



Better Bus Project Update

Bus Facility Modernization Update + Electrification Strategy

March 24, 2022

What is the Better Bus Project (BBP)?

A series of integrated projects across the authority to transform and create a better rider experience for bus riders, both current and future riders



Other key projects include:

- Accessible bus stops (PATI)
- Modern bus stop amenities
- Fare Transformation
- Improved rider information
- Dispatching tools
- ...and more

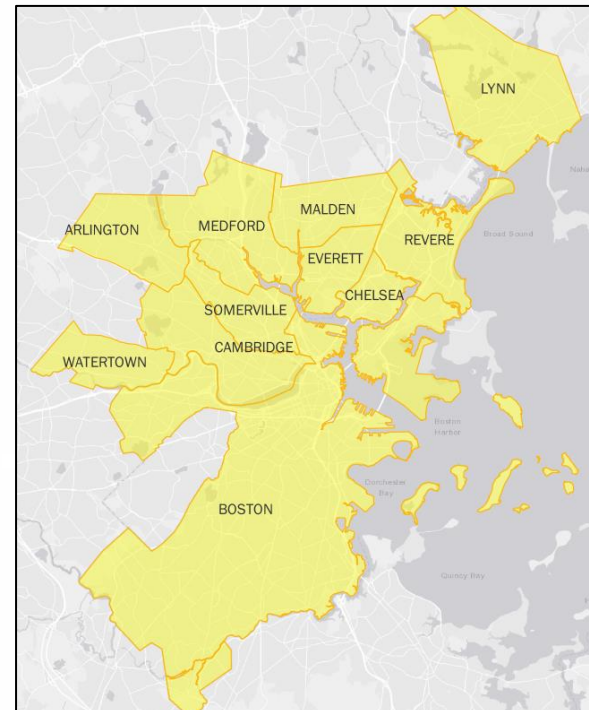
Quick update on Bus Network Redesign and Bus Priority

BUS NETWORK REDESIGN

- **What is it?** BNRD is completely **re-imagining the MBTA's bus network** to better reflect the travel needs of the region and create a better experience for current and future bus riders
- Project draws on **everything we've heard from riders since the Better Bus Project started**, and involves close coordination with municipal and agency partners to create a **shared vision** for the region

- We have been conducting public outreach since last year, and are **planning sharing draft maps for the new network this spring / summer to kick off a new round of public engagement**

BUS PRIORITY



- In CY21, completed **6.7 new miles** across 5 municipalities, including region's first **Center Running Bus Lane (Columbus Ave)**
- Currently **24.4 lane miles** across **11 municipalities**
- Several projects under construction, including first bus lane in **Brookline**

