

The University of North Carolina

Highway Safety Research Center

1999 - 2000
Annual Highlights Report



Prepared for the
Office of the Provost
University of North Carolina at Chapel Hill
June 15, 2000

With 34 staff members, seven graduate students and 14 undergraduates, the UNC Highway Safety Research Center is not a large organization — just an exceptional one. Our research affects anyone who travels whether it be on foot, or by car, truck, school bus, motorcycle, bicycle or boat. How do we do that? By using the results of the interdisciplinary research conducted at our Center to develop practical interventions aimed at reducing deaths and injuries related to travel.

Some of these interventions come in the form of recommendations to policymakers. This year, for example, our researchers testified before North Carolina legislative committees, state boards and legislative staff on issues such as the safe transport of mobile homes, truck safety, bicycle and motorcycle helmet legislation, and the upgrading of North Carolina's occupant restraint laws. Other interventions are in the form of programs designed to create awareness about issues and thus change behaviors. The "College Alcohol Project" launched on the UNC-CH campus last fall is a good example. This "norms" campaign — created by Center staff, and based on Center research — was aimed at changing the skewed student perception about how much students drink, with the goal of reducing peer pressure to drink. Data for the campaign were based on a first-of-a-kind study in which Center researchers interviewed and obtained breath-alcohol measurements from a representative sample of more than 4,300 college students.



Overall, the Center brings in nearly seven research dollars for every dollar that the state invests in us through the University. This represents an increase over last year's ratio of six to one.

One of the most important events to take place at the Center this year has been a change in leadership. Dr. H. Douglas Robertson was appointed to the position of center director last fall on the recommenda-



tion of representatives from eight UNC departments and centers. Chosen from a pool of 23 applicants worldwide, Robertson's career has included positions in the public and private sectors as well as in academia and the military. He joined the Center Oct. 1, 1999. Since his arrival, Robertson has worked with staff to develop a five-year strategic plan for the Center. He also facilitated the formation of a media marketing plan to more effectively place the Center's research results into the hands of safety practitioners and decision makers where these results can be used.

Throughout our Center's transition in leadership, our high-quality level of research has remained unchanged. Our projects this year have ranged from studies on pedestrian and bicycle safety, distracted drivers, truck safety and occupant restraints to "Intelligent Transportation Systems," senior drivers, roadway and traffic safety, and teen drivers. Collaboration with other departments within the UNC System continues to be extensive. A good example of this is the study on drowsy drivers conducted with the UNC Departments of Psychiatry and Neurology. This research attracted extensive national media attention after a December 1999 press conference in Washington, DC, announcing the study's results.

Center outreach this year has been significant. Four car-seat clinics were taught by Center staff in various North Carolina cities. Nearly 790 parents attended these sessions which provided information on the correct installation and use of child safety seats. Center staff were also involved in two one-day 'Law Enforcement Summits' attended by 640 North Carolina police officers. These sessions focused on providing information on occupant restraints and trends in motor-vehicle crashes. As always, our researchers have continued to disseminate their research results at professional conferences. Research staff made presentations at 43 national-level conferences, 14 state-level conferences and three international conferences this year. Our Center's work has attracted a good deal of media attention as well. This year, Center staff responded to calls from television, newspaper, radio and Internet reporters on more than 300 occasions.

In all, the UNC Highway Safety Research Center has had 71 active projects this year funded through a variety of private, federal, state and local organizations. Our operating budget for fiscal year 2000 is \$5.3 million, including subcontractor funds — nearly an 18 percent increase over last year's budget.

Overall, the Center brings in nearly seven research dollars for every dollar that the state invests in us through the University. This represents an increase over last year's ratio of six to one. We invite you to learn more about our Center in the following narrative highlighting our areas of research and the most significant aspects of this year's work.



The UNC Highway Safety Research Center has had 71 active projects this year funded through a variety of private, federal, state and local organizations.



Pedestrian and Bicycle Safety

The UNC Highway Safety Research Center is the leading research institute in the nation in the field of pedestrian/bicycle research. Much of the Center's work in this area over the past year has been in setting national guidelines for the creation of environments where pedestrians, bicyclists and cars can safely coexist. The Center has recently completed a \$5.7 million multi-year study on pedestrian and bicycle safety for the Federal Highway Administration. The study consisted of 15 separate research projects, one of which evaluated several types of pedestrian improvements in approximately 30 U.S. cities. Center researchers evaluated the effectiveness of traffic-calming measures such as speed humps, curb extensions and raised crosswalks. The study also evaluated the effectiveness of innovative warning devices such as "automatic pedestrian detectors" — traffic "walk" signals that use microwave beams to detect when pedestrians are waiting to cross a street. The results of these studies are being used to formulate national guidelines for when and how road



designers should use these various treatments.



The Center was awarded a five-year \$2.7 million grant in 1999 to establish a national clearinghouse for pedestrian and bicycle information complete with a "ped/bike hot-line," an extensive web site, training courses and materials for engineers, planners and advocates.

The Center was awarded a five-year, \$2.7 million Pedestrian/Bicycle Grant from the Federal Highway Administration in 1999. This grant establishes a national clearinghouse for pedestrian and bicycle information related to engineering, education, and enforcement issues. Supported by a "ped/bike hot-line" and an extensive web site, the grant will provide training courses and materials to engineers, planners, advocates, and others. Special projects related to the grant will be initiated by Center staff working in concert with the Federal Highway Administration and other governmental and private agencies. More than 20 projects and activities are now underway on the new grant. One example is the PRO Bike/PRO Walk Conference in Philadelphia that the Highway Safety Research Center is co-sponsoring in September of 2000.

Why walk? — For several years now, the Highway Safety Research Center has been involved in the development of a national pedestrian safety awareness campaign which has assisted in the formation of the Partnership for a Walkable America.

In recent months, the success of the "National Walk Our Children to School Day" campaign, sponsored by the Partnership, was documented by staff at the Center in a full-color publication titled: "Walking with a Mission." The publication included photos of walk-to-school events and interviews with community leaders world-wide who coordinated walks on Oct. 6,

1999. The Walk Our Children to School Day program has now been expanded to an international program with a newly developed web site located at www.iwalktoschool.org. The Highway Safety Research Center is the lead agency in this effort.



