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# Busy downtown

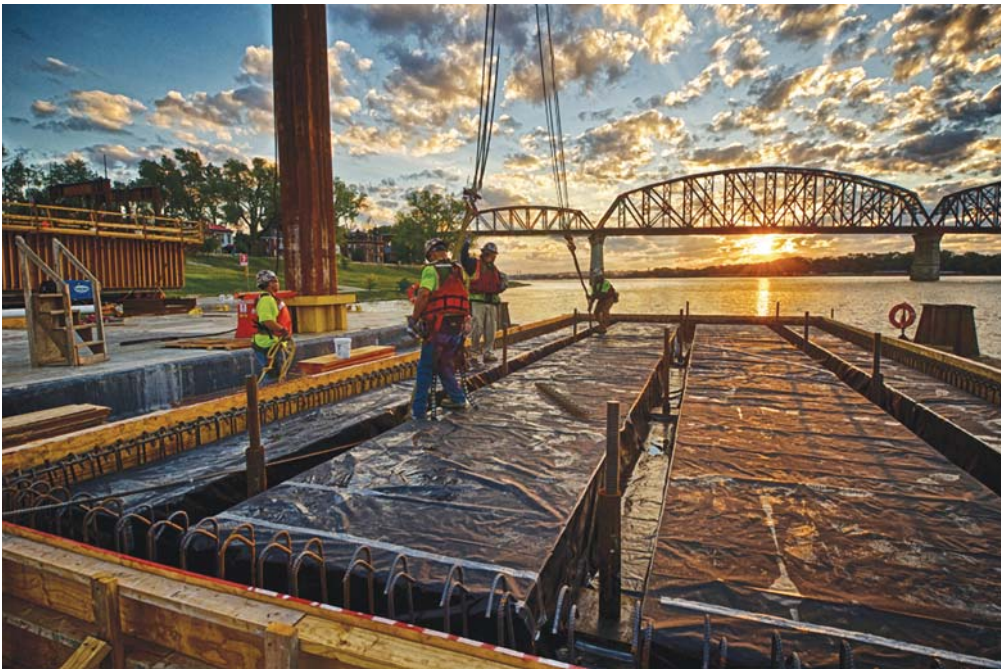
Bridge work escalates at Louisville, Ky., jobsite

**A**ccess into Louisville, Ky., from Indiana has long been limited to two interstate bridges and one local-access bridge.

The Kennedy Bridge (I-65) provides direct access through downtown Louisville and Jeffersonville, Ind. Traffic has long exceeded the bridge's capacity. Earlier attempts to improve capacity involved reducing the shoulders to a minimum width and restricting lanes to 11 ft to convert it to a seven-lane facility. The Sherman Minton Bridge (I-64) is a double-decker bridge providing access approximately 5 miles to the west of downtown. The George Rogers

Clark Memorial Bridge is a narrow four-lane bridge (U.S. 31) immediately upstream of the Kennedy Bridge, which provides local access between Louisville and Jeffersonville. Both of the interstate bridges were built in the early 1960s, while the Clark Memorial Bridge opened to traffic in 1929. Capacity issues were particularly evident when the Sherman Minton had to unexpectedly close several months for repairs in 2011.

Three interstate systems—I-65, I-64 and I-71—come together in downtown Louisville in the Kennedy Interchange, which is referred to locally as Spaghetti Junction. Tight curvature and weaving significantly reduce capacity, resulting in frequent crashes and causing further traffic delays.



**Left:** The project, which is referenced as “Two Bridges—One Project,” consists of the construction of two new bridges over the Ohio River, connections to those bridges and redecking the existing Kennedy Bridge.

**Below:** Walsh chose to use drilled shafts and precast tubs in lieu of cofferdams to speed construction, and by summer 2014, all towers and piers had been constructed above high-water elevations.

## FACT FINDER

The new Downtown Ohio River Bridge will be a three-tower, cable-stayed bridge. The new structure will be 2,114 ft long, located 71 ft above normal river elevation.

### Double crossing

A long-gestating project dating back to the 1960s is finally coming to fruition to solve these problems. The project, which is referenced as “Two Bridges—One Project,” consists of the construction of two new bridges over the Ohio River, connections to those bridges and redecking the existing Kennedy Bridge. The East End Crossing provides a new bridge over the Ohio River approximately 8 miles east of downtown Louisville, connecting S.R. 265 (Lee Hamilton Highway) to S.R. 841 (Gene Snyder Freeway). The Downtown Crossing is being built immediately adjacent to the existing Kennedy Bridge and includes reconstruction of the Kennedy Interchange to eliminate weaves and improve the capacity of the interchange. The new bridge will provide for six lanes of northbound traffic, while the existing Kennedy will be reconfigured to provide for six lanes of southbound traffic.

After costs were reduced to \$2.3 billion, the states determined the only possible option for the construction of these bridges



was to convert the existing I-65 crossing and the new structures to toll facilities. The states worked closely with the Federal Highway Administration (FHWA) to gain federal concurrence of this financing plan.

The states also have worked closely together to finally bring this project to construction. In a unique arrangement, the Indiana Department of Transportation (INDOT) and the Indiana Finance Authority are responsible for all construction on the East End including portions in Kentucky. In a reciprocal arrangement, the Kentucky Transportation Cabinet (KYTC) assumes the lead

for all of the construction for the Downtown Crossing including portions in Indiana. In December 2012, Kentucky selected the Walsh Construction Co. design-build team for the Downtown Crossing based, in part, on its \$860 million proposal. In a separate procurement, Indiana selected the joint team of Walsh-Vinci-Bilfinger (WVB East End Partners) for a public-private partnership involvement for the design, construction, future maintenance and financing of the East End construction at a cost of \$763 million. The bids included a time component that resulted in a completion of December 2016 for the

**Right:** The construction area is located adjacent to several historic districts. Staging and storing of materials was prohibited. Limitations also were placed on vibrational effects and noise.

