

Western Transportation Institute to study drowsy and distracted teen driving

August 22 2008



Western Transportation Institute researcher Nic Ward, right, and DriveCam representative Rusty Weiss display a camera that will be installed in student drivers' cars as part of a drowsy-distracted teen driver study. Credit: MSU photo by Kelly Gorham

Over the next year, researchers at Montana State University's Western Transportation Institute will use state-of-the-art video cameras to help teenage drivers stay safe on the state's rural roads.

The new study will use automated in-car cameras to gauge the effect of Montana's drowsy and distracted driver's education modules on teen attitudes and behaviors behind the wheel.

"Distraction and fatigue are big issues with teen drivers," said Nic Ward,

a professor of mechanical and industrial engineering and a researcher at the institute. "They're particularly bad for teen drivers in rural areas."

Nationally, teenagers are involved in four times more fatal car accidents than drivers aged 20 to 70, according to the National Highway Traffic Safety Administration.

The risk for teens only increases on rural roads. According to the NHTSA, the fatality rate for teens driving in states with mostly rural roads, like Montana and Wyoming, is almost four times higher than for teens who drive on mostly urban roads.

"The more rural your state, the more of your teens are dying on the roads," he said.

Ward believes the higher number of teen deaths on rural roads stems from a combination of road design, distance from medical help and a culture of potentially distracting activities and unsafe behaviors, such as using cell phones and not using seat belts.

Ward and fellow Western Transportation Institute researcher Laura Stanley will begin preliminary work this fall. They expect to purchase 40 in-car cameras from the San Diego-based company DriveCam and install them into student vehicles sometime next year.

Each DriveCam camera will be mounted near the rear-view mirror and actually contains two lenses, one pointing at the driver and another watching the road ahead. The cameras are always on, but save video only when triggered by the unit's g-force sensors, Ward said.

Once triggered, the camera saves several seconds of video recorded before and after the traffic incident. This gives researchers a look at the situation surrounding a traffic incident, whether it be a quick swerve or a

collision.

Ward said the in-car cameras provide a way to safely and unobtrusively collect data on teen driving behaviors and analyze changes that may be attributed to the driver's education lessons on distraction and fatigue. In later studies, these cameras may help parents and teachers support teens without restricting their freedom, and Ward hopes reviewing the video will help teens - and their peers who also see the videos - become better drivers.

Stanley, who will serve as research manager on the study, said MSU will be the first to evaluate a driver's education program using a "naturalistic" research method like the in-car cameras.

"Rather than using more traditional data collection methods like surveys, this allows researchers, parents and instructors to monitor the effects of a particular education module in the real world," she said.

Ward and Stanley's results will also be useful for other rural states that are looking to make their roads safer.

The study will monitoring its students' driving for three months spread out over an eight-month period, with the intervening time used for education and for studying the recordings. All the students involved will be volunteer teens taking driver's education classes in Montana.

The state Office of Public Instruction will provide the institute with information about the driver's education curriculum and help researchers make contact with students for the study, said David Huff, director of traffic education for the OPI in Helena.

"Distracted driving is coming up as a larger and larger issue with teens, especially with the explosion of technical devices, from cell phones to

DVDs in the car to GPS systems," Huff said.

Montana's driver's education program has been around since the 1960s, making it one of the longest standing programs in the country, Huff said. The state updated the curriculum in 2005, but Huff said a dearth of research money over the past decade has hampered research into the effectiveness of driver's ed curriculums nationwide.

"We have educators doing what feels good in their gut, but we don't have the ongoing evaluation for best practices because there isn't any research money," he said.

Huff believes the MSU study will help his office understand what parts of Montana's new curriculum are working and which parts need to be revised.

The study has received \$175,000 from the National Highway Traffic Safety Administration and \$25,000 from the Montana Department of Transportation.

To Ward, the study is an opportunity for the Western Transportation Institute's work to make a difference in communities across Montana.

"We're one of the largest six transportation centers in the nation, but we live and breathe rural," Ward said. "We live with the people we're trying to save."

Source: Montana State University

Citation: Western Transportation Institute to study drowsy and distracted teen driving (2008, August 22) retrieved 11 July 2024 from <https://phys.org/news/2008-08-western-drowsy->

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