

# Rail contractors test bridge piling near San Joaquin River (video)

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The California High-Speed Rail Authority conducted tests on Tuesday at the San Joaquin River in Fresno as part of construction activities. The purpose of the test was to assess the load-carrying capacity of the foundations needed for the bridge that will be built over the San Joaquin River to provide a dedicated crossing for high-speed rail trains.

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- High-speed rail plan

**Phase 1 plans for California's high-speed rail project calls for connecting San Francisco and Los Angeles, by way of the San Joaquin Valley, with electric trains capable of carrying passengers at speeds up to 220 mph.**

- The project is planned to be built in stages, the first of which is in the Valley between Madera and Bakersfield at a cost of about \$6 billion and completed in 2018.
- The first operational segment would begin carrying passengers when the route is extended north to Merced and southward from Bakersfield through Palmdale and into the San Fernando Valley, planned in about 2022. The estimated cost for the first operational segment is about \$31 billion.
- Later stages of Phase 1 would extend tracks from the San Joaquin Valley west over the Pacheco Pass to Gilroy and San Jose; existing commuter rail tracks would carry the trains to downtown San Francisco. In Southern California, the line would be extended to Los Angeles and Anaheim. Phase 1 is planned to reach completion, with a one-train ride from San Francisco to Los Angeles/Anaheim, in 2028. The total Phase 1 cost is estimated at \$68 billion.
- Phase 2 extensions, for which there is currently no timetable or cost estimate for development, would reach north from Merced to Sacramento and from Los Angeles to San Diego by way of the Inland Empire (San Bernardino/Riverside).

Engineers for California's high-speed rail project spent part of Tuesday using explosives to batter a reinforced concrete piling near the San Joaquin River — part of ongoing testing in preparation of construction of the bullet-train line in the Fresno-Madera area.

The piling, buried deep in the ground with a small portion extending above the surface, was intended to test the design of structures that will form the foundation for a bridge and elevated tracks that will eventually span the river. Engineers set up a massive steel cylinder next to the exposed piling, packed it with pounds of explosives, and detonated the charge to ram a heavy piston into the structure.

A video of the test provided by the California High-Speed Rail Authority shows that while the pillar didn't move, the force of the blast drove the heavy steel cylinder back several yards.

A similar test was performed last summer near the Fresno River in Madera County, where another bridge is planned. The tests are intended to mimic the forces that a concrete bridge foundation might encounter in an earthquake or other disaster.

At the San Joaquin River, engineering plans call for about 2.5 miles of elevated tracks to carry trains over the river, as well as above Herndon Avenue and a rebuilt Golden State Boulevard. The bridge is part of the project's first 29-mile construction segment, from American Avenue at the south edge of Fresno to Avenue 17 at the northeast edge of Madera.

The \$1 billion contract for the Fresno-Madera construction segment was awarded in 2013 to a contracting team comprised of Tutor Perini Corp. of Sylmar, Texas-based Zachry Construction and Parsons Corp. of Pasadena. In addition to the Fresno River and San Joaquin River bridges, the work includes 17 street overcrossings, three underpasses, a pair of trenches, an elevated bridge over Highway 99 and Cedar Avenue south of downtown Fresno, and grading and embankments up to the railbed.

Some demolition work began last summer to remove buildings along the route, and contractors are doing some utility relocation and storm drain work for the project, but major construction has yet to be seen despite a "groundbreaking" ceremony last month in downtown Fresno. Work on the Fresno-Madera segment has been slowed because of the slow pace at which the California High-Speed Rail Authority has been able to acquire the property it needs for the railroad right of way and associated structures like overpasses and bridges.

A second construction contract, valued at about \$1.36 billion, was awarded last month to a consortium that includes Dragados USA Inc., a wholly owned subsidiary of Spain's Grupo ACS and Dragados S.A.; Flatiron West Inc. of the Southern California city of San Marcos; and Shimmick Construction Co. of Oakland. That contract covers construction of a 65-mile portion of the rail line south of Fresno to the Tulare-Kern county line.

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