



City of Palo Alto

City Council

(ID # 9254)

Report Type: Information

Meeting Date: 5/22/2018

Summary Title: Caltrain Business Plan Status

Title: Caltrain Business Plan Status Report

From: City Manager

Lead Department: City Manager

Recommendation

This report is informational for the Rail Committee and City Council; no action is required.

Background

In February 2018, the Peninsula Corridor Joint Powers Board of Directors adopted a Caltrain Business Plan Strategy and Scope of Work. This initiated the development of a business plan for Caltrain to address, among other issues, infrastructure planning and an assessment of Caltrain's interface with the communities it traverses.

This is expected to be a significant undertaking, to be developed in parallel with the California High Speed Rail Authority Business Plan, and include long range forecasting, system planning, and organizational assessment. The overall funding required for this planning effort has been set at \$5 million, and includes a partnership agreement with Stanford University for technical support and advisory services.

Discussion

Caltrain staff has indicated that a primary forum for engaging communities along the corridor will be the Local Policy Makers Group (LPMG), which includes elected representatives from all communities through which Caltrain runs. Councilmember Scharff serves as Palo Alto's representative on the LPMG, and Councilmember Fine serves as our alternate.

The LPMG meets monthly, and of late has alternated the lead responsibility for each meeting's agenda between Caltrain and the California High Speed Rail Authority. Given the level of effort involved with the Caltrain Business Plan, however, Caltrain staff has indicated that the monthly agendas will now focus on the business plan. Members of the LPMG have repeatedly communicated interest in grade separations and looking to Caltrain as a resource for the planning, funding, and delivery of grade-separation

projects, and Caltrain has committed to developing a grade separation “toolkit” for discussion within the next few months. As designed, the business planning effort is expected to provide a primary venue for discussion and defining Caltrain’s role in grade-separation projects going forward.

Attachment A provides the material from the most recent LPMG meeting including discussion of the business plan. Should it proceed as described, the Caltrain Business Plan and the LPMG in general will be an important venue for reinforcing the regional and interjurisdictional context for Palo Alto’s grade-separation efforts.

Attachments:

- Attachment A LPMG+Agenda+Packet+4.26.18



Caltrain / HSR Joint Local Policy Maker Group (LPMG) Meeting

Thursday, April 26, 2018

5:30 p.m. – 7:30 p.m.

**SamTrans Offices – Bacciocco Auditorium 2nd Floor
1250 San Carlos Ave., San Carlos**

Agenda

1. Staff Report
2. HSR Draft Business Plan / Caltrain Business Plan
3. Caltrain Electrification Project
4. Caltrain Positive Train Control Project
5. Public Comments
6. LPMG Member Comments/Requests
 - a. Grade Separation Toolkit
7. Next Meeting
 - a. Thursday May 24, 2018 at 5:30pm

All items on this agenda are subject to action



Memorandum

Date: April 26, 2018

To: Local Policy Maker Group (LPMG)

From: Sebastian Petty, Caltrain; Boris Lipkin, California High Speed Rail Authority

Re: Caltrain and High-Speed Rail Business Plan Updates

Purpose of Joint Update

The planning for the San Francisco to Gilroy corridor has reached a pivot point. The California High-Speed Rail Authority Draft 2018 Business Plan introduces the possibility of early electrified service from San Francisco to Gilroy. The Caltrain Business Plan has been established as a comprehensive planning process to consider the future of the corridor (and includes partnership with the California High Speed Rail Authority).

The Caltrain Business Plan will now serve as the primary, coordinated venue for rail planning discussions and will be the focus of CSCG and LPMG meetings.

High-Speed Rail Draft 2018 Business Plan

On March 9, 2018, the California High-Speed Rail Authority released the Draft 2018 Business Plan that transparently acknowledges the project's challenges and outlines a sensible path forward that will continue to put thousands of Californians to work building the nation's first high-speed rail system.

In the face of these challenges, the draft business plan proposes to continue an investment strategy that builds infrastructure, linked over time, to provide mobility, economic and environmental benefits to Californians and initiate high-speed rail service as soon as possible.

