

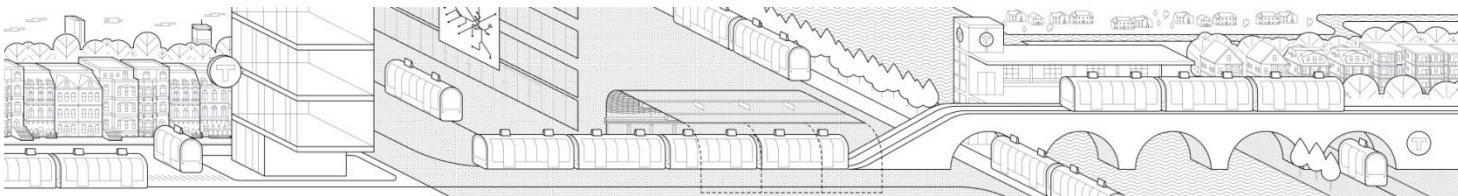
FOCUS40

Focus40 Draft Plan Overview
MAPC Inner Core Committee
www.mbtafocus40.com

Focus40 Overview

A long-range plan for how the MBTA can meet the needs of the region in 2040:

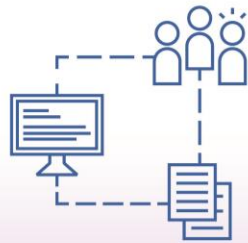
- A 20-year plan as required by MBTA enabling legislation
- A roadmap of investments to feed future MBTA Capital Investment Plans



Key Components of Focus40 Plan:

- **Programs:** Highlight potential investments that could enable the MBTA system to best serve the region over the long term, divided into three categories (We're Doing, We're Planning, We're Imagining)
- **Priority Places:** Identify priority areas for new or improved service based on where investments have the greatest likelihood to deliver ridership and other benefits to the region

Focus40 Process



Data Collection



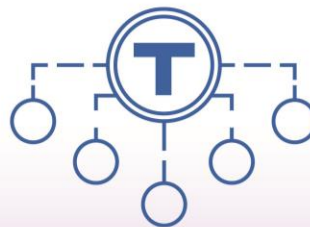
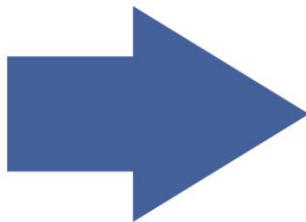
Outreach



Goal Setting



Future Scenarios



Roadmap for Investment



Implementation

Data Collection

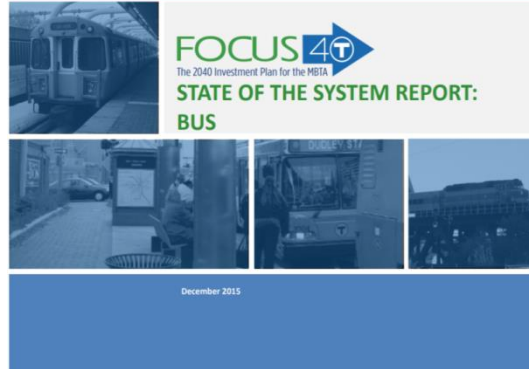
Existing and Future Conditions

ACCESS TO JOBS

The MBTA is an important asset to the region, not because of its extensive set of infrastructure and vehicles, but because it provides access to opportunity for Greater Boston's residents and businesses. Connecting people to potential employment opportunities is one obvious and critical measure of that accessibility. These maps illustrate how many residents are within a reasonable commute (defined as 45 minutes using the MBTA) of some of the region's most important job centers. These centers were selected based on job density, which is also indicative of concentrations of education, healthcare, and shopping opportunities. Focus40 is part of a shift in planning for the MBTA, one that goes beyond looking at the number of new riders or new lines on the system map, and focuses instead on increasing accessibility and with it, the economic health of the region.



FOCUS 40 The 2040 Investment Plan for the MBTA STATE OF THE SYSTEM REPORT: BUS



ADDRESSING OVERCROWDING; ACCOMMODATING GROWTH

As Boston's population and demand for public transportation grows, the MBTA increasingly faces challenges in providing enough service to meet demand, particularly during peak commuting periods when all vehicles are being utilized. Focus40 is gathering data on crowding experienced by today's customers, as well as what we can expect in the future as our region's cities and towns continue to plan for more growth. This analysis will help identify and prioritize the investments that will allow the MBTA to better support the region's growth.

Rapid Transit



How do we predict ridership?



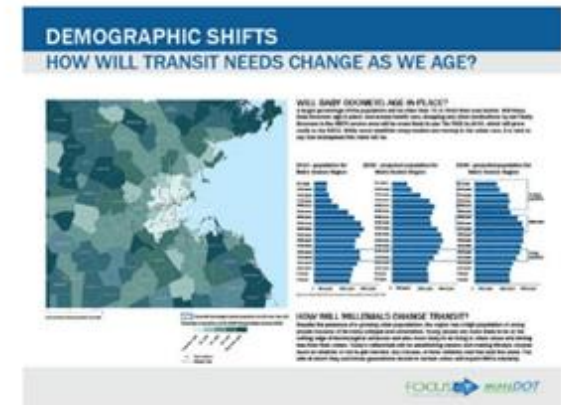
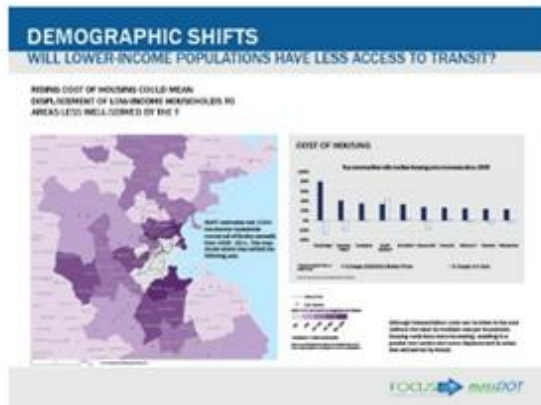
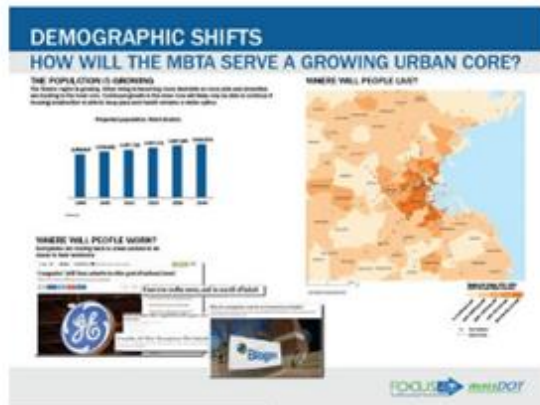
Bus