More than 300,000 kids, parents and community leaders from some 170 cities across the United States participated in National Walk Our Children to School Day on October 6, 1999. Find out about the upcoming 2000 event on a Center-sponsored website at www.walktoschool-usa.org.

Wear your helmet! — As part of an expanding international collaborative relationship, we recently completed the second wave of a province-wide study of bicycle helmet use in the Canadian province of British Columbia. This study documented, for the first time in North America, the beneficial effects of a comprehensive helmet-use law, showing an increase in helmet use from 46 percent to 70 percent following enactment of the law.



Spreading the word — In continuing efforts to bring pedestrian/bicycle issues to future decision makers, a university course on pedestrians and bicyclists was developed this year for seniors and graduate students in engineering, planning and other departments. A Student Guide, Instructor's Guide and three-part slide/script were developed for teaching purposes. Team members at the Highway Safety Research Center helped teach the first course through the UNC Department of City and Regional Planning this past semester. Other examples of Center projects in the area of pedestrian and bicycle safety include:

- ◆ A study to evaluate the safety effects of bicycle facilities in several states (e.g., bicycle lanes and intersection designs)

which are bicycle-friendly).

- ◆A study to evaluate pedestrian and bicycle facilities such as flashing crosswalk pavement markers, variable message signs for pedestrians and colored pavement bike lanes.
- ◆A collaborative project involving the Center and research agencies in England, Australia, the Netherlands, Canada and Sweden to organize a world-wide review of pedestrian safety research.

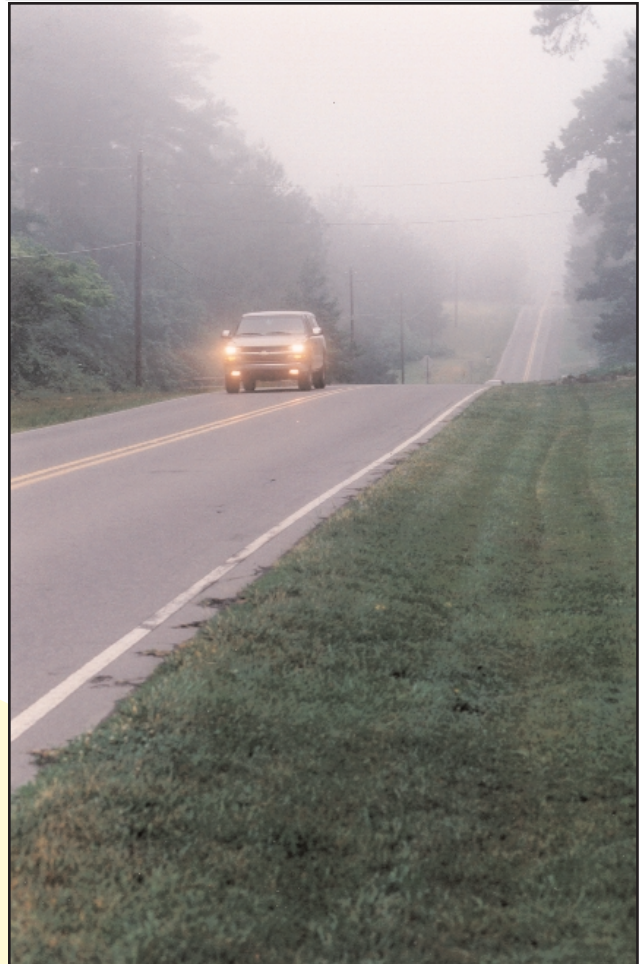
Roadway and Traffic Safety

The expansion, maintenance and use of the "Highway Safety Information System" (HSIS) remains an important continuing project of the Highway Safety Research Center. Funded by the Federal Highway Administration, this multi-state database is a primary research tool for national studies exploring the roadway components of highway crashes. We are currently in the third year of a four-year, \$3.3 million contract to continue this effort. Using linkable files on crashes, roadway inventory, traffic volumes and other roadway descriptors, project staff provide data for over thirty research efforts each year. Studies using HSIS data are conducted by researchers from the Federal Highway Administration, various universities, states and private research agencies, and staff of the Center. The data are also being used by students in the UNC Department of City and Regional Planning in a graduate-level course on transportation safety.

"Street diets" and red-light running —

During the current year, our research efforts using HSIS have ranged from studies of "street diets" which can reduce pedestrian crash risk, to intersection design factors which could affect red-light running. An additional component was added this year — to develop, refine and distribute safety tools incorporating "Geographic Information System" technologies. We also continued major support for the development of the Federal Highway Administration's "Interactive Highway Safety Design Module" This is a safety-oriented addition to the "Computer Aided Design" software, known as "CAD," that is used by the nation's highway designers. The Interactive Highway Safety Design Module is the world's first computer-aided design modification to bridge the gap between safety research and it's practice. The new interactive module provides "automatic" estimates of the safety effects of alternative designs being considered by road designers.

Our Center is involved in the development of the "Highway Safety Information System" or "HSIS." Funded by the Federal Highway Administration, this first-of-a-kind information system contains roadway and crash data from 8 states and is used to calculate crash risk related to roadway design.



"ITS" and "Human Factors"



Intelligent Transportation Systems, or ITS, are a collection of technologies, systems, and transportation management concepts that, together, will make surface transportation safer and more efficient. One example is an advanced traffic signal system that can reduce traffic delays in busy metropolitan areas by providing real time travel information so travelers can better predict their routes and travel times to their desired destinations.

