

SR 76 Corridor Project

Celebrate the Successful Start of SR 76 East Segment Work



Current construction includes installing rebar (steel bars) to reinforce the structure of the bridge

There is much to celebrate in the new year. In addition to the completion of the Middle Segment, work is now underway on the SR 76 East Segment. The East Segment will complete the major link between I-5 and I-15.

The crews have made significant progress, which include these completed activities:

Pile-Driving: Sections of the current bridge were demolished to make room for the bridge piles. These long pre-cast concrete columns were driven into the ground to support the new, widened bridge structure. Crews drove in four to five piles during each eight-hour shift. In all, they drove over 150 piles in the center median and at the ends of the bridge. The combined length of these

piles totaled to 6,381 linear feet, which is equivalent to approximately the length of 22 football fields.

Substructure: Crews worked on the substructure of the bridge, which included constructing the foundation, columns, and footing.

Falsework: After establishing the foundation, crews worked on installing the falsework for the bridge. Falsework is the name given to temporary wooden and steel support structures that make constructing the actual bridge possible.

The crews are working double-shifts to complete interchange improvements by the summer. Following is an overview of current and upcoming work activities.

Bridge Work: Currently, crews are installing rebar to reinforce the bridge. They are also pouring concrete for the bridge deck. Once this is complete, the bridge will be pre-stressed, a method used to reinforce the strength and tension of the bridge.

Earthwork: In addition to the ongoing bridge widening work, earth grading continues for the two new loop on ramps from SR 76 to I-15, and widening of the existing on and off ramps.

During the work on the interchange, pedestrian access will be maintained on the north sidewalk. For drivers, if you see a Caltrans or other emergency vehicle on the side of the highway with its flashing lights, move over if safe to do so or slow down. It's the law.

Improving the Interchange: Meet Victor Yoon



Caltrans Transportation Engineer Victor Yoon inspects the pile-driving work

This month's featured team member is Victor Yoon. He is a Caltrans Transportation Engineer and Assistant Structure Representative for the SR 76 East Segment Phase 1 (SR 76/I-15 interchange). He is responsible for inspecting and assuring quality for the bridge foundation pre-cast concrete driven piles and other bridge work. Starting as a student assistant intern, he has been with Caltrans for four years. When he's not on the job, he enjoys playing basketball and

football, and tutoring elementary school students at his church.

What is unique about the bridgework at the interchange?

The use of pre-cast, pre-stressed concrete piles was a unique element in the project. Based on the design team's assessment of soil type, water level, and the capacity needed to build a strong base, these piles were chosen because of their structural design and cost efficiency. The piles provide the structural foundation to the columns needed to ultimately support the bridge.

What are the biggest challenges with this project?

One of the biggest challenges was building the falsework for the wider bridge over I-15. To ensure the safety of the community and our workers, we had specific traffic and construction plans that were in place. Other challenges include protecting the natural environment and wildlife of the area. For example, the pile-driving work was limited to 6 a.m. to 9 p.m. to minimize

noise disruption to the surrounding habitat and community.

What can the public look forward to with the improved SR 76/I-15 interchange?

The public will experience less traffic congestion when the improvements to the interchange are complete. We are doubling the width of the interchange bridge and providing two loop on ramps. These improvements will realign ramps for better sight/stopping distances. Additionally, this interchange is part of the improvements along the I-15 corridor.

How do the construction crews practice sustainability on the job?

There are many ways we incorporate construction practices that improve sustainability. For example, the falsework materials and reinforcing steel bars can be recycled or reused as long as items are not damaged. The old concrete can also be recycled. Any excess dirt that meets contract specifications can be reused by the contractor on other jobs.

The SR 76 Middle Segment is Completed

On time and within budget, the SR 76 Middle Segment was completed in December 2012. While a bit too big to gift-wrap for the holidays, it still made for a nice drive into 2013.

The project provides the surrounding communities with a new two-lane bridge over the San Luis Rey River for eastbound traffic and a reconfiguration of the existing San Luis Rey River Bridge for westbound

traffic. It also provides new median barriers and wider shoulders for bicycles, pedestrians, and emergency vehicles.

These improvements greatly enhance the corridor for all users and allow it to accommodate future traffic needs. Traffic volume on SR 76 is expected to grow from 30,000 daily trips to more than 60,000 by 2030.



The SR 76 Middle Segment new westbound lanes & improved eastbound lanes



Example of a partial-cloverleaf with loop on ramps—the type planned for the SR 76

What are loop on ramps and why are they being used at the SR 76/I-15 interchange?

To upgrade the SR 76/I-15 interchange, a partial-cloverleaf with loop on ramps will be added to help meet current and future travel needs. When viewed from above or on a map these loop on ramps resemble the leaves of a clover. Interchange loop on ramps eliminate the need for left turns. Their design is ideal for busy interchanges as they do not require traffic signals, making them free-flowing.

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