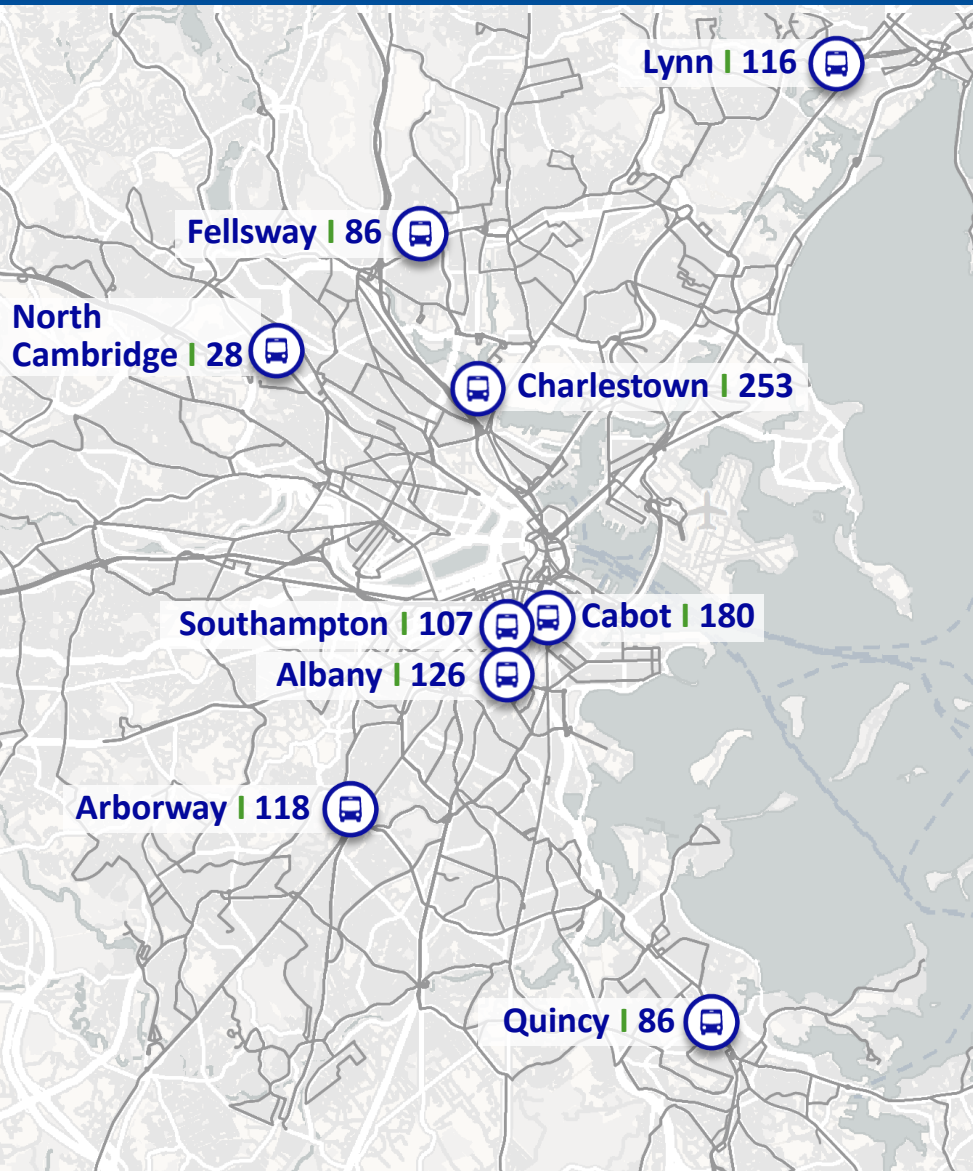
Significant work accomplished and planned for both major pillars of BBP, and coordinate closely with Bus Fleet and Facility Team

MBTA Fleet and Facilities Goals

MBTA Fleet and Facilities goals aim to center rider benefits through focus on equity, service, reliability, and sustainability.

- **Convert the bus fleet to zero emissions technology** in support of Commonwealth's carbon reduction goals
- **Modernize all bus maintenance facilities** to improve conditions for our workforce to support their efforts to keep our service competitive for our passengers
- **Transition to a more uniform bus fleet replaced on a predictable, annual timetable** in support of fleet reliability for our passengers
- **Allow for an increase in fleet size** to position the MBTA's bus network redesign to meet the needs of growing ridership

Existing Conditions of Fleet and Facilities



- 9 Maintenance Facilities
- 1 Facility Capable of Housing All Electric Fleet
- 1,100 Number of Buses in 2022
- 3% Percentage of Electric Buses in 2022