Intelligent Transportation Systems, known as "ITS," represents a major U.S. Department of Transportation initiative to apply existing and new computer, communications, and information technologies to improving transportation mobility, safety, and efficiency. A key component of ITS involves providing the traveler with access to a wide range of information-based services, in large part mediated by mobile, wireless communications and access to the Internet. The safety component of ITS represents a new, emerging area for the Highway Safety Research Center. Our Center is currently undertaking research to ensure that the use of these new ITS technologies in vehicles be carefully designed so as not to become a cause of driver distraction and thus crashes. A driver distraction study begun by the Center this year will provide a "non-ITS baseline" for subsequent studies addressing the potential distraction component of mobile, multi-media capabilities in vehicles. This study, funded by the AAA Foundation for Traffic Safety, involves the use of national and state crash databases to determine what sorts of events are distracting to drivers. Researchers are studying potential driver distractions such as talking on cellular telephones, eating or drinking, smoking, conversing with passengers, and tending to children. Soon, researchers will begin collecting field data on these events to determine just how often they occur in real-world driving.

Sleepy drivers — The Center, in collaboration with the UNC Departments of Psychiatry and Neurology, completed a "human factors" research study of drowsy drivers in 1999. The study, funded by the AAA Foundation for Traffic Safety included interviews with drivers involved in recent sleep-related crashes to determine risk factors for a drowsy driving crash. Factors examined included work and sleep schedules, sleep disorders, overall quality of sleep, driving exposure, and the specific circumstances surrounding the crash such as length of time driving and hours since last slept.



Working with the N.C. Department of Motor Vehicles, Center researchers found that when commercial motor vehicle enforcement activities such as inspections were increased by 129 percent in North Carolina's 21 highest "truck-crash" counties, those counties experienced a 17.7 percent decrease in fatal truck crashes.

Truck Safety

The Highway Safety Research Center has taken an active role in the promotion of truck safety in North Carolina in part through analysis and problem definition work supported by the N.C. Governor's Highway Safety Program and through enforcement and program evaluation efforts funded by the N.C. Department of Motor Vehicles (DMV).

Working with the DMV, our Center found that a 17.7 percent reduction in fatal truck-involved crashes had occurred for fiscal year 1999 in the 21 North Carolina

counties that had the highest number of truck crashes over the previous five year period. This reduction was attributed to an improved ability for the DMV to conduct commercial motor vehicle roadside inspections and traffic enforcement activities in documented high-crash areas. The Center's efforts are helping the DMV extend this effort to 30 counties in fiscal year 2001. Our analysis efforts have also identified important relationships between driver performance and crashes, in particular, the crash risk associated with the smaller carriers in the state.

Mapping it out — In work being conducted jointly by our Center and the N.C. Center for Geographic Information and Analysis, truck crash data are being entered into a spatially referenced — or Geographic Information Systems — format, that will provide state enforcement agencies an improved ability to allocate limited enforcement resources to critical crash areas.

Occupant restraints

The Highway Safety Research Center continues to be involved with the nationally recognized statewide "Click It or Ticket" program coordinated by the N.C. Governor's Highway Safety Program. "Click It or Ticket" combines intensive media and enforcement efforts to increase the use of both seat belts and child restraints in North Carolina. We have continued to assist with the evalua-



The Center worked in conjunction with the N.C. Governor's Highway Safety Program and other key organizations preparing information for the N.C. General Assembly specifying the benefits that could be expected from upgrading the state's occupant restraint laws.

tion of the effectiveness of the program with respect to carrying out semi-annual statewide seat belt surveys for reporting usage to the media as well as the N.C. Department of Transportation and the U.S. Department of Transportation.

Sharing occupant restraint information with elected officials — The Center continues to be involved in serving as a resource for sponsors of legislation intended to upgrade North Carolina's occupant restraint laws. The main components of occupant restraint legislation introduced in the 1999 session of the N.C. Legislature included assessing 2 driver license points for an infraction, having the law apply to all seating positions, and requiring that safety seats be used for children for a longer period of time. The Center worked in conjunction with the N.C. Governor's Highway Safety Program and other key organizations to prepare information and materials specifying the benefits that could be expected from these upgrades. Although the Legislature did not pass the provisions that would have assessed driver license points for violations, the Child Passenger Safety law was upgraded to cover children less than age 16 in the front or back seat (increased from less than age 12) and changed the criteria for when a seat belt could be used rather than a child restraint device. Legislation has been introduced in the current 2000 session to assess 2 driver license points for infractions of the Child Passenger Safety law. Our Center has supplied estimates to the N.C. Child Fatality Task Force of possible benefits.

Special populations

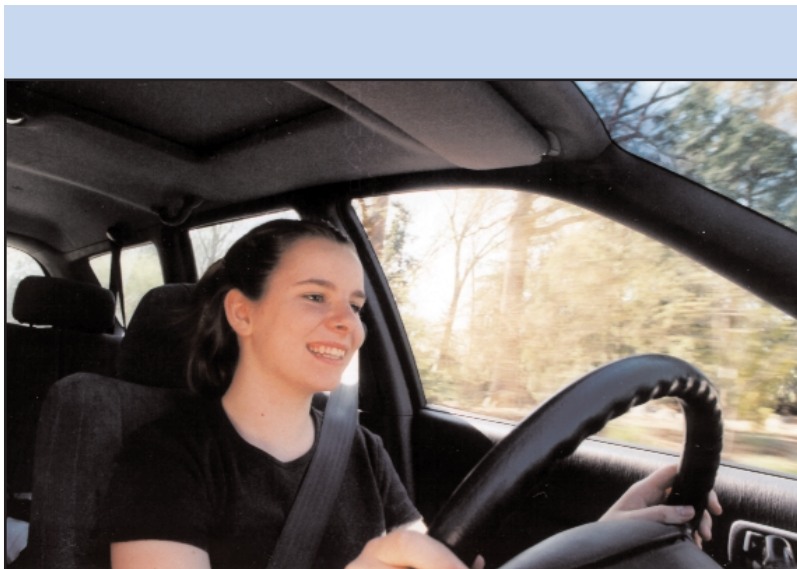
Senior drivers — Given the aging of the current U.S. population, one of the highest priority emphasis areas in the current national research agenda is that of the senior driver. The Highway Safety Research Center recently received funding from the N.C. Governor's Highway Safety Program to study the role that restricted licenses may play in allowing seniors to remain mobile and safe. The study involves an analysis of statewide driver licensing and crash data, interviews with driv-

Field data have been collected by Center researchers from participating driver license stations across the state to learn more about visual and perceptual-cognitive problems occurring among older drivers, and how these are related to their future driving safety.



