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From The Morning Call

Would I-78 barriers be safer than just a wide median?

PennDOT says no, but one study shows dividers save lives.

Dan Hartzell
The Road Warrior

Q: As an EMT/firefighter for 23-plus years, I have never spent as much time on any road as I have with Interstate 78 in the past three years. In late December, I spent a few hours "up on the highway" for an accident that could have been prevented with some intelligent engineering. I am referring to I-78 between Routes 412 and 33. Did the state Department of Transportation even think about the design of this highway? How many people must die before anything will be done? Let us not forget Thanksgiving Day 2004 when four people died in one incident. I was there on that occasion, too. There are similarities to both accidents. Vehicles were traveling in the opposite directions. The eastbound vehicle fell off the left shoulder of the road, which is only 24 inches wide with some rumble strips. The vehicle rides in the median, which turns into a giant "slip and slide" any time it has rained or snow has melted. Because of the topography, the vehicle gets directed back up the other side into oncoming traffic. Therefore, a suggestion would be to widen the shoulders and install a strong, rigid barrier in the median. It would probably cost less than the \$5.3 million estimate to repair the defective concrete on the other side of the 412 interchange, and it hopefully would not cost any more lives lost.

Nancy J. Burgos

Lower Saucon Township

Q: After the recent cases of accidents on Route 78 involving tractor-trailers crossing the median, why are there no plans to install concrete barriers between the lanes to minimize the damages from these types of accidents?

Brian Smith

Lower Macungie Township

A: Morning Call readers may have noticed several recent letters to the editor regarding this issue, and the Warrior has received queries as well. In a Jan. 6 letter, Ed Bosch of Allentown noted that New Jersey officials added guardrails on I-78 near Clinton after a September 2000 cross-median crash involving four tractor-trailers that killed a driver and spewed medical waste onto the highway, closing it for more than 12 hours.

But PennDOT isn't likely to install guardrails — concrete, steel beam, cable or otherwise — on I-78 in Lehigh and Northampton counties, according to the District 5 officials whose territory the area includes.

Generally, a wide median is safer than a guardrail because it gives the driver of an errant vehicle time to "recover," meaning to stop, or bring the vehicle back under control before hitting anything, whether it be a tree, utility pole, oncoming traffic — or a median barrier, said Jerry Fry, a District 5 assistant engineer.

When you install a barrier, "you're introducing a hazard that can itself be the thing you hit" when you leave the travel lanes, Fry said. Absent a barrier, there's a chance of escaping without injury, or even a call for a tow truck.

The width of the median on the Northampton County section of the interstate is 60 feet, Fry said, specifying 4-foot shoulders with 52 feet of grass between.

Despite the Dec. 27 crash east of Hellertown cited by Nancy and Brian, District 5 spokesman Sean Pressmann said there hasn't been an unusually high number of accidents on I-78 in Northampton County over the past five years or so.

But the accident statistics for the portions of I-78 in Northampton and Lehigh counties do not seem to back up the claim that a wide median is safer than a barrier, at least as it relates to crossover crashes.

Pressmann said there were nine cross-median accidents on the Northampton County portion, where the 60-foot median prevails, from 1999 though 2004 (excluding 2002, for which statistics are unavailable), killing four people. On the Lehigh County section, where for the most part there's no median, but rather concrete barriers separating virtually adjacent oncoming lanes, there were only four crossover crashes during the same period,

with no fatalities.

Regarding I-78 accidents of all kinds, it's a mixed bag, as the stats show far fewer crashes for Northampton versus Lehigh (288 to 660), yet more fatalities (15 versus seven).

District 5 spokesman Ron Young said raw numbers, while not insignificant, are of limited value, in part because they fail to account for many variables, including weather conditions, topography and alcohol use.

PennDOT Harrisburg spokesman Steve Chizmar said the department uses standards established by the American Association of State Highway and Transportation Officials to help determine when median barriers should be installed.

He noted that because conditions vary from highway to highway, the standards are used only as guidelines, adding "there are no hard and fast rules" stipulating the barriers must go in if certain conditions are met.

Chizmar said that generally, engineers consider the inclusion of highway barriers if either of two basic conditions are met: average daily traffic counts of 20,000 or more (both directions), or a median width of 33 feet or less. If either of those conditions is present, association guidelines suggest that "you really should evaluate the feasibility of putting a median barrier in," Chizmar said.

Obviously, engineers determined that barriers were not necessary on the Northampton County part of I-78 when it was designed in the early to mid-1980s. It's not clear what the traffic volume estimates were at that time, though by 2003 the two-way average daily volume exceeded 52,000, or more than two-and-a-half times the minimum.

Despite PennDOT's confidence in wide medians, a couple of factors might affect whether the state takes action to help prevent cross-median crashes.

The national association is considering revising its standards for barriers. A spokeswoman couldn't say Friday whether they've been adopted yet, but the draft regulations recommend barriers if the median width is 50 feet or less, and that they should be considered even for widths greater than 50 feet "in special circumstances, such as a location with a significant history of cross-median crashes."

And North Carolina has found that barriers, even relatively inexpensive designs such as posts and steel cable (about \$55,000 per mile, versus up to \$1.4 million for concrete barriers), can significantly reduce accidents, injuries and deaths, according to a 2005 study posted on the Federal Highway Administration Web site.

According to the study report compiled by Gary Stasburg and Lisa Crist Crawley, cross-median crashes plummeted between 1999 and 2003 on Tar Heel highways where barriers were installed, "cutting the number of fatalities from these crashes nearly in half ... and saving hundreds of millions of dollars" in costs from fatal crashes.

"Median barriers have saved lives in North Carolina," the study concluded. "As more states realize the important role [they] play in preventing crashes, this life-saving device will undoubtedly become a mainstay in highway systems throughout the nation."

Road Warrior appears Mondays. E-mail questions about transportation in the Lehigh Valley and beyond to hartzell@mcall.com (please include your name, phone number and the municipality where you live). Or, write to Road Warrior, The Morning Call, 101 N. Sixth St., Allentown, 18101-1480.

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