

Commuter Rail Positive Train Control (PTC) Project

Financial Management Control Board Presentation

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Legislative Action Update

- FRA deadline of December 31, 2018 with October 29, 2015 Congressional action.
- The Senate approved a House-passed measure that gives railroads an additional three years, to Dec. 31, 2018, to install the safety system known as positive train control.
- The extension means the MBTA can continue with the installation, testing and validation of the PTC technology. The legislation approved by Congress will also allow the FRA to grant an additional 24 months extension (2020) beyond the 2018 deadline to have PTC fully operational.
- FRA Administrator Sarah Feinberg said Wednesday that railroads must still implement PTC as soon as possible and that the measure approved by Congress will give the agency additional tools "to allow the FRA to hold railroads accountable so that they meet critical milestones on the path to full implementation."

Strategic Issues

- Federal unfunded mandate with no significant State funding in place.
- Both Supplier Proposers had completion dates in CY'2021.
- MBTA forced to act:
 - Developed alternative (phased) project approach to demonstrate early successes.
 - Developed alternative milestone payment plan to bridge funding gap.
 - Approached selected PTC System Supplier and formed basis for Public-Private Partnership.

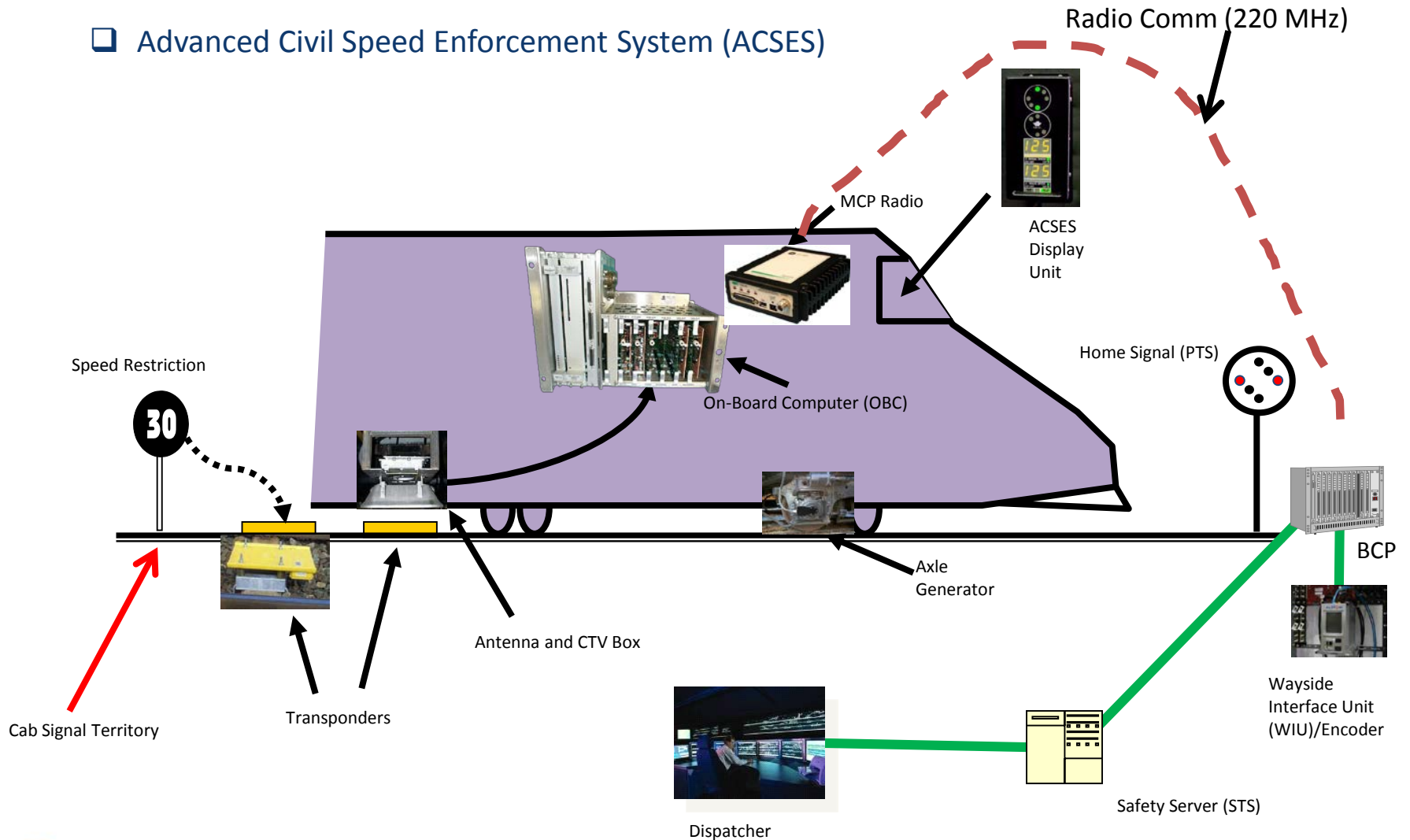
Positive Train Control (PTC) Procurement Status:

- The MBTA selection team has completed its review of all technical and cost proposals with Ansaldo STS (“Ansaldo”) emerging as the highest rated technical proposal and lower cost giving the MBTA the best value on the PTC Procurement.
- Furthermore, the MBTA and Ansaldo have developed a Public-Private Partnership to deliver the PTC Project on an accelerated basis utilizing Ansaldo resources.



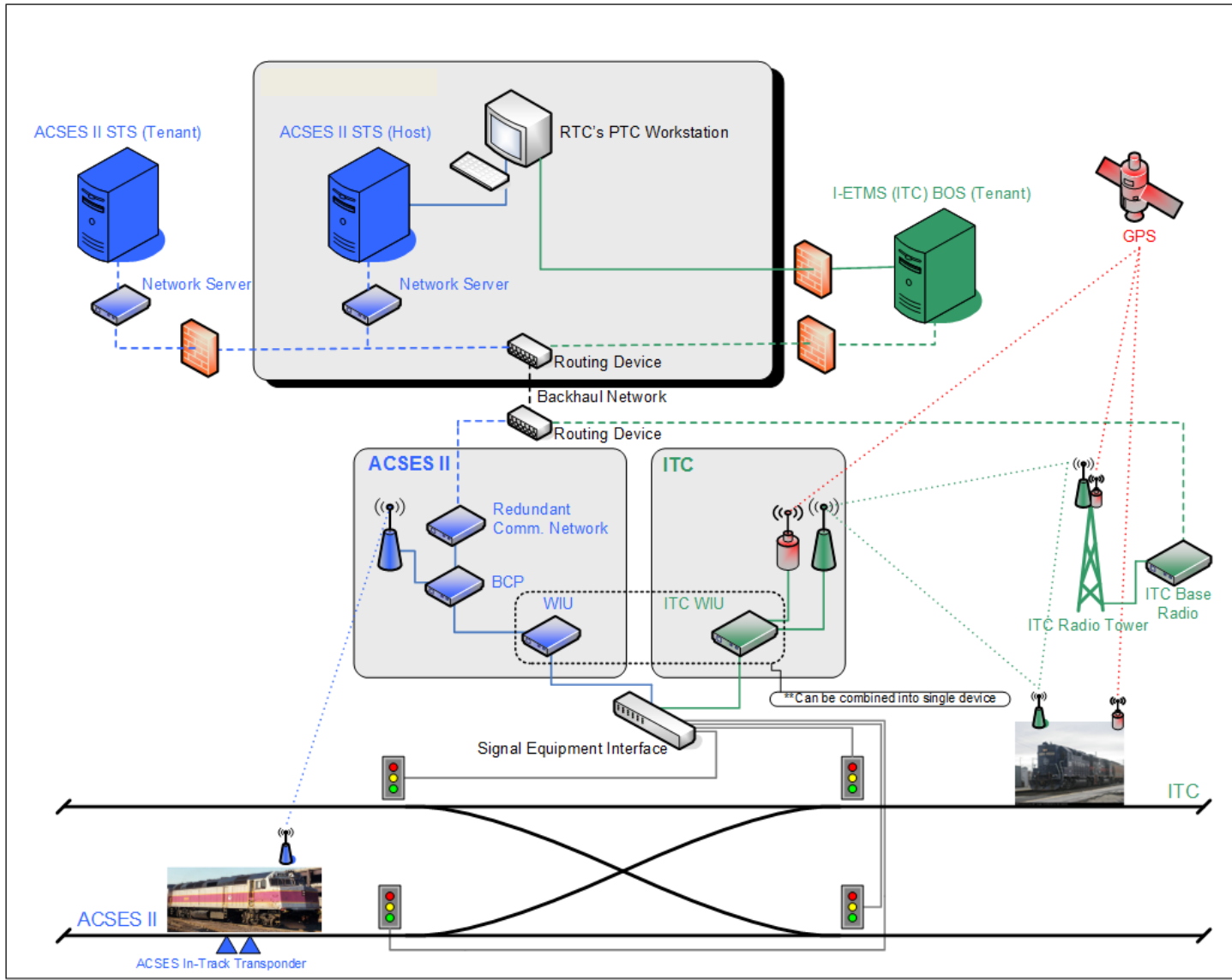
Positive Train Control (PTC) Technology:

