blueprint for accomplishing the MBTA's goals. If executed well, the plan is intended to ensure that there is never again a deterioration of our public

transit system, and instead, that we are supported and held accountable to continuously improve the vital service we provide.

This blueprint is intended to transform the MBTA into a transit system that delivers. The most critical priorities in this transformation are:

- While improving customer service across the system, focus on buses: reinvent the bus system with reliable service, improved amenities and a comprehensive redesign of the entire bus network
- Accelerate capital delivery spending to eliminate the State of Good Repair backlog in 15 years rather than the previous 25-year target
- 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

- 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
- 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

With implementation of this plan, the region will benefit from a transformation that will:

- Expand capacity on rapid transit lines via shortened headways
- Rethink the future of the commuter rail system and move toward a next contract structure that will better serve the region and our taxpayers



- Provide bus service where customers want to go and improve service through internal improvements and collaborations with cities and towns
- Deliver fast, reliable, accessible, and consistent service for our riders

# STATE OF THE MBTA IN 2015

The MBTA (the T) is among the top five and the oldest transit system in the country, operating subway, trackless trolley, bus and commuter rail service throughout eastern Massachusetts, as well as a broad range of other passenger services, including commuter boats, paratransit service, and express buses.

The harsh winter of 2015 exposed to the general public what transit advocates and key policy makers had long identified: the state of the MBTA infrastructure was deficient. Governor Baker appointed a special panel to undertake a rapid diagnostic on the system and to make recommendations to improve the T's governance, structure, financials and operations. The panel found pervasive structural failure requiring fundamental changes in virtually all aspects of the MBTA.

The operational and infrastructure deficiencies at the T identified by the special panel resulted in the enactment of a new Fiscal and Management

Control Board by the Legislature to secure the fiscal, operational, and managerial stability of the T. Further provisions were enacted to allow innovative procurement tools and require long-term capital plans, asset management strategies, and performance metrics to improve workforce productivity.

Section 202 of the FMCB enabling legislation states:

The control board shall formulate and recommend a plan to the Secretary to stabilize and strengthen the finances, management, operation and asset condition of the Authority

This strategic plan fulfills that requirement.



## MBTA BACK ON TRACK: GOVERNOR'S SPECIAL PANEL ON MBTA – APRIL 2015

- Unsustainable Operating Budget
- Lack of Accountability
- Flawed Contracting Processes
- Lack of Customer Focus
- Shortsighted Expansion Program
- Organizational Instability
- Ineffective Workplace Practices
- Bottlenecked Project Delivery
- Chronic Capital Underinvestment



### CROSSWALK TO CHAPTER 46 OF THE ACTS OF 2015, SECTION 202

The Control Board shall formulate and recommend a plan to the Secretary to stabilize and strengthen the finances, management, operations and asset condition of the Authority. The plan shall:

	Plan Section
(i) Provide a safe, reliable and sustainable transit system consistent with the comprehensive state transportation plan	Safety, Customers, Environment
(ii) Establish fiscal stability including short-term and long-term planning to ensure that the Authority's budgets are aligned with its operational and capital needs	Fiscal Sustainability
(iii) Reorient the Authority to focus on providing better service to its current riders and attracting future riders	Customers
(iv) Facilitate sound management and a safe and effective workplace	Safety, Workforce
(v) Develop a financially responsible, long-range approach to preserving and modernizing the Authority's assets and meeting future needs for regional transit facilities and services consistent with the program for mass transportation	Infrastructure
The Control Board shall develop performance metrics and measure items included in the plan	Throughout

### ORGANIZATIONAL CHALLENGES

Since FY2000, lackluster performance among the MBTA's dedicated revenue sources resulted in a structural deficit projected to reach \$242 million by FY2017. In an effort to manage costs outside of union contracts, staffing in the area of Authority management and administration was significantly reduced. Between 2000 and 2015, non-union positions at the Authority were reduced by more than two-thirds.

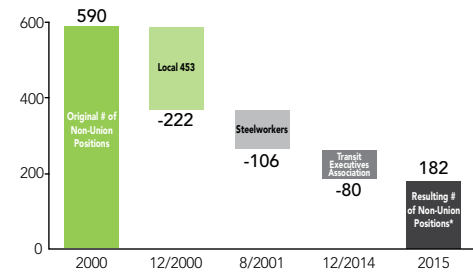
Ironically, this depletion of management talent and capacity may have contributed to the MBTA's fiscal problems.

Operating expenses during the period grew at an average annual rate exceeding five percent.

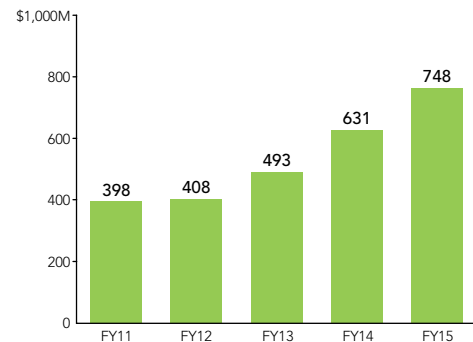
Nowhere was the lack of internal management capacity more apparent than in the area of capital project delivery.

Of the \$5.1 billion of capital spending planned between FY2011 and FY2015, only \$2.7 billion was actually spent, contributing to the deterioration of the State of Good Repair, increasing operating costs, and diminishing the quality of service.

### MBTA NON-UNION HEADCOUNT



### MBTA CAPITAL SPENDING FY11-FY15



\$M	Planned Spending	Actual Spending	% of Plan Achieved
FY11	780	398	51%
FY12	887	408	46%
FY13	795	493	62%
FY14	1,343	631	47%
FY15	1,290	748	58%
Five Year Total	5,095	2,678	53%

## 2015 STATUS AND CHALLENGES BY MODE AND TRANSIT LINE

The services provided by the MBTA comprise a transit system with all of its components essential to making the region accessible. The following discussion of the status of each mode and line in 2015 is intended to set the context for needed improvements.

### BUS

With nearly 450,000 weekday riders, T bus ridership alone is higher than the total ridership of all but seven American public transit systems. Surveys in the summer of 2015 found that bus riders identified service infrequency, unreliability, and slow speeds as discouraging use of the bus system. On-time performance for almost all bus service was below 75 percent.

Two gaps in scheduled vehicle purchases found most of the fleet approaching its useful life of twelve years. Four of the T's eight maintenance facilities were more than 70 years old, with the oldest built in 1930. Many of these facilities are in unacceptably poor condition. Most facilities are near, at, or above their practical capacity.

Ninety-two percent of the T's 8,500 bus stops did not have shelters, and many stops were not accessible.

The Silver Line is included in these bus statistics. This line has significant capacity issues, exacerbated by the challenge of replacing the dual mode diesel/electric vehicles that operate from South Station to the Airport that are no longer manufactured.

Fleet Size	991
Fleet Age	Most 7–12 years old
Maintenance Facilities	All 8 operating at or over capacity, four more than 70 years old
Average Weekday Ridership	446,700*
On-Time Performance	Nearly all below 75% service standard
Operating subsidy per passenger trip (FY15)	\$2.86
*Includes 34,200 Silver Line	



## RED LINE

The MBTA's rapid transit system faces major challenges to meet current and future demand.

This is particularly acute on the Red Line that saw significant growth since 2004 from 225,000 average weekday riders to 281,000 in 2015. Off-peak ridership growth has been even faster. Six of the highest used rapid transit stations are along the Red Line.

Fleet Size	218
Fleet Age	Range from 21 to 46 years
Maintenance Facilities	Cabot Yard facility dates to mid-1970s with inadequate replacement or rehabilitation of major capital assets
Average Weekday Ridership	281,000
On-Time Performance	As of September 2015, 85% of passengers waited less than the scheduled headway (4-5 minutes in the core)
Operating subsidy per passenger trip (FY15)	\$0.61

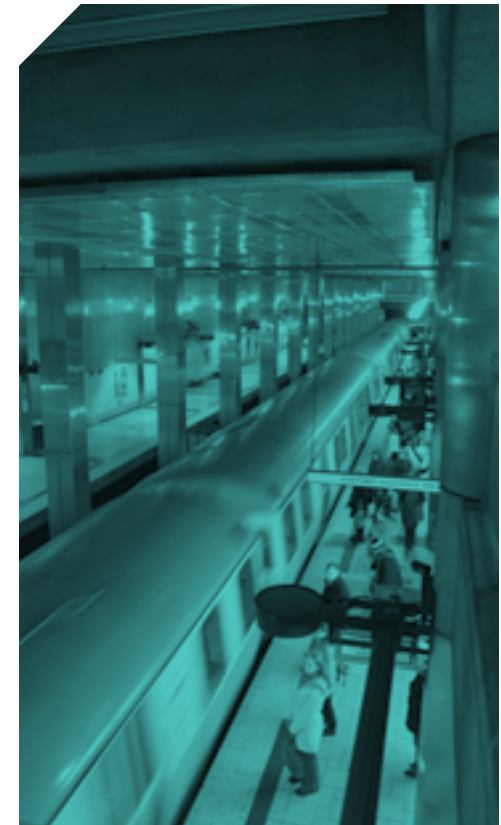
Many parts of the Red Line are routinely over planned capacity. Peak period headways are typically scheduled at five-minute intervals. Combined with an aging fleet, track, and signal infrastructure, this presented significant operational challenges for the Red Line in 2015.



## ORANGE LINE

The Orange line carried 17 percent of systemwide ridership with 209,000 average weekday trips. Its fleet of 120 vehicles were procured in 1980, and reached their design life in 2005. Historically 102 peak hour vehicles were used to provide five-minute headways. Because of the condition of the fleet, this was reduced to 96 peak hour vehicles in 2011, resulting in a reduction in frequency with a six-minute headway in peak periods.

