Project Overview/Update:
Advanced Signal System
CBOSS PTC

Board of Directors
September 5, 2013

CBOSS PTC - What is it?

- Communications Based Overlay Signal System Positive Train Control
- Fiber Optic Network
- Project Requirements
  - Includes federal mandate (PTC)
  - Improves Caltrain performance
- Project Partners
  - Federal Railroad Administration, Union Pacific, California High-Speed Rail Authority
- Needed for Blended System

CBOSS PTC Requirements

- PTC
  - Prevent train-to-train collisions
  - Prevent over speed derailments
  - Prevent incursions into established work zones
  - Prevent movement through a misaligned switch
  - Interoperability
- Caltrain
  - Enhanced crossing safety / performance
  - Improved headways and operational flexibility
  - Enforcement of scheduled station stops
  - Schedule management
  - Employee In Charge

Project Total Cost and Milestones

Description	Cost (in millions)	Milestones
Project Planning and Procurement	$5	2010 - 2011
Phase 1 - Critical Design	$25	2012 – 2013
Phase 2 - Final Design, Data Communications Subsystem & Fiber Backbone Installation	$51	2013 – 2014
Phase 3/4 - Installation, Testing, Commissioning	$150	2014 – 2016 (Revenue service Oct. 2015)
Total	**$231**	