Motors Corporation to support their older driver research program. One of the projects involves studying factors contributing to the premature reduction or cessation of driving by older adults and looking at ways to help senior drivers make responsible decisions about continuing or stopping driving. The second study involves using North Carolina and national data to learn more about the at-fault crashes and casualties associated with older drivers and what might be expected from these drivers in the future. In another Center study, field data have been collected at participating driver license stations across the state to learn more about visual and perceptual-cognitive problems occurring among older drivers and how these are related to their future driving safety.

er licensing personnel, and a survey of older drivers themselves. The Center was also recently awarded two grants from General



Teen drivers — The second special population of increased emphasis is the teen-age driver. Center researchers are currently collecting data to assess the magnitude of the anticipated benefits of the Graduated Driver Licensing legislation that went into effect for teen drivers in North Carolina on December 1, 1997. In addition to designing the North Carolina Graduated Driver Licensing program, we have assisted a number of other states in developing and obtain-

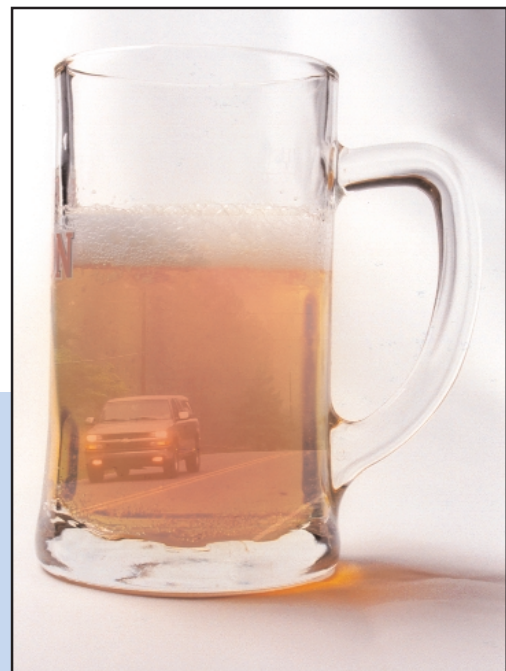
ing legislative support for their own Graduated Driver Licensing systems. We continue to be in the national spotlight on this issue by virtue of our accessibility to the media who often call for advice, assistance, or comment. Most recently an editorial by one of our staff members in the Journal of the American Medical Association attracted international media coverage on the issue of GDL design. We were invited to make presentations to two national conferences about this issue.

Hispanic drivers — Center researchers are conducting a project to identify strategies to reduce traffic-related injuries and deaths among members of the Hispanic population in North Carolina. Last fall, Center staff collected seat belt and child restraint observational data in selected areas throughout the state. They are currently analyzing North Carolina crash data for information about Hispanic traffic safety problems. Later this year, Center researchers will be conducting focus groups with members of the Hispanic population in North Carolina to share observational and crash data with them, learn more about traffic issues important to them, and find out what highway safety messages and programs they think would be most helpful in reducing deaths and injuries. The final component of the project involves working with a Hispanic community in North Carolina to test promising strategies for reducing traffic-related injuries and deaths.

Alcohol and transportation-related injury

The Center has continued to expand its research activities dealing with the pervasive role of alcohol related to transportation injuries and fatalities. We have recently finished data collection in a ground-breaking study to determine the role of alcohol in boating-related fatalities and serious injuries, in collaboration with researchers at the UNC Injury Prevention Research Center and the Johns Hopkins University Center for Injury Research and Policy. Findings were presented at an international conference in Sweden in May. In another first-of-a-kind study, funded jointly by the National Highway Traffic Safety Administration and the N.C. Governor's Highway Safety Program, Center researchers have interviewed and obtained breath-alcohol measurements from a representative sample of more than 4,300 college students. We have developed an intervention to reduce student drinking based on the findings of this study. This intervention is now being implemented in conjunction with the UNC Office of Student Affairs. The project was featured prominently in national media coverage of student alcohol use during the fall of 1999.

Center researchers have interviewed and obtained breath-alcohol measurements from more than 4,300 UNC-CH students for a first-of-a-kind study exploring the nature and extent of alcohol use among college students. These hard data are being used in a norms campaign to change student perceptions about how much college students drink.





Center researchers collaborated on projects with researchers in 18 departments within the UNC System this year.

Collaboration with faculty, staff and students in the UNC System is an on-going activity for our Center. We find that combining talents and knowledge with faculty and staff enhances our research. Mentoring graduate and undergraduate students provides another unique opportunity for our researchers — the chance to share research methodology, social marketing strategies, and cutting-edge road-planning and traffic-safety ideas and policies. This year, seven graduate students worked at the Center on various research projects. Another 14 undergraduates were employed at our Center throughout the year. Center researchers also guest-lectured this year in 15 graduate-level classes on the UNC campus and seven undergraduate classes. Lecture topics included: pedestrian and bicycle planning for sustainable transportation; child passenger safety and occupant restraint laws; the needs of disabled pedestrians; safety analysis methods; urban transportation policy and planning; and health promotion in community and school settings. Throughout the year, Center researchers mentored graduate and undergraduate students at UNC-CH as well as N.C. State University, Appalachian State University, UNC at Greensboro and UNC at Wilmington. The Center director serves on an N.C. State University doctoral advisory committee and also as a mentor for Texas A&M University's Graduate Program in Transportation Studies.

Collaborative work with faculty and staff in the UNC System has been extensive this year. During the 1999-2000 fiscal year, the Center has had collaborations with the following departments:

- ◆The UNC Injury Prevention Research Center
- ◆The UNC Department of Health Behavior and Health Education
- ◆The UNC Department of City and Regional Planning
- ◆The UNC Department of Emergency Medicine
- ◆The UNC Department of Psychiatry
- ◆The UNC Department of Neurology
- ◆The UNC Department of Maternal and Child Health
- ◆The UNC Cecil G. Sheps Center
- ◆The UNC Student Affairs
- ◆The UNC Student Health Service
- ◆The UNC Office of the Dean of Students
- ◆The UNC Frank Porter Graham Child Development Center
- ◆The UNC Carolina Population Center
- ◆The UNC Department of Biostatistics
- ◆The UNC News Services
- ◆The Carolinas Medical Center Department of Emergency Medicine
- ◆The East Carolina University School of Medicine
- ◆The Pitt County Memorial Hospital in Greenville, N.C.

