

Maintenance of Traffic

Interstate 77 Overlay / Design-Build

Yadkin, N.C

Project Overview

The deteriorated concrete pavement on Interstate 77 in Yadkin County made driving rough and sometimes dangerous. A design-build project for this rural section of Interstate highway included a concrete overlay, shoulder widening, and new guardrail for improved highway quality and safety, but the project had four additional challenges related to maintenance of traffic.

MOT Variables

- Traffic control variables included: seasonal traffic restrictions; reduction of single-lane patterns; minimizing temporary pavement (and costs); and maximizing full-width paving.
- The contractor, The Lane Construction Corp., reconstructed the pavement using an 11-inch unbonded concrete overlay over the existing continuously reinforced concrete, using a 1.5-inch minimum bond-breaker.
- To address the MOT requirements, the contractor used wide medians and designed a single-detour pavement structure that ran the length of the project.



Fast Facts

Owner

North Carolina DOT

Contractor

Lane Construction Corp.

Contract Value

\$59.4 million

Concrete Cost

\$10.0 million

Project Completion

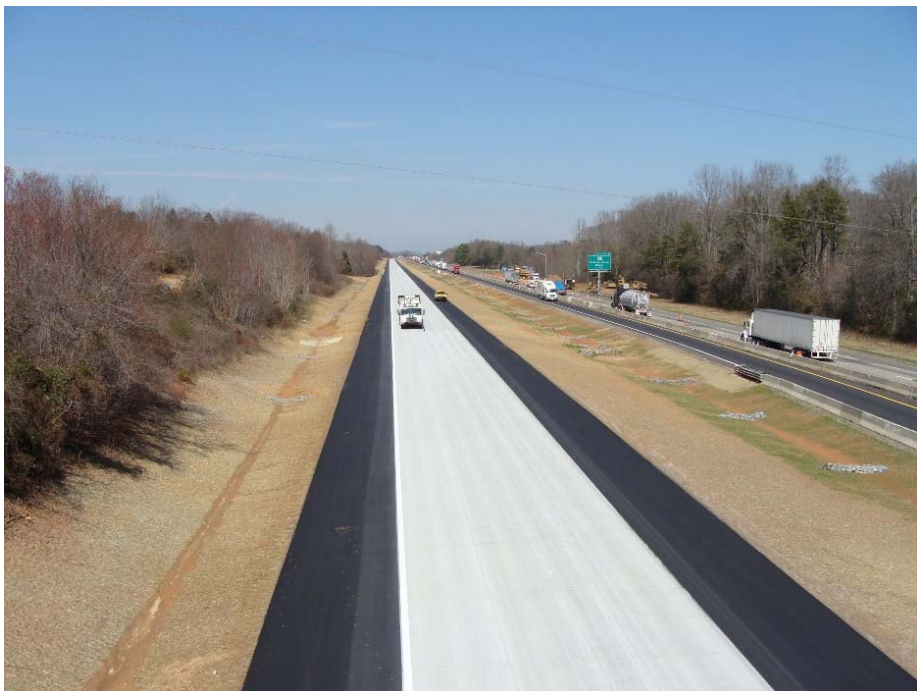
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- The design used the 12-ft northbound median shoulder along with 11 ft. of temporary pavement with crossovers as the ends.
- This allowed paving the concrete full-width instead of by single passes measuring a lane width. The two-lane cross-over separated the construction from motorists, while also allowing a smooth flow of traffic in both directions.

Safety & Seasonal Factors

- The design also allowed for the safest traffic control plan possible, which increased the efficiency of the concrete delivery and paving operations. It also allowed for construction during multiple short work windows associated with the seasonal traffic restrictions.
- Traffic had to be in a two-lane pattern at all times, and the contractor could neither close nor narrow

- lanes during any holidays, summer weekends, or while NASCAR events were taking place in Charlotte.
- Also, the ramps, loops and bridges could only be closed for 11 days, and because of these seasonal factors, the construction team typically worked around the clock to complete the project.
- As a result of the team’s dedication to quality and use of innovative contracting methods, the project won an ACPA National “Excellence in Concrete Paving” gold award.



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