

Building Bridge

Tod Bottari | September 12, 2013

Those of us in the Aconex San Francisco office are marveling at the new eastern span of the San Francisco-Oakland Bay Bridge. The span replaces the original structure – built from 1933 to 1936 at a cost of US\$77 million (approximately \$1.3 billion today) – which was damaged in the 1989 Loma Prieta earthquake. The word 'iconic' has become somewhat trite in describing built assets, but the visual impact of the new, bright white suspension bridge is stunning.

The replacement span was one of the largest public works projects in U.S. history – construction cost an estimated \$6.4 billion and took 11 years to complete. It's built to withstand an earthquake of up to 8.5 in magnitude (Loma Prieta was 6.9). The span opened for traffic on the evening of September 2.

Check out this time-lapse video of the end-to-end construction process, produced by [EarthCam](#). Also of note is a chronology, published by the California Department of Transportation, which traces the history of the bridge from its conceptualization in the 19th and early 20th centuries through the recent project.



The World's Longest

Do you know the world's longest bridge? It's the Danyang-Kunshan Grand Bridge in Jiangsu Province, China, which spans 165 kilometers over both water and land (by comparison, the new eastern span of the Bay Bridge is 3,102 meters in length). Danyang-Kunshan was built in only four years at an estimated cost of US\$8.5 billion and opened in 2011.

Danyang-Kunshan heads a list of many impressive bridges around the world. The building of these structures involved complex engineering and construction issues – ranging from earthquake shock absorption to the strength of bolts – as well as multi-company, multi-national project teams (more than 10,000 people were deployed on the Danyang-Kunshan project).

These project teams shared hundreds of thousands of documents and drawings, and processed millions of requests for information (RFIs) and other communications. In some cases, these project transactions were managed manually, on paper, by phone, and on email. In other cases, spreadsheets and generic enterprise software were employed. In still others, project management and collaboration tools were used. Most likely, the majority of projects in the last decade or so involved all of the above in various combinations.

What Do You Think?

Interesting question: what are the differences between two bridge projects of roughly comparable value, one of which takes four years to build a span of 165 kilometers and the other of which takes 11 years to build a span of 3,102 meters? Better design and engineering? Sheer manpower? Government influence? Superior technology?

Whatever the answer, few would question that bridges are among the most visible and evocative civil infrastructure projects in the world. Aconex has provided project information management and process control for bridge constructions in Canada, Dubai, Ireland, Italy, Singapore, and other locations. What we've learned is that even with their obvious differences, bridge projects have much in common.

Let us know your thoughts...and share your bridge stories with us.