



# Design/Procure/Install a Communication Based Overlay Signal System (CBOSS)/ Positive Train Control (PTC) System

Recommendation for Contract Award  
JPB Board of Directors

October 6, 2011



# Background

- Caltrain Initiated the Development of a Specification to Upgrade its Signal System in January 2008
  - Improve Operating Safety, Efficiency and Capacity
  - Communications Based Overlay Signal System (CBOSS)
- Rail Safety Improvement Act 2008
  - Required Positive Train Control (PTC) System Implementation by December 31, 2015
- Caltrain “Mixed-Use” FRA Conditional Waiver Granted in May 2010
- PTC CBOSS RFP Issued in August 2010



# Rail Safety Act Requirements

- Prevent Train to Train Collisions
- Enforcement of Civil Speed Limits
- Enforcement of Safety Zones in the Track Area
- Interoperability





# CBOSS Functional Requirements

- Enhanced Crossing Safety / Performance
- Improved Headways and Operational Flexibility
- Enforcement of Scheduled Station Stops
- Schedule Management
- Employee In Charge





# CBOSS PTC RFP Scope

- A Turn-Key Solution that Shares Risk with the Contractor
  - Design and System Integration
  - Procurement of Materials and Equipment
  - Installation / Testing / Commissioning
  - Training including a Cab Simulator
  - Backup Central Control Facility
  - FRA Certifications
  - Warranty
  - Long Term System Support Services



# Evaluation Criteria

- **Technical (50 points)**
  - Project Execution and Management
  - System Safety Certification
  - Integration and Interoperability Solution
  - CBOSS PTC System Requirements
  - Communication Subsystem
  - Proposed Critical Path Method Project Schedule
  - Backup Central Control Facility
  - Warranty/Long Term System Support
- **Qualifications/Commercial/Work Experience (30 Points)**
  - Company Qualification
  - Financial Qualification
  - Project Team/Work Experience
- **Pricing (20 points)**
  - Total Fixed Price Proposed Amount
  - Completeness and Accuracy of Pricing Form
  - Pricing Form Detail
  - Base Contract Proposed Payment Schedule and Cash Flow
  - Long Term Support Service Pricing



# Final Scores – June 2011

Evaluation Criteria	Maximum Point	Alstom Signaling Inc.	Parsons Transportation Group	Wabtec
Technical	50.0	19.1	39.8	26.3
Qualifications, Commercial and Work Experience	30.0	15.0	22.4	16.1
Price	20.0	11.2	11.6	12.9
<b>TOTAL</b>	<b>100.0</b>	<b>45.3</b>	<b>73.8</b>	<b>55.3</b>



# Why Parsons Transportation Group

- Highest Ranked Overall Score
  - Proposed Incremental Train Control System Solution is Well Suited for Caltrain Application
  - A Solid Understanding and Commitment to Meet Caltrain Requirements
  - Interoperable Train Control Standards and Architecture are Well Understood and Explained
- Best Value
  - Full Turn- Key Solution
  - Local Presence
  - Commuter Rail PTC Implementation Experience
    - Caltrain Benefits from the Value of Lessons Learned
  - Strong Subcontractors
  - Favorable Contract Terms and Conditions



# Final Technical Proposal

- Interoperable Train Control (ITC) Compliant Solution
- On Board and Wayside – Incremental Train Control System (ITCS) Supplied by GE Transportation (Off the Shelf Product)
- Back Office Server (BOS) Supplied by WABTEC
- Backup Central Control Facility (BCCF) that houses the Training Facility
- PTC Data Communication Network (with a Fiber Optic Backbone Option)
- Spectrum and License Fee



# Fiber Optic Network Benefits

- Immediate Benefits are for CBOSS PTC
  - Faster Data Transfer Capability between all PTC Subsystems
  - Increase Bandwidth for Greater Data Capacity
- Medium to Long Range Benefits for JPB
  - Improve Communication Reliability by Replacing Leased Lines along the Right of Way (ROW)
  - Supports Numerous High Bandwidth Data Applications at Stations and JPB Facilities (Passenger Information, Security, Fare Collection);
  - Supports Future Traction Power System for Electrification
- Revenue Generation Opportunities for JPB
  - Fiber/Conduit Lease



# Final Proposal - Contract Price

## Contract Price

- Original Proposal – \$160 Million (Includes Two Year Warranty)
- Negotiated Final Proposal – \$124 Million (Includes One Year Warranty)

## Contract with Fiber Option

- Negotiated Final Proposal - \$138 Million (Includes One Year Warranty)



# Final Proposal - Project Schedule

<b>Milestones</b>	<b>Date</b>
Complete Critical Design	September 2012
Complete Final Design	January 2013
Commence Field Installation	February 2013
Commence Integrated Testing	May 2014
Receive Safety Certification	September 2015
Revenue In Service	October 2015



# Contract Phasing

- Required to Support Project Funding Strategy
- Base Contract – Notice to Proceed through Critical Design-  
\$16.3 Million
  - Includes Bond -\$1.71 Million
- Option 1 – Final Design, Factory Acceptance Test and  
Installation of Data Communication Subsystem with Fiber -  
\$35.3 Million
- Option 2 – Remaining Subsystems and System  
Procurement, Installation, Testing, Training, Certification,  
Commissioning, Acceptance and Includes One Year  
Warranty - \$ 86.5 Million



# Recommendations

- Authorize Award of a Contract to Design/Procure/Install a CBOSS PTC System for Caltrain to Parsons Transportation Group Contingent upon JPB Execution of a Service Agreement with California High Speed Rail Authority for Federal Railroad Administration Funding
- Award a Base Contract of \$16.3 Million
- Authorize the Executive Director to Exercise Options 1 and 2
- Authorize the Executive Director to Execute a CBOSS PTC Long Term System Support Agreement



Questions?

