



# Caltrain PTC Program Status & Wabtec Contract Award

Board of Directors  
March 1, 2018

# Discussion

- Program timeline
- PTC program and industry status
- Contracting objectives and strategy
- Path forward and Wabtec
- Funding
- Next Steps



# Timeline

| Date        | Action  |
|-------------|---|
| Pre-2008    | Caltrain began development Communications Based Overlay Signal System (CBOSS) Positive Train Control (PTC)  |
| 2008        | Rail Safety Improvement Act, Federal Mandate PTC  |
| 2011        | Contract with PTG <ul style="list-style-type: none"><li>• \$239M Budget (\$159M for PTG contract)</li><li>• Original in-service date October 2015</li></ul> |
| 2016        | Peer review, multiple partnering efforts  |
| 2017 (Feb.) | Termination PTG contract after persistent delays, associated program cost increase and lack of performance  |

# Timeline (Continued)

- PTG Termination Last Resort
  - Advised regulators (FRA & FTA)
  - Coordination with funding partners
  - Secured program assets (fiber, spares, Backup Control Center Facility etc)
- Summer 2017 Pursue Options with Alstom
  - Contractual issues associated w/ relationship PTG
  - Prohibitively unreasonable price
- Fall 2017 / Winter 2018 Revisit Scope
  - Solicit proposals from original RFP proposers
  - Evaluate industry since original award in 2011

# Program Status

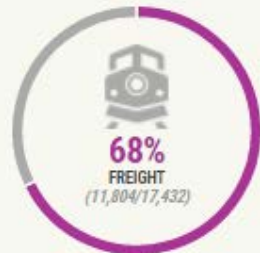
- Installation of all subsystems complete
  - On-Board Equipment
  - Wayside Interface Unit & FRA Official Validation Testing
  - Back office
  - Fiber optic backbone
  - Base stations (14)
  - Control center
  - High Rail Testing for FRA Official Critical Assets Complete
- Spectrum leased
- Train brake testing and federation in-process
- Draft RSD application submitted to FRA

# Industry Status

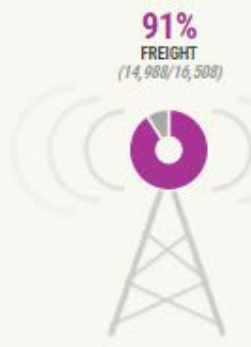
- PTC implementation problematic
- FRA rigid requirements for extension to 2018 deadline
  - February 5 meeting with FRA indicates no flexibility
- Interoperability significant challenge even when using same technology
- Capital funding scarce
- Operations and SOGR funding not available from grants
  - Significant impacts to operating budgets
- Availability resources (people and technology) challenge
- Few vendors in the industry

# Industry Status Continued

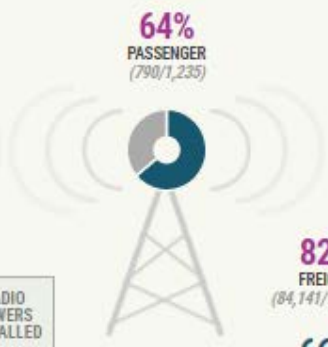
**PTC IMPLEMENTATION STATUS BY FREIGHT AND PASSENGER RAIL**  
 Q3 Jul. 1–Sept. 30, 2017



LOCOMOTIVES  
EQUIPPED &  
PTC OPERABLE



RADIO  
TOWERS  
INSTALLED

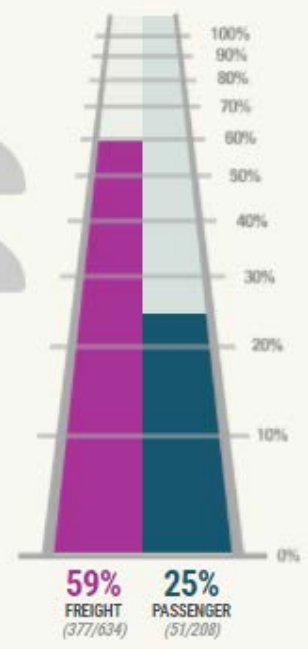


TRAINING  
COMPLETED



ROUTE MILES IN PTC OPERATION

TRACK  
SEGMENTS  
COMPLETED



# Lessons Learned

- Caltrain PTC team hired and in place
  - Will work in concert with Wabtec to deliver the program
  - Will ensure knowledge transfer
- Go live planning
  - Interdisciplinary team working to ensure smooth transition to operations and maintenance
- Peer discussions/benchmarking
  - Knowledge share among properties with the same challenges
  - Future benchmarking for estimating ongoing SOGR and Operating costs



# Contracting Objectives & Strategy

- Meet December 2018 Federal PTC mandate
- Retain knowledge / experience project team
- Procure in compliance with applicable FTA guidelines
- Minimize procurement time
- Maximize cost efficiencies
- Minimize risk

# Path Forward

- Most Viable Alternative: Wabtec
  - Second highest ranked proposer in original RFP
  - Additional recent proposal solicitation /outreach confirmed ability to deliver
  - Technology (I-ETMS) already approved by FRA
  - Used by Union Pacific (UP) on San Jose to Gilroy corridor (JPB was going to install same equipment on locomotives in UP territory)
  - Facilitates interoperability with UP and tenants
  - Reduced maintenance costs
  - Developed passenger rail functionality



# Wabtec Transition

- Original CBOSS PTC designed to be interoperable with Wabtec platform
- Not a complete change-out

|  |   |
|--|---|
| Onboard                                | ~60% re-used/repurposed/retrofit. Some components used for spare, pilot units   |
| Data Communication System (DCS)        | 100% reused   |
| Office                                 | 75% Used with 2 servers kept for spares   |
| Wayside                                | 90% equipment can be re-used, the remainder used for spares                     |
| Backup Central Control Facility (BCCF) | 100% reused   |
| Database                               | 100% reused   |
| Transponders                           | Not used by I-ETMS. Keeping transponders to aid in train location in the future |

# Wabtec Contract

- Scope
  - On-board installation
  - Assessment and integration of all systems
  - Hi-Rail and Lab equipment
  - FRA documentation
- Incentives: \$2 million
- Risk sharing: \$1.9 million
- Contingency: \$4.5 million
- Total contract budget: \$49.5m
- Eligibility for extension by 12/18
- Compliant PTC system within allowed time

# Funding Status

- ~\$59M remaining in funds
  - Cover contract budget through system acceptance
  - Program support costs through 2018
- Total program budget and funding plan to be developed
  - Brought back to the Board once field assessments have begun (June/July)
- Staff currently identifying grant and funding opportunities

# Next Steps

- Contract
  - Award Contract and issue NTP
  - Begin field assessment and submit alternate Revenue Service Demonstration (RSD) strategy and extension request to FRA (April)
  - Onboard equipment installation complete (Dec)
  - Enter RSD (Dec)
  - Complete staff training
  - Submit Safety Certification Program
- Program
  - Monthly board reporting and updates
  - Ensure rigorous oversight feedback loop w/ partners
  - Continue PCEP PTC interface coordination
  - Develop final program budget and funding plan
  - Continue go live team efforts



# Questions

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