How do we predict ridership?



Trends



Engagement

EXTERNAL ENGAGEMENT

WE ASKED THE QUESTION: WHAT IS A CHALLENGE THE MBTA NEEDS TO ADDRESS IN THE FUTURE?

3



public events

85+



organizations engaged

5



stakeholder workshops

200+



online submissions

100

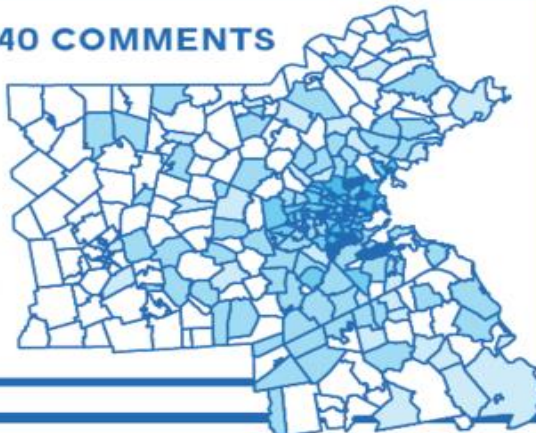
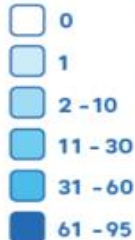


street team hours

WE COLLECTED IDEAS FROM MORE THAN 2,000 PEOPLE

FOCUS40 COMMENTS

RESPONSES



STREET TEAM HOURS

THE FOCUS40 STREET TEAM OUTREACH WAS DESIGNED TO CORRESPOND WITH OVERALL MBTA RIDERSHIP BY MODE.