Toward that end, the draft business plan identifies the following investment priorities:

1. Meet Our Commitments to Federal Funding Partner: The Authority will complete the 119-mile segment in the Central Valley and complete environmental review for the entire Phase 1 System between San Francisco to Los Angeles/Anaheim by 2022, as required by the federal grant agreement.
2. Extend the Valley-to-Valley Service from San Francisco to Bakersfield: The draft business plan recognizes the high ridership and revenue potential of linking the Silicon Valley with the Central Valley between San Francisco and Bakersfield.
3. Deliver 224 Miles of High-Speed Rail Ready Infrastructure for Use by 2027: The draft business plan proposes to construct high-speed rail ready infrastructure in the Central Valley (Madera to Bakersfield) and in Silicon Valley (San Francisco to Gilroy) to reduce travel times for existing passenger rail systems,

expand clean, electrified service, and prepare the corridors for testing and potential early high-speed rail operations.

4. Continue Bookend Investment in Southern and Northern California: The draft business plan continues to prioritize improving Los Angeles Union Station, the Burbank to Anaheim corridor and the electrification of the Caltrain corridor in the Bay Area.

The draft business plan transparently identifies the project's challenges, which include longer schedules and higher costs due in large part to inflation, increased contingencies and construction delays in the Central Valley. Although high-speed rail continues to face many challenges—major progress has been made on many fronts, including:

- 20 active construction sites with thousands of Californians working along 119 miles in the Central Valley
- Completion of three structures
- Hundreds of businesses planning, designing and building the system—including small businesses, disadvantaged businesses and disabled veteran businesses—with more than 1,700 craft laborers dispatched to work on Central Valley construction projects.

The positive economic benefits from the program are tremendous, including \$6 billion in total economic activity in California to date. Once operational, high-speed rail will breathe new life into local economies by encouraging the movements of residents and visitors between the major regions of the state like never before, while at the same time, protecting California's environment.

With the release of the draft business plan, the Authority is now seeking public comment as part of a 60-day public comment period that starts March 9 and closes May 7, 2018.

The Authority is providing the following options for submitting comments:

- Online comment form through the Draft 2018 Business Plan website at: http://hsr.ca.gov/About/Business_Plans/Draft_2018_Business_Plan_Comments.html
- By email at: 2018businessplancomments@hsr.ca.gov
- By U.S. mail to the Authority: California High-Speed Rail Authority Attn: Draft 2018 Business Plan 770 L Street, Suite 620 MS-1 Sacramento, CA 95814
- Voicemail comment at: (916) 384-9516

The 2018 Business Plan will be adopted by the Authority's Board of Directors at its meeting in San Jose in May.

The Draft 2018 Business Plan, required by Assembly Bill 528 (Lowenthal, Chapter 237, Statutes of 2013), can be found online at: http://hsr.ca.gov/About/Business_Plans/Draft_2018_Business_Plan.html

Caltrain Business Plan

In February 2018, the Caltrain Board of Directors adopted the Caltrain Business Plan Business Strategy and Scope of Work. These documents outline a comprehensive program of technical and policy work that staff will undertake over the coming year. The Business Plan is Caltrain's first planning effort of this kind. The Business Plan has been scoped to include long-range demand modeling, and service and infrastructure planning, as well as organizational analysis and an assessment of Caltrain's interface with the communities it traverses.

Staff has developed an approach to deliver the Business Plan that relies on a partnership with Stanford University as well as financial support from multiple public sources. This approach and associated funding plan will be described in more detail in a brief presentation by staff as part of the April Caltrain Business Plan Project Update.

Local Policy Maker Group

Joint Update



April 26, 2018

Overview

- Welcome and Introductions
- Purpose of Joint Update
- CHSRA Draft 2018 Business Plan
- Caltrain Business Plan Update
- Path Forward and Next Steps for CSCG and LPMG



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Purpose of Joint Update

- Planning for the SF – Gilroy corridor has reached a pivot point
 - CHSRA Draft 2018 Business Plan introduces the possibility of early electrified service from San Francisco to Gilroy
 - Caltrain Business Plan has been established as comprehensive planning exercise to consider the future of the corridor (and includes partnership with HSR)
- Caltrain Business Plan will now serve as the primary, coordinated venue for rail planning discussions and will be focus of CSCG and LPMG



