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## Emphasizing 9 out of 10

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Executive Editor: [Katy Jones](#)  
Managing Editor: Jeremy Pinkham  
Graphic Designer: Zoe Gillenwater

The University of North Carolina Highway Safety Research Center  
730 Martin Luther King Jr. Blvd, Suite 300 | Campus Box 3430 | Chapel Hill, NC 27599-3430  
Phone: 919.962.2203 | Fax: 919.962.8710  
<http://www.hsrc.unc.edu>

## Innovating methods to improve pedestrian and bicycle safety in Chapel Hill/Carrboro

Developing a pedestrian or bicycle safety action plan involves many steps, including long-term strategic planning, while targeting pressing needs. Understanding which areas are most in need of safety improvement is essential when allocating limited resources.



[www.pedbikeimages.org](http://www.pedbikeimages.org) / Libby Thomas

In the study *Identifying and Prioritizing Locations for Pedestrian and Bicyclist Safety Improvements in Chapel Hill and Carrboro, North Carolina*, prepared for the N.C. Department of Transportation, researchers at the UNC Highway Safety Research Center (HSRC) take an innovative approach to identifying locations in Chapel Hill and Carrboro, N.C., that would benefit from pedestrian or bicycle safety improvements.

This type of safety assessment study is important for an area like Chapel Hill and Carrboro where walking, biking, and transit use are common, and driver commuting rates are 20 percent lower than the rest of the surrounding Triangle metro area which includes Raleigh and Durham, N.C. A series of three fatal and two non-fatal collisions involving pedestrians and bicyclists within a week in January of 2006 precipitated discussions between the two Towns and State traffic engineers that ultimately led to the study.

"Determining where crashes have already occurred is one step in the process, but proactive measures are also important in developing a comprehensive plan to address safety concerns and prevent crashes," said HSRC Research Associate Libby Thomas, an author on the study.

"New development, changes in the economy, increasing transit use, and many other factors may alter walking conditions or bicycling travel patterns so that pedestrian and bicycle safety improvements are needed in locations that have not experienced collisions previously. Simply put, people may be walking and biking, or need to walk and bike, in places where they hadn't before," said Thomas.

To quantify risk areas, the study relies on traditional crash data, recommendations by the two Towns through public input, and on an innovative survey in which users identified specific intersections or road segments that they perceived to be unsafe for pedestrians or bicyclists. Locations with high crashes and high perceived risk were first selected for further investigation. Other locations were also chosen proactively based on a mix of crash incidence, perception of risk, and public attitudes gathered through the survey.

The research team along with staff representing the DOT and both Towns then conducted qualitative audits at the chosen locations utilizing the Federal Highway Administration's *Pedestrian Road Safety Audit Guidelines and Prompt Lists*. Taking into consideration a variety of factors such as road design, traffic density, lighting, signals, traffic speed and volume, and the behavior of drivers, pedestrians, and bicyclists, the road safety audit team identified factors affecting the safety of a site or road segment.

Overall, eight locations received in-depth audits. For each location, the research team proposed specific safety recommendations and countermeasures for consideration by the Towns and DOT. Some improvements could be implemented quickly, such as the addition of warning signs or enhanced markings. Others improvements include longer-term treatments, such as the addition of pedestrian signals, changes in geometrics, or the addition of lighting. The study also emphasizes the need for continued assessment of other locations that did not receive audits.

The study is meant to be an integral part of the Towns' bicycle and pedestrian safety action plans that include continued monitoring of crashes and other conditions that may affect safety. Kevin Lacy, Director of Mobility and Safety at N.C. DOT, says the Department is also hoping to apply the methods developed in this study to other communities across the state as they strive to lower the incidences of pedestrian- and bicycle-motor vehicle crashes.

## Emphasizing 9 out of 10

The common belief that teenagers spend much of their time talking or texting while driving is wrong, badly wrong. Ninety-one percent of the time, teens are off the phone while driving. This finding is the centerpiece of an exciting new study being conducted by the Center for the Study of Young Drivers (CSYD) at by the UNC Highway Safety Research Center (HSRC) focusing on high school students in central North Carolina. The study is sponsored by the National Highway Traffic Safety Administration, with oversight by the Pacific Institute for Research and Evaluation.