Additional Center collaborations have included work with researchers at:

- ◆ Johns Hopkins University in Baltimore
- ◆ Purdue University in West Lafayette, Ind.
- ◆ The University of Florida in Gainesville
- ◆ The University of Miami
- ◆ Vanderbilt University in Nashville, Tenn.
- ◆ Boston College
- ◆ Western Michigan University in Kalamazoo, Mich.
- ◆ The Traffic Injury Research Foundation in Ontario, Canada
- ◆ And the Insurance Institute for Highway Safety in Arlington, Va.

Below are highlights of some of these collaborations:

◆ A collaborative project with the UNC Injury Prevention Research Center, East Carolina University School of Medicine, the UNC Department of Health Behavior and Health Education, and Pitt County Memorial Hospital on a project to evaluate the effectiveness of the Safe Community Program for Pitt County, N.C.

◆ Collaboration with the UNC Department of Emergency Medicine and the Carolinas Medical Center Department of Emergency Medicine on a project to evaluate the effectiveness of conducting alcohol abuse/dependency screening for patients admitted to hospital emergency departments.

◆ A collaborative project with the UNC Injury Prevention Research Center and Johns Hopkins University to study the role of alcohol in boating fatalities.

◆ Collaboration with the UNC Cecil G. Sheps Center for Health Services Research on a report for the N.C. General Assembly on the "state of health" in North Carolina.

◆ Collaborative work with the UNC Department of City and Regional Planning on a study looking at the characteristics of fatal crashes in the southeastern United States.

◆ Collaborative work with the UNC Department of Psychiatry on a study examining the "Premature Reduction and Cessation of Driving by Older Men and Women"

◆ Collaborative work with the UNC Department of Neurology and the UNC Department of Psychiatry on a study examining the role of fatigue and drowsiness in motor vehicle crashes.

◆ Collaboration with UNC faculty and staff on a study to examine drinking on a college campus and to develop, test and evaluate a program to change normative beliefs about drinking. Collaborating partners include Dr. Sue Kitchen, Vice Chancellor for UNC Student Affairs; Sue Gray, Director of Health Education at the UNC Student Health Service; Dr. Melissa Exum of the UNC Office of the Dean of Students; and Susan Ehringhaus, Assistant to the Chancellor for the UNC Counsel.

◆ Collaboration with the UNC Department of City and Regional Planning Library to jointly purchase Internet access to the TRANSPORT database.

◆ Collaboration with the UNC Injury Prevention Research Center and the UNC Department of Maternal and Child Health on a study examining the role of alcohol in children's motor-vehicle-related deaths and injuries.

- ◆ A collaborative project with the UNC Department of Health Behavior and Health Education and the Traffic Injury Research Foundation in Ontario, Canada, on a project using community interventions to promote bicycle helmet use.
- ◆ Collaboration with the UNC Frank Porter Graham Child Development Center and the UNC News Services to develop a communications outreach system to distribute important research findings.
- ◆ Collaboration with the UNC Department of Public Safety and the UNC News Services to develop a campus-wide pedestrian awareness campaign.
- ◆ Collaborative work with Dr. Asad Khattak and graduate student Chandler Duncan, both of the UNC Department of City and Regional Planning, on a paper on pedestrians hit while walking in the road, for publication in *Accident Analysis and Prevention*.
- ◆ A collaborative project with the Insurance Institute for Highway Safety, on a comparative study of the driving records of parents and their children to examine how young drivers are influenced by the driving examples set by their parents.
- ◆ A collaborative project with the University of Miami and the University of Florida on a study to identify high pedestrian crash zones in Miami-Dade County and to work with local planners to develop engineering, educational and enforcement countermeasures.
- ◆ Collaboration with Purdue University on a proposal to the National Institute on Alcohol Abuse and Alcoholism to study repeat drinking drivers.
- ◆ A collaborative project with Western Michigan University, Boston College and Vanderbilt University on a project investigating the needs of blind pedestrians at complex intersections.



Getting our research into the hands of practitioners who can put it to use is an important part of fulfilling the Center's mission to eliminate injuries caused by travel-related crashes and to save lives. This year, our outreach work has ranged from making presentations at conferences, testifying before legislative committees, sharing information with the media and teaching off-campus workshops to publishing in peer-reviewed journals, responding to calls on our 1-800 hotline, putting together computerized data runs for people requesting information, and augmenting our Web site.

Center research staff made presentations at 43 national-level conferences, 14 state-level conferences and three international conferences this year.

This year, Center researchers have spoken to a diverse group of professional and research audiences in the interest of sharing study results. Presentations were made at 43 national-level conferences and 14 state-level conferences. Center researchers also made six presentations at the following three international conferences: the Fifteenth Triennial Meeting of the International Conference on Alcohol, Drugs and Traffic Safety in Stockholm, Sweden; the Tenth International Conference on Traffic Safety on Two Continents in Malmo, Sweden and the Annual Conference of the Association for the Advancement of Automotive Medicine in Barcelona, Spain. Center staff also published 15 peer-reviewed publications this year and 23 additional manuscripts for use by the research and user communities.


Presentations and Papers

Enriching our Web site

Press Release: Study shows drinking drivers still taking large yearly toll on nation's children

Websites of HSRC: from North Carolina alcohol facts to walkinginfo, HSRC has created several websites that provide valuable information and resources

University of North Carolina



Highway Safety Research Center

Public Information Research About Us Publications Site Map

The University of North Carolina Highway Safety Research Center
 CB# 343D, Chapel Hill, NC 27599
 Phone: 919-962-2202 or (in NC) 800-672-4527 Fax: 919-962-8710

We take note of the increasing use of electronic media, especially the Internet, for publishing and dissemination activities. Our Center's web site has expanded greatly in the past year. Many reports previously printed and distributed on paper have begun to be published electronically. To improve access to our Center's publications, Center library staff created an online bibliography this year of our publications with links to full texts where available. The bibliography is accessible from our Center's Home Page on the Internet at <http://www.hsrc.unc.edu>. Our library's holdings are also listed on the On-line Union Catalog of the On-line Computer Library Center — an international consortium of cooperative library services. Through this online catalog, our library receives both national and international attention. Center staff use our Internet site as a resource to educate the public on North Carolina motor vehi-

From North Carolina alcohol facts to walking and bicycling information — our Center has created several web sites that provide valuable information and resources to Internet users.



