

Update on Positive Train Control (PTC)

Operations, Safety and Security Committee
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Overview of TRE

- 34-mile corridor connecting Dallas to Fort Worth
- 10 passenger stations
- Rolling stock
 - 9 Locomotives
 - 8 Bombardier cab cars
 - 17 Bombardier coach cars
- Wayside
 - 3 Base Stations
 - 33 Control Points
 - 6 Intermediates

TRE Tenants

- Passenger Rail
 - Amtrak
 - TEX Rail (future)
- Freight - Class I
 - Burlington Northern Santa Fe (BNSF)
 - Union Pacific Railroad (UPRR)
- Freight – Short Lines
 - Dallas, Garland Northeastern Railroad (DGNO)
 - Fort Worth & Western Railroad (FWWR)

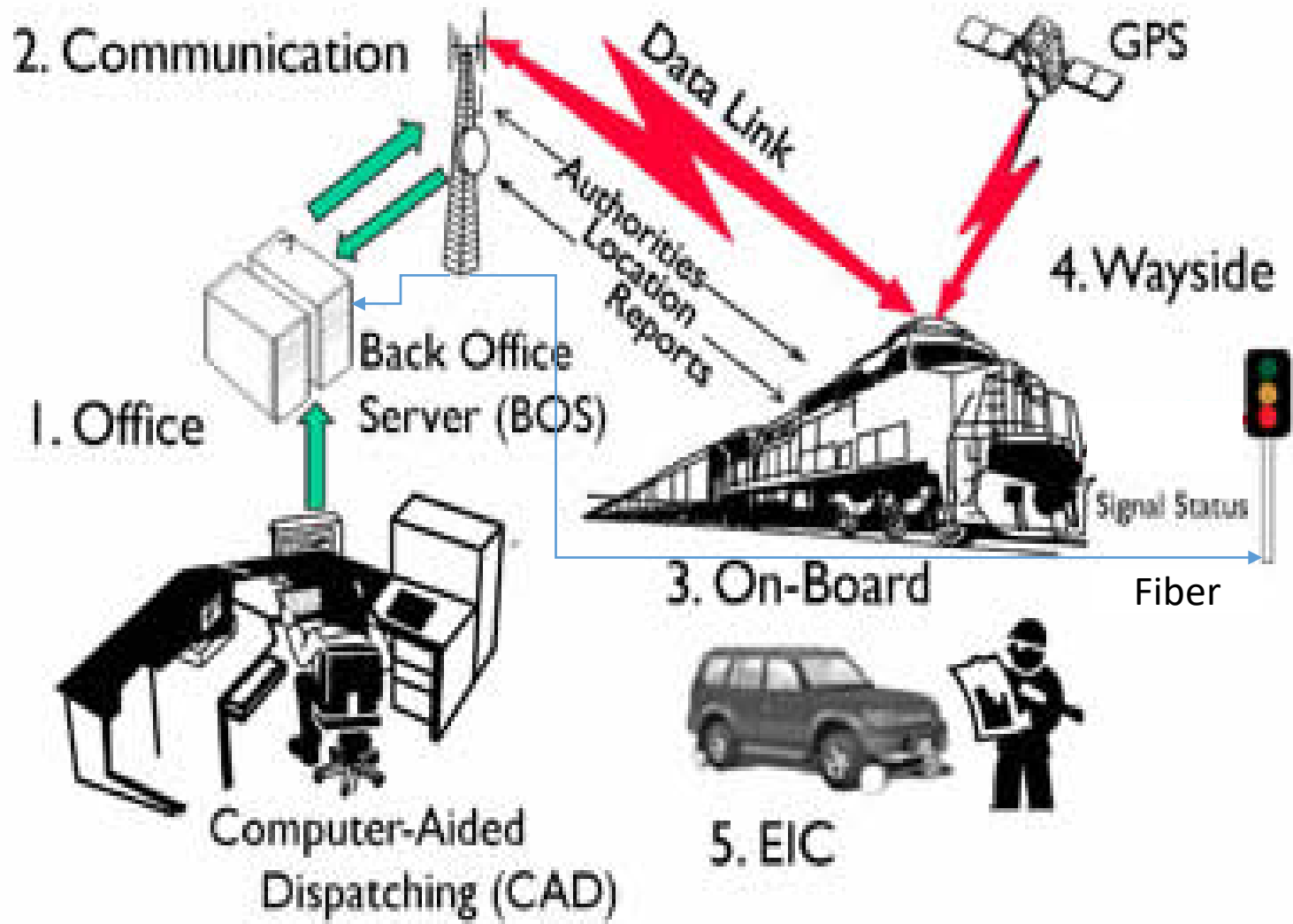
PTC Federal Mandate

- Rail Safety Improvement Act (RSIA) of 2008
- Design to prevent collisions and other incidents by automatically detecting and controlling the movement of trains
- Goals
 - Prevent train-to-train collisions
 - Prevent over speed derailments
 - Prevent incursions into established work zone limits, without receiving appropriate authority
 - Prevent movement of a train through a switch left in the improper position
 - Provide interoperability between PTC systems of different railroads