60 HOURS AT RAPID TRANSIT STATIONS



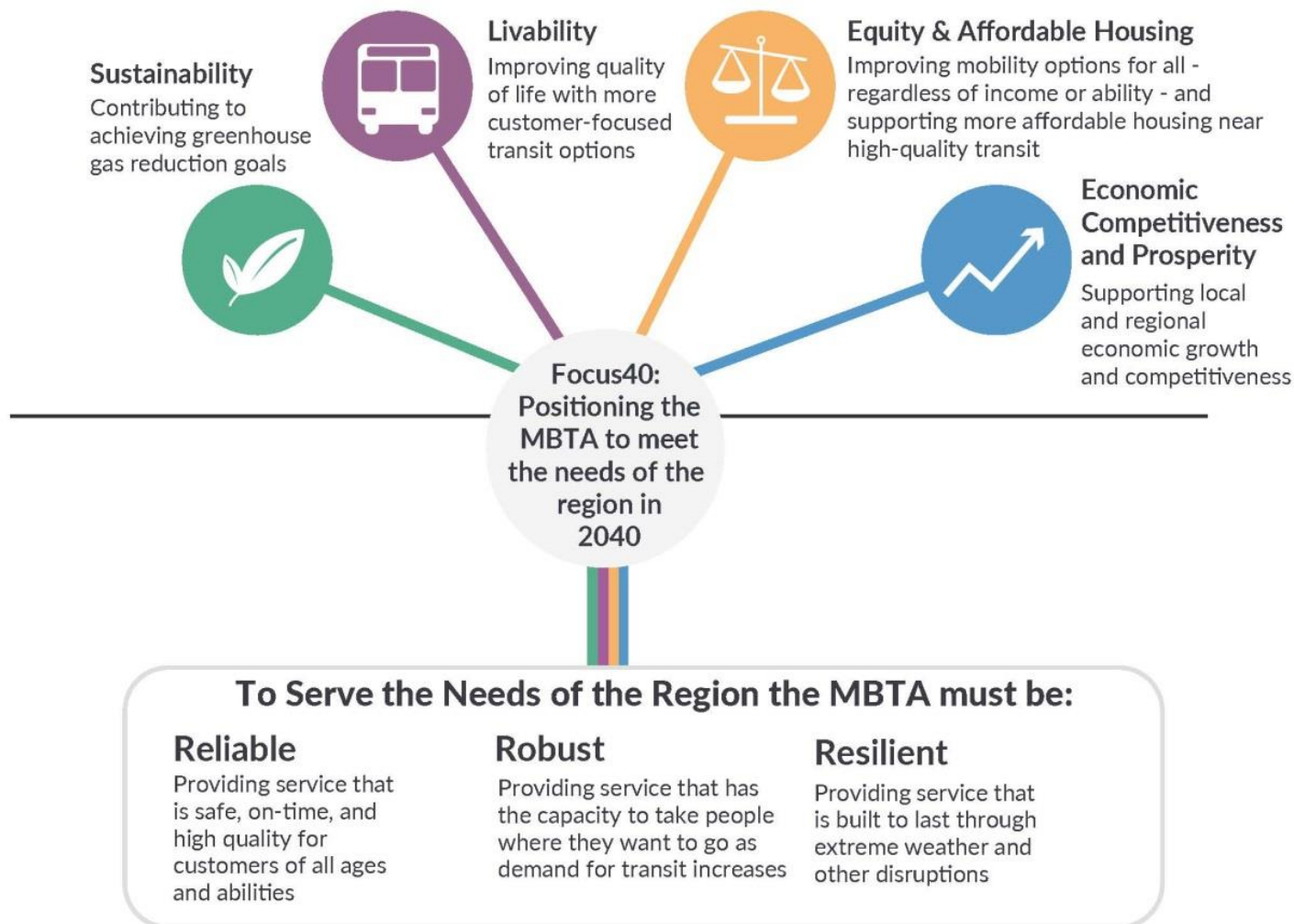
30 HOURS AT BUS STATIONS



10 HOURS AT COMMUTER RAIL STATIONS

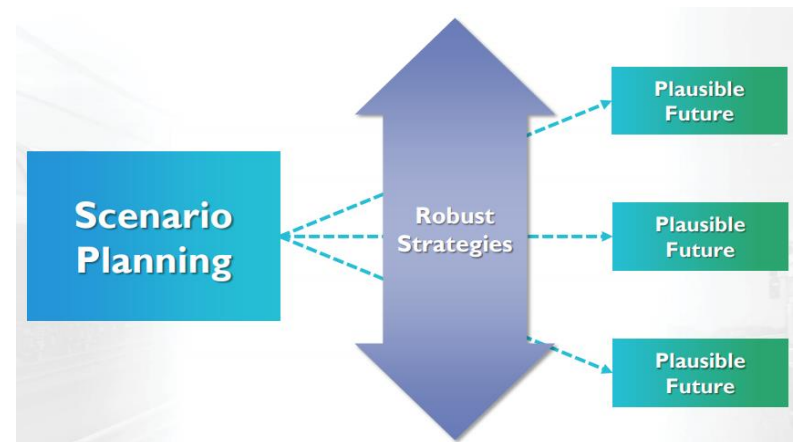
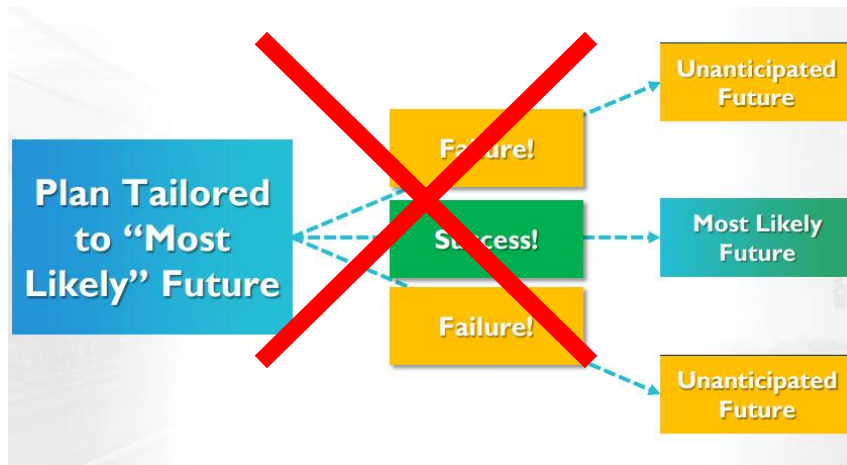


Goals



Scenario Planning

- Focus40 uses scenario planning to better understand what the MBTA's region might be like in 2040.
- Instead of planning for one specific future, Focus40 developed four plausible futures for the region.



FOCUS40 PLACES

Priority Places Overview

Focus40 is trying to shift the conversation...

Instead of starting with expansion project ideas, Focus40 is about identifying places that need and can support higher quality transit – Priority Places – and then developing projects to serve those places.

Focus40 identifies ‘Priority Places’ for new or improved service based on where investments have the **greatest likelihood to deliver ridership** and other real **benefits to the region**.

- Density of activity/residents
- Low-income and/or transit dependent populations
- Mismatch between existing service and demand

