



THE UNIVERSITY OF NORTH CAROLINA  
**HIGHWAY SAFETY  
RESEARCH CENTER**

**2007**  
ANNUAL REPORT

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# Message From The Director

**October 2007**

In 2006, the Highway Safety Research Center celebrated 40 years of work. This past year has been one of looking back at the milestones of HSRC and looking forward to the work that remains to make our transportation system safer. Looking back at the history of HSRC and the accomplishments of the staff along the way makes you proud to be part of this special group that has impacted the lives of so many that travel on our roads. At the same time, it makes you realize how much more there is to do.

HSRC was established in 1965 by the North Carolina General Assembly at the request of Governor Dan K. Moore. In his speech to the legislature in April of that year, Governor Moore was passionate about the need to address highway safety:

*"I must drive home to you that this is a matter of life and death; a matter that just cannot wait any longer; a crisis that must have official and complete action, NOW, not later, not half-way, not piece-meal...but a total program which must not be delayed any longer."*

One piece of that total program was the UNC Highway Safety Research Center, with a charge to:

- *"Encourage university-wide involvement in the State's total accident prevention effort,*
- *provide objective analysis of our current safety programs*
- *coordinate and participate in professional training of the hundreds of people already on the job in the traffic safety field in North Carolina, and*
- *coordinate all research in traffic accident prevention in our colleges and research centers."*

With a two-year budget of \$100,000, HSRC opened its doors in 1966 under the direction of Dr. B.J. Campbell, who quickly adopted a multidisciplinary approach to addressing highway safety. His first hires included a psychologist, epidemiologist, statistician, and engineer. In this relatively new field of highway safety, they were pioneers who



helped practitioners, politicians and others understand how applied research could lead to safer roads. More than 40 years later, HSRC has grown into one of the premiere transportation research institutions in the country, and the only one whose primary emphasis is on safety.

Over the past four decades, we have had major successes in changing the behaviors of drivers, pedestrians and bicyclists; improving standards and guidelines for the design and operation of our roadways; and creating awareness of the need to make our roads safer. We are particularly proud of the initiatives and ideas that were born at HSRC, implemented in NC with the help of partnering agencies, and have become models for other states throughout the U.S. “Click It or Ticket” and graduated driver licensing are two examples of such.

In his 1965 speech, Governor Moore cited the fatality figures from 1964; 1,576 persons died in traffic crashes on North Carolina roads that year. As we approach the end of 2007, nearly 1,700 lives will be lost on North Carolina roads this year, a level not seen since 1987. While the increases over time are often explained away as a result of the increase in traffic, it is no excuse. We have to do better!

As HSRC looks to the future, we will remain true to the original charge of Governor Moore. Many of the words from his 1965 speech still ring true today with respect to highway safety — it is still a matter that cannot wait any longer. Each year, each day, each hour, we continue to lose too many lives on our nation’s roads. The dedicated staff at HSRC will continue its strong tradition to look for opportunities to make our roads safer through research, professional training, public outreach, and legislative awareness. We will partner with agencies throughout North Carolina, the nation and across the world to make a difference in road safety.

Please join us as we begin work on the next 40 years of highway safety research.

**David L. Harkey**, *Director*



# Overview

## Our Mission

The mission of the Highway Safety Research Center (HSRC) at the University of North Carolina is to conduct interdisciplinary research and develop programs aimed at reducing deaths, injuries and related societal costs of roadway crashes in North Carolina and the nation.

For over 40 years, the University of North Carolina Highway Safety Research Center has been a leading research institute that has helped shape the field of transportation safety.

## Year in Review

This year, the UNC Highway Safety Research Center experienced a year of growth in its pursuit to reduce motor-vehicle crashes. HSRC continued to work closely with the U.S. Department of Transportation, the North Carolina Department of Transportation and other public and private agencies to conduct research and translate developed knowledge into practical interventions.

HSRC secured and renewed several large, multi-million dollar projects while also expanding its reach within new national programs such as the Strategic Highway Research Program.

The Center also focused on expanding its international scope. By developing relationships with organizations outside the U.S., the Center can learn from other countries that have experienced greater strides in reducing highway fatalities and injuries. The Center also aims to share effective road safety strategies with developing countries in their efforts to save lives and reduce injuries.