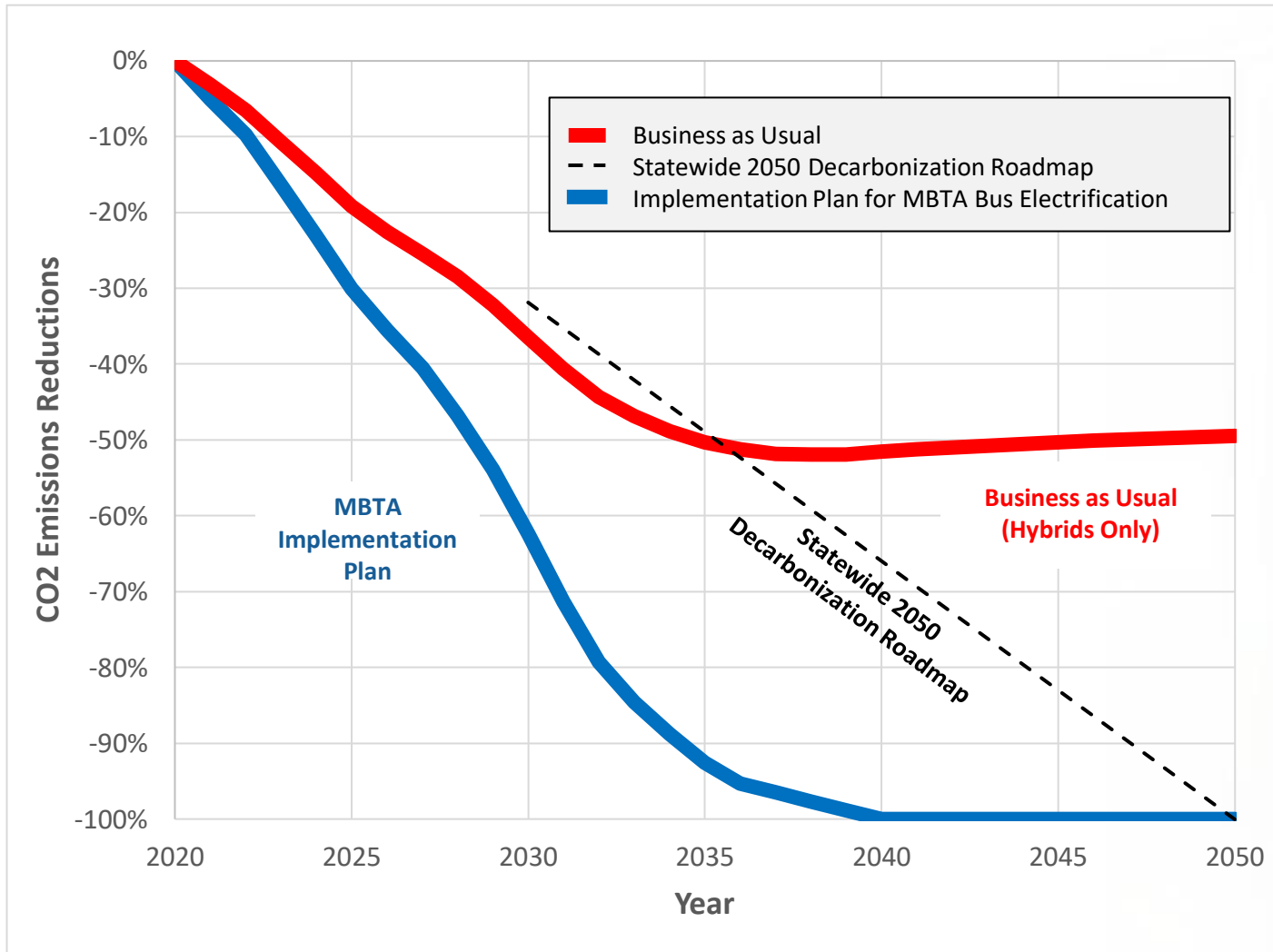
 # Bus Capacity at Facility

Existing Conditions of Fleet and Facilities

- MBTA fleet strategy replaces 80 to 100 buses per year
- Reduced average age of fleet from 10 years in 2016 to 7 years today
- Ensures reliability for our passengers; as buses age, it becomes more challenging to keep them in service
- Results in a cleaner fleet each year; oldest diesel fleets have our highest emissions profile – 15-20% more GHG emissions than our newest hybrids
- Ensures consistency with FTA requirement to keep buses for 14 years