Websites of HSRC

- www.hsrc.unc.edu/NCAE - The North Carolina Alcohol Facts website provides a variety of county-specific and statewide data about alcohol use and its effects in North Carolina.
- bicyclinginfo.org is a website for the Pedestrian and Bicycle Information Center that provides a comprehensive resource for bicycling information.
- walkinginfo.org is a website for the Pedestrian and Bicycle Information Center that provides a comprehensive resource for walking information.
- www.iwalktoschool.org - On Wednesday, October 4, 2000 the world will celebrate the first International Walk to School Day (walk for short). This site offers information about what iwalk is, why this event is so important and how to get involved.

cle laws, to publish reports and data in graph-illustrated files and to create searchable databases. A searchable database of statistics on arrests and convictions for impaired driving for North Carolina's 100 counties recently went live on our web site.

Providing information for legislators and state officials

Our researchers are frequently called upon to testify or provide information about transportation safety issues for North Carolina legislative committees, state boards, and legislative staff. This year, Center researchers testified to the N.C. Board of Transportation's "Safety and Emerging



During a visit to our Center in February, Congressman David Price took a virtual tour of the Pedestrian & Bicycle Information Center being developed by the UNC Highway Safety Research Center. Launched last fall, the site is being tailored to answer walking and bicycling questions from everybody from engineers and health professionals to kids, parents and congressional representatives.

Issues Committee" on the results of our recent study evaluating the on-road behavior of sixteen-foot-wide mobile homes in North Carolina. The study included recommendations related to the routing of the wider units, the use of escorts, and other factors that would enable safe transport of these units should the Board of Transportation choose to allow their more widespread movement. In June of this year, the board voted to expand the area in which the sixteen-foot-wide units were allowed to operate, using many of the restrictions suggested by our Center.

In other testimony this year, one Center researcher spoke to the Legislative Oversight Committee on recent trends in highway safety and remaining problems in this field. Another researcher spoke to the Transportation Oversight Committee regarding truck safety. Another Center researcher spoke to the N.C. Child Fatality Task Force and to the organization "Covenant with North Carolina's Children" to help them develop and support North Carolina bicycle helmet legislation. A Center researcher testified before the North Carolina Senate Judiciary Committee and the House Finance Committee regarding motorcycle helmet legislation. And our Center librarian provided information for the N.C. General Assembly Legislative Library on the crash rates of convertible automobiles versus other body types.

Media Contacts

Our Center was contacted by members of the international, national, state and local-level media for information on transportation-related issues on more than 300 occasions this year. Interview topics included kids and air bags; the role of cell phones in crashes; road rage; trucking safety; statistics on the percent of crashes that occur close to home; information on the new North Carolina



Our Center's work continues to attract the attention of the media. This year, Center staff responded to calls from television, newspaper, radio and Internet reporters on more than 300 occasions. Hot topics included cell-phone use while driving, road rage, trucking safety, child safety seat use, drowsy driving, and graduated driver licensing.

Child Restraint Law; safety issues related to transporting mobile homes; pedestrian safety issues; the road compatibility of sports utility vehicles and cars; alcohol involvement in crashes; graduated driver licensing; young driver behavior; bicycle safety; senior driver behavior; motorcycle safety; sleep-related crashes; the involvement of Hispanics in North Carolina crashes; kids in the back of pick-up trucks; Intelligent

Transportation System usages for pedestrians; braking issues related to sports utility vehicles; vehicle crashworthiness in the 1990's; "smart" (inflatable) seat belts; speeding; deer-motor vehicle crashes; the pros and cons of seat belts on school buses; the effectiveness of the 0.08 percent BAC law; "poky" drivers; laminated glazing for side and rear-vehicle windows; fatal commercial vehicle crashes along Interstate 95; glare from the new night-vision headlights; and the results of the "College Alcohol Study" being conducted at UNC-CH by our Center.

International media contacts: Some of our media coverage this year was with international news organizations including the British Broadcast Corp., United Press International, the Canadian Broadcasting Corp., Montreal Radio, Dateline TV in Ontario, Canada, and CBC-TV in Canada.

National media contacts: Many of our contacts this year were with national media such as CBS Morning News, CNN News, ABC News, ABC Radio, Good Morning America, CBS Health Watch, NBC Nightly News, Hearst Corp., CNN Radio, NBC Dateline, COX-TV, National Public Radio, the New York Times, the Wall Street Journal, the Washington Post Magazine, Southern Living Magazine, Fox Radio News, the Associated Press, USA Today, Seventeen Magazine, U.S. News & World Report, Family Circle Magazine, Harper's Magazine, Parents Magazine and the Chronicle of Higher Education.

State-level media contacts: North Carolina media calls this year came from the Raleigh News & Observer, the Charlotte Observer, the Herald-Sun in Durham, the Chapel Hill Herald, Carolina Broadcast News, the Greensboro News & Record, the Winston-Salem Journal, the Asheville Citizen-



Times, the High Point Enterprise, the Alamance News, the McDowell (County) News, the Stanley (County) News Press, Creative Loafing (a Charlotte magazine), the Daily Southerner in Tarboro, the Fayetteville Observer Times, the Havelock Times, the Shelby Star, the Sampson News (also in Shelby), the UNC Daily Tarheel, WRAL-TV in Raleigh, WTVD-TV in Durham, WUNC-Radio in Chapel Hill, WLFL-TV in Raleigh, WDNC-17 in Durham, WPTF-Radio in Raleigh, WSOC-TV in Charlotte, WFMY-TV in Greensboro, WSOC-TV in Charlotte, WBTV-TV in Charlotte, NBC-TV in Charlotte and WNBC-TV in Charlotte.