- Advanced Civil Speed Enforcement System (ACSES)



Positive Train Control (PTC) Technology Continued:

ACSES with Interoperable Electronic Train Management System (I-ETMS)



❑ Summary of Critical Business Terms:

❑ Financial:

- ✓ **PTC System Integrator Contract Pricing – Ansaldo Full Contract Price: \$338.5M.**
- ✓ **Deferred Payment Schedule: (Estimated Cost Savings = \$4.0M)**
 - ❖ No MBTA contract payments for the first 19 months of the PTC Project (December 2015 – June 2017).
 - ❖ Deferred payments are at 0% interest.
 - ❖ Repayment of Deferred Payments start in month 20, which coincide with the estimated first receipt of TIFIA loan funds. The Repayment of the Deferred Payments end in month 32.
 - ❖ The Deferred Payment Schedule is valued at \$47M.

❑ Other Project Costs:

- ✓ **PTC Professional Consulting Services – Jacobs / LTK**
Task Order Services: Estimated cost \$25 M
- ✓ **Keolis PTC Program Implementation Support**
Task Order Services: Estimated cost \$25 M
- ✓ **MBTA PTC Program Management Staff**
4FTEs for 5 years: Estimated cost \$4 M

Commuter Rail PTC

□ Summary of Critical Business Terms:

□ **Total Estimated Project Costs** (PTC Integrator, Professional Services Consulting, Keolis Program Implementation Support & MBTA PTC Program Mgmt Support):

- ✓ \$392.5 M without contingency
- ✓ \$451.3 M with 15% contingency

	Original Project Estimate	Current Pricing Estimate	Differential
PTC Project Cost	\$ 392,581,170	\$ 338,457,134	(\$ 54,124,036)
Keolis Support	\$ 25,000,000	\$ 25,000,000	
Consultant Services	\$ 25,000,000	\$ 25,000,000	
MBTA Staff	\$ 2,300,000	\$ 4,000,000	\$ 1,700,000
Sub-Total Project Cost	\$ 444,881,170	\$ 392,457,134	(\$ 52,424,036)
Contingency¹	\$ 44,488,170	\$ 58,868,570	\$ 14,380,400
Total Project Cost	\$ 489,369,287	\$ 451,325,704	(\$ 38,043,646)

¹Contingency Increased from the Original Project Estimate of 10% to the Current Pricing Estimate of 15% based recent industry discussions with peer agencies.

□ Summary of Critical Business Terms Continued:

□ PTC Project Risk Mitigation:

- **Parent Company Guarantee** – The MBTA & Ansaldo have created a new contract instrument to mitigate risk for the first 19 months of Project. The MBTA & Ansaldo agreed that a parent company guarantee would be used to cover the entire project risk in lieu of performance bond. The agreement reduces the overall project cost by eliminating the purchase of a performance bond for months 1 – 19 as partnering initiative. (Estimated Cost Savings = \$1.0M).
- **Performance Bond** – Starting in month 20, the PTC Project will transition to a performance bond as the instrument to cover project risk. (Important Note: The MBTA can potentially save an estimated \$4M – \$5M in additional PTC Project costs if we choose to continue the use of the “Parent Company Guarantee” throughout PTC Project).
- **Liquidated Damages** – Liquidated damages (“LD’s”) will be included in the final negotiated contract to cover delivery risk. The LD’s will be centered around the new Implementation Schedule Phasing: (a) Phase I – PTC MBTA South Side Commuter Rail; (b) Phase II – PTC MBTA North Side Commuter Rail; and, Phase III – MBTA Freight Main Line (North Side).



