

Winter 2009
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MRB
CONNECTING MISSOURI & ILLINOIS

BUILDING A BETTER BRIDGE

MRB ENGINEERS PREQUALIFY FOUR CONTRACTOR TEAMS

The Mississippi River Bridge design team has prequalified four contractor teams to bid on the cable-stay portion of the new bridge between East St. Louis, Ill., and St. Louis, Mo.

Contractor teams prequalified to bid on the bridge are: Kiewit Western Co.; American Bridge Co.; a joint venture between Walsh Construction and PCL; and a joint venture between Massman Construction Co., Traylor Brothers and Alberici Enterprises. Prequalified contractor teams have proven their company has the experience, leadership and capability available to complete the complex work required in constructing the Mississippi River Bridge.

Now, these contractors have started working with the MRB team to develop confidential and individualized proposals using the latest advances in construction technology. Each contractor has the opportunity to make cost-saving suggestions to reduce the final cost of the river bridge. These contractor teams will submit bids for bridge construction at the end of 2009 using plans that include their confidential concepts.

There will be another opportunity for contractor teams to prequalify in August 2009 for the bridge. These

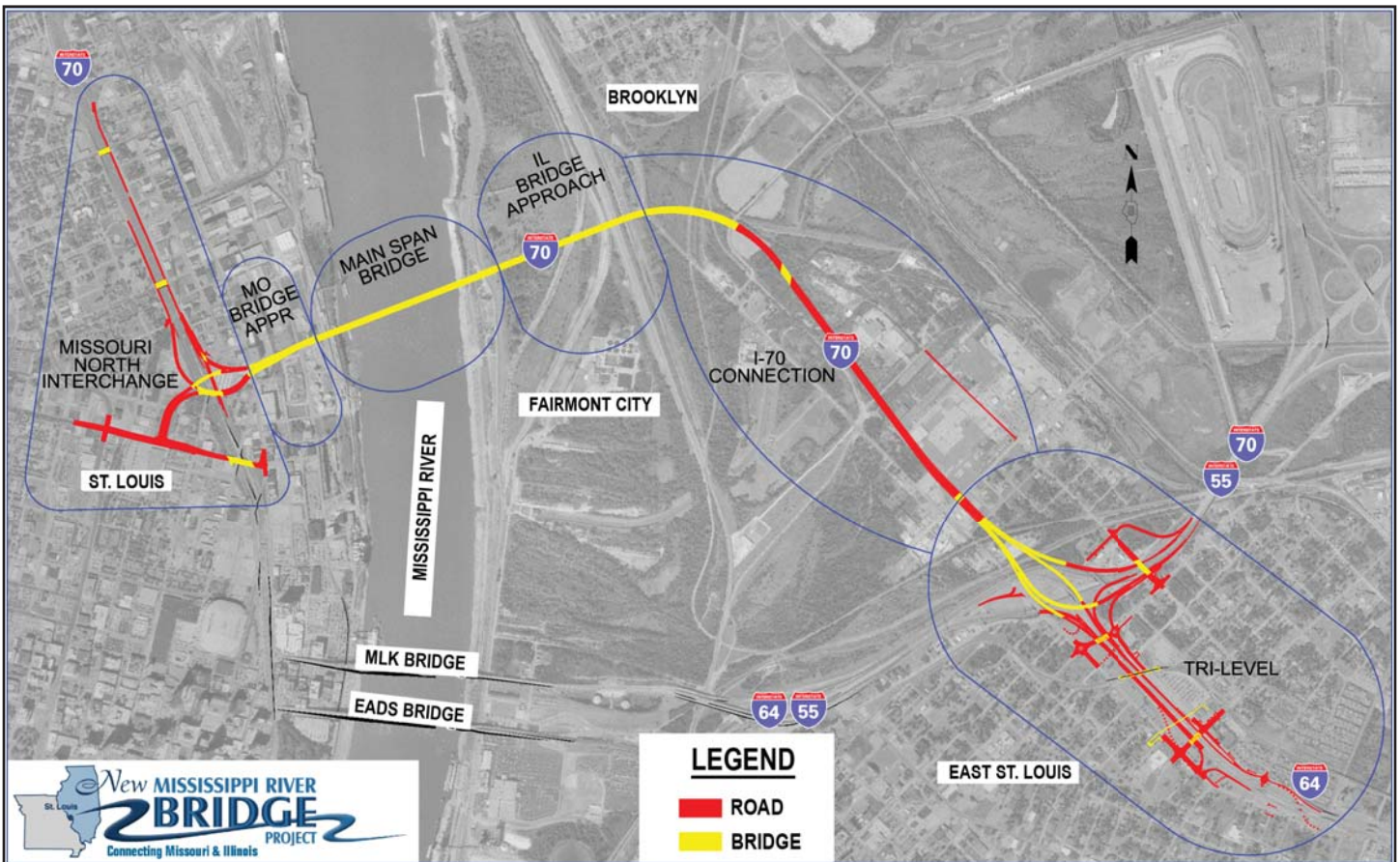


This is an artist's rendering of what the Mississippi River Bridge between East St. Louis and St. Louis could look like. Construction starts in 2010 and will be completed within four to six years.

