



Massachusetts Bay Transportation Authority

Green Line Transformation Update |

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January 25, 2021

Agenda

1. Program Goals & Notable Projects
2. Program Office
3. Achievements to Date
4. Program Look Ahead (FY22-26)
5. Project Updates
6. Next Steps



Program Goals

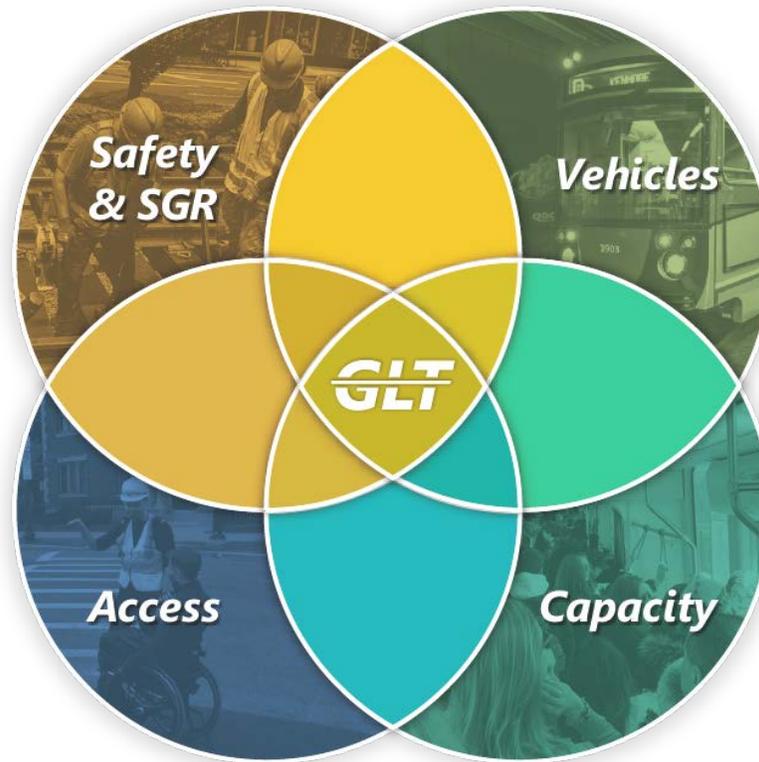
Program Goal: Improve the Green Line quality of service for all riders through strategic investments in Safety & State of Good Repair, Accessible Stations, Legacy Car Replacement and Increased Capacity

Level 0 Safety & State of Good Repair (SGR)

- Minimize risk of service disruptions
- Reduce speed restrictions
- Bring assets to state of good repair

Level 1 Accessible Stations

- New or upgraded platforms
- Compliant height, width & slope
- Barrier-free pathways & wayfinding
- Detectable warning panels



Level 2 Legacy Car Replacement

- Operate and maintain single Type 10s
- More **efficient** O&M
 - 100% of Green Line trains **accessible**
 - More **equitable** across the Green Line

Level 3 Increased Capacity

- Additional vehicles and infrastructure for two-car Type 10 operation
- Increase core capacity of subway
 - Reduce headways and journey time
 - Expand yards and facilities

Notable Projects

Project Name	Investment Type	Target Completion	Project Outcomes and Benefits					
			Reliability	Modernization	Capacity	Safety	Accessibility	
Level 0 Safety & State of Good Repair (SGR)								
Lechmere Viaduct	Rehabilitation of the Lechmere Viaduct structure	2021	✓	✓	✓	✓		
C & E Branch Track and Intersections	Track and intersection upgrades to bring assets into a State of Good Repair (SGR)	2020	✓	✓		✓	✓	
Green Line Train Protection System (GLTPS)	Design and Installation of both vehicle and wayside signal safety equipment	2024		✓		✓		
Level 1 Accessible Stations								
D Branch Station Accessibility Improvements	Accessibility improvements at four stations to allow for a fully accessible D Branch	2023	✓	✓		✓	✓	
B Branch Station Consolidation & Accessibility Improvements	Consolidate 4 inaccessible stations into 2 fully accessible stations	2021	✓	✓		✓	✓	
Level 2 Legacy Car Replacement								
Type 10 Light Rail Vehicle Procurement	Procurement of a new Type 10 vehicle to replace legacy fleet on the Green Line	2035	✓	✓	✓	✓	✓	
VMF Assessment and 30% Design	Preliminary Design for four Green Line Vehicle Maintenance Facilities and yards	2023	✓	✓	✓	✓		
Level 3 Increased Capacity								
GL Traction Power Upgrades for Increased Capacity	Power upgrades to allow for two Type 10 vehicle consists across the Green Line	2030	✓	✓	✓	✓		
GLX Yard Expansion and Land Acquisition	Track upgrades and expansion of the GLX yard to accommodate addition Type 10s	2030	✓	✓	✓			

Program Office



2018

SEPTEMBER 2018 ✓

- MBTA hired the Chief of Green Line Transformation
- The MBTA engaged in a \$35M contract to establish the program

SPRING 2019 ✓

GLT hired three Senior Directors

2019

JULY 2019 ✓

MBTA's CIP for FY20-24 enacted, establishing an initial project portfolio budget of \$913M

SPRING 2020 ✓

GLT hired Deputy Chief

WINTER 2019 ✓

GLT hires dedicated program management personnel under Senior Directors

2020

2020 ✓

- Virtual Steering Committee, Policy Group and Project Development Group meetings
- Public outreach and engagement

