



From cameras to using small planes to clock drivers' speeds, Midwestern states are looking at improving safety in highway construction work zones.

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New and Existing Technologies Ramp Up to Protect Road Workers

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Highway construction is deadly work. In 2021, fatal accidents in highway work zones increased 11% from the prior year, with deaths rising from 863 to 956, according to data from the National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS).

Nobody knows that better than Dennis Demoss, project superintendent for Indiana-based paving company Rieth-Riley Construction. Demoss' son, Coty, also an employee of Rieth-Riley, was killed working on the highway in 2014. Rieth-Riley, based in Goshen, had a contract to repair Interstate 69, working at night to get the job done faster. At about 5 a.m. Coty Demoss and co-worker Kenneth Duerson were removing cones to avoid impeding rush-hour traffic. A vehicle going more than 70 mph struck both workers, killing them instantly.

Since that day, Dennis Demoss has dedicated his life to making work zones safer. The effort included a road construction awareness program. He and supporters created fluorescent orange magnets for the back of construction vehicles that say, "Slow down, save a life. We're all in this together." They donated 20,000 of them to the Indiana Dept. of Transportation, which put them on all state vehicles.

The group also created 8-ft-by-16-ft panels with the same message and installed them on supporters' trucks. People began to take notice. This year, Demoss had a small victory. The Indiana General Assembly passed a law permitting the use of speed cameras in work zones. State Rep. Jim Pressel, the sponsor of the plan, says it was his fourth year working to get a bill like this passed because voters don't like speed cameras. But in the end, it was a law that needed to be passed.

"The number of injuries and crashes that occur in Indiana alone in those work zones just continues to grow and grow and grow. That motivated me to move this along to better protect not only those workers, but the motoring public, too," Pressel says.

Workforce Speed Control Nationwide Problem

Indiana isn't the only state concerned with this. Other Midwestern states with workzone speed cameras include Illinois and Michigan.

Bradley Sant, senior vice president for Safety and Education for the American Road and Transportation Builders Association, says interest in speed cameras has increased since passage of the Infrastructure Investment and Jobs Act which includes funding for the cameras.

"That started a snowball [of interest]," he says.

In addition to speed cameras, he says his association is interested in other methods to protect workers such as moveable barriers.

"There is a lot we want to see greater use of," he says. "We can't control motorists' behavior, but we can control how we protect workers."

States are looking at implementing other protective measures. Ohio is experimenting with aerial speed measurement and expects to deploy it statewide by the end of the year, according to the Ohio State Highway Patrol. The system operates on roads with quarter-mile markings. Small planes fly about 2,000 feet above the road. From that height the two troopers aboard can identify speeders and radio to police in vehicles on the ground outside of the speed zones. Recently, 90 motorists were cited for speeding in a construction zone on Interstate 77 during a 10-hour surveillance period.

The Wisconsin Dept. of Transportation (WisDOT), has received two federal grants from the federal Bipartisan Infrastructure Law, passed in 2022. A \$1.8 million grant will be shared with Colorado, Minnesota, and the Oklahoma Depts. of Transportation to develop a prototype autonomous truck-mounted attenuator (ATMA). It's a crash cushion mounted to the rear of a vehicle to absorb the impact of accidents and shield construction workers from out-of-control drivers.

Along with 16 other states, including Minnesota and Missouri, Wisconsin has received \$250,000 to extend the Work Zone Data Exchange (WZDx). WZDx shares real-time information with motorists on things like lane closures in work zones as well as other road-condition information. Wisconsin already uses WZDx's data feed on major highways. This money will allow it to include work zones on local roads.

The grant also will pay for connected arrow boards and location markers to help drivers as well as smart and autonomous vehicles navigate through work zones. And some of it may be used to develop connected vests that workers can wear that tell drivers' phones and smart devices in cars where the workers actually are.

"Maybe provided with this information, drivers will slow down, or they'll take a different route," says Erin Schwark, Wisconsin Statewide Work Zone Operations Engineer. "People who don't want to slow down won't want to go through a work zone, which could make it safer for workers as well as motorists traveling through the work zone. "

Technological Advances Will Take Time

Technology that lets drivers know whether there are people in work zones sounds great, but most cars and many people aren't that advanced, says Brad Sant, an attorney and senior vice president of safety and education for the American Road and Transportation Builders Association

He suggests that workers would be safer if companies traded in orange barrels for steel barriers because steel is more protective. "Steel barriers are like the concrete, they interlock. If someone hits them, it redirects them back to the road, unlike the drums and cones. You hit those and they just fly away," Sant says.

Steel isn't as costly as people think, he adds. "You can put a bunch of them on the trucks, deploy them quickly, and they have a life of 20 years."

He also thinks there should be greater use of mobile barriers. These are 40 or 50-foot metal barriers pulled in on a tractor-trailer and dropped to the ground. They lock to the pavement, and workers can then work safely behind them. When workers are finished, the barriers can be lifted and driven away. Sant says these devices are best for short-term repairs like fixing potholes.

Whatever companies choose to use, Rieth-Riley's Demoss thinks it's a step in the right direction. "People get numb to the signs. They don't pay attention. Whatever you do, if it saves one life, it's worth doing," Demoss says.



Dennis Demoss, and his son, Coty Demoss, who was killed in a work zone accident.
Photo courtesy of Dennis Demoss