



Center for Excellence in Rural Safety



[Home](#)

[About CERS](#)

[Research](#)

[Events](#)

[Profiles in Rural Safety](#)

[News & Media](#)

[Publications](#)

[Home](#) > [Publications](#) > [Rural Safety News](#) > March 2008

Rural Safety News



News from the Center for Excellence in Rural Safety

[Previous issues](#)

March 2008 - Vol. 2, No. 1

Rural Safety News is an electronic newsletter of the [Center for Excellence in Rural Safety \(CERS\)](#) at the University of Minnesota. *Rural Safety News* brings you the latest research and resources concerning rural safety.

In this issue:

- [USDOT launches initiative to improve safety on rural roads](#)
- [New crash prevention technologies could save more lives if deployed](#)
- [Profiles in Rural Safety: Alabama's Daniel Turner works to make roads safer and more efficient](#)
- [Community Maps Pilot Site provides roadwork and crash data for southwestern Wisconsin counties](#)
- [More rural safety news and resources](#)

USDOT launches initiative to improve safety on rural roads

In late February, U.S. Secretary of Transportation Mary E. Peters announced a new national strategy that will bring new focus, including resources and new technology, to reducing deaths and injuries on the nation's rural roads.

"We want to put the brakes on rural road fatalities," Secretary Peters said. "This is a challenge that we have the experience, the ability and the resources to address. We can make our rural roads safer, we can do it now, and we can do it without reinventing the wheel."

The U.S. Department of Transportation (USDOT) Rural Safety Initiative will help states and communities develop ways to eliminate the risks drivers face on America's rural roads and highlight available solutions and resources. This initiative seeks to refocus the department's extensive safety programs in a comprehensive way to help state and local leaders get solutions implemented in rural areas faster.

The new endeavor addresses five key goals: safer drivers, better roads, smarter roads, better-trained emergency responders, and improved outreach and partnerships. The secretary said approximately \$287 million in existing and new funding is available to support the effort.

Rural areas face a number of unique highway safety challenges. Rural crashes are more likely to be at higher speeds than urban crashes; victims of fatal crashes in rural areas are more likely to be unbelted than their urban counterparts; and it often takes first responders longer to arrive at the scene of a rural crash, leaving victims waiting longer for medical attention. Outdated roadway design and roadside hazards such as utility poles, sharp-edged pavement drop-offs, and trees close to the roadway also are major contributors to the severity of rural crashes.

According to the latest data from the National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS), the fatality rate for rural crashes is more than twice the fatality rate in urban crashes. In 2006, 23,339 people were killed in rural motor vehicle crashes, accounting for 55 percent of all motor vehicle fatalities.

Of the more than 3 million miles of rural roads in the country, almost 80 percent are owned and operated by local entities, which is why partnering with states and local governments is critical to the initiative. Peters indicated that the American Association of State Highway and Transportation Officials (AASHTO) already offered its support.

"State transportation officials have set a goal of reducing highway fatalities by half over the next two decades. Improving rural highway safety is critical to saving those lives. We are pleased that the USDOT is focusing both attention and resources on this issue, and we commend them for this initiative," said Pete Rahn, AASHTO president.

This targeted national campaign will take advantage of opportunities to raise awareness of the risks drivers face on America's rural roads and provide communities with tools and assistance to address these risks where the department's resources can be leveraged quickly and effectively.

All relevant agencies within the USDOT— NHTSA, the Federal Highway Administration (FHWA), the Federal Motor Carrier Safety Administration (FMCSA), the Pipeline and Hazardous Materials Safety Administration (PHMSA), and the Research and Innovative Technology Administration (RITA)—will aid in aggressively promoting solutions, educating the public, and working with local officials to reduce injuries and deaths on rural roads.

The new FHWA Rural Safety Innovation Program is providing rural communities the opportunity to compete for project funding to address highway safety problems. Applications must be received on or before April 14, 2008. Proposals for applications selected for potential funding will be due in June 2008.