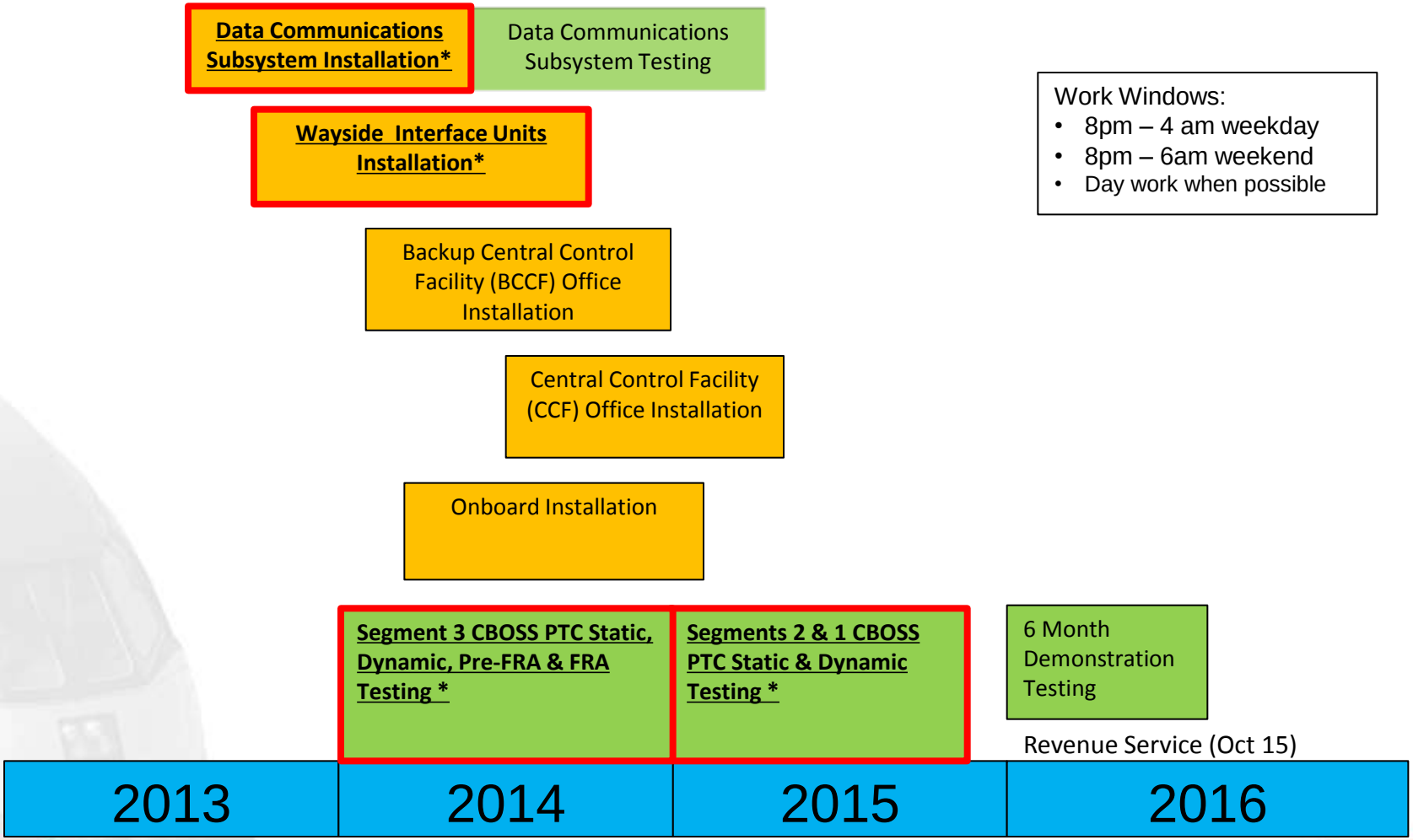
Segments – South to North

Segment 3
SJ
Santa Clara (S of Lafayette St)

Segment 2
Santa Clara (N of Lafayette St)
Sunnyvale
Mountain View
Palo Alto
Menlo Park
Atherton
Redwood City
San Mateo County
San Carlos
Belmont
San Mateo
San Bruno
SSF (S of Oyster Point)

Segment 1
SSF (N of Oyster Point)
Brisbane
SF

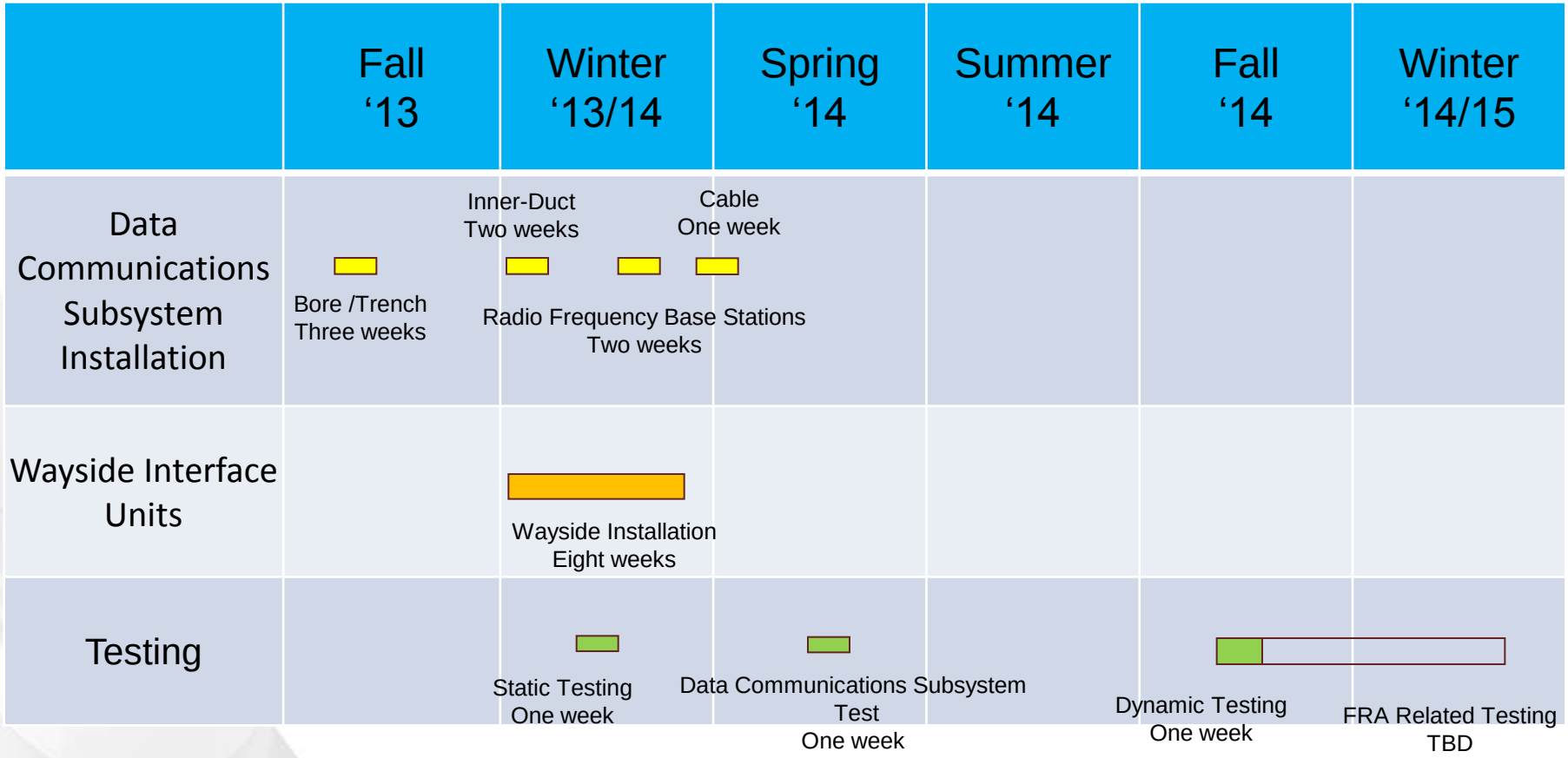
Installation Milestones (Entire Corridor)