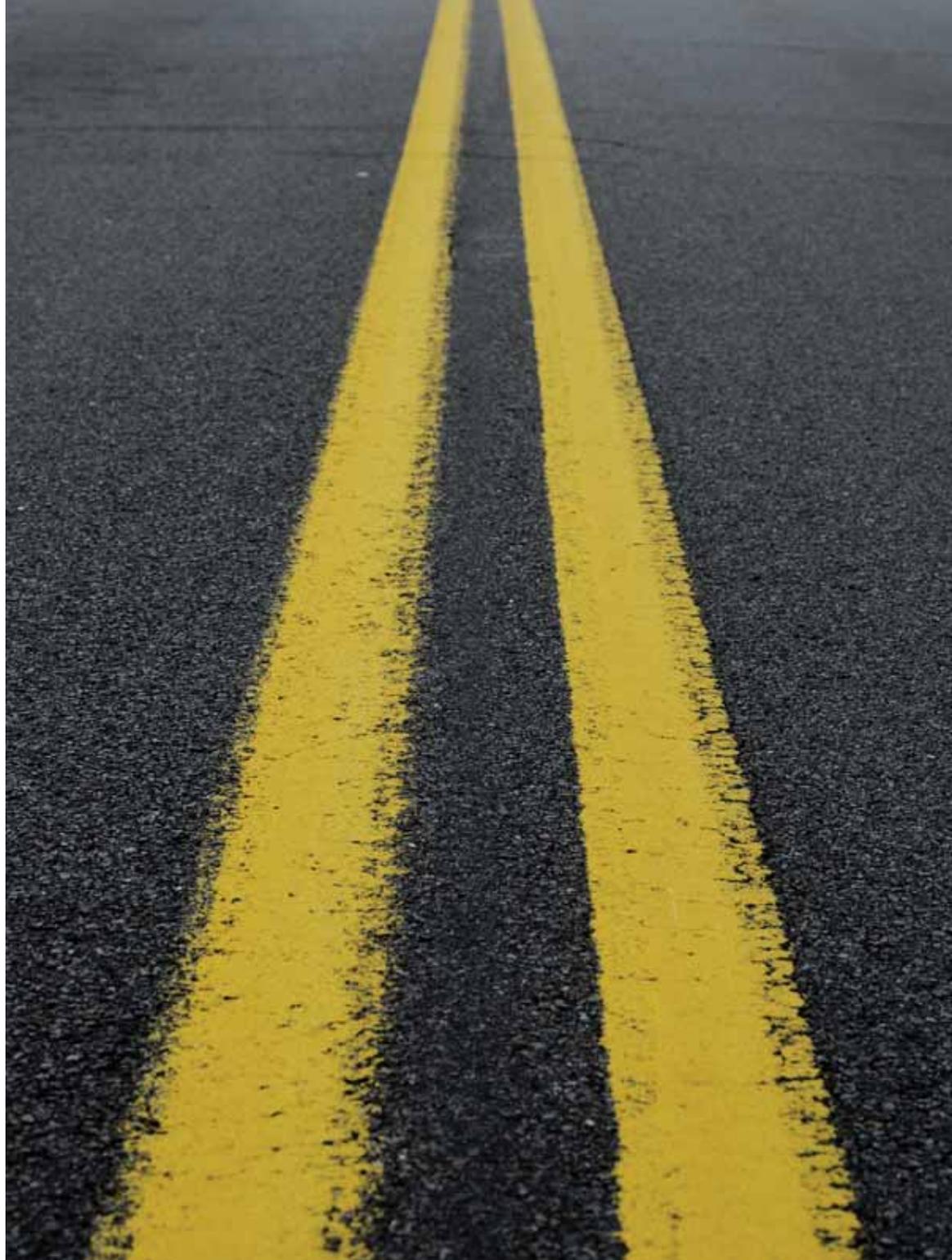
Our staff continued their presence on state and national safety committees, and served as key sources of safety information to transportation professionals, the general public, State legislatures and the media.

HSRC continued its tradition of expert research, holding the highest standards for the work conducted at the Center. The year concluded with a record number of awarded projects for new and ongoing research into the transportation field.



# Center Highlights

HSRC is consistently working on issues that affect all road users from motorists to pedestrians. Research is ongoing to ensure the most current information is available to the public. The following outlines a few of the highlights that came from HSRC in the past year.



# PEDESTRIAN AND BICYCLE SAFETY

## Tribal School Zones Toolkit

Pedestrian-related fatalities among adults in the American Indian community are significantly higher than those of Caucasians or African Americans – 3.5 times higher. For children, the numbers are even more shocking with the fatality rate being four times that of the overall population.