Related resources:

- [USDOT Rural Safety Initiative](#)
- [FHWA Rural Safety Innovation Program funding notice and application instructions](#) (60 KB PDF)

New crash prevention technologies could save more lives if deployed



Ronald Medford

Seat belts and other safety technologies have saved hundreds of thousands of lives on U.S. roadways since 1960. Tomorrow's safety systems, particularly those that prevent crashes, will save many more, according to Ronald Medford, senior associate administrator for vehicle safety with the National Highway Traffic Safety Administration (NHTSA). Their widespread deployment, however, hinges on a key question: What level of reliability will convince consumers the systems work and are worth the money—and persuade manufacturers to install them?

Traffic crashes are the leading cause of death for Americans between the ages of 4 to 34 and play a prominent role in mortality at almost every age. "It is a significant public health problem," Medford said, speaking at a February luncheon hosted by the University of Minnesota Center for Transportation Studies in Minneapolis. The Intelligent Transportation Systems (ITS) Institute sponsored the event.

Ninety percent of crashes in this country are related to driver behavior, with just two percent related to vehicles and eight percent to road surface. Vehicle safety systems that compensate for driver behavior—either by warning drivers of an impending crash or assuming control of the vehicle—are becoming more feasible thanks to new sensing systems and higher computational power, he said.

Some systems augment driver performance. Brake-assist technology, for example, detects how quickly a driver actuates the brake, evaluates the force applied, and adds more force in crash situations (which require more force than a driver may realize). Other examples being deployed and refined include night vision systems, area-specific warnings (such as for blind spots), and drowsy-driving monitoring systems.

Other systems take control of the vehicle. A major development in this area is electronic stability control (ESC) for preventing rollovers. Rollovers account for 3 percent of all passenger vehicle crashes but 35 percent of occupant fatalities and 59 percent of SUV occupant deaths. "When [a rollover] happens, it's severe and significant," Medford said.

Mandated by Congress, NHTSA studied rollovers and enacted a regulation requiring ESC for all new vehicles by 2012. (Nine percent of SUVs sold today have ESC.) Manufacturers were supportive of the regulation, Medford said.

NHTSA's preliminary analysis of ESC, using data from five states between 1997 and 2002, found a 35 percent reduction for single vehicle crashes for passenger cars and a 67 percent crash reduction for SUVs.

When crashes do occur, automatic collision notification (ACN) systems such as OnStar are increasingly available. Advanced ACN assesses crash severity and angle, providing better data to emergency responders and improving triage, Medford explained.

In longer-term initiatives, NHTSA is working on ITS safety initiatives with the USDOT's Research and Innovative Technology Administration. One research initiative is the Cooperative Intersection Collision Avoidance Systems (CICAS) program, of which the ITS Institute at CTS is a participant. CICAS brings together federal agencies, automobile manufacturers, and university transportation centers with the goal of developing new technologies to prevent collisions. The ITS Institute's focus is on preventing crashes at rural highway intersections (see www.its.umn.edu).

Medford also described a recent agreement that NHTSA signed with the Automotive Coalition for Traffic Safety to develop advanced alcohol-sensing technology. The five-year research and development effort is designed to create the capability to detect driver impairment before the vehicle can be operated. "It's a tough effort," he said, "and will need a lot of time and money, with a significant technical and public acceptance challenge."

Related resources:

- [National Highway Traffic Safety Administration](#)
- [Cooperative Intersection Collision Avoidance Systems \(CICAS\) program](#)
- [Intelligent Transportation Systems Institute](#)
- [ITS Institute CICAS Stop Sign Assist \(SSA\) System research](#)

Profiles in Rural Safety: Alabama's Daniel Turner works to make roads safer and more efficient



Daniel Turner

Alabama roadways pose a unique set of problems for transportation experts, but for Daniel Turner, a professor of civil and environmental engineering at the University of Alabama and past president of the American Society of Civil Engineers, making rural roads in his state safer has become a life mission.

