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### **HSRC News Briefs**

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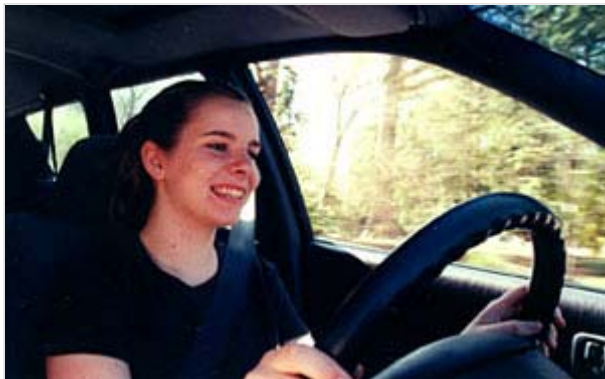
**Center has new mailing address**

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## New center to address safety of young drivers

The UNC Highway Safety Research Center has established the Center for the Study of Young Drivers (CSYD) to study and improve the safety of young drivers. The new center will focus on developing a fundamental understanding of the multitude of factors that contribute to the high crash rate among young drivers. This fundamental understanding is critical for the development of effective strategies to reduce the high crash rate among teens. The CSYD plans to begin training new researchers who can help to expand the study of young driver issues. In addition, Center scientists will also work with policy-makers and the general public to ensure a better understanding of the complexities that lead to young driver crashes and how those influence the kinds of programs that can help reduce the number of crashes.



While the new center will be housed within the Highway Safety Research Center, the CSYD will combine expertise from several academic disciplines on the University of North Carolina at Chapel Hill campus and throughout the UNC system. A comprehensive understanding of the reasons that young drivers crash more often than others will require drawing on knowledge of biology, psychology, sociology, epidemiology and public health. Implementing successful programs will depend on expertise in the fields of political science and policy studies, organizational behavior and law. HSRC Senior Research Scientist Robert Foss, Ph.D., a social psychologist and leading researcher in the field of young driver behavior, will serve as director of the center. Additional members of the initial research team, all of whom have been working on young driver issues for several years, include Arthur Goodwin and Scott Masten, both of HSRC, as well as Dr.

Lewis Margolis of the UNC Department of Maternal and Child Health.

The study of young drivers has been a program area within the UNC Highway Safety Research Center since 1993. Long at the forefront of research on this important phenomenon, HSRC has been instrumental in shaping policies and programs that have substantially reduced the young driver crash rate in North Carolina and throughout the U.S.

One of the most successful approaches to reducing teen crashes to date has been the development and enactment of Graduated Driver Licensing (GDL) Systems. First envisioned in the 1970s by HSRC researcher Patricia Waller, GDL keeps young drivers out of the most dangerous driving situations until they have had many months and thousands of miles experience driving under less risky conditions. An evaluation of the GDL system in North Carolina conducted by Center researchers in 2001 showed a 57 percent decline in fatal crashes among 16-year-olds. More recent studies show a continuing benefit for both 16 and 17 year-old drivers. The success of the program has led more than 40 other states to develop similar programs.

HSRC researchers have also studied the effects of multiple passengers riding with young drivers. Research findings showed that a young driver with two or more passengers in the vehicle has more than twice the risk of being involved in a serious crash, compared with having no passengers at all. This finding contributed to an upgrade of the North Carolina GDL system to include a limit on the number of young passengers allowed to ride with an inexperienced teen driver.

“The continued importance of this issue to the health and well-being of teens, the influential research we have done in this area, the concentration of expertise we have in our research team and the incredible intellectual resources of this university make UNC and HSRC the ideal setting for an exclusive young driver research center,” said Dr. Foss.

In addition to working toward a comprehensive understanding of young driver behavior and crash risks, in the coming year, the CSYD is planning to examine the effects of school start times on teen crashes, what parents do to help their teens to become safe drivers and how they might be more effective driving mentors.

## HSRC research to develop improved crash reduction factors

Transportation planners and engineers across the country utilize Accident Modification Factors (AMFs) to estimate how potential engineering improvements could affect reductions in crashes. HSRC researchers have joined other highway safety experts as part of National Cooperative Highway Research Project 17-25 to examine these AMFs and their effectiveness. HSRC Interim Director David Harkey is serving as the principal investigator along with research assistance from Dr. Raghavan Srinivasan and Charles Zegeer of HSRC.

The first phase of the study assessed 100 different AMFs within the following categories; intersection treatments, including treatments such as installing turning lanes or traffic signals; roadway segment treatments, such as changing the width of a median or adding rumble strips; and miscellaneous treatments, for example, truck rollover warning systems or weather detection and warning systems.

