Projects and Policies

Projects and Policies

The Go Boston 2030 Action Plan is the product of input from thousands of Bostonians over the course of a two-year process including a Question Campaign, a Visioning Lab, Ideas Workshops, and Futures Survey. The following policies and projects outline the actions the City and its partners must take in order to address the concerns that were heard, the visions for mobility that evolved, and the specific ideas that came from citywide workshops and voting. Along with detailed data analysis, ideas from community members—often only a line on a map, notes on paper, a few sentences online, or a rough concept of what could be achieved—have been evaluated against the City's guiding principles of equity, economic opportunity, and climate responsiveness; analyzed according to metrics linked to the aspirational targets of Go Boston 2030; and evolved into the final policies and projects on the following pages. In the People's Voice II on p83, you can read about how these policies and projects emerged and evolved out of the 3,700 ideas collected.

Local Projects and Policies

Crosstown Projects and Policies

Regional Projects and Policies

Selecting Projects and Policies for the Action Plan

Go Boston 2030 coupled extensive and iterative public engagement with detailed data analysis and projections to develop the final list of policies and projects published in this Action Plan. Of the 58 projects and policies featured on the following pages, all of them came from the database of 3,700 ideas that were collected from the public. Some emerged as explicit recommendations from the public while others were developed as a more specific solution to an issue addressed in the public's suggestions. Policies and projects were selected through a combination of

- identification as early action projects
- a public voting process, and
- a detailed needs assessment.

Each policy and project described in this plan will require a more in depth planning process at the local level to hear from community and city-wide stakeholders and to collaborate appropriately with state agencies and other municipalities prior to implementation.

Early Actions
Early Actions were selected in two batches. Some were identified in the original *Vision Framework* as critical projects and policies that had come up repeatedly through the Question Campaign and already had momentum within City Hall. Others were identified during the Scenario Workshop as projects and policies that had traction and could be implemented in the next five years. The City committed to these projects and policies prior to releasing the public survey.

New City of Boston Projects
Vision Zero: Priority Corridors and Safe Crossings
Vision Zero: Neighborhood Slow Streets
Better bike corridors
Green Links Network
Bikeshare network expansion
Increased maintenance for sidewalk accessibility, smoother roads, and markings
Public Realm Plan
[Protected bike lanes] Commonwealth Avenue beyond Packards Corner
Summer Street protected bike lane

New City of Boston Policies
Traffic signal retiming and synchronization at major arterials
Performance-based Meter Pricing
Climate adaptation requirements
Development review guidelines to better address transit oriented development and affordable housing
Autonomous Vehicle Policy

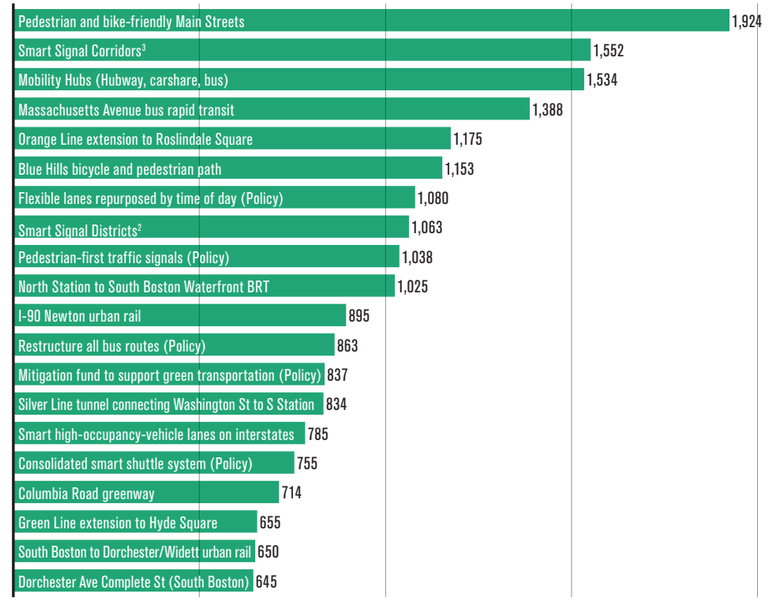
The City of Boston will also collaborate with State agencies to work on the following projects and policies
Fairmount Indigo Line service improvements
Bus service reliability improvements
Key to the City
Orange Line and Red Line service improvements
Fair MBTA fare policy and extended service hours
Improved Silver Line - Dudley to Downtown
Forest Hills to Roslindale Square Rapid Bus
Green Line improvements

Selecting Projects and Policies

Online and Paper Futures Survey
Roughly 20 projects and policies rose to the top in the public's selections on an online survey[1] and paper ballot that presented 48 ideas as part of four possible futures—Go Local, Go Crosstown, Go Regional, and Go Tech. These futures included ideas from the database of roughly 3,700 public suggestions received through the Ideas Campaign. These ideas were refined at the Idea Review Session and then organized at the Scenario Workshop.

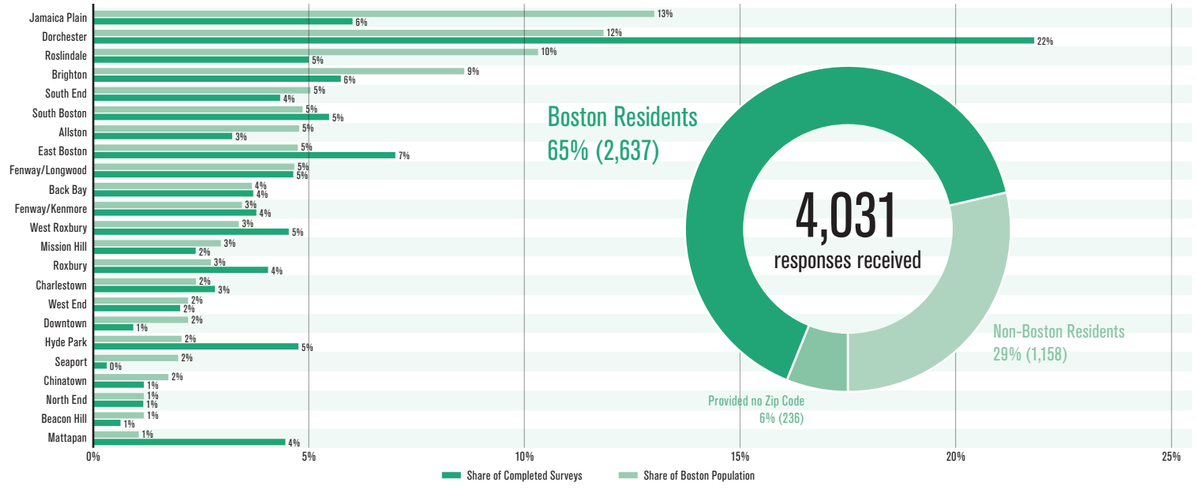
The results of the public survey were tabulated by zip-code in order to weight the results from the 4,000 participants so that there was proportional representation for each neighborhood based on its population. The list of top 20 projects and policies for Boston residents, based on weighted neighborhood results, was nearly the same as the top projects and policies for all survey participants, even though nearly a third of respondents live outside the city.

Top 20 for all survey participants



[1] You can view the survey online at *fluidsurveys.com/s/goboston2030/*
[2] South Boston Waterfront, Bulfinch Triangle, and Dudley Square
[3] Essex and Kneeland Streets, Dorchester Ave, Blue Hill Ave, Morton Street, Melnea Cass and Columbus Ave, and Massachusetts Ave

Survey Overview Active May 24th through July 3rd



Selecting Projects and Policies

Needs Assessment
Projects and policies were also identified based on a detailed needs assessment that studied which ideas were needed to meet the Go Boston 2030 targets and support projected growth. The Vision Framework identified a list of measurable and aspirational targets across nine themes. These targets must be met in order to meet the future needs of a growing population and increased economic activity, to improve equity, and to increase the sustainability and resilience of the city's mobility systems. Using modeled travel projections from the region's Central Transportation Planning Staff (CTPS) and GIS (mapping) analysis, projects and policies were pulled from the idea database to improve Go Boston 2030's performance against those targets that could be forecasted geospatially. The scoring tools developed were applied to the projects and policies that had already been selected, and the evaluation identified the following additions to the final list:

Expanded Demand Management Program and TDM Office
Neighborhood Complete Street Corridors
Fairmount Greenway Neighborways
SW Corridor Extension to Back Bay and MGH
Longwood Transit Hub
Fairmount Indigo Line Urban Rail
LMA to JFK rapid bus via Dudley and Uphams
Oak Square to Comm Ave Improved Bus Corridor
Inner Harbor Ferry Expansion
Dudley Square Transit Hub
Boston Metro Transit District
Sullivan Square Enhanced Transit Hub
Morrissey Boulevard Resilient Complete Street
Climate Protection for Vulnerable MBTA Stations
West Station Transit Hub
West Station Rapid Bus to LMA, Kendall, and Havard Square
South Station Expansion

Together these policies and projects represent a commitment by the City to implement and advocate for a set of actions and infrastructure projects that came from the public who engaged by sharing their 3,700 recommendations, visiting the scenario workshop open house, and participating online or on paper in the futures survey.

Project and Policy Pages

This chapter outlines the specific details of policies and projects with information that will be used to continue programs, start design work, or begin a community process. Collectively, these pages describe what the City hopes to implement or advocate for over the coming 15 years and beyond.

On each page, you will find the name of the project or policy, a brief caption about it, a description of what it will look or feel like when fully realized, and the impacts it will have on future mobility. The pages also include information about implementation, including approximate costs, potential funding sources, the responsible agency or agencies, and a projected timeframe. Maps, renderings, and images provide a geographic and visual sense of where and what the project will be. Best practices from across the country demonstrate how similar ideas have been implemented nationwide with web links for additional information. Speech bubbles in yellow share quotes from the Idea Campaign that came from the public and informed the selection and description of the project or policy.

Finally, this list of projects and policies reflects a thorough data analysis that scored ideas based on their likely progress towards meeting nine of the aspirational targets individually and comprehensively. Scores from 0 – 3 (shown as 0:○, 1:◔, 2:◕, 3:●) indicate the impact of each idea in achieving each metric. Using mapping tools, Go Boston 2030 studied and scored the following:

Access 1
To what extent will the project or policy increase the number of homes within a 10-minute walk of a rail or key bus route, Hubway station, and carshare?

Access 2
To what extent is this project or policy likely to decrease commute times for residents living in areas with above-average commute times?

Safety 1
How much is a project or policy likely to reduce the number of fatal and severe-injury crashes?

Safety 2
To what extent will the project or policy increase the number of households within a five-minute walk of a protected bicycle facility or shared use path?

Reliability
How much is a project or policy likely to reduce wait and travel times for MBTA customers?

Affordability
To what extent will the project or policy reduce the transportation cost burden for very low income individuals?

Sustainability/Resiliency 1
To what extent will the project or policy improve resiliency or provide an alternative transportation option during a flood or snow event?

Sustainability/Resiliency 2
How much is a project or policy likely to reduce greenhouse gas emissions from transportation?

Governance
Does this project or policy assign capital improvement dollars to underserved communities to improve the equitable distribution of investment?

City of Boston Ongoing Policies and Projects

In addition to the Early Action Projects identified in the Go Boston 2030 Action Plan, additional projects and policies, managed by the City of Boston, are currently underway.

Policies

Boston Complete Streets Guidelines
Revised policies under review

Revisions and additions to the guidelines, originally published in 2013, with a focus on public realm features
www.bostoncompletestreets.org

Future of Parking in Boston
Policies under review

Parking polices that build on national best practices with a focus on expanding community access, reducing demand, and increasing opportunity for shared services
www.abettercity.org/docs-new/Future_of_Parking_in_Boston.pdf

DriveBoston
In progress

Parking spaces in municipal lots and on city streets reserved for carshare vehicles
www.boston.gov/transportation/drive-boston

Complete Streets

Beacon Street (Back Bay)
In design

Current designs include features to reduce speeding and improve safety for people who are walking, biking, and driving as well as a potential separated bike lane.
www.visionzeroboston.org/beaconst

Dudley Street (Roxbury)
In design

Current design includes wider sidewalks, improved access to the bus station, and a separated bicycle lane
www.boston.gov/departments/transportation/dudley-square-design-project

Harrison Avenue (South End)
In design

Current design includes wider sidewalks and a protected bicycle lane between East Berkley and Herald Streets

Melnea Cass Boulevard (Roxbury)
In design

Neighborhood friendly corridor with wider sidewalks, shorter crossings, traffic-flow improvements, and off-street bicycle lanes
www.cityofboston.gov/transportation/melnea

Mt. Vernon Street (Columbia Point, Dorchester)
In design

Preliminary designs explore the need for improved safety, wider sidewalks, and protected bicycle lanes.
www.bostonredevelopmentauthority.org/planning/planning-initiatives/mt-vernon-street-design

Rutherford Avenue and Sullivan Square (Charlestown)
In design

Redesign of existing conceptual designs to accommodate new development related to traffic and including an off-road bike and pedestrian path
www.cityofboston.gov/transportation/rutherford
and *www.boston.gov/departments/transportation/rutherford-avenue-sullivan-square-design-project*

Boylston Street (Fenway)
In design and construction

Completed project will include wider sidewalks with street trees and other greenscape elements as well as a separated bicycle lane
www.bostoncompletestreets.org/projects/boylston-street-fenway/

Commonwealth Avenue Phase 2 (Allston/Brighton)
In construction

Final design includes fully-accessible Green Line stations, separated bike lanes, protected intersections, transit priority, and a safer design for all users
www.boston.gov/departments/transportation/commonwealth-ave-phase-2a

Quincy Street (Dorchester)
In construction

Final design will improve pedestrian travel and accessibility, traffic flow, and streetscape elements between Blue Hill Avenue and Columbia Road
www.keepbostonmoving.org/portfolio/quincy-street/

Major Bridges

North Washington Street Bridge
In design

New bridge will have wider sidewalks, gathering places, innovative accent lighting, protected bicycle facilities, and an exclusive bus lane.
www.keepbostonmoving.org/portfolio/north-washington-street-bridge

Northern Avenue Bridge
In design

Ongoing design process began with a design competition to envision a new bridge that addressed mobility, preservation, and sense of place.
www.northernavebridge.org

Main Streets Districts/ Neighborhood "Squares"

Hyde Square (Jamaica Plain)
Construction beginning in 2017

Final design includes enhanced public square with sidewalk expansion and public art.
www.boston.gov/news/artist-cristina-parre%C3%B1o-alonso-selected-public-art-project-hyde-square

Audubon Circle (Fenway)
In construction

Completed project will increase safety for pedestrians, bicyclists, and drivers and have four small rain gardens in each corner.
www.boston.gov/departments/transportation/fenway-longwood-kenmore-design-projects
www.audubooncircle.org/projects/2015/8/11/audubon-circle-redesign-update

Central Square (East Boston)
In construction

Completed project will feature wider sidewalks, narrowed streets, and an expanded park.
www.keepbostonmoving.org/portfolio/central-square

North Square (North End)
In design

Current design enhances the public square with site improvements including a shared street.
keepbostonmoving.org/portfolio/north-square

Multiuse Paths

Fenway-Roxbury Connector
In design

The proposed off-road path extends the Southwest Corridor to the Emerald Necklace via Ruggles Station.
www.app01.cityofboston.gov/GreenLinks

Fenway-Yawkey Multiuse Path
In design

The proposed off-road path connects the Yawkey commuter rail station with the Fenway Green Line station and extends the Emerald Necklace.
www.boston.gov/transportation/boston-green-links

South Bay Harbor Trail (Roxbury, South End, and South Boston)
In design and construction

The trail connects residents to jobs, public transportation, and cultural institutions. Its route crosses over bridges and under highways, including public and private parcels.
www.boston.gov/departments/transportation/south-bay-harbor-trail-project

Connect Historic Boston (North End, Charlestown, Bulfinch Triangle, and Beacon Hill)
In construction

Completed project will feature pedestrian paths and protected bike lanes on Commercial Street, Causeway Street, Staniford Street, and Constitution Road in addition to shared streets on Union and Joy.
www.cityofboston.gov/publicworks/connecthistoricboston

Local Projects and Policies

"Safe and friendly" were consistently words that residents shared when describing the streets they wanted to live on, to walk and bike along, or to wait for a bus on, and these projects and policies set out to realize that vision. By enhancing local access, the realization of these Go Boston 2030 projects will mean that most residents will not need to use a car for the majority of their short trips. Buses will arrive reliably as they are prioritized on certain narrow corridors. Protected bike lanes will better connect confident but concerned cyclists who want the opportunity to pedal to their destinations. Travel safety, particularly for people walking, will dictate design decisions and determine the priority for funding and implementation.

Policies

Climate Adaptation Requirements
Development-Financed Funds for Multimodal Transportation
Pedestrian-First Traffic Signals
Public Realm Plan
Performance-based Meter Pricing
Expanded Demand Management Program and TDM Office
Flexible Lanes Repurposed by Time of Day

Early Action Projects

0 to 5 years

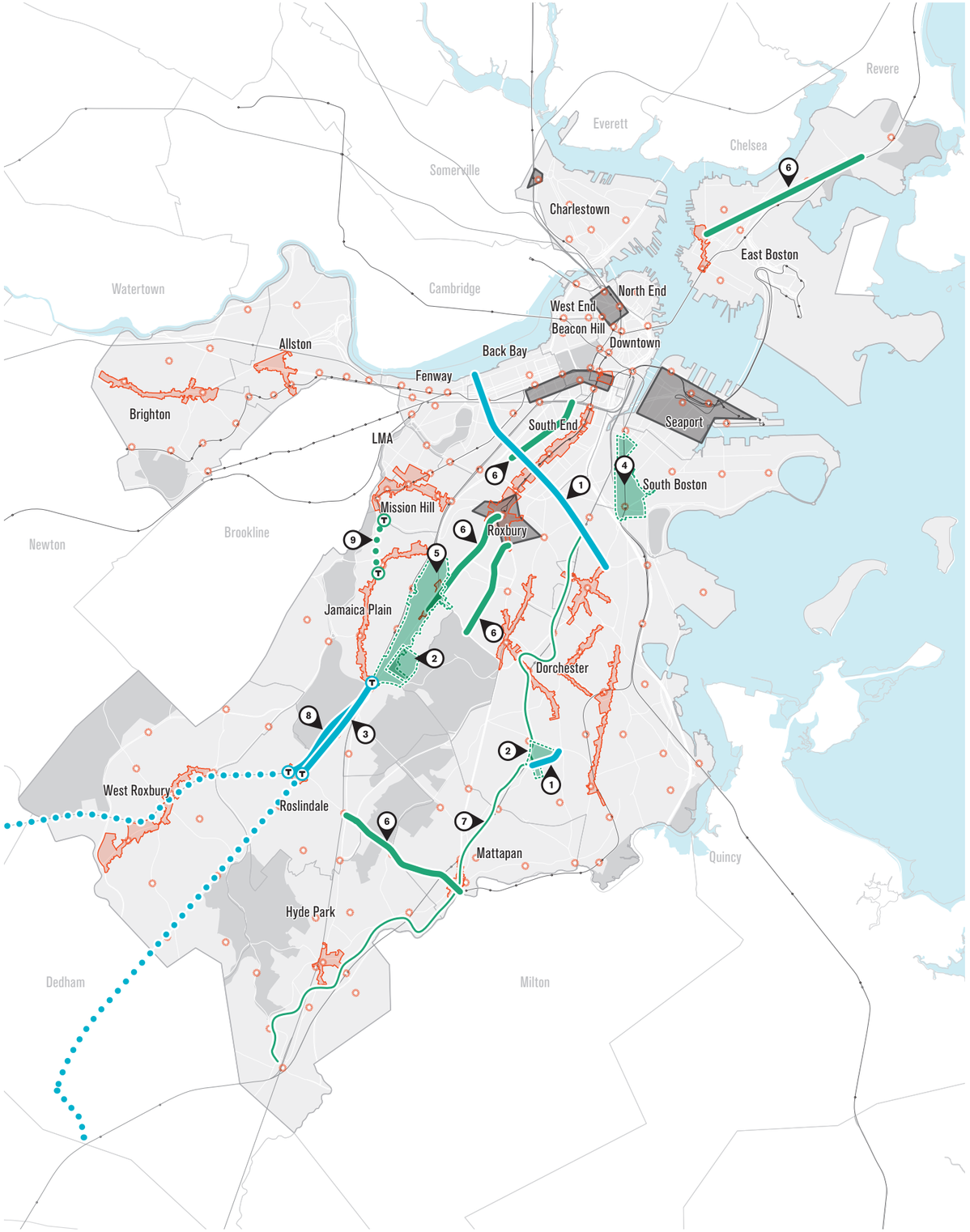
- Walk- and Bike-Friendly Main Streets *
- Neighborhood Mobility microHUBs*
- (1) Vision Zero: Priority Corridors and Safe Crossings*
- (2) Vision Zero: Neighborhood Slow Streets
- Better Bike Corridors (p152)
- Bikeshare Network Expansion (locations TBD)
- (3) Forest Hills to Roslindale Square Rapid Bus
- (4) Dorchester Ave Complete Street (South Boston)
- (5) Washington St/Columbus Ave Complete Street (JP/Roxbury)
- (6) Neighborhood Complete Street Corridors
- (7) Fairmount Greenway Neighborways
- Smart Signal Districts*

Longer Term Projects

5 to 15+ years

- (8) Urban Rail Extension to Roslindale Square
- (9) Green Line Extension to Hyde Square

* Top policy or project



Local

Climate Adaptation Requirements

City transportation contracts will require analysis of climate impacts

Policy Score

- ○ Access 1
- ○ Access 2
- ○ Safety 1
- ○ Safety 2
- ○ Reliability
- ○ Affordability
- ● Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ● Governance

Identified on the ballot as an Early Action commitment

Policy Description

Future designs for Boston streets will include a two-part evaluation and analysis that looks at how climate change will affect the street based on its geography and other design characteristics, as well as how the design of the street could influence the effects of climate change on the surrounding neighborhood. A demonstrated understanding of how stormwater, heat, and coastal flooding could affect a roadway under future climatic conditions and of how the roadway could contribute to reducing the effects of climate change on the surrounding neighborhood will generate appropriate site-specific responses ranging from innovative design to regrading to bioswales to new pavement materials.

The King Tide in October 2016 demonstrated the impacts of future sea level rise.

Benefits and Issues Addressed

Current climate projections indicate that more roadways will become increasingly susceptible to flooding, particularly during extreme high tides and storm events. A range of innovative design solutions are needed, particularly for streets in East Boston and South Boston. In collaboration with the Environment Department and the Boston Water and Sewer Commission (BWSC), BTD will ensure that new roads are prepared to meet the unique demands of a changing planet.

Implementation

In collaboration with the Environment Department and BWSC, BTD and PWD will ensure that new infrastructure contracts will require a climate related evaluation including the potential impact of flooding and costs to mitigate.
Time Frame: Five years

Best Practices

DCR's Morrissey Boulevard Redesign project in Boston will address its regular flooding due to tides and extreme weather.
www.mass.gov/eea/agencies/dcr/conservation/planning-and-resource-protection/projects/morrissey-boulevard-redesign-for-reconstruction.html

Grand Rapids, MI, has adopted "Vital Streets and Sidewalk Spending Guidelines," mandating the use of green infrastructure when upgrading road and stormwater infrastructure. A measure for a new tax to fund the implementation of these guidelines, which require the use of green infrastructure during street upgrades was supported by 66% of voters.
kresge.org/sites/default/files/library/climate-adaptation-the-state-of-practice-in-us-communities-full-report.pdf

Public Input

"Increase funding for adaptation, including new tax revenue. Improve infrastructure to be resilient."
–Chinatown roundtable

Local

Development-Financed Funds for Multimodal Transportation

Incentivize more non-auto travel and infrastructure as part of new land developments

Policy Score

- ● Access 1
- ● Access 2
- ● Safety 1
- ● Safety 2
- ● Reliability
- ● Affordability
- ○ Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ● Governance

#13 in public voting

Policy Description

Development projects in Boston with more than 50,000 square feet of floor area are currently required to file a Transportation Access Plan Agreement (TAPA) with BTD. Initiating a mitigation fund from large developers that would be pooled to comprehensively improve sustainable transportation choices in a neighborhood, district, or corridor could support more substantive investments in employer-based demand management programs, transit related improvements, protected bike facilities, walkability improvements, etc., than any single developer can provide independently. A shared funding pool also helps remove the association of a single development with traffic impacts that have been created over time by many developments, fostering a shared investment in needed multimodal solutions.

Benefits and Issues Addressed

The TAPA is also a requirement of the Boston Planning and Development Agency's (BPDA) Article 80 zoning review process. TAPAs require developers to provide transportation demand management measures, traffic mitigation measures, and funding for improving transit and bicycle access. However, even as each TAPA is executed separately, funds can be pooled to make more systemic changes. Currently Harrison Avenue in the South End and Boylston Street in the Fenway are being designed and constructed with pooled funds from new development along the corridors. Funds can also be used to fill gaps in operations and provide maintenance funding for green infrastructure, plazas, and other features often found in TAPAs.

Implementation

Who's responsible: BTD in collaboration with the BPDA and the Environment Department
Time Frame: Ongoing

Best Practices

Cambridge, MA, regularly requires a proportional contribution from new large developments towards transportation programs as mitigation for potential impacts. Contributions have funded city staff, the EZRide Shuttle, traffic calming, and more.

Left: Developers reconstructed an entrance to the Downtown Crossing T station while building the plaza and driveway at Millennium Tower

Public Input

"Allowing developers to buy out of parking requirements will improve housing projects for all, and funds raised can build central parking garages and other infrastructure improvements."
–02139

"Instead of parking minimums, allow developers to instead pay into green-transit funds. Money from these funds could be used to enhance the walkability of a neighborhood, add a bikeshare station, install protected cycling infrastructure, help pay for additional bus service, etc."
–02135

Local

Pedestrian-First Traffic Signals

Make walk-signals intuitive and give people walking a head start

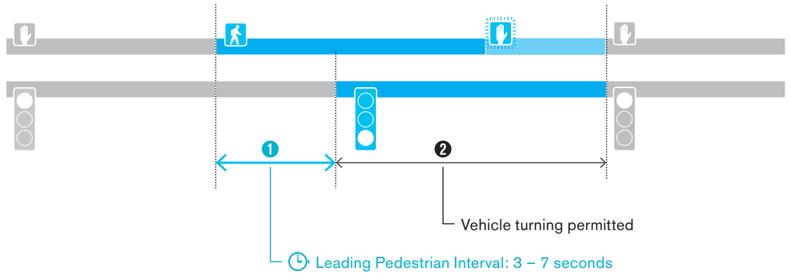
Policy Score

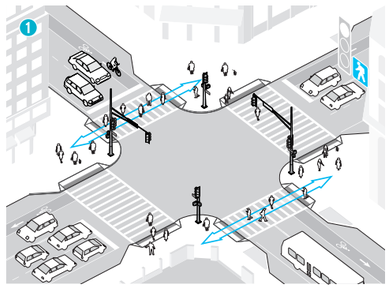
- ● Access 1
- ● Access 2
- ● Safety 1
- ● Safety 2
- ◕ Reliability
- ◕ Affordability
- ○ Sustainability/Resiliency 1
- ◕ Sustainability/Resiliency 2
- ● Governance

#9 in public voting

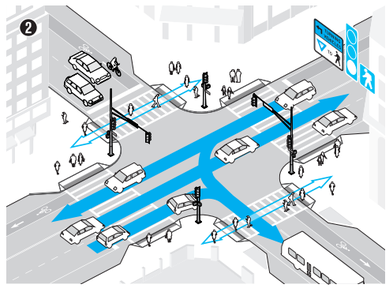
Policy Description

Every trip begins and ends with at least a short walk. Our traffic signals and intersection designs will recognize the importance of supporting people on foot by shortening wait times at crossings and making signals adapt in real time to pedestrian behavior and flows. Automatic pedestrian phases–not requiring people to push a button–will be standard, as will countdown timers with audible indications for those with hearing impairment. Leading Pedestrian Intervals (LPI's) will allow people to start crossing the street and be seen before cars are permitted to move or turn with a green light, reducing incidents of right-turning vehicles hitting or startling walkers. Walk signals will be shown on every intersection leg at any phase when there are not conflicts with oncoming cars. A "Don't Walk" will only be shown when the traffic is about to be released, allowing more time for more people to cross safely.





Leading Pedestrian Interval



Vehicle turning permitted

Image source: *Boston Complete Streets*

Benefits and Issues Addressed

Boston's walk-friendliness is often measured by walking distances and intersection frequency, but not all of our traffic signals provide convenient wait times, intuitive signal patterns, or minimum crossing distances. Many Bostonians regularly ignore signals if they show a "walk" too infrequently, which sometimes leads to conflicts. By reprioritizing people on foot at each intersection and making "walk" signals the norm, the City can promote walking for longer trips, create stronger perceptions of safety, reduce collisions, and create an environment where the temptation to cross the street "incorrectly" is dramatically reduced. Increased walk times can benefit older adults and people with disabilities the most.

Implementation

Who's responsible: BTD is developing new traffic signal policies to build on existing work such as installing LPIs
Time Frame: Ongoing

Best Practices

Since 2010, Washington, D.C., has installed over 160 leading pedestrian intervals (LPIs) at intersections. Anecdotally, DDOT found that these were more effective when used in concert with No Turn On Red restrictions for vehicles.
www.pedbikeinfo.org/pdf/Webinar_PSAP_120215.pdf

A study in State College, PA, found that LPI reduced pedestrian-vehicles crashes by almost 60%.
nacto.org/docs/usdg/safety_effectiveness_of_lpi_fayish.pdf

Oakland, CA, is in the process of enacting a new signal policy that will prioritize pedestrians based on signal location and pedestrian counts. The policy is aimed at eliminating the need for pedestrians to cross using a push button and instead provides a pedestrian phase as a default.
www.gjel.com/blog/oaklands-new-pedestrian-signal-policy-a-half-step-forward.html

Public Input

"Maximize people (especially kids!) crossing on foot, not automobiles, at intersections."
–Roslindale roundtable

"Pedestrian safety and convenience should be #1 in Boston. ... make all pedestrian signals automatic all the time, as many big cities across the US and the world typically do. If people know they will always get a walk signal, they are more likely to wait for one, improving safety for everyone."
–02143

Local

Public Realm Plan

Short- and long-term neighborhood public space projects

Policy Score

- ○ Access 1
- ○ Access 2
- ◔ Safety 1
- ○ Safety 2
- ○ Reliability
- ● Affordability
- ○ Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ● Governance

Identified on the ballot as an Early Action commitment

Policy Description

There are many potential improvements to the streets, sidewalks, and plazas across the City that will make them more welcoming to pedestrians, engaging for visitors, and inviting for people needing somewhere to wait. BTD, in conjunction with other City departments, hopes to activate and improve areas across the city with placemaking, public art, green infrastructure, and wayfinding. Building upon successful initiatives like those in Hyde Square in Jamaica Plain or at the Tontine Crescent in downtown Boston, pilot tests for plazas and streetscape improvements will happen annually. Guidelines for community members to follow for installing parklets, painting street murals, and prototyping with other tactical interventions citywide will also be forthcoming.

A pop-up plaza on Franklin Street between Arch and Hawley Streets served as a public realm demonstration project in August of 2016.

Benefits and Issues Addressed

At least 56% of City-owned land is streets and sidewalks, and while getting around is the primary use for this space, there is increased awareness that the City also needs to leverage our infrastructure in order to create a sense of place and bring communities together. Ensuring that sidewalks and plazas are accessible to people of all abilities and feel inclusive to all users will address issues of equity in all neighborhoods. Planting trees and installing street gardens and permeable pavers that catch rain and nutrients makes streets more inviting while mitigating against greenhouse gas emissions and preparing for extreme rain events.

Implementation

Approximate Cost: Determined by project, approximately $500,000 for design and construction per year
Potential Funding Sources: City capital plan and developer funding
Who's Responsible: BTD with Public Works, BPDA, and Boston Arts Commission
Time Frame: Ongoing

Best Practices

Boston's *Complete Streets Guidelines* provide guidance to ensure that Boston's streets are designed as great public spaces for all users.
bostoncompletestreets.org/about/

The City of Toronto is developing a Parks and Public Realm plan to prioritize placemaking in the planning process.
www1.toronto.ca/wps/portal/contentonly?vgnextoid=43b25f06ea6bb410VgnVCM10000071d60f89RCRD&vgnextchannel=222101f2e9745410VgnVCM10000071d60f89RCRD

San Francisco's City Design Group has developed a series of neighborhood-specific public realm plans that focus on "putting people and the quality of place foremost."
sf-planning.org/urban-design-city-design-group

Public Input

"Make it incredibly easy to make 'slow streets,' 'Play streets,' and 'block party streets.'"
–02108

"Beauty = important in city"
–Roslindale roundtable

Local

Performance-based Meter Pricing

Set differentiated parking rates based on demand to improve availability at curbside

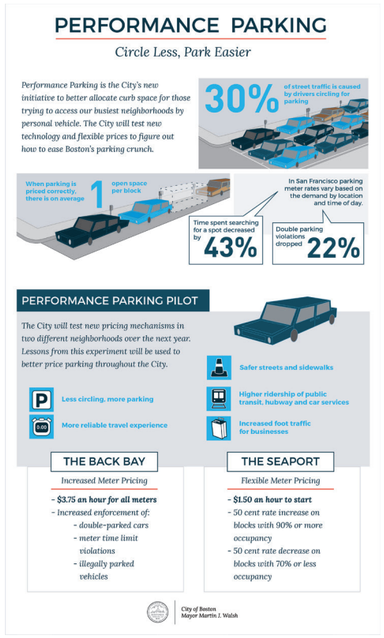
Policy Score

- Access 1: ◕
- Access 2: ●
- Safety 1: ●
- Safety 2: ◔
- Reliability: ○
- Affordability: ●
- Sustainability/Resiliency 1: ○
- Sustainability/Resiliency 2: ●
- Governance: ●

Identified on the ballot as an Early Action commitment

Policy Description

At the more than 8,000 metered parking spaces in the city, new technology is allowing BTD to set variable meter prices. A pilot program has begun in Back Bay and will begin in April 2017 in the Seaport. At peak times in busy commercial districts, higher parking prices encourage faster turnover and compete with nearby garage rates. Parking meters can continue to operate later into the evening or earlier in the morning and be installed in more neighborhoods at a lower price point that regulates parking without discouraging potential customers. The new ParkBoston app also allows drivers to add time to a meter that is about to expire and extend beyond the regular maximum time-limit.