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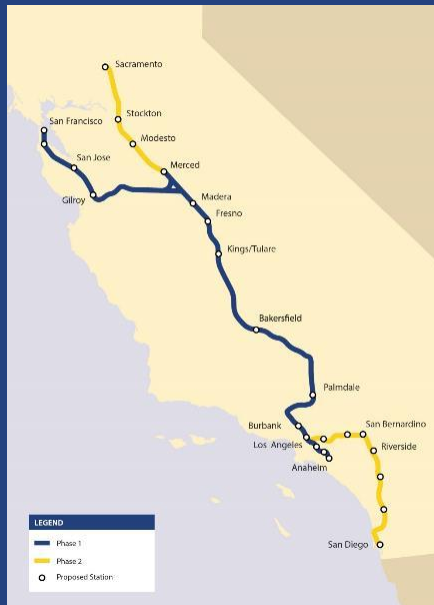
DRAFT 2018 BUSINESS PLAN

Boris Lipkin, Deputy Director of Strategic Planning

City/County Staff Coordinating Group
April 18, 2018



HIGH-SPEED RAIL: Connecting California



Increase Mobility



Needed Alternative



Better Air Quality



Job Growth

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HIGH-SPEED RAIL: Helping Shape Cities

- **Ties Economies Together**
 - San Jose to Fresno = 60 Minutes
 - Bakersfield to Los Angeles = 60 Minutes
 - San Francisco to Los Angeles = under three hours
- **Connects With and Reinforces Local Mobility**
- **Foundation for Sustainable Growth**
- **Opportunities for Revitalization in Downtown Cores**



HIGH-SPEED RAIL: It's Happening!

- Approximately 119 Miles
- Madera to North of Bakersfield
- Approximately \$3 Billion Investment
- 17 Active Construction Sites
- Over 1700 Workers
- 100% of Steel/Concrete Recycled



DRAFT 2018 BUSINESS PLAN

- Presents the program's status at this point in time
- Summarizes our approach to implementing the system
- Includes:
 - » Updated capital cost and other estimates
 - » Updated ridership and revenue forecasts
 - » Summary of progress over last two years
 - » Review of our current challenges and how we are addressing them



DRAFT 2018 BUSINESS PLAN: New Approach

- Our costs have increased and we need more certainty on funding
- 83 percent of higher Phase 1 costs driven by:
 - » Previously identified Central Valley construction delays
 - » Inflation from schedule delays
 - » Establishing higher contingency that better reflect risk and uncertainty
- New baseline estimates:
 - » Central Valley – \$10.6 billion – by 2022
 - » Silicon Valley to Central Valley Line – \$29.5 billion – by 2029
 - \$1.9 billion of this is for extensions to San Francisco and Bakersfield
 - » Phase 1 – \$77.3 billion – by 2033
- New approach – apply ranges to costs and funding

DRAFT 2018 BUSINESS PLAN: Our Commitments

- Deliver the Phase 1 System
- Deliver the Silicon Valley to Central Valley Line as soon as possible
- Invest bookend funds as full partner in the Burbank– LA– Anaheim corridor
- Continue planning for Phase 2 extensions



DRAFT 2018 BUSINESS PLAN: Phased Valley to Valley Line

- 119-mile Madera to Poplar Avenue by 2022
- 224 miles of high-speed rail ready infrastructure on two lines:
 - » Central Valley
 - » San Francisco/San José to Gilroy
 - » Initiate service/testing by 2026/2027
- Isolate Pacheco Pass tunnels:
 - » Early work to de-risk
 - » Engage expertise on design
 - » Explore funding strategy
- Merced remains high priority
- Full service by 2029



DRAFT 2018 BUSINESS PLAN: Submitting a Comment

- 60-day public comment period: March 9 through May 7
- Ways to comment:
 - » Via our [online](#) comment form
 - » Via [email](mailto:2018businessplancomments@hsr.ca.gov): 2018businessplancomments@hsr.ca.gov
 - » [Voicemail](#) comment at 916-384-9516
 - » [Board hearings](#) – March 20 (Sacramento)/April 17 (Los Angeles)
 - » [Mail](#) your comment to:

California High-Speed Rail Authority
 Attn: Draft 2018 Business Plan
 770 L Street, Suite 620, MS-1
 Sacramento, CA 95814
- Board adopts Final Business Plan at May meeting
- Submit to Legislature on June 1