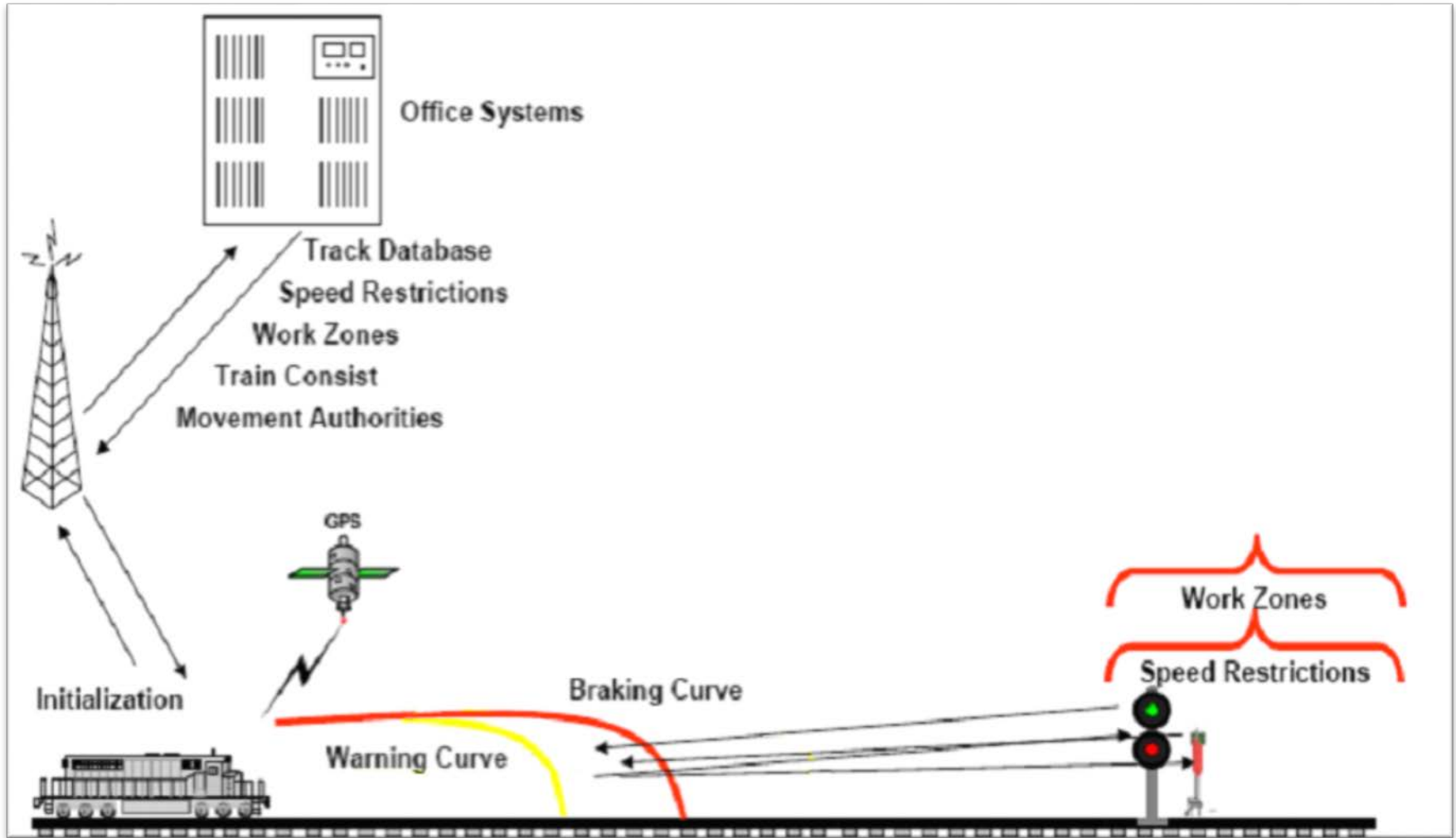
PTC Major Subcomponents

- Back office systems
- Communications network
- On-board equipment
- Wayside components
- Employee In Charge (Work Zones)

PTC Major Subcomponents



PTC Operation Overview



Solicitation Challenges

- First Solicitation
 - January 2014 - Issued solicitation
 - April 2014 - Received only 2 proposals
 - December 2014 - Canceled solicitation
- Independent Reviews
 - February 2015 - Independent contractors
 - March 2015 - Workshop review with vendors

Solicitation Challenges

- Second Solicitation
 - June 2015 - Issued solicitation
 - September 2015 - Received only 1 proposal
 - October 2015 – June 2016 - Contract negotiations
 - Uncertainty & risk reflected in cost proposal
 - Technical difficulty
 - Majority of risk placed on Authorities
- DCTA withdrew from the North Texas Commuter Rail PTC Implementation Solicitation (DCTA, TEX Rail and TRE)
 - DCTA exited with half of the FTA / NCTCOG funds given to the region
 - \$12.5 million