Benefits and Issues Addressed

Repeated studies show that roughly 30% of traffic in commercial areas is generated by people looking for parking and that pricing parking at the right levels can ensure that there is the right amount of availability on a block. With properly priced parking, drivers can find a spot more easily, which reduces congestion and the additional traffic and safety problems associated with circling and double parking. Variable meter pricing allows for higher rates in neighborhoods where garage parking prices are high and there are numerous transit alternatives. It also allows for low-priced meters to be installed elsewhere in the city. Where new or higher meter prices are implemented, parking benefit districts can be created so that the increase in parking fees is used to fund other transportation improvements in the surrounding area.

Implementation

Who's Responsible: BTD and MONUM
Potential Funding Sources: BTD operating budget
Time Frame: Ongoing

Best Practices

Seattle has implemented performance-based meter pricing. This system takes a data-driven approach to meter pricing and changes prices to reach a goal of a one to two space availability on block faces throughout the city. SDOT monitors blockfaces annually, and will put blocks that have too much or not enough availability on a "watch list" for a year before adjusting the rates.
www.seattle.gov/transportation/parking/docs/2016AnnualReport.pdf

SFPark is a classic example of a more dynamic implementation of meter pricing. The City uses sensors to adjust prices to meet demand throughout the day. Currently, rates change no more than once a month, so the system is predictable to parkers. Overall, a two-year pilot found that on average drivers were paying less to park when the prices varied based on demand.
sfpark.org/wp-content/uploads/2014/06/SFpark_Eval_Summary_2014.pdf

More info about our ParkBoston app at *park.boston.gov*

Public Input

"Raise the rates charged at parking meters: They do not match what the garages charge." –91360

"No free parking in December: For years the mayor has allowed free parking at meters in Boston in December. This is supposedly to help businesses. Instead it hurts business. Meter fees encourage parking space turnover and promote sales. End this 'tradition' now." –02110

"Our neighborhood business district is failing to reach its economic potential because employees park all day on streets in spaces that need to turn over for customers. The city should enforce parking time limits or install parking meter kiosks to force turnover and incentivize more locals to walk instead of drive." –Roslindale roundtable

Local

Expanded Demand Management Program and TDM Office

Enchance Boston's capacity to introduce programs that reduce driving

Policy Score

- Access 1: ◕
- Access 2: ◕
- Safety 1: ◔
- Safety 2: ◕
- Reliability: ○
- Affordability: ●
- Sustainability/Resiliency 1: ○
- Sustainability/Resiliency 2: ●
- Governance: ●

This policy recommendation came out of the Needs Assessment

Policy Description

The City will expand upon best practices already in place through BTD's Transportation Access Plan Agreement (TAPA) review process to mandate that all new employers, developers, institutions, and transportation operators participate in or create new programs and incentives to help meet Go Boston 2030's mode shift and other targets. Working in collaboration with existing Transportation Management Associations (TMAs), the City will enforce existing commitments and annual monitoring requirements and promote solutions such as carshare fleets, guaranteed emergency rides home, on-site bikeshare, private mobility hubs, bicycle "pedal and park" park and rides, integrated multimodal mobile trip planners, universal transit access passes, and other essential employee and resident benefit programs that encourage people to travel without a private car.

A Better City TMA provides information about multimodal commute options to employees in downtown and Allston. Among their many programs, they offer guided bike tours to show bike commuters safe route options.
Photo credit: A Better City TMA

Benefits and Issues Addressed

The provision of new transportation supply will be insufficient without new policies that require reductions in the demand for driving. Today, many employees of Boston businesses have their parking subsidized, which disincentivizes transit, walking, and biking. Commuters often have little information available about nearby alternatives and default to driving. With the right financial incentives and simple promotion of alternative travel options, many Boston businesses and residential complexes have already demonstrated dramatic mode shift. Such successes need to be publicized and built upon by mandating the creation of equitably-funded travel programs for all workers and residents and avoiding the perk of "free parking."

Implementation

Approximate Cost: $200,000 per year operating costs for the new office
Potential Funding Sources: APCC fees and TMA support
Who's Responsible: BTD and Environment Department
Time Frame: Establish City TDM office within five years

Best Practices

In 1998, Cambridge, MA, passed the Parking and Transportation Demand Management Ordinance, which requires any new development that adds parking to implement TDM measures and annual monitoring. The City created a new position, PTDM Planning Officer, which manages the program. The program has been credited for reducing driving by 10% and increasing transit use 13%.

Public Input

"Ways to shift modes and funding: Make driving private cars in Boston prohibitively expensive. Use $ to subsidize cheap, frequent buses, vans, and ferries to provide flexible public transit for all neighborhoods. Subsidize free taxis in extreme weather." –02140

"Paradigm shift reducing burden on transportation system. More work from home opportunities. More flexible policies who needs people there 9 – 5." –Roslindale roundtable

Local

Walk- and Bike-Friendly Main Streets

Improvements to neighborhood commercial districts for people traveling on foot and by bike

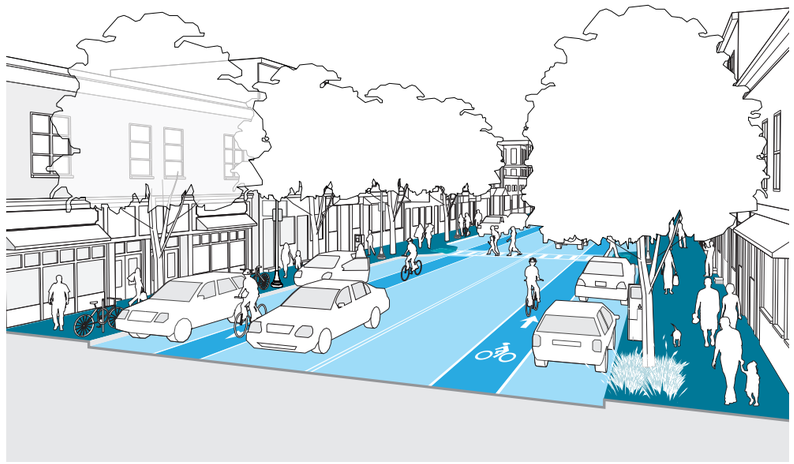
Project Score

- ○ Access 1
- ● Access 2
- ● Safety 1
- ● Safety 2
- ● Reliability
- ● Affordability
- ○ Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ● Governance

#1 in public voting

Project Description

Walking- and bicycling-friendly Main Streets districts would focus on street and sidewalk investments that incentivize walking and biking to and through every local business district in the city. Signalized crossings would prioritize walking with responsive push-buttons or automatic pedestrian cycles, longer walk times that start before turning cars, and shorter crossing distances. Additions such as lighting, benches, and trees would also support people who chose to travel on foot, and all improvements would be made accessible to anyone of any physical ability. Bike-friendly features would include priority for better bike corridors as well as additional bike parking, bikeshare stations, and safer intersection designs. Way-finding signage, parklets, and simplified processes for closing streets to traffic on a temporary basis would also support people choosing to walk, bike, and take transit to our Main Streets.



Vision for a Neighborhood Main Street with small businesses from Boston's Complete Streets Guidelines

Benefits and Issues Addressed

Many of Boston's 21 official Main Streets districts cannot accommodate enough parking for their patrons to arrive solely by car, but the roadways through them are nonetheless often designed to maximize vehicular flow rather than focusing on moving walkers and bicyclists along and across streets to easily and safely shop, dine, and build community on either side of the street. Since many Main Streets are centered around uniquely shaped intersections that can be hard to navigate on foot, improvements like those underway in East Boston's Central Square and JP's Hyde Square could serve as a model for improving walkability—along with co-benefits like green infrastructure and expanded plaza space. People getting off of buses or trains, arriving by bike, or walking from the surrounding residential area will support small businesses with increased foot-traffic and activated sidewalks.

Implementation

Planning Level Costs: $25 million over five years for design and construction
Funding Sources: City capital plan and developer funding
Who's Responsible: BTD and Public Works with Boston Main Streets
Time Frame: Ongoing, with an estimated two to three districts per year

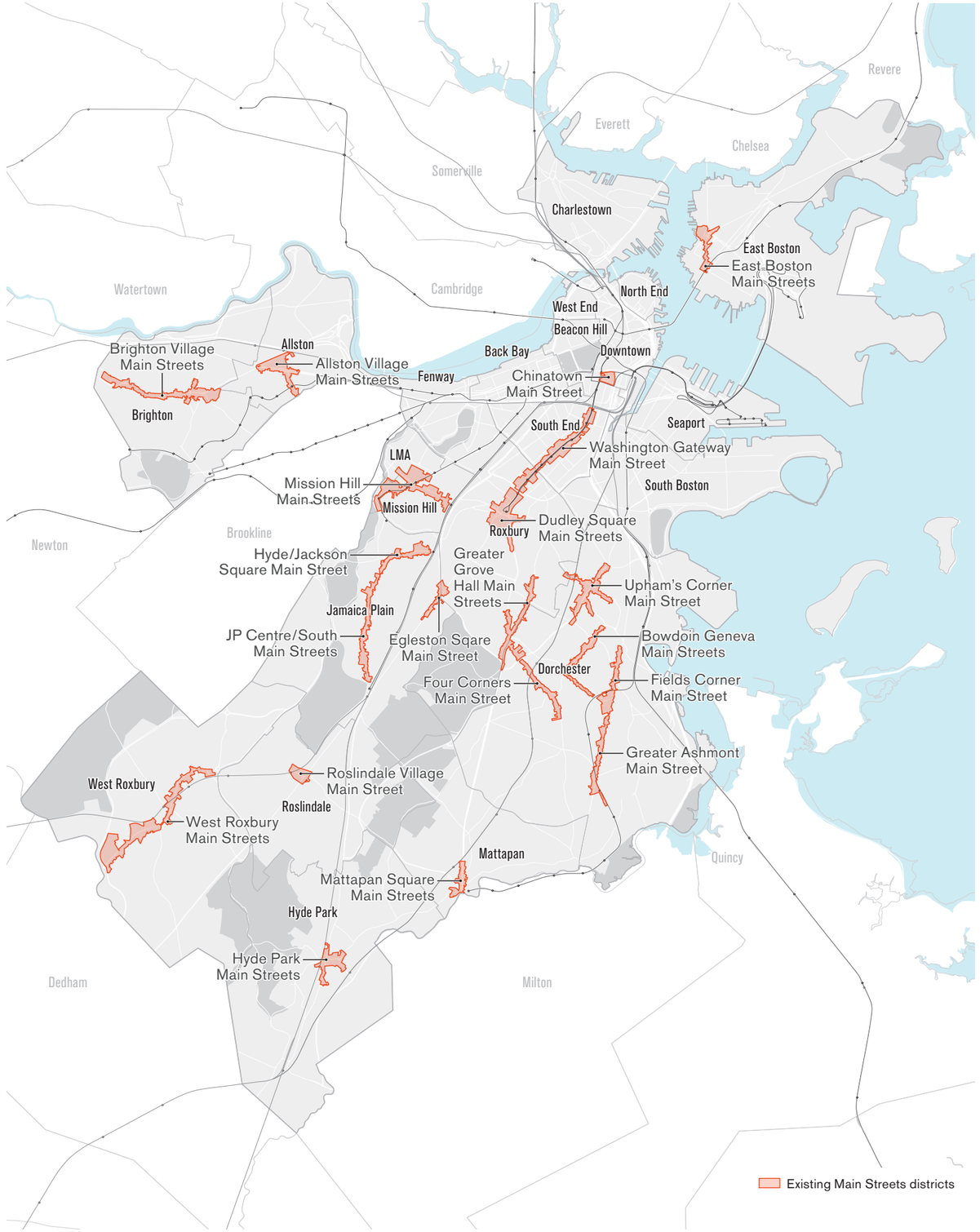
Best Practices

In 2004, Cambridge, MA, completed construction of Lafayette Square at the edge of Central Square. By reclaiming pavement at a triangular intersection and realigning streets at safer right-angles, a new plaza lined with shops was created, crosswalks shortened, conflicts reduced, and a barrier at the edge of Central Square became a new walk and bike friendly gateway.

Public Input

"Make walking fun and desirable – create street culture. Ex. businesses give rewards/discounts for walking/biking."
–Roslindale roundtable

"Add more defined bike lanes on main streets."
–02120



Local

Neighborhood Mobility microHUBs

Multiple prominent neighborhood access points to shared transit resources

Project Score

- ● Access 1
- ◕ Access 2
- ◕ Safety 1
- ○ Safety 2
- ◕ Reliability
- ● Affordability
- ○ Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ● Governance

#3 in public voting

Project Description

Centered around T-stations, bus network nodes, and local destinations such as community centers and small-business districts, Mobility microHUBs are designed to provide and identify a range of connected travel choices. Using clearly-branded kiosks or nodes with real-time interactive information displays about transit schedules and shared vehicle availability, people can connect quickly between bus and train service, a Hubway station, secure bike parking, carshare vehicles, ride-hailing pick-up spots, and electric vehicle charging stations at every microHUB. Coupled with free Wi-Fi and intuitive wayfinding, these nodes become reliable ways to start, continue, or complete a multimodal journey. Placemaking strategies including plazas or parklets, sidewalk amenities, information signs, shelters, and works of art at each of these hubs will make them places that are worth stopping in when you have the time or if you have to wait.

Recent pilot of real-time information kiosk in Faneuil Hall and new wayfinding throughout Boston helps people get to where they need to go.

Benefits and Issues Addressed

People often make their transportation choices based on their confidence that the trip will be reliable. Even in choice-rich Boston, this often means residents opt to use a car or make a one-seat train ride. Trips requiring transfers or changing modes can be more uncertain, so people often drive when other options are available. Mobility microHUBs increase people's confidence in multimodal trips by co-locating multiple travel modes and combining wayfinding and real-time information, supporting regular users who are making daily decisions about which is the best combination of modes to take today and allowing someone visiting for the first time to navigate their trip through the city with ease. Placemaking at each microHUB will create pleasant spaces such that people are comfortable waiting for the next leg of their trip.

Best Practices

San Diego, California

Planned mobility hubs include carshare parking, bikeshare, informational kiosks, transit stops, and EV charging all in a location surrounded by cycling infrastructure, transit-oriented development, mixed use development, and extensive pedestrian facilities. Hubs are placed along light rail and high volume bus routes and designed to be implemented over a 35 year period at a cost of roughly $13 million each. *www.sdforward.com/fwdAsp/mobilityHubStrategy.aspx*

In Los Angeles, the city has framed co-located multimodal transportation services as "Mobility Hubs." A kit of parts, including transit access, bicycle amenities, pedestrian connections, and waiting areas can be assembled to provide a mobility hub. Mobility hubs typically link to a transit center or access point. The City recently received $8.4 million in JARC (Job Access Reverse Commute) federal funding to pursue 13 new hubs citywide. *www.urbandesignla.com/resources/docs/MobilityHubsReadersGuide/hi/MobilityHubsPamphlet.pdf*

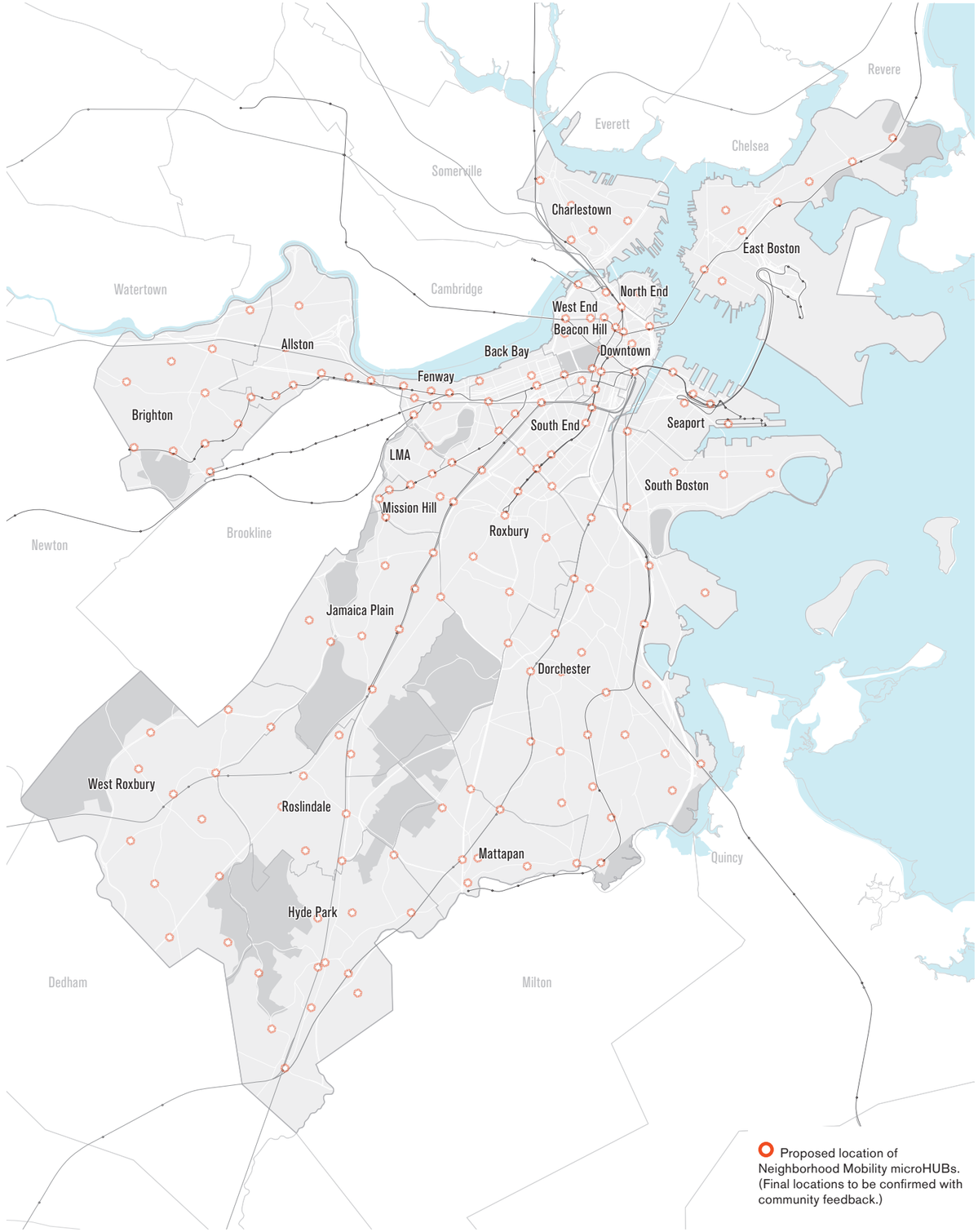
Implementation

Approximate Cost: $500,000 for design and construction
Potential Funding Sources: City capital plan and MBTA funding (FTA provides limited funds for bikeshare installation related to transit)
Who's Responsible: BTD and MBTA
Time Frame: Ongoing over 10 years in coordination with bikeshare and DriveBoston expansion

Public Input

"MBTA stations that are major transportation hubs (DTX, Park St) should have better design and wayfinding."
–Chinatown roundtable

"We felt one of the root causes was around inequality in regard to racism. One of our ideas was that currently our transit hubs were in downtown Boston, what if they were rerouted to higher density and lower economic opportunity to increase the flow of business."
–Chinatown roundtable



Local

Vision Zero: Priority Corridors and Safe Crossings

Project Score

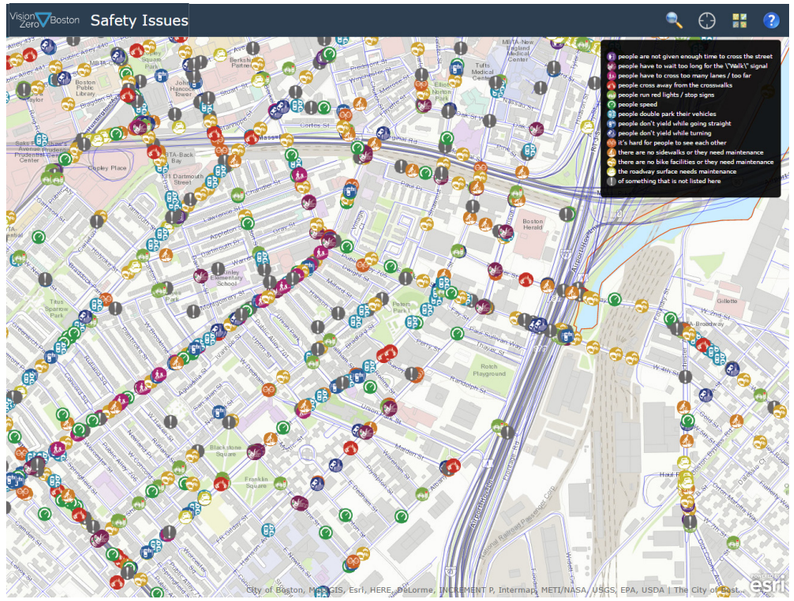
- ○ Access 1
- ● Safety 1
- ● Reliability
- ◔ Sustainability/Resiliency 1
- ◔ Sustainability/Resiliency 2
- ◕ Governance
- ◕ Access 2
- ● Safety 2
- ● Affordability

Identified on the ballot as an Early Action commitment

Safety measures along Massachusetts Avenue and Codman Square; two additional corridors every year and multiple independant intersection improvements

Project Description

Roadway design that prioritizes vulnerable road users on corridors with historic safety concerns will work to reduce traffic fatalities and severe injuries across Boston. The toolkit for improving safety at intersections may include shortening crossing distances, "daylighting" intersections to make pedestrians more visible, restricting turn movements on red, giving people more time to cross on walk signals, and allowing pedestrians to start across the street and be clearly seen before turning cars have a green light. Along the streets there will be a combination of protected bike lanes, speed radar signs, fresh pavement markings, and more commercial and short-term parking to prevent double-parked vehicles from stopping in dangerous places.



Vision Zero has benefited from thousands of crowd-sourced comments recorded on the Safety Concerns map

Benefits and Issues Addressed

Based on historic crash data, recent traffic fatalities and severe injuries, and crowd-sourced interactive safety maps, Massachusetts Avenue and Codman Square were identified as the first two priority corridors for Vision Zero—the City's initiative to eliminate traffic fatalities by 2030. The Vision Zero Task Force, representing multiple city agencies and advocacy groups, does site visits following each fatal incident and will continue to identify new corridors for improvements on an annual basis. By designing streets with pedestrian and cyclist safety at the forefront of the process, statistical and perceived safety will continue to improve across the city.

More info at *www.visionzeroboston.org/*

Implementation

Approximate Cost: $3.1 million a year for design and construction for Vision Zero corridors and safe crossings and Neighborhood Slow Streets
Potential Funding Sources: City capital plan
Who's Responsible: BTD and Public Works
Time Frame: Ongoing with corridors and intersections selected based on crash data, and observations from public input on Vision Zero's Safety Concerns map

Best Practices

Portland, OR, identified the top 30 crash streets and top 30 crash intersections as part of the city's High Crash Corridor Program. They found that more than half of deadly crashes occur on just 8% of the city's streets. As part of their citywide Vision Zero program, the City is focusing resources on these roadways to ensure priority is given in these locations. The City also installed fixed speed-safety cameras along these corridors.
www.portlandoregon.gov/transportation/68873

Public Input

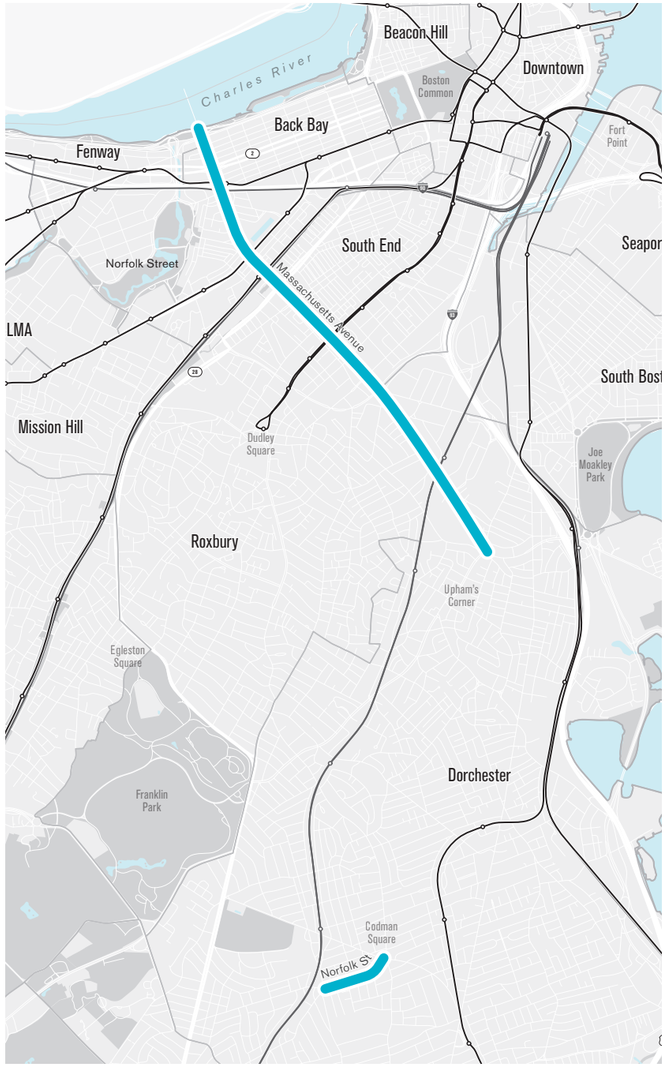
"Do-able in the short term: Make Mass Ave a 'Complete Street'–safe for cyclists, pedestrians, and cars."

–02115

"Codman Square Safety Plan for Pedestrians and Cars: A roundabout to replace the traffic-lighted intersection [at Washington and Talbot], with pedestrian crosswalks moved away from the intersection and marked by flashing lights, speed bumps, or other safety markings. This will enhance the safety of pedestrians and cars, and add an opportunity to beautify Codman Square."

–02124

Vision Zero safety improvements on Massachusetts Avenue created better protected bike lanes. Photo credit: Toole Design Group



New corridors and intersections will be prioritized in 2017 and additional projects will be added annually.

Crossing in Codman Square before and after Vision Zero intervention. Photo credit: Brendan Kearney/WalkBoston

Local

Vision Zero: Neighborhood Slow Streets

Traffic calming on residential streets

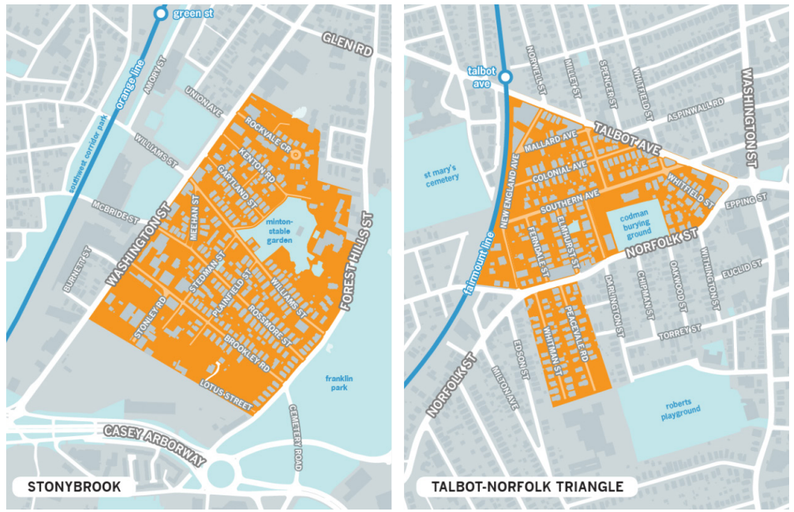
Project Score

- ○ Access 1
- ● Access 2
- ◕ Safety 1
- ○ Safety 2
- ● Reliability
- ◕ Affordability
- ● Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ● Governance

Identified on the ballot as an Early Action commitment

Project Description

Through the Neighborhood Slow Streets program, residents can apply for traffic calming on a cluster of residential streets within their neighborhood. Selected districts will work with the City to implement a variety of designs to slow traffic across 10-12 blocks, including speed humps, curb extensions, small traffic circles, and wiggles in the roadway (called chicanes). When entering a Slow Streets area, signage and pavement markings will indicate to drivers that their behavior should change.



New Slow Street zones will be selected on an annual basis. Applications are available online at *www.boston.gov/transportation/neighborhood-slow-streets*

Benefits and Issues Addressed

Residents across the city report a growing perception that their residential streets are too heavily trafficked and that drivers are going too fast, making their streets feel uncomfortable to cross or walk along. Such behavior is most common where residential streets are too wide or when they are particularly appealing to people trying to avoid major routes. Traffic calming is especially desirable where higher numbers of children or older adults are present, such as near schools and parks. Through this program, neighbors come together to develop strategies for improving the safety of their streets with specific design improvements that naturally slow cars down.

Implementation

Approximate Cost: $3.1 million a year for design and construction for Vision Zero corridors and safe crossings and Neighborhood Slow Streets
Potential Funding Sources: City capital plan
Who's responsible: BTD and Public Works
Time Frame: Ongoing, with new districts selected annually based on a community application process and data analysis

More info at *www.visionzeroboston.org/nss*

Best Practices

The Seattle, WA, City Council recently voted to lower speed limits on non-arterial streets to 20 MPH. *www.seattle.gov/Documents/Departments/beSuperSafe/VZ_FAQ_Flyer.pdf*

Safe Streets SF is a citywide effort in San Francisco, CA, that combines marketing, enforcement, and public engagement to increase public awareness of laws related to crosswalk violations and highlights the need to change driving behaviors and give the right-of-way to pedestrians. *www.sfmta.com/about-sfmta/blog/safe-streets-sf-0*

Public Input

"SPEED HUMPS & TRAFFIC CALMING. Plant trees and [use] curbs to keep people driving slowly"
–Roslindale roundtable

"Install traffic calming features to slow traffic, including bulb-outs, traffic tables, etc."
–02143

"Other traffic calming measures, such as pedestrian bumpouts and refuge islands, as well as any improvements like floating bus stops that prioritize transit would be a very welcome addition."
–02131

Local

Flexible Lanes Repurposed by Time of Day

Dynamic curb regulations that can adapt for greater transit or biking capacity when needed or convert to expanded sidewalk space off-peak

Policy Score

- ○ Access 1
- ● Access 2
- ○ Safety 1
- ○ Safety 2
- ● Reliability
- ◔ Affordability
- ○ Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ● Governance

#7 in public voting

Policy Description

Roadways have different demands depending on the time of day and day of the week. Responding flexibly to their real use can allow for a single lane to efficiently serve different uses during peak and off-peak hours. Flexible lanes can become exclusive bus or bike lanes for part of the day or they can change direction for additional capacity depending on the primary direction of travel. Flexible lanes might provide space for evening or weekend expansion of sidewalk space with temporary cafes or parklets, or they can accommodate expanded loading zones during the week to discourage double-parking. With advances in technology, particularly the use of smartphone navigation and autonomous vehicles, more adaptive lane uses will be possible, and the flexibility to adjust for large scale events or detours will also be possible. Boston is already working with Streetparkd, to create the underlying electronic database of all curb regulations citywide. This databased, called BPARC (Boston Parking Atlas and Rules Census), will ultimately link to user apps and technologies that make it easier to find car parking, shared rides, bicycle parking, and more.

Seattle allows only buses and bicycles to travel on certain streets during peak times.

Benefits and Issues Addressed

Currently, lane assignments and directions are fixed, and these lanes can be filled to capacity or be completely under-utilized, depending on the time of day. With flexible lanes, and improved technology to communicate and enforce their use, parking lanes in business districts can accommodate food trucks and parklets at lunch; peak hour travel lanes can become walking and bicycling spaces on weekends along Boston's parkways or downtown streets and waterfront boulevards; farmers markets can regularly flow-out on the street; or center travel lanes could switch their direction of travel to better move neighborhood commuters to their jobs. More parking can be provided overnight for residents and return to travel lanes during the day.

Implementation

Approximate Cost: Costs would be accommodated in BTD operating budget
Potential Funding Sources: BTD operating budget
Who's responsible: BTD
Time Frame: Ongoing

Best Practices

In San Francisco, a collaboration between Lyft and the non-profit Livable City is piloting a program that works within ride-hailing apps to encourage pickups at safe locations. Moreover, these locations are separate from other modes. The user simply sees the new location on their app when they request a ride. *livablecity.org/Curb-The-Cluster/*

In Seattle, WA, the City has implemented lanes that accommodate transit during peak hours of the day, as recommended in the NACTO design guide. The City has nicknamed these "BAT lanes" (Business Access and Transit) and they are currently pursuing additional corridors.
nacto.org/publication/transit-street-design-guide/transit-lanes-transitways/transit-lanes/peak-bus-lane/

www.seattle.gov/transportation/aurora_rapidride_BAT.htm

Public Input

"Open up new routes for high traffic areas. Different let out times for workers"
–02139

Local

Better Bike Corridors

Rebuild streets with protected and low-stress bicycling facilities

Project Score

- ○ Access 1
- ◕ Access 2
- ● Safety 1
- ● Safety 2
- ◕ Reliability
- ● Affordability
- ○ Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ● Governance

Identified on the ballot as an Early Action commitment

Project Description

New projects will aspire to make bicycling a safe, comfortable, and convenient choice for more of Boston's residents and visitors. Better bike lanes go beyond traditional bike lanes, which are painted on the street between moving and parked cars. The city will pursue more priority routes with bike lanes that are separated from moving vehicles and on neighborhood streets that are retrofitted to slow traffic. Similar approaches are part of *Boston's Complete Streets Guidelines* and Neighborhood Slow Streets efforts. Today, Boston residents can experience protected bike lanes on parts of Western Avenue in Allston; Commercial Street, Staniford Street, and Atlantic Ave in the North End and West End; and parts of Beacon Street and Massachusetts Avenue in the Bay Bay. Future better bike lanes are planned for additional corridors, including:

Columbia Road Greenway (**p172**)
SW Corridor Extension to Back Bay and MGH (**p174**)
Melnea Cass Blvd, where protected bike lanes will connect the SW Corridor to Boston Medical Center

Benefits and Issues Addressed

Building better bike corridors has increased cycling rates across the nation and in the Boston region. A connected network of more comfortable routes makes bicycling a more realistic option for people who would otherwise choose to drive or rely on transit. Through the Go Boston 2030 process, the call for building better bike corridors (and facilities that provide "low-stress" connections for cyclists) has been heard from across all neighborhoods and from current and potential cyclists alike.