The "drowsy driving study" conducted by our Center in collaboration with the UNC Departments of Psychiatry and Neurology attracted extensive national media attention after a December 1999 press conference in Washington, D.C., announcing study results.

Our researchers were also contacted by media from other states including calls from the Atlanta Constitution, the Philadelphia Inquirer, the Dallas Morning News, the L.A. Times, the L.A. Daily News, the Kansas City Star, CBS Radio in New York, CBS Radio in

San Francisco, WGN-Radio in Chicago, KFBK-Radio in Sacramento, Calif., KMOX-Radio in St. Louis, WXYT-Radio in Detroit, KVBC-TV in Las Vegas, the Naples (Florida) Daily News, the Fort Lauderdale (Florida) Sentinel, the Trenton New Jersey Times, the Virginia Pilot, the Roanoke Rapids Daily Herald and the Rocky Mount Telegram.

Internet news contacts: The Internet has provided a new kind of news medium — news web sites. This year, our researchers were contacted by reporters from CNN Health Chat, Healthsmart, WebMD.com and Health Scout (www.healthscout.com).

Our quick-response hotline

The state-wide toll-free line is one of our most active means of public information dissemination. This 1-800-number funded by the N.C. Governor's Highway Safety Program, was originally aimed at providing answers to parents' questions concerning safety seats for children, but has been expanded to provide information on seat belts for adults, drunk driving, and other information for local health educators, law enforcement officers and the general public. We also use it to provide city, county, and state-level motor vehicle crash statistics to local programs. The line averages 30 hours a month of incoming calls.

Our Center's 1-800 hotline averages 30 hours a month from callers wanting information about child safety seats, seat belts and other transportation safety issues. For those who want to know, that number is: 1-800-672-4527.



The area of seat belts, child restraints, and air bag safety has continued to be addressed by our Center in the information and feedback we provide citizens through our toll-free line. Many calls come from parents and care givers needing information about the North Carolina Child Passenger Safety and Seat Belt laws. Center staff provide information about which practices are legal and recommended. In the area of air bag safety, Center staff recommend that children 12 years old and younger be properly secured in occupant restraints in the back seat and that front-seat drivers and passengers be properly belted and seated as far back from an air bag as possible. Many questions have been addressed with respect to the pros and cons of the NHTSA-approved option of installing on/off switches for air bags. Callers are often referred to the "Child Passenger Safety" section of our web site for additional details and information.

Off-campus workshops

Our Center continues to work with the Office of the State Fire Marshal of the N.C. Department of Insurance and the North Carolina "Buckle Up Kids" program to implement the national standardized child passenger safety training curriculum. As part of this endeavor, Center staff helped teach three North Carolina workshops this year to certify individuals to become child passenger safety trainers. Approximately 85 individuals participated in these sessions. Four "car seat clinics" were also taught by Center staff in various North Carolina cities. Nearly 790 parents attended. The sessions included information on how to correctly install and use child safety seats, and discussion on issues dealing with the emerging problem of injuries and deaths to children by front-seat passenger air bags.

Center researchers were involved in other off-campus workshops this year including two one-day "Law Enforcement Summits" in New Bern and Winston-Salem that involved 640 North Carolina police officers. These sessions focused on providing information about occupant restraints and trends in motor-vehicle crashes with an emphasis on drinking drivers and cell phone use. Another researcher taught a traffic safety class to 30 Durham middle school students.

Our Center has responded to more than 130 requests for crash or driver history data summaries this year. The largest number of requests came from local law enforcement agents (around 30). The second largest number came from state and national media representatives (about 20). Additional requests came from health departments, attorneys, North Carolina public schools, local university students and various safety organizations. Some specific examples of those requesting information this year include the North Carolina Highway Patrol, the UNC Chapel Hill Trauma Registry, the North Carolina SADD and MADD chapters, the N.C. Department of Crime Control & Public Safety, graduate students and faculty at the UNC School of Public Health, members of the N.C. Governor's Highway Safety Program and researchers from the UNC School of Medicine.

Computerized data requests



The most important administrative change that has occurred at our Center this year has been the appointment of a new director. Dr. H. Douglas Robertson began work at the Center on Oct. 1, 1999. He also holds a faculty appointment with the UNC Department of Health Behavior, Health Education. Since his arrival, Robertson

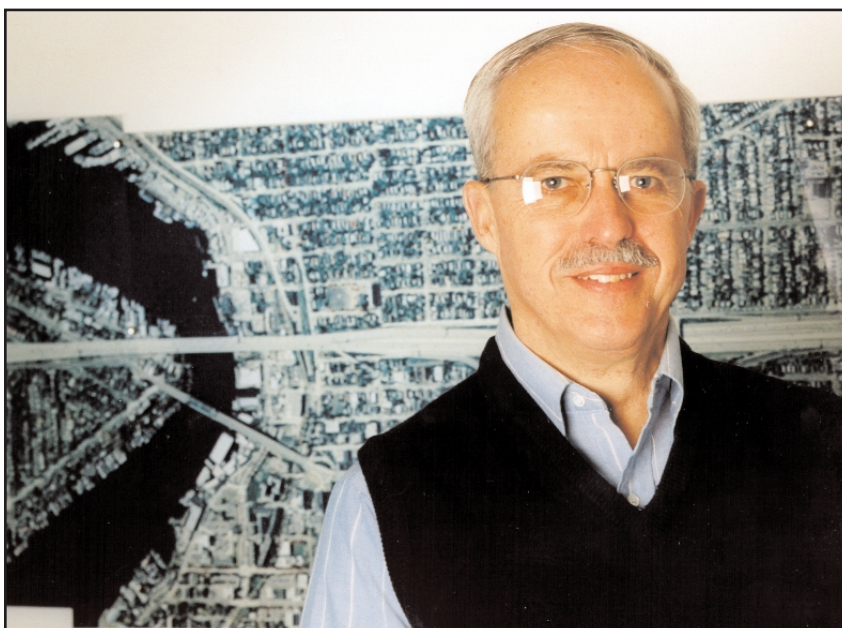
Dr. H. Douglas Robertson was appointed center director last fall on the recommendation of representatives from eight UNC departments and centers. Since his arrival, he has worked with staff to develop a five-year strategic plan for the Center. Staff discussion is now underway about how best to organize the programs and staff to meet the Center's goal and objectives and thus achieve our vision.

has expanded the Center's policy board from 10 members to 16, worked to formulate a plan to increase the outreach capabilities of the Center, and, with input from the entire staff, facilitated the development of a five-year strategic plan for the Center. Staff discussion is now underway about how best to organize the programs and staff to meet the Center's goal and objectives and thus achieve our vision. Throughout this shift in leadership, the basic core competency of quality transportation safety research at our Center has, and will continue to remain, unchanged.