❑ Summary of Critical Business Terms Continued:

- ❑ **Implementation Schedule:** The revised schedule was re-worked and revised to show substantial early progress to the Federal Railroad Administration (“FRA”). Ansaldo has agreed to the schedule and is prepared to meet these dates.
 - ❑ **Phase I – PTC MBTA South Side Commuter Rail** – Implement PTC on MBTA’s South Side where most of the railroad is already equipped with cab signals. Plan to complete PTC Project by December 2018.
 - ❑ **Phase II – PTC MBTA North Side Commuter Rail** – Implement PTC on the MBTA’s North Side where there are no cab signals and a derivative of the PTC technology will be deployed which requires additional testing. Plan to complete PTC Project by March 2020.
 - ❑ **Phase III – MBTA Freight Main Line (North Side)** – Implement PTC on the MBTA’s Freight Main Line as an overlay to the passenger rail PTC. This will require additional testing and integration. Plan to complete PTC Project by August 2020.

❑ Summary of Critical Business Terms Continued:

❑ **Potential Commuter Rail Weekend Shutdowns During PTC Construction¹:**

Based on our initial analysis of the Implementation Schedule, the most effective path to implementation, along with the least costly to implement as well as the safest for our work crews is to recommend the opening of weekend work windows starting in March 2017 and continuing into 2018.²

❑ The potential Commuter Rail Weekend Shutdowns will have three (3) benefits to the PTC Project:

1. Speed of Execution and Delivery of a Safer Commuter Rail System;
2. Cost Containment/Reduction³; and,
3. Risk Mitigation on the Scheduled Completion of Work (December 2018, March 2020, August 2020 Completion Dates).

¹Legislative Action Required: The Massachusetts Legislature has passed legislation that requires weekend services on certain lines (e.g., Plymouth/Kingston, Needham) and this must be waived prior to the start of work on PTC weekend work on these Commuter Rail lines.

²Exception: Boston to Providence line where PTC is already installed for AMTRAK service (e.g., Acela).

³Savings: Cost Savings Impact of potential Commuter Rail Operations Shutdown is variable but is contingent on terms of the Keolis contract.

❑ Summary of Critical Business Terms Continued

❑ **PTC Integration & Partnership with Commuter Rail Operator Keolis**

- ❑ With the MBTA facilitating, Ansaldo & Keolis will enter into contractual partnership to coordinate railroad access as well as resource requirements for PTC implementation for both South Side and North Side implementation. This discussions will commence once the FMCB has authorized the awarding of a contract to Ansaldo.
- ❑ Keolis will be integrated within project design approval cycle and play active role to certify acceptance of the PTC System.

❑ **After System Acceptance...**

- ❑ 2 year warranty period (parts and labor).
- ❑ Keolis responsible for railroad system operation and maintenance.
- ❑ Estimated PTC life cycle maintenance cost:
 - ❑ \$12 M Annualized Maintenance Cost once PTC Fully Operational (linear escalation 3%) – Southside maintenance starts in CY'2018 and Northside maintenance starts in CY'2020.
 - ❑ Capital reinvestment \$1 M at 10 year intervals.
- ❑ MBTA evaluating 3rd party maintenance options for system elements that are not “railroad operations” (i.e., Information Technology Back Office).



FMCB Vote Request:

- The FMCB is requested to authorize the MBTA to enter into negotiations with Ansaldo and to award a contract valued at \$338,457,134 to design, build and integrate a PTC system on the commuter rail network.

FMCB vote required to award contract to Ansaldo STS

Future FMCB Vote Requests:

- The FMCB will be requested to vote at another upcoming meeting (TBD) on a Technical Services Contract to have the Jacobs/LTK Engineering Services Team support the MBTA throughout the PTC System Project.