### Treatments with AMFs that have a Level of Predictive Certainty of High or Medium-High

Treatment	Level of Predictive Certainty
<i>Intersection Treatments</i>	
Install a roundabout	High
Add exclusive left-turn lane	High
Add exclusive right-turn lane	High
Install a traffic signal	High
Remove a traffic signal	High
Modify signal change interval	Medium-High
Convert to all-way stop control	Medium-High
Convert stop-control to yield-control	Medium-High
Install red-light cameras	High
<i>Roadway Segment Treatments</i>	
Narrow lane widths to add lanes	Medium-High
Add passing lanes (two-lane roads)	Medium-High
Add two-way left-turn lane (TWLTL)	Medium-High
Increase lane width	Medium-High
Change shoulder width and/or type	Medium-High
Flatten horizontal curve	Medium-High
Improve curve superelevation	Medium-High
Add shoulder rumble strip	Medium-High
Add centerline rumble strips	Medium-High
Install/upgrade guardrail	Medium-High
<i>Miscellaneous Treatments</i>	
Install raised medians at crosswalks	Medium-High

According to an interim report published in November 2005, of the 100 treatments reviewed, 23 were found to have credible AMFs available. For an AMF to be deemed "credible," researchers required that the estimate have a high or mid-high level of predictive certainty. A critical factor in determining this credibility was the scientific rigor of the methodology used in the study in which the AMF was developed. For more information, please view the [NCHRP Research Results Digest 299](#).

The research on AMFs will continue, as another goal of the study is to develop additional recommended AMFs to fill the knowledge gaps identified to date. Work is underway to develop AMFs for the installation of signals at rural intersections, skid reduction treatments at intersections and 4-lane to 3-lane conversions (i.e., road diets).

Further research will also take place in Winston-Salem, N.C., to develop AMFs within an urban setting for both signalized and unsignalized intersections.

The final report is expected to be completed in 2007.

## Center researchers contribute to safety guidelines for U.S. states

In its effort to reduce fatalities and injuries on U.S. roadways, the National Cooperative Highway Research Program is developing a series of guides to assist U.S. state and local transportation agencies in addressing highway safety issues. The subject matter of these guides corresponds directly with the 22 key emphasis areas outlined within the Strategic Highway Safety Plan developed by the American Association of State Transportation Officials in 1998.

Experts within the subject area of the guide assist NCHRP with developing recommended strategies and countermeasures to address the problem. To date, HSRC researchers have contributed their knowledge and expertise towards the development of the following finalized guides.

- HSRC Senior Research Scientist Rob Foss, Ph.D., and Senior Researcher Arthur Goodwin contributed to *A Guide for Reducing Alcohol-Related Collisions. Guidance for Implementation of the AASHTO Strategic Highway Safety Plan. Volume 16. NCHRP Report 500*. To read the report in full, please visit [http://trb.org/news/blurb\\_detail.asp?id=5478](http://trb.org/news/blurb_detail.asp?id=5478).
- Associate Director for Social and Behavior Research Jane Stutts, Ph.D. contributed to *A Guide for Reducing Crashes Involving Drowsy or Distracted Drivers. Guidance for Implementation of the AASHTO Strategic Highway Safety Plan. Volume 14. NCHRP Report 500*. To read the report in full, please visit [http://trb.org/news/blurb\\_detail.asp?id=5468](http://trb.org/news/blurb_detail.asp?id=5468).
- Dr. Stutts also contributed to *A Guide for Reducing Collisions among Older Drivers. Guidance for Implementation of the AASHTO Strategic Highway Safety Plan. Volume 9. NCHRP Report 500*. To read this report in full, please visit [http://www.trb.org/news/blurb\\_detail.asp?id=3844](http://www.trb.org/news/blurb_detail.asp?id=3844).
- Associate Director for Engineering and Planning Charlie Zegeer and Dr. Jane Stutts, offered expertise towards *A Guide for Reducing Collisions among Pedestrians. Guidance for Implementation of the AASHTO Strategic Highway Safety Plan. Volume 10. NCHRP Report 500*. To read this report in full, please visit [http://trb.org/news/blurb\\_detail.asp?id=3905](http://trb.org/news/blurb_detail.asp?id=3905).
- Mr. Zegeer also offered expertise towards *A Guide for Addressing Collisions with Trees in Hazardous Locations. Volume 3, Guidance for Implementation of the AASHTO Strategic Highway Safety Plan. NCHRP Report 500*. To read this report in full, please visit [http://gulliver.trb.org/publications/nchrp/nchrp\\_rpt\\_500v3.pdf](http://gulliver.trb.org/publications/nchrp/nchrp_rpt_500v3.pdf).
- Senior Transportation Research Engineer Raghavan Srinivasan, Ph.D., and Mr. Zegeer contributed to *A Guide for Reducing Collisions Involving Utility Poles. Guidance for Implementation of the AASHTO Strategic Highway Safety Plan. Volume 8. NCHRP Report 500*. To read this report in full, please visit [http://www.trb.org/news/blurb\\_detail.asp?id=3859](http://www.trb.org/news/blurb_detail.asp?id=3859).