Fleet Size	120
Fleet Age	35 years
Maintenance Facilities	Wellington Car House
Average Weekday Ridership	209,000
On-Time Performance	As of September 2015, 85% of passengers waited less than the scheduled headway (6 minutes)
Operating subsidy per passenger trip (FY15)	\$0.61



## BLUE LINE

With 66,300 average weekday trips, five percent of total system ridership is on the Blue Line. Its fleet is the youngest of any of the rapid transit lines. Through the Reliability Centered Maintenance (RCM) program, continuous investment and predictive component replacement has increased reliability of the vehicles and will eliminate the need for mid-life overhauls. Station modernization and power upgrades increased Blue Line capacity by 24 percent through running six-car rather than four-car sets.

Fleet Size	94
Fleet Age	9 years
Maintenance Facilities	Orient Heights - a relatively new facility that is a model for improvements at other car houses
Average Weekday Ridership	66,300
On-Time Performance	As of September 2015, 90% of passengers waited less than the scheduled headway (4.5 minutes)
Operating subsidy per passenger trip (FY15)	\$0.61





## GREEN LINE

With over 200,000 weekday trips, the Green Line is the nation's busiest light rail line. It's also the nation's oldest, with Boylston station constructed in 1897. With four separate branches, three sharing right of way with vehicular traffic, Green Line operations face particular problems, and riders complain about trip duration.

Of the total 66 stations, 31 surface and four subway stations on the Green Line were not accessible.

Fleet Size	209
Fleet Age	Range from 7 to 18 years
Maintenance Facilities	Riverside heavy maintenance and storage facility dates to the mid-1970s with few improvements since
Average Weekday Ridership	200,000
On-Time Performance	Depending upon the branch the percent of passengers waiting no more than the scheduled headway is between 60 and 70%
Operating subsidy per passenger trip (FY15)	\$1.39



## COMMUTER RAIL

In FY15, available data suggested that ridership on the Commuter Rail system, approximately nine percent of system-wide ridership, was stagnant or declining. Customer experience varied widely across the system, in many ways because of the age of the infrastructure that ranges from 30 to 100 years old. Out of 133 stations, 34 were not accessible to customers with disabilities.

The service has historically been contracted to an outside operator, creating accountability issues. The transition to a new operator in 2014 exacerbated operational issues during the winter storms of 2015.



Fleet Size	81 Locomotives; 410 Coaches
Fleet Age	230 revenue vehicles beyond their 25-year useful life
Maintenance Facilities	Layover facility capacity is constrained, particularly at midday on the South Side
Average Weekday Ridership	121,700
On-Time Performance	On-time performance, defined as less than 5 minutes late, rarely reached 90%
Operating subsidy per passenger trip (FY15)	\$5.75





## PARATRANSIT

Under the Americans with Disabilities Act (ADA), the MBTA is obligated to provide paratransit service within three-quarters of a mile of fixed-route service to customers who cannot use the fixed-route system because of their disabilities.

Since it began in 1977, The RIDE service has grown from a relatively small operation serving a 12-mile square area in Brookline, Cambridge, and parts of Boston to one of the largest paratransit operations in the nation, serving a 712-square mile area in 58 cities and towns. The RIDE goes beyond the required three-quarter mile radius of fixed route corridors. While federal regulations require origin to destination services, the RIDE offers all customers door-to-door service.



Fleet Size	1,144 Vehicles (650 owned by MBTA)
Fleet Age	Average age is 4 years, 8 months. All vehicles are retired at 7 years, 3 months
Maintenance Facilities	Maintenance and repair facilities are the responsibility of The RIDE's three contractors
Average Weekday Ridership	6,800 trips (30,000 registered customers take 2.1 million trips annually)
On-Time Performance	On-time performance, defined as within 15 minutes of promised pick-up time, was 89.6%
Operating subsidy per passenger trip (FY15)	\$45.53



## FERRIES

Less than one percent of all MBTA trips occur on ferries. Most ferry riders could use other transit options to make the same trips, but choose to use ferries, likely because they are the most reliable MBTA mode.

The MBTA contracts with a private operator to run three ferry routes within Boston Harbor. Maintenance and acquisition of the fleet is mainly the responsibility of the operator.



Fleet Size	8 vessels
Fleet Age	Most vessels are owned by the private operator and most infrastructure is owned by other entities
Maintenance Facilities	The contract operator is responsible for maintaining all vessels, including the two owned by the MBTA
Average Weekday Ridership	4,740
On-Time Performance	Ferries are the most reliable mode on the system with 95% on-time performance
Operating subsidy per passenger trip (FY15)	\$1.57



# OBJECTIVES AND PRIORITIES: A T THAT DELIVERS

The first part of this report is a reminder of the serious challenges that faced the MBTA and the region even before the first public meeting of the FMCB on July 21, 2015. Since then, the FMCB has met about 80 times (as of the release of this report), almost always opening with extensive public comment. We have received nearly 400 presentations about dozens of topics and have taken well over a hundred substantive votes, some of them difficult and controversial, all for the purpose of restoring the reliability of and public confidence in the MBTA.

The FMCB's Annual Reports, submitted to the Legislature each December 15, as well as other filings (all of them available on the MBTA website) detail measures taken to date. But while proud of the progress made due to the drive of MBTA leadership and the dedication of MBTA employees, the FMCB has more work to do. Much of our initial period was by necessity spent on diagnostics and on reacting to



immediate fiscal, operational, and other demands.

Now, however, the MBTA is pivoting from the first stage of its turnaround to the next phase. MassDOT Secretary Stephanie Pollack, working closely with the FMCB, has launched a search for a permanent General Manager/Chief

Executive Officer who can complete the turnaround at the T. And the Board has requested that the Governor extend its term through June 2020, ensuring that the new CEO and the FMCB will be able to work together to complete the transformation of the MBTA into an organization that delivers.

The remainder of this plan is designed to lay down markers for what the MBTA needs to do in the years to come to complete its transformation and meet the needs of the customers, communities and region that it serves. What follows are ten sections, each focused on a specific theme (for example, Customers), an overarching objective for the MBTA to accomplish in that area and a series of specific strategies that need to be pursued to accomplish that objective. Because the FMCB and MBTA leadership have been working toward these objectives all along, each section also details the progress made to date in each area.

The ambitious agenda that follows includes strategies developed by the Board, with input from staff and stakeholders. We are committed to working with the new GM/CEO and the MBTA's leadership team to dedicate the resources and develop the talent necessary to achieve these objectives.

All of the objectives and strategies set out in the sections that follow must ultimately be accomplished in order for the MBTA to become the premier

transit agency the people and economy of this region need and deserve. But a strategic plan needs to make clear the most critical priorities and so we wish to highlight five of the most important goals that we believe will, together, transform the MBTA into a transit system that delivers:

- While improving customer service across the system, focus on buses: reinvent the bus system with reliable service, improved amenities and a comprehensive redesign of the entire bus network
- Accelerate capital delivery spending to eliminate the State of Good Repair backlog in 15 years rather than the previous 25-year target
- 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



- 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
- 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 and bus) to accommodate ridership growth generated by economic development, population growth and demand for reliable transit service

The objectives outlined in this plan are guided by certain principles:

- 1) Never compromise safety
- 2) Treat our riders as cherished customers
- 3) Ensure that MBTA assets attain and retain a State of Good Repair on a specific timeline
- 4) Recognize the preciousness of every dollar of subsidy received and revenue earned
- 5) Meet the needs of passengers of all abilities
- 6) Create an organization that is perceived as and is a great place to work
- 7) Attract and retain a world-class management team
- 8) Respond to the challenges of climate change and prioritize environmental stewardship
- 9) Determine the appropriate governing structure that will inherit the role of the FMCB and ensure that the position of the GM/CEO has sufficient span of control to be held fully accountable for safety, operations and the implementation of this plan

10) Plan for the transit capacity needs of the future

Each of these principles is expanded in the following with specific objectives, strategies, targets and timelines for deliverables in an effort to:

- Bring clarity to the financial constraints in operating and capital funding
- Recognize that we are blessed to live in an economically dynamic region but that not all fully participate in those benefits, and that challenges such as future competitiveness, technological change and global warming remain

- Strive for transparency to the public for that is one of the best levers toward continuous improvement
- Set, for everything, specific targets with specific deadlines and fully resource those initiatives
- Measure and communicate our progress



# SAFETY

## SUSTAIN THE MBTA'S ORGANIZATIONAL COMMITMENT TO ENSURING THE SAFETY OF PASSENGERS, THE WORKFORCE, AND THE GENERAL PUBLIC

Customers take as a given that their trip on the MBTA will be safe. Behind the scenes, this entails ensuring an organization-wide commitment to managing safety risk and assuring that all transit activities are adequately resourced and supported to achieve the highest level of safety performance. In acknowledgment of the risks inherent in large public spaces, the MBTA has benefited from major Homeland Security grants. Its Broadway Station training facility, where all Operations staff engage in training simulations, is a national model.



Four essential components underlie this commitment to forward-thinking safety innovation, management, performance, and continuous improvement:

- Safety policy to align all of the MBTA under a safety management system to prioritize safety in all management decision making
- Safety risk management to implement processes that will identify, evaluate, and resolve risks, and track risk controls
- Safety assurance to oversee that objectives are met through ongoing data collection and assessment
- Safety promotion to encourage workplace and public confidence in the MBTA's commitment to ensuring safety



The passage of MAP-21 (Moving Ahead for Progress in the 21st Century Act) significantly expanded the regulatory authority of the Federal Transit Administration (FTA) over safety on all modes of public transit. New federal regulatory requirements are intended to shift safety improvements from being reactive to being proactive: anticipating future risks and detecting problems before an accident can occur. Each transit agency is required to develop a comprehensive Transit Agency Safety Plan according to the new federal regulations that focus on measurement of effectiveness of risk control strategies and achieving safety outcomes. Additionally, the regulatory role of the state Department of Public Utilities has been expanded.

Another federal mandate is implementation on the Commuter Rail of positive train control (PTC) technology and associated infrastructure. PTC systems are integrated command, control, communications, and information systems designed to prevent train accidents by controlling train movements with safety, security, precision, and efficiency.

The MBTA's \$459 million PTC program will be applied to all MBTA Commuter Rail lines, covering about 394 combined route miles of service.