For more than 30 years, Turner has tackled challenges of funding, maintaining, and researching rural roadways. His motivation: "My commitment is to use my life to help others," he said.

Turner helped produce the 2004 *Comprehensive Highway Safety Plan for Alabama* (CHSP), a report that outlined five main points to improve rural roadway safety: emergency medical services (EMS), older/restricted drivers, safety legislation, high-risk driving groups, and run-off-the-road (ROR) crashes. A summary of the report is also available in the case studies section of the recently published CERS research summary *Rural Transportation Safety and the Strategic Highway Safety Plan* (CTS 08-02).

The CHSP report set several ambitious goals for the future of transportation in Alabama. Those goals include decreasing the fatality rate in the state from 1.8 to 1.5 per 100 million vehicle miles traveled and reducing ROR fatalities from 416 to 357 per year by 2008.

The plan addresses several problematic areas, including emergency medical service response (the death rate on rural road systems is three times greater than that of the Interstate System), bringing more attention to DWI-related crashes (for instance, using "whiskey plates"—color-coded vehicle tags—to identify those with DWI convictions), and strengthening legislation on booster seats, cell phones, seat belts, and graduated driving licenses.

Aside from developing the CHSP, the College of Engineering at the University of Alabama created Critical Analysis Reporting Environment (CARE) software, data analysis software that focuses on highway safety, Homeland Security, judicial management, and law enforcement.

One of CARE's most prominent creations is the eCitation, a software program that scans a driver's license and provides driver history information through a secure Web portal while pinpointing each location on its GPS. Through eCitation, transportation experts hope to identify crash locations, communicate with safety personnel, and coordinate emergency responses more efficiently. The Web portal was developed within CARE's laboratory and is used by more than 10,000 police officers.

The laboratory is also pioneering other initiatives such as the "Buckle Up in Your Truck" campaign, a project that works in conjunction with the "Click It or Ticket" program. The Buckle Up campaign focuses on increasing seatbelt use with truck drivers, as they have the lowest state and national recorded

safety belt usage.

Also unique is the laboratory's Model Integrated Defendant Access System (MIDAS), a three-year project that follows impaired drivers from their first offense, through adjudication, treatment, and beyond. The first-of-its-kind program now has over 47,000 clients and has performed more than 101,000 drug screens.

"I am excited about some of the safety activities of Alabama counties," Turner said.

Along with leading the way in research for rural roadways, Turner said he has helped lead two workshops for county engineers in the past 18 months and trained several managers in current safety techniques, resources, and funding so they may continue the work of improving Alabama transportation safety.

Related resources:

- [Safe Home Alabama](#)
- [Alabama's 2007 "Click It or Ticket" campaign](#)
- [Comprehensive Highway Safety Plan for Alabama](#)
- [Critical Analysis Reporting Environment \(CARE\) Research and Development Laboratory](#)

Community Maps Pilot Site provides roadwork and crash data for southwestern Wisconsin counties



Locating, analyzing, and avoiding crash sites and roadwork has become easier in five southwestern Wisconsin counties. Thanks to the Community Maps Pilot Site, travelers can plan their route considering construction or crash history, thereby reducing driving headaches and possibly improving safety.

Using the familiar Google Maps interface, the Pilot Site pinpoints the locations of collisions where injuries, fatalities, or property damage have occurred. Road construction areas also are identified. The user can select from a number of search criteria—such as the manner and factors of the collision—to receive more precise data.

Each location is mapped down to the intersection and can be refined by local users with administrative access, such as law enforcement.

Though community-based mapping is a relatively old idea, the 2005 release of the Google mapping system has sparked new interest among transportation officials. "There's lots of interest in being empowered and doing your own mapping," said Joni Graves, transportation planning program manager with the Southwestern Wisconsin Regional Planning Commission.

Graves added that the state was using paper maps and sticky dots to record crash sites before the Community Maps Pilot Site was created. "There were limitations with old maps," she said. "I think there's a desire to get up to speed."

