



Project: **Daniel Boone Bridge**
Location: **St. Louis and St. Charles counties, Mo.**
Owner: **Missouri Department of Transportation**

New Boone Bridge Comes with Bonuses

The Daniel Boone Bridge carries Interstate 64 traffic across the Missouri River between St. Louis County and booming suburbs in St. Charles County. The original span, built in the 1930s, delivers three tight lanes of westbound traffic and is a commuting bottleneck.

The Missouri Department of Transportation (MoDOT) chose a design-build approach with a budget of \$117 million to develop a four-lane replacement bridge to pair with an adjacent four-lane, 1980s-era span.

MoDOT encouraged bidders to offer project enhancements within the budget. The bid by a joint venture of Walsh Construction Co. and Alberici Construction Co., with Burns & McDonnell as designer, won the job in July 2012. "Our design provided more improvements at a lower cost than the competition, and a much faster delivery schedule than MoDOT anticipated," says Kevin Eisenbeis, Burns & McDonnell design manager on the project.

Among the enhancements, the bid included adding a fourth westbound lane for 2.4 miles, which will alleviate congestion, and raising the Spirit of St. Louis Boulevard overpass to correct a vertical clearance problem.

"We jacked the bridge up 24 inches," says Jeff Mues, a Burns & McDonnell department manager in Transportation. "Getting standard vertical clearance was important for safety."

The new Boone Bridge will be 2,615 feet long, with a navigation span of 510 feet. "That is the longest parallel flange, steel-plate girder span on the Missouri River," says Mike Carroll, a Burns & McDonnell associate structural engineer. "Burns & McDonnell has designed more Missouri River bridges than any other consultant, so we had a really good feel for what was economical and the best layout here."

That helped during the accelerated schedule. Design work was completed in nine months, allowing steel orders to be submitted with enough lead time to keep the contractors on schedule.

"The foundations for the new bridge are impressive as well," Carroll says. "They have up to 11-foot-diameter drilled shafts, socketed into limestone. The foundations are designed to resist seismic and barge impact loads, even if a major flood and scouring event were to occur."

Construction on the new bridge is expected to be complete in late 2014. Eastbound traffic will shift to the new bridge, allowing for rehabilitation work on the 1980s span. When that is complete in late 2015, westbound traffic will shift to the 1980s bridge, and the 1930s bridge will be demolished.

For more information, contact Jeff Mues, 314-682-1535, or Mike Carroll, 816-276-1587.