

I-40 CONCRETE PAVEMENT IN OKLAHOMA SET TO TRIPLE DESIGN LIFE

An 11-mile section of concrete pavement along I-40 in Sequoyah County, Oklahoma, has served the public with almost no repairs since its construction in 1966. This long-life concrete pavement has exceeded expectations and delivered economic and environmental benefits for eastern Oklahoma for nearly three decades.

Constructed in 1966, I-40 in Sequoyah County has served eastern Oklahoma for more than two and a half times its original design life. This 11-mile stretch of 76-foot wide concrete pavement carries 21,000 annualized average daily traffic (AADT) with 25 percent truck traffic between Oklahoma City and Little Rock, Arkansas. What's more, this concrete pavement has endured an estimated 80 to 100 million equivalent single axel loads (ESALs) over its lifespan outside the small town of Muldrow, Oklahoma.

The pavement consists of 9 inches of jointed reinforced concrete atop a 4-inch bituminous aggregate base. The 61.5-foot joint spacing is supported by welded wire mesh panels which have helped the pavement perform with very little maintenance before a minor joint sealing project was applied at the end of its design life in 1986. It was another 20 years, the upper end of the expected life of a brand new alternative pavement, before this section of I-40 needed additional maintenance. Between 2006 and the present day, the pavement has received some full-depth patching, but as of 2022, the Oklahoma Department of Transportation has no immediate plans for its replacement.

Predating the American Concrete Pavement Association, the road was built by Dahlgren Construction Company, a prolific pavement contractor throughout the 1960s and 70s. Oklahoma native Clark Ryser was the Oklahoma DOT Resident Engineer on the project, and he lived to see the pavement outlast its design life with almost no maintenance.

COMMUNITY IMPACTS

As a small town near the border of Oklahoma and Arkansas, Muldrow's connection to the surrounding areas is dependent on the major thoroughfare of I-40. Three-quarters of Muldrow's current residents were [born after the pavement's construction](#) and have not experienced a major closure on the road during their lifetime. An unwavering asset of the area, the concrete pavement section of I-40 has served two generations of Oklahomans and will continue to do so well into the future.

KEY BENEFITS

The long life of this pavement:

- Saved taxpayer dollars
- Conserved resources
- Reduced greenhouse gas emissions
- Freed up state resources