Work Windows:

- 8pm – 4 am weekday
- 8pm – 6am weekend
- Day work when possible

Milestones (Example San Jose)



Fiber Installation

Trench (with mini excavator or by hand, within the Caltrain right of way)

Conduit placed in trench (~42” deep x 9.5” wide, within the Caltrain right of way)

Potholing (Vacuum-excavation preparing the job site, within the Caltrain right of way)

Fiber Installation continued

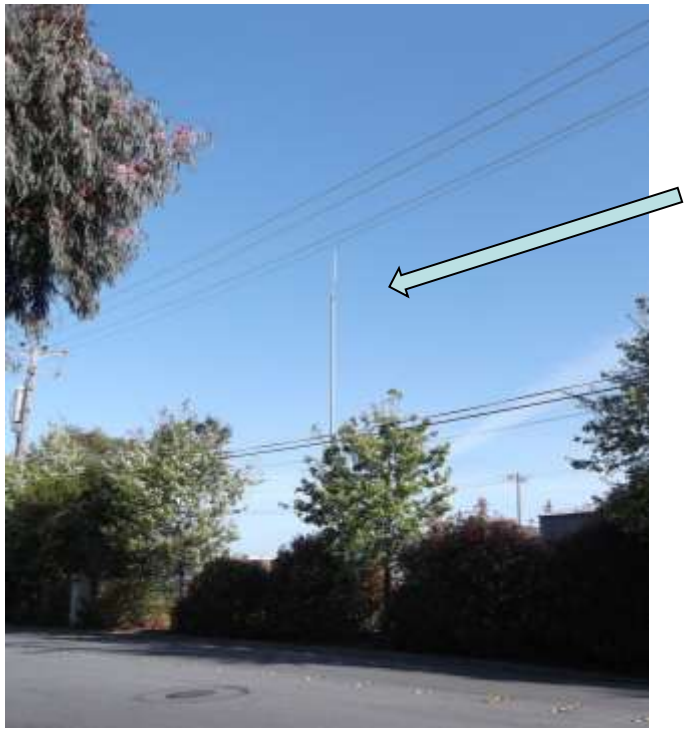
Boring (required at many crossings, within the Caltrain right of way)

Conduit on tunnel or bridge (clamps/hangers, may require lane closure during off-peak hours)

