

PROJECT PROFILE / **IMPROVED RIVER CROSSING**

BRIDGE REPLACEMENT PROJECT TO REDUCE CONGESTION

After an inspection found numerous structural deficiencies, the Missouri Department of Transportation needed to decide whether to rehabilitate or replace its Buck O'Neil Bridge. Early project studies identified a river crossing improvement plan that alleviates congestion and supports future transportation demands.



INITIAL PROJECT STUDIES MAXIMIZE DESIGN-BUILD SCOPE

With a breadth of information in hand, the bridge owner could clearly articulate proposal needs to maintain a fixed-price project budget.

PROJECT STATS

CLIENTS

Missouri Department of Transportation and City of Kansas City, Missouri

LOCATION

Kansas City, Missouri

ANTICIPATED COMPLETION
2024

5

**UNIQUE PUBLIC
MEETING ACTIVITIES**

1,957

**ONLINE PARTICIPANTS
IN MARKET SURVEY**

The John Jordan “Buck” O’Neil Memorial Bridge is a triple-arch bridge that serves as a key regional connection between downtown Kansas City, Missouri, and communities north of the Missouri River. The bridge — which carries U.S. 169 over the river — was built in 1956 and is nearing the end of its projected life span.

Since it was built, communities on both sides of the river have grown significantly, as have the number and types of vehicles using the bridge each day. After an inspection of the bridge in 2015 identified numerous structural deficiencies, the Missouri Department of Transportation (MoDOT) and the City of Kansas City completed a short-term rehabilitation project to extend the bridge’s service life. A new bridge is needed, however, to provide an improved river crossing that will support continued service into the future.

Initially, MoDOT considered a plan to close the existing bridge for two years to complete a rehabilitation project that would allow the bridge to serve another 25-30 years. This approach would have addressed the bridge’s structural deficiencies but not the functional challenges of its current configuration. The Mid-America Regional Council had initiated a planning and environmental

linkages (PEL) study to identify potential alternatives and funding mechanisms for a new river crossing, which was used to inform the project solution.

Burns & McDonnell served as the lead consultant and managed all aspects of the PEL study, including research, development, outreach, modeling and report writing. The PEL study sought to provide an overview and description of the corridor and identify the transportation plans in the area to be addressed by the proposed improvement strategies. The PEL study focused on developing a strategic plan that identified and evaluated reasonable alternatives for the U.S. 169 corridor, including access connections to the Charles B. Wheeler Downtown Airport, replacement of the river bridge and the connection to the Fifth Street and Sixth Street interchanges. It also considered airspace use and potential airspace obstructions around the nearby airport; Missouri River navigation; bicycle and pedestrian accommodations on the river bridge; impacts to transit and railroads; access to Port KC; and issues associated with future access, mobility, safety, system preservation and redevelopment.

The PEL study also piloted a unique and innovative public engagement



approach that employed new techniques and explored relationships between area stakeholders and engineers. It required coordination across two states, four counties, eight neighborhood associations, an active airport and port, three levee districts and multiple federal agencies. Our team was intentional in its efforts to directly link each technical decision point directly to an engagement effort to gather the public's input and inform next steps. This engagement process also examined the effects of autonomous and connected vehicles on future regional travel times and patterns. It supported the development of creative and collaborative funding solutions as well.

The second phase of this project was an environmental assessment, which

sought to identify the most effective improvement alternative to provide a river crossing that satisfies current and future area transportation needs while minimizing impacts on the human and natural environments. The Burns & McDonnell team provided MoDOT with a seamless transition from the PEL study to the environmental assessment because it had already collected a significant amount of information, particularly in building the traffic model. Our team was also able to continue consistent messaging and build on existing relationships with the diverse mix of stakeholders in the study area.

These initial phases helped support MoDOT's approach to the procurement of a fixed-price design-build project. With the diverse breadth

of information gathered from these in-depth studies and conceptual permitting with federal and local agencies, MoDOT was able to mitigate project risks and maximize its scope for the project proposals.

The third phase of this project is the design-build phase, in which a design-build team will construct the project. Burns & McDonnell is continuing in its role as the owner's engineer for MoDOT, providing access to experienced professionals in bridge engineering, environmental services, permitting, right-of-way acquisition, aviation and cultural resources. MoDOT has awarded the \$220 million project to Massman-Clarkson, a joint venture, and construction is anticipated to be complete in 2024.



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