

“Motor City” Detroit Merging Automotive & Infrastructure Innovation with 3M™ Connected Roads I-75 Test Corridor

Vehicles and roads. They’re two key components of the most widely-used transportation system of our time. And in the heart of Detroit, Michigan—the home of American automobile design and manufacturing—the Department of Transportation has committed to being a leader on both fronts.

In May of 2017, the Michigan DOT partnered with 3M to deploy a 100-day test of 3M™ Connected Roads prototype solutions in a 3.3-mile construction work zone. 3M’s infrastructure solutions included 10 signs with embedded 2D barcodes (invisible to the human eye, but detectable by infrared cameras), as well as 5 regular 2D barcodes (visible for both human and machine vision). In addition, 3M™ Stamark™ All Weather Tape was also used to help enhance lane detection by humans and automated vehicles in the zone.

Sharing Our Vision for the Future

The objective of this project went well beyond just 3M’s internal testing and development of these technologies. Demonstrations and collaboration took place between 3M and MDOT, as well as a variety of automotive OEMs and sensor suppliers. These relationships helped 3M develop a clearer understanding of data needs and the possible uses of these technologies to better enable connected and automated vehicles.

Ultimately, 3M aims to collaborate with auto makers and its suppliers for integration in Connected and Automated Vehicles. Over 1,000 test miles were driven by 3M, MDOT and other corridor partners. In turn, automotive manufacturers will be able to customize these technologies and leverage them to enhance the safety and functionality of their vehicles when barcode-embedded signs are present.

Results of the Study

In practice, the embedded 2D barcode signs were captured and processed by the infrared camera system on moving vehicles from distances of up to 100 meters at highway speeds. These technologies could theoretically be used for a variety of applications. 3M continues to work with roadway authorities and automotive industry suppliers to enhance the road infrastructure to enable safe and efficient connected and automated transportation.

Project	3M™ Connected Roads Prototypes
Location	Detroit, MI I-75 Corridor
Solutions	3M™ Smart Code Technology ; 3M™ Stamark™ All Weather Tape ; 3M™ Stamark™ Removable Wet Reflective Tape



Signs with embedded and visible 2D barcodes were deployed to test the ability to provide information to automated vehicles at a variety of distances and under different circumstances.



[Watch Video of the Test >](#)

See our vision for the safer roads of tomorrow.
Visit 3M.com/ConnectedRoads to learn more.

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