***Implement positive train control (PTC) for the Commuter Rail system by the end of 2020***

- Hardware installation by 12/2018
- PTC fully operational by 2020

The age of most Red Line vehicles, and all Orange Line vehicles requires special vigilance to ensure service can be provided and passenger safety is paramount. Until new vehicles are procured, short-term preventive maintenance is required.

The age of the Green Line system, its signal system, street-running design, and the fact that it relies upon line of sight operation makes safety an especially high priority. Further, the accessibility-required construction of the low floor center truck on vehicles has resulted in a declining, but still significant number of derailments. A number of corrective actions have been taken, including the development of procurement safeguards for the acquisition of new vehicles.

***Provide safe and reliable transit service while preparing for the delivery of new Red and Orange Line vehicles beginning in 2019***

- Make capital maintenance investments to support vehicle reliability with targeted programs over the next five years

***Optimize the safety of the Green Line with proactive interventions***

- Continue the preventive maintenance schedule to improve performance including derailment prevention through a combination of long- and short-term track, vehicle, and operating improvements
- Measures to promote pedestrian and traffic safety
- Implement Green Line train protection system/collision avoidance technology (complete procurement by 12/2022)

For bus operations, the safety focus is to provide continuous operator training to ensure safe driving and customer experience.



Bus protective barrier

### **Ensure the safety of passengers, operators, and the general public through ongoing improvements in bus operations**

- Develop a program for collision reduction and ensuring the safety of pedestrian traffic at modal stations and crosswalks through vehicle engineering improvements, technology solutions, and continued emphasis on driver training
- Develop interventions to prevent bus operator assault

Of equal importance as the safety of our customers is the safety of our workforce, who often are working in environments with significant potential hazards.

### **Provide a safe environment for the MBTA workforce**

- Develop an Occupational Health & Safety Plan
- Develop and implement targeted programs in electrical safety, excavation, fall protection, power tool safety, and personal protective equipment
- Ensure contractors are held to the same workplace standards, and are provided the same protections, as employees
- Incorporate safety improvements in capital project design

Finally, keeping the focus on safety requires systematic and transparent reporting. Beginning in 2016, quarterly safety reports with standardized metrics and project updates have been provided to the FMCB and posted for public review.

### **PROGRESS TO DATE:**

- Quarterly reports initiated
- Workforce electrical safety assessment completed
- Commuter Rail PTC funding identified
- Conducted selective systems replacement program on 58 Red Line #2 vehicles which resulted in a 50 percent increase in mean miles between failures
- Green Line collision avoidance system RFP issued
- Bus surveillance cameras installed
- Operator protective shield on all new buses, covert alarms installed on all revenue vehicles

# CUSTOMERS

## DELIVER EXCEPTIONAL SERVICE FOR CUSTOMERS, FOCUSING ON RELIABILITY AND A CONSISTENT CUSTOMER EXPERIENCE

Just as it took decades of underinvestment in the T's physical and human assets, it will take time before efforts make truly noticeable improvements in reliability to customers. Customer satisfaction has improved, of course, since the winter of 2015, but it remains below where it should be notwithstanding the often herculean efforts to provide safe, reliable service on a daily basis. At the same time, the groundwork has been laid for a wide range of initiatives to improve the customer experience.

With nearly half a million daily trips, T bus ridership alone is higher than the total ridership of all but seven transit systems. Serving these, often our most transit-dependent and loyal riders, is a top priority.

### *Improve service delivery and the customer experience, focusing first on the bus system*

- Tactical toolbox for bus service improvements
  - Pilot all door boarding and faster fare collection
  - Improved dispatching tools and processes
- Partnerships with municipalities with four in place by 2019
  - Bus lanes
  - Signal priority and queue jumps
- Provide customer amenities on high demand, high frequency corridors (plan by June 2017)
  - Shelters
  - Route information
  - Time to next bus signs





The MBTA's fare collection equipment is antiquated, its systems are inconsistent across modes, and cash collection creates service delays. Not enough retail outlets exist for purchasing passes and updating fare cards. Inadequate systems prevent useful data collection to understand customer demand and travel patterns. A major new initiative will address these issues, with a goal of a seamless and adaptable fare collection that is widely accessible by customers of all financial means.

**Implement a new fare collection system and expand flexible fare options**

- Request for Qualifications for Integrator and Design Build Letter of Intent 7/2016
- Shortlisted Integrator Proposals 10/2016
- RFP for Integrator 11/2016
- Integrator Selection Fall 2017
- AFC 2.0 live and AFC 1.0 decommissioned Winter 2021
- Ongoing public outreach/ Community Advisory Group

Keeping pace with changing demographics, employment, and travel patterns requires active service planning, particularly on bus routes. This may entail sometimes-difficult choices

as underutilized routes are replaced with new and better service where demand is growing. Service planning teams are newly dedicated to a thorough update of service delivery standards, routes and schedules to optimize the entire network.

**Reinvent the bus system moving from comprehensive service planning to network-wide redesign**

- Reinvent Bus Service Planning
  - Medium-term
- Initiate service planning:
- Pilot district and implement service changes by Winter 2018
- Conduct rolling service planning for all seven districts every three years
  - Long-term
- Network-wide plan to address changing demographics and land use patterns by 2019
  - Develop aspirational view of how the bus network should evolve and be perceived by MBTA customers
  - Ensure standards apply to privately contracted services
  - Partner with municipalities to provide better bus services and amenities

Real-time communication to customers can be the key to an improved customer experience even if there is a service disruption. Equally important is opening two-way lines of communication and taking seriously the feedback customers provide.

**Provide accurate and real-time customer information**

- Develop strategic communication plan by 10/2017
  - Develop plan for way finding signage with dedicated project manager, hire date by 12/17
  - Develop standardized method of disruption and diversion communication
  - Maximize use of 700 new digital advertising screens for customer communication
  - Implement strategy for real-time communication screens on board newly acquired vehicles by the end of 2018
  - Redesign web site with mobile users in mind
  - Transform the role of Customer Service Agents in order to better serve passengers on the system

The riding experience is more than the trip on the T – it also requires safety and comfort in the transit stations.

***Provide a clean, comfortable environment in our stations***

- Develop new cleaning contract specifications and execute new contract(s) by 7/2018
- Undertake station brightening efforts using “lockbox” capital funds

**PROGRESS TO DATE**

- Customer satisfaction and daily performance dashboard developed and made publicly available
- Customer Experience Department (CX) established
- Service quality standards adopted
- Comprehensive service planning process for all bus lines begun
- Pilot dedicated bus lane in Everett – Broadway north of Route 16
- AFC 2.0 on schedule

**Transit Industry Best Practice**

*(Contributed by MBTA Advisory Board)*

- Off-board fare collection and all-door boarding to reduce dwell time (CTFastrak – Bus Rapid Transit Hartford area)
- Effective communication (LA Metro blog and Houston Metro’s MetroMatters)
- Branding and marketing of policies, programs, and services (BART combined Marketing and Research departments to combine policy and planning with efforts to promote transit options)
- Convenient and user-friendly fare purchase options (TriMet Portland, Oregon Hop Fastpass and Pittsburgh Port Authority of Allegheny County ConnectCard can be purchased and reloaded at supermarkets, convenience stores and pharmacies. In Portland, no bank account is necessary, addressing barriers to transit use for low-income customers)
- Real-time information on bus locations and arrival times (Pittsburgh TrueTime vehicle tracking)
- Performance-based service guidelines (Seattle King County Metro focuses on productivity, social equity, and geographic value)
- Use of 21st century technology to enhance 21st century customer experience (BART surveyed over 40,000 customers on travel patterns and demographics using tablets to gather data)

# INFRASTRUCTURE

## BRING ALL OF THE MBTA'S ASSETS, INCLUDING FLEETS AND FACILITIES, TO A STATE OF GOOD REPAIR WITHIN 15 YEARS

The MBTA has nearly \$25 billion dollars of physical assets including vehicles, bridges, track, tunnels, stations, signals and power systems, elevators and escalators, and communication equipment. In 2015, nearly one-third of these assets were not in a state of good repair (SGR), as scored according to age and percent of useful life remaining, condition, and performance. The backlog, defined as the amount of investment required to move all assets into SGR, was estimated at \$7.3 billion, an amount that was unquestionably understated since it did not include some components of the Commuter Rail system and other key assets. These estimates are on track to be updated with the full implementation of the Asset Management Information System by December 2020.

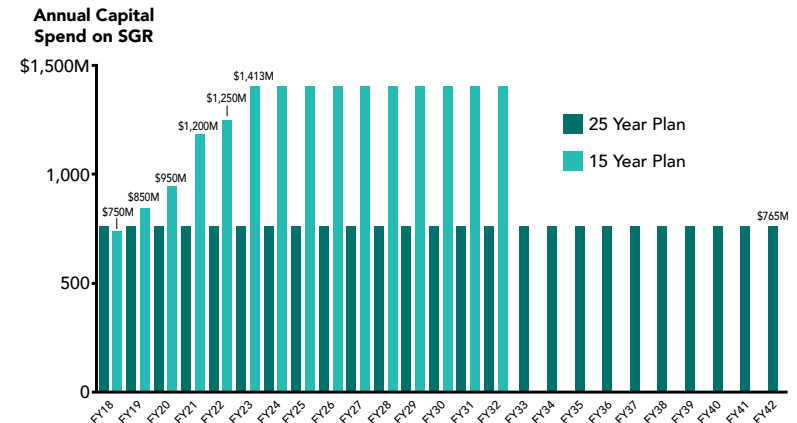
There is a direct correlation between asset condition on service reliability, maintenance costs, day-to-day operational challenges, and customer experience. While capital funding was not adequate to address the SGR backlog, even the funding that was available was

not utilized. Of the \$5.1 billion of capital spending planned between 2011 and 2015, only \$2.7 billion was actually spent. The highest priority for MBTA infrastructure is building the capacity for capital delivery.