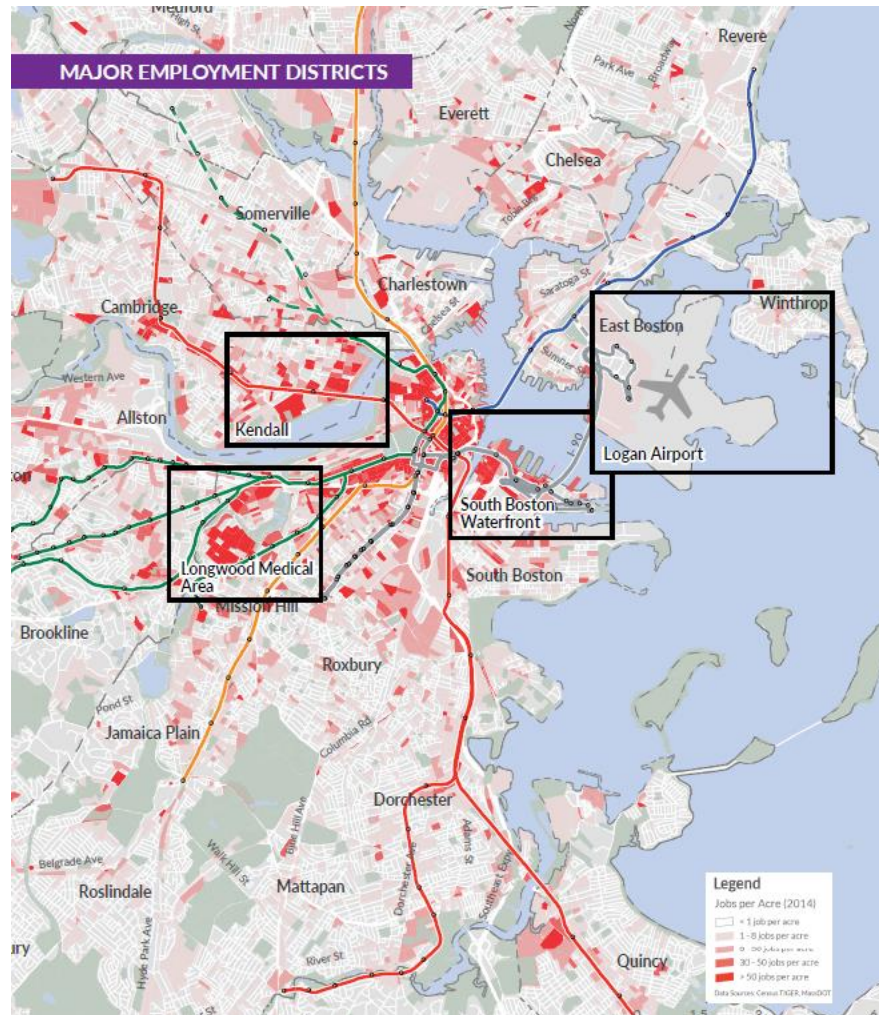
Major Employment/Destination Centers

Characteristics:

- Growing business districts just beyond the densest part of the rapid transit network
- Longer than average transit commute times, often requiring one or more transfers
- The overloading of existing road networks and MBTA services
- The presence of multiple shuttle providers to compensate for insufficient MBTA service

Examples:

- South Boston Waterfront
- Kendall Square
- Longwood Medical Area
- Logan Airport



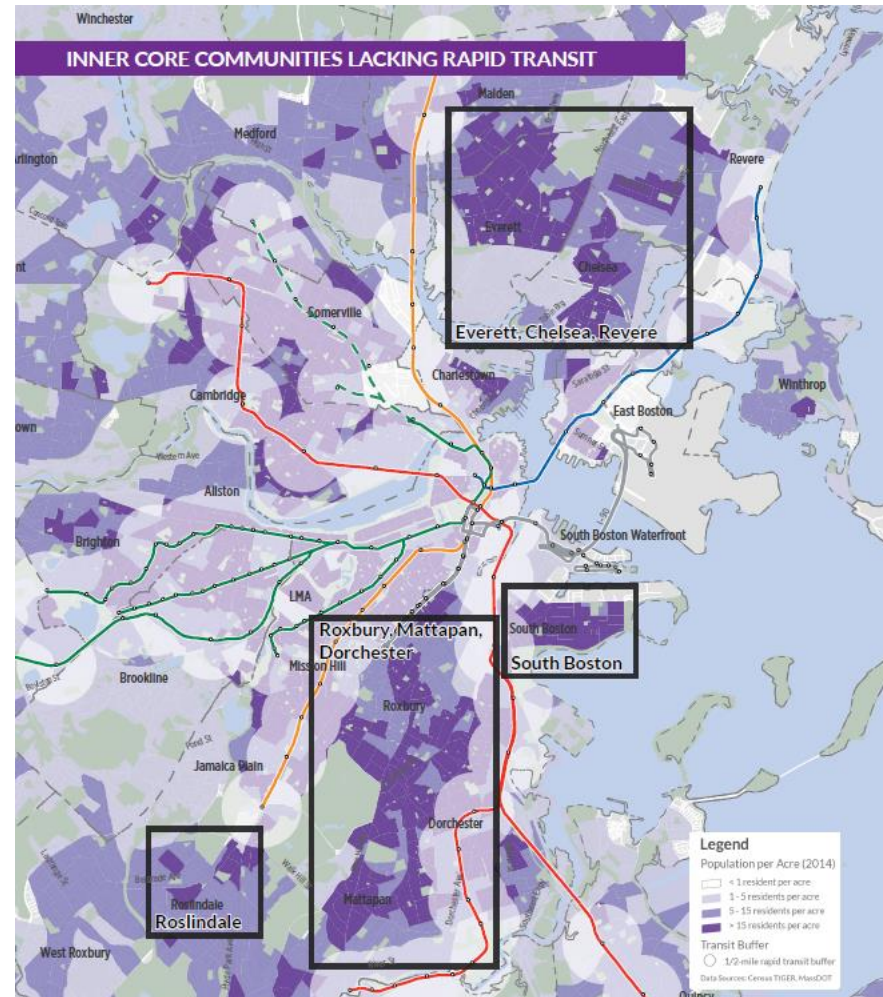
Inner Core Communities Lacking Rapid Transit

Characteristics:

- Residential areas between the rapid transit network that are only served by bus or commuter rail
- Commuter rail access that does not fully serve the needs of the community given how our commuter rail system currently works at the inner ends of the system
- Many are lower-income communities and/or transit dependent

Examples:

- Chelsea
- Everett
- Blue Hill Avenue (Boston)
- Roslindale (Boston)