contractor teams will bid on the project using base plans that the MRB team will develop. The contractor team with the lowest bid on the bridge will win the bridge construction contract when it is awarded.

This process will also be used on roadways leading to the new bridge on either side. Eight contractors have indicated they are interested in working with the MRB team on these roadways.





PROJECT UPDATES

MISSOURI NORTH INTERCHANGE

The MRB team has started work on the right of way plans (which is the first step to determining exactly which property in Missouri will need to be purchased) for the interchange.

These plans will be completed soon and the MRB team will start appraising and making offers for needed property. The MRB team is also working with St. Louis city to coordinate how traffic moves during construction.

BRIDGE, MISSOURI AND ILLINOIS APPROACHES

The MRB team has started to talk to property owners about purchasing property that will be needed for the bridge and approaches. Discussions are continuing between the MRB team and property owners. The MRB team has been coordinating with utilities in the area to make plans for relocating their facilities, including a major transmission tower relocation for Ameren UE.

On the Illinois side, engineers from the four railroads with tracks running under the bridge have been working closely with the MRB team to determine where bridge foundations and access roads (roads needed for bridge construction and maintenance) will be located.

The MRB team is also working with the Coast Guard, the Corps of Engineers and both states' departments of Natural Resources to get the needed permits to work in the flood plain and in the Mississippi River.

I-70 CONNECTION AND TRI-LEVEL INTERCHANGE

The MRB team is working on construction plans, land acquisition, archaeological investigations and utility coordination for the Interstate 70 connection and the interstate 55, 70 and 64 tri-level interchange (also known as "the Merge").

The MRB team is also working with five railroads and the Madison County Mass Transit District which has a railbanked corridor in the project area.

WHAT IS A CABLE STAYED BRIDGE?

RIVER BRIDGE OF CHOICE

The cable stayed concept was designed in the late 16th century, but has become very popular over the past few decades around the world.

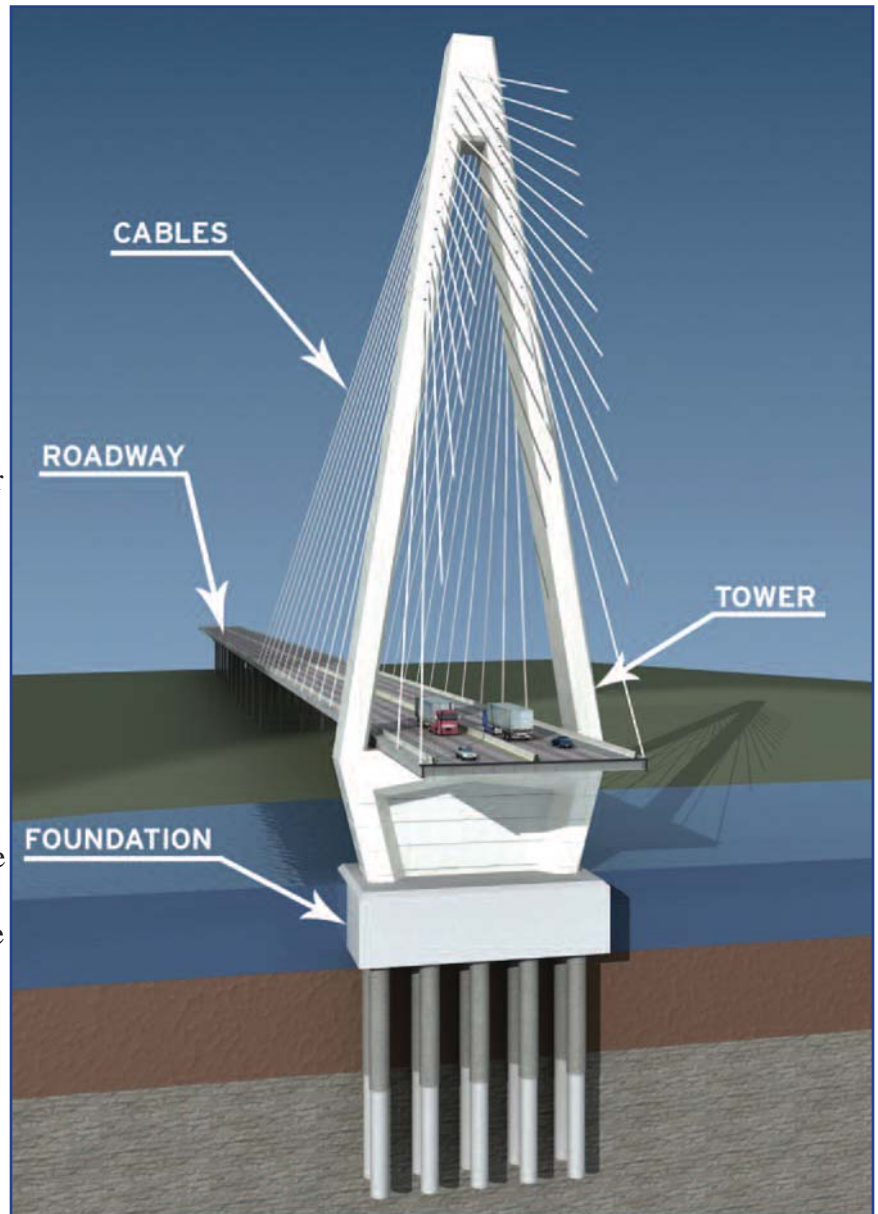
With a cable stayed bridge, the cables support the bridge deck (the roadway) – these cables are connected to one or more towers that are built in the middle of the bridge. To visualize this, imagine you are standing up with your arms out as straight as possible. Can you imagine how tired your muscles would get after just a little bit of this?