Protected bicycle lane on Staniford Sreet, Boston

Best Practices

Since 2007, the NYCDOT has installed over 30 miles of protected bicycle lanes throughout the five boroughs of New York City.
www.nyc.gov/html/dot/downloads/pdf/2014-11-bicycle-path-data-analysis.pdf

Based on what was spent by NYCDOT on bicycle infrastructure between 2007 and 2014, a study estimated that the city's 2015 outlay of $8,109,511 resulted in 45.5 miles of new bike lanes. Taking into account the past cost of bike-related injuries and fatalities, they also estimated quality-adjusted life years (QALYs, a common economic metric) for all New Yorkers.
journalistsresource.org/studies/environment/transportation/bike-lanes-cost-effectiveness-public-health

A new study of cities that have expanded bicycle infrastructure with an emphasis on protected bicycle infrastructure shows that this correlates with increased rates of cycling and a decrease in cyclist injuries.
ajph.aphapublications.org/doi/pdf/10.2105/AJPH.2016.303507

In Boston, the expansion of bicycle facilities from 2007-2012 has been shown to correlate with a decrease in cyclist injuries.
ajph.aphapublications.org/doi/pdf/10.2105/AJPH.2016.303454

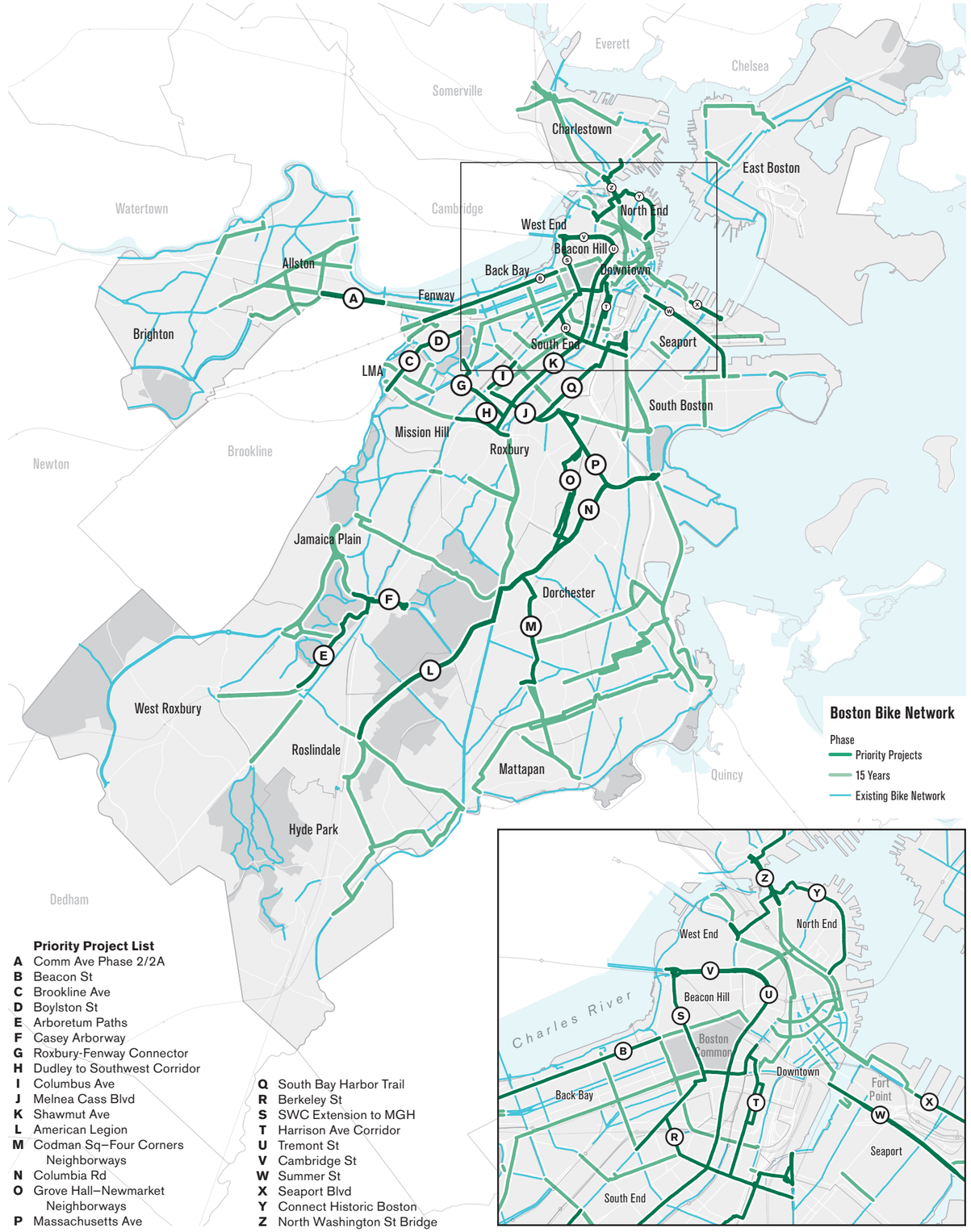
Implementation

Approximate Cost: $1 to $2 million per year for design and construction
Potential Funding Sources: COB capital plan and Boston MPO TIP construction funds
Who's responsible: BTD, Public Works, and MassDOT
Time Frame: Ongoing and over 15 years in conjunction with local community process

Public Input

"Protected bike lanes in Roxbury!: Install them on Blue Hill Ave, Dudley Street, Washington, Warren, and Malcolm X."
–02125

"Cambridge Street: Particularly outbound, the street is VERY dangerous, yet it is the gateway to City Hall, state government, etc. Please remove the median and install dedicated bike route/path."
–02139



Priority Project List

- **A** Comm Ave Phase 2/2A
- **B** Beacon St
- **C** Brookline Ave
- **D** Boylston St
- **E** Arboretum Paths
- **F** Casey Arborway
- **G** Roxbury-Fenway Connector
- **H** Dudley to Southwest Corridor
- **I** Columbus Ave
- **J** Melnea Cass Blvd
- **K** Shawmut Ave
- **L** American Legion
- **M** Codman Sq–Four Corners Neighborways
- **N** Columbia Rd
- **O** Grove Hall–Newmarket Neighborways
- **P** Massachusetts Ave
- **Q** South Bay Harbor Trail
- **R** Berkeley St
- **S** SWC Extension to MGH
- **T** Harrison Ave Corridor
- **U** Tremont St
- **V** Cambridge St
- **W** Summer St
- **X** Seaport Blvd
- **Y** Connect Historic Boston
- **Z** North Washington St Bridge

Local

Bikeshare Network Expansion

Increase the number of bikes and stations to reach more Bostonians

Project Score

- ● Access 1
- ◕ Access 2
- ◕ Safety 1
- ○ Safety 2
- ● Reliability
- ● Affordability
- ○ Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ● Governance

Identified on the ballot as an Early Action commitment

Project Description

Bikeshare is a newer type of public transportation, providing a reliable and low-cost option for getting around the city and adjacent region. Launched in 2011, the regional bikeshare system now has more than 1,600 bikes and 180 stations across Boston, Brookline, Cambridge, and Somerville. The system has grown so that docking stations are within a 5- to 10-minute walk of other stations; this allows people to find an alternative bike or dock if a station is full or empty, without significantly adding time to their trips. By the end of 2022, Boston aims to grow its part of the system 137 new stations, for a total of 268 stations in the city. The growth includes additional stations within the busiest areas of the system and broader access in all densely-populated neighborhoods.

Photo credit: Suzanne Kreiter/Boston Globe

Benefits and Issues Addressed

Bikesharing provides area residents, visitors, and workers with additional transportation options and increases connectivity within the existing public transportation network, serving as a key first-mile/last-mile connection to rapid transit, commuter rail stations, and bus stops. Bikeshare helps reduce the number of single-occupant vehicle trips for work and non-work purposes in the region, supporting Boston's mode shift goals. Additionally, the widespread availability of low-cost, public bicycles means residents can choose an active, healthy lifestyle and reduce greenhouse gas emissions. In the future, bikeshare stations will be integrated into Neighborhood Mobility microHubs (p146) that cluster bus stops, carshare, bikeshare, electric vehicle charging, and improved wayfinding across the city.

Implementation

Approximate Cost: $6.5 million for installation
Funding Sources: Title and other sponsorships, advertising, private foundation and public agency grants, developer funding, user-generated revenues, and COB capital and operating funds
Who's Responsible: BTD
Time Frame: Ongoing

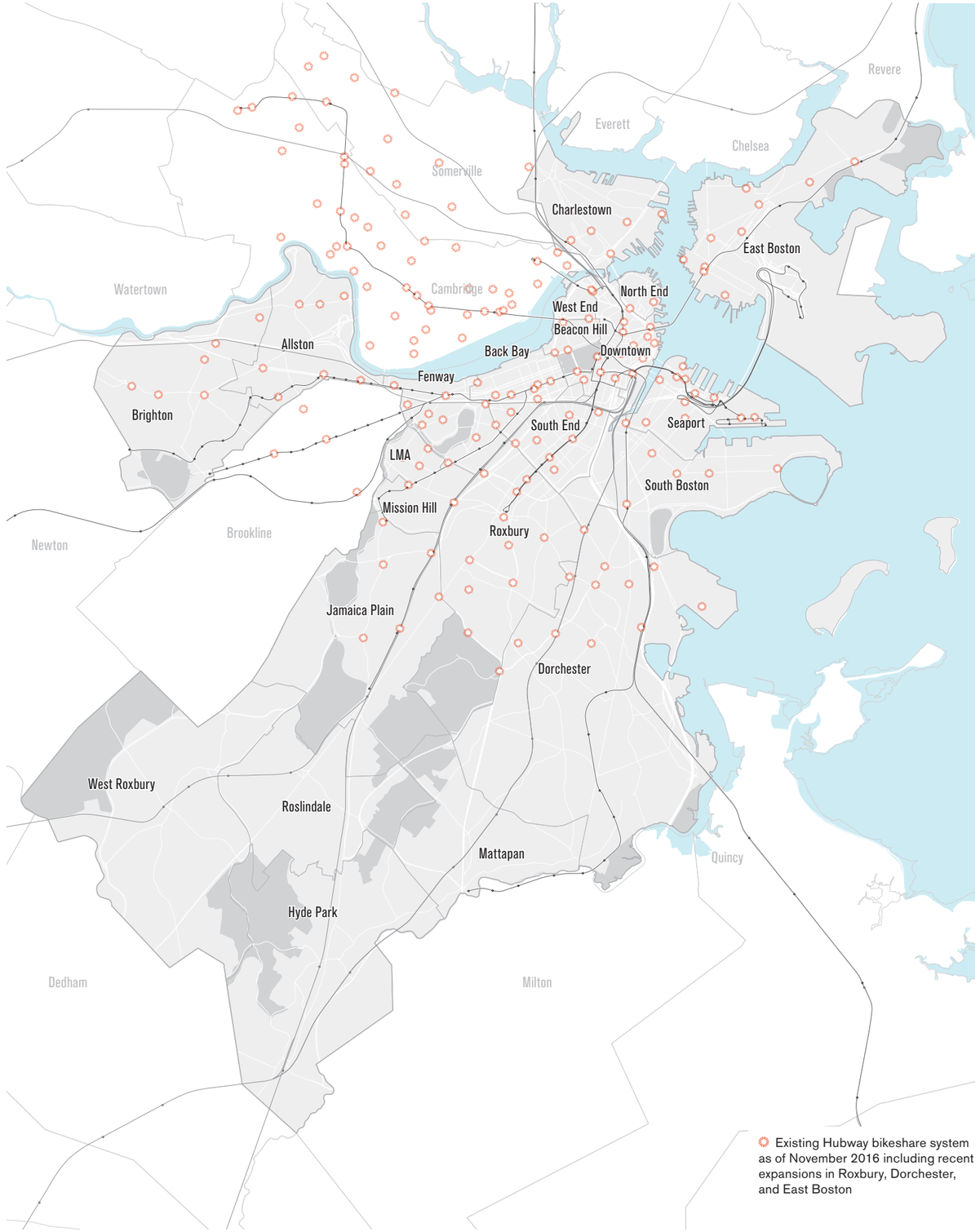
In 2016, 23 new bikeshare stations were installed in Roxbury, northern Dorchester, East Boston, Brighton, and the Seaport. Continued expansion is anticipated.

Public Input

"Hubway should be utilized to work as last-mile connections to/from transit stations. As an example, along the Southwest Corridor, some Orange Line stations have Hubway docking stations, but there are few to no stations in the neighborhoods surrounding them. Adding more stations in these areas would allow people who live farther from transit the opportunity to bike to the T."

–02130

More info at *blog.bostonbikes.org/post/143549809449/did-you-hear-hubway-is-expanding-in-roxbury-and* and *www.thehubway.com/*



Existing Hubway bikeshare system as of November 2016 including recent expansions in Roxbury, Dorchester, and East Boston

Local

Forest Hills to Roslindale Square Rapid Bus

Bus priority treatments from Forest Hills to Roslindale Square

Project Score

- ◔ Access 1
- ● Safety 1
- ◕ Reliability
- ● Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ◕ Governance
- ◕ Access 2
- ○ Safety 2
- ◕ Affordability

Identified on the ballot as an Early Action commitment

Project Description

Using a reserved transit lane on Washington Street and bus signal priority, all existing bus service between Roslindale and Forest Hills would be able to operate clear of traffic congestion, greatly increasing transit speed, capacity, and reliability. The transit lane could be reversible, and flexible curb regulations would preserve vehicle capacity in the peak direction. With these bus service improvements, existing services could serve more riders in Roslindale and in points further south. In the long term, this route could utilize abandoned rail tracks that extend to Hyde Park, potentially bringing rapid bus to even more underserved residents.

Benefits and Issues Addressed

Currently, half of motorized roadway users on Washington Street between Forest Hills T-station and Roslindale Square are bus passengers. This demonstrates an incredible demand for improved transit to Roslindale, a neighborhood currently served only by hourly commuter rail service and numerous buses. This rapid bus service would improve the quality of experience for those connecting to the Orange Line, provide a boost to local businesses, open up new areas for potential development, and provide some measure of congestion relief to that segment of Washington Street.

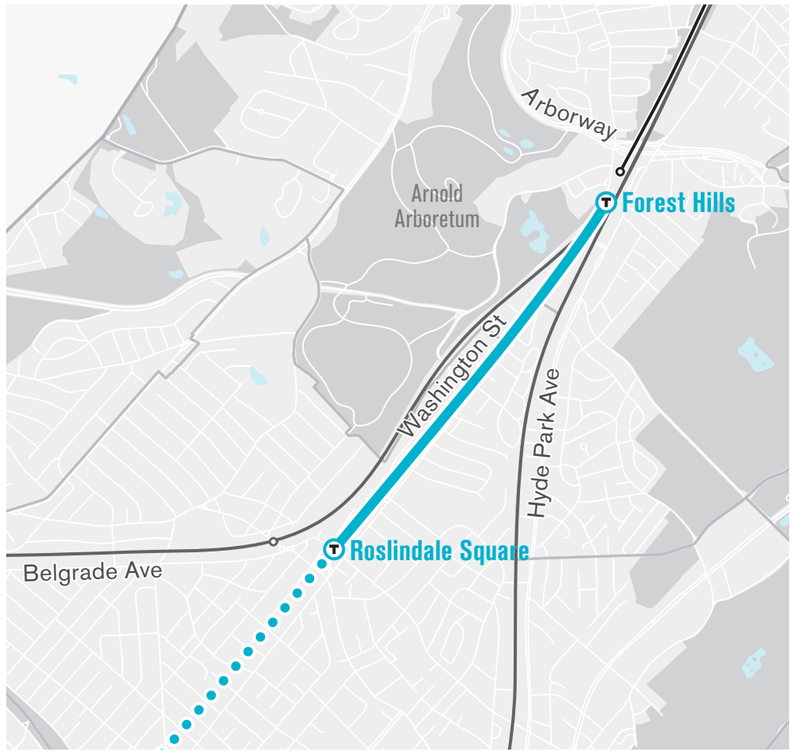
The bus passenger percentage of motorized roadway users on the stretch on Washington St between Forest Hills and Roslindale is as follows:

AM Peak Hour	*PM Peak Hour*
Northbound: 58.4%	*Northbound: 32.4%*
Southbound: 46.1%	*Southbound: 59.8%*

Bus routes currently serving this corridor include: 30, 34, 34E, 35, 36, 37, 40, 50, and 51.

Implementation

Approximate Cost: $250,000 for design and construction
Potential Funding Sources: City capital budget and MBTA
Who's Responsible: MassDOT/MBTA and BTD
Time Frame: Within five years based on partnership with local community process



Best Practices

In San Francisco, CA, Bus Rapid Transit (BRT) lanes on Haight Street were carved out of a combination of travel lanes and parking lanes to help MUNI buses jump past queues of cars and improve service along these busy routes. With just a few blocks of exclusive lanes, buses are arriving on time more often and shortening the length of their route times.
hoodline.com/2015/10/checking-in-with-lower-haight-street-s-muni-only-lane

Photo credit: Aaron Bialick

Public Input

"Would like to see a bus route from Washington St, Roslindale to Centre St, West Roxbury. We have to go to Roslindale Square to catch another bus to get to Centre St, West Roxbury. At the CVS in Roslindale the cars come out of the parking lot and stop the traffic coming down Washington St, West Roxbury - there is always a jam all day long."
–02131

"BRT along Washington Street to reduce congestion."
–Roslindale roundtable

Local

Urban Rail Extension to Roslindale Square

Subway-like service to Roslindale

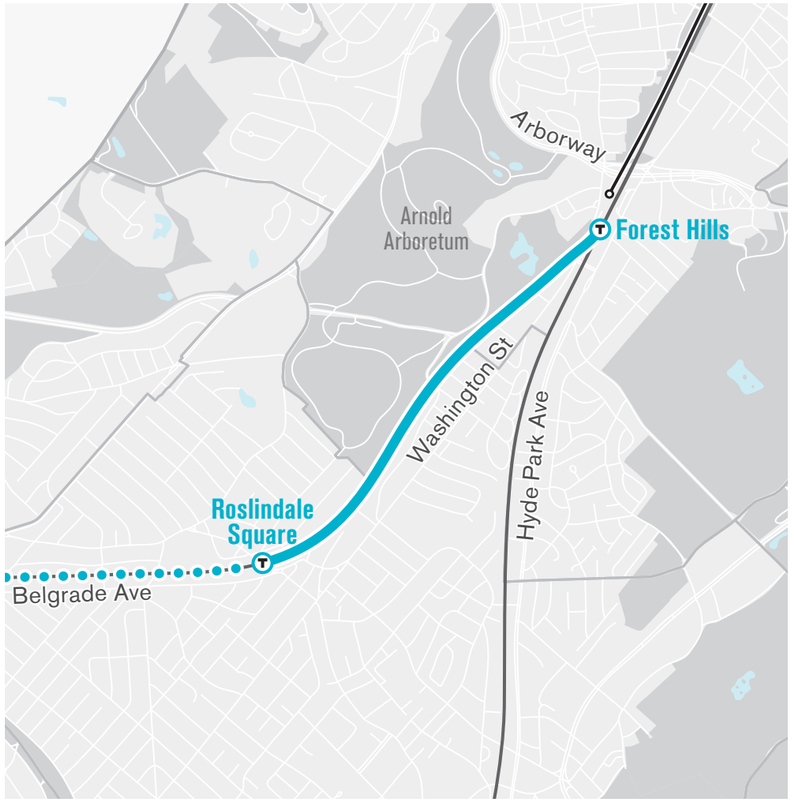
Project Score

- ◔ Access 1
- ○ Safety 1
- ● Reliability
- ● Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ● Governance
- ● Access 2
- ○ Safety 2
- ○ Affordability

#5 in public voting

Project Description

Much like the Red Line extension to Alewife in 1985, the Orange Line could be extended to Roslindale or further. Alternatively, subway-like service could be added to the Needham Line that already runs from Forest Hills T-station. By providing this new service, an entire neighborhood as well as one of Boston's most successful Main Streets district will be connected by train to Forest Hills and beyond, enabling a single-seat subway-like ride where bus-to-train transfers were once needed. A parallel multiuse path will connect Roslindale Square to one of Boston's premiere open spaces, the Arnold Arboretum. Extending the Orange Line would require land acquisition and consolidation followed by major capital investments in new rail lines and a new station at Roslindale Square. Improved and more frequent service is possible to West Roxbury and beyond along this corridor, whether by the Orange Line or subway-like service on the Needham Line.



Benefits and Issues Addressed

While a rapid bus on Washington Street to Roslindale will help this congested transit corridor, the Needham Line is a separate right-of-way that represents a significant increase in transit capacity. An Orange Line extension can not only provide more people with a one seat ride, it enables a rapid bus on Washington Street to also do more, especially if extended south to Hyde Park and eventually to Dedham. Subway-like service on the Needham Line will enable that service to also have greater speed and capacity. Including a multiuse trail parallel to the tracks provides people with a healthy, active transportation and recreation route, connecting to the Arboretum and on to the existing Southwest Corridor Path, the Green Links Network (p170), Columbia Road Greenway (p172), and SW Corridor Extension to Back Bay and MGH (p174).

Implementation

Approximate Cost: $500 million (for Orange Line Extension)
Potential Funding Sources: MBTA
Who's responsible: MassDOT and MBTA
Time Frame: 15+ years in coordination with local public process

Best Practices

The planned Green Line Extension to Union Square and ultimately College Avenue in Medford will follow existing MBTA Commuter Rail tracks for the Lowell and Fitchburg lines.

Los Angeles, CA, is also extending their Gold Line to Montclair/Claremont alongside the existing San Bernadino commuter rail line, increasing the number of tracks to three or more.
thesource.metro.net/2016/04/13/potential-ballot-measure-the-gold-line-extension-to-claremont/

Public Input

"The Orange Line should be expanded to go along the Needham Commuter Rail line. ...This would alleviate crowding on Washington St. in Rozzie Square because of all the buses that currently travel through there."
–02131

"Roslindale is the only part of Boston proper without proper T coverage. Commuter rail and buses aren't cutting it, especially as more people get priced out of the up and coming JP and move to Rozzy instead. An increasing number of folks will need to commute into Boston from Roslindale, and extending the T there would increase ridership and make a LOT of residents very happy."
–02130

Local

Dorchester Ave Complete Street (South Boston)

Make Dot Ave between Broadway and Andrew Square more multimodal

Project Score

- ○ Access 1
- ◔ Access 2
- ◔ Safety 1
- ◕ Safety 2
- ● Reliability
- ◔ Affordability
- ◔ Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ◕ Governance

#20 in public voting,
ongoing planning work by the BPDA

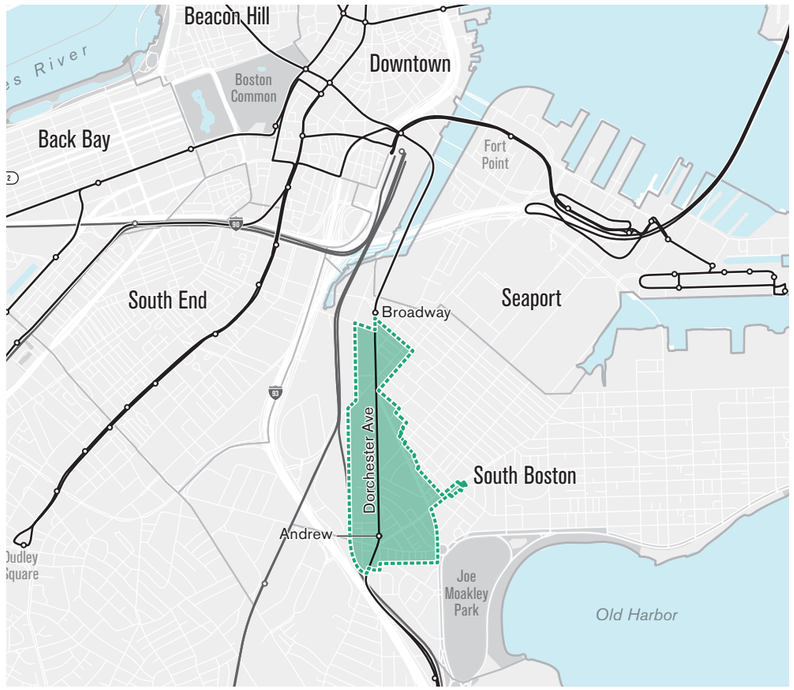
Project Description

As outlined in the BPDA's PLAN South Boston report, Dorchester Avenue will be redesigned as a street that serves as the retail anchor to the district as well as a key multimodal thoroughfare. Enhanced crosswalks accessible to those of all abilities as well as other safety and public realm improvements, protected or separated bike lanes, and queue jump lanes along with signal priority for buses will support active transportation and retail activity. Old Colony Avenue, Edge Street, and (new) Ellery Street will also be designed for multimodal use appropriate to the transportation needs and scale of the surrounding buildings.

Image credit: BPDA's PLAN, South Boston Dorchester Ave report

Benefits and Issues Addressed

The existing Dot Ave corridor between Broadway and Andrew stations is currently a mix of industrial uses, is unfriendly to walkers and cyclists, and has infrequent bus service. As part of the reimagining of this district and subsequent rezoning, the City expects a surge in mixed-use development with 6,000 to 8,000 new units of housing. To accommodate this growth, new residents need many options for traveling without relying on a car. The corridor will also becomes a valuable regional conduit for Fairmount Indigo Line connections and for bicycle trips from the Columbia Road Greenway (p172).



Implementation

Planning Level Costs: $7 million for design and construction
Funding Sources: City capital budget and Boston MPO TIP
Who's Responsible: BTD and Public Works with BPDA
Time Frame: Ongoing design within five years and construction within 15 years

Best Practices

Chicago moved parking onto side streets and redesigned busy Milwaukee Avenue to install protected bicycle lanes. Over 1,000 cyclists per day use the lane.
chicagocompletestreets.org/streets/bikeways/barrier-protected-bike-lanes/

More info at
www.bostonplans.org/planning/planning-initiatives/plan-south-boston-dorchester-ave

Public Input

PLAN: South Boston Dorchester Avenue heard from residents that they wanted:

"Walkable sidewalks"

"A street for people not cars"

"Safe streets, slower cars, protected bike lanes, good sidewalks"

"More accessible and safer for pedestrians, bicycles"

Local

Washington St/Columbus Ave Complete Street (JP/Roxbury)

Make the corridor between Forest Hills and Jackson Sq more multimodal

Project Score

- ○ Access 1
- ● Access 2
- ● Safety 1
- ◔ Safety 2
- ● Reliability
- ◕ Affordability
- ● Sustainability/Resiliency 1
- ◕ Sustainability/Resiliency 2
- ◕ Governance

#21 in Boston public voting,
ongoing planning work by the BPDA

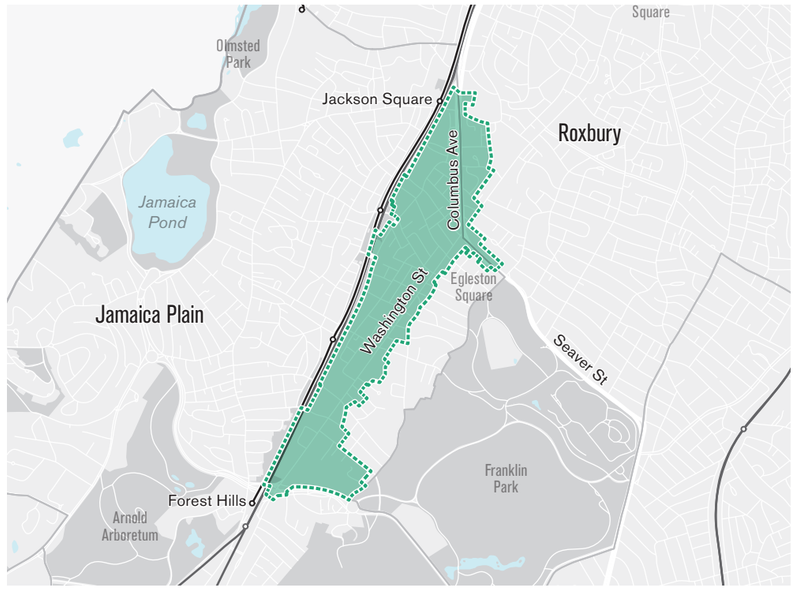
Project Description

As outlined in the BPDA's PLAN JP/Rox report, Washington Street and Columbus Ave will gradually transition from auto-related businesses to a corridor of mixed-use multi-family buildings to better connect existing walkable clusters of businesses and homes. Pedestrian friendliness will be a key design feature along the corridor, with widened sidewalks and improved crossings. The design of Egleston Square in particular will focus on helping people navigate it safely on foot. Bicycle facilities, bike parking, and improved way-finding will support local trips and help people access the Southwest Corridor. Bus lanes, queue jump lanes, and operational improvements at bus stops will improve Columbus Ave and part of Washington Street for transit.

Image Credit: BPDA's PLAN, JP/ROX report

Benefits and Issues Addressed

Parallel to the Southwest Corridor and the Orange Line, residents around this stretch of Washington Street are already multimodal. Improving safe access to that multimodal corridor will be an important concurrent project to the upgrades on Washington and Columbus. Especially as parking ratios decrease to accommodate more affordable housing in the district, high-quality walking, bike, and transit options for residents will be imperative. Orange Line improvements (p194) and continued bikeshare expansion (p154) will also support people who chose not to drive here.



Implementation

Planning Level Costs: $12 million for design and construction
Funding Sources: City capital budget and Boston MPO TIP
Who's Responsible: BTD and Public Works with BPDA
Time Frame: Ongoing design within five years and construction within 15 years

Best Practices

In New Orleans, after the City passed a Complete Streets policy in 2011, the City rebuilt Esplanade Avenue. Formerly a four-lane road with a median and parking, the street was one of the City's top crash corridors. The City removed a travel lane and installed painted bicycle lanes, as well as upgrading ramps for improved ADA access. Estimates show that pedestrian and bicycle traffic on the corridor has more than doubled.
smartgrowthamerica.org/after-the-ordinance-implementing-complete-streets-strategies-in-new-orleans/

More info at
www.bostonplans.org/planning/planning-initiatives/plan-jp-rox

Public Input

PLAN: JP/ROX heard from residents that they wanted:

"Fewer cars is a good long-term goal, but design should accommodate existing needs and be adaptable to future change."

"More trees and activity would make it a better place to walk, especially at night."

"Bike everywhere."

"More pleasant street experience for pedestrians."

Local

Neighborhood Complete Street Corridors

Enhancements to promote safe travel for those walking, on bikes, in buses, and driving cars

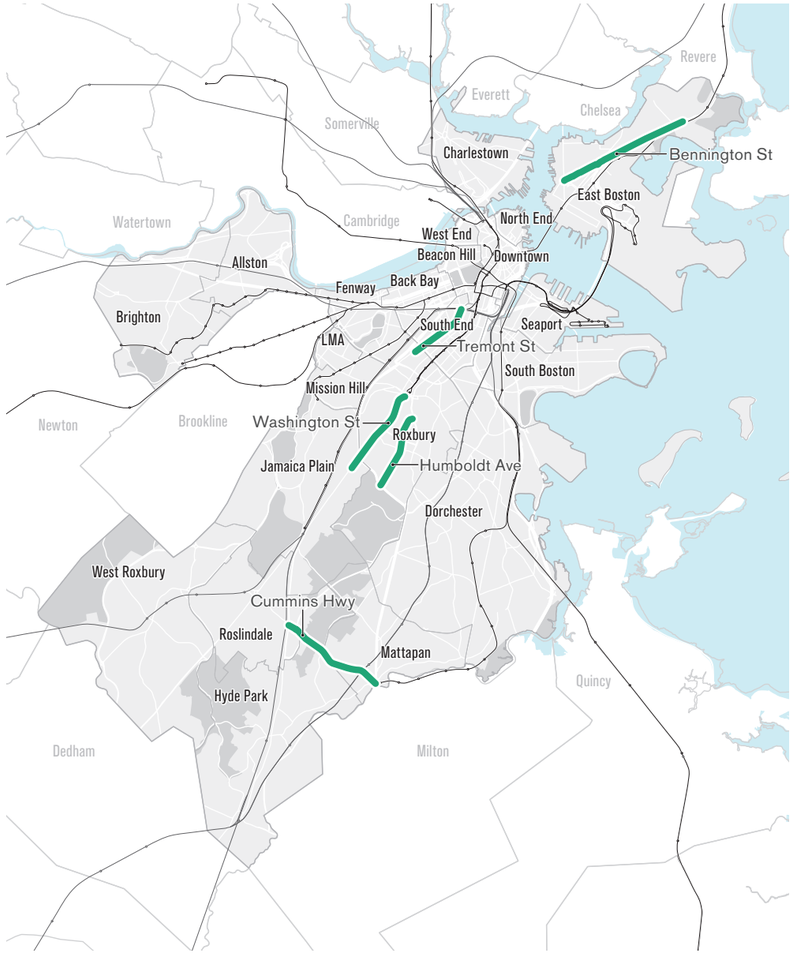
Project Scores: East Boston – Bennington Street, Roxbury – Egleston to Dudley, Roslindale/Mattapan – Cummins Highway, Roxbury – Humboldt Ave, Tremont Street (South End) Bicycle Facilities

- ○○○○○ Access 1
- ◕●●●◕ Access 2
- ◕◕●●● Safety 1
- ◔◔◔◕● Safety 2
- ●●●●● Reliability
- ◔●●●◕ Sustainability/Resiliency 1
- ◕●●●◔ Sustainability/Resiliency 2
- ●◕●◕◔ Governance

This project recommendation came out of community feedback and the Needs Assessment.