**Expand capital delivery capacity to achieve a minimum of \$1 billion in annual State of Good Repair spending within four years and eliminate the backlog in 15 years**

- Identify gaps in project management capacity by the fall of 2017
- Implement Project Management Information System (PMIS) by the end of 2018
- Build an inventory of SGR projects through the CIP process, utilizing asset management and SGR databases
- Develop solutions for service disruptions that support SGR spending targets
- Develop capacity to project future needs, backlog reduction, and impact of inflation on State of Good Repair spending

### SGR SPEND PLAN TO ELIMINATE BACKLOG IN 15 YEARS



Note: Dollar figures shown above are 2015 dollars and uninflated (future update will include inflation). SGR backlog assumption based on 2015 assessment of \$7.3B SGR backlog.

### **Create and effectively manage capital delivery capacity**

- Reform capital delivery organization and strengthen linkages with Operations, including commuter rail, paratransit, ferry and other contracted services
- Build management capacity in Capital Delivery and Operations
- Consider diversions or system shutdowns to expand repair window and accelerate capital delivery

State law and federal regulations require the adoption of best practice asset management, calling for a priority focus on further development of the MBTA's asset management database and processes. Asset management and life-cycle maintenance are the keys to ensuring that the MBTA's assets never again fall into disrepair.



### **Implement asset management and life-cycle maintenance for all current and future MBTA assets**

- Develop organization-wide Strategic Asset Management Plan in line with best practices by June 2018
  - Develop and document asset management policies, standards, and requirements with stakeholder input by June 2020
  - Define risk-based preventive maintenance schedules by December 2020
  - Establish asset management decision-making process
  - Establish baseline life-cycle maintenance plans per asset type by December 2020
  - Develop asset management risk and review competency and processes by December 2021
- Fully implement systemwide asset management information system by December 2020
  - Integrate with existing and future support systems

In addition to the SGR needs of the MBTA's physical assets, information management and business processes have for too long been undervalued and underinvested. Significant gaps in system integration have developed.

### **Recognize and address the SGR needs of business processes and information management**

- Hire project director by June 2017
- Develop budget and implementation plan by September 2017
- Establish integrated taskforce
- Inventory and assess SGR needs
- Set priorities for technology improvements
- Develop protocols for new systems integration
- Maximize security of information systems
- Establish timelines for implementation

## PROGRESS TO DATE:

- Commencement of the Asset Management Program including beginning implementation of the Enterprise Asset Management System for Infrastructure
- Completion of the upgrades to SGR database
- Restructuring of capital program and delivery operation; linkages with Operations
- State of Good Repair Acceleration Committee established
- Targets established and tracking in place for FY17 capital spending
- Investment plan for 15 year SGR backlog elimination created



# FISCAL SUSTAINABILITY

## OPERATE IN A FISCALLY SUSTAINABLE MANNER WITHOUT THE NEED FOR ANNUALLY APPROPRIATED OPERATING SUPPORT

Public transit system operations are funded through a combination of own-source revenue and subsidies from state and local revenue. Effective 2001, the MBTA's funding structure was reformed to dedicate a portion of sales tax receipts to funding the system and eliminate a history of deficits funded in arrears by state appropriation. The goal of this reform, known as forward funding, was for the combination of fares and other own-source revenue, and the dedicated revenue sources, to fully cover the cost of operating the system.

Lackluster sales tax performance during the fifteen years between FY2000 and FY2015 resulted in average annual growth of less than two percent from this dedicated revenue source, the largest funding source for the T. Dedicated revenues from local assessments are statutorily capped at 2.5 percent growth. At the same time, MBTA operating expenses were growing at an average annual rate exceeding five percent. Beginning in 2009, dedicated funding and own-source revenue were inadequate to cover expenses resulting

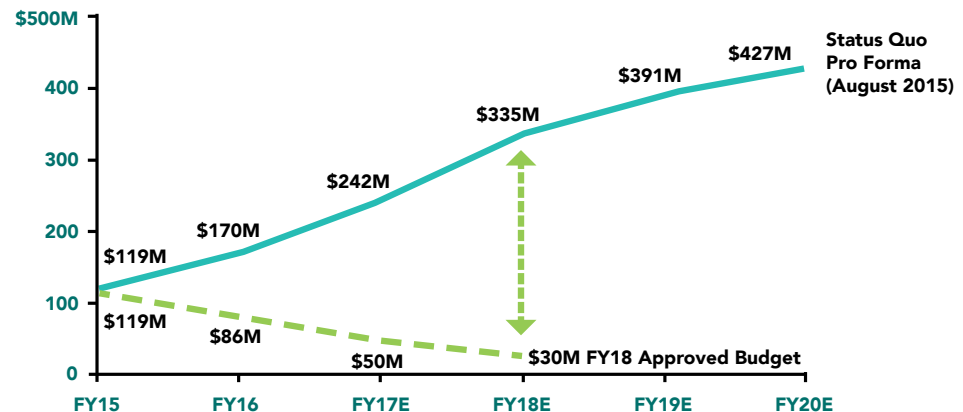
in growing operating deficits on track to reach \$242 million by FY2017 and \$427 million by FY2020.

Strategies were lacking for those revenue sources in the control of the MBTA including parking, real estate, and advertising. Nor were financial targets in place. Further, rather than follow a schedule of predictable, small, inflation-based increases in fares, fare increases were infrequent and large.

But equally important as the revenue side has been a lack of focus on cost control and productivity. In the time since forward funding was enacted, operating expenses grew at more than five percent annually with no significant change in the level of service provided. The MBTA has not captured the productivity and efficiency gains which are common in the private sector as firms compete to deliver best value at the best price. The result of this lack of

### OPERATING DEFICIT CONTINUES TO DECREASE

Operating Deficit



Note: MBTA Management in process of recasting the pro forma. Operating Deficit does not include Additional State Assistance of \$155M in FY16, \$187M in FY17 Recast, and \$187M in FY18 (Note \$60M will be directly deposited in "Capital Maintenance Lockbox")

innovation and productivity is a high-cost structure across both corporate and operational functions. Contemporary business practices, such as monthly budget reviews, rigorous management of key expense metrics such as overtime, use of technology to automate and link manual processes, and active enforcement of contract terms have been largely absent because of years of underinvestment in fiscal management, information systems, and analytical capacity to better control expenses and increase revenues.

**Link resources to strategic planning and results**

- Develop five and ten-year pro formas
  - Develop cost management strategies for controllable expenses
  - Develop and implement productivity metrics across the organization and strive to continuously reduce operating costs
  - Complete process of moving capital-funded workforce to operating budget while ensuring adequate staffing for the capital delivery program
- Manage expenses to stay within projected revenue growth

Leveraging the full potential of the MBTA's own-source, non-fare revenue is an important component to reducing the structural deficit.

**Generate \$100 million in non-fare, own-source revenue by FY2021**

- Drive up advertising income using technology
- Aggressively pursue real estate projects to drive both ridership (through Transit Oriented Development), and revenue
- Increase parking revenue by optimizing both supply and pricing



A critical area for improvement is in the manner the MBTA procures goods and services as well as how these contracts are managed and enforced.

**Continue to develop a procurement process that serves Operations**

- Implement strategic sourcing initiatives
  - Implement category management to focus on specific areas of vendor spending
  - Implement latest industry procurement processes
  - Restructure operating model
- Implement flexible contracting
- Rationalize warehousing and logistics system

The legislation that created the FMCB granted a three-year exemption from the requirements of the state laws that govern the privatization of services currently provided by public sector employees, commonly known as the Pacheco Law. Through a careful and deliberative process, the MBTA is using this flexibility to provide better services, particularly in non-core functions.

**Improve productivity and cost-effectiveness through a combination of changing internal business practices and work rules, and using private sector contracts and partnerships**

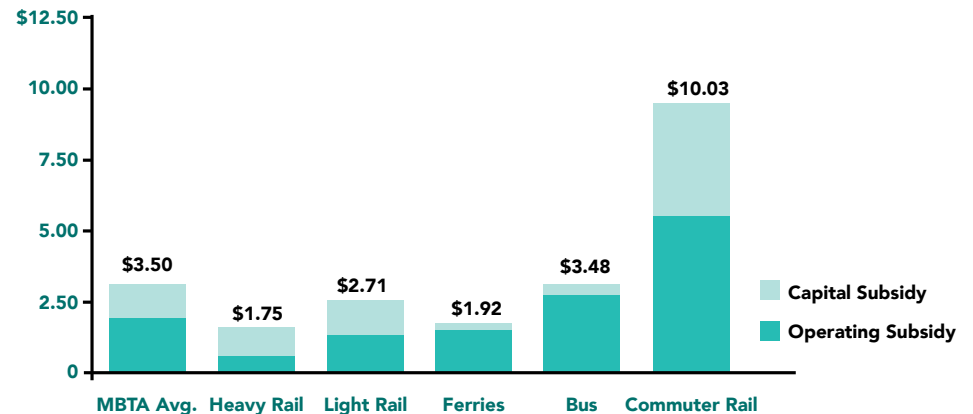
- Incorporate into each contract incentives and performance standards to deliver best value
  - Adopt results-based procurement approach considering
    - Life-cycle maintenance
    - Performance risk management
- Ensure that all major contracts have a strong internal contract manager to ensure best performance
- Engage in partnerships with the private sector, particularly around workforce development
- Actively solicit and follow up on Innovation/Unsolicited Proposals
- Expand efforts to capture value from real estate development partnerships
- Mitigate utility price and supply volatility through contract management
- Consider public-private partnerships to finance capital projects

In addition to forecasting operating costs into the future to better identify opportunities for cost control, the MBTA needs sophisticated tools to manage and assess capital financing capacity and the true cost of transit operations.

**Develop capital financing analytical capacity**

- Quantify capital financing capacity over ten-year time frame and gap between capacity and need if any
- Refine full cost analysis (capital and operating) of per ride subsidy by mode

**ESTIMATED OPERATING AND CAPITAL SUBSIDY PER PASSENGER TRIP BY MODE**



Operating subsidy from 10/21/15 Economics by Mode presentation to FMCB.

Capital subsidy by mode calculated using fixed asset values by mode divided by estimated useful life to obtain an annualized amount. Fixed asset values represent acquisition costs, not replacement costs.

