

# **Installation Fact Sheet: Data Communications System**

## For Communications Based Overlay Signal System (CBOSS)

### Positive Train Control (PTC)

#### **What is CBOSS PTC?**

CBOSS PTC is an advanced signal system that will monitor and control train movements. It will provide significant safety improvements, expand the rail corridor's operational capacity, and fulfill the federal mandate that requires implementation of a Positive Train Control (PTC) system by the end of 2015. Equipping the Caltrain corridor with CBOSS PTC will begin in Fall 2013 with the installation of a Data Communications System (DCS) consisting of conduit, fiber optic cable and 14 radio base stations. Installation activities, described in more detail below, will begin near the Tamien Station in San Jose and will proceed north, terminating at the 4<sup>th</sup> and King Station in San Francisco.

CBOSS PTC is a key element of the Caltrain Modernization Program, which also includes the electrification of the corridor and the replacement of the system's diesel trains with high-performance electric trains.

#### **Fiber Installation Activities**

Caltrain will install up to 52 miles of conduit and fiber optic cable within the Caltrain corridor from San Jose to San Francisco. The installation field activities will be broken into one to two mile segments, moving consecutively from south to north. Field activities will include:

- Trenching & Boring
- Installation of conduit, pull boxes, inner ducts and fiber cable
- Backfilling

Most of the work will occur during off-peak hours (8pm to 4am) with several crews working simultaneously. The work will begin with trenching, and boring; a second crew will lay the conduit and inner ducts, followed by a crew that will install and test the fiber and clean up the area.

Boring is required at most of the approximately 45 street crossings along the corridor. The boring operation staging and implementation will mostly occur within the Caltrain right-of-way and Caltrain's intent is to avoid impacting vehicular crossings. Installation along bridges and inside tunnels may require traffic lane closures during off-peak hours.

#### **Base Station Installation Activities**

Caltrain will install 14 radio base stations within the right-of-way in nine cities. Most base stations will be located near Caltrain stations. Locations were selected based on: adequate signal coverage, avoidance of utility routes, minimizing neighborhood impact, and installation access. Each radio base station consists of a radio communications pole ranging from 40'-80' in height and an 8' x 8' x 12' metal hut to house communications and electronic equipment. Field activities include:

- Preparing the site, laying foundation, assembling the pole and connecting the cable
- Assembling and securing the shelter to the foundation, connecting fiber and cables to the shelter, utility inspections, connecting power and testing

#### **Outreach Activities**

A project web page, hotline, and email address will be available throughout the installation period. Project informational materials, such as factsheets, FAQs, and presentations will be available to interested stakeholders and updates provided regularly to share status reports and key project milestones. Additional outreach efforts, coordinated with the local jurisdiction, may occur based on the nature and/or length of time of the work in specific locations.

*The impact to surrounding communities and the public is expected to be minimal. Most of the installation activities will occur completely within the Caltrain right-of-way.*

## Field Installation Activity Illustrations

Trench (42" deep x 9.5" wide)



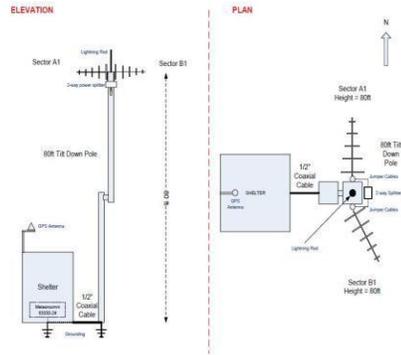
Bore Placement



Conduit on a Tunnel



Typical Base Station Dimensions



Base Station Foundation Pour



Base Station Foot Print



Example 80' pole currently on right of way



Example Hut currently on right of way