Caltrain Business Plan Update



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Project Funding Approach

- Large-scale technical project with total funding needs estimated at \$5 million
- Caltrain seeking funds from multiple different sources including both direct support or in-kind technical assistance

Funding Source	Amount Sought (\$ or equivalent)
Caltrain Member Agencies	Up to \$500,000 each (\$1.5 million total)
CHSRA	Up to \$500,000 of in-kind assistance
CalSTA (TIRCP)	\$1,000,000 or balance needed from public sources
Private Assistance	\$2,000,000 of in-kind assistance

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Project Funding Status

- Funds Allocated
 - San Mateo County TA has conditionally allocated \$500,000 (to be matched by other partners)
- Funding Discussions in Progress
 - Matching funds and resources from VTA and San Francisco
 - Technical resource sharing through CHSRA
 - Technical assistance from private sector
- Funding TBD
 - TIRCP funding through CalSTA
- Confirmation of funding expected by end of April

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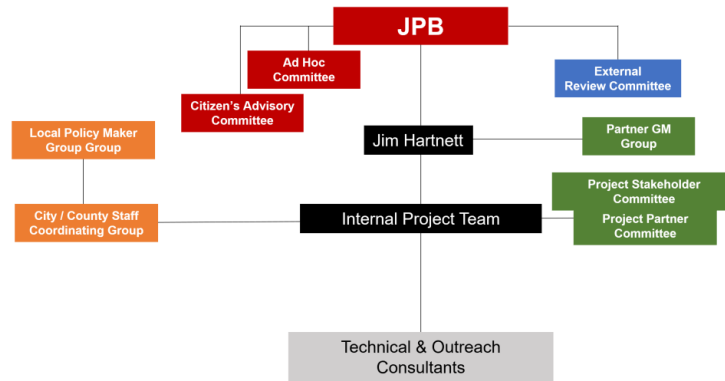
Stanford Partnership Proposal

- Caltrain and Stanford will work collaboratively as part of an integrated project structure to deliver the scope of work adopted by the JPB
- Specifically Stanford will:
 - Provide technical assistance to support the planning process both directly and through 3rd party contractors
 - Participate in stakeholder and project partner meetings
 - Work with Caltrain to identify additional resources and funding for the Business Plan
- Agreement is for technical assistance- not a financial contribution

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Project Structure



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Next Steps

- Finalize funding and resourcing arrangements
- Proceed with contractor procurement and development of detailed work scopes
- Continue to develop and structure outreach and coordination venues
- Begin technical work

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Path Forward and Next Steps for CSCG / LPMG



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Path Forward

- Caltrain Business Plan will be venue for comprehensive corridor planning going forward
 - CHSRA and Caltrain staff will continue technical coordination to ensure an integrated vision for the future of the corridor that meets the needs of both systems
 - Caltrain Business Plan structure will allow for direct involvement by a full spectrum of corridor stakeholders
 - Broad scope of Caltrain Business Plan allows for a flexible and comprehensive planning process that can addresses the full spectrum of service, organizational and community issues in the corridor



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Path Forward

- Key Caltrain Business Plan Outcomes
 - JPB Board Action on integrated long range service vision for the Peninsula Corridor
 - Organizational assessment and strategy for evolving Caltrain service and corridor management
 - Assessment and strategy for addressing key rail-community interfaces including at-grade crossings and corridor development
- Caltrain Business Plan process will support environmental clearance for the Blended System



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Path Forward

- Implications for CSCG / LPMG
 - CHSRA will continue to participate in CSCG and LPMG with a standing HSR-dedicated agenda item
 - CSCG and LPMG will continue to meet monthly and focus on the Caltrain Business Plan
 - Major items of discussion will be
 - Understanding the market for rail in the corridor
 - Development of an integrated service vision for the corridor
 - Grade separations, corridor development and other “community interface” issues and opportunities



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Memorandum

Date: April 26, 2018

To: CalMod Local Policy Maker Group (LPMG)

From: John Funghi, CalMod Chief Officer; Casey Fromson, Director Gov. Community Affairs

Re: Caltrain Electrification Project Update

ELECTRIC VEHICLE UPDATE

April marked another milestone for vehicle manufacturing as the first car shell is readied for painting. The vehicles continue to take shape as carbody subassemblies and the welding of car shell structures continues.