- MBTA/GLT program staff managing a portfolio of currently 66 projects in either Planning, Design or Construction
- Supported by Program Management/Construction Management (PM/CM) team

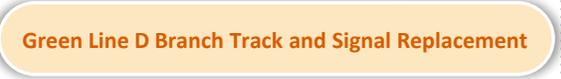
Achievements to Date



Program Achievements:

- ✓ Executed significant Safety & State of Good Repair improvements during construction in 2019 & 2020:
 - ✓ 57,000 feet of track, 45 Intersections/Crossings, and 10 units of special trackwork across all branches
- ✓ Installation of flood protection doors and gates at Fenway portal
- ✓ GLT has spent approximately \$173M to date (December 2020)

GLT Program Office Established

Investment Type	FY 2018	FY 2019	FY 2020	FY 2021	Spend to Date (November 2020)
Level 0 Safety & State of Good Repair (SGR)					
 Track				 Accelerated Track Work on B, C & E Branches	\$24.9M
				 Fenway Portal	\$18.1M
				 Green Line D Branch Track and Signal Replacement	\$55.9M
				 Green Line Central Tunnel - Track, Power, Signal	\$3.4M
	Structures			 Lechmere Viaduct Rehabilitation	\$16.1M
Level 1 Accessible Stations					
 Stations				 B Branch Station Consolidation & Accessibility	\$1.5M
				 Newton Highlands: Interim Access Improvements	\$1.6M
Level 2 Legacy Car Replacement					
 Vehicles				 Specification Development for Type 10 Vehicles	\$5.7M

Program Lookahead

Investment Type	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Level 0 Safety & State of Good Repair (SGR)						
	Track	D Branch Track and Signal Replacement				
	Signals	GLTPS: Design, Wayside & Vehicle Installation				
	Structures	Central Tunnel: Track, Power, Signal Replacement				
	Stations	Hynes Station (Parcel 13) TOD				
Level 1 Accessible Stations						
	Stations	Newton Highlands Accessibility Improvements				
		Symphony Station Improvements				
		D-Branch Preliminary Design	D Branch Accessibility and Platform Improvements Design and Construction			
		Short Term Accessibility Improvements				
						B & C Branch Accessibility Design
Level 2 Legacy Car Replacement				Pilot Car Arrival		
	Vehicles	Type 10 Vehicle Procurement	Type 10 Vehicle Design		Type 10 Pilot Testing	Type 10 Revenue Service
	Facilities and Yards	Green Line Maintenance Facilities and Yards Preliminary Design				
		GLX Maintenance Facility Modifications & Upgrades				
		Riverside Vehicle Maintenance Facility Modifications & Upgrades				
		Reservoir Yard and Non-Revenue Track Optimization & Reconfiguration				
						Lake Street Complex Upgrades

Project Updates | Level 0 & Level 1

Green Line Train Protection System (GLTPS)



Brian DeRosa



Scope: Install equipment both wayside and on-vehicle to enhance **safety** for train-to-train collision, signal overrun, and over speed derailment, along with development of deployable equipment to prevent workzone incursion

Progress

- Working with vendor on Critical Design Review (CDR)
- Collaborating with Policy Decision Group to determine critical design decisions
- Conducted vehicle and wayside surveys, system testing, and fit-up to verify design concepts

Symphony Station Accessibility Improvements



Jorge A. Briones, Jr., LEED AP BD+C



Scope: Upgrades include four new elevators to provide fully **accessible** (ADA) and MBTA compliant elevator cabs and shafts

- Platforms raised to provide level boarding on trains
- Add egress stairs for each platform
- Upgrades to life safety systems, lighting, finishes and wayfinding

Goal Resetting | Level 2 and Level 3

Assessing the impacts of COVID-19

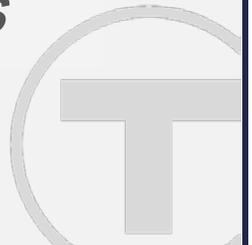
- Short and long-term impacts on program funding
- Resource constraints
- Lower ridership
- Maintain service for essential workers and Environmental Justice corridors
- Type 10 procurement options and funding

Realign **Levels 2 & 3** to provide flexibility based on funding availability

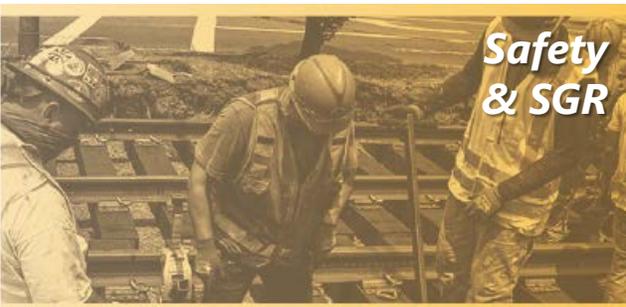
Continue analysis of **Type 10 procurement options** and programming of related infrastructure projects

Ensure Levels 2 & 3 do not preclude eligibility for potential **Core Capacity** funding from FTA

Adapt the GLT program to continue progress toward holistic goals despite financial challenges



Next Steps



Present to the Fiscal Management Control Board (FMCB) during the Capital Investment Plan (CIP) development cycle:

- Results of analysis for **Type 10 procurement strategy**
- **Comprehensive plan for Green Line accessibility** developed with internal and external stakeholders

