



# THE SAN FRANCISCO-OAKLAND BAY BRIDGE SEISMIC SAFETY PROJECTS

CALTRANS

BAY AREA TOLL AUTHORITY

CALIFORNIA TRANSPORTATION COMMISSION

FOR IMMEDIATE RELEASE

CONTACT: Public Information Office: (510) 286-7167

## PRESS RELEASE

# BAY BRIDGE TAKES ON FINAL MAJOR CONSTRUCTION CHALLENGE

### Complex Operation Will Result in World's Largest Self-Supporting Bridge

**Oakland, Aug. 16, 2012** – The Self-Anchored Suspension Span (SAS) – the signature element of the Bay Bridge's new East Span – reaches a significant milestone as the highly complex process called load transfer begins. This operation will transform the bridge, now held up with temporary steel supports, into a self-supporting structure – the largest such bridge in the world.

The load transfer operation on the single-cable bridge – unique in its own right – is designed to shift the weight of the 35,200-ton decks from the temporary steel that currently supports them and onto the tower, suspender ropes and main cable, which is the longest single looped suspension bridge cable in the world.

Load transfer is a time- and labor-intensive process that involves a series of phases which will take about three months to complete. The operation began in mid-August with crews using hydraulic jacks (which exert up to 400 tons of force) to gradually tension the 200 suspender ropes that will connect the main cable to the decks. Once 104 of the 200 ropes are tensioned, the bridge is self-anchored and self-supporting. As the suspender ropes are tensioned, they will pull the main cable toward the deck causing it to move down about 16 feet and out about 30 feet. This will cause the decks to lift up approximately 1.6 feet from their temporary supports. When the temporary steel is no longer needed to support the decks, crews will prepare to remove it.

A primary focus of the workers is balancing the various forces that are at play throughout the operation. During tensioning of the suspender ropes, crews also engage a jacking saddle at the western end of the bridge to maintain the superstructure's equilibrium while simultaneously releasing the tower from its 1.5-foot westward lean. This allows the tower to regain its vertical stance after being loaded with weight from the cable and decks. Since the SAS cable is anchored into the eastern end of the roadways, the cable will naturally pull the tower to the east, so crews pulled the tower west toward Yerba Buena Island using steel strands that anchored into the island's bedrock to hold the tower's position.

Following the initial phase of load transfer is a series of steps that involve tensioning the remaining suspender ropes, completing connections between the decks and cable, and installing a steel shroud, or cover, to protect the cable at the western end of the SAS, where it wraps around the deck.

Once load transfer is complete, the cable will act like a giant sling, supporting the weight of the deck. Unlike traditional suspension bridges where the cables are anchored into the ground, a self-anchored suspension bridge's cable is anchored in the road decks.

For more information visit [BayBridgeInfo.org/projects/sas](http://BayBridgeInfo.org/projects/sas).

###