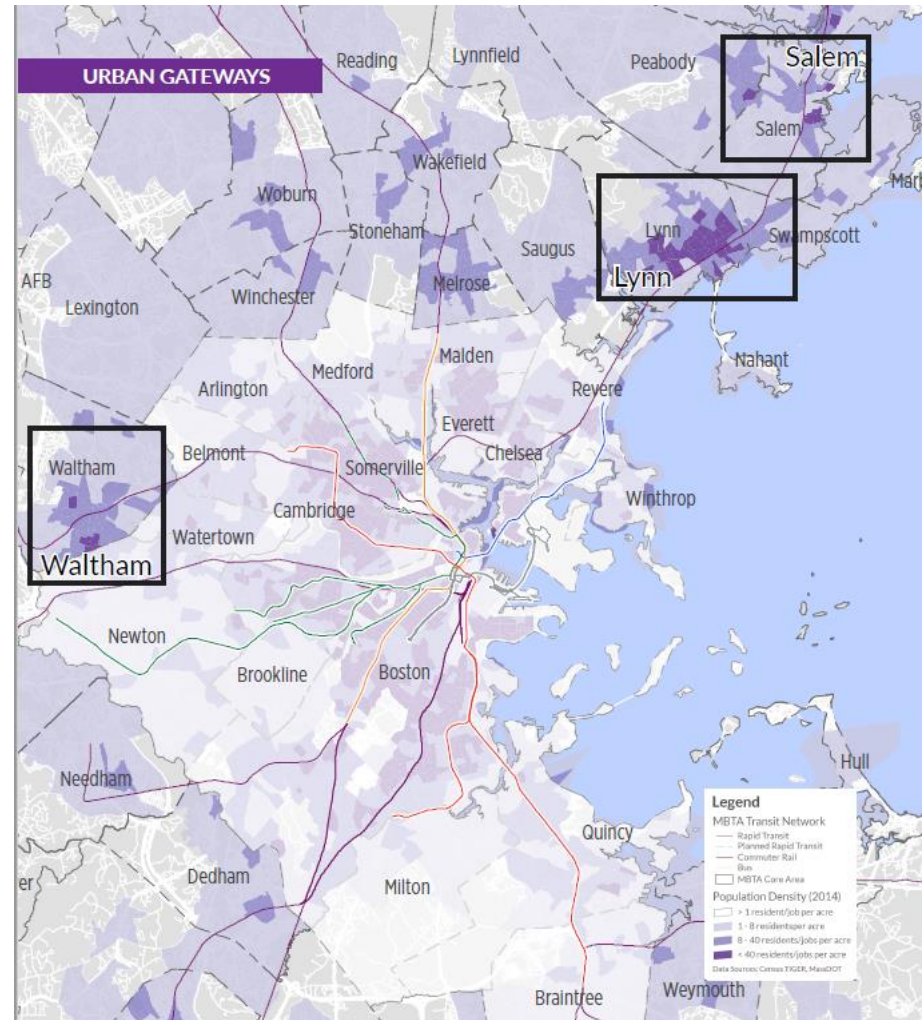
Urban Gateways

Characteristics:

- Located beyond the rapid transit network and served by commuter rail that often functions as a hub for local MBTA or regional transit authority bus service
- A large population of low-income residents and/or transit dependent residents
- A moderate-intensity balance of residential and commercial development either built or permitted

Examples:

- Lynn
- Salem
- Waltham



FOCUS40 PROGRAMS

Programs Framework

Focus40 lays out studies, project concepts and specific investments within each program, divided into the following categories:

Category	Description	Description
We're Doing	Commitments through 2023	Investments already underway or in the five-year Capital Investment Plan.
We're Planning	Next Priorities through 2040	Important investments that meet the needs of the region in 2040, to be planned and phased over time.
We're Imagining	Big Ideas	Potentially transformative investment ideas, the feasibility, benefits, and costs of which must be better understood before the MBTA can make a decision about how to move forward with them.

CUSTOMER EXPERIENCE



Program Objective: Provide regular and occasional riders alike with high quality services that are easy to navigate and pay for and a pleasure to use.

We're Doing: Commitments through 2023

- **Automated Fare Collection (AFC 2.0)**
 - All-new fare collection system to be completed by May 2020, with new fare gates Spring 2021
 - Single application on fare card, smartphone, or contactless credit card for boarding all modes of transit, including commuter rail
 - Reduces boarding time, speeds up service on Green Line and buses
 - Potential for seamless integration with Regional Transit Authorities, Lyft/Uber, and other micro-transit systems
- **Station Improvements**
 - Signage, wayfinding, and lighting improvements systemwide
- **Digital MBTA**
 - Real-time information for travel planning and performance enhancements

We're Planning: Next Priorities through 2040

- **Station Modernization, including Exploration of Platform Barriers and Doors**
 - Platform doors can speed boarding, improve safety, and reduce delays
- **Partnerships for Improved First-Mile/Last-Mile Connections**
 - Support mobility hubs
- **System Access Improvements (parking and other)**
 - Where is more parking needed?
 - What are better uses for underutilized parking areas?
 - Where should increased bicycle parking be added?
 - Will drop-off access grow as a customer preference?

***We're Imagining:** A "Digital MBTA" that is at the cutting edge of using technology to enhance the transit experience and encourage transit use.*

BUS 2040



Program Objective: Achieve a better, faster, lower-emissions service, supported by off-board fare collection and exclusive busways, aligning with where riders live, work, and travel.

We're Doing: Commitments through 2023

- **Better Bus Project Phase 1** to revamp routes, frequencies, and stops with implementation planned in 2019
 - Partnerships with cities and towns to implement bus lanes, traffic signal priority, "queue jumps" and other service enhancements
- **Better Bus Project Phase 2: Network Redesign Process and Initial Implementation** to begin implementation and look at better ways to serve bus riders through a network redesign
- **Municipal Collaboration to Improve High Priority Bus Facilities and Stops**
 - Improved access and safety features at over 200 high-priority bus stops for accessibility improvements
- **Bus Fleet Replacement and Expansion**
 - 460 40-foot buses scheduled for delivery 2021-25
 - Option order procurement of 194 hybrid buses
- **Zero- Emissions Bus In-Service Testing** to inform future fleet procurement

We're Planning: Next Priorities through 2040

- **Fleet Expansion to Serve Bus and Bus Rapid Transit Network**
- **Better Bus Project Phase 3: Implementation of Network Redesign**
- **Phased Conversion to Zero-Emissions Fleet**
 - Pending findings from testing
- **New Bus Rapid Transit (BRT) corridors** with more frequent, comfortable, accessible service and exclusive bus lanes

***We're Imagining:** Autonomous bus shuttles that can serve new routes and deliver first-mile/last-mile connections for passengers to commuter rail and rapid transit*

GREEN LINE 2040



Program Objective: Increase capacity with redesigned, larger vehicles and modernized infrastructure on the nation's busiest light rail line by at least 50%.

