

# SAFETY GROOVING



## Grooving enhances traction and safety on the Dan Ryan Expressway in Chicago, Illinois

### >>> CONCRETE CONSTRUCTION AND LONGITUDINAL GROOVING HELP KEEP TRAFFIC MOVING ON ILLINOIS' DAN RYAN EXPRESSWAY

**THE CITY OF CHICAGO** has long preferred concrete roadways for the durability they provide, according to a [1999 article](#) in the *Chicago Tribune*. But for years, cost considerations nevertheless led to short-term asphalt patching rather than investment in a more durable treatment solution. The *Tribune* article stated, “Locked in a vicious cycle and facing a \$3 billion backlog to upgrade 3,500 miles of state roads and bridges the next three years, IDOT will repair the same roads again and again [with asphalt].” Still, the article contended, “A strong consensus exists among state highway officials, the road-building industry and taxpayer watchdog groups that concrete is, by far, the superior material for northeastern Illinois roads, which experience heavier traffic and larger numbers of trucks than elsewhere in the state.”

The Dan Ryan expressway, which runs through

the south side of Chicago and is one of the most heavily traveled roads in the state, finally saw extensive reconstruction in the 2000s. At that point, the Illinois Department of Transportation (IDOT) did invest in multiple upgrades, including an additional lane in each direction, interchange reconfigurations and a greater use of concrete. New sections of the highway were designed to be thicker and more durable than previous pavements, according to [press coverage](#) at the time. The cross section of the new road was almost 4 feet thick and it was topped with a surface of continuously reinforced concrete.

In 2017, portions of existing concrete road surfaces were grooved in order to enhance traction and wet-weather safety on tight curves. Work took place on several curves—totaling 61,555 square yards of pavement—all located on a stretch of road that begins south of Canal Street

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and extends down to Martin Luther King Drive. The concrete, which had been transversely tined eight-ten years previously, received diamond grooves measuring 1/8 inch wide and 3/16 inch  $\pm$  1/16 inch deep (3 mm wide and 5 mm  $\pm$  1.5 mm deep) at 3/4 inch (20 mm) centers.

Grooving the existing concrete represented an economical choice compared to other treatments, with a total project cost of \$330,550. Despite challenging conditions—lane widths for the project varied, work was performed at night and traffic control efforts were demanding—work was completed in 30 working days.