

# GLTPS

## GREEN LINE TRAIN PROTECTION SYSTEM

A CAPITAL TRANSFORMATION PROJECT

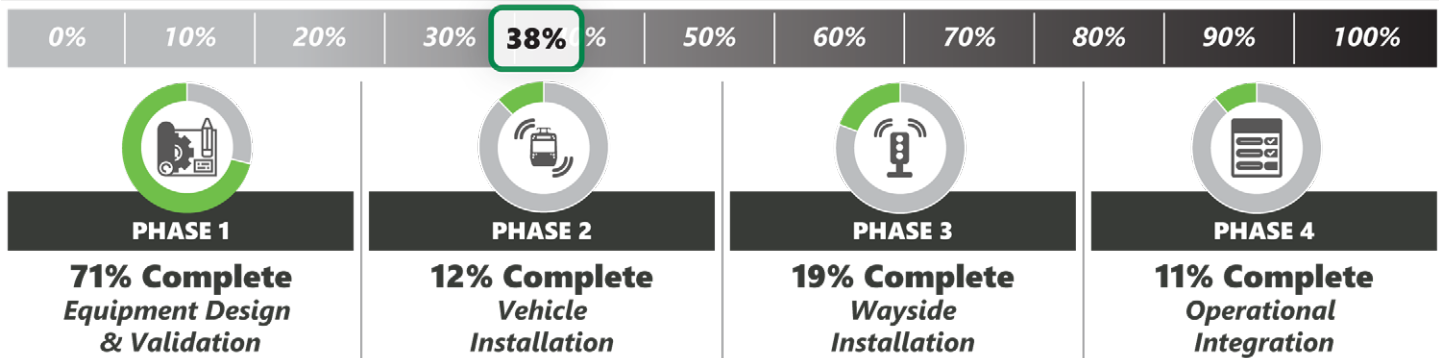
### January 2023 Review and Lookahead

The **Green Line Train Protection System (GLTPS)** combines vehicle and wayside equipment that work together to avoid train-on-train collisions, incorporate speed enforcement, and add red light signal protection. The project has four overlapping phases which are all currently underway:

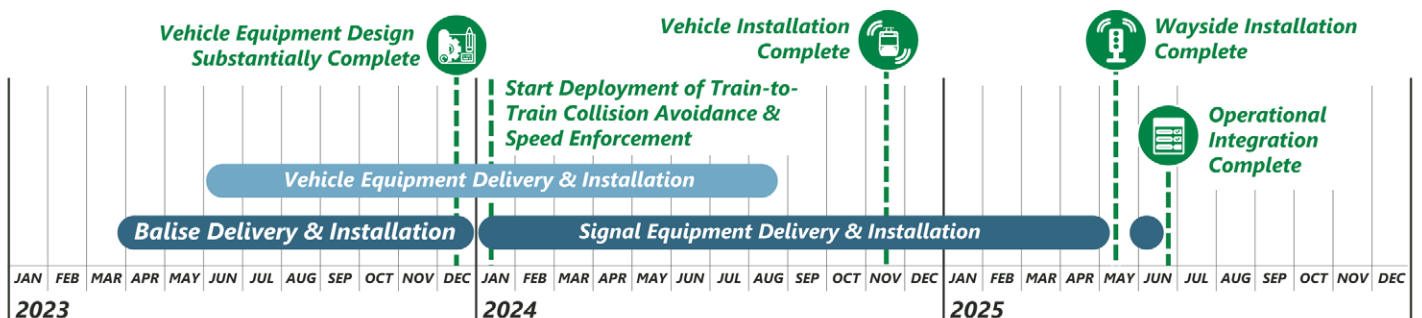
- **Phase 1 Equipment Design:** Planning how to integrate new technology into legacy fleet
- **Phase 2 Vehicle Installation:** Installing new equipment in Green Line vehicles. This is currently happening at the GLX Maintenance Facility in Somerville on pilot vehicle 3708
- **Phase 3 Wayside Installation:** Installing upgraded signal equipment on the right-of-way
- **Phase 4 Operational Integration:** Training MBTA personnel how to use the new safety system



#### GLTPS by the Numbers



**Schedule Update:** As was presented to the MBTA Board on January 26, 2023, GLT is actively working with Stadler to mitigate an 18-month delay that was reported. This delay pushes complete installation of the GLTPS from December 2023 to June 2025. The schedule below shows the advance deployment of partial functionality of the system with Train-to-Train Collision Avoidance & Speed Enforcement, starting in January 2024, before the entire system with the added Red-Light Protection is installed and cutover by June 2025. This will improve the level of safety on the Green Line in advance of the complete installation. You can see the full presentation [HERE](#)

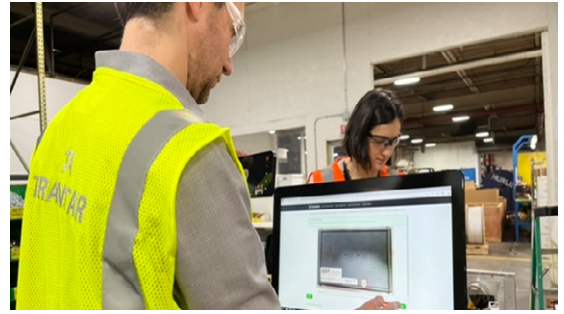


## This Past Month



### Equipment Design & Validation

- **MBTA joined the System Integrator** for a project status meeting at the manufacturing facility in Hornell, NY to review manufacturing readiness, site industrialization, and material availability. Vehicle and wayside equipment will be assembled, tested, inspected, and then shipped from Hornell to Boston for installation per the revised schedule.
- **A bench test module was designed and built in Braunschweig, Germany** then shipped to Hornell. The test module runs components through a regiment of test scenarios. This will mitigate the risk of failure during the vehicle installation phase.



*System Integrator Engineer analyzing test data*



### Vehicle Installation

- **Abatement of the 3600 series vehicles has continued** with 32 of 86 vehicles complete which is over one-third of the affected fleet. This is a mitigation strategy in order to advance the installation timeline once kits are available.



*Abatement ongoing on 3600 series vehicles*



### Operational Integration

- **Operational integration sequencing will be implemented** per a stringent review process which involves a system hazard analysis developed by the System Integrator moving through an Operational Readiness Review to ensure mitigations are in place and all affected personnel are aware and trained on the system before it is turned on. The short-term objective is to reach a mixed fleet of fully protected vehicles accompanied by speed enforced wayside branches per the revised schedule by the end of December 2023. Full activation of GLTPS would be complete by June 2025.



*Green Line map outlining surface branches*

## Lookahead For Next Month



### Equipment Design & Validation

- Finalize Type 7 wire harnesses and enclosures for installation on Pilot 3708
- Perform "form & fit" activities on Type 8 prototype enclosures



### Wayside Installation

- Update Safety Compliance Assessment for all wayside installation scenarios
- Continue production and stockpiling of wayside kits for planned 2023 installation



### Vehicle Installation

- Continue abatement of installation areas on the 3600 series vehicles
- Continue manufacturing of conditionally approved assemblies at Hornell, NY manufacturing facility



### Operational Integration

- System Integrator to engage production company for training video
- Receive and review draft operations & maintenance manuals