Inside view of side walls and underframe

View more pictures at CalMod.org/gallery

ELECTRIFICATION INFRASTRUCTURE UPDATE

In April, crews continued foundation installation in South San Francisco, San Bruno, Millbrae, Burlingame, and San Mateo. Crews also continued potholing activities in Santa Clara and San Jose. Pole installation work began in South San Francisco, San Bruno and Millbrae.

To sign up for weekly construction updates or for more construction information, visit CalMod.org/construction.

A professional photographer has starting taking pictures of the construction work. View more pictures at CalMod.org/gallery



Crews installing a pole in South San Francisco

A time-lapse of the pole installation can be viewed here: [https://www.youtube.com/watch?v= CRuxEr-7GA](https://www.youtube.com/watch?v=CRuxEr-7GA)

Public Meetings Re: Construction Activities

- Occurred
 - Redwood City Council: April 9
 - Belmont City Council: April 10
- Upcoming Meetings
 - TBD

For more details, and a full list of upcoming meetings, please visit CalMod.org/events

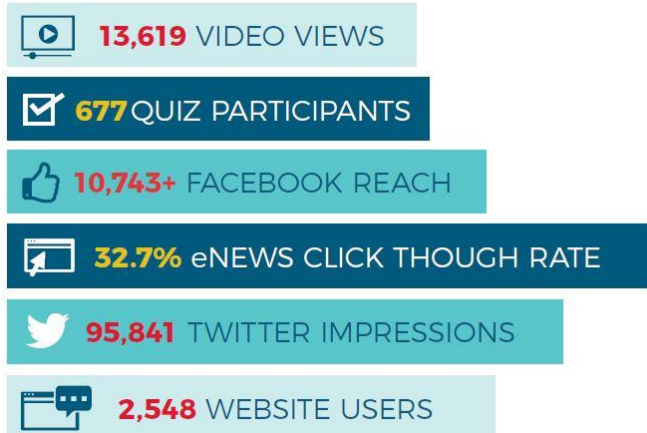
DETAILED PROGRESS REPORT

To view the Caltrain Electrification Monthly Progress Report, please visit:
<http://www.caltrain.com/projectsplans/CaltrainModernization/Documents.html>

DID YOU KNOW? CAMPAIGN SUCCESS

In February and March, the project team launched an effort to educate riders and the greater Peninsula community about how the Caltrain Modernization Program is improving service with electric trains as construction gets underway. We had great success with the effort and the outcome metrics are listed below.

To view the original video: <http://calmod.org/did-you-know/>





Memorandum

Date: April 26, 2018
To: Local Policy Maker Group (LPMG)
From: Michelle Bouchard, Chief Officer Rail
Re: Caltrain Positive Train Control Project

In September, 2008, a Union Pacific freight train collided head on with a Metrolink commuter train in the Chatsworth district of Los Angeles, causing 25 fatalities and many more injuries. Shortly thereafter, Congress enacted the Rail Safety Improvement Act of 2008 (RSIA), requiring all class 1 freight and commuter railroads to implement Positive Train Control Systems (PTC).

PTC is a term created by the Federal Railroad Administration to describe an advanced technology train collision/train derailment avoidance system. A PTC system uses advanced technology and safety critical predictive enforcement to automatically engage the brakes and stop a train in advance of (1) potential train to train collision, (2) train over-speed, (3) unauthorized entry into a track work zone, and (4) movement through a misaligned switch.

In response to the RSIA, and after a lengthy competitive process, on October 6, 2011 the JPB awarded Contract 10-PCJPB-T-021 to Parsons Transportation Group to implement the JPB's PTC system. At the time the contract was awarded, PTC technology was still in its infancy. Parsons offered a General Electric ITCS solution that had been successfully deployed on both domestic and foreign passenger railroads. This product was determined to meet all of the JPB's performance requirements as well as the basic requirements of the federal PTC mandate. At the time, the freight railroads were implementing PTC through a system designed by Wabtec, which was the second highest ranked proposer to the JPB's RFP. The JPB did not select Wabtec, at least in part, because at that time, its passenger rail functionality was not well developed. Over the last five years, Wabtec has matured its technology such that this is no longer the case—in fact multiple commuter rail operators are implementing PTC with a Wabtec-based solution. Currently, Wabtec's project list includes more than 15 passenger rail clients including Metrolink (LA), Coaster (San Diego), ACE, Capitol Corridor in California.