From July through September of last year, during the period prior to Robertson's arrival, Dr. Donald Reinfurt, the Center's deputy director, served as interim director. Reinfurt is an adjunct professor in the UNC Department of Biostatistics, School of Public Health. Former Center Director Dr. Forrest Council continues work at the Center on a part-time basis. He holds an adjunct appointment with the UNC Department of City and Regional Planning and is a lecturer with the UNC Department of Health Behavior, Health Education.

Awards

Several of our Center's researchers were honored in 1999/2000 for outstanding work. Center Deputy Director Dr. Reinfurt was named a fellow by the Association for the Advancement of Automotive Medicine in a ceremony in Barcelona, Spain, last September. He was the only American recognized as a fellow by the international association in 1999. At the annual meeting of the Transportation Research Board in January of this year, Center Researchers Dr. Ronald Hughes, Dr. Herman Huang, Charles Zegeer, and Center Subcontractor Michael Cynecki won a Best Paper Award from the board's Pedestrian Committee. Center researchers were also honored by the Institute of Transportation Engineers with the Outstanding Project Award for a report on the design and safety of pedestrian facilities.



Dr. Donald Reinfurt was named a fellow by the Association for the Advancement of Automotive Medicine in a ceremony in Barcelona, Spain, last September. He was the only American recognized as a fellow by the international association in 1999.

Our budget

During fiscal year 2000, the UNC Highway Safety Research Center experienced over an 18 percent increase in its total operating budget. It went from \$4.5 million in fiscal year 1999 to nearly \$5.3 million this year. The most significant differences in our funding source allocations were in North Carolina state agency contracts, which increased from 11 percent to 20 percent, and federal contracts, which decreased from 56 percent to 51 percent.

Our Center had 71 active research projects this year funded through a variety of sources. Our funding can be broken down as follows:

- ◆ 51 percent from federal contracts
- ◆ 20 percent from North Carolina state agency contracts
- ◆ 4 percent from state agency contracts in other states
- ◆ 1 percent from contracts through other UNC departments
- ◆ 11 percent from other private and public agencies and organizations
- ◆ And 13 percent from UNC-CH (state and overhead) funds.

Overall, the Center brings in nearly seven research dollars for every dollar that the state invests in us through the University. This represents an increase over last year's ratio of six to one.



Our Center's researchers continue to play significant roles on national committees which develop the nation's research agenda.

Researchers at the UNC Highway Safety Research Center serve on 12 committees within the National Academy of Sciences' Transportation Research Board. Center staff serve on 19 additional national committees, chairing three. On the international level, Center Director Dr. Doug Robertson chairs the Intelligent Transportation Systems World Congress America's Program Committee. Center researchers serve on two other international committees, chairing one, and six other state-level committees.

Visitors: Our Center hosted visits from two transportation researchers from the international research community this year. Dr. Lars Ekman, a professor of engineering at Lund University in Sweden visited our Center in January, and Paul Wesemann of the Netherland's SWOV Institute for Road Safety Research met with Center researchers in May. Ekman is known for his innovative research on pedestrian issues and was a guest speaker at the UNC Injury Prevention Research Center's spring seminar series.

His talk was co-sponsored by our Center. Other visitors to our Center this year have included U.S. Representative David Price; Dr. Ricardo Martinez, former administrator of the National Highway Traffic Safety Administration; and Frank Francois, former executive director of the American Association of State Highway and Transportation Officials.

The Center also hosted several visits this year from researchers and transportation safety experts working in concert with Center researchers on projects. These included visits from Dr. Douglas Beirness, vice president for research at the Traffic Injury Research Foundation in Ontario, Canada; Drs. Gordon Smith, Penny Kyle and Jeff Hadley of Johns Hopkins University in Baltimore; Dr. Ronald Besel of Purdue University in West Lafayette, Ind.; Andy Clarke of the Association of Pedestrian and Bicycle Professionals; John Fegan, Bicycle/Pedestrian/Trails Team Leader for the Federal Highway Administration (FHWA); and Carol Tan Esse also of FHWA.



The goal of the Highway Safety Research Center is to make travel safer. We are doing that by maintaining and strengthening the quality research for which we are noted. Our next step is to seek additional support for our outreach activities, so that we might more effectively place our research findings in the hands of safety practitioners and decision makers. Specifically, the Center is seeking to create a \$10 million endowment to support its outreach efforts. This is an integral part of helping our Center better perform its mission of saving lives and preventing injuries through timely application of results and findings.

Collaboration with other researchers within the UNC System remains a high priority for our Center. This comes naturally in our field of research since highway safety is an interdisciplinary arena requiring the consideration of human, vehicular, roadway and environmental factors. We look to further strengthen our role in the education process for Carolina students through research internship opportunities for both

graduate and undergraduate students. Our research staff will continue to assist UNC faculty with course development and class lectures.

We will also strive to develop and grow our own staff by affording them opportunities to present papers at national and international conferences, publish their work, and network with their colleagues. By remaining cutting-edge in our research and methodology, our Center is positioned to remain a national leader in university-based transportation safety research and information dissemination. Our goal for the future is clear — to do our part to eliminate travel deaths and injuries and to make travel safe for all of us.



An average of 41,000 Americans are killed in highway crashes alone each year. Another 3.2 million are injured.

The goal is clear — eliminate this national tragedy.