## HSRC News Briefs

### HSRC Director retires following 40 years of service to highway safety



HSRC Director Doug Robertson retired following 40 years of service to the field of highway safety in December 2005. HSRC Deputy Director David Harkey has been named interim director as the search for a new director for the Center begins.

Throughout his research career, Dr. Robertson has served as the principal investigator on numerous transportation safety studies including work on symbolic pedestrian signal displays that led to the adoption of the "hand-walking man" symbols as a national standard for pedestrian signals in the United States.

Prior to coming to UNC, Dr. Robertson was a vice-president with Science Applications International Corporation and TransCore in Alexandria, VA. His career has included work as a professor of civil engineering at the University of North Carolina at Charlotte. He has also held positions with ITS America, the National Highway Traffic Safety Administration, the Federal Highway Administration, and BioTechnology, Inc.

Dr. Robertson holds a Ph.D. in civil engineering from the University of Maryland. In March 2003, he retired after 37 years in the Army and the Army Reserves. In his last assignment, Major General Robertson served as the Commanding General of the 108th Division, a unit of more than 3,700 soldiers located across North and South Carolina, Georgia, Florida, and Puerto Rico.

### Center researchers participate in international transportation conference

HSRC researchers and staff attended the 85th Annual Meeting of the Transportation Research Board (TRB) in January 2006, where over 10,000 transportation experts from around the world assembled to teach and be taught the latest innovations in transportation research.

Researchers and staff from the Center actively participated in the event by presenting their research, presiding over select sessions and discussing recent trends in transportation safety.

HSRC highlights from the TRB Annual Meeting include:

- HSRC Interim Director David Harkey presented "Strategies for Improving Highway Safety Data" at the *Identification of Data Needs for Highway Safety Manual* session.
- Harkey accepted the 2006 Outstanding Paper Award from the TRB Pedestrian Committee for the paper submission of "Development of an Intersection Prioritization Tool for Accessible Pedestrian Signal Installation." In addition to Harkey, the paper's authors include Daniel Carter, HSRC engineering research associate, as well as Billie Louise Bentzen and Janet Barlow with Accessible Design for the Blind.
- Harkey and Carter were also active in other sessions, presenting "Observational Analysis of Pedestrian and Motorist Behaviors at Roundabouts in the United States," at the *Pedestrian Safety and Operations* poster session and "Observational Analysis of Bicyclist and Motorist Behaviors at Roundabouts in the United States" at the *Designing for Safety: Bicyclist Behavior on and off the Road* session.
- At a poster session focused on law enforcement and truck safety, Senior Transportation Research Engineer Raghavan Srinivasan presented "Safety Impacts of Differential and Uniform Car-Truck Speed Limits on Illinois and North Carolina Interstates."
- Charles Zegeer, associate director for engineering and planning and PBIC director, and Daniel Carter presented "Index for Assessing Pedestrian Safety at Intersections" at the *Pedestrian and Safety* poster session, where Zegeer also paired with Laura Sandt on "Characteristics Related to Midblock Pedestrian-Vehicle Crashes and Potential Treatment."
- Within the *Feminization of Aging: Transportation Implications* session, Associate Director for Social and Behavior Research Jane Stutts presented "Safety Trends for Older Women as Drivers, Passengers, and Pedestrians."



(Left to Right) Michael J. Cynecki, TRB Pedestrian Committee, David Harkey, UNC Highway Safety Research Center, Ronald Van Houten, TRB Pedestrian Committee Chair; Janet Barlow, Accessible Design for the Blind.

- Lauren Marchetti, program manager and PBIC deputy director, led “Safe Routes to School” during the *Emerging Issues in School Transportation* session.
- “Growth of Knowledge through Research” was presented by Senior Research Scientist Forrest Council at the *Road Safety: The Road Ahead* session that discussed the future challenges of road safety management.
- Council also moderated a day-long workshop on Cause, Effect and Intervention: Current and Future Directions in Road Safety Research, which served as a forum to discuss current road safety research approaches and suggest promising future directions.

The TRB Annual Meeting covers all modes of transportation, drawing interest from researchers, policy makers and administrators as well as academic, industry, and government representatives. For more information on the annual meeting, please visit [www.trb.org](http://www.trb.org).

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### Center has new mailing address

Please note there is a change in the Center’s mailing address. The Center’s new correct mailing address is:

The University of North Carolina Highway Safety Research Center  
730 Martin Luther King, Jr. Blvd. CB 3430  
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