FEATURED PROJECT: FRESNO TRENCH

GRADE SEPARATIONS TAKING SHAPE
Featured Project

FRESNO TRENCH & SR 180 PASSAGEWAY

Photo: A backhoe excavates part of the Fresno Trench underneath State Route 180.
FRESNO TRENCH & SR 180 PASSAGEWAY

At the Fresno Trench, crews are excavating farther underneath State Route 180 (SR 180). Excavation will continue until the trench is about 40 feet below existing ground level. When complete, the trench will cross under SR 180, a rail spur and the Dry Creek Canal. Rebar has been placed for the intrusion protection barrier wall which separates the future high-speed rail alignment from the existing freight rail that parallels the project. The barrier will be 10 feet tall and extend nearly 1,200 feet in this area of the project.

Top Right: Rebar in place for the 1200-foot intrusion protection barrier that will keep high speed and freight trains separate.
Above: Crews will excavate to a depth of 40 feet below State Route 180.
Photo: Most of the barrier wall has been completed along the sides of the Cedar Viaduct.
Barrier wall construction along the sides of the Cedar viaduct is nearly complete, with only a small section remaining to be poured. One of the largest structures on Construction Package 1, the Cedar Viaduct will be about three quarters of a mile long when it’s complete alongside State Route 99. At its north end, pier and abutment construction is continuing as the viaduct heads toward Golden State Boulevard.
Photo: Deck construction has begun to incorporate the large piers leading to the San Joaquin River.
On the south side of the San Joaquin River, crews are finishing up construction of pier caps to tie together the support columns. The construction of the deck that will carry high-speed trains has also begun to link all the structures together. Concrete has also been poured for the pergola section at the southern end of the work area where high-speed trains will cross over the existing freight line. The completed viaduct will form one of the largest structures on this first phase of the high-speed rail project.
Photo: Girders are set at the Avenue 11 overcrossing in Madera County.
AVENUE 11 GRADE SEPARATION | Madera County

With the abutments completed and bridge girders set, crews are about to begin forming the bridge deck for this structure which will take Avenue 11 traffic over the high-speed train alignment east of Road 30½ in Madera County. Other crews are now working on the mechanically stabilized earthen (MSE) block walls which will retain the earthen embankment extending from the abutments.

STATE ROUTE 99 REALIGNMENT | Central Fresno

Southbound State Route 99 traffic is now largely on new concrete pavement south of Ashlan Avenue in central Fresno. On the Clinton Avenue bridge, work is still ongoing on the structure’s north side for the final northbound entrance and southbound exit ramps and auxiliary lanes. Shifting the mainline about 100 feet to the west helps avoid high-speed rail impacts to the Fresno Chaffee Zoo and a busy freight railway yard.
At Avenue 8, west of Road 33, girders were recently set for the one span bridge that will cross the high-speed train alignment. The MSE block wall leveling pad has been poured and the MSE blocks will start to be set this month. Crews are about to begin forming the bridge deck.

MSE walls are complete on either side of the Avenue 12 bridge embankment, retaining the earthen fill on either side of the bridge. Earthmoving equipment is now working on the roadway grade. The dirt operation will focus on compacting the fill dirt that will carry traffic to the bridge structure and over the future high speed rail line.
At Avenue 15, just east of Road 29, the drilling operation finished the western abutment and has moved east of the tracks to begin drilling the eastern abutment. A carpenter crew and ironworkers have mobilized on the west abutment footing; setting forms and installing reinforcing bar. Column forms for a bent (a bent is composed of a column and cap element that the girders rest on) will be removed next and falsework set around the columns. Once the falsework is complete, the forming of the bent cap will begin.

The abutments and support structures for the Road 27 grade separation are nearing completion. Crews are constructing the bent cap for the bridge substructure, while to the south of the bridge, crews are setting the concrete forms for what will become a retaining wall along the west side of the road. Once the wall is completed fill dirt will be trucked in and placed to raise the road to the level of the crossing over the tracks.
Spain has some of the foremost experts on high-speed rail with more than 2,000 miles of operational high-speed rail lines in 2017. In 1992, they completed the Madrid to Seville line, the first dedicated passenger high-speed rail line, in time for Seville’s Expo ’92.

The California High-Speed Rail Authority had the fortune of tapping into the engineering expertise that built Spain’s system. A recent meeting in Southern California brought engineers from the Authority and the Spanish firm SENER together to discuss details about the Palmdale to Burbank corridor. SENER has been providing environmental and engineering services to the Authority since 2015, and in 2018 celebrates its tenth year of doing business in the United States. Read more about this meeting at buildhsr.com/facesofhsr.

CONSTRUCTION LABOR WORKERS

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The Transbay Transit Center, now called the Salesforce Transit Center, is set to become fully operational later this year. The construction is governed by the Transbay Joint Powers Authority, and the structure will be the city’s transportation hub, eventually including Caltrain and high-speed rail. As we celebrate #Earth-Day2018 we see how this facility is changing the environmental landscape of San Francisco’s financial district.

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