

PROJECT PROFILE

# Design-Build Approach Maintains Focus on Key Objectives

Arkansas is wrapping up an ambitious 10-year transportation improvement program with its first major design-build project. The 30 Crossing project is focused on managing congestion, improving access to the vibrant downtowns of Little Rock and North Little Rock, and reducing the division of both downtowns by Interstate 30.



In 2012, Arkansas voters passed a 10-year, 0.5% sales tax to improve the state's intermodal transportation system. The Connecting Arkansas Program set out to improve transportation connections between cities throughout the state, increase capacity to move people and goods efficiently, improve traveler safety, ease congestion and support job growth. This effort included projects that widen and improve approximately 200 miles of highways and interstates.

Part of this program is focused on improving the I-30 corridor that runs through the downtowns of Little Rock and North Little Rock, a highly congested urban area separated by the Arkansas River. The 30 Crossing project is the capstone of the Connecting Arkansas Program and the first design-build transportation project in the state.

## Project Stats

**Owner**

Arkansas Department of Transportation

**Location**

Little Rock, Arkansas

**Completed Design**

May 2021

**48**

DESIGN PACKAGES

**33.7**

LANE MILES IMPROVED

ACHIEVED

**7.5%**

DISADVANTAGED  
BUSINESS ENTERPRISE  
PARTNERSHIP GOAL

**14**

BRIDGES REPLACED

The 30 Crossing project will provide connections to five interstates and a freeway, improve a major river crossing over a busy navigation channel, manage congestion, improve access to downtowns, and consider multimodal transportation. Throughout the four-year execution of this expansive project, the maintenance of traffic plan will keep the existing number of traffic lanes open in each direction at peak travel times and keep the I-30 Arkansas River bridge open.

The bridge and roadway design entails replacement of a 3,360-foot bridge over the Arkansas River, improvements to other bridges on I-30 and the widening of I-30 through Little Rock.

## Strong Relationships and Focused Experience

The Kiewit-Massman (KMC) joint venture between Kiewit Construction of Fort Worth and Massman Construction in Kansas City chose Burns & McDonnell to serve as the design lead on this project to provide bridge, roadway and maintenance of traffic design, as well as design management. Our prior relationships with both joint venture partners, previous experience working with the Arkansas Department of Transportation (ARDOT) under the Connecting Arkansas Program and familiarity with local stakeholders helped us understand the needs of the client. Additionally, our extensive experience in designing bridges over major rivers has enabled our team to reduce costs and expedite the construction of the Arkansas River bridge, which lies along the critical path for the project.

## Geographically Aligned Design and Construction

To position the design for success, we focused heavily on aligning the design packaging with the construction schedule. We deviated from the traditional design-build approach of packaging by phase of work (grading, drainage, walls, paving) and chose to package the project geographically, according to the areas where KMC will work. This approach will help minimize disruptions to the flow of traffic and align with the maintenance of traffic scheme. It will also enable KMC to complete areas of work more efficiently and perform fewer traffic shifts.

## Manageable Project Packages and Staffing Plans

This approach to packaging effectively broke the work down into smaller, more manageable projects, each with its own design team and package manager. It also made ARDOT staff more comfortable reviewing and approving packages. The content was more closely aligned to what they had received on design-bid-build projects. This was an important

consideration for our team since this was ARDOT's first design-build project and we wanted to minimize schedule risk related to design reviews. In addition, it helped the department manage its staffing plan over the course of the project.

## Commitments To Schedule and Client Need

Throughout the design, our team instituted project controls to see that all original project commitments were met and that the design addressed comments received through task force meetings, over-the-shoulder reviews and milestone plan reviews. These steps have been essential for maintaining the project schedule. Our team's ability to continuously stress the technical provisions and create a culture that focuses on the needs of the client has further helped deliver success.

## Improved Mobility and Revitalization

Construction on the first package began in fall 2020. During the next several years, the Arkansas River bridge will be reconstructed to include an improved opening for the navigation channel. The project also will lead to additional lanes, a reconstructed interchange, new ramps and frontage roads, and new bridges to link both sides of the interstate more effectively. Notably, in downtown Little Rock, the U.S. Highway 10 interchange — the primary entrance into downtown — is being reconstructed as a split-diamond interchange. This particular change presents challenges to maintaining access to downtown Little Rock. But when complete, it will diffuse traffic entering downtown streets and create an expansive area for greenspace or redevelopment. North Little Rock will see additional lanes, enhanced access with ramps and frontage roads and improvements at roadway crossings.

In both downtowns, the project areas will also implement pedestrian accommodations along the roadsides and at intersections to improve walkability and continue local revitalization efforts that are already underway.

## About Burns & McDonnell



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