

GLTPS



GREEN LINE TRAIN PROTECTION SYSTEM

A CAPITAL TRANSFORMATION PROJECT

Monthly Review and Lookahead

Wednesday, September 28, 2022

The **Green Line Train Protection System (GLTPS)** combines vehicle and wayside equipment, that work together to avoid train-on-train collisions, add red light signal protection, and incorporate speed enforcement. The project has four overlapping phases starting with **Equipment Design** which integrates new technology into the legacy system. The **Vehicle Installation Pilot**, which is underway at GLX Maintenance Facility. The **Wayside Installation**, which was completed on B, C, & E Branches during the full access closures in June, July, & August. The **Operational Integration** phase where MBTA personnel will receive training on the new GLTPS system.

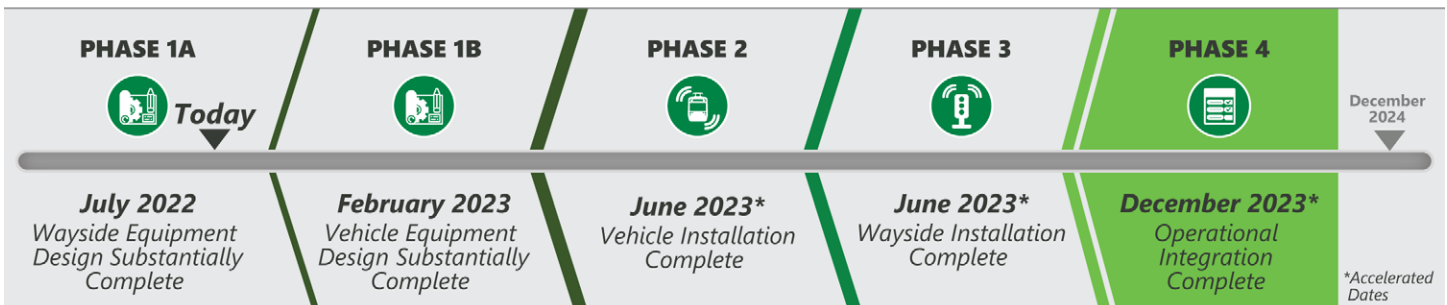
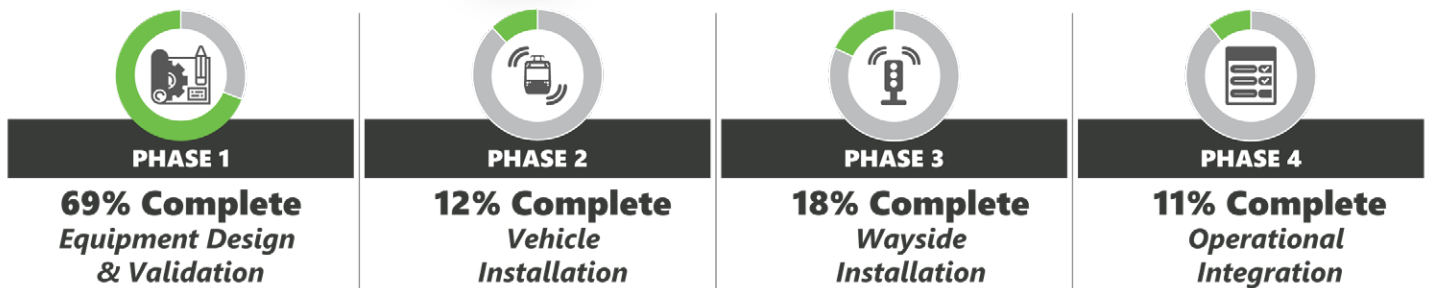
The **D-Branch** full access closure is scheduled for three separate nine-day shutdowns beginning September 24 and ending on October 30 and will include installation of wayside transponders, mounting hardware, and mast mount antennas from Fenway to Riverside.



Did you know...

... the collision avoidance functionality of the GLTPS utilizes a similar system that is in use on many motor vehicles today. An interior mounted camera and an exterior mounted radar sensor work in parallel to search for objects within given parameters to the left and right of the center line of track and a specified distance in front of the vehicles. If an obstacle is detected, the GLTPS will apply brakes accordingly depending on the speed of the vehicle and distance to the identified object in question, per a calculated brake rate.

GLTPS by the Numbers



*Accelerated Dates

This Past Month



Vehicle Installation

- **3D printed antenna plates and radar sensor mounting brackets have been received for the two Pilot vehicles at GLX.** These assemblies will be used during Pilot Vehicle GLTPS testing and then be replaced by permanent aluminum assemblies. The car numbering decals will be relocated to maintain configuration.
- **The wiring harnesses and mounting brackets have been received and are being installed on the Pilot vehicle 3708.** The remainder of the equipment enclosures are scheduled to ship in early October and will be installed upon receipt. Testing will begin immediately upon completion of the Pilot Vehicle First Article Inspection.



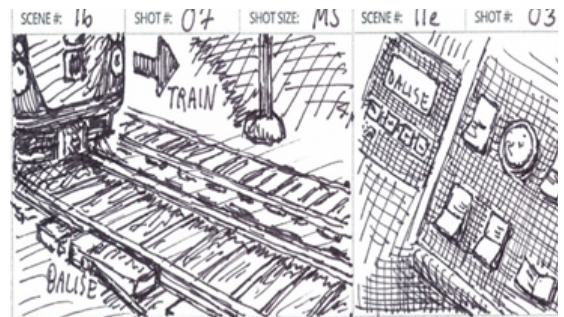
Wayside Installation

- **D-Branch materials are being delivered from Braunschweig, Germany and Hornell, NY in preparation of the September 24 – October 30 Full Access Closure.** Project personnel are maintaining oversight at Braunschweig and at Hornell to monitor the manufacturing and shipment of materials to the MBTA.
- **An embedded balise enclosure was successfully test-fitted on the Riverside Test Track to ensure proper vehicle clearance.** These enclosures are being placed across the system to house the balises along the track.



Operational Integration

- **The final revision of the operator's training video storyboard was received from the System Integrator.** This video will be the first in a series of training aids to guide the MBTA workforce in understanding the functionality of GLTPS and how it affects day-to-day operations. The training video will be made following the captions in the Storyboard and is anticipated to be received by the end of 2022.
- **Operational Readiness meetings are held every two weeks to update the Stakeholders on project progress and review any questions or concerns.** Per a recent Training Department request, the Project Engineering Team also generated and distributed a safety memo to give operators a visual of the new vehicle equipment along with a general overview of the components and their functionality.



Lookahead for October



Equipment Design & Validation

- Complete First Article Inspections for Type 7 vehicle & wayside components
- Complete the Type 8 prototype enclosure manufacturing



Vehicle Installation

- Complete pilot installation on car 3708 and begin qualification testing
- Complete the overall vehicle First Article Inspection



Wayside Installation

- Complete D-Branch installation of balise assemblies and antennas
- Continue production of wayside kits for (Central Tunnel) surge in late winter



Operational Integration

- Distribute the approved training video storyboard for stakeholder review
- Receive revised Operations and Maintenance manuals