Now, tie a piece of rope to each elbow and lay the rope over the top of your head. Then, have someone else tie a second piece of rope to each wrist and lay it over the top of your head. Now, your head and body is carrying the weight of your arms, and not your muscles. These ropes are like the cable stays of the bridge, and your body and head are acting like the towers that are built in the center of the bridge.

Although the cables are thin, there are enough of them to help make the bridge secure. This gives the bridge the same support as that of steel girders, but significantly reduces the weight, and conserves steel.

The towers of cable stayed bridges can vary drastically. Some of them are a single vertical pole, while some look like giant “A”s, some look like huge rectangles, and some look like a diamond (the shape, not the stone). The tower design is based on the type of foundation, the length of the section between the towers, and a few other variables.

Because they are architecturally distinctive, as well as easier and cheaper to build, cable stayed bridges are quickly becoming the bridge of choice for engineers needing to span between 500 and 2,800 feet.



DID YOU KNOW?

- With a main span of 1,500 feet, the new Mississippi River Bridge will be the third longest in the U.S.
- The John J. Audubon (which will be finished in 2010) in Louisiana is the longest U.S. bridge; the Arthur Ravenel in South Carolina is the second longest.
- The new bridge towers will be 400 feet, which is two-thirds the height of the Arch.

TURNING UP THE PRESSURE

GEOLOGISTS BREAK ROCKS TO ENSURE SOLID BRIDGE FOUNDATION

The MRB team is now studying soil and rock samples obtained when crews drilled into the Mississippi River bed in late fall 2008.

In a laboratory in central St. Louis, geologists are trying to break rock samples to see how strong they are. Design engineers will use this information to determine the strength of the bedrock in the river and how well that rock will support the bridge. Soil samples help the engineers understand, among other things, how the soil will respond during earthquakes.

From that information, the engineers can determine how to best construct the foundations for the bridge. This is an extremely important decision, as bridge costs are dependant on what type of foundation engineers choose.



Above: Phil Riehl, Geotechnology Inc., prepares a sample of limestone for an unconfined compression test. In this test, geologists determine how much pressure the rock can take without shattering. Left, Riehl examines the remains of the limestone after the test.



ESTIMATED PROJECT COST

Illinois Relocated I-70 roadways (including the I-70/I-64/I-55 interchange)	\$264 million
Mississippi River Bridge (with Illinois and Missouri approach structures)	\$306 million
Missouri I-70 interchange	\$70 million
Total	\$640 million

SOURCES OF FUNDING

Illinois funding	\$313 million
Federal funding	\$239 million
Missouri funding	\$88 million
Total	\$640 million

COMMUNITIES CONNECT THROUGH CONTINUED PUBLIC INVOLVEMENT GROUPS RECEIVE PROJECT UPDATES

Building upon successful past meetings of the Community Information Group (CIG) and the Illinois Community Outreach Network (ICON), communities continue communications on the progress and scheduled of the New Mississippi River Bridge.