Project Description

Implementing Boston's *Complete Streets Guidelines*, the City will install enhancements along several neighborhood connectors that improve travel safety, accommodate people biking, and make walking more comfortable. These include East Boston's longest connector, Bennington Street; Washington Street between Egleston and Dudley Squares; Humboldt Avenue in Roxbury; Cummins Highway connecting Roslindale and Mattapan; and Tremont Street in the South End.



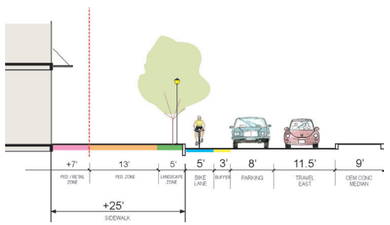
Benefits and Issues Addressed

Each of these connective neighborhood corridors experiences higher crash rates and greater vehicle speeds than most of the residential streets that feed into them, yet residents of these neighborhoods depend on these corridors for daily life. Making each a complete street will improve safety for all travelers and provide much needed bicycle accommodations where none exist. Once improved, these corridors can make it easier for residents to walk and bike to transit, neighborhood services, and their Main Streets districts (p144).

Best Practices

In 2008, NYCDOT released their *Sustainable Streets* plan. The plan laid out several transportation initiatives that would improve streets for all modes of transportation and increase safety for bicyclists and pedestrians.
www.nyc.gov/html/dot/downloads/pdf/ss09_update_lowres.pdf

The City of Boston is currently designing Harrison Avenue in the South End with wide sidewalks and protected bike lanes with safer crossings for all.



Implementation

Approximate Cost: $40 million for design and construction
Potential Funding Sources: City capital plan for design and Boston MPO TIP for construction
Who's Responsible: BTD, Public Works, and MassDOT
Time Frame: Ongoing and over 15 years

Public Input

"Tremont Street 'Slow your Roll' Road Diet: Imagine if Tremont Street in the South End went on a diet. What could that mean for the neighborhood? Decreased average driving speeds, and increased safety for people on foot and on bike? Yep."
–02118

Local

Fairmount Greenway Neighborways

A nine-mile walking and biking route that parallels the Fairmount Indigo Line

Project Score

- ○ Access 1
- ● Access 2
- ● Safety 1
- ● Safety 2
- ● Reliability
- ● Affordability
- ◕ Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ● Governance

This project recommendation came out of community feedback and the Needs Assessment.

Project Description

This multi-site urban greenway links the Fairmount stations, open space, and other developing neighborhood amenities with an on-street biking and walking route that loosely follows the Fairmount/ Indigo Line. The neighborways would include traffic calming, wider sidewalks, wayfinding signs and markings, improved intersection crossings with busy streets, and green infrastructure enhancements. In addition to the primary north-south route, there would be shorter loops for local trips that safely connect residents, commuters, shoppers, and visitors to transit stations; to new and existing open space, including parks, community gardens, schools; and to neighborhood business districts and historic sites.

More info at
fairmountcollaborative.org/what-we-do/create-the-fairmount-greenway/

Benefits and Issues Addressed

The Fairmount Greenway Task Force (FGTF) has engaged over 700 local community members since 2008 to implement short stretches of the neighborways, create new community gardens, activate vacant sites, enhance urban wilds, and develop a shared vision for a connected network of gardens, parks, and open spaces that enhance the communities in Hyde Park, Mattapan, Roxbury, and Dorchester that were historically underserved by transit and park access. Moving forward, its special designation as a greenway of neighborways will make it the focus of temporary playways, art installations, tactical urbanism strategies, and green infrastructure improvements to the streetscape to create a sense of place, provide community destinations, and green the route.

Implementation

Approximate Cost: To be determined
Potential Funding Sources: City capital plan, DCR for path along Neponset, EPA Region 1, and MassDOT's Complete Streets program
Who's Responsible: BTD and Public Works with MassDOT and DCR
Time Frame: Five years for design and 15 years for construction in coordination with local public process

Best Practices

In Vancouver, BC, the Carrall Street Greenway connected three neighborhoods by altering the existing street layout of two travel lanes and parking/ loading lanes to include a recreational path, more street trees, and decorative street lighting. The design includes "flexible amenity space" that can be used for loading, parking, sidewalk cafes, parties, etc. The design preserved the character and history of the neighborhoods it passed through (ex. brick sidewalks in the Gastown neighborhood) with an existing ROW of 66 feet.
ourvcrc.com/?p=493

Public Input

"Build the Fairmount Greenway: a neighborway to connect communities. The Greenway promotes active living and improves the environment, while connecting neighborhoods. Since 2008 the effort has been led by the Fairmount Greenway Task Force, which includes 10 community organizations working in collaboration with the City of Boston. We are very excited to mark the Greenway route with permanent signage and bikeway pavement markings in the near future. However, there is still more work to be done. Our vision is to create a friendly, safe, and green route." –02143

Local

Green Line Extension to Hyde Square

Continue service on the E Line for a mile beyond Heath Street

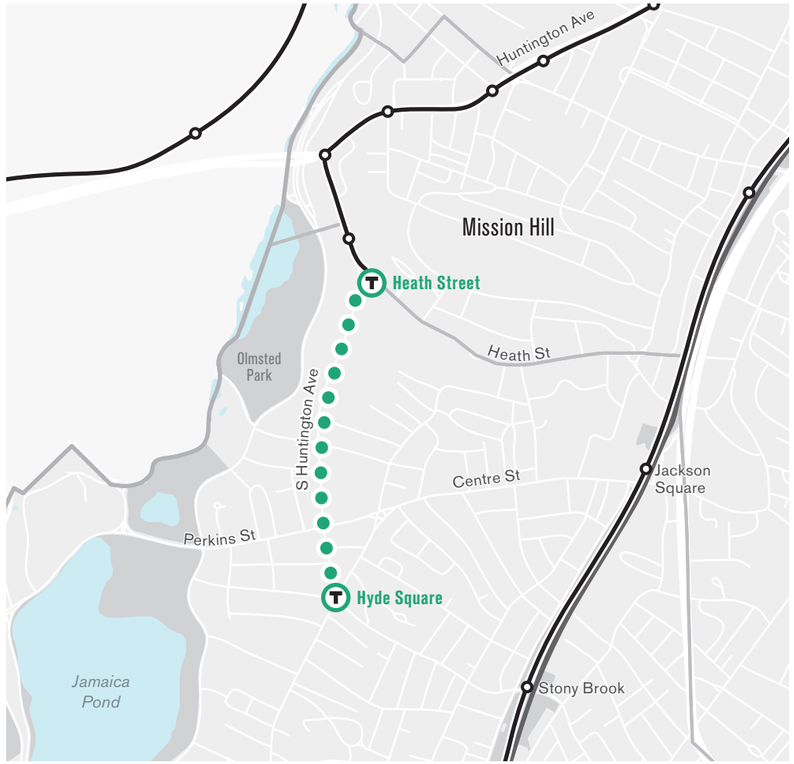
Project Score

- ◔ Access 1
- ● Access 2
- ○ Safety 1
- ○ Safety 2
- ● Reliability
- ○ Affordability
- ● Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ◕ Governance

#18 in public voting

Project Description

The existing Green Line beyond Brigham Circle would be upgraded and extended beyond Heath Street to Hyde Square, creating an improved transit connection between the Longwood Medical Area and Jamaica Plain. The existing protected rail median on Huntington Avenue would be extended to South Huntington by moving on-street parking to side streets converted to one-way pairs. In-street operations south of Huntington could continue, with the final alignment to serve Hyde Square determined through a separate process.



Benefits and Issues Addressed

Huntington Avenue is a heavily-traveled corridor that greatly interferes with Green Line operations west of Brigham Circle, where a protected transit median has not yet been built. More efficient operations increase transit access to the LMA in both directions, while a southerly extension to Hyde Square connects thousands of residents with rail transit and connects the Centre Street Main Street district in Jamaica Plain to the rest of the city on rail, further helping to reduce reliance on driving in this congested part of the city.

Implementation

Approximate Cost: $40 million for design and construction
Potential Funding Sources: City capital plan, MBTA, and FTA
Who's responsible: MBTA
Time Frame: 15+ years

Best Practices

In Los Angeles, CA, the most recent Gold Line light rail extension opened in 2016. Ridership is already well above expected levels, with 66% of new riders coming from private vehicle commutes.
metro.net/projects/foothill-extension/
la.curbed.com/2016/4/11/11411796/gold-line-foothill-extension-ridership

Public Input

"Extend the Green Line to Hyde Square." –02120

"The Green Line should be extended 6/8 of a mile to Hyde Square, where there is great residential and commercial activity, and therefore serve the needs of hundreds more residents and bring thousands of people to the commercial and cultural hub of Boston's Latin Quarter. This is more crucial now that the South Huntington Avenue corridor is in the midst of important development, with at least 200 new units along the avenue." –02130

"Green Line to Hyde Square would be a 'game changer'–serve people where they are." –Roslindale roundtable

Local

Smart Signal Districts

Traffic lights talk to each other to facilitate movement in congested parts of the city

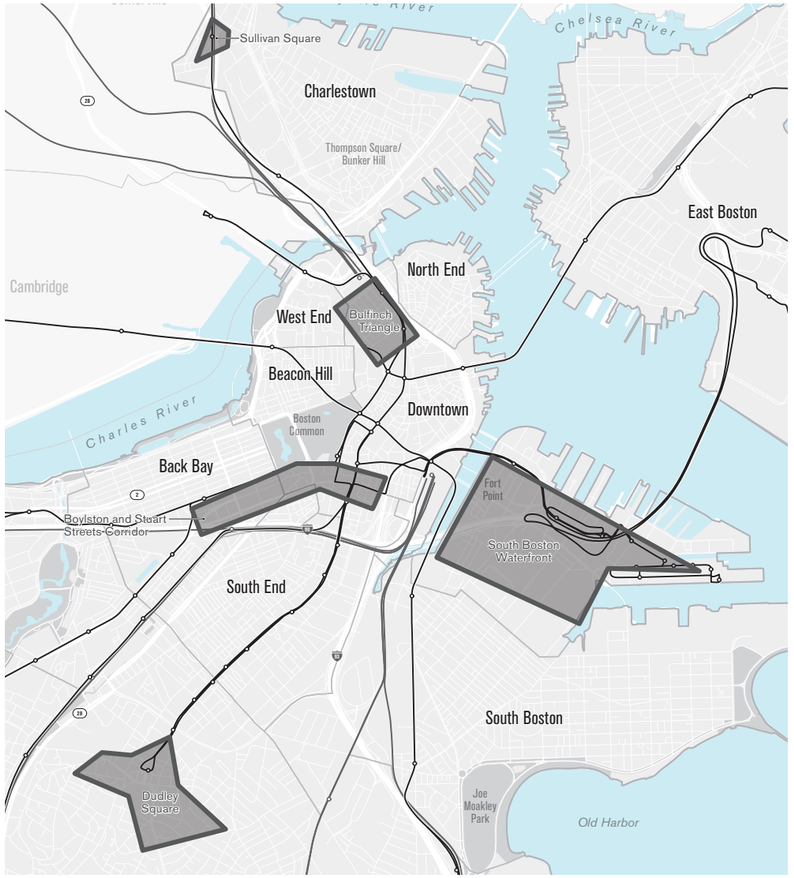
Project Score

- ○ Access 1
- ◔ Access 2
- ● Safety 1
- ○ Safety 2
- ● Reliability
- ● Affordability
- ○ Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ◕ Governance

#8 in public voting

Project Description

Building upon smart signal corridor approaches (p177), in the South Boston Waterfront, Sullivan Square, the Bulfinch Triangle (just south of North Station), and Dudley Square, traffic signals would communicate with one another as vehicle traffic backs up onto short blocks when drivers wait to turn or as crossing walkers surge from trains or buses unloading nearby. Signals would then adjust their timing to alleviate temporary delays and avoid intermittent conflicts. District-wide, automated responses to traffic, bike, and walk flows would have traffic signals work together as a single network, and adjustments in one section would be sensitive to impacts in another.



Benefits and Issues Addressed

Complicated historic street patterns, accelerated housing development and job growth, and high numbers of buses and shuttles traveling through these districts has led to heightened local congestion. Unlike corridors where the primary direction of travel is clear, these districts have more complicated circulation issues to address. By leveraging new technology that responds to demand, BTD signals will impactfully improve flows and reduce congestion. For example, Silver Line buses would be given additional green time on Washington Street if cross streets were detected to have lighter than usual traffic; vehicles could be diverted to an alternative route if access to an on-ramp in South Boston was jammed; or people walking would be given more crossing time on Canal Street and Causeway Streets when there is a concert at the Boston Garden. Today, BTD is working to change driver behavior with variable message boards and in-car apps, telling drivers that seemingly longer routes are actually faster. In the future, the signals will pass this information along to autonomous vehicles automatically.

Implementation

Approximate Cost: $25 million over five years for smart corridors and districts as well as other signal upgrades
Potential Funding Sources: City capital plan and developer funding
Who's Responsible: BTD
Time Frame: Ongoing

Best Practices

In Pittsburgh, PA, a startup found that smart traffic signals could reduce vehicle travel times by 25%. Importantly, this study also tracked a 40% reduction in idling, which is directly tied to an emissions decrease.
spectrum.ieee.org/cars-that-think/robotics/artificial-intelligence/pittsburgh-smart-traffic-signals-will-make-driving-less-boring

Transport for London has shown progress in cutting delays by using a program that makes traffic signals more efficient and adaptive to traffic flows.
www.trafficTechnologyToday.com/news.php?NewsID=37610

Public Input

"Traffic light retiming: Hire a transportation planning agency to do a full city-wide review of all our traffic lights to see how retiming them can give better traffic flow." –02135

"Adaptive signal technology that automatically adjusts for real time conditions within 5 years." –02136

Crosstown Projects and Policies

Travel across the neighborhoods of Boston has been challenging, particularly for non-drivers. The Go Boston 2030 crosstown policies and projects relieve the transportation systems of the need to go downtown for transit transfers and safe bike facilities. New pockets of growth proposed by Imagine Boston 2030 and other planning initiatives will be well-served by these new connections. New job centers in medical areas such as Longwood and MGH, the South Boston Waterfront, Beacon Yards (Allston), and Allston Landing will be easier to access by high quality bus and train corridors, technology-leveraging shuttles, safe bike routes, and effectively signalized streets.

Policies

Bus Service Reliability Improvements*
Restructure All Bus Routes*
Green Line Improvements
Consolidated Smart Shuttle System

Early Action Projects

0 to 5 years

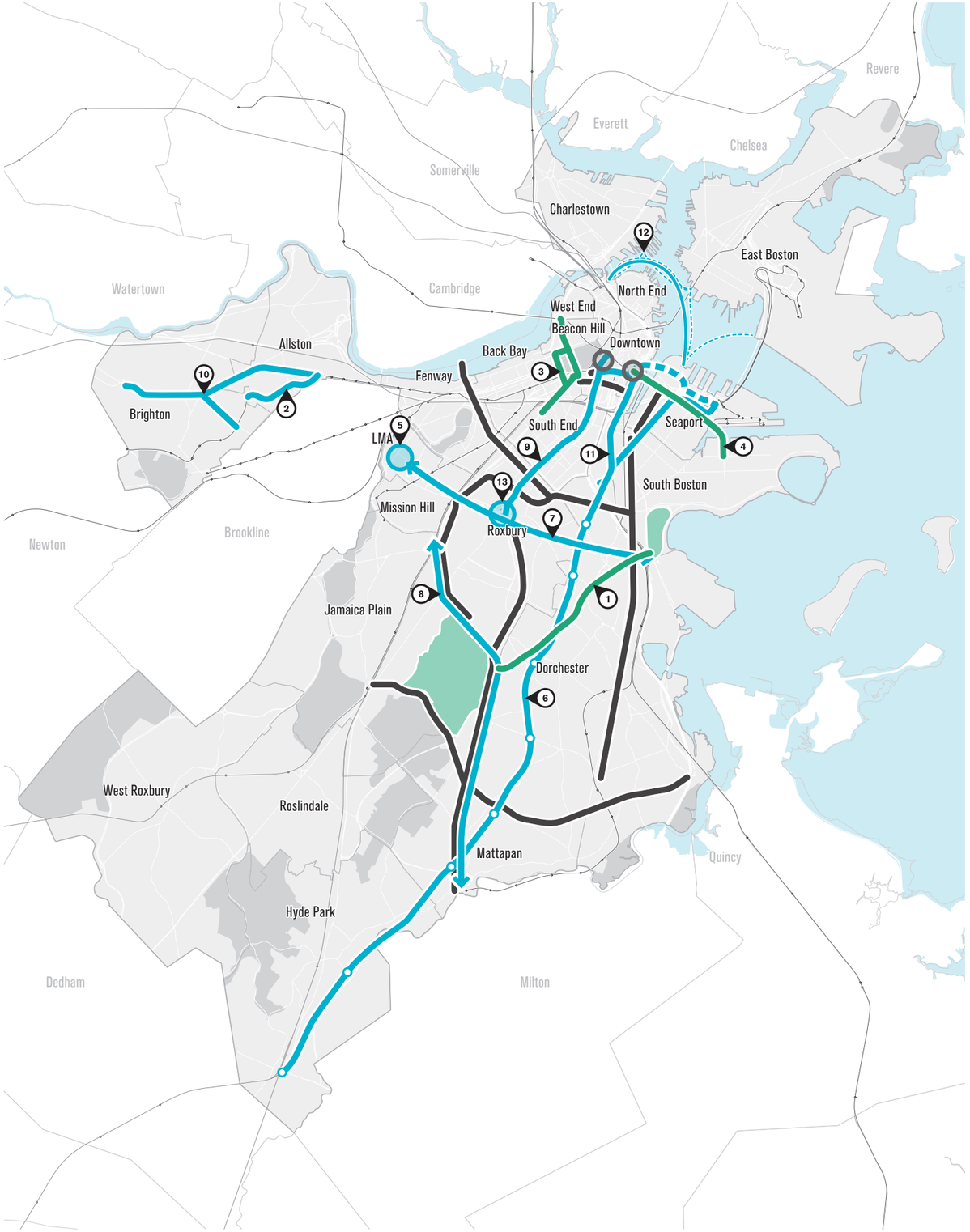
Green Links Network (Refer to Boston Greenlinks map on p171)
① Columbia Road Greenway*
② Commonwealth Avenue beyond Packards Corner
③ SW Corridor Extension to Back Bay and MGH
④ Summer Street Protected Bike Lane
Silver Line Termini at Downtown Crossing and South Station
Smart Signal Corridors*

Longer Term Projects

5 to 15+ years

⑤ Longwood Transit Hub
⑥ Fairmount Indigo Line Service Improvements*
Fairmount Indigo Line Urban Rail*
⑦ LMA to JFK Rapid Bus via Dudley and Uphams
⑧ Mattapan to LMA Rapid Bus*
⑨ Improved Silver Line: Dudley to Downtown
⑩ Oak Square to Comm Ave Improved Bus Corridor
⑪ Seaport to Dorchester/Widett Urban Rail
⑫ Inner Harbor Expansion
⑬ Dudley Square Transit Hub

* Top policy or project



Crosstown

Bus Service Reliability Improvements

Ensure that each of the 30 bus routes with the highest ridership operate more effectively

Policy Score

- ◕ Access 1
- ● Access 2
- ○ Safety 1
- ○ Safety 2
- ● Reliability
- ● Affordability
- ● Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ● Governance

Identified on the ballot as an Early Action commitment

Policy Description

In 2013 and 2014, the 15 bus routes in the MBTA system with the highest ridership were the focus of a project to consolidate stops and develop a schedule with more frequent service, "with buses arriving every 10 minutes or better during weekday peak periods, every 15 minutes or better during weekday midday, and every 20 minutes or better during off-peak periods." Now, these bus routes, along with the next 15 busiest, will be the focus of further improvements including exclusive bus lanes where there is a segment of particularly high ridership and a high frequency of buses, off-board payment or another system that allows for all-door boarding, signal priority when buses run behind schedule, and better bus stops.

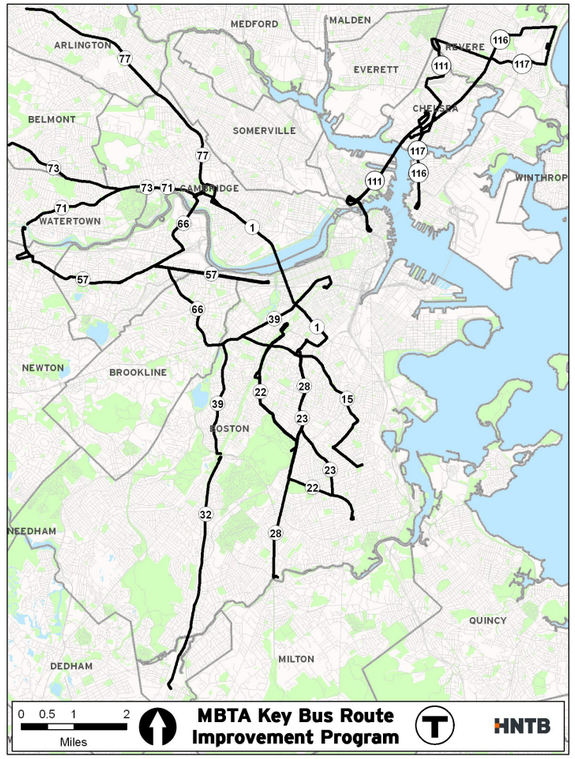
Benefits and Issues Addressed

While buses have to stop regularly on a route to serve passengers effectively, they should remain an efficient and reliable way to travel through the city. Improving the boarding process and helping buses advance past other vehicular congestion will mitigate the two most common types of existing delays that plague essential MBTA routes now serving neighborhoods with little or no subway service. Though all buses should provide excellent customer service, be safe and comfortable, and meet the needs of people with disabilities, improvements to 30 routes with the highest ridership will make a significant impact on transit reliability and use.

Implementation

Approximate Cost: TBD
Potential Funding Sources: MassDOT/MBTA for construction with City capital plan for street design
Who's responsible: MassDOT/MBTA and BTD
Time Frame: Ongoing

Construction and improvements for Key Bus Routes was completed in 2014, with the exception of minor adjustments, using a $10 million grant from the American Recovery and Reinvestment Act. (MBTA, April 2015)



These 15 routes are part of the existing Key Bus Route program.

Map source: *mbta.com/about_the_mbta/t_projects/default.asp?id=19047*

Best Practices

Select Bus Service is a system of key bus routes in NYC that have been (or will be) improved using more frequent service, fewer stops, off-board fare payment, real time arrival signs, signal priority, and bus lanes. *web.mta.info/mta/planning/sbs/*

Image Source: *www.nyc.gov/html/brt/html/routes/34th-street.shtml*

Public Input

"Keep up bus service during the day so that it's a reliable way to run errands or get to meetings between peak times."

Crosstown

Restructure All Bus Routes

Conduct a public process and study to identify areas needing new or improved bus connections

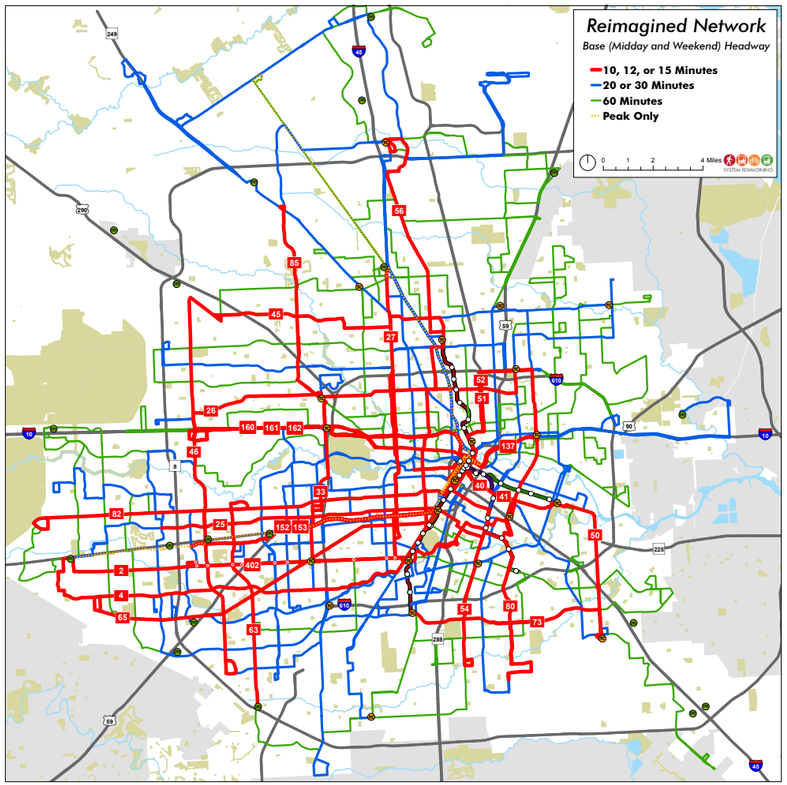
Project Score

- ◕ Access 1
- ● Access 2
- ○ Safety 1
- ○ Safety 2
- ● Reliability
- ● Affordability
- ● Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ● Governance

#12 in public voting

Project Description

Beginning with Focus40, the MBTA is taking a fresh multi-year look at its operations and routes and the possibility of expanded service. In collaboration with the MBTA, the City of Boston would work with the community to develop a new network of bus routes that better-match Bostonians' travel needs, provide the most frequent service where there is the highest demand and ensure ADA compliance. The MBTA will also consider a set of routes that would best serve the city overnight to provide 24-hour access to jobs, as laid out by the MBTA in its Fair Fare policy and Extended Service Hours policy.



Houston's Metro redesign is organized around a core of high frequency bus routes.

Houston Metro, *System Reimagining Plan Materials*. Retrieved from *ridemetro.org/MetroPDFs/AboutMETRO/CurrentProjects/pdfs/Reimagining/Flip-Through-Maps.pdf*

Benefits and Issues Addressed

Today's bus network largely resembles the paths of the historic streetcars it replaced, even though the population density of homes and workplaces has evolved significantly. While buses serve many destinations well, others areas have poor or indirect service, forcing many residents to rely on their car to travel. By restructuring service and considering new routes and extensions, the MBTA could serve many more people much more efficiently. Combined with other projects that will expand the Key Bus Routes system (p166), add new vital cross-town routes (p167), and include transit signal priority on key corridors (p177), Boston stands to greatly improve bus transit at little cost.

Implementation

Planning Level Costs: TBD
Potential Funding Sources: MBTA
Who's Responsible: MBTA with local municipalities
Time Frame: Initiate changes within five years

Best Practices

Pittsburgh, PA, restructured their bus system in 2012 resulting in faster and more reliable service for over 80% of riders, even though the system had to cut buses due to diminished funding.

The recent restructuring of the Houston, TX, bus system has been matched by a notable uptick in transit riders and far fewer complaints. Houston implemented this plan nearly overnight and more than tripled the numbers of riders who had access to high-frequency routes. Of particular note, the high-frequency routes are consistent on weekdays and weekends, thereby serving those with non-traditional work schedules.
www.ridemetro.org/pages/Reimagining.aspx
usa.streetsblog.org/2016/01/04/ridership-on-the-upswing-after-houstons-bus-network-redesign

Public Input

"Restructure MBTA to include riders' voice and vote." –02125

"More bus routes. More stops. Clear price rates. More buses of the same number." –02125

"Greater variety of bus routes: Small bus for short routes, medium bus for long routes through neighborhoods, large bus for crosstown routes. Same with commuter rail - use DMU's to reduce headways." –02131

Crosstown

Green Line Improvements

Technology improvements to increase speed and reliability

Policy Score

- ○ Access 1
- ◔ Access 2
- ◔ Safety 1
- ○ Safety 2
- ◔ Reliability
- ◔ Affordability
- ◔ Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ◔ Governance

Identified on the ballot as an Early Action commitment

Policy Description

A combination of several technology improvements will increase Green Line speed, reliability, and travel times. To improve safety in the most congested section between Kenmore and Government Center, a safety system will increase spacing, which will be compensated by going to three-car trains from today's two-car trains to preserve or increase capacity. On surface sections of the B, C, and E branches, signal priority technologies will ensure that trains no longer need to wait at cross streets; station improvements will make each stop fully-accessible to anyone of any ability while allowing off-board payment and all-door boarding to reduce station delays; and continued stop consolidation will further reduce the number of delays on all three lines, thereby helping to make peak-hour signal progression work better.

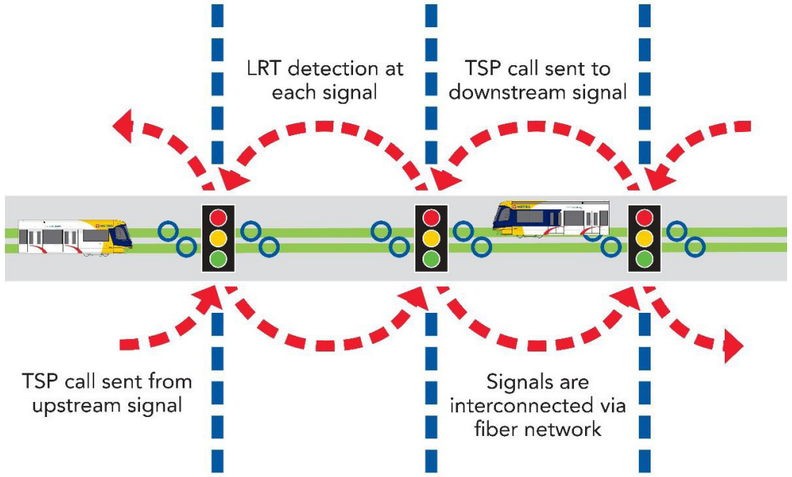


Image source: Federal Transit Administration, *www.transit.dot.gov/sites/fta.dot.gov/files/docs/TRB-APTA_Green-Line-Signal-Priority_rev02.pdf*

Benefits and Issues Addressed

The Green Line is an essential and heavily-used transit service for most of Allston, Brighton, Fenway, and the LMA, but delays associated with train congestion in the underground tunnels, as well as operating at-grade alongside vehicle traffic in these neighborhoods, add significant travel time—especially during commute hours. Increasing car capacity by 50% while reducing intersection and boarding delays would noticeably reduce travel times and attract more riders, helping to meet Go Boston 2030's goals for transit ridership.

Implementation

Approximate Cost: TBD
Potential Funding Sources: MBTA, FTA/FHWA
Who's Responsible: MBTA with street design changes by BTD
Time Frame: Initiate within five years

Best Practices

San Francisco's MUNI light-rail system used off-board payment and signal priority at intersections along its new Third Street surface extension, providing subway-like speeds at far less cost to construct than traditional rail.
www.sfcta.org/sites/default/files/content/Executive/Meetings/pnp/2008/02feb05/prop%20k%20mta%20lrv%20vetag%20detection.pdf

Charlotte, NC, received a grant to expand capacity on their light rail Blue Line, retrofitting stations to accommodate trains with more cars and provide service at higher frequencies.
charmeck.org/city/charlotte/cats/planning/pages/blue%20line%20capacity%20expansion.aspx

Public Input

"Give Green Line trolleys and MBTA buses transit signal priority, and remove parking to make room for trolley/bus lanes that cars can't drive in on Huntington Avenue. This will let the trolleys and buses move faster because they won't be stuck in car traffic."
–02130

"Move all above-ground Green Line stops past the stoplights NOT before the lights."
–02446

Crosstown

Consolidated Smart Shuttle System

Eliminate redundant service with responsive vehicle requests

Policy Score

- ◕ Access 1
- ◕ Access 2
- ◔ Safety 1
- ● Safety 2
- ◕ Reliability
- ◕ Affordability
- ● Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ◔ Governance

#16 in public voting

Policy Description

An on-demand shuttle service would provide circulation between major rail stations and large employers in congested commercial districts. This would build upon similar efforts by the Boston Convention and Exhibition Center (BCEC), BTD, and Massport to improve access to the South Boston Waterfront, as well as the current system of MASCO and EZRide shuttles which connect North Station to the LMA and Kendall Square. Rather than running separate shuttles for individual buildings or employers, a consolidated fleet could run at higher frequencies with lower overall cost. A system designed to request vehicles electronically via the web and mobile devices could also allow for an ebb and flow of shuttles that is responsive to demand. While preserving preference for employees, allowing the public to use these shuttles for a nominal fare can better integrate this supplemental service into the existing transit system.

Existing shuttle services stack up while waiting for passengers.
Photo credit: Boston Globe

Benefits and Issues Addressed

Today, numerous employer shuttles, designed to serve congested districts, operate redundant and underutilized service with multiple independent buses running from South Station to separate but adjacent buildings in the Seaport. They operate regardless of need, do not offer service to non-employees trying to reach the same location, and can get stuck in traffic. MASCO and EZRide shuttles at North Station are each somewhat consolidated systems but remain independent from each other and other non-participating but nearby employers who would benefit from their services today. A consolidated system could provide more regular service to a wider cross-section of potential users and be eligible for access to exclusive bus lanes and queue jumps on City streets to serve these places and others that the MBTA does not yet connect—such as Harvard's burgeoning Allston campus—expanding transit access while reducing overall delay and congestion.

Implementation

Approximate Cost: $500,000 for an operations plan
Potential Funding Sources: BCEC, Massport, developers and employers, MASCO, and area universities with support from MBTA and BTD
Who's Responsible: Service providers who would be selected through open RFP process
Time Frame: Within five years

Best Practices

MASCO already operates effective shuttle services for the Longwood Medical Area and can serve as a model for consolidation. Leveraging app-based technology to request needed service can improve efficiency for these shuttles here and across the city.
masco.org/lma-shuttles/routes

Public Input

"Consolidate shuttles and buses → create monopoly to focus $ and reduce inefficiencies."
–Chinatown roundtable

"Privately owned hospital bus shuttles (LMA for one) should offer space for the public. Hospitals do, after all, benefit tremendously from the financial breaks they get from the city."
–Roxbury roundtable

Crosstown

Green Links Network

Enhanced pedestrian and bicycle paths between greenways including Yawkey Station to Fenway, Roxbury to Fenway, and Arboretum to Roslindale

Project Score

- ○ Access 1
- ● Safety 1
- ● Reliability
- ○ Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ● Governance
- ◔ Access 2
- ◔ Safety 2
- ● Affordability

Identified on the ballot as an Early Action commitment

Project Description

Boston Green Links is a city-wide plan to connect people in every neighborhood to Boston's greenway network by installing new paths, new bike facilities, and safer road crossings. In particular, ongoing projects include the Roxbury to Fenway connector, that will link the Southwest Corridor Park and the Emerald Necklace for local residents and the South Bay Harbor Trail, which will connect Lower Roxbury and the South End to Boston Harbor. The plan has been developed in collaboration with multiple city departments, MassDOT, the state's Department of Conservation and Recreation (DCR), the LandLine and Emerald Network initiatives, and community groups. Individual links will be implemented over time, through grants, partnerships, and City-funded projects.

