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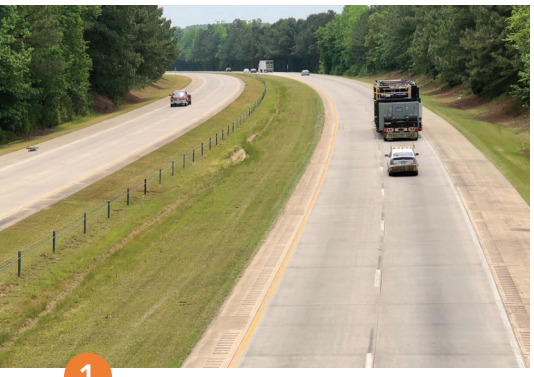
The Use of Concrete Pavement on Interstate 40 in Johnston County Minimizes Work Zones



1 Concrete pavement performing well after 28 years

2 Concrete pavements = less frequent work zones

3 Diamond Grinding enhances pavement smoothness and increases pavement life.

Most citizens seldom think of the need for a well-maintained highway system. North Carolina spends hundreds of millions of dollars each year just to maintain the existing infrastructure—the second largest highway system in the United States—nearly 80,000 miles.

One 16-mile section of concrete pavement on Interstate 40, about 30 miles east of Raleigh, will be receiving its first attention since it opened in 1990. YES, that is 28 YEARS AGO, and YES, pavements can actually last this long. Even better, pavement preservation treatments, like joint resealing, full and partial-depth repairs and diamond grinding, can be applied to old pavement so they perform like new again. Old pavements do not have to be disposed of, recycled, or covered with new layers. Instead, concrete pavements can receive PRESERVATION TREATMENTS that provide added years of continued service.

The I-40 Johnston County project will entail 525,000 square yards of diamond grinding, a process that improves the surface of the pavement for a smoother ride. Penhall Company was the low bidder for the $10.2M project. The project also entails joint repair and resealing (823,400 linear feet) to ensure minimization of water infiltration into the pavement base layers.

So, what is so amazing about this project? The actual travel lanes will require only a minimum number of repairs—far less than the typical patching amount needed for a pavement of this age. Because this section of pavement connects I-95 with the Raleigh metro area, traffic growth has increased significantly in recent years. The pavement today carries about 40,000 vehicles (2,500 trucks) daily.

This will be the first time in 28 years that the traveling public will see orange construction barrels or closed traffic lanes in this area. Only concrete pavement can offer this kind of long-life pavement and minimal amount of disruptions over its first 30 years.

Why is that important? According to a recent survey, 54% of contractors report vehicle crashes at construction sites within the past year. The Associated General Contractors' survey stated work zone crashes present significant risk for construction workers. Twenty-five percent of work zone crashes injure construction workers, and 3% of those crashes result in worker fatalities.

Concrete pavements can be designed to last a long time with minimum repairs. When you compare concrete pavements to the asphalt pavements east of this project between Wilmington, NC and I-95, many of those asphalt pavements have been resurfaced at least once and some sections are now being resurfaced a second time. Furthermore, when reviewing the resurfacing costs of asphalt interstate projects compared to the preservation treatment costs of concrete pavements, they are often 50% more and sometimes double the cost. In the review of contract documents, it's not unusual to see asphalt mill depths of 2 inches or more along interstate corridors. This means more asphalt material to be hauled away, more repair costs for the state and potential work zone crashes that may result in unnecessary injuries.

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By:
Greg Dean, Executive Director
Carolinas Concrete Paving Association