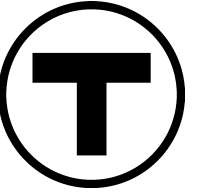


Massachusetts Bay Transportation Authority

**MBTA Contract No. L60PS02:
Commuter Rail Safety & Resiliency Program
Program Management/Construction Management Services**

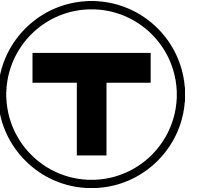
August 12, 2019

Overview



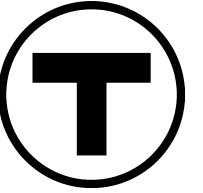
Today's board action will authorize the award of a professional services contract to WSP USA, Inc. for Program Management & Construction Management Services for the MBTA's Commuter Rail Safety & Resiliency Program.





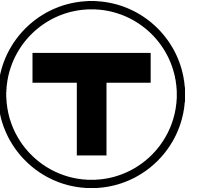
Commuter Rail Safety and Resiliency Program

- The MBTA created the Commuter Rail Safety & Resiliency Program to address three major interrelated safety, modernization, and reliability programs:
 - Positive Train Control Program (PTC)
 - Commuter Rail North Side Automatic Train Control Program (ATC)
 - Commuter Rail Fiber Optic Cable Network Resiliency Program



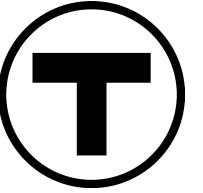
Automatic Train Control (ATC) and Positive Train Control (PTC)

- Automatic Train Control (ATC) is a safety-critical signal system that is an upgrade to the Automatic Block Signal (ABS) system currently in use on North Side Commuter Rail lines
- ATC systems integrate with the train to implement speed control that will gradually slow or stop a train in advance of a required speed reduction or stop
- If ATC detects that a train speed exceeds the maximum speed allowed in a section of track:
 - Engineers will receive target speed indications and audible warnings
 - Brakes will be automatically applied after issuing audible warnings to bring the train to its target speed
- Per FRA, PTC is an integrated system consisting of ATC with an ACSES (Advanced Civil Speed Enforcement System) overlay



Automatic Train Control (ATC) Benefits

- The MBTA has determined that the installation of wayside Automatic Train Control (ATC) systems on its North Side is a critical need which will provide significant benefits:
 - Allow MBTA to operate its Commuter Rail system as a single network, eliminating separate North and South Side operations which currently are different
 - Improve train traffic management and realize service and operating efficiencies
 - Enhance Safety
- ATC Systems will be installed on the Lowell (NHML), Wildcat (WC), Fitchburg, Haverhill (Western), Newburyport, and Rockport (Eastern)
 - Currently the PTC Program is installing ATC on the three remaining lines on the South Side that are not ATC equipped

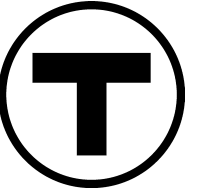


ATC System Performance Metrics

The ATC System will further improve safety and reliability of the Commuter Rail system.

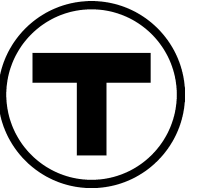
Measurable benefits include:

- **Enhanced safety:** the element of human error is over-ridden; automatic control of the train will limit, slow, or stop the train to enforce and increase safety; train operating speeds cannot be exceeded
- **Improved reliability:** travel time will be far more consistent on every run
- **Shorter headways:** improved signal system capacity with ATC allows trains to run closer at higher speeds
- Central dispatching office will have **precise train location data**
- **Lower fuel consumption** is possible as the operation becomes more efficient



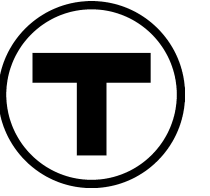
Commuter Rail Fiber Optic Cable Network Resiliency Program

- The Commuter Rail Fiber Optic Cable Network Resiliency Program will install a buried fiber optic cable network between or alongside all MBTA-owned railroad tracks in revenue service, except where such a network already exists (e.g. the Old Colony Lines).
- The Commuter Rail Fiber Optic Cable Network Resiliency Program is included in the FY20–FY24 Capital Improvement Program (CIP) as part of the Commuter Rail Safety and Resiliency Program.
- Installation of the buried fiber optic cable will be done on a line-by-line basis across the entire MBTA Commuter Rail network.



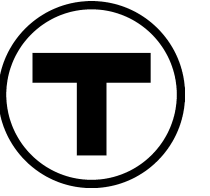
Program Management/Construction Management Scope of Services

- Program Implementation and General Administration Services
- Overall Strategic Implementation Plan
- Program Controls Support including Cost, Schedule, and Budget
- Environmental Permitting/Coordination Oversight
- Program Construction Management (CM) Staffing Support
- Public Participation & Stakeholder Outreach



WSP USA, Inc.

- WSP has significant systems testing and commissioning experience supporting the MBTA's PTC Program (which includes the design, installation, and commissioning of ATC on three South Side Lines).
- WSP understands its role on the MBTA Program Team as the PM/CM and will provide a highly-qualified, experienced project team to manage both the North Side ATC Program and the Commuter Rail Fiber Optic Cable Network Resiliency Program.
- A competitive professional services procurement was conducted.
- The L60PS02 contract is recommended to be awarded to WSP USA, Inc. The term is August 2019 through August 2024.



Request of the Fiscal and Management Control Board

Staff request that the Fiscal and Management Control Board authorize the General Manager, or his designee, to award and execute MBTA Contract No. L60PS02 with WSP USA, Inc. for Program Management and Construction Management for the MBTA's Commuter Rail Safety & Resiliency Program for an amount not to exceed \$31,000,000.