

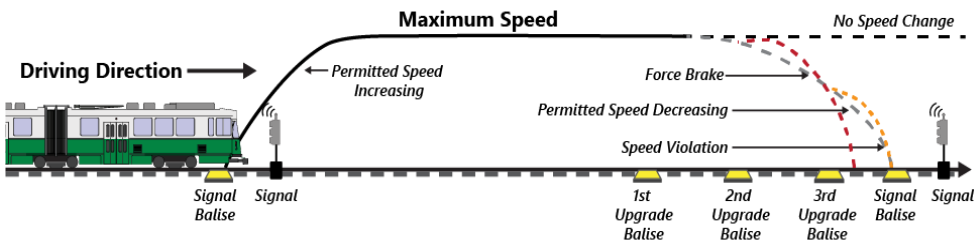
The Green Line Train Protection System (GLTPS) combines vehicle and wayside equipment, that work together to avoid train on train collisions, add red light signal protection, and incorporate speed enforcement. The project has four (4) overlapping phases starting with Equipment Design that integrates new components into the legacy system. The Vehicle installation contract has been formally awarded and the Contractor has begun mobilizing at the GLX facility in Somerville. The Wayside installation contract is in the Pre-Award phase and will be given the formal notice to proceed in the coming weeks. The final Operational Integration phase prepares the MBTA to use the new safety system on its Green Line.

**Project goals:**

1. Reduce the risk of red signal violations
2. Reduce the risk of train-to-train collisions
3. Speed Enforcement

**How it works**

- Based on the **Signal** status, the **GLTPS Box & Signal Interface Adapter (SIA)** provides information through the **Balise** to the vehicle **Transponder** as to the required speed
- The carborne **Controller** compares that speed to the actual speed and then determines how best to engage the driver through the **Operator Desk**
- Without a proper response from the driver, the carborne **Controller** will force the train to brake



The new safety equipment that was approved through a 'proof-of-concept' process and is being integrated into the existing legacy infrastructure of the vehicles (Type 7's, Type 8's and Type 9's) and the wayside (Central Tunnel, dedicated right-of-way, and surface branches). The equipment on the vehicles includes cameras and radars to support collision avoidance, coupling coils and antennas to receive signal information and speed sensors, carborne computer and human interface modules to process information and take action.

The equipment on the wayside in the signalized areas includes new LED signal aspects, along with a Signal Junction Box that will relay information through the Balise and Radio. In the non-signalized areas, on the surface branches, there are pre-programmed speed Balise which will be used to enforce speed. The diagram below shows the inter-relationship of this equipment.