Regional Approach

- Regionalized PTC Implementation between FWTA and DART
 - Maximize Relationships
 - Pool Resources
- FWTA
 - FTA Sole Source Approval
 - Regional System Integration
- DART
 - Fiber Network
 - Radio Agreement
 - Spectrum Agreement

Regional PTC System Implementation

- FTA Sole Source Approval
 - Received approval for Sole Source Procurement from FTA
- Regional PTC System Implementation
 - Negotiated the Regional PTC Implementation Contract with Wabtec
 - Signed Regional PTC Limited Notice to Proceed (LNTP) Early Works
 - Signed Regional PTC System Integration Contract

Fiber Optic Cable

- Utilize a 20-year MCI/Verizon Agreement
 - Granted TRE access to one of six 1^{1/4} inch conduit
- 40 miles of 144-strand backbone
- 5 miles of 48-strand laterals connecting
 - 3 Base Stations
 - 10 Passenger Stations
 - 29 Grade Crossings
 - 33 Control Points
- 95% complete

Vendor Agreements

- Spectrum
 - June 2017 - Signed BNSF Spectrum Manager Sublease Agreement
 - PTC220 LLC is also a party to the Agreement
- Radios
 - May 2017 - Signed Meteorcomm LLC Agreements
 - End User License Agreement
 - Master Purchase Agreement
 - December 2017 - Ordered base stations and on-board radios
 - March 2018
 - Pilot on-board radios delivered (5 of 22)
 - Base station radios delivered (4)

Recent Accomplishments

- Wabtec Regional PTC LNTP Early Works Schedule
 - Notice to Proceed Aug 2017
 - Project Management CDRL Aug 2017 – Nov 2017 100%
 - System Engineering Aug 2017 – Dec 2017 100%
 - GIS Track Data Oct 2017 – Dec 2017 100%
 - Wayside Interface Unit Sep 2017 – Nov 2017 100%
 - OCC – Dispatch Sep 2017 – Dec 2017 100%
 - Communication System Oct 2017 – Dec 2017 100%
- Signed Regional PTC System Integration Contract with Wabtec
 - December 18, 2017

Next Steps

- Wabtec Regional PTC System Integration Schedule
 - System Safety Documentation Jan 2018 – Sep 2018
 - Test Procedures Development Mar 2018 – Jul 2018
 - Track Data Services (GIS) Jan 2018 – May 2018
 - Communication Implementation Mar 2018 – Jun 2018
 - Wayside Implementation Mar 2018 – Jun 2018
 - On-Board Implementation Mar 2018 – Aug 2018
 - Back Office Implementation Mar 2018 – Jun 2018
 - System Integration Testing May 2018 – Oct 2018
 - Training Apr 2018 – Sep 2018
 - Revenue Service Demonstration(RSD) Nov 2018 – Jan 2019
 - Submit PTCSP for system certification Jan 2019 – June 2019

Extended RSD while awaiting system certification

Jan 2019 – June 2019

TRE's Goal

- Major Milestones
 - All wayside components installed Jun 2018
 - All on-board equipment installed Aug 2018
 - All back office, dispatch & communication Jun 2018
 - Training completed Aug 2018
 - Staff are trained to support RSD Sep 2018
 - Functional testing & documentation Oct 2018
 - RSD testing approval Oct 2018
 - Start RSD Nov 2018

PTC Implementation Challenges

- Limited vendors (Meteorcomm & Wabtec)
- Availability of PTC equipment
- Availability of industry expertise
- Interoperability/convergence of PTC implementations
- Complete system integration and testing
- Meeting deadlines (December 2018)

PTC Implementation Challenges

- Capital Projects
 - Valley View Double Tracking
 - TEX Rail – 6th St / “Hole in The Wall” to T&P Station
 - System Integrator requesting delay on starting additional projects
- TRE Operations & Maintenance
 - On-board installation & testing
 - Need to lease 2 locomotives for one year
 - Budget \$510,000

PTC Implementation Deadline

- Federally mandated deadline for PTC Implementation is December 31, 2018
- Alternate Schedule
 - May be requested by the agencies for up to an additional 24 months (December 31, 2020)
 - Must be requested by formal correspondence
 - Demonstrate that we meet all of the conditions of the statute

PTC Implementation Deadline

- Conditions for Alternate Schedule
 - All necessary hardware is installed to support TRE operations
 - All back office, dispatch and communication systems are functional
 - Training programs are completely developed and enough staff are trained to support RSD testing
 - Functional testing and documentation is complete and RSD testing has been approved for at least one territory

Post PTC Installation

- Funding for maintenance (Estimated at 5% to 15% of Capital Cost)
- Continuous system testing (N-1)
- Configuration management

Questions



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