GLTPS | GREEN LINE TRAIN PROTECTION SYSTEM

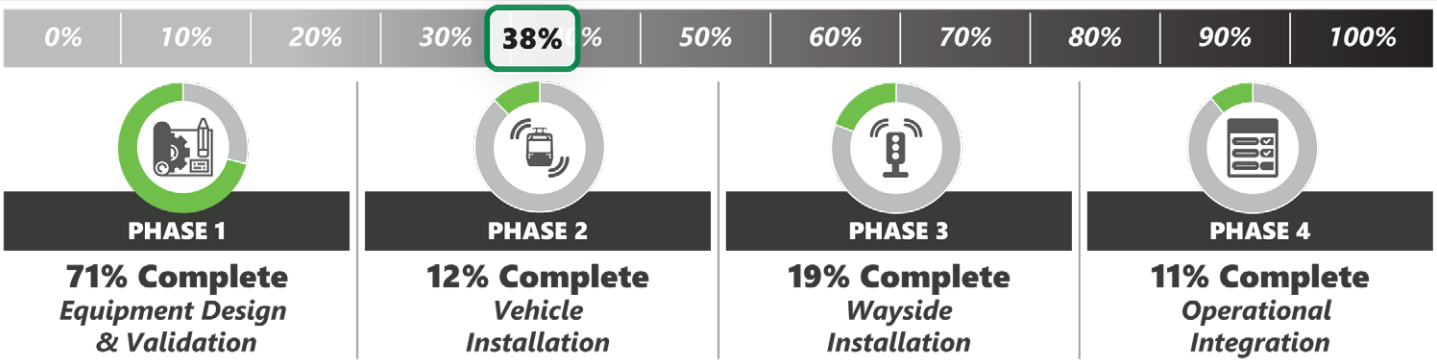
A CAPITAL TRANSFORMATION PROJECT

March 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:

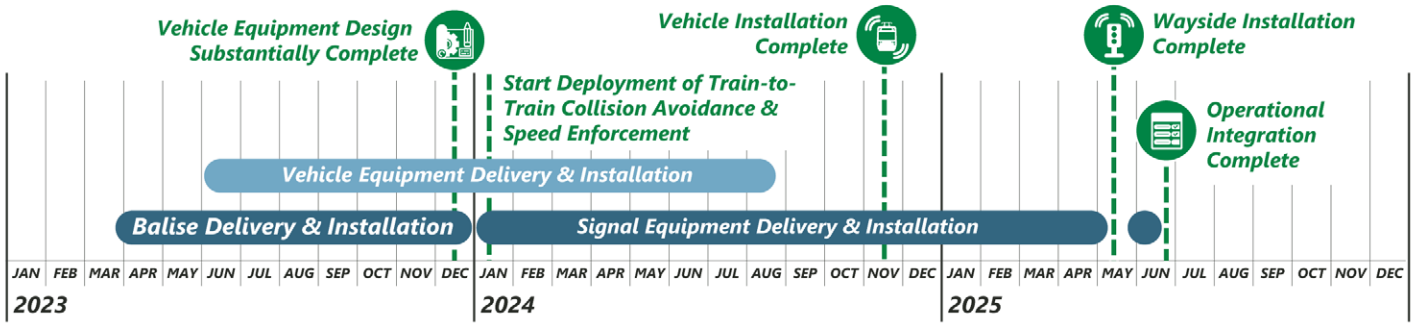
- **Phase 1 Equipment Design** integrates new technology into the legacy system.
- **Phase 2 Vehicle Installation** of safety equipment into light rail vehicles and currently in process at the Innerbelt VMF in Somerville on pilot vehicle 3708.
- **Phase 3 Wayside Installation** has been postponed and future surges will resume later this year per an updated schedule to support speed enforcement functionality.
- **Phase 4 Operational Integration** where MBTA personnel will receive information and training on the new GLTPS system and plans for cutover.

GLTPS by the Numbers



Did you know...

The legacy Green Line vehicle fleets were manufactured by three different rolling stock manufacturers and were commissioned in different decades beginning in 1986 and ending in 2021. These legacy fleets consist of over 200 revenue ready vehicles that will all be modified to work in parallel with new wayside equipment to deliver added train protection.



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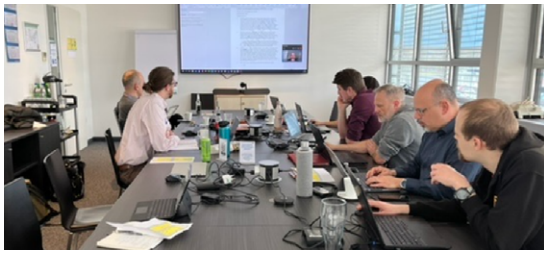
This Past Month

Equipment Design & Validation

- **A Type 8 3D printed prototype speed sensor bracket was received** and fitted onto a spare truck at the Riverside Vehicle Maintenance Facility (VMF). The prototyping validated a feasible design and fitment allowing both sensors to be aligned correctly without any interference to the wheel assembly & brake disc.
- **Project personnel are currently in Braunschweig Germany** continuing design review meetings with the System Integrator for the Type 7 vehicle and wayside speed enforcement design packages. The target of the meetings being design closure on the respective documentation packages.



Project personnel on-site in Braunschweig for design review

Vehicle Installation

- **Abatement of the 3600 series vehicles has continued** with 60 of 86 vehicles completed, which is 70% of the fleet. This advanced work will reduce the installation timeline once kits are available. Per the current schedule, abatement will conclude in June.
- **40 newly manufactured Type 7 speed sensor housings** were received and are being installed during the abatement cycle as another mitigation to further reduce kit installation time when material is delivered. This additional material will allow existing housings to be removed & reworked for future installation with a new second speed sensor.

Powered GLTPS dashboard enclosure on car 3708

Operational Integration

- **As part of the Critical Design Review (CDR) activities taking place in Braunschweig** Germany, project personnel performed other tasks including verifying configuration control of printed circuit boards (PCBs) and inspecting components ready to ship to the US. Ensuring proper tagging and identification is key to future asset management once these components are installed on MBTA vehicles and property in the coming months.

System Integrator verifying component configuration

Lookahead For Next Month

Continue working closely with the Systems Integrator on mitigation strategies to ensure the safe and rapid implementation of safety features and operationalize them as soon as possible

Equipment Design & Validation

- Conditionally Accept Type 7 & Speed Enforcement Critical Design Review (CDR) package
- Perform "form & fit" activities of Type 8 prototype enclosures

Wayside Installation

- Update Safety Compliance Assessment for all wayside installation scenarios
- Complete Wayside signaling survey on all GLX branches

Vehicle Installation

- Continue abatement of installation areas on the 3600 series vehicles
- Continue manufacturing of conditionally approved assemblies at Transitair

Operational Integration

- System Integrator to engage production company for training video
- Receive and review draft Operations & Maintenance Manuals

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