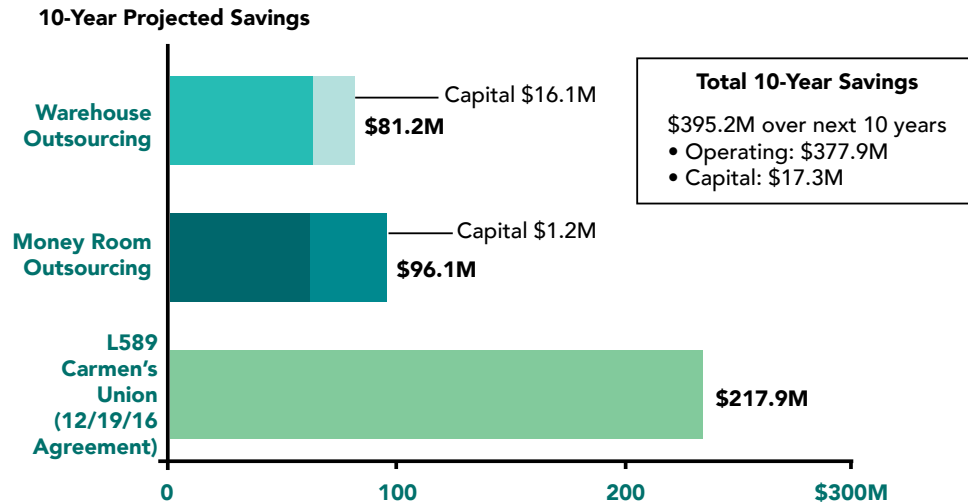
Bus includes Silver Line



## PROGRESS TO DATE:

- FY2016 operating expense annual growth was the lowest in 15 years and actually declined compared to the prior year
- Transit-oriented development activities underway in Beverly, Revere (Wonderland) and Scituate (Greenbush)
- New parking management services contract awarded February 2017
- Own-source revenue projected increase of 40 percent FY2017 over FY2015
- Several non-core functions, including cash counting money room operations and central warehouse and inventory systems, contracted out for better performance and cost savings

## SIGNIFICANT SAVINGS THROUGH BOTH OUTSOURCING AND NEGOTIATED LABOR/PRODUCTIVITY



## **Fiscal Sustainability Transit Industry Best Practice**

*(Contributed by the MBTA Advisory Board)*

- Development of station profiles and market analysis showing neighborhood context, entries, parking, and land use conditions within ½ mile of a light rail, heavy rail, or BRT station to encourage transit oriented development (TOD) (Atlanta MARTA and Connecticut Capitol Region Council of Government)
- A Joint Development Policy focuses on collaboration with municipalities to develop and implement TOD including advocating for transit-supportive zoning and land uses that make transit a convenient option and encouraging parking maximums for development within ½ mile of station (Washington DC WMATA)
- Development of a TOD policy as a framework to provide a leadership role in planning and implementation (Minneapolis-St. Paul Metropolitan Council Metro Transit)
- For system expansion, ensure that transit-oriented development and value capture opportunities are explicitly considered and accounted for (BART)
- Adoption of policies to support TOD goals including affordable housing (Los Angeles Metro)
- Sound Transit pursues two unique TOD strategies: facilitating or creating TOD on transit properties and supporting and promoting TOD within ½ mile of stations, defining a TOD partner as an entity that shares risks and benefits, and commits time and financial resources to leverage agency projects to meet TOD goals (Seattle Sound Transit)



# ACCESSIBILITY

## ENSURE AN ACCESSIBLE, HUMAN-CENTERED SYSTEM BOTH BY EXPANDING ACCESSIBILITY, AND PROVIDING HIGH QUALITY AND SUSTAINABLE PARATRANSIT SERVICE FOR THOSE UNABLE TO USE THE FIXED-ROUTE SYSTEM

The MBTA recognizes that all people with disabilities must have every opportunity to be fully participating members of our community. Fundamental to this opportunity is the right and ability to use public transportation in an equal, effective, and dignified manner. By designing and operating inclusive services, the customer experience improves for all riders.

### *Develop and begin implementation of strategy for expanding accessibility*

- Continue investment in the accessibility of the fixed-route system with the Plan for Accessible Transit Infrastructure (PATI) and develop a dynamic catalogue of all meaningful barriers to access system-wide. Select criteria for identifying objective priorities now and in future (12/2018)
- Improve accessibility of bus and Green Line service by developing partnerships with municipalities who own and maintain bus stops and paths of travel to stops

- Improve access to Commuter Rail by pursuing "good access" vs. "perfect access" with regulators. Establish conceptual designs (12/2018)
- Take advantage of State of Good Repair work and Transit Oriented Development opportunities to improve accessibility wherever possible
- Develop clear design and maintenance guidelines to ensure compliance with the Americans with Disabilities Act, Massachusetts Architectural Access Board standards and other relevant regulations (12/2018)

### *Institutionalize accessibility improvements throughout the system*

- Continue efforts to achieve compliance with the Boston Center for Independent Living settlement
- Document role of Department of System-Wide Accessibility by fall 2018 to ensure its engagement on all public-facing projects

- Document current approach to elevator maintenance. Assess impact of accelerating elevator replacements on maintenance costs. Establish elevator/escalator replacement plan (12/2018)
- Refresh and continue routine accessibility certification training for front line staff regarding obligations and best practices
- Continue internal Access Monitoring Program to assess operators' compliance with accessibility standards and share reports with the public
- Develop and implement systems to ensure a closed-loop complaint resolution system by spring 2019
- Recognize the unique needs of customers with disabilities in the event of a service disruption
- Ensure private vendors are aware of, and adhere to, accessibility obligations
- Recognize that technology advances must be designed to be fully accessible

***Embrace a mobility management philosophy, provide education and incentives to customers to encourage use of fixed-route services whenever possible***

- Increase use of travel instruction for customers on the fixed-route system
- Expand pilot by 2018 for free fare on fixed-route to select RIDE eligible customers
- Coordinate accessible transportation options with other local and state agencies
- Foster additional community engagement groups for issues related to access

***Improve the quality and cost-effectiveness of The RIDE***

- Develop a long-term plan with the disability and elder communities to improve the quality and cost-effectiveness of accessible paratransit service, including The Ride, across the MBTA service area
- Implement The RIDE Access Center centralized call center (TRAC) in 2017
- Expand Uber/Lyft/Taxi pilots to improve quality and lower per-trip cost of The RIDE

## PROGRESS TO DATE

- Ongoing compliance with the Boston Center for Independent Living settlement
- Completion of key station program with opening of Government Center
- Initiation of Plan for Accessible Transit
- Full inventory of accessibility status of all bus stops in process
- Conceptual designs of inaccessible stations underway
- Formation of new community engagement group in process
- Phased implementation of The RIDE Access Center begun
- UBER and LYFT RIDE pilots underway
- Expansion of a non-profit partnership to provide non-medical transportation in Malden, Medford, Cambridge, and Somerville
- Collaboration among MassDOT, MBTA, and MassHealth Human Services Transportation (HST) to increase outreach and education of available free transportation through HST for eligible customers
- Full-time Mobility Coordinator hired to implement programs that provide alternatives to traditional RIDE service including:
  - Council on Aging/ Veterans Affairs coordination
  - Regional Transit Authority expansion
  - Subsidized taxi program
  - MassHealth coordination
  - Expansion of travel training to facilitate use of the fixed-route system

# WORKFORCE

## TRANSFORM THE T INTO AN ORGANIZATION WITH A WORKFORCE THAT CAN DELIVER SAFE, RELIABLE, AND HIGH QUALITY SERVICE TO ITS CUSTOMERS

Over the past 15 years, there have been ten Secretaries of Transportation and eight General Managers of the MBTA. This instability has had a substantial impact on the state of the organization and has resulted in a severe loss of talent throughout the Authority. The MBTA is only as good as the people who support and deliver the service, particularly at the frontline. Without clear guidance, consistent focus, and management that both gives and expects the best, it is unlikely workers will perform at their full potential.

The great majority of MBTA employees take pride in their work, and pride in the organization. These are people who want to make a decent living and enjoy a reasonable quality of life. It is critical to build and empower a strong management team with leaders who encourage employees and expect them to exemplify excellence. It is essential to create a collaborative culture among affiliated and unaffiliated employees where accountability and productivity are the foundation for success.

The MBTA workforce needs to transition from the current mindset of crisis management and reaction, to one based on stability and strategic thinking if it is to attract top talent and become

an employer of choice, offering career enriching, meaningful work to its employees and identifying, sourcing, and developing new skills and competencies for its future workforce.



***Transform the Human Resources organization from transactional processing to strategic human resource management***

- Develop holistic information systems for workforce management:
  - Implement new HASTUS workforce management software by 2019
  - Implement Peoplesoft payroll upgrade by 9/2017
- Simplify Human Resources processes
  - Streamline time to hire with a target of 90 days
  - Reduce employee absenteeism
- Implement workforce planning by 6/2017

***Develop a diverse and talented workforce through improved recruitment, training, and performance management***

- Establish talent pipelines by working with internal and external partners to source candidates for critical roles
- Ensure needed staffing levels by managing unscheduled absences
- Outsource, through a set of comprehensive arrangements with local Universities, professional societies and union training centers, the necessary professional development for our workforce
- Implement workforce supervisor and management training program by 12/2017
- Tie advancement, in part, to successful training criteria

Frequently unrecognized by the general public, MBTA workers have a difficult job. Bus operators simultaneously pilot large vehicles through Boston traffic while facing alone the potential of an angry or violent customer. Work shifts are built to accommodate service needs often requiring on-call work as well as off-time mid-shift or overnight track work. Recognizing exceptional employee service is key.

