

I-794 LAKE FREEWAY / HOAN BRIDGE MILWAUKEE, WISCONSIN

MOVEABLE BARRIER FOR CONSTRUCTION
BRIDGE DECK REPLACEMENT



SOUTHBOUND AM PEAK



SOUTHBOUND PM PEAK

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MOVEABLE BARRIER MITIGATES CONGESTION ON HOAN BRIDGE

In the late fall of 2013, construction began on the Daniel Hoan Bridge as part of a larger \$278 million I-794 Lake Freeway project. In addition to replacing aging ramps and freeway bridges with new structures, it was determined that the Hoan Bridge required major construction to ensure its structural integrity. Included in the scope of work was repairing deteriorated steel joints, weld retrofits, strengthening the existing floor system, and replacing the deteriorating bridge deck. Wisconsin DOT determined that the most efficient way to retrofit the bridge was to close one side of the bridge completely and move all traffic to the three lanes on the other side. Although the three-lane span had room for a fourth lane, the DOT elected to keep the shoulders for traveler safety and snow storage, while the contractor wanted the shoulders for material delivery. Using traditional construction barrier to separate the three lanes, over 40,000 vehicles per day would have been stuck in a 2/1 traffic pattern for the duration of the job. To mitigate traffic congestion, WisDOT installed a moveable median barrier called the Road Zipper that reconfigures the roadway under traffic in real time to give two lanes to

the peak traffic direction at all times. In the morning, traffic has two lanes into the city, and in the evening two lanes help commuters leave the city for the surrounding suburbs. In this way, the DOT was able to add the equivalent of a fourth lane without any additional construction. The all-weather machine is stored outside, even when winter storms drop the temperature far below freezing.

Traffic control for the multiple lane configurations is provided by the SwiftGate remote-controlled lane closure system from Versilis. Tapered gates and signage are activated from a handheld device to channel traffic into the current lane configuration, saving time and money for the contractor and reducing worker exposure.

In late 2014, construction was completed on the southbound side of the bridge, and the barrier and traffic were switched over as construction began on the northbound side. Construction is scheduled to be complete in late 2015 with a new bridge deck that should last for the next 40 to 50 years.

Project Highlights:

- Daniel Hoan Bridge / I-794 Lake Freeway Project
- Design Engineers: GRAEF
- Prime Contractor: Walsh Construction
- Southbound bridge span closed first for construction
- Northbound span with moveable median creates 1/2, 2/1 traffic pattern to mitigate congestion
- Moveable barrier moved to the southbound span for Phase 2 during northbound construction

