

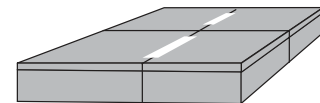
# Targeted Overlay Pavement Solutions (TOPS)

Targeted overlays fit the treatment to the condition of the existing pavement.



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

## Bonded Concrete on Concrete



### Kansas

A mill-and-fill pavement rehabilitation project for an 8-mile stretch of pavement on I-70 two hours west of Kansas City, Kansas, was completed in 2014. The original pavement was a mesh-reinforced concrete slab that was experiencing some delamination due to the placement of large amounts of steel. Alternate bidding was used for the rehabilitation project. Both alternatives included 2 inches of milling, with one alternative being a 3½-inch concrete overlay and the other being a 4-inch asphalt overlay. After milling, the pavement was to be shot blasted to provide a uniform and clean surface for the concrete overlay.

The contractor chose to place a 3½-inch bonded concrete overlay over the existing concrete and used stringless equipment for all of the grade control on the project. Three-dimensional (3D) models were developed to control both the milling and paving operations. Comparing a topographical image of the milled surface to a topographical image of the final placed concrete surface allowed the pavement thickness to be monitored continuously for grade changes, a somewhat unique solution for thickness monitoring. Cores were also taken to verify thicknesses.

The contractor used control charts to monitor several aspects of the quality control and quality assurance (QC/QA) process, including charts for air content, slump, unit weight, temperature, gradation, thickness, strength, and other factors. Maturity testing was used to determine strength gain, saw cut timing, and when the pavement could be opened to traffic.



Placing 3½-inch concrete overlay (ACPA)



I-70 open to traffic (ACPA)

[Visit our website](#) for more information on Targeted Overlay Pavement Solutions.

Concrete Materials

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December 2020

FHWA-HIF-21-013



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