



**Massachusetts Bay
Transportation Authority**

Commuter Rail Positive Train Control (PTC)

Program Update

June 3, 2019



OVERVIEW

This presentation is to update the Fiscal and Management Control Board regarding the current activities and progress of the MBTA's Positive Train Control (PTC) Program with a focus on the status of resolution of issues with Siemens PTC Hardware and Software

Despite the risks described in this update, **the PTC program remains on schedule.**



CURRENT PTC ACTIVITIES AND PROGRESS

- Revenue Service Demonstration (PTC Implemented) on the Lowell Line (Pilot)
 - Consecutive Run count is 336 as of May 29th
 - 384 Consecutive runs without anomaly required to enter Extended RSD on the North Side
- RSD on Plymouth/Kingston Line commenced June 1st
- Field Qualification Testing (FQT) commenced on second (outer) phase of Fitchburg/Wachusett line May 26th



SIEMENS HARDWARE ISSUES

- Siemens, as a subcontractor to Ansaldo STS USA, Inc. (ASTS), is supplying **transponder reader hardware** that was used to upgrade certain MBTA vehicles under the PTC program
 - In February and April, 2019, Siemens recalled components of this equipment that could be the cause of transponder reading issues that the MBTA had been investigating
 - Antennas show improved performance after the second recall, however, transponder reading performance is still inconsistent and does not meet the requirements of the specifications
 - Executive level meetings with ASTS and Siemens continue to be held to ensure that correction of MBTA's transponder reading performance issues are given Siemens' highest priority
 - Siemens reported to MBTA on the status of their investigation on May 28th - continuing re-installations and investigation



SIEMENS HARDWARE ISSUES

- Siemens reports were issued to MBTA on May 3rd, May 8th, and May 28th
 - Design review confirmed no fatal flaws in antenna design
 - CTV design review is still in progress
 - Manufacturing defects were identified (recall notices) and corrected
 - Vehicle specific installation issues and faulty components continue to be identified and corrected
 - Results remain inconsistent with performance on the North Side Lines trending in a negative direction week over week - root cause of transponder reading issue not yet identified
- Investigation is continuing
 - Specialized test equipment has been installed and data is being analyzed
 - Remanufactured equipment reinstallation to be complete first week of June



SIEMENS SOFTWARE ISSUES

- Siemens, as a subcontractor to ASTS, is supplying **the Speed Enforcement System software** (ACSES) that is used on all of the MBTA's locomotives and cab cars
 - Siemens Software updates are required to correct functionality issues that impact the North Side Lines in particular due to the lack of Automatic Train Control (ATC) on those lines
 - ASTS has confirmed the release dates of these updates for revenue service:
 - Release #1 to be rolled out June 10th through July 3rd
 - Release #2 in October 2019



KEOLIS SUPPORT ISSUES

- As part of the PTC Program Team, Keolis signalmen are responsible for the cutover of PTC to the live signal system
 - Work commenced in March 2018 and is planned for completion in November 2019
 - In May, 2019 Keolis reported a 3 month delay in their work
 - Mitigation plans have been developed reducing this delay to 2 months
 - Opportunities for further mitigation are being explored
 - Despite these delays, the overall PTC Program remains on schedule



SUMMARY

- The PTC Program is on schedule
- PTC continues to be the MBTA's highest priority capital program
- Siemens hardware and software issues present a continuing risk to the program that is being closely managed at the executive level
 - Root cause of transponder reading issue has not yet been determined
 - Software update cycle time of 6-9 months creates schedule risk
- Keolis signal cutover resources present a continuing risk to the program that is being closely managed at the executive level
- MBTA will continue to execute PTC Program Plans in order to deploy PTC across the entire Commuter Rail System in compliance with the FRA regulations, which require complete deployment by December 31, 2020