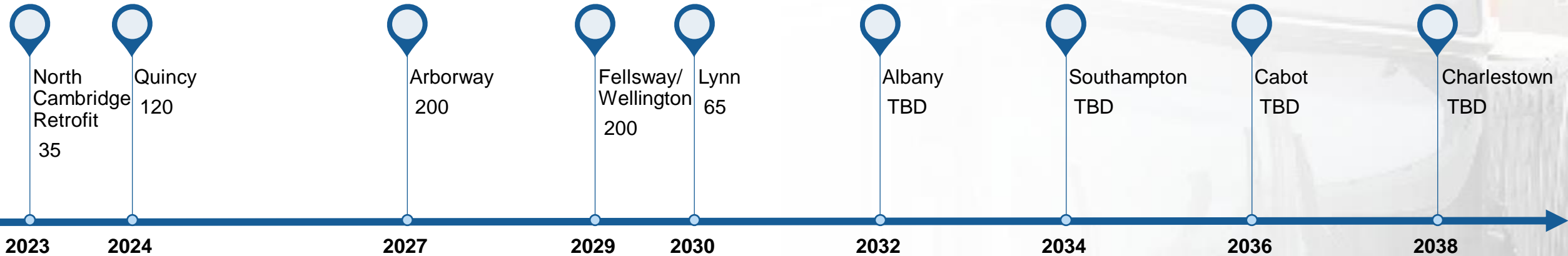
Bus Electrification Strategy



Goal: Full bus electrification by 2040

- Battery Electric Buses (BEBs) with Depot Charging – meets operational needs of first facilities while accomplishing broader program goals
- Parallel Electric + Hybrid bus procurements – allows for aggressive pace while meeting rider needs.
- 2027: Final hybrid purchase target (assumes facility modernization program advances on schedule)

Plan for Facility Replacement + BEB Roll Out



Sequence and target facility capacities driven by:

- **Equity:** Operating zero emissions buses in **transit critical communities** and on routes with **high ridership**
- **Fleet Needs:** Lining up facility replacements with the **retirement of specialty bus fleets** (e.g. legacy diesel, trolleybus, CNG)
- **Systemwide Capacity:** Replacing facilities that could be **moved to a new location first**, to open up swing space

First Priority: New Quincy

New, all indoor bus facility for 120 BEBs

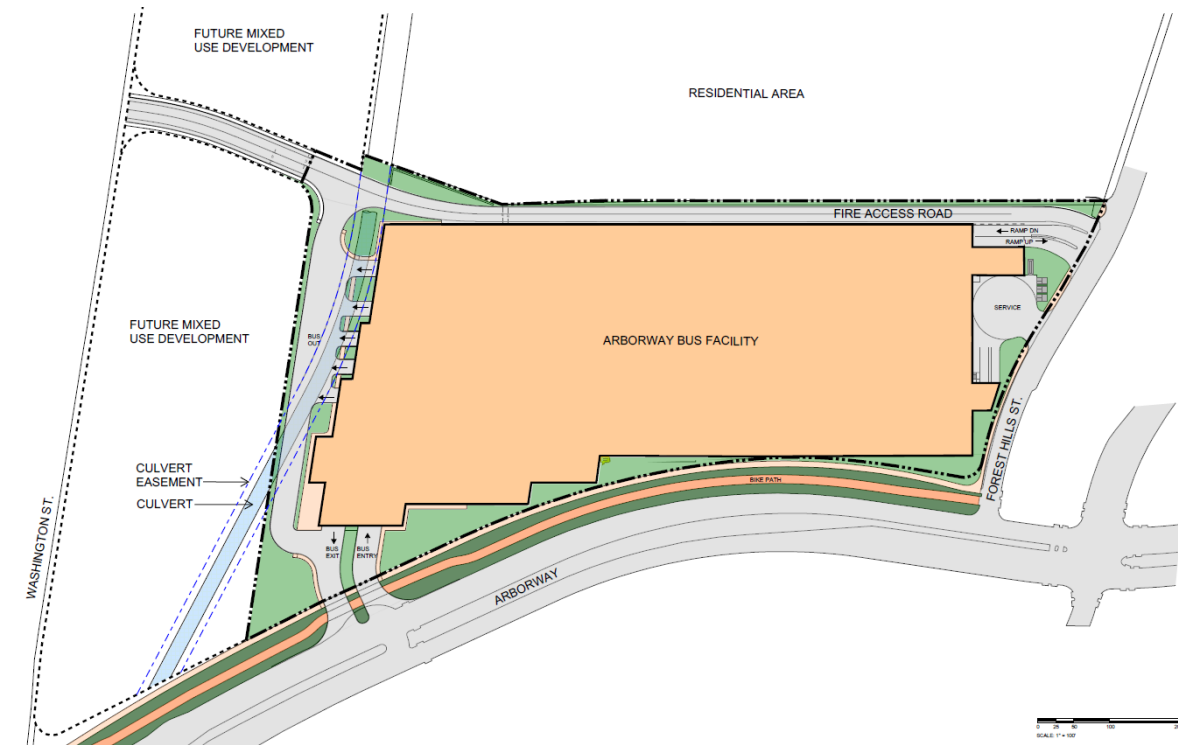
- Replaces existing facility that is **100+ years old**, can only accommodate **oldest diesel buses**, and provides **insufficient working conditions**
- Electrifies routes serving **Quincy, Dorchester, and all South Shore communities**
- **Groundbreaking February 14**
- **Project completion 2024**