Base Station Installation

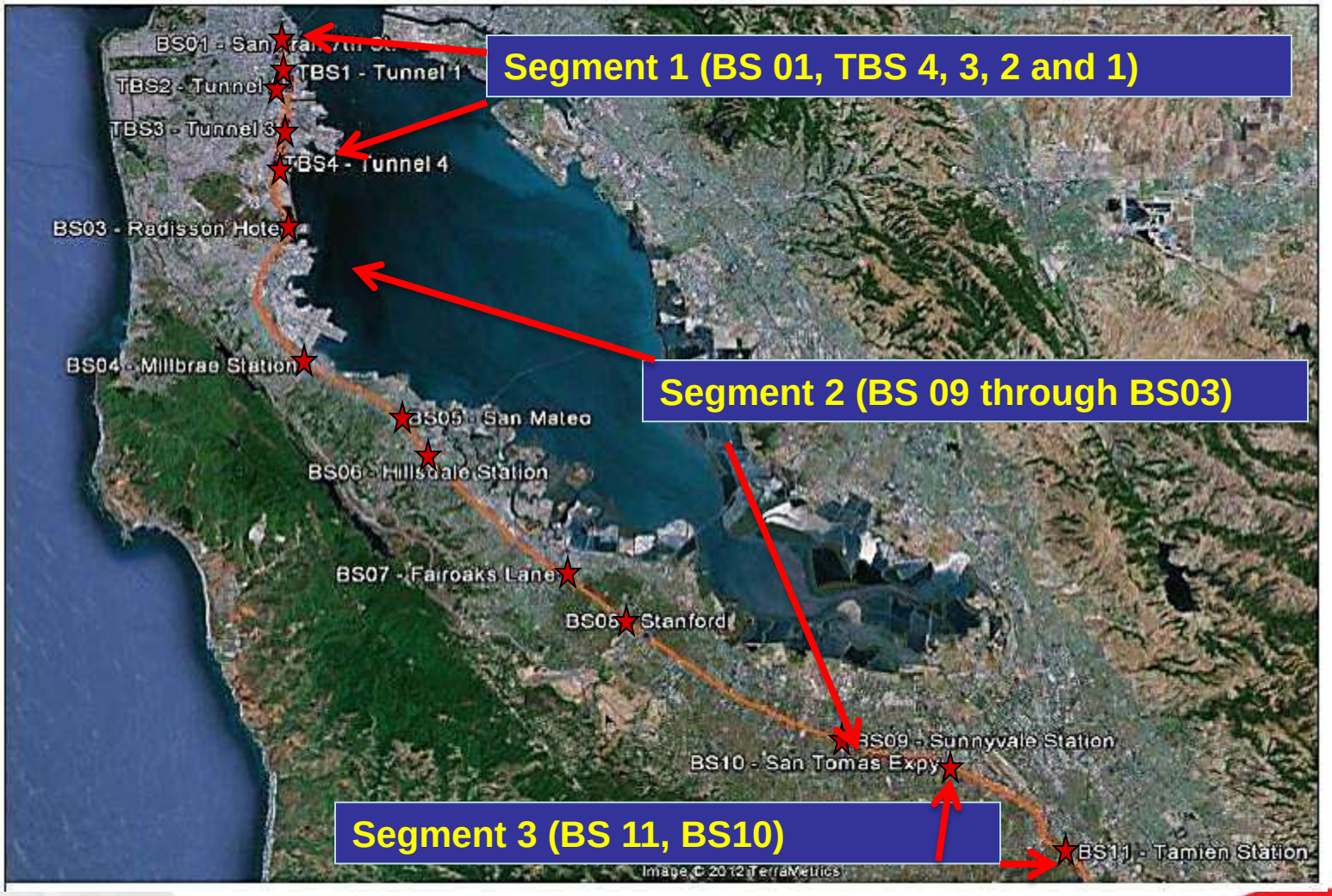
Pour foundation

Base station footprint



Example 80’ pole already on right of way

Base Station Map



Base Station Installation

- 14 Base Stations within the Caltrain right of way
  - Many near Caltrain stations
  - Located within the ROW in the following cities:

San Francisco (5)	Unincorporated San Mateo County
Brisbane	Palo Alto
Burlingame	Sunnyvale
San Mateo (2)	Santa Clara
San Jose	

- 8 x 8 ft. shelter and 40-80 ft. poles
- Average two weeks installation per base station

Outreach

- Pro-active Approach
- Activities (March – August 2013)
  - City/County Staff Coordination Group (3 meetings)
  - Local Policy Maker Group (2 meetings)
    - Next meeting follow-up on night work activities
  - One-on-one (each of the17 cities/3 counties)
    - Provided fact sheets, and tentative jurisdiction schedule
    - Discussed tailored outreach and review process for communication material
  - Federal and State Staff Quarterly Call
    - Follow-up e-mail with project update

On-going Outreach

- Project Information Distribution
  - Website (fact sheets, presentations, FAQ)
  - Dedicated project hotline line and project e-mail
  - Weekly updates on website, social media and through construction e-notice
  - Direct mailers along both sides of the tracks
- Next Steps
  - Permits / Installation coordination
  - Continue outreach coordination (each jurisdiction)
  - Continue briefing interested groups, as requested

Questions