“One of our goals is to keep in constant contact with communities impacted by the bridge project,” said Greg Horn, P.E., Mississippi River Bridge project director. “We want people to know how their community is being impacted, and the opportunity to provide feedback on the plans.”

The teams consist of elected officials, local representatives, business owners, community leaders and residents. Their objective is to focus on the overall regional impact of the bridge, discuss the impact on traffic movements and other issues related to the construction of the bridge.

“Community outreach groups provide us the opportunity to reach a wide spectrum of people and receive input from a variety of stakeholders,” said Brooks Brestal, P.E., Mississippi River Bridge deputy project director.

NEXT MEETINGS	
ICON	CIG
January 28, 2009 1:30 p.m. IDOT DBE Resource Center 225 North 9th St. East St. Louis, IL	January 30, 2009 2 p.m. MRB Project Office 707 North 2nd St. St. Louis, MO

“Besides the obvious transportation benefits, it is important to communicate that the MRB project will create more than 2,000 new jobs and open up a new corridor for development in the bi-state region,” said Bruce Holland, St. Louis RCGA transportation chairman.

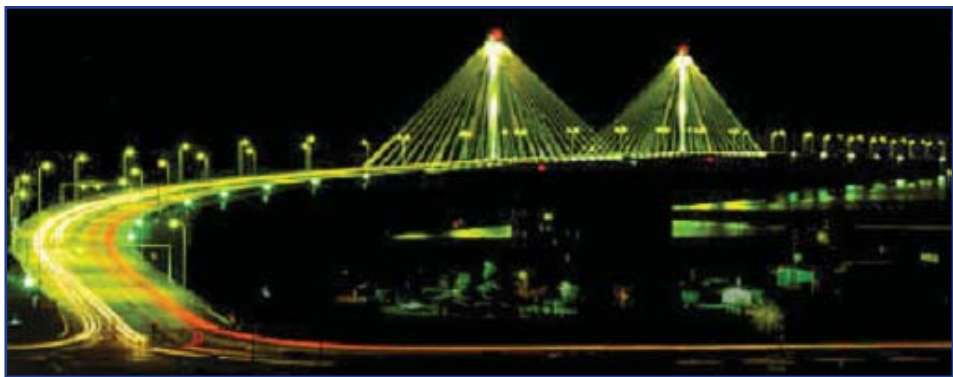
The groups met for the first time in October 2008 and will continue to have meetings about once a quarter. The goals of these meetings will be to discuss the potential traffic movements for the Metro area during the early portion of construction. Members will also be discussing aesthetic elements of the bridge and other various topics.

THE LIGHT STUFF

Lighting on a bridge can make the difference between a bridge that just looks like a bridge and one that aesthetically merges into the feel of its surroundings.

The new Mississippi River Bridge may have both safety and aesthetic lighting.

The Clark Bridge, pictured at the right, has both types. The cables are lit with aesthetic lighting, the roadway is lit with safety lighting.



AESTHETIC LIGHTING

- Enhances the bridge’s appearance
- Requires a community partner
- Partner pays for construction
- Partner reimburses state for electricity and maintenance

SAFETY LIGHTING

- Lights the roadway, signs and approaches
- State constructs and maintains
- State pays for electricity

IDOT UPWARD BOUND ENGINEERING MENTORING PROGRAM IS A SUCCESS

Illinois Department of Transportation's (IDOT) Upward Bound engineering mentoring program graduates approximately 70 metro-east students. Students participated in the up-close, hands-on design and structural engineering program. Engineering modules were used to understand engineering concepts and included experimental demonstrations.

The Upward Bound program recruits students from disadvantaged backgrounds and



prepares them for college level coursework in math and science. The engineering program is a joint venture between IDOT and Southern Illinois University Edwardsville. Students from Brooklyn, Cahokia, East St. Louis Charter, East St. Louis Senior,

Madison and Venice high schools all participated.

IDOT civil engineers served as the instructors and mentors. The final project included a bridge design competition that included construction of a model bridge made of balsa wood. Each team member for the winning team received an I-pod. I-pods, graduation dinner, T-shirts, laptop computers and other items were all donated by local engineering firms. For more information regarding this program, contact Sharon Byrd, IDOT utilities engineer, at (618) 346-3188.

FIND MORE INFORMATION ON THE BRIDGE AT WWW.NEWRIVERBRIDGE.ORG



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