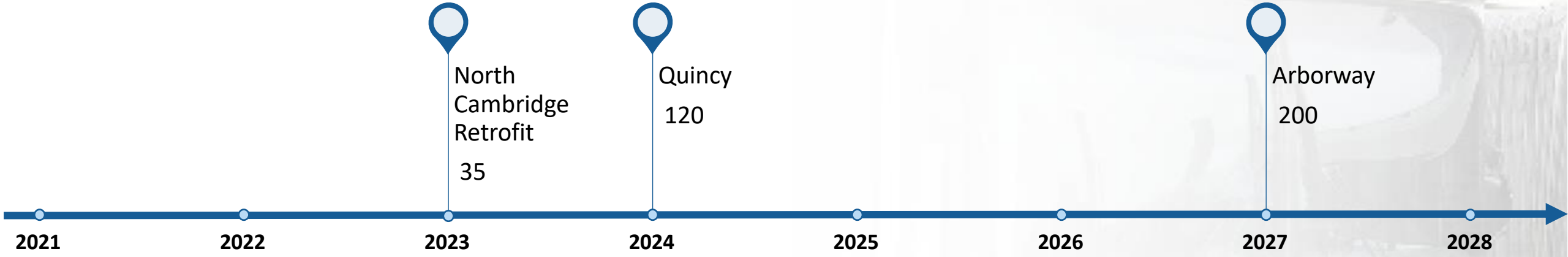
Second Priority: New Arborway

New, all indoor bus facility for **200 buses** and opens up **8 acres next to Forest Hills** for community uses

- Replaces existing temporary facility that has **insufficient working conditions** and only permits CNG buses (to retire 2028/2029)
- **Electrifies 40% local buses in Boston**, including all routes serving Jamaica Plain, Mattapan, and Hyde Park; as well as service in Roxbury/Dorchester
- Upgrades overcrowded routes to **higher capacity 60' buses**
- Preliminary design underway; construction targeted to begin 2024
- **Project target completion 2027**



Fleet & Facility Near-term Timeline



Hybrid Vehicle contract (2022 – 2027)