Currently, 13 years (1994 to 2007) of information for the five Wisconsin counties (Grant, Green, Iowa, Lafayette, and Richland) is available, but more areas and data will be added soon. For example, the local Grant County Sheriff's Department is using the software and plans to add its data shortly.

Law enforcement officials collect crash data via onboard computers with GPS capabilities. Frequently, however, the information lacks precision, Graves noted, because officers park their cars several feet away from the incident site. She said she is hoping to outfit police departments with handheld units so the GPS coordinates are accurate.

The ultimate goal of the project is to improve roadway and crash data by increasing the accuracy and comprehensiveness of crash location information as well as serving as a prototype for a future statewide crash map.

The Community Maps Pilot Site project is being developed at the Wisconsin Traffic Operations and Safety Laboratory (TOPS Lab) through a partnership with the Southwestern Wisconsin Regional Planning Commission (SWWRPC), the Midwest Regional University Transportation Center (MRUTC), and the Wisconsin Department of Transportation (WISDOT).

This project, which includes MRUTC, has received ongoing support from the Wisconsin Traffic Records Coordinating Committee. In 2007, the project received an Excellence in Regional Transportation Award from the National Association of Development Organizations (NADO). The NADO Research Foundation's Center for Transportation Advancement and Regional Development recognizes noteworthy projects and practices in rural and small metropolitan transportation planning.

Related resources:

- [Community Maps Pilot Site](#)
- [Southwestern Wisconsin Regional Planning Commission \(SWWRPC\)](#)
- [Wisconsin Traffic Operations and Safety Laboratory](#)
- [Midwest Regional University Transportation Center](#)
- [Wisconsin Department of Transportation](#)

More rural safety news and resources

2006 Traffic Safety Facts—Rural/Urban Comparison

NHTSA National Center for Statistics and Analysis (March 2008)

In 2006, there were 38,588 fatal crashes resulting in 42,642 deaths. Rural areas accounted for 55 percent of the fatal crashes and 56 percent of the fatalities. Urban areas accounted for 45 percent of the fatal crashes and 44 percent of the fatalities. Rural and urban boundaries are determined by the State highway departments and approved by the Federal Highway Administration.

[View fact sheet](#) (648 KB PDF)

Crash or Carcass Data: Critical Definition and Evaluation Choice

Transportation Research Record, Volume 2019 (January 2008)

Reported animal-vehicle crashes (AVCs) and deer carcass removal have been used to define the deer-vehicle collision problem, identify its locations of

concern, and evaluate its countermeasures. However, it has been shown that AVC magnitudes can be dramatically different. This research quantifies and compares the magnitude and patterns of AVC and deer carcass removal data from Iowa.

[View report—subscribers only](#) (1.1 MB PDF)

The Impact of Legislation, Enforcement, and Sanctions on Safety Belt Use

TRB National Cooperative Highway Research Program (NCHRP) Report 601
(February 2008)

This report summarizes the effectiveness of mandatory approaches to increase safety belt usage. The report will be of particular interest to safety practitioners with responsibility for developing and implementing safety belt usage programs.

[View report](#) (2.6 MB PDF)

Public Information and Education in the Promotion of Highway Safety

TRB National Cooperative Highway Research Program (NCHRP) Research Results Digest 322 (November 2007)

This digest assesses the role of public information and education programs in contributing to behavior change in the highway safety area.

[View digest](#) (120 KB PDF)

Grants Generally Address Key Safety Issues, Despite State Eligibility and Management Difficulties

U.S. Government Accountability Office (March 2008)

To help Congress prepare for the reauthorization of the surface transportation programs in 2009, this report provides information on NHTSA's status in awarding and overseeing states' use of five grant programs to states to implement legislation governing the use of safety belts and child safety seats, and promote activities to reduce alcohol-impaired driving, improve motorcycle training and awareness, and improve traffic safety information systems. The report also provides information on activities states have conducted using the grants and issues they have faced in applying for and implementing the grants, and how NHTSA plans to evaluate the results of the grant programs and implications for reauthorizing the programs.

[View summary](#)