***Engage and recognize the MBTA workforce***

- Develop plan to systematize employee recognition programs
- Conduct employee survey
- Create a better work environment with work area improvements



## PROGRESS TO DATE:

- New agreement with Carmen's Union Local 589 December 2016:
  - Commitment to consistent levels of work for Local 589 members
  - Across the board wage increases in line with MBTA revenue growth
  - Overtime only after 40 hours worked per week
  - Electronic roster picking to improve scheduling efficiency
  - Four-day/10 hours per day work weeks to:
    - Improve employees' quality of life
    - Reduce absenteeism
    - Eliminate spread pay
- New Chief Human Resources Officer and leadership team hired
- Absence leave management program
  - Revised policies
  - Engaged third-party administrator

## Transit Industry Best Practice

*(Contributed by Machinists Union Local 264)*

- The NYC Training and Upgrade Fund agency-union partnership provides technical training, professional workshops, and many other services (MTA New York City Transit and Transport Workers United Local 100)
- Emission control training standard for bus maintenance was developed to comply with EPA standards. The National Bus Maintenance Committee, comprising 30 labor and management transit industry representatives, meets twice yearly to discuss bus maintenance standards (Transportation Learning Center)
- The Keystone Transit Career Ladder Partnership brought together leadership and union partners developed a career path to address changing transit technologies and related skill shortages (SEPTA)
- The Intermountain Transit Career Ladder Partnership develops training opportunities for transit properties throughout the state of Utah and operates as a nonprofit governed by a joint management/labor Board of Directors (Utah Transit Agency, Amalgamated Transit Union Local 382, and the Transportation Learning Center)
- A career signals training consortium develops curriculum using industry-wide training standards (American Public Transit Association and the Transportation Learning Center)
- Experts from nearly 40 transit agencies and local unions formed a partnership to develop a common curriculum for transit students in technical schools across the country (Transportation Learning Center, Amalgamated Transit Union, and Transport Workers Union)
- Local technical schools are engaged to act as talent feeders with a goal of recruiting as many as one-third of staff from New York City's technical schools (New York MTA and Transit Workers Union)
- The New York Transit Cooperative Apprenticeship Program enlists vocational and technical high school graduates as apprentices in a structured training environment (Local union and the New York Board of Education)

# MANAGEMENT

## ATTRACT AND RETAIN A WORLD-CLASS MANAGEMENT TEAM THAT IS ACCOUNTABLE TO THE BOARD AND SENIOR LEADERSHIP AS WELL AS THE TAXPAYERS, RIDERS, AND COMMUNITIES THAT FUND THE MBTA

While building and nurturing talent from within, the MBTA urgently needs to hire and retain the best-qualified managers to lead the organization. Current compensation for key leadership and non-union executives is consistently below market by nearly 25 percent presenting retention risks and challenges in hiring next-generation leaders.

### *Attract and retain a world-class management team*

- Address compensation issues for both new management hires and incumbent managers
- Develop internal career path that provides incentives for employees to aspire to lead the Authority

### *Expand depth of management accountability*

- Expand number and span of control of executive managers who are not unionized

### *Develop internal career paths*

- Develop and implement a comprehensive, outsourced management training program by 12/2017
- Ensure transparent and continuous semi-annual evaluation of progress against plan
- Build skill sets in risk management, employee and departmental supervision and productivity improvement, labor relations training, commercial and fiscal awareness
- Achieve collaboration with local centers of higher education

### *Establish contract management capacity to ensure cost-effectiveness and quality of contracted and outsourced services*

## PROGRESS TO DATE

- Substantial changes in number of executive positions
- Compensation analysis and adjustments:
  - Assessing internal parity adjustments that need to be made
  - External support for compensation review



## Transit Industry Best Practice

*(Contributed by Massachusetts Competitive Partnership)*

- Career days for students ranging from K-12 to undergraduate including job-shadow days and interactive demos (Atlanta MARTA and American Public Transit Association)
- Internship and scholarship programs to begin careers in mechanics and electronics (New York City Board of Education and Transport Workers of America Local 100)
- Paid internships to provide preparation for skill acquisition to enroll in the Light Rail Technician Training Program to help individuals in poverty find long-term and stable employment (Minneapolis Metro Transit and Twin Cities Rise)
- Promoting transportation careers in low income areas, in unemployed and underemployed communities, and among minorities, veterans, and women (San Francisco BART and Workforce Investment Boards and community colleges in the Bay Area)
- Developing student curriculum and training programs to promote the public transportation industry to young people including tuition reimbursement (Denver Regional Transportation District, Atlanta Metro, Washington DC Transect Academy)
- Employee referral programs that use a referral bonus system and require the person who provides the referral to serve as the new employee's mentor (Ann Arbor Transit Authority)
- Creating dual career tracks for managers and technical experts with a non-managerial career ladder to retain technical talent (Idaho Transportation Department)
- Creating advancement within positions by establishing separate tiers or blocks based on demonstrated competencies instead of tenure (North Carolina DOT Competency-Based Pay Program)
- Employee mentoring programs to provide career-related support (Pennsylvania DOT and Santa Clara Valley Transportation Authority)
- Improved organizational culture with dialogue between managers and their employees to build trust and organizational commitment (Austin, Texas Capital Metro Transit, Mississippi Coast Transit Authority, Annapolis DOT)
- Rewards programs for demonstrated high performance including both monetary and non-monetary incentives (Missouri DOT, Virginia Regional Transit)
- Supporting higher education and training for employees with tuition reimbursement (Oklahoma DOT, New York City Transit Authority)
- Establishing regular management retreats, workshops and leadership events for targeted training and discussions that transcend functional areas, share best practices, and plan and prepare for upcoming challenges (North Carolina DOT, Oklahoma South West Transit Association)
- Job rotation programs to build professional capacity and break down organizational barriers (Utah DOT, Pennsylvania DOT)

# ENVIRONMENT

## PRIORITIZE ENVIRONMENTAL STEWARDSHIP AND CLIMATE RESILIENCY



While public transit has long been considered a major source of environmental benefits because of its ability to provide alternatives to single occupant vehicles, the MBTA recognizes the need to address its own environmental footprint. The T's Department of Energy & Environment works to identify areas of concern and develop plans to minimize the environmental impact of operating and maintaining the public transit system

Air and water quality issues from air pollutant emissions and aged petroleum storage tanks have long been recognized. The T also understands that greenhouse gases (GHGs), such as carbon dioxide and methane, contribute to changes in the regional and global

climate. Public transit not only emits climate-affecting GHGs, but the effects of intense weather events and longer-term incremental changes in climate that are exacerbated by GHG emissions also impact it. According to recent reports by UMass Boston, by 2050, and for the second half of the century, coastal and riverine flood exposure will increase significantly in South Boston, East Boston, Charlestown, and the downtown area, as well as surrounding municipalities such as Revere, Quincy, Winthrop, Somerville, Cambridge and others. This severe flooding represents a significant threat to these communities and the entire region. By the end of this century, the Boston area will experience sea-level rise of three to seven feet, and as many as 90 extreme heat days each year. Intense rain events are also trending upward, with the amount of rain from heavy events increasing by as much as 40 percent over the coming decades. In order to ensure that our regional transit systems are resilient when exposed to such stressors, the MBTA is working to identify vulnerabilities within its system in order to minimize service disruptions, ensure reliable

transportation to support the regional economy, and protect taxpayer investments.

The MBTA is committed to taking a multi-pronged approach to addressing environmental concerns, including climate change, by minimizing environmental impacts of its operations, and identifying and minimizing vulnerabilities of its assets and services to climate change.

### *Assess systemwide vulnerability to climate and weather stressors*

- Utilize new and existing data to assess vulnerability of assets and services; identify feasible resiliency actions by June 2018
- Develop plan for targeted interventions for vulnerable services and assets by December 2018
- Maximize return on investments by incorporating climate and weather resiliency in all T capital projects
- Proactively engage with the Executive Office of Energy & Environment, MassDOT, City of Boston, MWRA, MAPC, and other metropolitan organizations to align strategies and provide semi-annual reports to the Board and the public

### *Quantify and minimize environmental impacts*

- Implement continuous improvement and provide transparent environmental compliance information to external and internal stakeholders
- Implement technology to upgrade pollution prevention systems to avoid environmental damage

### *Inventory and mitigate GHG emissions*

- Complete an annual GHG inventory
- Identify priority GHG mitigation activities, including those that directly reduce emissions and encourage mode shift from passenger vehicles to public transit
- Implement and measure impact of GHG mitigation activities

## **PROGRESS TO DATE**

- Completed 88 energy efficiency projects for a savings of 58 million kilowatt hours and nearly \$5 million
- Reduced GHG emissions between 2009 and 2015 by 4.2 percent or 17.8 million kilograms of carbon dioxide-equivalent
- Reduced water usage by 25.6 percent since 2009
- Using a \$21 million federal climate resiliency grant, the MBTA is designing and installing a comprehensive flood protection system at the Fenway Portal of the Green Line D branch
- Located along the Mystic River, the Charlestown Bus Facility is the T's largest bus maintenance facility, housing and maintaining 230 buses. The shoreline of the facility has experienced ongoing erosion. Federal funding has been secured to implement storm water management improvements and install a new wall embankment. The T has also provided an easement to the Department of Conservation and Recreation to develop a multi-use pedestrian pathway on the river side of the wall
- Upgrade of third rail heaters reduces the wattage by 50 percent and implements an as needed central managed control system
- Regenerative braking pilot at Airport Station initiated
- Implemented Enterprise Energy Management System to centralize all utility data
- Finalized agreements with EverSource, National Grid, and the Department of Energy Resources to receive up to more than \$15 million in energy efficiency incentives

## **Transit Industry Best Practice**

*(Contributed by the Conservation Law Foundation)*

- Targets established to reduce greenhouse gas emissions from agency operations (Caltrans and Philadelphia/SEPTA)
- Adopted a green procurement and utilization policy to strengthen the agency's commitment to purchasing and using environmentally preferable products and services. (Seattle/Sound Transit)
- Implemented an energy storage and regenerative braking system to capture and monetize the energy otherwise lost from vehicle braking (SEPTA/Philadelphia)
- Electrifying bus fleets and support vehicles as well as utilizing emerging technologies in the design of new vehicles (Transport for London, Singapore)
- Implemented smart fluids management system to track and control fuel usage and storage of diesel and gasoline (Worcester Regional Transit Authority)
- Implemented energy efficient systems in elevator and escalators projects (Chicago Transit Authority)
- Integrate Sustainable Design Standards into all capital projects (NJ Transit)
- Pilot electric buses to be used in high capacity corridors (NYMTA/Bus)
- Adopt a green construction policy to include aggressive restrictions for on- and off-road equipment emissions and operations for construction projects (LA Metro)
- Develop design guidelines for climate change resiliency to be incorporated into all capital construction (NYNJ PATH)
- Develop disaster operations plans and communicate with the public and stakeholders (MARTA/Atlanta)
- Implement a water reduction plan to conserve water and energy resources (BART/San Francisco Bay Area)

# GOVERNANCE

## RECOMMEND A POST-FISCAL AND MANAGEMENT CONTROL BOARD STRUCTURE

The condition of the MBTA in 2015 required decisive action to oversee and improve the finances, management and operations of the MBTA. The establishment of the Fiscal and Management Control Board was intended to diagnose systemic problems and to address them through focused reform and improvements. By definition, however, the FMCB is a time-limited body. The T is a complex, \$2 billion organization that needs long-term, accountable, and stable governance and leadership.