Renderings of the Roxbury Fenway connector and the Arboretum Gateway Path.

Image sources: NBBJ and WalkUp Rozzie

Benefits and Issues Addressed

Boston Green Links initiative has taken on the challenge of connecting people in every neighborhood to Boston's greenway network and major parks by installing new paths, new bike facilities, and safer road crossings. While 97.4% of residents live within a 10-minute walk of a park, the quality of the walk and the connections to other green spaces varies by community. By improving access to green spaces and opportunities for recreation and active transportation–including walking, running, biking, and skating–the City can reduce health disparities by ensuring that everyone can partake in increased physical activity, improved air quality, and lower levels of chronic disease.

Implementation

Approximate Cost: Determined by project, approximatley $500,000 per year
Potential Funding Sources: City capital budget, DCR, Boston MPO TIP, and private developers and institutions
Who's responsible: BTD, Public Works, Boston Parks, DCR, and private institutions and developers
Time Frame: Ongoing

Best Practices

Since 1992, a coalition in Portland, OR, has been working to build a series of regional greenways. 300 miles of trails have been built to date. These trails are mostly off-street and provide an excellent example of coordinated master planning efforts by diverse communities working to build on a more regional network.
www.oregonmetro.gov/sites/default/files/trails_accomplishments_report_2013.pdf

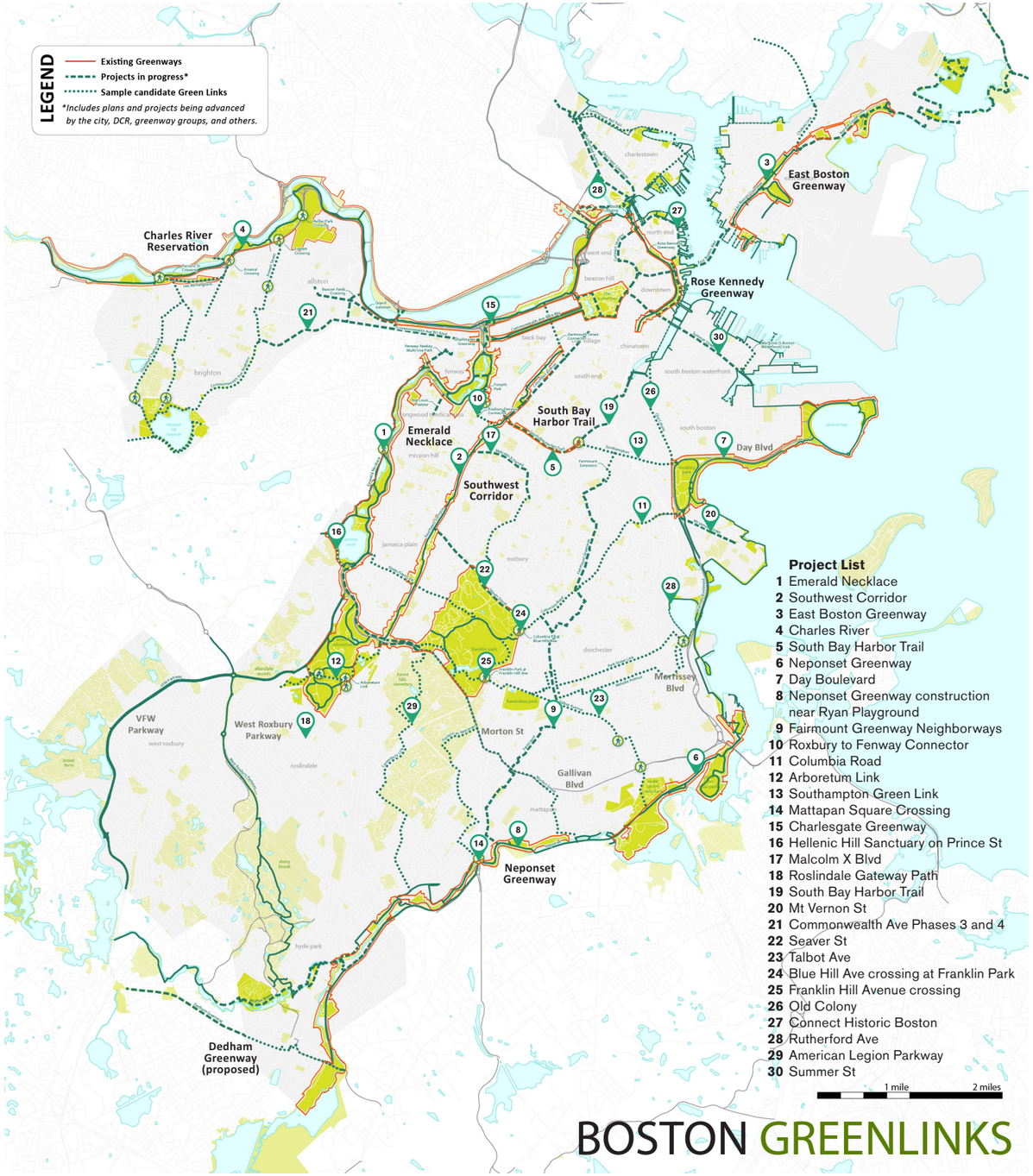
More info at *www.boston.gov/transportation/boston-green-links*

Public Input

"Green links: Columbia road, rox-fen connection, cycle track on Talbot Ave" –02131

"Advance components of Green Links Vision" –02132

"Connected footpaths between parks, greenspace" –02115



An interactive version of this map with links to specific projects can be found at *app01.cityofboston.gov/GreenLinks/*

Crosstown

Columbia Road Greenway

Create a neighborhood friendly street connecting to Franklin and Moakley Parks

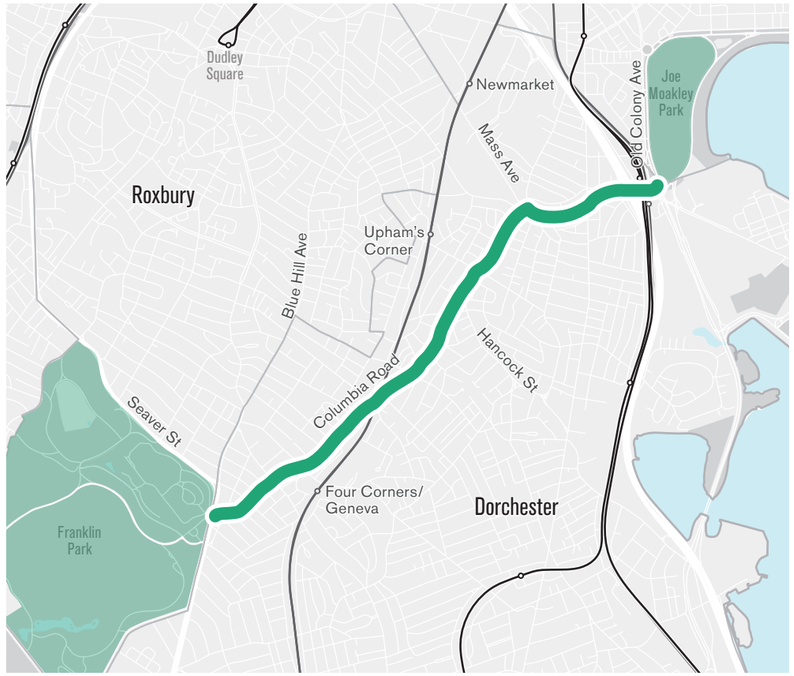
Project Score

- ○ Access 1
- ◕ Access 2
- ● Safety 1
- ● Safety 2
- ● Reliability
- ● Affordability
- ◔ Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ● Governance

#17 in public voting

Project Description

With over 100-feet between building faces, Columbia Road is one of the widest streets in Boston. The proposed greenway would preserve vehicle travel in both directions while consolidating the median, sidewalks, and wider areas into a context-sensitive linear park stretching from Franklin Park to Moakley Park. The allocation of roadway space will be determined in conjunction with local residents and will include improved pedestrian paths and crossings, protected bike paths, and significantly more trees to transform this former boulevard into a vibrant green corridor that is connected to the Blue Hill multiuse path to the south (p199), the Fairmount Greenway (p161), Dorchester Ave. Complete Street (p158), and the Carson Beach bike path, creating a continuous protected bicycling network into Downtown.



Benefits and Issues Addressed

The Emerald Necklace connects Boston Common to the Fenway, the Arboretum, and Franklin Park, but it is disconnected from Boston's waterfront and its other Olmsted Parks. Completing this piece of the Emerald Necklace with improved paths for walking and biking will connect residents of Roxbury and Dorchester to Boston Harbor and beyond. It will also provide a corridor designed to improve public health through active transportation opportunities and better air quality. The greenway also provides an essential last-mile connection for thousands of residents to the Fairmount Urban Rail (p179) at Four Corners Station and the Red Line at JFK/UMass Station, as well as becoming the central part of a continuous through connection from Dedham to Downtown, serving Hyde Park, Mattapan, Dorchester, and South Boston.

Best Practices

In Indianapolis, IN, the Cultural Trail runs along downtown streets connecting multiple cultural districts. Designed as a series of connected bicycle paths, the links provide both green spaces and places to walk and bike. As part of the trail, Indy's Massachusetts Avenue gained significant green space and a bicycle path.
streetsblog.org/2007/10/15/indianapolis-paves-the-way-for-bikes-and-pedestrians/
and *indyculturaltrail.org/*

Photo credit: Flickr user Eric Fischer

Implementation

Planning Level Costs: $17 million for design and construction
Potential Funding Sources: City capital budget, private contributions, Boston MPO TIP
Who's Responsible: BTD, Public Works, and Boston Parks
Time Frame: Within five to 15 years in conjunction with local community process

Public Input

"Columbia Road is a main transportation corridor in North Dorchester with car and bus congestion that inhibits walking and biking, creating an unsafe and unpleasant experience for getting to local schools, businesses and other community amenities. … [Explore] the idea of a green, safe Columbia Road that restores the historic connection between Franklin Park and the Harbor, and has wide sidewalks, street trees, and a balance between people in cars, buses and on bicycles." –02114

Crosstown

Commonwealth Avenue Beyond Packards Corner

Enhancing multimodal movement and safety in Brighton

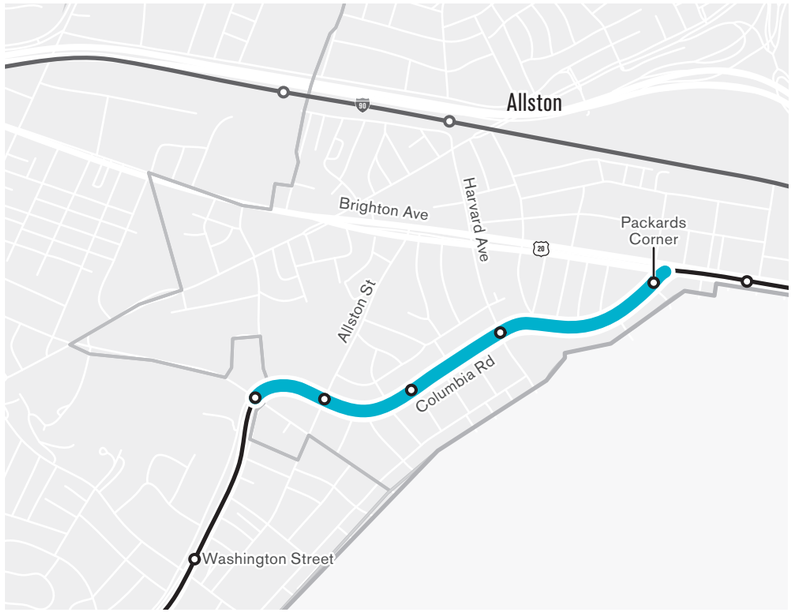
Project Score

- ○ Access 1
- ● Access 2
- ◔ Safety 1
- ● Safety 2
- ● Reliability
- ◕ Affordability
- ● Sustainability/Resiliency 1
- ◔ Sustainability/Resiliency 2
- ◔ Governance

Identified on the ballot as an Early Action commitment

Project Description

The Boston Public Works Department is redesigning Commonwealth Avenue between Brighton Avenue (Packards Corner) and Warren/Kelton Streets. The redesigned corridor will feature separated bicycle facilities, improvements to sidewalks and crosswalks, enhanced access to the MBTA Green Line, preservation and enhancement of historic landscape features, and the implementation of innovative sustainable features. The centerpiece of the project will be the redesigned intersection of Commonwealth Avenue and Harvard Avenue, which will feature extensive safety improvements, as well as new outdoor public spaces.



Benefits and Issues Addressed

With its solid five- and six-story apartment blocks, unique carriage roads, landscaped median, and MBTA transit reservation, Commonwealth Avenue in Brighton is both a multimodal transportation corridor and a home for thousands of people. Population along the corridor has grown in recent years, as has transit use and the demand to bike safely, but infrastructure continues to be decades old without many proper train stations or biking features that could carry more people safely without a car. This Public Works project will greatly enhance access in one of Boston's densest neighborhoods.

Implementation

Planning Level Costs: $17 million for design and construction
Funding Sources: City capital plan for design and Boston MPO TIP for construction
Who's Responsible: Public Works with BTD and MassDOT
Time Frame: Ongoing design with construction within 5 to 15 years in conjunction with local community process

More info at
keepbostonmoving.org/portfolio/commonwealth-avenue-phase-3-and-4/

Best Practices

Implemented as part of two three to five lane conversions, this protected intersection in Salt Lake City, UT, was the second protected intersection for people on bikes in the country. The City created informational materials to show people walking, bicycling, and driving how to use the intersection.
www.slcgov.com/200West
and *altaplanning.com/wp-content/uploads/Evolution-of-the-Protected-Intersection_ALTA-2015.pdf*

Rendering of the current proposal for Comm Ave
Image credit: HDR care of Public Works Department

Public Input

"Bike lanes: Better/safer bike lanes all along Comm Ave and through Allston/Brighton." –02135

"Bike lane on Commonwealth Ave." –02481

Crosstown

SW Corridor Extension to Back Bay and MGH

Complete a fully-protected bike connection across the city

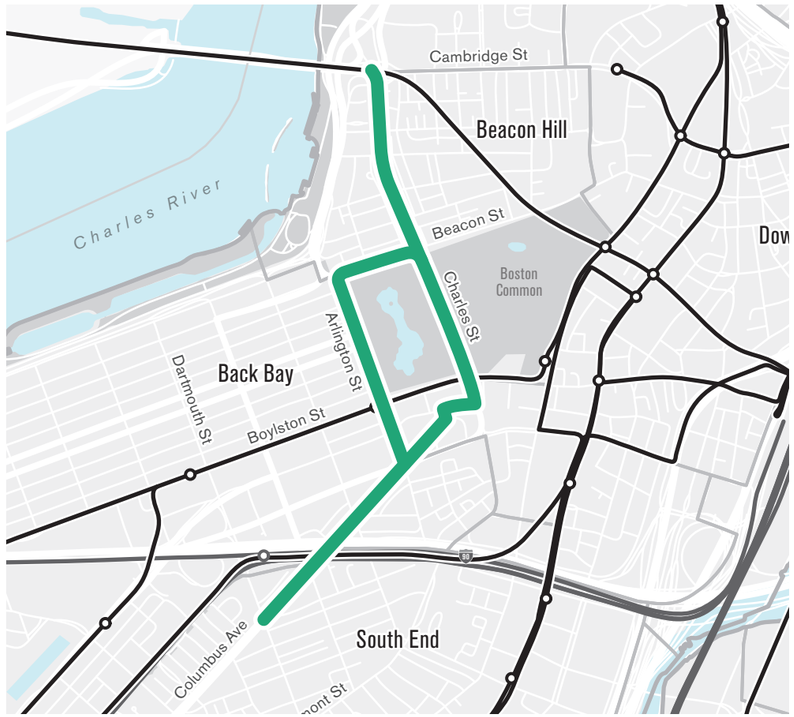
Project Score

- ○ Access 1
- ◕ Access 2
- ◕ Safety 1
- ● Safety 2
- ◕ Reliability
- ◕ Affordability
- ◔ Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ◔ Governance

This project recommendation came out of the Needs Assessment.

Project Description

Building upon the planned reconstruction of Back Bay Station by MassDOT, the Southwest Corridor Park's multiuse path will be connected beyond the Back Bay into Downtown on a route to be selected in conjunction with the local community. One possible route would travel along Columbus Ave, Arlington Street, and Charles Street to Cambridge Street as protected or separated bicycle lanes, utilizing excess lane capacity on each roadway. A connection to the Blackwell Path in the Arboretum will increase access to the corridor from the south. This cross-town downtown bike facility will complete an essential Boston off-street corridor, allowing travelers from Jamaica Plain, Mission Hill, Roxbury, and Roslindale to make a continuous, safe bicycling connection to downtown jobs and destinations, including Mass General Hospital and the West End. Additional southern connections to the proposed Blue Hill Ave Greenway (p199) would allow the corridor to also serve Hyde Park and Mattapan, as well as Dedham and Milton.



Benefits and Issues Addressed

The Southwest Corridor Park is a premier bicycling corridor, but its terminus in the Back Bay limits its utility for accessing the denser core of downtown destinations further north and east. With a seamless off-road bicycling connection, commuters, residents, students, and visitors alike can reliably and safely choose to leave their cars at home and bike to their destinations, thereby helping to reach the mode share targets for cycling among both Bostonians and regional commuters. Boston would have a continuous off-road bicycling connection through half of its neighborhoods, while linking communities from beyond its borders into the downtown.

Best Practices

Washington, D.C., has been a leader in installing protected bicycle lanes on streets with generous ROW for vehicles. The two-way separated bicycle lanes on 15th Street started as a single contraflow lane and was expanded. DDOT recently reported a 40% increase in the number of cyclists on the corridor and approximately 39 trips per day diverted from driving on the corridor.
peopleforbikes.org/green-lane-project/pages/washington-dc
and *nacto.org/wp-content/uploads/2011/02/15th-Street-NW-Separated-Bike-Lane-Pilot-Project-Interim-Results-and-Next-Steps.pdf*

Implementation

Approximate Cost: $500,000 for short-term and $10 million for long-term improvements
Potential Funding Sources: City capital budget for short-term and Boston MPO for reconstruction
Who's Responsible: BTD and Public Works
Time Frame: Within five years in conjunction with local community process

Public Input

"Separated bike path that connects SW corridor to Boston Garden and/or Greenway and/or Harborwalk."
–02130

"Protected bike lanes on major downtown streets: Columbus Ave, Stuart St, Kneeland St"
–02143

Crosstown

Summer Street Protected Bike Lane

Protected bicycle facilities through the South Boston Waterfront

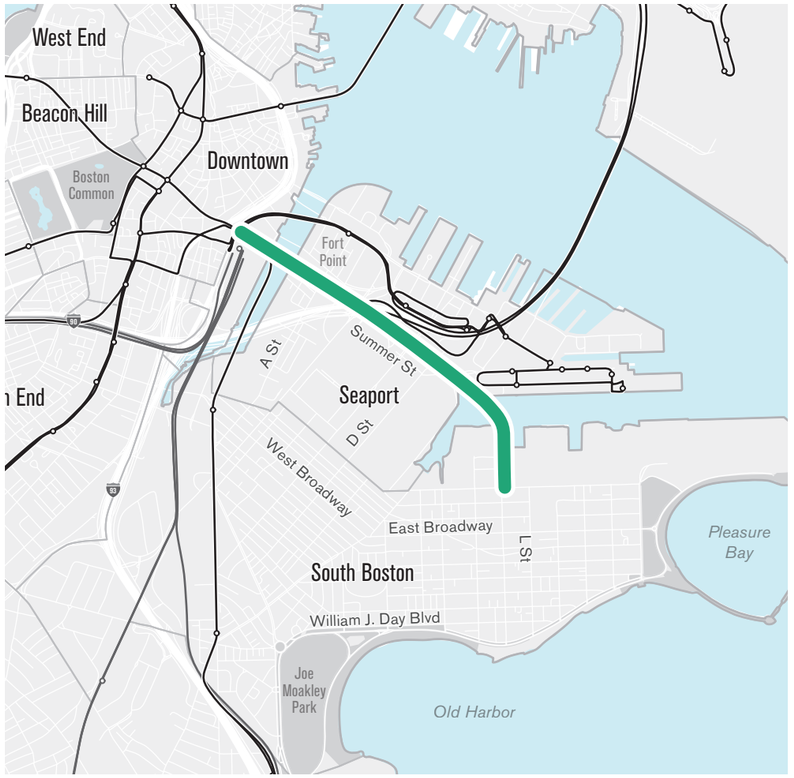
Project Score

- ○ Access 1
- ○ Access 2
- ◕ Safety 1
- ◕ Safety 2
- ● Reliability
- ◔ Affordability
- ○ Sustainability/Resiliency 1
- ◕ Sustainability/Resiliency 2
- ◕ Governance

Identified on the ballot as an Early Action commitment

Project Description

The City of Boston will commence with the reconstruction of Summer Street in the spring of 2018. The reconstruction effort will pursue the highest level of protected bike lanes all the way from South Boston into Downtown. The initial phase of the reconstruction effort will start at Fort Point Channel and continue to West Service Road. The second phase will extend from West Service Road to the Wharf District and the Boston Convention and Exhibition Center (BCEC) and then on to the Reserve Channel. In the long term, protected bike lane facilities will extend along East First Street, providing a continuous protected bicycling network through Dorchester, Hyde Park, and Mattapan by linking with the Harborwalk, a resilient Morrissey Boulevard (p198), the Columbia Road Greenway (p172), and the Neponset Greenway.



More information about this and other projects in the South Boston Waterfront can be found at *www.massdot.state.ma.us/Portals/17/docs/Studies/SBostonWaterfrontFullReport_jan2015.pdf*

Benefits and Issues Addressed

The protected bike lane will provide a safe riding route for cyclists connecting from South Boston to Downtown through Fort Point, creating a safe and efficient connection between a major transit hub (South Station), the BCEC, Seaport Square, and the Ray Flynn Marine Industrial Park, which can help alleviate congestion in the burgeoning South Boston Waterfront as recommended by the *South Boston Waterfront Sustainable Transportation Plan*. The facility will also serve regional commuters transferring from trains at North Station or coming from Milton and Quincy by linking to the north with the Rose Kennedy Greenway and to the south with Carson Beach, where connections can be made to Morrissey Boulevard or Columbia Road.

Implementation

Planning Level Costs: $14 million design and construction
Funding Sources: City capital plan for design, Boston MPO TIP, and developer contributions
Who's Responsible: Public Works and BTD with MassDOT, Massport, and BCEC
Time Frame: Within five years

Best Practices

With a raised bike path on each side, Vassar Street is a key bicycle link for those traveling to and through MIT in Cambridge, MA.

Public Input

"L Street/Summer Street… seems like a real untapped opportunity for improving transit and biking between this end of Southie and the rest of Boston. Although recently buffered bike lanes were installed along a portion of it, I think the speeds of drivers are still so high that it's much safer to have a physically separated bike lane here."
–02127

Crosstown

LMA to JFK Rapid Bus via Dudley and Uphams

Quality transit connecting the LMA with Roxbury, Dorchester, the Fairmount Indigo Line, and the Red Line

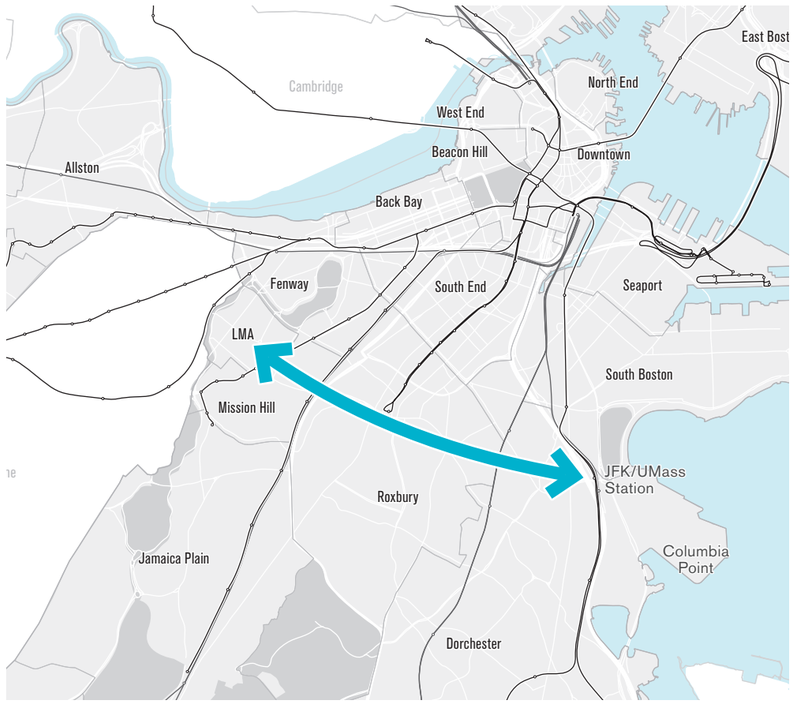
Project Score

- ○ Access 1
- ◕ Access 2
- ● Safety 1
- ○ Safety 2
- ● Reliability
- ● Affordability
- ◔ Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ● Governance

This project recommendation came out of the Needs Assessment.

Project Description

A single bus transit line utilizing signal priority and some exclusive lanes or queue-jump lanes will provide an essential crosstown transit connection from the JFK/UMass Red Line Station to Uphams Corner Indigo Line station, Dudley Square Silver Line station, Roxbury Crossing Orange Line station, and into the LMA. Likely following portions of MBTA Route 41 and operating on Columbia Road, Dudley Street, Malcom X Boulevard, Tremont Street, and Huntington Ave or St. Alphonsus Street, higher-frequency crosstown service would give a large residential population direct connections to commercial and employment centers along the line, with many more connected via transfers from the Red, Orange, and Fairmount Indigo Lines. A shorter term key bus route using existing transit equipment is possible between the Red Line stations and the LMA while final alignment planning for the rapid bus is being determined in conjunction with the surrounding neighborhoods of Fenway, Mission Hill, Roxbury and Dorchester in conjunction with employers.



Benefits and Issues Addressed

The need for Bostonians to get to the LMA, Dudley Square, and Columbia Point and UMass is growing and projected to increase in the future, but only select neighborhoods have direct transit access to these places due to the mostly radial nature of MBTA service. A new crosstown connection linking these jobs, commerce, and service centers to the Orange Line, Silver Line, Fairmount Indigo Line, Red Line, and several Main Streets districts in-between is now necessary to convey thousands of existing and future residents and employees. Providing key connections to radial transit lines outside of downtown, this route could greatly reduce travel times to these areas, ease vehicle congestion, and provide access to new jobs. Rapid bus treatments will aid other bus routes, such as the 15 and 41, which experience poor reliability along Dudley Street.

Best Practices

Los Angeles's Metro Rapid system provides an excellent template for a mix of service improvements that increase overall bus speeds. During peak hours, buses arrive every 3 to 10 minutes. Buses are low-floor, which speeds up boarding times, and bus shelters have real-time bus displays. Signal priority allows buses to speed through traffic delays at intersections. Initial ridership increases were as high as 40%.
www.metro.net/projects/rapid/

Implementation

Approximate Cost: $35 million for design and construction with vehicle costs to be determined.
Potential Funding Sources: City capital budget for design, Boston MPO TIP for roadway construction, and MassDOT/MBTA for vehicle costs
Who's Responsible: BTD and PWD with MassDOT/MBTA
Time Frame: Within 5 to 15 years in conjunction with local community process

Public Input

"Connectivity to the Red Line: Bus from Dudley to JFK should also be more frequent."
–02139

"South Boston needs to be better connected to the Longwood Medical Area by bus."
–02127

Crosstown

Smart Signal Corridors

Traffic signals that talk to each other

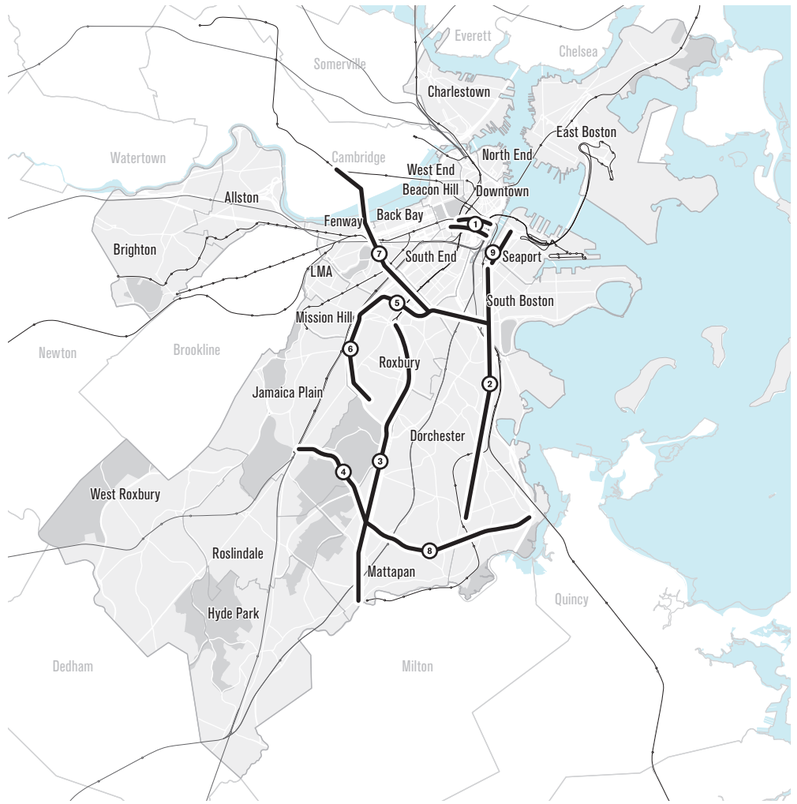
Project Score

- ○ Access 1
- ◕ Access 2
- ● Safety 1
- ○ Safety 2
- ● Reliability
- ● Affordability
- ○ Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ● Governance

#2 in public voting

Project Description

Building off of and sometimes connecting to more localized Smart Signals Districts (p163), these Smart Signal Corridors would allow BTD to better manage traffic flow for those walking, biking, riding transit, and driving on some of the City's most congested corridors. Today, staff at the City's Traffic Management Center monitor traffic cameras and manually adjust signal timing to improve driving conditions. Smart signal corridors would go one step farther by automatically adjusting signals in ways that respond better to the primary direction and desired speed of traffic flows. State-of-the art signals would improve the capacity of the City to give green lights to arriving transit and emergency vehicles, calculate green wave patterns that allow people biking and driving to stop less frequently, communicate with autonomous cars, and give more walk time at crossings when sidewalk crowding is an issue.



Benefits and Issues Addressed

New technology that is currently being developed for individual vehicles, including apps like Waze, only allows travelers to react to and avoid delays and congestion, rather than providing systemic solutions to delays. By integrating this data with live traffic cameras, smart signals can coordinate and make travel safer and smoother for all travelers. Smart signal corridors can keep traffic flowing without the pulses of signal delays, enabling bicycle and car speeds to be more compatible, emergency services to increase response times, and transit reliability to improve. These technologies are especially helpful where flows of people cross, reducing conflicts and crashes while making it safer to walk across the city.

Implementation

Approximate Cost: $25 million over five years for smart corridors and districts, as well as other signal upgrades
Potential Funding Sources: City capital plan and local developers
Who's Responsible: BTD
Time Frame: Ongoing

Best Practices

Bellevue, WA, has implemented an adaptive signal system along Factoria Blvd, a key corridor in the City, heavily used by commuter traffic.
time.com/3845445/commuting-times-adaptive-traffic-lights/

Smart Signal Corridors along:

1 Essex and Kneeland Streets
2 Dorchester Avenue
3 Blue Hill Avenue and Warren Street
4 Morton Street
5 Melnea Cass Boulevard
6 Columbus Avenue
7 Massachusetts Avenue
8 Gallivan Boulevard
9 A Street

Public Input

"Reduce pedestrian waiting time on Columbus Ave/Tremont St. Pedestrians have to wait almost 2 minutes to get a green light."
–02119

"Magnetic sensor under roads: It would determine the number of cars waiting at a light and adjust the signal accordingly based on traffic flow."
–01867

Crosstown

Fairmount Indigo Line Service Improvements

Phase One: Increase the frequency and improve the payment systems

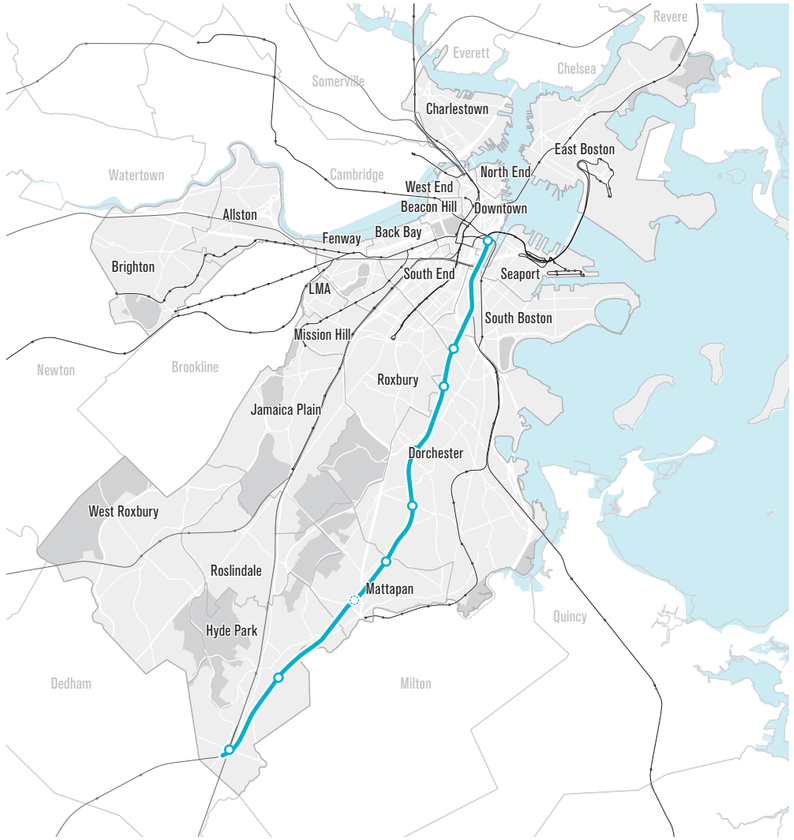
Project Score

- ◕ Access 1
- ● Access 2
- ○ Safety 1
- ○ Safety 2
- ● Reliability
- ● Affordability
- ◕ Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ● Governance

Identified on the ballot as an Early Action commitment

Project Description

With three new stations on the Fairmount Indigo Line recently completed—Four Corners/Geneva, Talbot Avenue, and Newmarket—neighborhoods are now being served by trains that previously passed them by. With the Blue Hill Avenue Station scheduled to be completed by 2021, an additional 1,200 households will have access to regular rail service within a 10-minute walk. Now, further efforts are proposed to improve walking and bicycling access to every station and as part of a first phase, provide a more subway-like schedule so that passengers can walk to the station and reliably expect train service in 15 or 20 minutes rather than every 45 to 60 minutes. Though fares are currently equivalent to the subway lines in the city, technology improvements should allow payments to be made with ordinary Charlie Cards so any rider wanting to pay with a monthly fare card or to make a free bus transfer can do so. In the future, integrating Charlie Card tapping or the next generation of payment technology will eliminate this transfer penalty and keep a linked trip affordable for riders. Other improvements are planned with the future conversion to urban rail cars (p179).



