

# The News Journal/Delawareonline

Wilmington, Del.

Sept. 6, 2013

## Delaware tests anti-skid materials on dangerous curves

### Traction grit added to improve grip on worn road danger spots in Delaware

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*DelDOT uses high friction road to reduce crashes: DelDOT is using a new high friction surfacing to help reduce crashes. Interstate Road Management applied the material to a high risk curve along Pyle Center Road at Daisy Road near Roxana.*

*Written by*

**Melissa Nann Burke**



*Workers with DBi Services' Interstate Road Management apply a high friction surfacing on a high risk curve on Pyle Center Road near Daisey Road in Roxana, on Thursday. The material help reduce crashes. / JENNIFER CORBETT/THE NEWS JOURNAL*

During an August cookout at her Roxana home last year, Chris Lewis cringed at the crunching sound of metal against metal coming from Pyle Center Road.

“It was right after dark,” Lewis said. “It was awful.”

Whenever the road is wet, Lewis has come to expect an accident along the curve on Pyle Center/Del. 20 where it meets Daisey Road four miles east of Frankford, she said. The corridor is a popular route to and from Ocean City, Md.

“People either don’t know it’s there, or they think that curves are fun and say, let’s see how fast we can take this one,’ ” she said.

That night it wasn't raining, but a 49-year-old motorcyclist was killed when he ran off the road at the curve. George R. Landon Sr., of Georgetown, was thrown from his bike as it slid into a curve-warning sign and then a tree, police said.

It was the second fatality and 16th crash at the curve since 2010, according to state data. Three in four of those crashes occurred in wet weather. Eleven were "road departure" or "run off the road" crashes, meaning a vehicle left its travel lane. Now the state is testing a solution.

They are a deadly breed of crash, representing 38 percent of traffic fatalities in Delaware since 2006 – more than 311 deaths.

They include rollover crashes and those where the vehicle runs off the road and strikes an object, such as another car, a utility pole or a tree. Impairment often plays a role: Delaware's 110 traffic deaths last year included 50 roadway-departure crashes, and 27 of those involved a drunk driver.

"Fifty-two percent of all road fatalities in the U.S. occur on curves," said engineer Richard Baker, a lead developer for state contractor DBi Services, hired to roll out a fix on Pyle Center Road.

Road surfaces can become prematurely "polished" or slippery particularly in locations where drivers tend to brake excessively – going around curves or highway ramps, for example. That reduces the friction between pavement and tires, allowing a vehicle to potentially skid when the driver brakes.

To prevent "run-off-the-road" crashes, Delaware hired contractor DBi Services to apply an anti-skid material Thursday to the Pyle Center curve at Daisey Road to help motorists maintain better control as they negotiate the bend.

Anti-skid coatings for pavement are a first in Delaware, which is using the Roxana location as a test site before applying the fix to high-crash curves systemwide beginning next spring, said Adam Weiser, who manages traffic-safety programs for DelDOT.

Federal studies have found the anti-skid treatment can dramatically reduce crashes, injuries and fatalities on roadway curves, intersection approaches and highway ramps. The coatings are in use in at least 30 other states, and the product lasts seven to 10 years, depending on traffic volumes, Baker said.

"It doesn't slow people down, but grips their tires. We already have a few other locations in mind just looking at wet-weather crashes," Weiser said, using the ramp from eastbound Del. 273 to northbound I-95 as an example.

"The idea is we'd start applying this more on a statewide basis, not just where we know the crashes have occurred but also at locations that have similar characteristics where we think a crash will occur in the future based on the data."

In Delaware, run-off-the-road crashes occur on curves during wet weather; in dry conditions when it's dark; or when people are drunk, he said. Wet surfaces can reduce pavement friction and lead to cars skidding or hydroplaning. Motorists who are speeding or distracted also add to the high crash rates in some locations.

“Our focus here is to deal with the wet-weather crashes on these curves, though I think there will also be a benefit to the dry-condition crashes,” Weiser said.

On Thursday, workers swept a 12,000-square-foot section of Pyle Center Road, then used a machine to apply a thin layer of fine aggregate (calcined bauxite) mixed with a binding agent to the existing asphalt.

The aggregate's rough texture and greater surface area act together to form a pavement surface resistant to the “polishing” that occurs over time.

The aggregate acts as a glue-like epoxy that increases surface friction and skid-resistance by preventing the loss of tire traction, experts say. When tires retain traction, motorists can better maintain their course on the pavement and brake more easily.

DelDOT is using \$20,000 in federal safety funds to apply the high-friction pavement treatment at the test site, not including materials donated by DBi, Weiser said.

The fix is a low-cost alternative to repaving an entire roadway to correct a problematic curve or patch. That's important because straightening or banking a dangerous curve often isn't a feasible or swift option for the budget-squeezed department.

“There's some cases where if you try to flatten a curve, you need more right-of-way. It's very expensive,” Weiser said. “In rural areas, utility poles are in the way in some cases, and moving them would be an additional cost – and sometimes require an act of God to get done by the utility companies.”

DelDOT first tries lower-cost options to address high-crash curves. In places where utility poles or trees sit close along a roadway and pose a hazard, the state might install guard rails or place signs or reflectors to warn of danger.

Crews are currently conducting an inventory of western Kent County curves to be followed by sign improvements.