

Replacing ramps with flyovers quickly alleviates highway congestion.

Steel Interchange Solution Saves Millions

BY CHUCK MERYDITH



Augusta Iron & Steel Works Inc.

ONE OF NEWEST highway interchange upgrades around Augusta, Ga., the I-20/I-520 interchange on the Bobby Jones Expressway, posed a significant challenge—design and reconstruction of a new interchange configuration in an already developed urban area. The construction staging and maintenance of traffic were very complex, and steel was the material of choice for the solution.

“This project featured two huge flyovers, originally designed as concrete boxes,” said Bo Bovard of Augusta Iron & Steel Works, Inc., Augusta, Ga., which fabricated the steel. “However, we promoted steel as an alternative to the concrete design because we thought it would save the taxpayers significant money and provide faster and safer construction methods. We used NSBA’s design study to prove it.”

The original I-20 bridges, built in the early 1980s, were steel, but improvements such as widening were long overdue. Also, the original intersection where I-20 goes over I-520 was a standard cloverleaf with tight loops on all four corners. Two of those have now been replaced with flyovers featuring superelevated curves to better handle the heavy traffic volume.

“We used a value-engineering proposal,” said Ike Scott, president of the joint venture partner Scott Bridge Company Inc., Opelika, Ala. As a result of the change to steel, taxpayers saved roughly \$4 million.

“The overall road widening project took 3½ years, but the redesign of the bridges from concrete to steel saved a considerable amount of construction time,” Scott continued. “The acceleration in the bridge reconstruction allowed our joint venture partner, United Contractors, Incorporated of Great Falls, S.C., to double and triple their roadway crews to finish the project early. Their efforts were critical to the overall success of the project.

“We redesigned the superelevated curved ramp bridges from reinforced post-tensioned concrete boxes to curved structural steel I-girders,” Scott said. “When the Georgia Department of Transportation

The recently reconstructed I-520/I-20 interchange near Augusta, Ga., includes flyover connections in place of two tight curves which has greatly increased its capacity.

portation project was first designed in the late 1990s, the labor market was not as tight as when the job was finally bid in 2007. The redesigned structural steel required less labor but performed well even though the fabrication and erection were challenging. There were no problems with the installation and there was also minimal site and traffic disruption. It’s now a beautiful interchange for the traveling public.”

“This was an amazing project because they finished almost one year ahead of schedule,” said Bill Kuhlke, chairman of the Georgia State Highway Board. “It was especially critical for us to have the interchange open last April for our most important event of the year—the Masters.

“Much of the credit for this effort goes to Scott Bridge Company,” he continued. “This project is certainly one of the best highway improvement projects in the state of Georgia.” **MSC**

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Owner

Georgia Department of Transportation

Joint Venture Partners

Scott Bridge Company Inc., Opelika, Ala., and United Contractors, Inc., Great Falls, S.C.

Steel Fabricator

Augusta Iron & Steel Works, Inc., Augusta, Ga. (AISC and NSBA Member)