We're Doing: Commitments through 2023

- **Green Line Transformation Phase 1: SGR Projects**
 - Track, signal and power upgrades to improve reliability
 - Planning for Phase 2
- **Green Line Extension**
 - 4.5-mile extension to College Avenue in Medford and Union Square in Somerville
 - Puts 80% of all Somerville residents within walking distance of rapid transit
- **Surface Green Line Stop Consolidation**
 - 4 stops on B branch
 - Exploring other opportunities
- **Surface Green Line Transit Signal Priority Infrastructure**
 - For trains at B, C, and E line street crossings
 - \$30m improvement plan for 60 grade crossings
- **Green Line Train Protection:** Collision-avoidance automatic-braking systems
- **Accessibility Upgrades at Hynes, Symphony Stations**

We're Planning: Next Priorities through 2040

- **Green Line Transformation Phases 2 & 3**
 - All-new "Type 10" longer cars
 - 116 feet long, compared to 74 now
 - Fully accessible, low-floors throughout car
 - Five entry-exit doors per car
 - Requires upgraded maintenance facilities
 - 15% more capacity by increasing peak weekday trains from 73 to 94
 - 50% more capacity by adding 2-car trains to D and E branches
- **Explore Reservation and Right-of-Way Expansion for Surface Green Line**
 - Dedicated Right of Way on E-branch
 - Prevent turning conflicts on B & C branch

We're Imagining: Extensions to Mystic Valley Parkway in Somerville/Medford, Hyde Square in Jamaica Plain. Park Street-Downtown Crossing "superstation." Reconfiguring 27 B and C branch stops to allow trains of two Type 10 cars, doubling capacity.

COMMUTER RAIL 2040



Program Objective: Serve more riders and non-commuting trips, by providing better connections to more destinations and potentially by implementing one or more new service models (urban rail/regional rail), pending results of *Commuter Rail Vision Study*.

We're Doing: Commitments through 2023

- *Commuter Rail Vision*
- **North Station Drawbridge**
 - Faster and more reliable service out of North Station
- **South Coast Rail Phase 1**
- **Bi-Level Coach Procurement and Locomotive Upgrades**
 - Added capacity and more reliable vehicles
- **Ruggles Station Upgrades**
 - More stops with better connections to Orange Line
- **Positive Train Control and Automatic Train Control**

We're Planning: Next Priorities through 2040

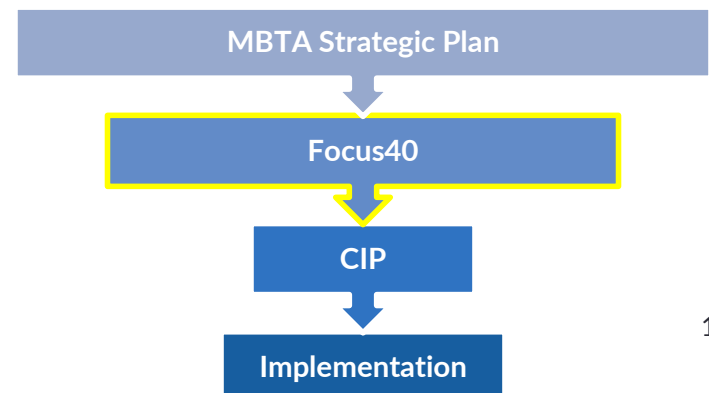
- **Station Investments (Infill, Rapid Transit Connections)**
 - Infill targeted for Priority Places
- **Regional Multimodal West Station and Midday Layover**
- **Double and Triple Tracking to Add Capacity**
 - Worcester Line and other congested areas
- **South Coast Rail Phase 2**

As part of the *MBTA Rail Vision* process now underway, MassDOT/MBTA is examining various possible service models for rail transportation in the Commonwealth. Topics include the benefits and costs of urban rail and regional rail, of service focused on reverse-commute needs and the needs of Gateway Cities, and of system electrification. Different service models will require different near, medium, and long-term capital investments.

We're Imagining: *Electrification of some or all of the rail network with major capital projects supporting a system that is more than “commuter” rail*

Implementation

- **Annual, pre-Capital Investment Plan (CIP) review** to track status, incorporate new information and set upcoming programmatic priorities
- **‘Next Priorities’ to be initiated** into planning and design to be costed and prioritized
- State of good repair projects to be reviewed for **alignment/inclusion of Focus40 priorities**
- Incorporation of Focus40 long-term policy priorities into **project scoring** (Economic Impact, Policy Support)
- **Planning studies in partnership with Priority Places** to identify near, medium, and long-term strategies to be prioritized through CIP process

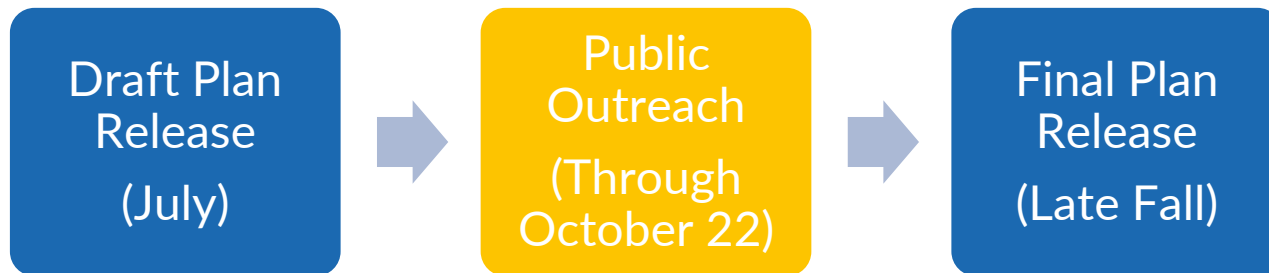


Feedback

- Feedback on framework: goals, places, future scenarios, and implementation
- Feedback on programs:
 - Does anything in “We’re Planning - Next Priorities” not belong there?
 - Are there any “We’re Imagining - Big Ideas” that should be a Next Priority?
 - Are there other “We’re Imagining - Big Ideas” that we should be considering?