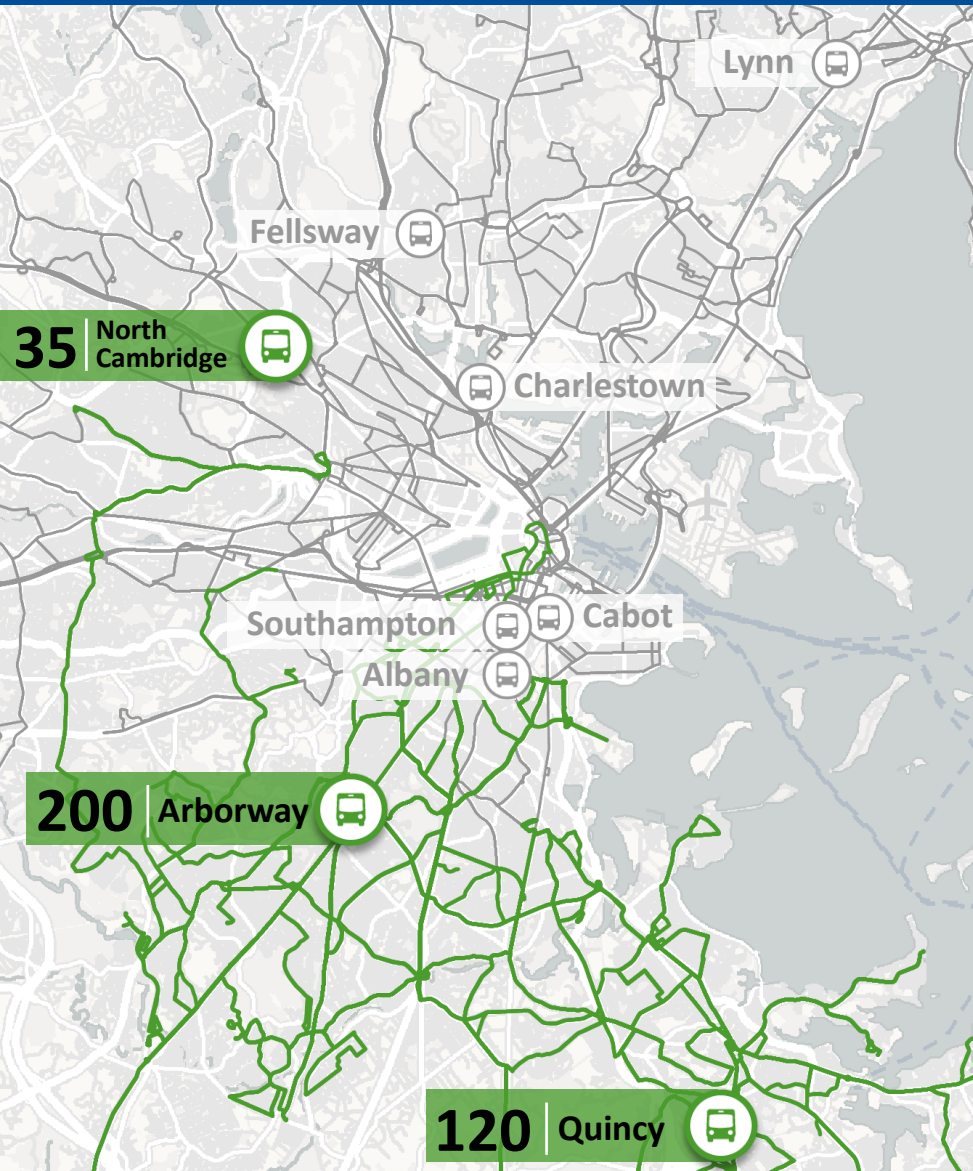


BEB Vehicle contract (2023 – 2028)




Operational Transition (planning – 2021, implementation 2022 – 2025)