Having worked intensely and closely with the Secretary of Transportation and a wide span of DOT and MBTA senior staff, as well as the MBTA's many stakeholders, the FMCB has a unique view of the challenges facing the MBTA, the complexity of the business enterprise, and the need for strong and easily understandable leadership. Given the ambitious agenda facing the MBTA, and the critical need for management stability, the Board will be responding in the affirmative to Governor Baker's suggestion that the FMCB extends its existence until June 30, 2020.

### ***Recommend a post-Fiscal and Management Control Board structure***

- Establish a position of strong executive leadership

The MBTA requires the leadership of a single individual in a powerful role as Chief Executive Officer/General Manager (CEO/GM), held accountable for all aspects of the organization from daily operations to developing and cultivating an exemplary culture to refining and executing this strategic plan. The FMCB will be working closely with the Secretary of Transportation to bring such a CEO/GM on board as expeditiously as possible.

### ***Ensure the CEO/GM's has an adequate span of control***

Chapter 25 of the Acts of 2009 consolidated transportation agencies and laid the foundation for a structure of shared administrative services between MassDOT and the MBTA. While this has resulted in a commendably integrated strategy and focus on multimodalism,

strong direct governance requires fully dedicated resource availability, particularly in the area of legal, human resources, labor relations, planning and project development, public engagement, and intergovernmental affairs.

While the FMCB believes the new CEO/GM should build his or her organization, it offers the following principles for a new structure:

- There should be a Deputy General Manager for Administration and Finance, replacing the co-equal General Manager and Chief Administrator structure. In addition, rather than the Chief Operating Officer serving as the most senior operating position, there should be a Deputy General Manager for Infrastructure and Operations.
- Continued multimodal coordination should occur through the Secretary.

### ***Make a dedicated Board of Directors a permanent institution for the MBTA***



The complexity of the MBTA's operations requires a board dedicated to providing oversight and policy direction. The FMCB recommends that, after its term has expired in 2020, a new and permanent board be established. While the final configuration of such a board will need to be determined by future

legislation, the FMCB strongly recommends the continuation of a separate board for the MBTA.

This issue will continue to be a focus of the FMCB, with further discussion in its next annual report.

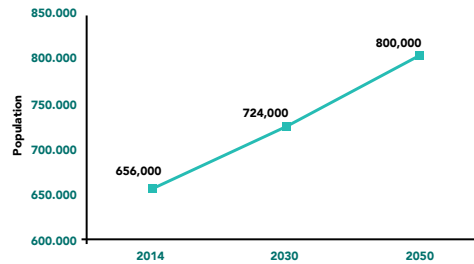
# CAPACITY

## INCREASE CORE CAPACITY TO SUPPORT ECONOMIC DEVELOPMENT AND ACCOMMODATE RIDERSHIP GROWTH

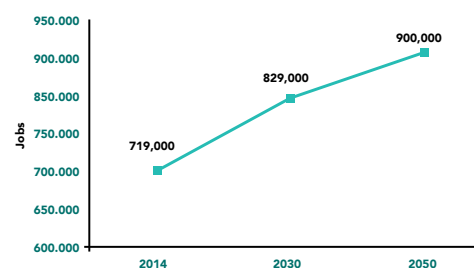
Focus40, the 25-year capital investment plan for the MBTA, is developing a long-term strategic vision to ensure that the MBTA can support the changing needs of the region over the next 25 years. This process is operating in parallel to the strategic planning process, which will position the MBTA to execute upon the investment priorities outlined in Focus40.

Focus40 recognizes that today's infrastructure challenges as well as shifting demographics, changing climate, and evolving technologies may collectively alter the role the MBTA will play in Greater Boston over the next 25 years. To ensure that the MBTA can support and foster a growing region, Focus40 is seeking to identify investment strategies that will address the system's state of good repair needs, its existing and projected capacity constraints, and identify new investments to better serve low-income communities, growing neighborhoods and employment centers.

**BOSTON POPULATION GROWTH PROJECTIONS**



**BOSTON JOB GROWTH PROJECTIONS**



In a parallel initiative, the City of Boston is engaged in a citywide planning process known as Go Boston 2030, and released its report in March 2017. Boston's population is growing rapidly, adding nearly as many residents in the past five years as it did over the previous twenty, and growing at twice the rate of the rest of Massachusetts and

the nation as a whole. By 2030, Boston is projected to have nearly 725,000 residents, on track to reach its previous peak population of 801,000 by 2050.

At the same time, significant job growth is expected to occur in the city, with a projected 15 percent increase in employment by 2030.

These growth projections have enormous implications for the transit system that, even at today's levels, strains to move people efficiently and reliably from home, work, and school. Increasingly, a younger Boston population wants to live car-free, signaling even greater demands on transit as people shift their mode of transportation from cars. While addressing the SGR backlog, it is also critical to make investments in the future, particularly considering population and employment growth in the Boston metropolitan region. The MBTA needs to establish a capacity target for the core system.

The Focus40 process began by examining existing conditions of the transit system, as summarized in the State of the MBTA section of this report.

### FOCUS40 PROCESS



The Focus40 process will culminate in the summer of 2017 with recommendations for long-term growth in the transit system in parallel with a continued emphasis on maintaining the State of Good Repair of existing MBTA infrastructure. While Focus40 is the primary means by which the future footprint of the MBTA will be determined, the Board has identified several specific objectives and strategies in anticipation of future changes.

### *Modernize and increase the capacity of the system to accommodate increased ridership driven by population and job growth*

- By the end of 2017, establish a target for the necessary capacity on the core system to meet increased ridership due to economic growth
- Develop integrated fleet procurement and replacement plan with integrated procurement and life-cycle maintenance by the summer of 2017
- Expand capacity on the Rapid Transit System to meet the capacity target
  - Fleet and signal improvement schedule to ensure ongoing reliability
    - 132 Red Line cars scheduled for delivery start 11/2019, complete 2022
    - Option for up to 134 additional vehicles delivery start 9/2022, complete 11/2023
    - Headways reduced from 4.5 minutes to 3 minutes (50 percent increase in capacity- additional 30,000 Red Line passengers/peak hour) with 92 percent or better on-time performance
    - 152 Orange Line cars scheduled for delivery start 2019, complete 2022
    - Headways reduced from 6 minutes to 4.3 minutes (40 percent increase in capacity – nearly 5,000 additional passengers/peak hour) with 92 percent or better on-time performance

- Establish capacity plans for the Blue Line, Green Line, Silver Line, Commuter Rail, ferry and bus system
- Develop MBTA Facility Plan to address bus maintenance garage and layover facilities modernization and expansion



### *Develop strategic vision for the future of Commuter Rail*

- Define scope and procurement plan for next Commuter Rail contract
- Develop a long-term plan for the commuter rail network considering possible extensions as well as current requests for “in-fill” service at West Station, Boston Landing, Lynn GE site, Wonderland evaluating technologies, support facilities, economic impacts (start July 2017, complete by December 2018)



*Accelerate efforts to keep pace with economic growth (Seaport, Kendall, Dudley, Logan access, Allston Landing, the Longwood Medical Area and specific corridors of concern – I-93 N/S and I-90 to Logan)*

- Consider capital investment strategy through Focus40 to improve connectivity
- Identify funding sources
- Develop implementation timeline

*Envision a Green Line capacity improvement program*

- Build off the Focus40 projections for Green Line capacity needs and identify, evaluate, provide cost estimates, and prioritize a range of capital and operating strategies to meet future demand

## **PROGRESS TO DATE:**

- Dwell time customer campaign at Downtown Crossing, Park Street, and State Street in process
- 30 second headway reduction for Orange Line with drop backs at terminus locations
- GLX scope and budget revised, project management strengthened, process for procuring construction services begun
- Red Line fleet standardization in process
- Majority of bus fleet being replaced over the next five years, significantly improving reliability



# NEXT STEPS

Over the past twelve months, the FMCB has worked closely with MBTA management and staff, as well as our stakeholder community, to develop this strategic plan. It is intended to document the many ambitious initiatives underway to restore faith in the MBTA to connect the community and support economic growth.

It is our hope that this plan will become a living document, setting the agenda for progress reports on key initiatives and establishing a foundation for both communicating the agenda to our employees and the community, and holding the MBTA accountable for needed improvements. We see the following next steps to advance that objective:

- Hire a new General Manager/Chief Executive Officer (GM/CEO) to begin to provide needed management stability

- Ensure the new GM/CEO has adequate and fully dedicated resource availability and span of control to ensure the safety and operation of the MBTA, including taking advantage of the many offers from our stakeholder community to provide professional development and education opportunities for our managers and staff

- The GM/CEO should ensure that strategic plan initiatives are the foundation for future operating and capital improvement budget requests

- Establish annual State of Good Repair targets, monitor progress through a fully implemented asset management system, and continually accelerate reducing the SGR backlog

- Complete the Focus40 planning process with recommendations for long-term growth in the transit system while continuing to maintain the State of Good Repair of existing infrastructure

- Refine approach to comprehensive redesign of the bus network

- Continue to refine the post-FMCB future governance structure for the MBTA

- To ensure that the MBTA becomes, and continues to be, a robust, modernized transit system serving the region:
  - Develop a five and ten-year operating expense pro forma
  - Develop a five and 20-year capital plan that fulfills fleet, facilities, State of Good Repair and capacity needs

- Address significant risks to the MBTA's fiscal sustainability including rising pension costs

- Create a shared agenda and purpose for all MBTA employees through this plan

As adopted by the FMCB, this plan sets the agenda for management initiatives. Progress on objectives will be reported upon annually by fiscal year, and the plan should be regularly revisited and updated.