Next Steps

- Refine process for CIP/Implementation
- Continue stakeholder outreach
- Update plan with feedback and updated information



Thank You

- Check out the draft Plan at: www.mbtafocus40.com
- Email me at:

Jennifer.Slesinger@state.ma.us or Focus40@dot.state.ma.us

SILVER LINE 2040



Program Objective: Add capacity and connectivity with an expanded and cleaner fleet that serves not only the Seaport, but an expanded Silver Line network extending beyond Chelsea.

We're Doing: Commitments through 2023

- **Silver Line Fleet Planning and Procurement**
 - Trial beginning late 2018 of vehicles that can operate in Transitway Tunnel
 - Determining Silver Line vehicle capacity needs
- **SL2 and SL4 On-Street Improvements**
 - Partner with City of Boston to improve bus lane delineation and prioritize enforcement of designated bus lanes on Essex and Washington Streets
- **Transit Signal Priority Infrastructure in the Seaport**
 - Reduce conflict, delays at D Street with buses emerging from Transitway Tunnel

We're Planning: Next Priorities through 2040

- **Silver Line Next Gen Fleet and Facility**
 - Expanding fleet would improve rush-hour capacity and performance, will require an expanded Southampton Garage/other storage space
- **Bus Rapid Transit to Everett**
 - For Revere, Malden, Everett, reduce crowding on bus routes and add near-rapid-transit service for residents beyond reach of Blue and Orange Lines
- **Infrastructure Upgrades in Tunnel**
 - Fix leakage and drainage issues, roadway surface

***We're Imagining:** More exclusive right-of-way by eliminating the Transitway's at-grade crossing of D Street.*

BLUE LINE 2040



Program Objective: Accommodate growth at Logan International Airport and development sites in East Boston and Revere and ensure resiliency to severe weather and sea-level rise.

We're Doing: Commitments through 2023

- **Resiliency Phase 1: Planning and Early Actions**
 - Long Wharf to Maverick water infiltration
 - Analysis of power, signals, track to identify and prioritize strategies
- **Reliability Centered Vehicle Maintenance Program**

We're Planning: Next Priorities through 2040

- **Potential Downtown Pedestrian Connection between the Red and Blue Lines**
 - Downtown Crossing and State Street Stations are only 600 feet apart
 - Alternative to Red-Blue Connector at Charles/MGH
 - Relieves congestion on Green and Orange Lines for Red-Blue connections
 - Step towards a Downtown Crossing-Park Street-State “downtown superstation”
- **Blue Line Capacity and Reliability Improvements**
 - Can add capacity with operational improvements and expanding train-sets
 - Signal system upgrades
- **Resiliency Phase 2: Further Implementation**
 - Portal to protect Aquarium-Maverick tunnel
 - Orient Heights maintenance yard resiliency

We're Imagining: Connecting the Blue Line to the Red Line, creating a downtown superstation, and extending Blue Line beyond to Back Bay and Longwood, and also north to downtown Lynn, to support transformational development

ORANGE LINE 2040



Program Objective: Increase peak-hour service to every 4.5 minutes (3 minutes if development warrants) to serve homes and businesses throughout the growing corridor, serving additional riders from the Lower Mystic region.

We're Doing: Commitments through 2023

- **Fleet Replacement and Maintenance Facility Upgrades**
 - All 120 Orange Line cars are being replaced and 32 more are being added to expand the fleet
 - Roomier cars, larger doors for faster boarding
 - Wellington Car House to be rebuilt and expanded by 2021, with upgraded test track
- **Capacity and Reliability Improvements**
 - Signal, power upgrades to support more frequent service
 - Peak service increased from every 6 minutes to 4.5 minutes

We're Planning: Next Priorities through 2040

- **Additional Capacity Improvements (3-Minute Headways)**
 - Depending on pace of development evaluated by the Lower Mystic Regional Working Group
 - Potential to utilize Wellington test track between Wellington and Sullivan

We're Imagining: Extensions to Roslindale and downtown Everett via spur from Sullivan Square to serve high travel demand. Buildout of a Sullivan Square Superstation, and Downtown Crossing/Park Street/State "Downtown Superstation."

WATER TRANSPORTATION 2040



Program Objective: Support a robust, multi-operator Boston Harbor water transportation system, serving more passengers and destinations with excellent connections to landside T service.

We're Doing: Commitments through 2023

- **Landside Infrastructure Improvements**
 - Awarded FTA grant to upgrade Hingham dock, ramps, and floats
 - Accommodate persons with disabilities at all tide levels
 - Ease boarding and disembarking for all passengers
- **Fleet Expansion to Four Ferries**
 - Two new T-owned vessels accepted, doubling T fleet to four vessels

We're Planning: Next Priorities through 2040

- **Expanded and Better Integrated Multi-Operator Water Transportation Network**
 - Potential new routes
 - Better options for connections between ferry routes
 - Better options to transfer to other modes

We're Imagining: A built-out, comprehensive, resilient, multi-operator network with purpose-built ferries serving thousands more commuters and travelers every day.