Effective February 22, 2017, the JPB terminated its contract with Parsons Transportation Group (Parsons) for nonperformance. This termination followed many months of delay and Parsons' repeated failure to cure its deficient performance. The impacts of termination on the JPB's efforts to keep the PTC program moving forward in 2017 have been documented in reports to the Caltrain Board over the last year.

Since termination, the JPB has acted with urgency to 1) implement the most appropriate PTC solution from a financial and technology perspective; 2) ensure compliance with the federal mandate to implement PTC; and 3) minimize its damages resulting from Parsons' termination. The JPB project team has engaged in the following activities in furtherance of these goals:

- JPB has worked with all stakeholders and with representatives of the FRA to ensure that the JPB's plans for implementation of PTC meet all regulatory and technical requirements such that the JPB's PTC system will meet all safety requirements. In particular, JPB's Executive Director and Chief Operating Officer, Rail recently met with the FRA Administrator to ensure that the JPB's plans for implementing PTC are in accordance with FRA requirements.
- JPB has pursued every reasonable opportunity to craft a solution by which Parsons could complete the project, both prior to and following termination. This option has proven unsuccessful and the JPB and Parsons are now in litigation against each other.
- JPB has explored all other opportunities deemed feasible and available with other potential contractors to complete the PTC project by replacing Parsons and utilizing the same technologies as Parsons proposed using. These opportunities have proven unavailing as the technologies used by Parsons, in particular that of the key subcontractor Alstom, are unavailable to the JPB at pricing and commercial terms that are fair and reasonable.
- JPB has pursued all available opportunities to bring Parsons' key subcontractor, Alstom, under direct contract with the JPB to complete its work. These opportunities have proven unavailing as Alstom has placed contractual conditions on any agreement that are not feasible or practical, and has demanded a prohibitively unreasonable price.
- JPB has revisited the original procurement process that led to the contract award to Parsons, soliciting proposals from the other original Proposers, in particular Wabtec, which was the second-highest ranked proposer in the original competitive solicitation.
- JPB has conducted an extensive analysis of the scope of work necessary to complete the project. This scope of work was shared with several potential candidates invited to submit proposals to complete the work as prime contractor. Many potential firms were unwilling or unable to submit proposals to complete the work.
- JPB has evaluated other commuter railroad's methodologies for implementing PTC to determine what alternate technologies are available that satisfy JPB's needs.

As a result of the above efforts, the JPB project team has determined that at this time the I-ETMS technology developed by Wabtec is the most viable alternative for the JPB's PTC project.

- I-ETMS is now used widely by passenger and commuter rail operators and has developed in ways that benefit denser passenger rail operation not available at the time the original contract was awarded in 2011.
- I-ETMS now supports train type characteristics, grade crossing activation/inhibit, schedule adherence and (eventually) vital certification to suit the JPBs needs
- I-ETMS allows for the most cost efficient and technically manageable process for achieving interoperability with other railroads that share operations with the JPB
- I-ETMS will be easier and more cost effective to maintain in the long term than any other technology particularly given the commercial agreement with the Union Pacific Rail Road (UPRR).

In sum, not only is the I-ETMS system the best- indeed likely the only—technology that can be implemented in time to meet the federal deadline, it is the most cost-effective. Importantly, the cost of completing the JPB's PTC system with I-ETMS technology will likely result in considerable long-term savings over any other technology from a maintenance perspective. This is because the JPB will benefit

from industry-wide support and from interoperability efficiencies that would not exist with other technology. Both from a short term and long term perspective, I-ETMS technology is best suited for the JPB's service.

From a contracting and procurement perspective, Wabtec is uniquely situated as the only contractor that is able to provide its proprietary I-ETMS system and implement the JPB's PTC system on a practical schedule and at a reasonable price. FTA regulations and JPB policy acknowledge that under certain circumstances, a contract may be awarded without full and open competition. In this unique situation there is no benefit or need to conduct any additional competitive process for a number of reasons.