Benefits and Issues Addressed

Providing rail service to Mattapan, Codman Square, Grove Hall, and South Bay makes a significant improvement in transit access to communities of color who have historically been underserved, but the current infrequency of trains and the issues with payment make it hard for residents to rely on this service, particularly if they need a combination of buses and trains to complete their journey. In order to effectively link these residents to more job opportunities, especially those working outside of the usual nine to five, operational changes such as those described above are needed along with the expansion of South Station and the purchase of additional trains. Future advancements—such as those included in the Fairmount Urban Rail project (p179)—will be necessary to truly improve transit access equitably.

Implementation

Approximate Cost: $35 million in capital improvements and $4 million per year for operations
Potential Funding Sources: MBTA
Who's responsible: BTD and MBTA
Time Frame: Within 5 to 15 years

Best Practices

In Ontario, Canada, GO Transit moved from hourly headways to half-hourly during off-peak times on its commuter rail network in 2013. Since then ridership has increased by 30%.
www.thetransportpolitic.com/2014/07/28/make-the-effort-and-commuter-rail-can-be-as-effective-as-rapid-transit/

Public Input

"You should be able to just use your Charlie Card–whether is has your monthly pass or is pay-as-you-go. The paper Charlie Ticket and mobile app are helpful, but make it harder to get on to ride the Fairmount Line."
–02143

"Pilot projects to 'test the waters' increase service on the Fairmount Line."

Crosstown

Fairmount Indigo Line Urban Rail

Phase Two: Bringing the benefits of subway service to a walkable Fairmount corridor

Project Score

- ◕ Access 1
- ● Access 2
- ○ Safety 1
- ○ Safety 2
- ● Reliability
- ● Affordability
- ◕ Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ● Governance

This project recommendation came out of the Needs Assessment and feedback from local groups already working to improve service along the corridor.

Project Description

Expanding beyond current service improvements to the Fairmount Line, a new set of urban rail cars would be introduced, operating at higher speeds and 5 to 10 minute frequencies to create Boston's sixth rapid transit line. Working in close partnership with a wide array of neighborhood interests, the line is envisioned to be extended both south to Dedham Corporate Park/Legacy Place along existing tracks and north past South Station into the Seaport and South Boston via the existing Silver Line tunnel and/or Track 61/Seaport Rail (p183) with a new tunnel below the congested South Station tracks to directly link with the Silver Line. Further station area improvements would bring a true urban subway environment and service quality to Dorchester, Mattapan, Hyde Park, and beyond. New transit centers at Readville or Widett Circle would allow riders to connect to the Providence Line commuter rail and inter-city Amtrak service. To make this project successful, a separate operating and financing entity other than the MBTA—such as a municipal transit district (p193)—may be necessary, given the MBTA's already overburdened financial constraints.

Typical Modes of Travel for People Accessing Transit

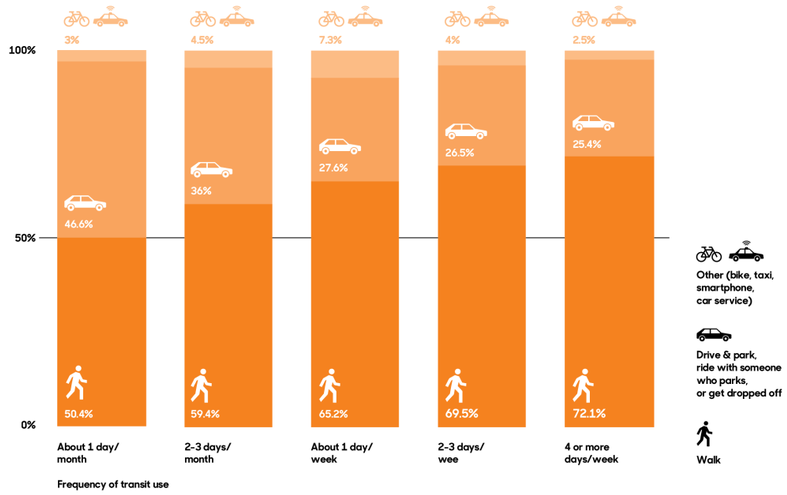


Image source: TransitCenter, Who's On Board 2016: What Today's Riders Teach Us About Transit That Works. Retrieved from *transitcenter.org/publications/whos-on-board-2016/*

Benefits and Issues Addressed

While ongoing service improvements will help the Fairmount Indigo Line, converting it to a high-speed rail service on the rapid transit map will change the quality of access for a large swath of dense and traditionally underserved neighborhoods of Boston and incentivize a major shift from driving. To make transit more equitable to thousands of Bostonians, the Indigo Line would operate with at least as much frequency and spare capacity as other rapid transit lines, have the same free transfers to other lines and buses, and have real urban stations with easy walk-up access. No longer a commuter rail line, urban rail will interconnect the heart of Boston's neighborhoods and create new direct access to Boston's biggest employment and commerce centers.

Best Practices

A recent report based on a survey of transit riders found that walkability is critical to transit ridership. Up to 80% of riders, particularly those who are doing something other than commuting, walk to access transit. Walking to transit is also correlated with frequency of use. *TransitCenter, Who's On Board 2016: What Today's Riders Teach Us About Transit That Works.*
transitcenter.org/publications/whos-on-board-2016/

New York's MTA is working on a design for diesel multiple units (DMUs) which would allow for expanded service on commuter rail tracks.
web.mta.info/lirr/about/Procurement/what.htm

Implementation

Approximate Cost: $400 million
Potential Funding Sources: MassDOT/MBTA, City capital plan, FTA
Who's responsible: MassDOT/MBTA and BTD
Time Frame: 15+ years

Public Input

"Regional Rapid Transit: Boston should take a page or three from Paris or San Francisco's books, and build a regional rapid transit network connecting communities like Hyde Park and Mattapan… Electrify the Fitchburg, Rockport, Worcester, and Fairmount lines out to Route 128 and Salem, upgrading all stations to the standard set by the new Yawkey facility. Run 4-car EMU trainsets at 15 – 30 minute headways off-peak, with 10 – 15 minute rush hour frequencies.
–02122

Crosstown

Mattapan to LMA Rapid Bus

Faster transit connections to the medical district from southern Boston

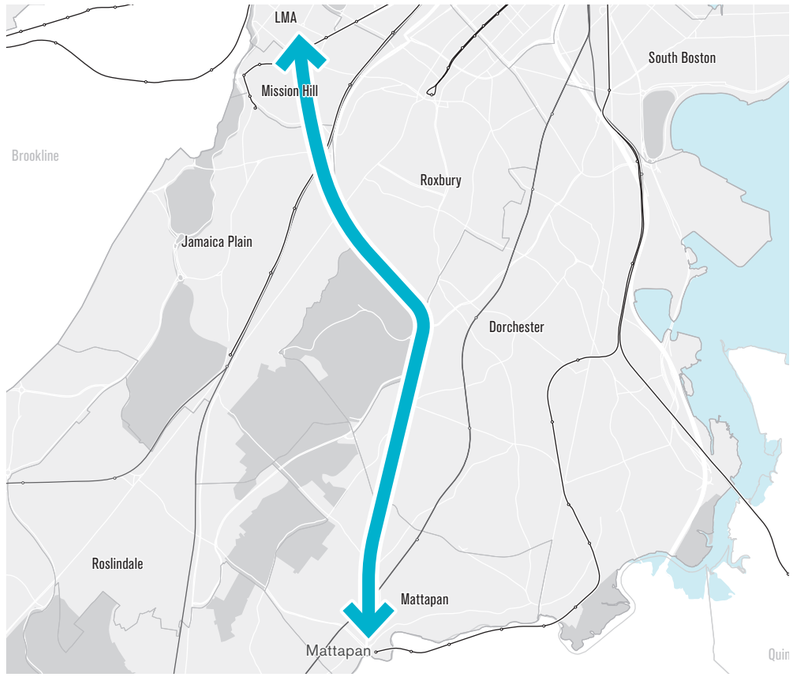
Project Score

- ◔ Access 1
- ● Access 2
- ● Safety 1
- ○ Safety 2
- ● Reliability
- ● Affordability
- ● Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ● Governance

#19 in weighted Boston-only public voting

Project Description

A new transit line with high-quality stops, signal priority, all-door boarding, and some exclusive lanes will create direct transit connections for residents of Mattapan and southwest Dorchester to jobs and medical care in Roxbury, Mission Hill, and the Longwood Medical and Academic Area. This involves a rail-like bus service operating where excess roadway width exists today on one of several potential corridors that will be determined in conjunction with the community. Service would be high capacity and high frequency and could interline with the JFK/UMass to LMA rapid bus corridor (p176) and even the West Station to LMA connection (p203), connecting together southern Boston, the LMA, and Beacon Yards. Future upgrades could see tracks and streetcar service initiated as ridership grows.



Implementation

Approximate Cost: $55 million for design and construction with vehicle costs to be determined
Potential Funding Sources: City capital budget for design, Boston MPO TIP for roadway construction, and MassDOT/MBTA for vehicle costs
Who's Responsible: BTD and PWD with MassDOT/MBTA
Time Frame: Within 5 to 15 years in conjunction with local community process

Best Practices

The Cleveland, OH, Healthline has five min frequency during rush hours, 24/7 service, off-board fare collection, dedicated ROW with higher speed limits, real time information displays, "stations" with fare machines, emergency call boxes, and elevated platforms.
www.riderta.com/healthline/about

Benefits and Issues Addressed

This investment will support economic opportunity along a corridor with heavy bus ridership but unreliable service, while—depending on the alignment—potentially improving other connections that head into Dudley Square and Downtown as well. Crosstown connections from this part of the city are in high demand, as shown by the ridership rates on "diagonal" routes such as the 28, yet these routes have poor reliability. Poorly served riders, plus many more residents of Dorchester and Mattapan who are not near these diagonal routes today, must either drive—adding to the congested traffic on Morton Street—or ride into Downtown then back out to the LMA on the train. Replacing these lengthy, indirect, and unreliable transit commutes with a high-quality single-seat ride will benefit thousands, improve jobs access, and also attract new transit riders.

Public Input

"Transit expansion is critical to the city's continued viability: Our rapid transit needs major expansion of its capacity, both in the downtown core and in many under-served neighborhoods that are among the most transit-dependent sections of the entire metropolitan region (e.g., Washington Street Corridor through Roxbury and continuing through Grove Hall to Mattapan Square). ... indispensable prerequisites to assuring the continued development of Boston by providing the critical infrastructure that can support our growing public transportation system." –02119

Crosstown

Improved Silver Line: Dudley to Downtown

Better rapid bus service and terminals on the Silver Line from downtown to Dudley

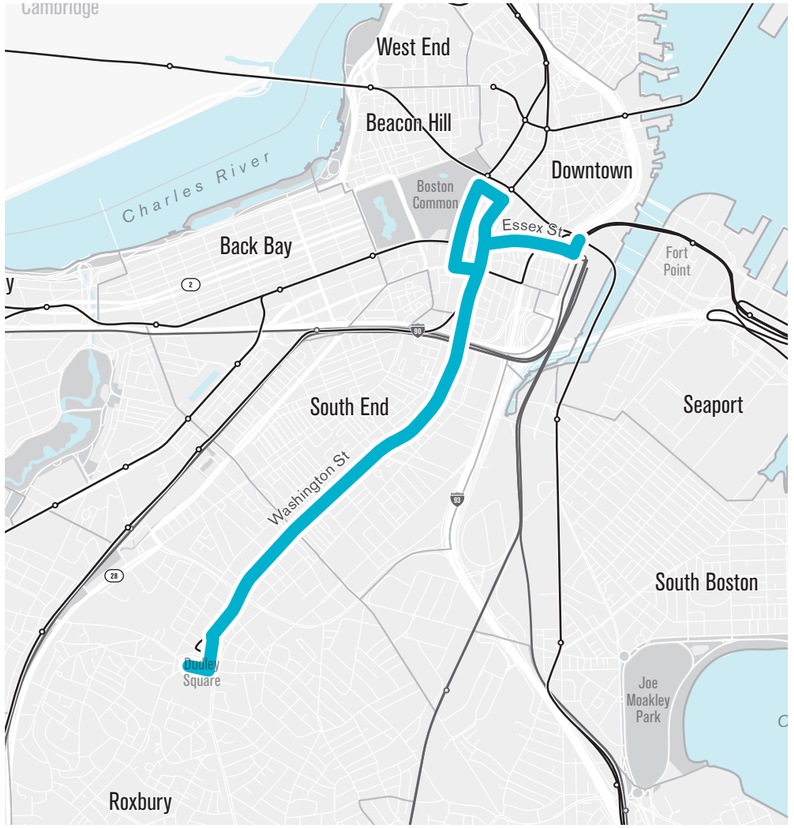
Project Score

- ○ Access 1
- ◕ Access 2
- ● Safety 1
- ○ Safety 2
- ● Reliability
- ● Affordability
- ◕ Sustainability/Resiliency 1
- ◔ Sustainability/Resiliency 2
- ◕ Governance

Identified on the ballot as an Early Action commitment

Project Description

Today the Silver Line between Dudley and downtown along Washington Street has protected bus shelters and an exclusive red bus lane. In the next five years, the width of the lane will be increased, physical buffers and stronger enforcement will ensure that it is not used for double parking, an off-board payment system will allow for all-door boarding and prevent long passenger queues from delaying stops, automated signal priority will avoid red-light delays, and raised, accessible platforms will make it safer and easier for passengers of all abilities to board. An improved Dudley Station (p187) will be paired with improved termini at Downtown Crossing and South Station (p184), where new in-street platforms will enable faster transfers to the Orange, Red, and waterfront Silver Lines.



Benefits and Issues Addressed

The evolution of bus rapid transit (BRT) technologies since the creation of the Silver Line nearly two decades ago allows for the Washington Street line to finally be upgraded to gold-standard BRT and provide streetcar-quality service into the heart of the South End, Roxbury, and Dudley Square. With faster and more frequent service, residents of Roxbury and several neighborhoods whose buses feed into Dudley would have better access to Downtown, to health care at Boston University and Tufts Medical Centers, and to transfers to other rapid transit lines, driving up transit ridership to meet Go Boston 2030's targets. Visitors could travel to Dudley, expanding commercial activity and contributing to the vitality that evolves around transit hubs elsewhere in Boston.

Implementation

Approximate Cost: $22 million for capital improvements
Potential Funding Sources: MassDOT/MBTA, City capital program, and FTA
Who's responsible: BTD, PWD, and MassDOT/MBTA
Time Frame: Design and initial improvements within five years

Best Practices

The GRTC Pulse is under construction in Richmond, VA. This BRT project will be a mix of bus-only lanes and mixed-traffic with queue jumps. Level boarding will speed the boarding process.
www.ridegrtc.com/brt

Public Input

"Boston already has the Silver Line, but why not create a true BRT that runs from Egleston all the way to Downtown? One with prioritized lanes AND prioritized traffic signals AND limited access boarding? Roxbury needs better transit connections." –02130

Crosstown

Oak Square to Comm Ave Rapid Bus

Create a rapid bus system to serve a large underserved neighborhood

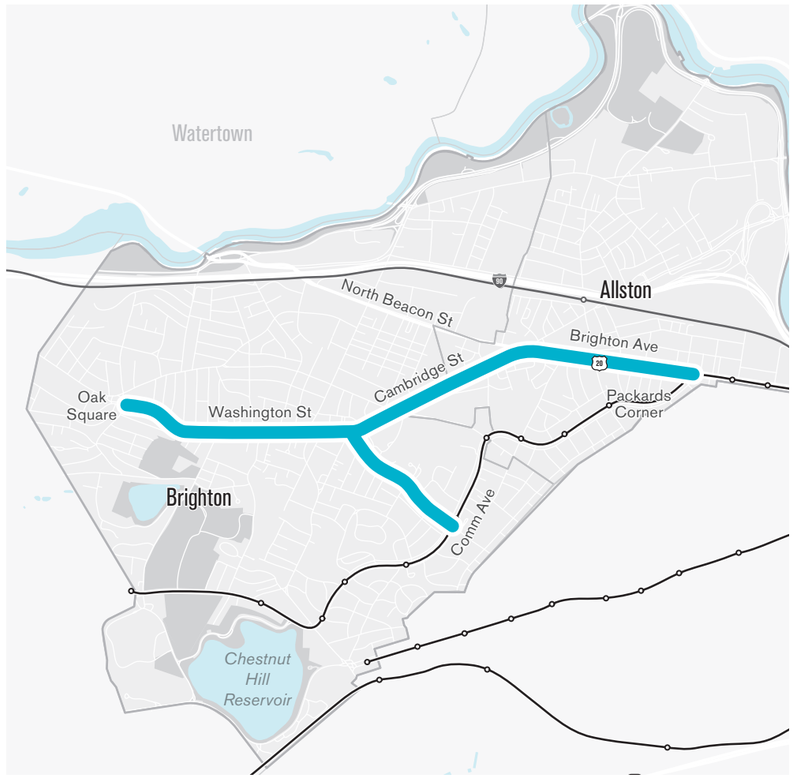
Project Score

- ◕ Access 1
- ● Access 2
- ◕ Safety 1
- ○ Safety 2
- ● Reliability
- ● Affordability
- ● Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ◕ Governance

This project recommendation came out of the Needs Assessment.

Project Description

The speed and reliability of existing MBTA bus services connecting Oak Square and most of Brighton to Kenmore Square and the LMA will increase notably with the introduction of rapid bus treatments along Washington and Cambridge Streets. Synchronized signals with transit priority at intersections, curbside queue-jump lanes to bypass traffic, flexible peak-hour bus lanes, off-board payment, and other bus rapid transit (BRT) technology improvements would provide these neighborhoods with greater transit capacity. Stops will include improved amenities and be fully accessible to anyone of any ability.



Benefits and Issues Addressed

The existing bus routes that serve parts of Allston, most of Brighton, and the Oak Square Main Street district are heavily used but offer long running times and low reliability. For example, the section of roadway between Brighton Avenue at Cambridge Street and Brighton Avenue at Harvard Avenue has one of the highest rates of delay in the region.* While many residents are transit dependent and rely on buses to get to work, others add to the congestion on those same streets by driving to work because buses are a slower and less reliable option. Introducing rapid bus treatments on these prime routes will connect many Bostonians with jobs and other destinations more reliably while reducing peak hour congestion in these neighborhoods.

Implementation

Approximate Cost: $7 million for design and construction
Potential Funding Sources: City capital plan for design and Boston MPO TIP for roadway construction
Who's Responsible: BTD and Public Works with MassDOT
Time Frame: Within 5 to 15 years in conjunction with local community process

Best Practices

As part of New York City's Select Bus Service, dedicated bus lanes and off-board fare collection help the M23 provide high-quality crosstown service along 23rd Street in Manhattan.
web.mta.info/mta/planning/sbs/

Public Input

"Traffic lights: Sequence the traffic signals. It gets really congested between Oak Square and Brighton Center. Washington St is a snail's trail."
–02135

"Express bus: Between Oak Square and Cambridge (Kendall Square) there should be an express bus. The #64 meanders too much."
–02135

"Oak Square Brighton is underserved! Express buses need to run more often and should not cost extra! Commuter rail will help, though needs to be frequent!"
–02135

* Hart, N. and Belcher, J. (2016). *Prioritization of Dedicated Bus Lanes*. Retrieved from MassDOT: *www.massdot.state.ma.us/Portals/49/Docs/BusLane20160513%20.pdf*

Crosstown

Seaport to Dorchester/ Widett Urban Rail

Create new connections from Dorchester at Newmarket using Track 61

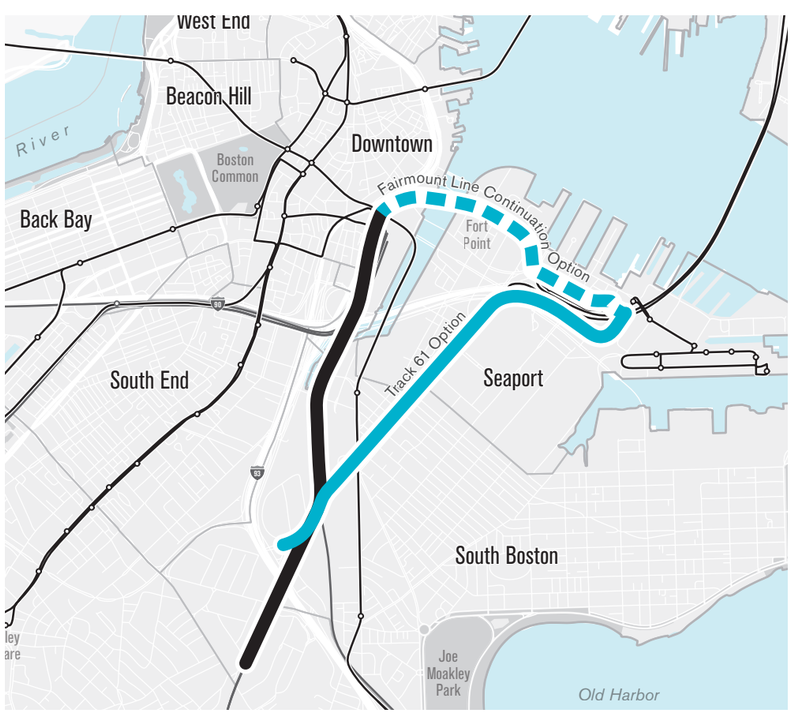
Project Score

- ◕ Access 1
- ○ Access 2
- ○ Safety 1
- ○ Safety 2
- ● Reliability
- ○ Affordability
- ○ Sustainability/Resiliency 1
- ◕ Sustainability/Resiliency 2
- ◕ Governance

#19 in public voting

Project Description

The South Boston Waterfront contains a rail right-of-way running parallel to the South Boston Bypass Road/Massport Haul Road, which was used in the past for single track freight rail shipments from the rail system at Widett Circle out to the Marine Industrial Park. This line, known as Track 61, does not currently connect to Boston's transit system. To bring essential new transit capacity into this growing district, urban rail running from Fairmount (p179) can use Track 61 for direct access from Dorchester. Alternatively, the Fairmount Line could use a new tunnel connecting to the Silver Line. This service could directly serve the Convention Center, a new station at D Street, and potentially a new Broadway or Dorchester Ave station in South Boston. Integrated into the ground floor of the planned South Boston Waterfront Transportation Center, direct connections between the Silver Line, commuter rail, and consolidated shuttles (p169) would make transit the primary mode of access to the Seaport. The line could also serve a future rail station at Widett Circle with appropriate rail or passenger connections. Concepts and designs would be developed in coordination with the community.



Benefits and Issues Addressed

The *South Boston Waterfront Sustainable Transportation Plan*, as well as growth projections done for Go Boston 2030, recognize that more transit capacity will be needed in the burgeoning Seaport. With the Silver Line already at capacity, new rail connections can provide enhanced transit access for single seat rides from South Boston and Dorchester, neighborhoods along the Fairmount Indigo line, and/or the entire South Shore, as well as transfers from other commuter rail lines and Amtrak at a proposed Widett Rail Station. A Seaport rail line—especially with transfers at Widett—would also unburden growing rail congestion at South Station. In the long term, connections could be made to other future "urban rail" services that have been envisioned over the years for other existing commuter rail corridors, greatly enhancing transit access to the South Boston Waterfront

Implementation

Approximate Costs: $60 million for design and construction
Potential Funding Sources: MassDOT/MBTA and FTA
Who's Responsible: MassDOT/MBTA and BCEC
Time Frame: 15+ years

Best Practices

In Denton County, TX, the Denton County Transportation Authority (DCTA) received an alternative vehicle technology waiver from the FRA in 2012 to operate Stadler rail cars that share tracks with freight trains. The A-train carries an average of 1,900 people daily and provides regional connections to downtown Dallas.
www.metro-magazine.com/rail/news/288591/dcta-puts-stadler-gtws-in-revenue-service

Public Input

"More direct bus or train routes to the Seaport and south Boston."
–02135

"T rail access to Seaport."

"Access to the new Seaport District : The Silver Line really doesn't cut it to this new district."
–02129

Crosstown

Silver Line Termini at Downtown Crossing and South Station

Improve the convenience and quality at key Silver Line transfer points

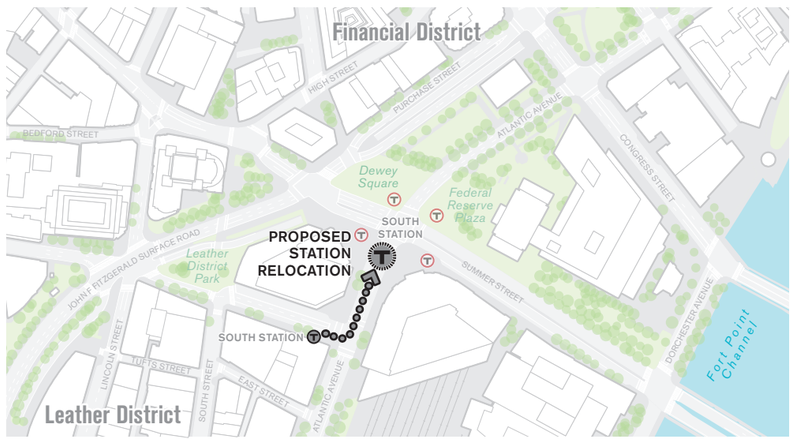
Project Score

- ○ Access 1
- ○ Access 2
- ○ Safety 1
- ○ Safety 2
- ○ Reliability
- ● Affordability
- ● Sustainability/Resiliency 1
- ◔ Sustainability/Resiliency 2
- ◕ Governance

#14 in public voting

Project Description

These enhancements create terminus stations for the Washington Street Silver Line that facilitate transfers to the Orange, Red, and waterfront Silver Lines. In Downtown Crossing, the stop would be relocated to Washington Street and served by an enhanced shelter a few steps from the subway entrance while being complimented by new markings, lights, and signs to facilitate transfers by those unfamiliar with the system. At South Station, the stop would be relocated to the left side of Atlantic Avenue with an exclusive lane and new shelter on a boarding median, immediately adjacent to the Red and Silver Line headhouse at One Financial Center to facilitate quick transfers with complimentary signage. These enhanced connections are interim transfer improvements until a full underground connection between the Washington Street and waterfront Silver Lines can be constructed.



Benefits and Issues Addressed

While the Washington Street Silver Line routes connect Dudley Square and residents of Roxbury and beyond to both the Orange and Red Lines at Downtown Crossing, as well as to the Red and waterfront Silver Lines at South Station, transfers require an outdoor walk and crossing streets with no wayfinding guidance. This lack of efficient connections affects access to jobs, especially in the growing South Boston Waterfront. With these improvements, the Washington Street Silver Line is more directly connected to the subway system for workers, residents, and visitors alike.

Implementation

Approximate Cost: $2.5 million for design and construction
Potential Funding Sources: MassDOT/MBTA and developers
Who's Responsible: MassDOT/MBTA and BTD
Time Frame: Within five years

Best Practices

Today's MBTA riders going from downtown or East Boston to the Airport Station on the Blue Line transfer from a subway to a bus. Although the service is provided by two different entities, the transfer is well integrated, clearly marked, and does not require an additional fare.

Public Input

"Connect the two Silver Lines."
–02210

"Silver line expansion/link."

"Make Silver Line more friendly for people coming from airport with suitcases, etc."

Crosstown

Longwood Transit Hub

A consolidated LMA transit center to improve transit quality and safety

Project Score

- ◕ Access 1
- ○ Access 2
- ◔ Safety 1
- ○ Safety 2
- ● Reliability
- ◔ Affordability
- ● Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ◕ Governance

This project recommendation came out of the Needs Assessment and conversations with the Medical Academic and Scientific Community Organization (MASCO).

Project Description

In the heart of the LMA within a five-minute walk of most of its institutions, a new transit center is envisioned on Longwood Avenue to serve the majority of MBTA routes that connect Boston residents to the LMA's jobs and services. As proposed by MASCO, the hub will have modern passenger amenities, real-time arrival displays, new off-street loading bays, and amenities for pedestrians and bicyclists. Transit riders will have a safer and more comfortable experience. Future long-term expansion could include new enclosed public spaces and direct underground connections to an enhanced LMA to Kendall crosstown connection (p203). Carshare, bikeshare, and shuttles in the surrounding area will provide additional transportation choices.

Longwood Medical Area Transit Hub Concept

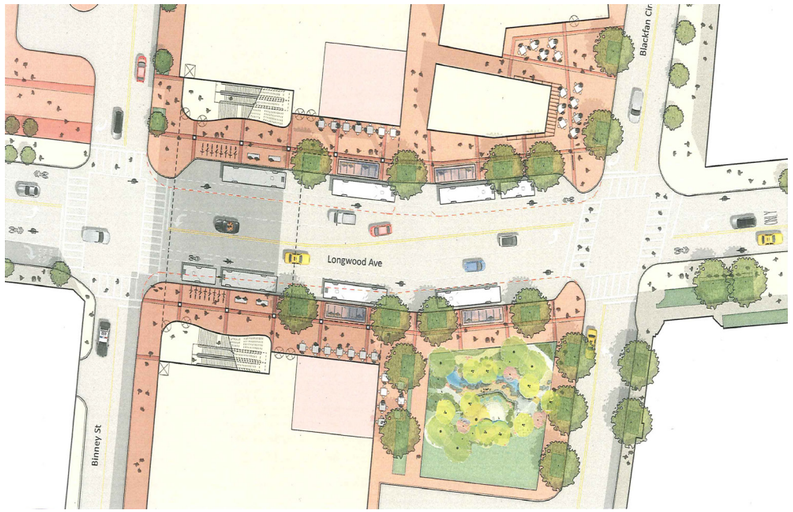


Image Source: MASCO

Benefits and Issues Addressed

The LMA maintains a very high transit share given the institutions' emphasis on employee transit, walk, and bike travel, and despite the high congestion on Longwood Avenue, the district's primary transit spine. Buses have little off-street pick-up space, bus stop amenities are lacking, and congestion makes a one-block ride out of the district often exceed 10 minutes. With new essential transit routes from JFK and Dudley (p176), Mattapan (p180), and West Station/Kendall planned for the LMA (p203), a new transit center will attract new riders to transit. Once established, the hub can become a future major rail station if crosstown rail service is established and would reduce vehicle congestion on Longwood Ave to the benefit of riders, motorists, and emergency services alike.