# APPENDICES

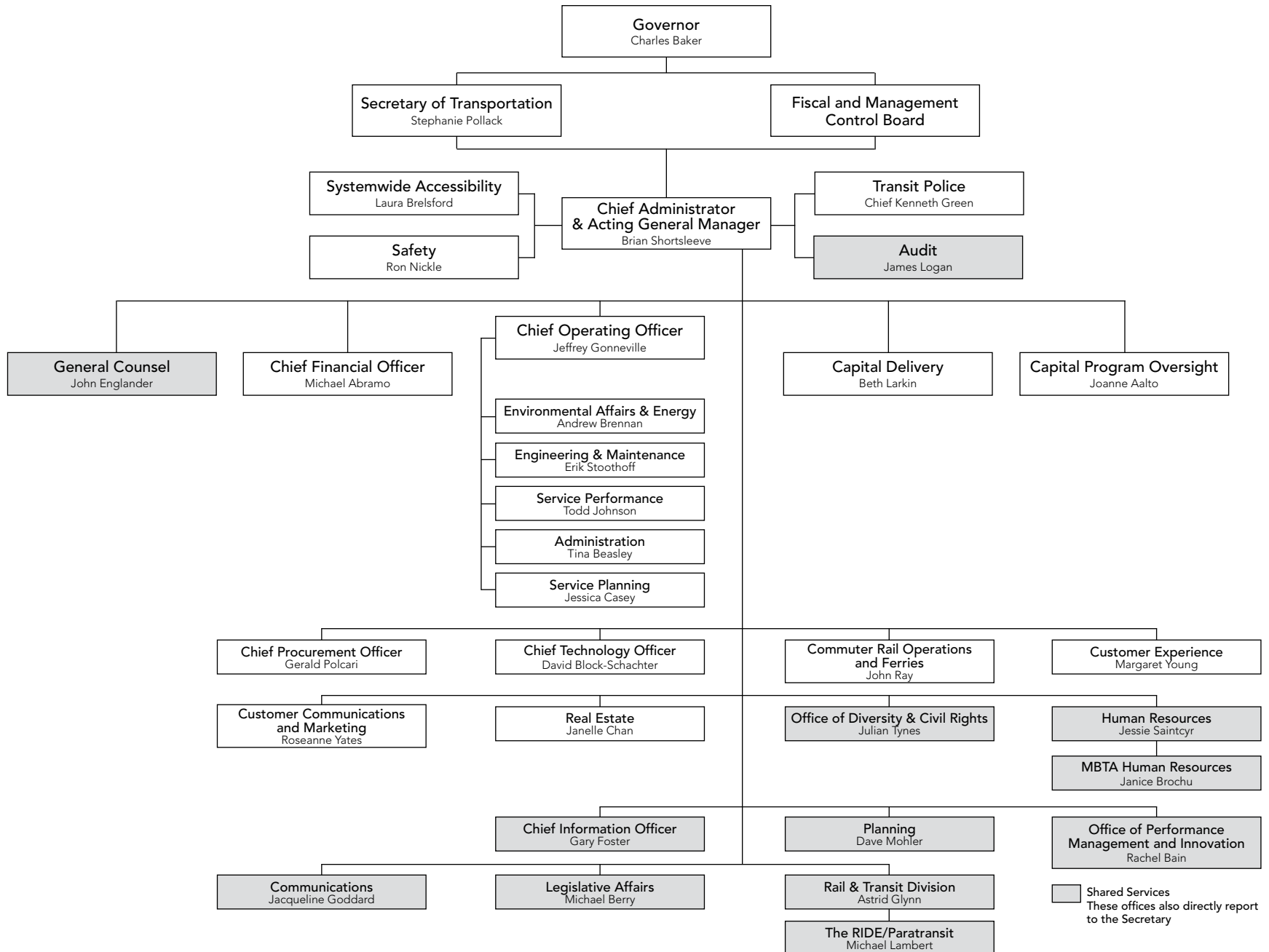
Organizational Chart

Strategic Plan Major Milestones

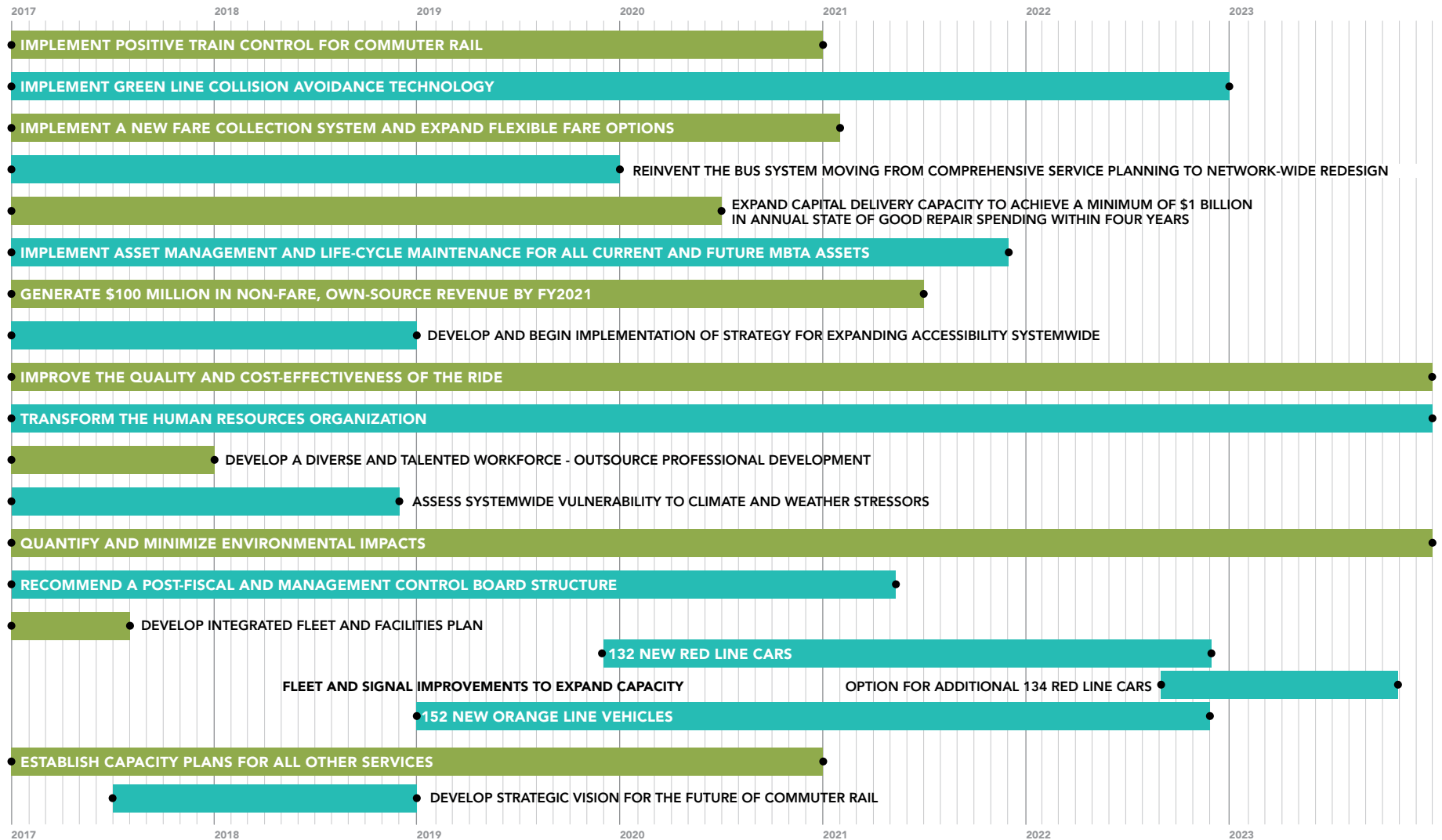
Strategic Planning Steering Committee

Strategic Planning Working Group

# CURRENT MBTA ORGANIZATIONAL CHART



# STRATEGIC PLAN MAJOR MILESTONES



## **STEERING COMMITTEE MEMBERSHIP**

Joseph Aiello, Chairman, Fiscal and Management Control Board

Steven Poftak, Vice Chair, Fiscal and Management Control Board

Stephanie Pollack, Secretary, Massachusetts Department of Transportation

Brian Shortsleeve, Chief Administrator & Acting General Manager, MBTA

Jeffrey Gonneville, Chief Operating Officer, MBTA

Jody Ray, Deputy Administrator, Rail Operations, MBTA

Michael Abramo, Chief Financial Officer, MBTA

John Englander, General Counsel, MassDOT/MBTA

## **STAFF:**

Rachel Bain, Assistant Secretary,  
Office of Performance Management and  
Innovation

Scott Hamwey, Focus40,  
Manager of Long Range Planning,  
MassDOT

Katherine Fichter, Assistant Secretary of  
Policy, MassDOT

## STRATEGIC PLAN WORKING GROUP MEMBERS

Laura Brelsford, Systemwide Accessibility

Karen Burns, Bus Operations

Ryan Coholan, Commuter Rail/Ferry

Horace Cooper, Capital Delivery

Holly Durso, Safety

Kate Fichter MassDOT – Policy

Susie Garcia, Operations

Andrea Gordon, Rail Operations

Scott Hamwey, Focus 40

Heather Hume, Service Planning

Thomas Johnson, Operations Finance

Carol Joyce-Harrington, The RIDE

Norm Michaud, Rail Operations

Laurel Paget-Seekins, OPMI

Satyen Patel, Asset Management

Marybeth Riley-Gilbert, Environmental Affairs

Gina Spaziani, Financial Planning & Analysis

Dom Tribone, Customer Experience