Fleet and Facilities in 2027

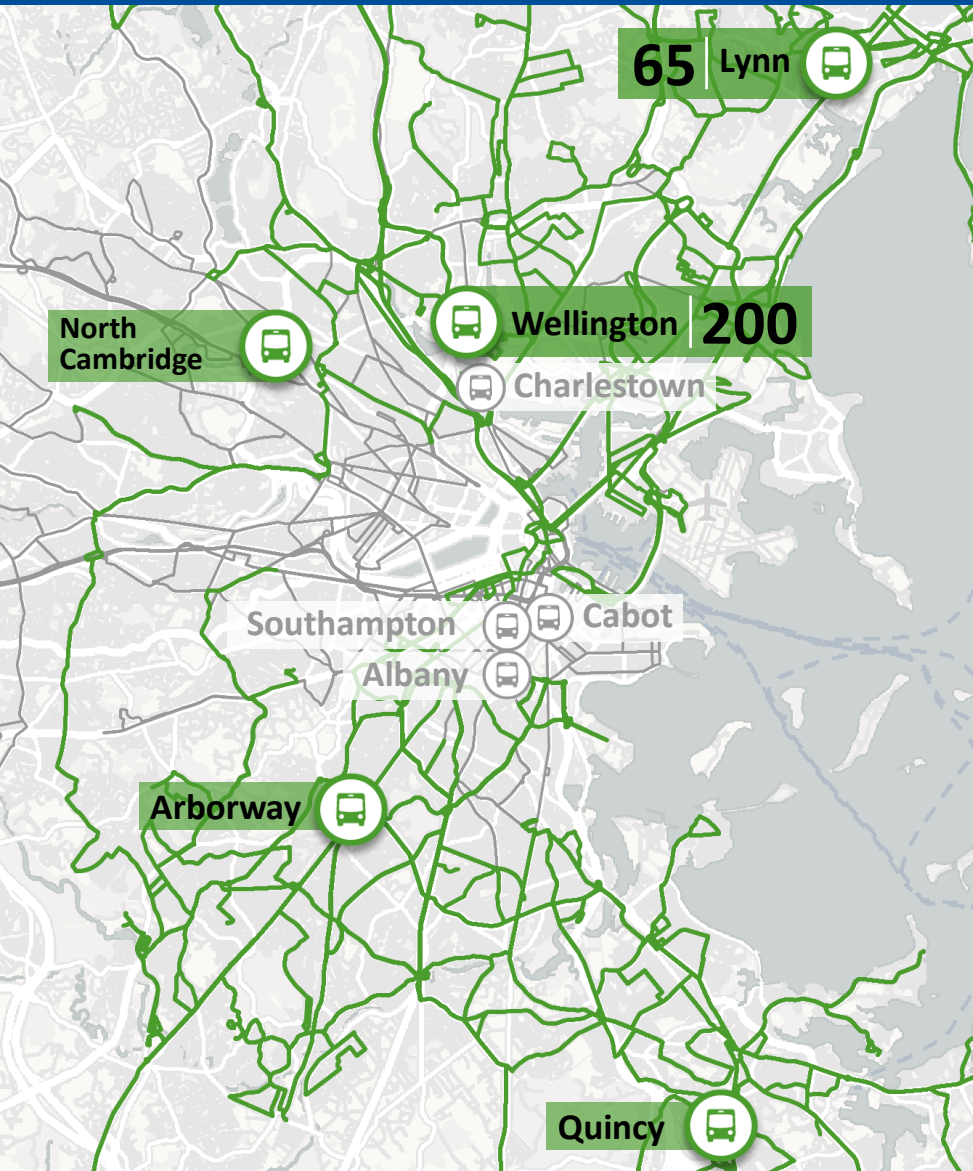


- 9 Maintenance Garages
- 3 Facilities Capable of Housing All Electric Fleet
- 1,223 Bus Capacity at Facilities in 2027
- 30% Percentage of Electric Buses in 2027*

* Arborway BEB capacity to be filled over two years

 # BEB Capacity at Facility

Fleet and Facilities in 2030



Wellington – 200 BEB facility replaces Fellsway and absorbs six Chelsea/East Boston routes from Lynn + some Charlestown routes

- Next Step – Initiate design late 2022
- Goal – Open 2029

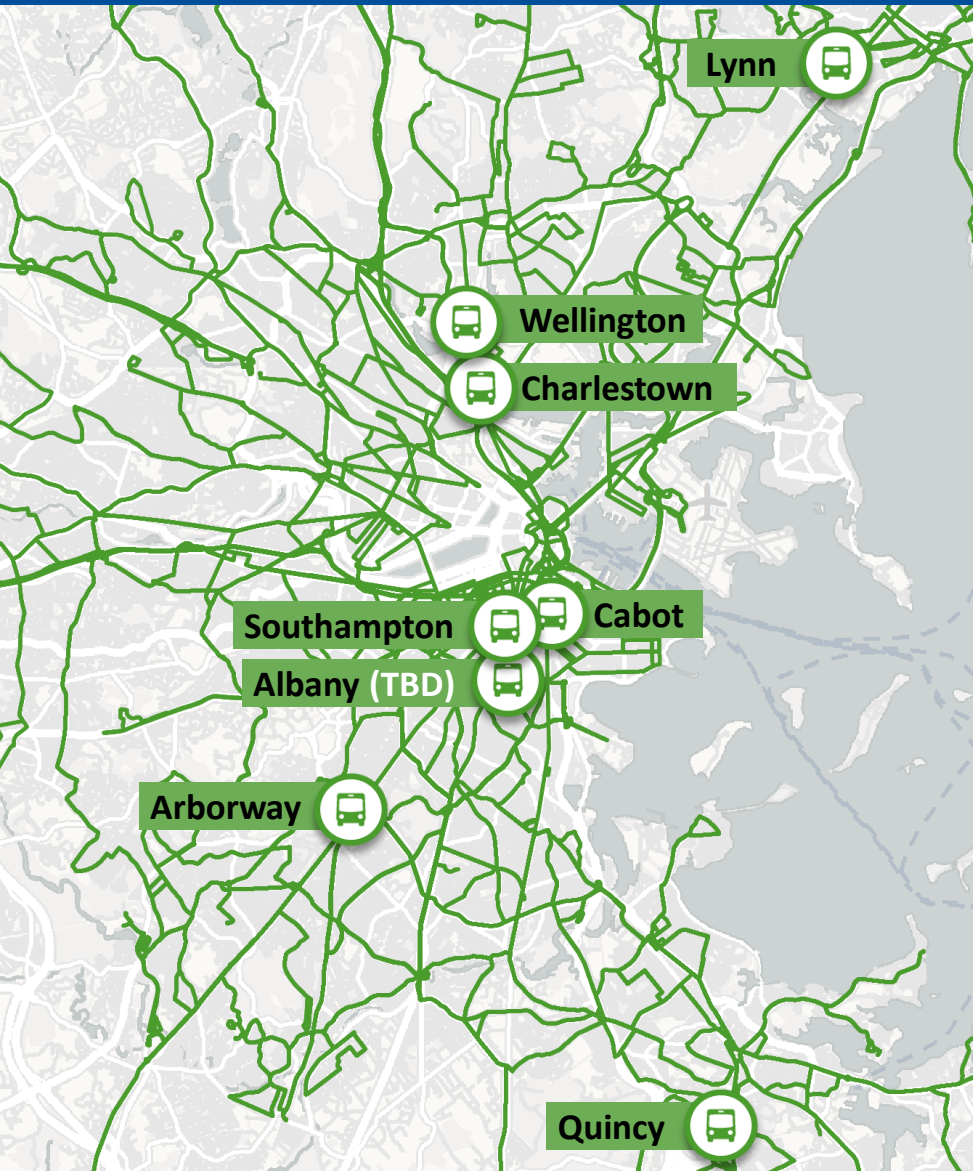
Lynn – 65 BEB facility serving the North Shore

