Accidents Waiting To Happen

Rural roads in the Southeast prove deadly for drivers.

BY JANE M. SANDERS

@ Rural two-lane highways in the southeastern United States are the nation's deadliest roads. Georgia Tech researchers attribute this finding to several factors, including late-night driving by tired or intoxicated drivers and 2.5- to 5-inch road-edge dropoffs.

Rural two-lane highways are the largest single class of roads in the United States — and they are the deadliest, especially in the Southeast.

From 1996 to 2000, almost one-third of the nation's traffic fatalities occurred in just eight southeastern states, and of those, 64 percent occurred on rural roads, according to a recent Georgia Institute of Technology study. Take Florida – a less rural state – out of the analysis, and 71 percent of traffic fatalities in the region occurred on these highways as compared to 59 percent nationally.

"The most frequent crashes in the Southeast occurred on rural roads in wooded areas where people ran off the road and hit a tree," says Karen Dixon, a former Georgia Tech associate professor of civil engineering who recently joined the faculty at Oregon State University. She headed the regional study funded by the Federal Highway Administration (FHWA) via the Georgia Department of Transportation (GDOT).

With reports from southeastern transportation officials and researchers, the study quantified the top highway safety concerns — including rural roads — in Georgia, South Carolina, Alabama, Mississippi, North Carolina, Kentucky and Florida. Tennessee chose not to contribute a report. The study also recommended countermeasures, such as lane and shoulder widening.

On rural roads, the most common contributing factor to traffic fatalities was late-night driving by tired or apparently intoxicated motorists, especially on weekends, Dixon notes. Many of these victims were males between ages 16 and 25.

The study also found that 48.6 percent of the region's fatal crashes involved drivers who did not wear seatbelts, she adds. In a related finding in Georgia's report, Dixon discovered a disproportionate number of pickup trucks involved in fatal crashes.

"This is partly because pickup trucks are more often driven on rural roads and because, in Georgia… pickup drivers cannot be stopped by police solely because they're not wearing their seatbelt," Dixon says. "I think this study shows we need to take a second look at this law and reconsider it."

Another of the study's findings lays potential blame for fatal crashes on the 2.5- to 5-inch pavement drop-offs often found on rural highway edges.

"Almost half of the non-state maintained roadway crashes we looked at had an edge drop-off issue," she notes. "We don't know if this caused all of these crashes, but nonetheless, the potential exists for it to be a serious problem."

Drop-offs develop as roads are repaved and/or soil erodes along the shoulder. And roadside ruts are caused by rural mail carriers who drive with one side of their vehicles on the road and the other on the unpaved shoulder, she adds.

To address the drop-off concern, some

state and federal transportation agencies are considering changes in roadside edge treatments (e.g., planting grass) and trimming of tree branches along the roads. And a GDOT pilot study is under way to test the durability of a new tapered paved-edge treatment. In January 2005, GDOT began to specify the new tapered paved-edge treatment on a project-specific, rather than general, basis.

Other fatal crash contributing factors cited in the study are: collisions with commercial trucks (one of every eight traffic fatalities), speeding, inexperienced drivers, weather and driver reaction to an unexpected occurrence in the car or on the roadway (e.g., a deer in the road).

Countermeasures recommended in the study include: widening of lanes and shoulders, road alignment improvements, and the addition of advisory speed signs or other speed controls.

A proposed follow-up study would use the southeastern state traffic fatality databases to do cross-sectional comparisons of contributing factors.

In other transportation safety-related studies headed by Dixon:

- The GDOT funded development of a new computer tool for evaluating the state's rural transportation improvements including those prompted by safety concerns. Called the Multimodal Transportation Planning Tool (MTPT), the program addresses aviation, commuter rail, intercity bus systems, transit for disabled citizens, highways and bicycling.

  It also contains an environmental justice module to address the impact of transportation improvements upon minority populations.
- Also for GDOT, Dixon and her colleagues are evaluating three technologies designed to protect drivers and road workers from incidents in work zones.

"We have a serious problem in the United States with speeding in work zones," Dixon says. According to the National Highway Traffic Safety Administration, 2,705 people were killed nationwide in highway work zones in 2001.

@ Read more at: gtresearchnews.gatech.edu/newsrelease/rural-roads.htm

> "Almost half of the non-state-maintained roadway crashes we looked at had an edge drop-off issue."
>
> — **Karen Dixon,** transportation researcher, commenting on a contributing factor in rural road fatal accidents

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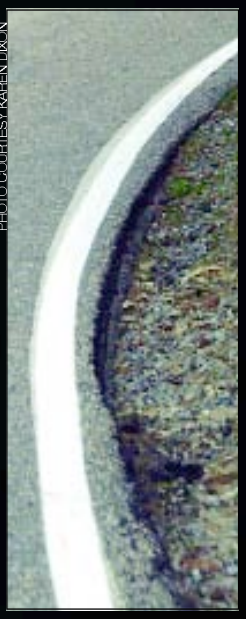

A traffic fatality study by Georgia Tech shows the Southeast's rural two-lane highways are the deadliest roads in the nation. One contributing factor may be the 2.5- to 5-inch pavement drop-offs often found on rural highway edges. Drop-offs develop as roads are repaved and/or soil erodes along the shoulder.

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