PARATRANSIT & ACCESSIBILITY



Program Objective: Ensure that the vast majority of customers can use the MBTA's increasingly accessible fixed-route system, while those who still need The RIDE have more and better service options.

We're Doing: Commitments through 2023

- **RIDE Vehicle Replacement Program**
 - Replacing 84.5% of The RIDE's fleet by mid-2022 with new, lower-emissions vehicles
- **Dispatch Process Redesign to Provide RIDE Customers with Additional Options**
 - Offer customers Lyft, Uber, and taxi options
- **Plan for Accessible Transit Infrastructure (PATI) Phase 1: Plan Completion and Early Actions**
- **Priority Rail Station and Bus Accessibility Improvements**
 - Wollaston, Red Line
 - Oak Grove, Orange Line
 - Hynes, Symphony, Green Line
 - BU West/St. Paul, Babcock/Pleasant Street, Green Line B branch
 - Newton Highlands, Green Line D branch

We're Planning: Next Priorities through 2040

- **Implementation of (PATI) Mid-Term Recommendations**
 - Includes Green Line surface stop accessibility
- **RIDE Service Reimagining**
 - Based on new data and technology and a more accessible fixed route system

We're Imagining: Ridership growth from development around bus and commuter rail stops that supports investment to make them fully accessible.

RESILIENCY



T

Program Objective: Retrofit priority T assets to withstand severe weather and sea-level rise and ensure all new construction meets strict resiliency standards.

We're Doing: Commitments through 2023

- **Systemwide Climate Change Vulnerability Assessments**
 - Using long-term projections, identifies and prioritizes vulnerabilities
- **Blue Line Resiliency and Adaptation**
- **Green Line Portal Protection**
- **Adaptation Strategies for Priority Infrastructure in Collaboration with Municipalities**
 - Partnering with MassDOT, MAPC, EEA and municipal partners on data collection, vulnerability assessment, and solution development

We're Planning: Next Priorities through 2040

- **Resilient Power Supply**
 - Prevent potential disruptions to power supply for Rapid Transit
- **Incremental Implementation of System-Wide Climate Change Vulnerability Assessments**
 - Identify strategies to address vulnerabilities
 - Incorporate resiliency upgrades into ongoing work

***We're Imagining:** An MBTA fully resilient in even the most dire climate scenarios and providing essential mobility for the Boston region amid severe weather and sea-level rise*

PLACE-BASED SERVICE ADDITIONS



Program Objective: Focus new services and expansion projects on providing high frequency, reliable service to better meet the needs of those who live and work in and travel to Priority Places that can support high quality transit service.

We're Doing: Commitments through 2023

- Transit Action Plans for Priority Places (Lynn, Allston, Seaport)
- Service Pilots
- Green Line Extension to Somerville/Medford
- South Coast Rail Phase 1

We're Planning: Next Priorities through 2040

- Placed-based Service Expansions Based on Pilots and Action Plans
 - Bus Rapid Transit
 - Infill Stations
- Better Bus Project Phase 3: Network Redesign Implementation
- Early Actions from MBTA Rail Vision
- Regional Multimodal West Station
- South Coast Rail Phase 2

***We're Imagining:** Rail extensions and new bus rapid transit routes better connecting Priority Places.*

RED LINE 2040



Program Objective: Enable a modernized line with peak trains every 3 minutes to connect residents of transit-oriented housing to growing job centers - all connected to a reimagined Mattapan Line.

We're Doing: Commitments through 2023

- **Fleet Replacement and Maintenance Facility Upgrades**
 - Replacing all 218 Red Line cars
- **Capacity and Reliability Improvements:**
 - Modernizing signals, traction power
 - Improving Alewife bottleneck
 - Peak service increased from every 4.5 minutes to 3 minutes
- **Red Line South Improvements (Wollaston, TOD, Parking Garages)**
- **Mattapan High Speed Line Reimagining and Short-Term Improvements**
 - Vehicles are over 70 years old and replacement parts and components are no longer available
 - Rehabilitate fleet to allow antique trolleys to continue operating until new technology becomes available

We're Planning: Next Priorities through 2040

- **Downtown Pedestrian Connection between the Red and Blue Lines**
- **Strategic Track Reconfiguration to Address Bottlenecks**
 - Improve travel times and reduce delays by reconfiguring current track/signal bottlenecks at Park Street and Columbia Junction at JFK/UMass
- **Reimagine Mattapan Line**
 - Based on reimagining study and outreach

We're Imagining: A connection to the Blue Line and a downtown superstation to improve the customer experience and reduce travel times.

Focus40 Scenarios

DRIVING TRENDS

PLAUSIBLE FUTURES



Greater Boston's visioning document for compact, sustainable growth



Low and moderate income households are choosing to live in more affordable suburbs & Gateway Cities



Technology changes are adopted quickly and radically change the transportation landscape



Enhanced commitment by the Commonwealth to invest in greenhouse gas reduction and resiliency measures

Urbanization

Suburbanization



Urbanization

Suburbanization



Urbanization

Suburbanization



Urbanization

Suburbanization



Urbanization

Affordability

Low Affordability Near Transit



High Affordability Near Transit

Low Affordability Near Transit



High Affordability Near Transit

Low Affordability Near Transit



High Affordability Near Transit

Low Affordability Near Transit



High Affordability Near Transit

Technology

Gradual Evolution



Disruptive Change

Gradual Evolution



Disruptive Change

Gradual Evolution



Disruptive Change

Gradual Evolution



Disruptive Change

Climate Action

Low Collective Action



High Collective Action

Low Collective Action



High Collective Action

Low Collective Action



High Collective Action

Low Collective Action



High Collective Action