- First, Wabtec was the second highest ranked proposer in the original RFP. That original RFP, combined with the extensive outreach efforts by the JPB in recent months to elicit proposals from other firms involved in the original RFP, as well as additional firms, indicates that the JPB has already engaged in adequate competition such that a more formal RFP process is neither required by FTA rules nor beneficial under the circumstances present here.
- Second, there is unusual and compelling urgency to complete the PTC project. Over and above the federal mandate, the JPB is committed to implementing PTC as soon as possible to improve safety for its commuter rail service. Under FTA rules, this urgency alone justifies an immediate award to Wabtec, especially given the extensive outreach efforts already conducted by the JPB to formulate an effective and completion strategy and the delays caused by Parsons' failure to perform and ultimate contract termination.
- Third, Wabtec's proprietary technology (I-ETMS) makes it uniquely qualified to implement the JPB's PTC system. As discussed above, for commercial and legal reasons the JPB is unable to complete its PTC system with the Alstom technology originally included in the system that Parsons was unable to deliver. I-ETMS is a proven technology, already approved by the FRA for use in PTC systems.
- Fourth in order to operate its service on the portion of the railroad owned by the Union Pacific Railroad (San Jose to Gilroy), the JPB must, for contractual reasons pursuant to a recent agreement with the Union Pacific Railroad, install a Wabtec I-ETMS system on its locomotives operating on the Union Pacific's territory. Were the JPB to use a different technology on part of its territory, there would be inevitable additional interoperability challenges. Implementing a Wabtec system on the JPB's entire service will also avoid additional and unnecessary time and expense associated with multiple contractors installing different technologies on different portions of the JPB's service. FTA regulations allow a non-competitive procurement process for a follow-on contract for continued development or production of highly specialized equipment, in particular when awarding to another contractor would result in substantial duplication or unacceptable delay. Such is the case here. The JPB will also save on future maintenance costs as it will only have to maintain a single on-board system.

In sum, there are compelling reasons why it is in the public interest for the JPB to award this contract to complete the JPB's PTC system to Wabtec without further competition. The JPB must comply with the federal mandate to implement PTC by the end of 2018. Awarding to any contractor other than Wabtec will require additional time and unnecessary expense. Awarding to any contractor other than Wabtec will present inevitable conflicts with regard to patent and other intellectual property rights, which in turn could prevent a seamless implementation of an interoperable PTC system on both the JPB's and the UPRR's rail corridors. FTA rules recognize a public interest exemption to the ordinary rules for a competitive procurement. That public interest exception assuredly applies here.

At the March 2018, Caltrain Board meeting, the Board approved the award of contract to Wabtec railway electronics to implement this safety-critical project in a manner that complies with federal law.



Caltrain PTC Program Status & Wabtec Contract Award

Local Policy Maker Group
April 26, 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">• \$239M Budget (\$159M for PTG contract)• Original in-service date October 2015
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

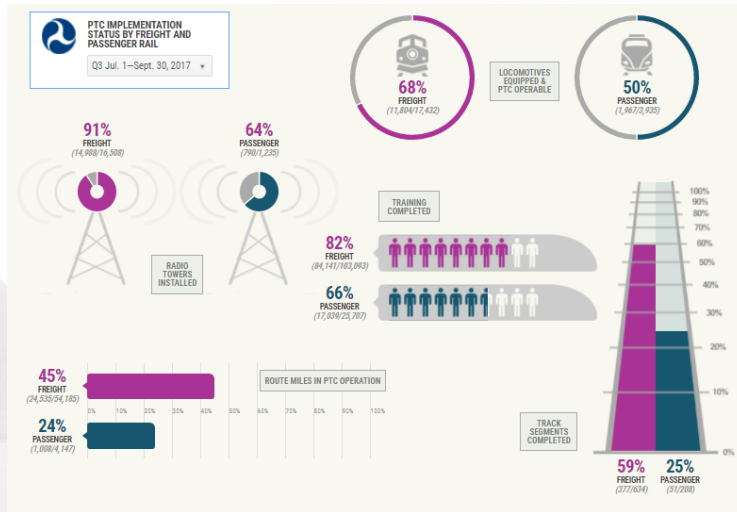


Industry Status

- 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



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

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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

- 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 Efforts
 - 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