The study uses a social norms approach to ensure teens know about the "9 out of 10" fact. A new Web site, <http://www.hsrc.unc.edu/9outof10>, highlights the study results. A series of activities and contests — some using social media — will begin in the fall of 2009, and spread knowledge about this simple fact among students in North Carolina. By using a social norms approach, the study attempts to debunk the commonly held belief that teens often talk or text while driving.

To arrive at this fact, researchers at HSRC observed nearly 20,000 teenage drivers between 2006 and 2008 in North Carolina as they left high schools at the end of the school day. A total of 25 high schools across the state were included in the study. In some cases, drivers were observed at the exits to school parking lots. In others, they were observed just down the road from high schools. In addition, questionnaires were mailed to over 2,000 high school age teens in North Carolina to learn their thoughts and opinions about cell phones

and driving.

Although the researchers found that many teenagers use their phone at least sometimes while driving, it was clear that most teens who talk or text while driving don't do it all that often. The main goal of the present study is to increase recognition and understanding of the "9 out of 10" fact among teens, parents, teachers, the media, police, and the community. Follow-up observations will be conducted at the same 25 high schools to determine whether the program had an effect on cell phone use among teen drivers.

## Study lays foundation for next AASHTO National Strategic Highway Safety Plan

UNC Highway Safety Research Center (HSRC) researchers have recently completed a national evaluation of highway fatalities. The *Surface Transportation Safety Investment: Update Since 2004* report was requested by the American Association of State Highway and Transportation Officials (AASHTO). It assesses progress toward AASHTO's goal to reduce traffic fatalities by 1000 per year, in order to cut highway fatalities in half over the next two decades. This goal would mean reducing fatalities from an average of approximately 40,000 currently to 20,000 fatalities per year by 2028.

In its Strategic Highway Safety Plan of 2004, AASHTO outlines 22 emphasis areas to address the problem of fatalities and injuries on the nation's highways. The 22 areas include strategies for engineering, education, enforcement, and emergency services. Accordingly, each state develops its own Strategic Highway Safety Plan (SHSP), focusing on various areas of emphasis. The emphasis areas addressed in the SHSP differ by state according to their specific priorities.

Examples of the 22 emphasis areas include "reducing impaired driving," "making walking and street crossing safer," "keeping vehicles on the roadway," and "design safer work zones."

The HSRC study reviews national and state fatality data from 2004–2007. Utilizing Fatality Analysis Reporting System (FARS) data, the researchers were able to determine the fatality trends in many of the 22 emphasis areas. Collectively, they found that the states were able to reduce fatalities in nearly all of the emphasis areas to which they were able to clearly attribute fatal crashes. The only two categories that saw increases in fatalities were "unlicensed drivers" and "motorcycles."

During the four-year period evaluated (2004-2007), highway fatalities decreased about 600 fatalities each year. Though not at the target set by AASHTO, the trend is a sign that the states have made significant progress toward the goal. "This reiterates the idea that a comprehensive safety plan does much to focus and maximize the efforts of the entire highway safety community," the report states.

The challenge now is to find new ways to experience further declines in highway fatalities. To that end, the report offers potential strategies for each emphasis area, highlighting specific interventions, such as the use of alcohol ignition interlocks and shoulder rumble strips, to increase the safety of highway users.

The report was prepared by HSRC researchers Daniel Carter, Sarah Smith, Raghavan Srinivasan, and Carl Sundstrom. In May 2009, Carter presented the findings of the study to the 2009 AASHTO Safety Leadership Forum IV. Carter will again present the report in September to the AASHTO Standing Committee on Highway Traffic Safety and the Subcommittee on Safety Management, as AASHTO begins to draft a new National SHSP. Copies will also be sent to the Governors Highway Safety Association for distribution to its members.



## HSRC News Briefs

### PBIC director participates in international scan of pedestrian and bicycle mobility

In May 2009, AASHTO and FHWA sponsored an international scan to survey ways to improve walking and bicycling safety and mobility. PBIC Director Charlie Zegeer was a member of a team of 12 transportation professionals with expertise in bicycling and walking from the U.S. that visited five countries in Europe.

Some of the countries visited, including Denmark, have experienced an increase in car use since the 1960s and 1970s, and subsequently reoriented their transportation policies to give priority to bicycling and walking. The scan team heard presentations from and had informal discussions with many foreign hosts. During most visits, the scan team also participated in guided field visits (by bike as well as by foot) to better understand and experience the design and operation of various walking and bicycling facilities. These field visits were invaluable in documenting the facilities through photos and video, observing traffic behavior, and experiencing firsthand how well a design or operational strategy worked.