Implementation

Approximate Cost: $5 million for design and construction of first phase
Potential Funding Sources: MASCO institutions with BTD, Public Works, and MassDOT/MBTA
Who's Responsible: MASCO as lead
Time Frame: Within 10 to 20 years in conjunction with local community process

Best Practices

In Denver, CO, the recently completed RTD bus hub is a 22-gate underground area. A bus departs every 48 seconds from this hub.
www.rtd-denver.com/unionstation-busconcourse.shtml

In Poughkeepsie, NY, a new bus hub opened in 2013. The hub includes bus bays, monitors, and passenger amenities on a small site. In 2014, the design received an engineering award.
cityofpoughkeepsie.com/archives/4463

Public Input

"Connectivity: Centralized bus/transit hub in Longwood Ave."
–02467

"Push parking for all out to perimeter and increase shuttle access from parking to all of the LMA. Limit access to inner LMA to shuttles, emergency, and commercial vehicles only."
–02460

Crosstown

Inner Harbor Ferry Expansion

Lovejoy Wharf to Fan Pier and other new local ferry routes

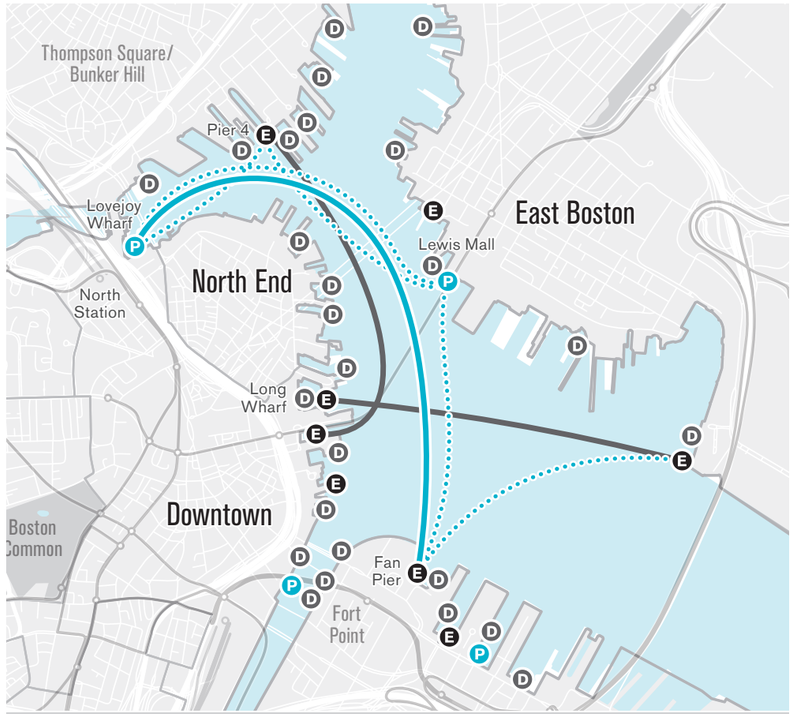
Project Score

- ○ Access 1
- ○ Safety 1
- ● Reliability
- ○ Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ◔ Governance
- ◔ Access 2
- ○ Safety 2
- ◕ Affordability

This project recommendation came out of the Needs Assessment and repeated requests from neighborhoods around the harbor to improve connections

Project Description

MassDOT, through guidance by the Water Transportation Advisory Council, is partnering with Boston Harbor Now to develop a water transportation feasibility and business plan to look at passenger demand, locations for ferry terminals, and service routes around Boston's Inner Harbor. The Seaport Transportation Management Association and the Boston Convention and Exhibition Center (BCEC) are also partnering to develop a business plan for ferry service between Fan Pier in South Boston and Lovejoy Wharf at North Station to replace or augment land-based shuttle service. Recent and pending additions of water transportation terminals including at Fan Pier, Lovejoy Wharf, and Lewis Mall will offer direct connections between waterfront neighborhoods where direct access is limited or non-existent, including East Boston and North Station to the South Boston Waterfront. Other proposed connections include East Boston to Charlestown.



Benefits and Issues Addressed

Boston's unique coastline geography is advantageous for timely and dependable ferry service. There is considerable potential for water transportation to accommodate development growth and to get residents to new jobs emerging all along Boston Harbor and especially in the Seaport. Indirect transit links and limited road capacity diminish Seaport access, particularly from northern suburbs, Charlestown, and East Boston—places that would all experience quicker commutes with improved ferry service. Scheduled Inner Harbor ferry service could also expand Boston's open space and pedestrian and bike networks. Meanwhile, as detailed by the MBTA's Focus40 process, despite carrying the fewest passengers of any transit mode, the ferry service's share of fare revenue is greater than its share of MBTA operating expenses, making expansion a very cost-effective investment.

Implementation

Estimated Cost: $21 million for new terminals and ferries; $1 million per year for operations
Potential Funding Sources: Federal grants for capital and infrastructure investments, private development funding through municipal harbor plans and Chapter 91 licensing
Who's Responsible: MassDOT/MBTA, BCEC, and MassPort
Time Frame: 5 to 15 years

Best Practices

In Vancouver, BC, the Granville Island inner harbor ferry system provides high-frequency service between several key destinations not connected by trains.

The extensive ferry system in Seattle, WA, is the third largest in the world. A necessary part of many daily regional commutes, it features high frequencies, high-capacity boats and terminals, and the latest in real-time passenger information.

Public Input

"Public Ferries: We should have a public ferry between East Boston and South Boston."
–02128

"Connect all the parts of Boston on the waterfront–North End, East Boston, Charlestown, Downtown, Dorchester, South Boston–by boat. The ferries are part of the rapid transit system (like our MBTA) in some places such as Switzerland where a ticket purchased for their trolleys also covers boat fares."
–02129

"Water taxis/ferries from North End to Seaport and East Boston."
–02113

Crosstown

Dudley Square Enhanced Transit Hub

Incorporating improved services into a high-quality indoor station

Project Score

- ◔ Access 1
- ◔ Safety 1
- ● Reliability
- ● Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ● Governance
- ● Access 2
- ○ Safety 2
- ◔ Affordability

This project recommendation came out of the Needs Assessment and community feedback in parallel planning processes.

Project Description

Coupled with the improvement of existing Silver Line service (p181) and the addition of new crosstown service between the LMA and JFK/UMass Station (p176), the existing Dudley Station would be upgraded to become a high-quality indoor facility to enhance the customer experience and minimize delays and aggravation on transfers between bus routes. Improvements would be developed in coordination with the community and riders through the Boston Planning and Development Agency's (BPDA's) ongoing Dudley PLAN process. The new station would likely feature modern passenger amenities, electronic real-time travel information, and new retail spaces in a well-integrated station that more efficiently processes buses and minimizes conflicts with boarding passengers.

Dudley Station currently offers service to the 1, 8, 10, 14, 15, 19, 23, 28, 41, 42, 44, 45, 47, 66, 170, and 171 bus routes in addition to Silver Line 4 and 5.

Benefits and Issues Addressed

Dudley Station has already evolved beyond its intended capacity with thousands of daily riders waiting for Silver Line and other bus service. Expanded service will further burden riders who wait outside for buses with limited amenities, necessitating an improved transit center. Dudley's future role at the heart of radial and crosstown enhanced transit routes connecting Downtown and the LMA with Dorchester, Mattapan, and Roxbury deserves a high-quality station that handles transfers as well as the workers bound for this growing Roxbury commercial center. Furthermore, improved circulation for buses would have significant transportation and air quality benefits.

Implementation

Approximate Cost: $15 million for design and construction
Potential Funding Sources: MassDOT/MBTA with developer funding
Who's Responsible: MassDOT/MBTA with City of Boston
Time Frame: Within 5 to 15 years in conjunction with local community process

Best Practices

The Bus Interchange in Christchurch, NZ, brought a bus hub to the heart of the city. With 16 bus gates and an indoor waiting area, the hub makes it easy to transfer between routes and comfortable to wait for the bus.
www.metroinfo.co.nz/info/Pages/CentralStation.aspx

Public Input

"Need to repair sidewalks around Dudley Square and have clear marked handicapped."
–02119

"Buses need to be more punctual in following schedules at Dudley Square."
–02124

"More bus routes around Dudley Square."
–02116

Regional Projects and Policies

Crossing borders in the densely developed inner core of the Boston metropolitan area, travel should feel seamless for all modes. These porous municipal borders should be inviting to all roadway and rail path users whether they are traveling on local or state owned infrastructure. Effective transit is a core component of effectively supporting mode shift across the region. Corridors that incentivize shared vehicles and long-distance cycling are also important for reducing greenhouse gas emissions. The entire region also needs to collaborate to prepare for the impacts of climate change by building more resilient roads and stations that are ready to weather more hot days, extreme storms, and rising sea levels.

Policies

Key to the City
Fair MBTA Fare Policy and Extended Service Hours
Autonomous Vehicle Policy*
Boston Metro Transit District

Early Action Projects

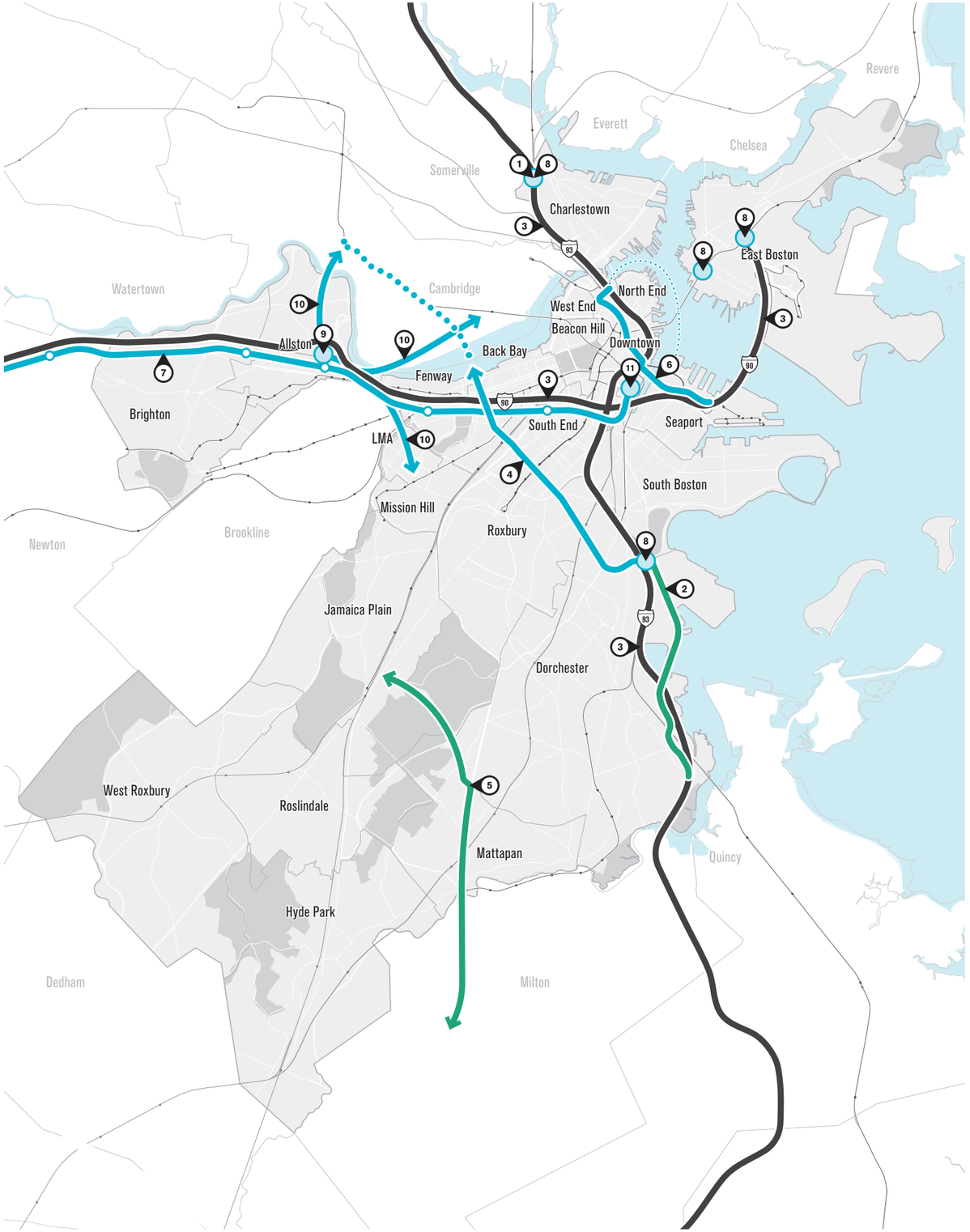
0 to 5 years

- Orange Line and Red Line Service Improvements
- (1) Sullivan Square Enhanced Transit Hub
- (2) Morrissey Boulevard Resilient Complete Street
- (3) Smart High-Occupancy-Vehicle Lanes on Interstates

Longer Term Projects

5 to 15+ years

- (4) Massachusetts Avenue Rapid Bus
- (5) Multiuse Path Extension to the Blue Hills
- (6) North Station to South Boston Waterfront Rapid Bus*
- (7) I-90 Newton Urban Rail
- (8) Climate Protection for Vulnerable MBTA Stations
- (9) West Station Transit Hub
- (10) West Station Rapid Bus to LMA, Kendall, and Harvard Square
- (11) South Station Expansion



* Top policy or project

Regional

Key to the City

Payment technology to access all transportation services

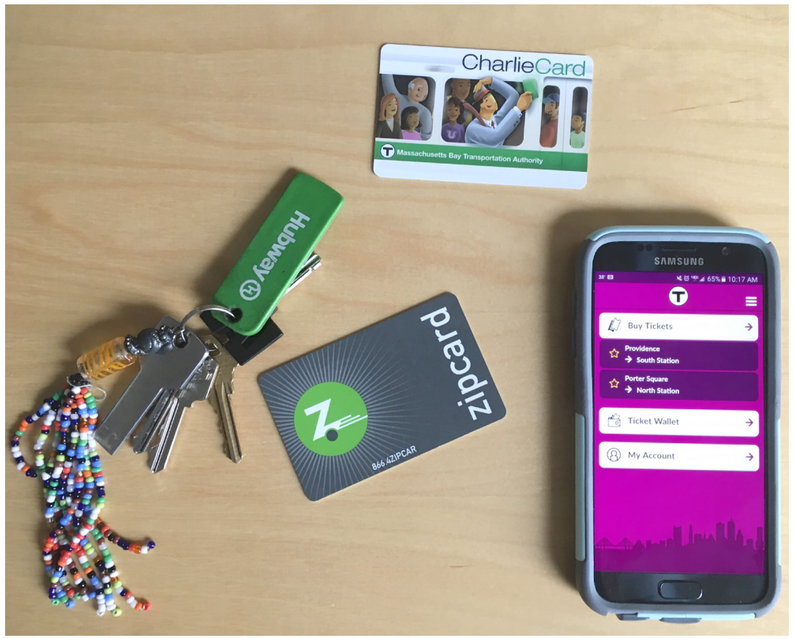
Policy Score

- ◕ Access 1
- ◕ Access 2
- ○ Safety 1
- ○ Safety 2
- ◔ Reliability
- ◔ Affordability
- ○ Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ◕ Governance

Identified on the ballot as an Early Action commitment

Policy Description

Instead of paying for transportation services separately–with a Charlie Card, Commuter Rail ticket, bikeshare membership key, Zipcar membership card, ride-hailing app, quarters or an app for parking meters, and an EZPass to pay tolls in your car–a Key to the City would enable transportation users in Boston to pay for a suite of transportation options through a single platform on either a chip card or with a mobile phone. While technology options are changing rapidly and many important legal agreements need to be worked out, these payment systems would enable easier transfers on multimodal trips and reward people who use a combination of transportation options with lower greenhouse gas emissions. It may also allow for price reductions for people traveling outside of commuter peaks to incentivize travelers who don't contribute to congestion.



Benefits and Issues Addressed

Similar "universal access passes" used in other cities across the country have shown a notable uptick in transit ridership when the barrier of not having the right pass on-hand is removed. A seamless multimodal transaction can eliminate the delays of transferring, increasing speed and convenience. One of the greatest potentials for a single transportation payment platform is that people with limited income or special mobility needs could get credits similar to housing vouchers or food stamps that allow them to select from a menu of services to find the combination that best suits their needs.

Implementation

Approximate Cost: To be determined
Potential Funding Sources: Service providers such as the MBTA, car, ride and bikeshare companies, and BTD for meter parking integration
Who's Responsible: Service providers
Time Frame: Within zero to five years

Best Practices

In Los Angeles, CA, the TAP Card: LA's TAP card allows use of dozens of transit systems throughout Los Angeles County with the same card including the Metro and commuter rail as well as LA's Metro Bikeshare Program.

www.taptogo.net/articles/en_US/Website_content/where-to-ride
and *bikeshare.metro.net/how-it-works/faq/*

Public Input

"Make it easier to pay for the bus. If you just take the bus, it's hard to get and refill a Charlie Card, but without one, it's more expensive to ride."

Regional

Fair MBTA Fare Policy and Extended Service Hours

Coordination with the State to ensure access to transit for low-income residents, people with disabilities, and employees with off-hour shifts

Policy Score

- ◕ Access 1
- ◕ Access 2
- ○ Safety 1
- ○ Safety 2
- ◕ Reliability
- ● Affordability
- ○ Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ● Governance

Identified on the ballot as an Early Action commitment

Policy Description

Public transit is a public good and the City of Boston will continue to advocate for a fare structure that preserves access to high-quality transit for low-income and disabled populations. Working with MassDOT's program to revamp its automated fare collection system (also known as AFC 2.0), the City and State will provide opportunities for more equitable fares and subsidy programs. Discussions with MassDOT are already underway regarding discounts for lower-income riders and re-instating late-night bus service, which could include 24-hour service. The City also will continue to explore ways to extend the hours of the trains and communicate service hours clearly to the public so they can reliably use transit as a late-night and early-morning option. Other early actions might include making free subway and bus transfers to and from the Fairmount Line and increasing the availability of student and youth pass discounts.

In 2015, the MBTA piloted a youth pass program for low-income young people, and in December 2016, the program was officially adopted by the MBTA's Fiscal Management Control Board.
Photo credit: Alternatives for Community and Environment

Benefits and Issues Addressed

Providing a rapid transit or bus line does not directly correlate with regular access to transit if the service is too costly, infrequent, or unavailable during the time that you need it. Transit can close the opportunity gap in communities with limited access to employment options only when residents can afford to access it and it operates in ways that reflect a full spectrum of shift hours. Overnight service can provide transit to workers in the many sectors with late-night and early-morning shifts, including hospitals, restaurants, bars, and Logan Airport. Passing new transit costs along evenly to all riders is regressive to those with lower incomes, but equitable fare discounts can produce measurable improvements in access and mobility by making transit affordable to over 100,000 Bostonians.

Implementation

Approximate Cost: To be determined
Potential Funding Sources: MBTA and employers along with City of Boston and other municipalities
Who's Responsible: MBTA with City of Boston and other municipalities
Time Frame: Ongoing

Best Practices

In Seattle, WA, the King County fare policy offers discounts up to 50% for most transit rides to low-income residents. For example, the discount threshold is a household income of $48,600 for a family of four and is usually set as less than double the federal poverty level.
kingcounty.gov/elected/executive/constantine/News/release/2016/March/07-orca-lift-anniversary.aspx

Public Input

"Look at all fares and think about if they make sense. It costs a lot to move people at night regardless of mode. How much should late night cost? How much should rush hour service cost? How much should bus cost with a transfer? Question every pricing hierarchy and redevelop it based on what makes sense and implement a system to keep it up to date."

–Roslindale roudtable

Regional

Autonomous Vehicle Policy

Preparing for self-driving cars

Policy Score

- ● Access 1
- ● Access 2
- ◔ Safety 1
- ○ Safety 2
- ◕ Reliability
- ● Affordability
- ○ Sustainability/Resiliency 1
- ◕ Sustainability/Resiliency 2
- ◕ Governance

Launched as a Go Boston 2030 Early Action Project

Policy Description

Boston is working with the Boston Consulting Group and the World Economic Forum on a year-long collaboration focused on creating policy recommendations and supporting on-street testing of autonomous (self-driving) vehicles. There is an initial focus on the testing of new technology, which will lead to the exploration of business models and urban infrastructure that improve safety, access, and sustainability. This policy development process is generating best practices to ensure that vehicles are shared, electric, and can improve mobility options for all residents, not just those who can afford the technology. Attention is also being paid to the potential implications of this technology on our workforce, land use, urban design, and transportation funding.

Autonomous vehicles are already being tested in Boston today.
Photo credit: nuTonomy

Benefits and Issues Addressed

Self-driving vehicles are already being tested in cities around the world and are likely to reach the public market as early as 2020. If this new generation of cars carries solo riders, are powered by fossil fuels, and are not designed for multimodal street conditions, then they will fail to achieve their promise of decreasing congestion and improving environmental health. Given that our cars sit unoccupied 95% of the time, a smart autonomous vehicle policy can encourage shared trips and shared rides, greatly boosting the hours a car is used and the amount of people a single car serves while eliminating more than half of the automobile fleet. A single autonomous car can serve a commuter, then pick up someone running to a meeting, followed by another's shopping trip, and so on, completely eliminating the need for multiple cars. This also means that parking is entirely unnecessary in dense areas with lots of trips, allowing Boston to re-envision curb space, parking lots, and garages for sidewalk dining, more bike lanes, new open spaces, expanded affordable housing, and more.

Implementation

Planning Level Cost: Policy work is in-kind
Funding Sources: World Economic Forum, City of Boston, with Boston Planning and Development Agency/Economic Development and Industrial Corporation
Who's Responsible: BTD and the Mayor's Office of New Urban Mechanics
Time Frame: Testing and Initial policies: Spring 2017

Best Practices

In Los Angeles, CA, the LADOT is the first city to specifically address autonomous vehicle policy through the preparation of *Urban Mobility in the Digital Age*. The document ties together existing transportation initiatives and goals with advances in technology to approach the integration of autonomous vehicles into the city's transportation fleet and overall system.
la.curbed.com/2016/9/9/12824240/self-driving-cars-plan-los-angeles

More info at
www.boston.gov/news/mayor-walsh-announces-autonomous-vehicle-initiative

Public Input

"… be the first city to fully embrace autonomous electric vehicles by investing in their development as an on-demand transit option, lyft-line and uber-pool style, to further lower cost-per-trip for users, and to drastically reduce the need for driver-controlled vehicles in Boston. If you want to really shoot for the moon, by 2030 ensure happy commuters by allowing only 100% autopiloted vehicles into Boston in order to relieve congestion, reduce the need for parking, eliminate traffic fatalities, and to definitively brand Boston as a leading global city."

–02114

Regional

Boston Metro Transit District

Rebalancing transit dollars to jointly fund new services in core communities

Policy Score

- ◕ Access 1
- ◕ Access 2
- ◔ Safety 1
- ○ Safety 2
- ◕ Reliability
- ◕ Affordability
- ○ Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ● Governance

This policy recommendation came out of the Needs Assessment

Policy Description

Boston will spearhead a new core transit district in collaboration with nearby communities to provide additional transit services that expand the MBTA's capacity within the broader region. Building off of local shuttle successes, the district would focus on non-competing modes that may include shared transportation and technology providers that could extend the range of MBTA transit or alternative modes of travel such as mini-buses, streetcars, or urban rail on routes such as the Fairmount Indigo Line. Boston would complement this with a new transit streets initiative that focuses on speeding up buses and improving the passenger experience on city streets. Broader and creative revenue sources would help fund new services and improvements, and integrated fare payment and information technologies would make the services feel seamlessly integrated with the MBTA.

Mayor Walsh worked with his counterparts in the Metro Mayors group on a Climate Mitigation Committment.
Photo credit: MAPC

Benefits and Issues Addressed

Today, the MBTA is heavily burdened by serving a large region with extensive on-going capital repair and maintenance needs which prevent it from providing many new transit services. Meanwhile, transit demand is at an all-time high and growing, especially in the core service area of Boston and nearby communities. A transit district for this core area would offer new services—potentially some recommended in this action plan—that the MBTA cannot support today while making Boston's low per capita transit expenditure more in line with other large American cities. With a new focus on operating its own transit service, the City would be able to make additional street and signal improvements that enhance transit quality and speed, beyond those made for many existing MBTA routes.

Implementation

Approximate Cost: $10 million per year for operations
Potential Funding Sources: City of Boston and parking impact fees
Who's Responsible: BTD
Time Frame: 5 to 15 years

Best Practices

In San Francisco, CA, the Municipal Transportation Agency (SFMTA) manages the entire surface transportation network, including taxi regulation. This includes operating Muni Transit, a network of streetcars, buses, and cable cars. To the user, the Clipper Card makes transfer between Muni and other regional services such as BART or Golden Gate Transit seamless.
www.sfmta.com

Portland, OR, owns the Portland Streetcar, and operates it in conjunction with the regional transit agency, TriMet, and a non-profit specifically for the Streetcar. The three parties have a "master agreement" governing this relationship. The system includes 16 track miles today and carries more than 15,000 trips daily.
portlandoregon.gov/transportation/article/573729

Similarly, the Atlanta, GA, funds the Atlanta Streetcar, while several other transit agencies serve the region. The City has leveraged funding from both federal and regional sources, as well as a Downtown Improvement District. The streetcar serves 12 stops with 15 minute frequencies and has several additional lines planned in the future.

Public Input

"More integrated forms of transit should be better connected." –Roslindale roundtable

"Sharing economies are not accessible to everyone. More integration with traditional public transit. More innovative transportation."

"Small-scale, flexible transit." –Roxbury roundtable

Regional

Orange Line and Red Line Service Improvements

Expand capacity with new signals, new vehicles, and more frequent service

Project Score

- ○ Access 1
- ◔ Access 2
- ○ Safety 1
- ○ Safety 2
- ○ Reliability
- ● Affordability
- ● Sustainability/Resiliency 1
- ◔ Sustainability/Resiliency 2
- ◕ Governance

Identified on the ballot as an Early Action commitment

Project Description

Beginning in 2019, and to be completed by 2022, the number of Orange Line train cars will increase from 120 to 152 with new larger vehicles, increasing the capacity and reliability of service while improving the customer experience. Combined with signal upgrades and an expanded maintenance facility at Wellington, the Orange Line will be capable of delivering four-minute headways during peak service and increase overall service capacity by 30%. This will reduce crowding and also allow for growth at underutilized sites along the corridor that are strong candidates for transit-oriented development. Meanwhile, new Red Line cars, as well as track and signal improvements along the Braintree branch, will enable trains to operate more smoothly, increasing capacity and reliability on the entire line.

Mock-up of Orange Line cars on order

Benefits and Issues Addressed

Currently, Orange Line trains are at or near capacity with no seating, and often no standing room, when they enter Boston (or at the first stop within the city) during peak hours. Though new residential and commercial areas continue to emerge on this line, significant capacity improvements are needed to accommodate this growth as Boston and the surrounding communities grow denser and to enable Go Boston 2030 to meet its mode-shift goals. Similarly, Red Line improvements are needed to reduce delays and accommodate more transit riders during peak hours.

Implementation

Approximate Cost: $1.3 billion ($800 million for new cars; $500 million for signals)*
Potential Funding Sources: FTA and MassDOT*
Who's Responsible: MBTA and MassDOT
Time Frame: To be completed by 2022

Best Practices

Many transit agencies have plans in place to procure updated cars for their rapid transit systems, including the Chicago Transit Authority, the Bay Area's BART system, and New York's MTA system.

WMATA put its new 7000 series cars into service in 2015 on the Blue Line that runs from Maryland to Virginia through Washington D.C. These cars feature many safety and passenger comfort improvements such as wider aisles, LED screens, and better public address systems.

*Source: www.mbta.com/uploadedfiles/About_the_T/Board_Meetings/Red%20and%20Orange%20Line%20Infrastructure%20Financing%20Update.pdf.pdf

Public Input

"The Orange Line runs at capacity during the peak hours. While the city should continue to encourage further density in the areas around the T, the southern part of the Orange Line is already maxed out. The new apartment complexes and development sites in the works at Forest Hills and near Green St and Stony Brook on Washington will only add further strains to the line."

–02130

Regional

North Station to South Boston Waterfront Rapid Bus

Direct bus service between northern commuter rail lines and the Seaport in tandem with ferry service

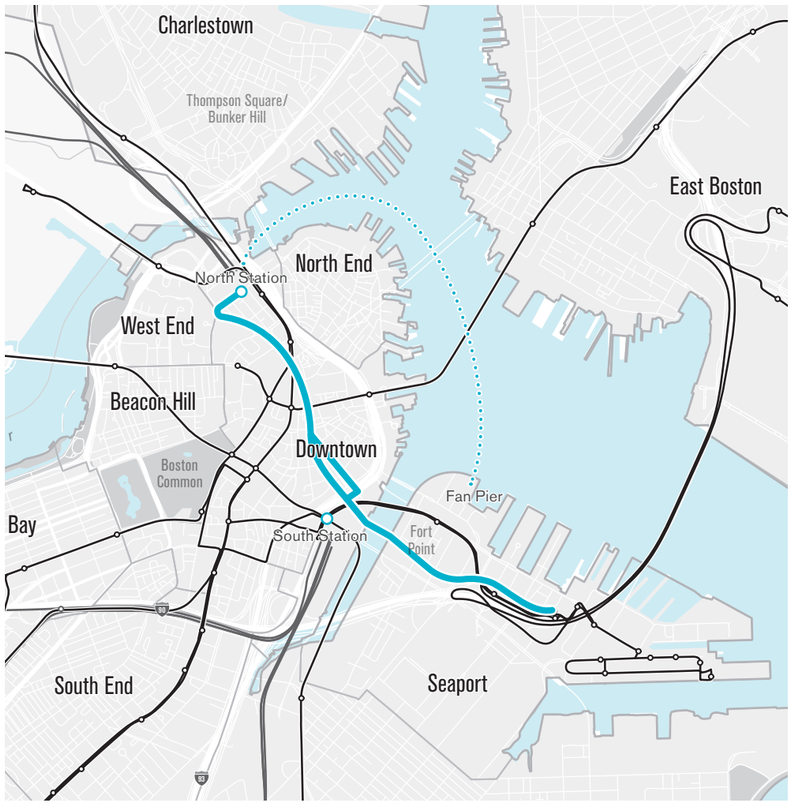
Project Score

- ● Access 1
- ○ Access 2
- ◕ Safety 1
- ○ Safety 2
- ● Reliability
- ◕ Affordability
- ○ Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ○ Governance

#10 in public voting

Project Description

For commuters traveling through North Station and heading to the Seaport, transit and shuttle options will be consolidated and expedited by providing bus service in exclusive bus lanes running between Causeway Street and the South Boston Waterfront, as recommended in the *South Boston Waterfront Sustainable Transportation Plan*. For a direct connection from North Station's Lovejoy Wharf to Fan Pier in the Seaport, a new ferry route is proposed (p186). With bus service offering limited stops, all-door boarding, and separation from vehicle congestion, more commuters could opt to take transit to the Seaport. Stops near Post Office Square, Atlantic Avenue, D Street, and South Station, would serve dense areas in ways that would reduce crowding on other transit routes and provide new connections to job hubs.



Benefits and Issues Addressed

As both the Waterfront and the area around North Station fill new buildings with residents and employees at an incredible rate, the need for providing effective alternatives to driving between them is increasingly significantly. Meanwhile, North Shore commuters easily reach North Station but have few easy connections to the majority of the Seaport. The recently completed transportation plan for the district has identified the lack of connection with northern commuter rail service as one of the biggest obstacles to the district's continued growth. Today, multiple exclusive employer-run shuttle services are trying to address this gap and have created an inefficient and redundant network. A new, reliable rapid bus corridor will provide a high quality connection, eliminating the need for additional transfers and private shuttles. This provides a strong alternative to driving for future commuters to these growing districts as well as to those going to many of the dense stops between them.

Best Practices

Orlando, FL's Lymmo provides a free link through downtown. Running in its own lane and with signal priority, the Lymmo has three routes with multiple stops. The Lymmo Orange Line runs every five minutes on weekdays and every quarter hour on weekends so that users never have to think about when the next bus will arrive.

Image Source: *www.mondoexplorer.com/orlando/images/LYMMO2.jpg*

Implementation

Approximate Cost: $21 million for design and construction
Potential Funding Sources: City capital plan for design and Boston MPO TIP for construction
Who's responsible: BTD and PWD with MassDOT
Time Frame: Within 5 to 15 years in conjunction with local community process

Public Input

"Bus and shuttle exclusive lanes on surface roads connecting South and North Stations with the South Boston Waterfront" –02116

"Transit connection between North Station and South Station via Commercial Street and Atlantic Avenue." –02109

Regional

Sullivan Square Enhanced Transit Hub

Improving the customer experience and connections to the neighborhood

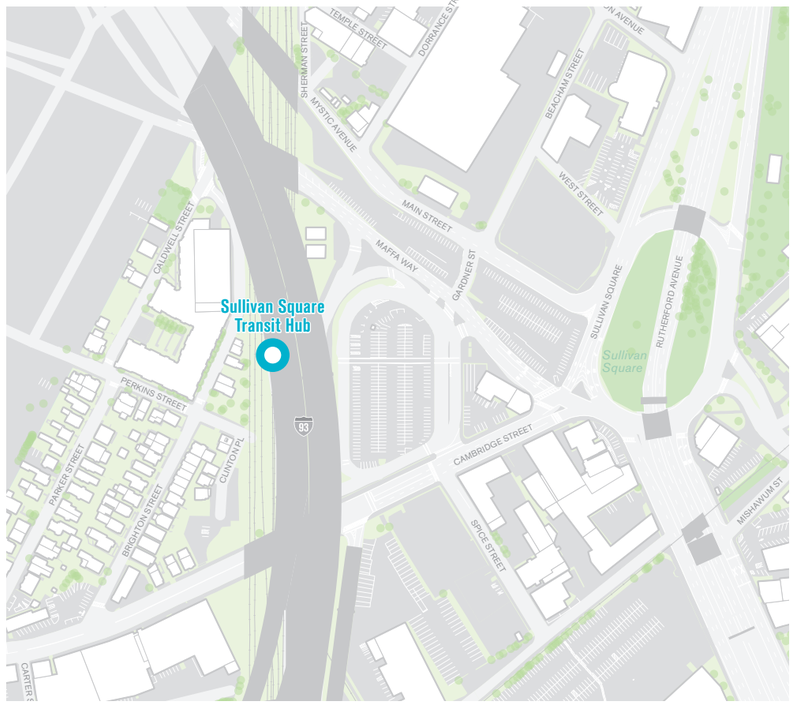
Project Score

- ● Access 1
- ○ Access 2
- ◔ Safety 1
- ○ Safety 2
- ● Reliability
- ○ Affordability
- ◔ Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ◕ Governance

This project recommendation came out of community feedback and the Needs Assessment

Project Description

Along with new rapid bus service to Everett and new shuttles to the Wynn Casino, Sullivan Station amenities and access will be enhanced. Within the station, improved wayfinding, lighting, and waiting areas will increase rider comfort. Outside, bus berths will be reconfigured onto one level with improved operating efficiencies, and riders will have well-lit shelters, real-time information displays, comfortable benches, and other modern amenities. Rationalized bus and automobile circulation will be accompanied by an improved walking experience to and from the station along and across Broadway, Mystic Avenue, Cambridge Street, and Sullivan Square itself.



Benefits and Issues Addressed

Sullivan Square Station is a major transfer point and a growing destination station, but physical conditions for connecting between trains and buses are outdated and deteriorating, while connections on foot and bike to Charlestown and East Somerville are particularly difficult. Demand is expected to grow as the MBTA is studying the planned incorporation of BRT treatments for heavily-used bus lines serving the station between Everett and downtown Boston, and the new Wynn Casino will be running dedicated shuttles from Sullivan square as well. Conditions for waiting passengers are currently inadequate with riders regularly waiting at unprotected bus berths and rushing to make connections. Bus operations are awkward and conflict with park-and-ride traffic and heavy general traffic on each abutting street. Modern amenities and traffic solutions will greatly increase rider comfort, reduce transfer delays, and reduce bus delays for MBTA vehicles entering and exiting the station.