**Far Right:** The Kennedy Interchange includes reconstruction of 2 miles of I-64 and 0.8 miles of I-71.

Downtown and October 2016 for the East End. It is important to note that Walsh's substantial construction completion of December 2016 for the downtown construction was 18 months sooner than the completion date initially established by KYTC. Moving quickly through the early design process, both states had an official construction start in July 2013.

## Kentucky cookin'

The new Downtown Ohio River Bridge will be a three-tower, cable-stayed bridge with six northbound lanes and 12-ft shoulders on each side. The new structure will be 2,114 ft long, located 71 ft above normal river pool elevation. As would be expected, tower and pier construction began immediately. Extremely cold winter weather and some subsequent high water and high velocities in the river caused some brief delays in construction. Walsh chose to use drilled shafts and precast tubs in lieu of cofferdams to speed construction, and by summer 2014, all towers and piers had been constructed above high-water elevations. By the end of the year, the first stay cables are projected to be installed on the northern tower. The construction of the new structure is currently projected to be completed by April 2016.

Upon completion of the new bridge, temporary connections will allow it to carry two-way traffic. With this connection, lanes will be reduced on the existing Kennedy Bridge, allowing it to be redecked and have additional rehabilitation performed. Once



this work is completed, the final connections to both bridges can be made, and the project will meet its substantial completion date.

During summer 2014, it was necessary to close the Clark Memorial Bridge for 44 days to reconstruct its northern approach. The closure had a major impact on cross-river traffic flow and traffic in downtown Louisville. Major ramp closures, including the long-term closure of I-64 eastbound to I-65 southbound during the duration of the project, also have created traffic impacts.

Reconstruction of approximately 3 miles of I-65 is under way to allow for new structures and the additional north-south lanes. The Kennedy Interchange includes reconstruction of 2 miles of I-64 and 0.8 miles of I-71. In addition to the new Ohio River Bridge, more than 60 bridges and 60 retaining walls with a total length of approximately 1.2 miles and heights varying up to 30 ft will be constructed as part of the Downtown Crossing. Most of the construction occurs within the existing corridor of these interstate facilities, resulting

in many challenges for maintenance of traffic. Project requirements provide that all of the interstates must have two lanes maintained with exception for times of lane switches and similar activities, which will occur in off-peak periods. Widening outside of the existing interstate facilities was the first phase of operation. When completed this summer, lanes transitioned from the existing facility to the newly constructed lanes. Lane restrictions consisting of both a reduced number of lanes and reduced lane widths will continue through the end of construction in 2016.

Much of the area in Kentucky was industrial prior to the construction of the interstates in the 1960s and adjacent land remained industrial prior to the acquisition of property needed for the project. As might be expected, the encountered soils have contaminated materials—predominantly petroleum-based substances. This has required the contractor to work with extreme caution and special handling and to stockpile materials. Resulting soil conditions also have caused some concerns for settlement in some of the new, large fill areas. Walsh built these embankments early in the project to provide adequate time for settlement and used stone columns to aid stabilization.

The downtown construction area is located adjacent to several historic districts on both sides of the river. Staging and storing of materials was prohibited within these districts. Limitations also were placed on vibrational effects and noise around historic



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— Rob Harris



districts, requiring constant monitoring during adjacent work.

Andy Barber, KYTC project manager, said, "For this project to be a success, constant communication to all involved parties is a necessity."

Interaction between KYTC and INDOT is required so each knows what work is occurring in their states and quick decision-making is provided to avoid delays. FHWA also is engaged in the dialogue. Assistant Project Manager Rob Harris said, "A decision to provide a single office locating the design-build team, KYTC and its review team and FHWA together has provided a tight interaction among all of the downtown construction members, aiding in the resolution of issues as they arise."

Communication with community officials also is of key importance. Not only is there the obvious impact from traffic issues that occur on the interstates and many involved local roads, but also construction is adjacent to and over Waterfront Park on the Kentucky side and the Ohio River Greenway on the Indiana side. Both parks are very vibrant, with a number of community activities, including major concerts and festivals, runs and walks, and an Ironman competition, which places swimmers in the Ohio River adjacent to construction. Parking also is impacted for Louisville Slugger Field, the home of the AAA affiliate of the Cincinnati Reds. The Belle of Louisville, the oldest operating steamboat in America, celebrates its 100th birthday in October with a Festival of Steamboats, which will bring a large number

of steamboats to the waterfront. The project has maintained communication with community leaders and event planners to assure that impacts are limited, including the capability to handle traffic needs. Regular meetings are held with local officials, and media availabilities are scheduled to alert reporters to changes in traffic patterns.

Communication to the public involves constant updates on the project website, [www.kyinbridges.com](http://www.kyinbridges.com). E-blasts containing traffic updates are provided twice a week and as conditions warrant. The traffic information and project updates are available to anyone who signs up for them. Social media also is utilized to maintain communication, with regular updates on Facebook (Louisville Downtown Bridge) and Twitter (@LouDntownBridge). With such aggressive communications efforts, relatively few public contacts are received to request additional information.

The bridges project has dealt with occasional challenges, but the entire team has worked diligently and in a cooperative nature to quickly find solutions to issues. As of summer 2014, construction was approximately 30% complete and on schedule to meet the projected opening of the total facility in late 2016. **R&B**

Sacksteder is a project manager for Community Transportation Solutions, Louisville, Ky.

For more information about this topic, check out the Bridges Channel at [www.roadbridges.com](http://www.roadbridges.com).



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