The purpose of this scan tour was to identify and assess effective approaches to improve pedestrian and bicyclist safety and mobility. The specific topics of interest were:

- Improving Pedestrian and Bicyclist Safety: Approaches (engineering, education, enforcement, and policy) that have been successful in improving pedestrian and bicyclist safety.
- Safe Routes to School Programs: Approaches and policies for improving safety for child pedestrians and bicyclists, especially those that support programs like Safe Routes to School.
- Monitoring Usage Levels and Exposure: Quantitative methods of monitoring pedestrian and bicyclist usage levels (for example, counts and surveys) and exposure to crashes.
- Safety Research and Evaluation: Recently completed or ongoing research and collaboration opportunities in pedestrian and bicyclist safety.

The scan team identified numerous possible approaches to improving pedestrian and bicyclist safety and mobility in the U.S. The scan team also prepared a list of implementation items for those approaches that should be pursued in the U.S. A summary report has been released. It provides a quick-response overview of the team's findings and recommendations. The report can be found on the PBIC Web site at [www.walkinginfo.org/library/details.cfm?id=4447](http://www.walkinginfo.org/library/details.cfm?id=4447).

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### Congratulations to HSRC scholarship recipient

Each spring the UNC Highway Safety Research Center awards a \$1,000 scholarship to a graduate student with an interest in transportation safety. This year HSRC awarded the 2009 scholarship to Katherine Hebert, a master's student at UNC Chapel Hill studying in the Department of City and Regional Planning.

Studying toward her goal of working at a Metropolitan Planning Organization or similar regional planning office, Ms. Hebert is focusing on alternative forms of transportation, like walking and biking, as a link between health and safety. She specializes in land use management and environmental planning. In the spring semester of 2009, she enrolled in the new Bike and Pedestrian Planning course taught through DCRP.

"The suggested benefits to health and safety from alternative transportation are indicative of a much bigger shift in the way roads and communities are planned," says Ms. Hebert. "All potential users of a road network must be considered and a more holistic and creative approach is needed to keep up with the demand for complete streets."

Ms. Hebert has previously consulted with the city of Martinsville, V.A. and the Dan River Basin Association in Henry County, V.A. on planning recreational facilities and coordinating environmental education programs. She is a student representative to the North Carolina Chapter of the American Planning Association.

The annual HSRC scholarship is available to a full-time graduate student enrolled at any of the University of North Carolina campuses in any discipline. The purpose of the HSRC scholarship is to foster the education and professional development of graduate students with an interest in transportation safety-related areas, including, but not limited to, engineering, driver behavior, planning, public health and environment.

While helping her fund her studies, Ms. Hebert also says of the \$1,000 scholarship: "It has given me the chance to meet the HSRC's staff to discuss the importance of planning in addressing issues of highway safety and how HSRC, UNC, and planning organizations such as the American Planning Association can work together to address these issues."



HSRC Director David Harkey congratulates Katherine Hebert, recipient of the HSRC Scholarship. Hebert is a master's student at UNC Chapel Hill studying in the Department of City and Regional Planning.



## HSRC in the News

The following is a highlight of recent media stories that include information and research from the Center. Web links to the following news stories are time sensitive, so some stories might not be accessible after the initial publication date without required registration.

[Impairment a concern among older drivers](#)

WRAL Raleigh  
August 21, 2009

[Child's death revives driving debate: Should the old face restrictions?](#)

News & Observer  
August 21, 2009

[Highway Patrol: Teen driving deaths increasing](#)

WRAL Raleigh  
August 13, 2009

[Texting ban, but what about the rest?](#)

News & Observer  
August 11, 2009

[Statistics show fewer DWIs for Hispanic drivers](#)

News 14 Carolina  
August 7, 2009

[Driven to Distraction, Drivers and Legislators Dismiss Cellphone Risks](#)

New York Times  
July 18, 2009

[Death shows need to obey pickup bed law](#)

Asheville Citizen Times  
July 9, 2009

[There's danger afoot for pedestrians in Fayetteville](#)

Fayetteville Observer  
July 5, 2009

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