- Next Step – Continue coordination with City of Lynn
- Goal – Open 2030

Bus Procurements – after 2027 exclusively electric (40's and 60's)

>50% Percentage of Electric Buses in 2030

Fleet and Facilities in 2040



Cabot, Charlestown and Southamptton - our largest, most centrally located facilities will be the last to upgrade and will be rebuilt in place

Target fleet size at these facilities to be determined

Albany – long-term future needs will depend on post-pandemic ridership trends and the Bus Network Redesign process

A new facility could be as well or better located a few miles to the west

Goal: Modernize one facility every two to three years

100% Percentage of Electric Buses by 2040

APPENDIX



The Better Bus Project



How Does the Initiative Improve My Experience?

What Is the Initiative?

Frequent Fast Reliable Connects Key Destinations Walkable Easy to Use Comfortable Accessible

What Is the Initiative?	Frequent	Fast	Reliable	Connects Key Destinations	Walkable	Easy to Use	Comfortable	Accessible
Bus Transit Priority	●	●	●	○	○	○	○	○
Bus Network Redesign	●	●	●	●	○	●	○	○
2019 Route Changes	●	●	●	●	○	●	○	●
Bus Stops: Accessibility Improvements, Shelters, and Amenities	○	○	○	●	●	●	●	●
Bus Modernization: Fleet and Facilities	●	○	●	○	○	○	●	●
Improved Passenger Information: E-Ink Signs	○	○	○	○	○	●	○	○
Bus Operations: Skate-Mobile Dispatching	●	○	●	○	○	○	○	○

Detail CY 2021 Bus Priority Expansion

Project	Municipality	Lane Mileage	Funding Program
North Washington St outbound	Boston (North End)	0.3	Shared Streets (MassDOT)
Washington St outbound (peak-only)	Boston (Roslindale)	1.4	City-funded
Columbus Ave	Boston (JP/Roxbury)	1.4	MBTA and City-funded (90/10)
Broadway inbound (peak-only)	Revere	1.2	Shared Streets (MassDOT)
Washington St (queue jumps)	Somerville	0.1	Shared Streets (MassDOT)
Congress St and Hanover St*	Boston (Haymarket Area)	0.6	City- and Developer-funded
North Massachusetts Ave	Cambridge	0.9	City-funded
Western Ave*	Lynn	0.8	Shared Streets (MassDOT)
Total New Lane Mileage (CY 2021)		6.7	
Total Existing Lane Mileage (before CY 2021)		17.7	
Total Lane Mileage		24.4	

*major construction done, but some construction will continue in CY23