TIFIA

- Loan program to potentially finance up to 33% of the eligible project costs.
- TIFIA Program Lead advised not to submit a funding LOI until after updating BATIC Office on credit support differences between the TIFIA and RRIF Program.
 - LOI has been reviewed internally and externally (i.e., Mintz).
 - BATIC Office update expected in the next two weeks.
- TIFIA Program Lead indicated that different credits could be used if the project is funded by both the RRIF and TIFIA programs.

RRIF

- Loan program to potentially finance up to 100% of the total project cost.
- Issues with subordination of debt with current bondholders make this option challenging.
 - Discussions surrounding subordination of debt still ongoing.

Other Options

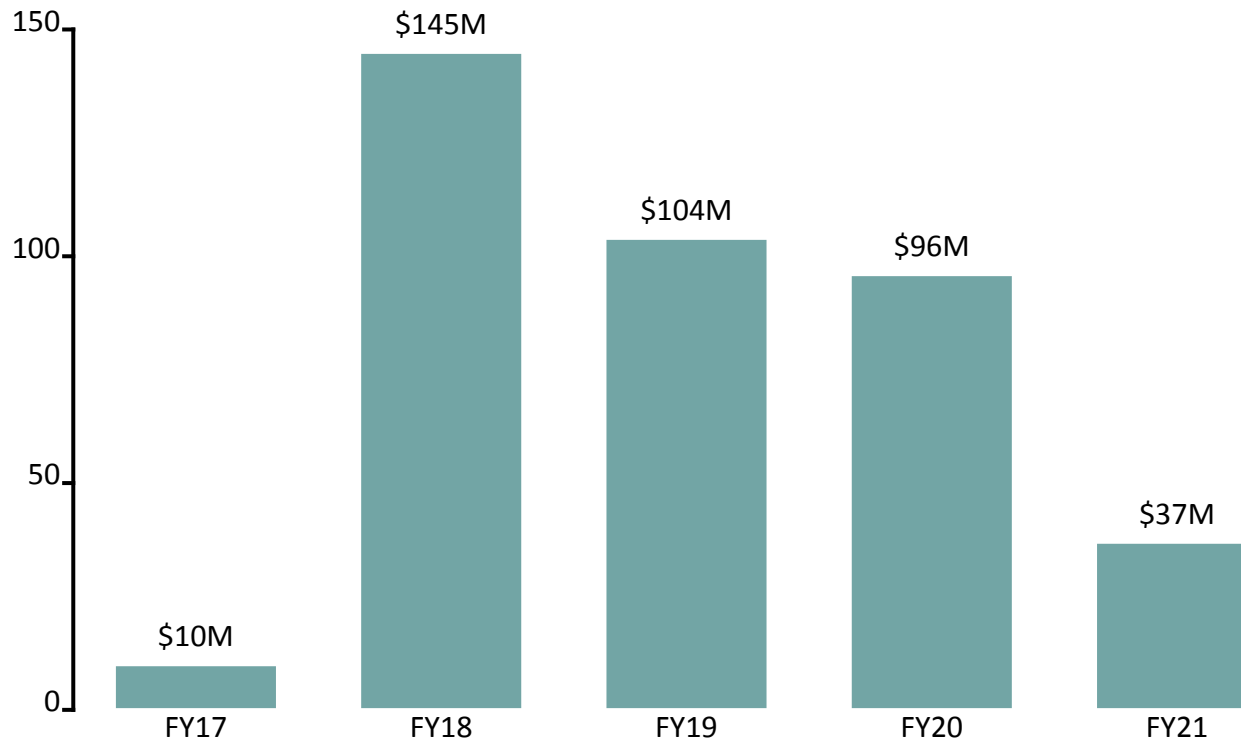
- Explore alternative funding that includes:
 - Combination of TIFIA and RRIF loans
 - Internal funding sources

Commuter Rail PTC – Cash Flow Analysis



Total projected cost for the PTC project is \$392 million. \$338 million for the PTC Integrator and \$54 million of other costs.

\$ in millions



Projected Cash Out Flow Requirements by Fiscal Year