Implementation

Approximate Cost: To be determined by ongoing Lower Mystic Regional planning process
Potential Funding Sources: MassDOT/MBTA and local developers
Who's Responsible: MassDOT/MBTA
Time Frame: Within 5 to 15 years

Noteworthy

About 10,000 Orange Line boardings and 8,000 local bus boardings occur at Sullivan Square each weekday. Between 2009 and 2012, ridership on all but one local bus route serving Sullivan increased by at least 10%.

Public Input

"Make Sullivan Sq. area safer for bike riders." –02148

"More buses near and around Wellington and Sullivan Stations. Buses are overcrowded. More would be great and even better if they were on time." –02155

"Improved ped safety in area of Sullivan Sq. rotary" –02129

"What can we do to make the Sullivan Square transit and bus facilities far more accessible to the Charlestown and surrounding communities? This includes more frequent service, better access by walking and bikes, a better layout and modernization of the facilities, and transit-oriented development." –02129

Regional

Climate Protection for Vulnerable MBTA Stations

Ensure that T stations are more resilient

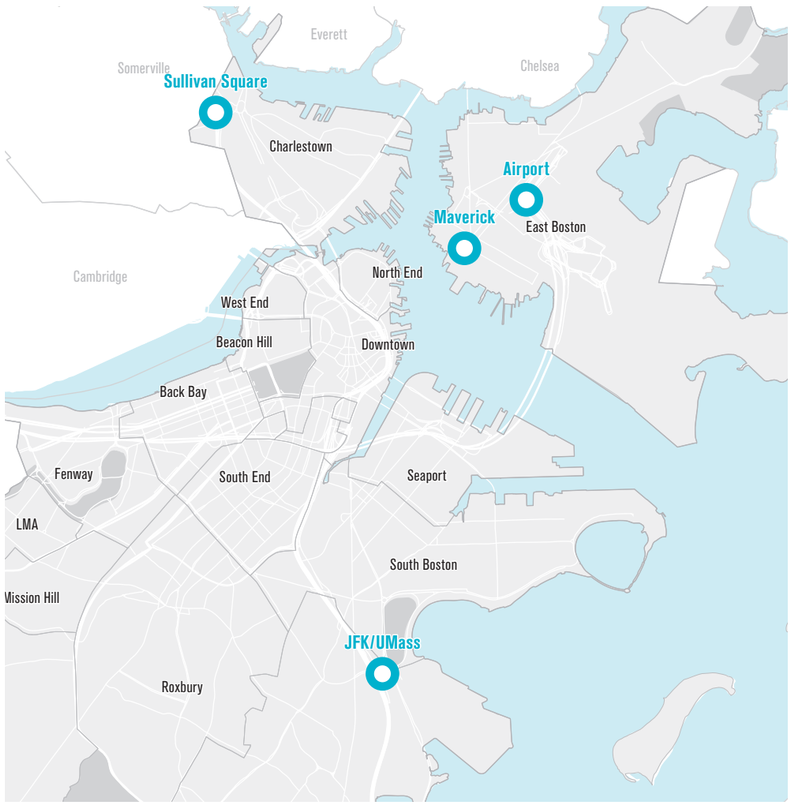
Project Score

- ○ Access 1
- ◔ Access 2
- ◔ Safety 1
- ○ Safety 2
- ● Reliability
- ◕ Affordability
- ◔ Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ◕ Governance

This project recommendation came out of the Needs Assessment as well as analyses for parallel planning processes

Project Description

Some T stations are already vulnerable to coastal flooding in the case of an extreme weather event, and with climate change, they will become increasingly vulnerable. These stations include JFK/UMass, Sullivan Square, and many Blue Line stations in East Boston. They can be made more resilient during a rain or flood event with on site redesign or barriers or be protected by other adaptations to the surrounding neighborhood, particularly at flood entry points. These adaptations may also contribute to neighborhood protection. Smaller scale protections may be necessary as well, such as conserving ADA access by protecting elevator pits. Protection can be done with permanent design changes or the procurement and installation of temporary structures. The *Climate Ready Boston* report highlights the vulnerability of and the possible adaptive infrastructure for each of these stations as well as for the Silver Line stations in the South Boston Waterfront, which are also vulnerable.



Benefits and Issues Addressed

Depending on the type and severity of an extreme weather event, T stations are impacted differently. Blizzards can cripple the entire transit system, but flooding can affect a single station halting one line at a time. This is particularly problematic if flooding a station leads to the inundation of a tunnel or diverts passengers onto buses within a particularly congested corridor, as is the case for the Aquarium and Maverick stations. Diversions can often last far longer than the flooding due to water damage and necessary repairs, making climate readiness essential to maintaining access to jobs and services.

Implementation

Approximate Cost: TBD
Potential Funding Sources: MBTA/MassDOT
Who's Responsible: MBTA/MassDOT
Time Frame: 5 to 15 years

Best Practices

Philadelphia, PA's, Southeastern Pennsylvania Transportation Authority recently completed an FTA-funded pilot vulnerability assessment on its Manayunk-Norristown commuter rail line. The report provides a detailed list of specific adaptation measures for storms, snow, and other climate-related events.
www.septa.org/strategic-plan/reports/ClimateAdaptationReport.pdf

Public Input

"Make MBTA stations climate resilient" –02116

"Improve infrastructure to be resilient. Increase funding for adaptation, including new tax revenue." –Chinatown roundtable

Regional

Morrissey Blvd Resilient Complete Street

An enhanced multimodal corridor guarded against sea level rise

Project Score

- ○ Access 1
- ◕ Access 2
- ◕ Safety 1
- ○ Safety 2
- ● Reliability
- ◔ Affordability
- ○ Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ● Governance

This project recommendation came out of the Needs Assessment as well as analyses for parallel planning processes

Project Description

A multi-year reconstruction of Morrissey Boulevard will correct frequent street flooding and prepare the corridor for anticipated sea level rise and storm surges. While enhancing stormwater management infrastructure, the reconstruction will add new bicycle and pedestrian paths to enable safe travel without a car along its entire length.

Benefits and Issues Addressed

Recurrent flooding issues can render Morrissey Boulevard impassable during storms, and the frequency of these closures has increases over the years. Each flood damages critical infrastructure and impedes safe commuting. The planned reconstruction will not only ensure that this essential auto commute corridor for Dorchester is passable, it will add a critical regional bicycling connection that enables a continuous ride from Mattapan, through Dorchester and South Boston, into Downtown by connecting the Neponset Greenway (p199) to new bicycling facilities along Dorchester Avenue (p158) or up Summer Street (p175).

Implementation

Approximate Cost: $17 million for design and construction
Potential Funding Sources: Department of Conservation and Recreation (DCR)
Who's Responsible: DCR
Time Frame: Design ongoing with construction within 5 to 15 years

Best Practices

21st Avenue in the small town of Paso de Robles, CA, is just north of downtown. The street experienced frequent flooding and had no accommodations for people on bikes. In 2014, a redesign of the street provided bicycle amenities as well as green infrastructure designed to manage flooding and runoff.
centralcoastlidi.org/project-details.php?id=2

Photo Source: *centralcoastlidi.org/project-details.php?id=2*

Before

After

More info at
www.mass.gov/eea/docs/dcr/news/public-meetings/materials/projects/2016-3-28-morrissey-presentation.pdf

Public Input

"Morrissey Blvd: Reduce road to 1+1 lanes."
–02130

"Adjust landscapes along roads that flood [with] green infrastructure."
–Roslindale roundtable

Regional

Multiuse Path Extension to the Blue Hills

A protected, multiuse trail extending the Southwest Corridor to the Neponset Greenway

Project Score

- ○ Access 1
- ◔ Access 2
- ● Safety 1
- ◕ Safety 2
- ◔ Reliability
- ◕ Affordability
- ● Sustainability/Resiliency 1
- ◕ Sustainability/Resiliency 2
- ● Governance

#6 in public voting

Project Description

Several possible routes are being considered to continue Boston's Southwest Corridor to the south in order to serve more residents and the region. One option is a safe and continuous connection from Forest Hills through Franklin Park to the Neponset River Greenway, Claire Saltonstall Bikeway, and the Blue Hills Reservation. Whether along Blue Hill Avenue or on American Legion and Cummins Highways, a multiuse path for people walking, running, and cycling—buffered from traffic and supplemented by trees and other green infrastructure—would extend a critical green route for the city, enhancing opportunities for recreation and active transportation. Of the routes proposed by the City's GreenLinks plan, in coordination with LivableStreets Alliance's Emerald Network and MAPC's LandLine initiative, one or more will be constructed. Connections will be made to to other proposed multiuse paths including Columbia Road (p172) and the Fairmount Greenway Neighborways (p161).

Benefits and Issues Addressed

A map of existing greenways in Boston shows a clear lack of biking and walking paths in Mattapan, as well as parts of Dorchester, Roslindale, and Hyde Park. Creating a safe connection that allows people on foot and on bike to link up with existing paths on the southern edge of the city, as well as northward along the Southwest Corridor, Columbia Road, or the Fairmount corridor, would support active transportation in neighborhoods where public open space tends to be limited and the major roadways are unfriendly to vulnerable roadway users. Whether for transportation or recreational walks, runs, or rides, a new path is needed here in additional parkland and connections to larger parks and path networks.

Implementation

Approximate Cost: $6 million for design and construction
Potential Funding Sources: City capital plan and Boston MPO TIP
Who's responsible: BTD and Public Works
Time Frame: Within 5 to 15 years

Best Practices

New York City has connected many of their parks and greenways using protected bike lanes. The Pelham-Moshulu Parkway Greenway connects several parks and urban areas and is part of the larger East Coast Greenway network.
www.nyc.gov/html/dot/html/bicyclists/bikemaps.shtml

Public Input

"Make traffic safer for people, cars, bikes, & pedestrians along Blue Hill Ave near Talbot St."
–02366

"Connect Emerald Necklace to Neponset Trail."
–02143

Regional

Massachusetts Avenue Rapid Bus

Exclusive bus lane with priority signals and quick bus boarding along Mass Ave

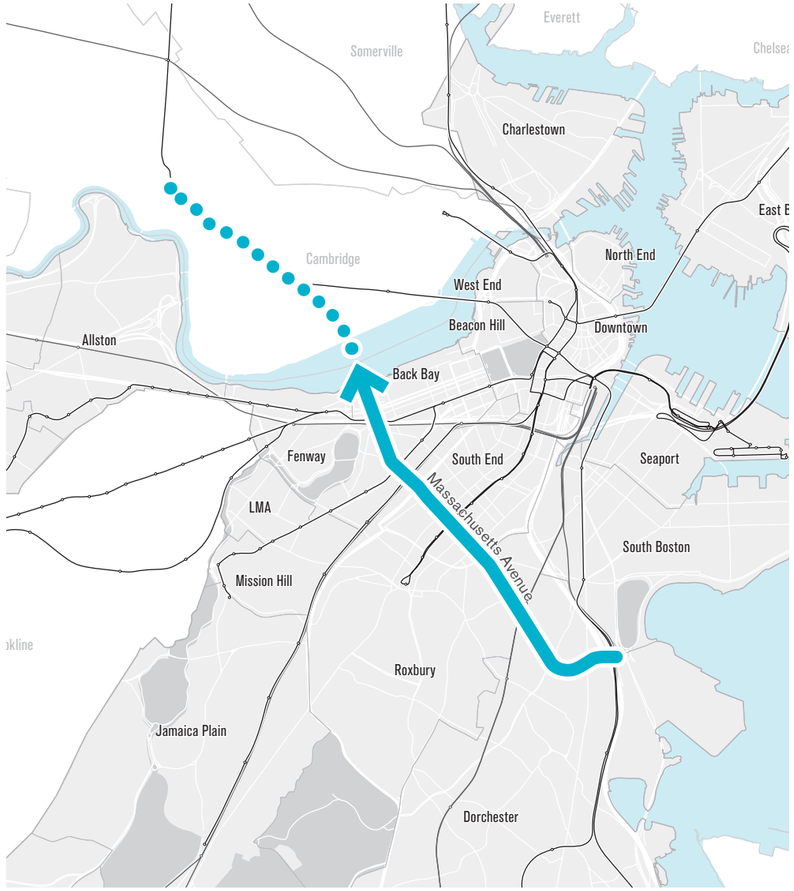
Project Score

- ◕ Access 1
- ◔ Access 2
- ● Safety 1
- ○ Safety 2
- ● Reliability
- ● Affordability
- ○ Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ◔ Governance

#4 in public voting

Project Description

A designated lane along Mass Ave would facilitate rapid travel for buses and other high occupancy vehicles including university shuttles and on-demand bus services such as Bridj. In addition to the exclusive lanes, which allow buses to avoid the congestion caused by cars, the stations would include all-door boarding, off-board fare collection, and improved waiting areas, which would support and promote transit ridership in this corridor and reward people who take the bus.



Benefits and Issues Addressed

The Route 1 bus that runs down Massachusetts Avenue from Harvard Square in Cambridge to Dudley Square in Roxbury is among the routes with the highest ridership in Boston. These buses are less than 5% of the vehicles on this corridor, yet they carry up to 23% of the people traveling in motorized vehicles between Beacon and Albany Streets. However, Route 1 buses are regularly stuck in general traffic leading to bus bunching, inconsistent service, and slow overall speeds. Exclusive bus lanes and smart signals that adapt in real-time would help eliminate bunching, improve reliability, and reduce travel times—especially in the Back Bay and South End, improving cross-town connections and transit speed. Delays also occur at stops where long lines of people wait to board and passengers without loaded Charlie Cards slow the process. Off-board payment and all-door boarding can accommodate even the busiest boardings in under 15 seconds, reducing delay significantly. The system could also serve the multiple university and hospital buses operating on Massachusetts Avenue, as well as corporate shuttles, Bridj vans, and other pooling services.

Implementation

Approximate Cost: $43 million for design and construction with vehicle costs to be determined
Potential Funding Sources: City of Boston and Cambridge for design, Boston MPO TIP for construction
Who's responsible: BTD and Public Works with MassDOT and the City of Cambridge
Time Frame: Within 5 to 15 years in conjunction with local community process

Best Practices

Chicago, IL's, Looplink project reclaimed vehicle travel lanes to offer raised boarding, dedicated bus lanes, and bus tracking monitors coupled with protected bicycle lanes. Multiple routes use these amenities, which now include pre-board fare systems in some places.
www.transitchicago.com/looplink/

Public Input

"Transit Signal Priority for MBTA buses along key corridors:… The Mass Ave corridor, at least, could greatly benefit from this–I often see #1 and #77 bus bunching, and I feel bad for the passengers when this is the case. I often decide to walk along Mass Ave because I usually don't have faith in the bus arrival estimates, but would be more inclined to climb on board if I knew the bus would be able to sail through the traffic signals."
–02130

Regional

I-90 Newton Urban Rail

Subway-like service paralleling the Mass Pike from Newton to South Station

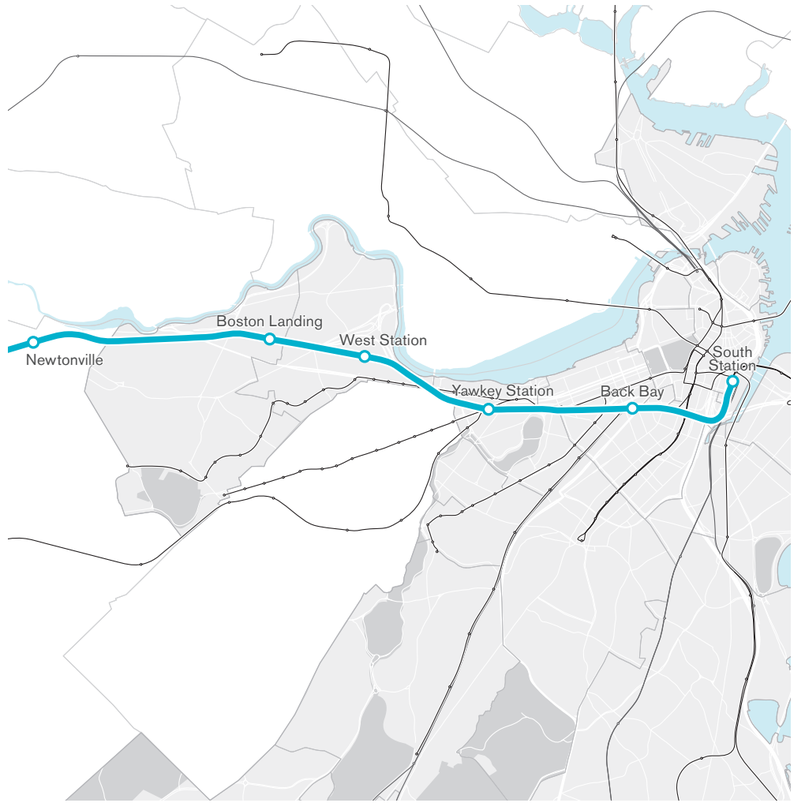
Project Score

- ● Access 1
- ◕ Access 2
- ○ Safety 1
- ○ Safety 2
- ● Reliability
- ● Affordability
- ◕ Sustainability/Resiliency 1
- ◕ Sustainability/Resiliency 2
- ○ Governance

#11 in public voting

Project Description

The Worcester/Framingham Line currently provides service structured to accommodate suburban commutes into three Boston stations (Yawkey, Back Bay and South Station) that serve key employment districts. Trains arrive with 20 to 30 minute headways during peak commuting periods and less frequently during the middle of the day. This project would use advanced train scheduling technology to run smaller urban railcars in between the less-frequent commuter rail trains to provide subway-like service between several neighborhoods of Boston and Newton, including new connections at Boston Landing and West Station, in addition to the existing stations. With an expanded South Station, this kind of rapid turnaround becomes more reasonable. Alternately, service could be interlined with the Fairmount Line to connect to Newmarket and beyond.



Benefits and Issues Addressed

With the recent completion of the Yawkey Commuter Rail station in the Fenway to access jobs in the LMA, the upcoming completion of Boston Landing Station in Allston in a rapidly growing jobs hub, and the planned construction of West Station in the new neighborhood and university areas planned for the I-90 straightening project, the I-90 Urban Rail is intended to supplement Framingham/Worcester Line services between Newton and South Station to support travel needs of some of Boston's future growth areas. An urban rail line with regular service similar to the Red or Orange Line coupled with an affordable fare structure will provide service that employees and residents can rely on. It will also incentivize new transit-oriented development in these districts. The new line will provide a high-quality transit alternative to driving and relieve pressure on the Mass Pike, as well as on city streets surrounding these growing districts.

Best Practices

Both NJTransit's RiverLine and Denton County Transportation Company (Texas) have diesel-multiple units in service. These Stadler cars provide an experience similar to light-rail for the rider, but can operate on heavy rail tracks. One major difference between these and commuter rail cars is that instead of having a separate locomotive, the trains are "self-propelled" by an engine in a passenger vehicle. Although cars can be more expensive up front, their operating cost is lower than traditional commuter rail.

Dallas Area Rapid Transit will open TEXrail in 2018 using similar vehicles.
www.texrail.com/about/overview/

Implementation

Approximate Cost: $100 million for stations and rail cars; $5 million annually to operate
Potential Funding Sources: MBTA/MassDOT
Who's responsible: MBTA/MassDOT
Time Frame: 15+ years

Public Input

"Boston should take a page or three from Paris or San Francisco's books, and build a regional rapid transit network connecting communities like Hyde Park, Mattapan, Quincy, Chelsea, Revere, Lynn, Salem, Waltham, and Newton to the downtown and the city core."
–02122

Regional

West Station Transit Hub

A new rail and bus station serving Brighton and the new Beacon Yards

Project Score

- ◔ Access 1
- ● Access 2
- ○ Safety 1
- ○ Safety 2
- ● Reliability
- ○ Affordability
- ● Sustainability/Resiliency 1
- ◔ Sustainability/Resiliency 2
- ◕ Governance

This project recommendation came out of the Needs Assessment as well as other planning processes.

Project Description

As part of the necessary reconstruction of an aging I-90 viaduct that curves above an abandoned rail yard, MassDOT is designing a new station along the Framingham/Worcester commuter rail line that will include direct connections to local buses, proposed rapid bus connections to the LMA and Cambridge (p202), and urban rail service to Newton (p201). New walking routes into Allston near Boston University and to the evolving Beacon Yards district adjacent to Harvard will also serve the new station. The transit hub will improve connections between Boston and Cambridge and will bring regional travelers to the expanding districts nearby. A study is underway, as are preliminary designs for the future station.

Benefits and Issues Addressed

West Station provides an opportunity for the new jobs center at Beacon Yards to be built transit-ready, with easy and direct rail and bus connections from the west, into Downtown, to the LMA, and over the river to Kendall and Harvard Squares. Serving as a new major gateway into Boston, West Station is a natural hub for multiple cross-town transit routes, helping to open up access at a point that has been squeezed between the interstate corridor and the Charles River. The station also provides a natural transfer point for rail commuters from the west to use local rail and bus services to connect with key destinations such as the LMA and Harvard Square.

Implementation

Approximate Cost: $85 million for design and construction
Potential Funding Sources: MBTA/MassDOT
Who's Responsible: MBTA/MassDOT
Time Frame: 15+ years

Best Practices

Denver, CO's, Union Station opened in place of a rail yard in 2012. The project integrates a bus concourse, Amtrak, commuter rail, and light rail as well as high-quality food amenities and event spaces. The process has spurred almost $1 billion of investment in the area.
unionstationindenver.com/transit/
and *www.bizjournals.com/denver/blog/earth_to_power/2014/04/denver-union-station-areadraws-1-billion-in.html?page=all*

Public Input

"Bus frequency: More buses in not major parts of town [like] Allston/Brighton."
–02134

"… I would like to see more transit options that connect inner suburbs and outer neighborhoods of Boston without involving trips through downtown. I envision a University Line that connects some of the Boston area's great universities to one another."
–02143

More info at
www.bostonmagazine.com/news/blog/2014/09/30/mbta-allston-west-station-project/

Regional

West Station Rapid Bus to LMA, Kendall, and Harvard Square

Create a new set of rapid bus connections

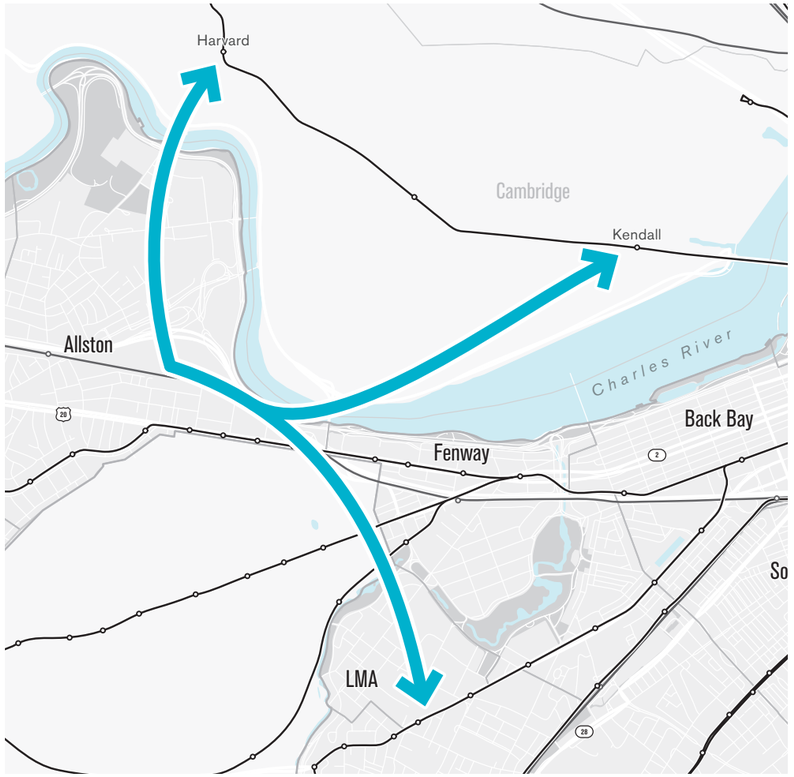
Project Score

- ◕ Access 1
- ◔ Access 2
- ● Safety 1
- ○ Safety 2
- ◕ Reliability
- ◕ Affordability
- ○ Sustainability/Resiliency 1
- ○ Sustainability/Resiliency 2
- ◔ Governance

This project recommendation came out of community feedback and the Needs Assessment.

Project Description

Using existing rail and highway right-of-way, a new set of transit lines would connect via West Station (p202) from the Longwood Medical Area across the Charles River to both Kendall and Harvard Squares and their corresponding universities and Red Line stations. Further connections could potentially continue on to the Orange Line, North Point, or Alewife in the future. While the exact alignment and type of transit vehicles will be decided in conjunction with MassDOT and the community, the service would provide high-frequency limited-stop service between the Green Line near Kenmore Square, the urban rail along I-90 (p201), the MBTA's Route 1 bus on Massachusetts Avenue, and the Red Line. These lines would connect many transit commuters with top regional employment centers without requiring travel into the core of Boston.



Benefits and Issues Addressed

Sustained employment growth will continue in the LMA and Kendall Square, as well as around West Station, but these centers are each only served by one rail line, forcing most workers to transfer in downtown, lengthening their commute and disincentivizing their use of transit. With a new high-quality transit connection that interfaces directly with rail lines and brings workers to these centers, transit ridership can grow while commute times drop, helping to boost each of these jobs centers and to attract future development.

Implementation

Approximate Cost: $133 million for design and construction
Potential Funding Sources: City of Boston and City of Cambridge for design, Boston MPO TIP for roadway construction, MassDOT/MBTA for vehicle costs
Who's Responsible: BTD and Public Works with City of Cambridge and MassDOT/MBTA
Time Frame: Within 5 to 15 years in conjunction with local community process

Best Practices

In Hartford, CT, CTfastrak runs in a dedicated 9.4 mile lane along a former rail right-of-way and an operating Amtrak line. Weekday ridership along this alignment has almost doubled compared to similar service.

ctfastrak.com/files/CTfastrak_Year_One_Report.pdf

Public Input

"I would like to see Bus Rapid Transit service connecting… through Longwood to Boston University and cross into Cambridgeport to serve MIT, Kendall Square, Lechmere, [and] Brick Bottom. The BRT service would operate in dedicated lanes or separated busways where possible. It could be implemented in segments as resources become available."
–02109

Regional

Smart High-Occupancy-Vehicle Lanes on Interstates

Incentivize regional transit, car-pooling, and shared-rides by separating them from congested general freeway traffic

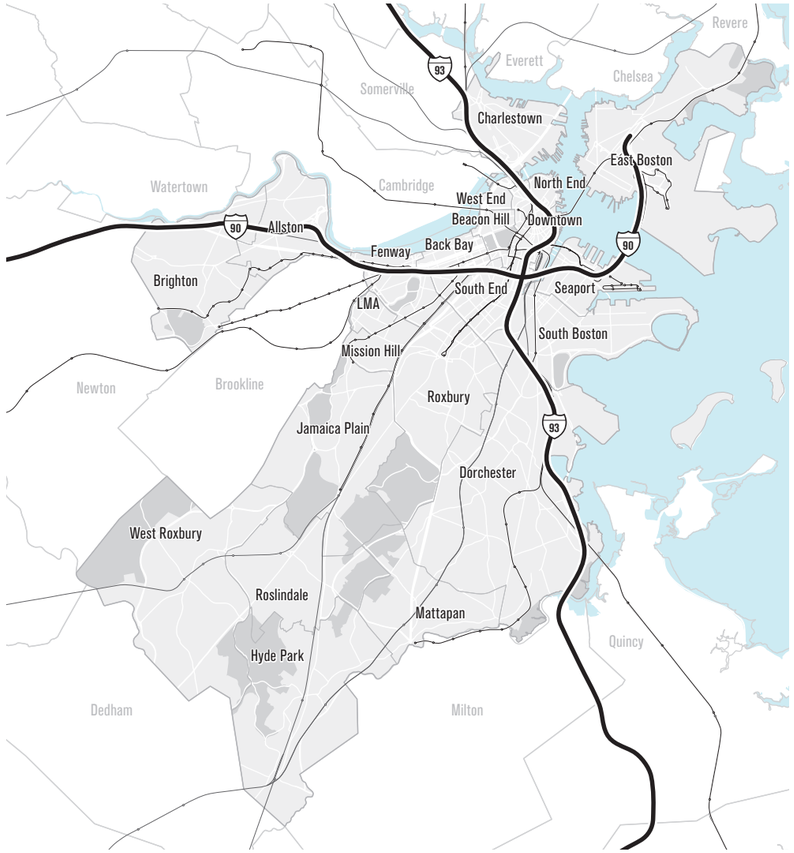
Project Scores: I-93, I-90, I-95

- ●●○ Access 1
- ●●○ Safety 1
- ◕●◔ Reliability
- ○○● Sustainability/Resiliency 1
- ○○○ Sustainability/Resiliency 2
- ◔◔○ Governance
- ○◔○ Access 2
- ○○○ Safety 2
- ●●○ Affordability

#15 in public voting

Project Description

In coordination with MassDOT, existing and new HOV lanes would be converted to smart lanes that are open only to transit, shared rides, and carpools—restricted to permitted vehicles only through MassDOTs new overhead license-plate reading gantries. This electronic lane technology allows the existing Interstate 93 HOV lane to be extended north to Interstate 95, the gap on I-93 between Morrissey Boulevard and Widett Circle to be filled, and new HOV lanes to be added to I-90 and Route 1. In the future, vehicles equipped with autonomous or driverless technologies that allow closer spacing and automated speed control can greatly increase the capacity of these lanes.



Benefits and Issues Addressed

Significant regional growth is expected by 2030, with increased driving further burdening congested highways if commuters do not shift to other modes. Rather than relying only on existing transit lines to take the burden, every highway can serve as a peak hour transit line by putting many more travelers into a single lane with higher operating speeds at peak than thousands of private cars can do alone today. Making this conversion soon can help incentivize shifts to transit, car-pooling, and shared rides before congestion eventually renders today's lane capacity insufficient.

Implementation

Approximate Cost: $15 million
Potential Funding Sources: MassDOT
Who's Responsible: MassDOT
Time Frame: five years

Best Practices

On US-36 in Colorado between Boulder and Denver, a public-private partnership provides one lane in each direction for buses and high-occupancy vehicles. Users below the occupancy limit can travel in the lane but must pay extra for this premium service. The price to use the lane varies dynamically throughout the day.

Public Input

"Increase distances of HOV lanes."
–02170

"Will Boston consider extending the HOV lanes North/South [on] route 3 with interstate 93?
–02190

Regional

South Station Expansion

Additional track capacity in order to accommodate more frequent train service

Project Score

- ○ Access 1
- ○ Safety 1
- ◔ Reliability
- ◕ Sustainability/Resiliency 1
- ● Sustainability/Resiliency 2
- ◔ Governance
- ◕ Access 2
- ○ Safety 2
- ◔ Affordability

This project recommendation came out of the Needs Assessment

Project Description

MassDOT has been studying the viability and benefits of expanding South Station by adding seven new tracks and four new platforms to the existing 13 tracks and seven platforms. This addition, along with reconfiguring the rail lines, creating additional midday layover capacity, and enlarging and improving the passenger waiting areas (the "headhouse" building), would reduce existing capacity challenges and allow for expanded regional rail service and Amtrak inter-city service in the future.

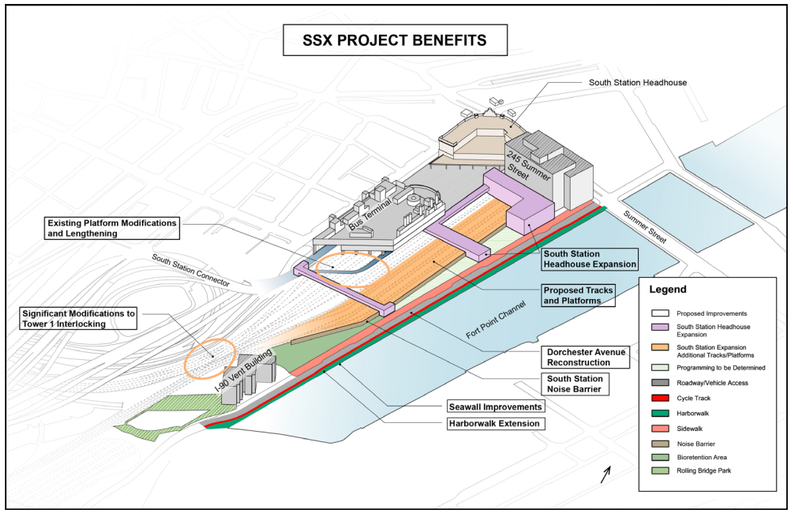


Image source: MassDOT South Station Expansion FEIR

Benefits and Issues Addressed

In advance of anticipated urban rail service along multiple commuter rail lines, additional platform and track capacity is needed at South Station. This is particularly critical for operating Fairmount/Indigo Line trains with greater frequency. In order to achieve the aspirational mode shift goals for increased transit use, more rail service must be provided during peak commuter hours, along with additional midday and late night service to accommodate people with non-traditional employment hours.

In order to expand, the State must acquire the US Post Office building as well, which can allow a new connection from South Boston and the South End on a reconnected Dorchester Avenue and complete a missing segment of the Harbor Walk. In addition, the City has been working with MassDOT to ensure that the potential for new uses adjacent to the expanded track area are realized, as well as preserving the opportunity for longer term air-rights development over the new track area footprint.

Implementation

Approximate Cost: $1.6 billion
Potential Funding Sources: Federal Rail Administration (FRA), MassDOT
Who's Responsible: MassDOT, MBTA, Amtrak
Time Frame: four and a half year construction schedule following completion of design, permitting, and securing of funding

Best Practices

Denver, CO's, Union Station integrates and consolidates new RTD FasTracks passenger rail service, existing Amtrak service, and an underground bus terminal in a bright and passenger-friendly space. The station itself was renovated and expanded and now has a hotel on top of it. With FasTracks expanding, estimates put the number of passengers the station will handle at 200,000 per day with full service. South Station currently handles just over 91,000 riders daily, including intracity bus service.

Public Input

"Expand South Station and re-open DoT Ave."
–021032