In response to this alarming trend, the U.S. Department of Transportation Federal Highway Administration (FHWA) teamed with Vanasse Hangen Brustlin, Performtech and HSRC to create a resource toolkit to help address these issues among the tribal population. The toolkit includes two videos to highlight pedestrian safety and awareness and a manual of educational materials such as pedestrian safety tips for all age groups, promotional tips, and a resource sheet.

## Establishing the National Center for Safe Routes to School

Established in May 2006 with \$6.2 million from the U.S. Department of Transportation Federal Highway Administration, the National Center for Safe Routes to School (NCSRTS) assists communities in enabling and encouraging children to safely walk and bike to school.

The Center kicked off its first year of operation with several key accomplishments, including the launch of a comprehensive Web site, the coordination of two national-level SRTS meetings and the establishment and awarding of the James L. Oberstar Safe Routes to School Award. The Center was also able to develop a Web-based SRTS Library; secure media coverage in several major media outlets including the Chicago Tribune, Baltimore Sun and USA Today; manage International Walk to School Day in the US with a record number of registrants; establish toll-free technical assistance; and many other significant activities.

As the NCSRTS moves forward, it continues to strive to equip communities with the proper tools they need for a successful and sustainable SRTS program. Most recently, in its effort to collect national-level data on the number of children walking and bicycling to school, the Center developed standardized forms for the collection of student travel data and parental attitudes about students traveling to and from school. The Center will house the national data in order to analyze the effectiveness of SRTS program elements.



The National Center for Safe Routes to School has had a thriving first year thanks to the many local program volunteers across the nation, partnering agencies, and the hard work of the 51 Safe Routes to School State Coordinators. With the help of these people and many others, the NCSRTS looks forward to expanding the program.



**Pedestrian and Bicycle Information Center**

### **Renewal of the Pedestrian and Bicycle Information Center**

HSRC received \$1.6 million for the renewal of the National Pedestrian and Bicycle Clearinghouse, a leading source of pedestrian and bicycle information and technical assistance nationwide. The Pedestrian and Bicycle Information Center (PBIC) has expanded the scope of its work in the past year, allowing for continued research and development through additional projects, and new and continued relationships.

Recognizing the need to make the valuable information of the PBIC available to a mass audience, the PBIC took on a number of activities that would ensure the most current and relevant information was out there. The PBIC is extensively updating its three main Web sites: [www.walkinginfo.org](http://www.walkinginfo.org), [www.pedbikeinfo.org](http://www.pedbikeinfo.org), and [www.bicyclinginfo.org](http://www.bicyclinginfo.org). The Center also continued extensive outreach, attending several national and international conferences, making presentations, developing and distributing marketing materials, and conducting interviews with radio and print media. This outreach also included the provision of technical assistance via e-mail and phone to national and international customers.

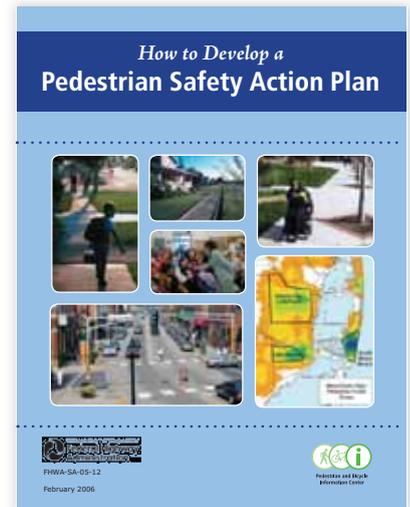
In an effort to build and maintain valuable relationships, the PBIC also coordinated with a variety of other clearinghouses and organizations throughout the year. The Center worked closely with the Association of Pedestrian and Bicycle Professionals to develop case studies of successful programs and initiatives for pedestrian and bike safety.

### **National guidance for pedestrian safety plans**

The Pedestrian and Bicycle Information Center developed *How to Develop a Pedestrian Safety Action Plan*, a guide to be used by transportation professionals who have the responsibility of improving pedestrian safety at the state or local level. Along with the development of this guide, the Center offers several training courses to provide technical assistance in developing pedestrian safety action plans and in improving street and pedestrian facility design.

The Pedestrian Safety Action Plan training courses are ultimately intended to:

- Guide future planning and land use as it relates to pedestrians
- Encourage smarter engineering and design of pedestrian facilities
- Target specific locations in need of safety enhancements
- Lead to needed policy changes



# TRAFFIC OPERATIONS AND ROADWAY DESIGN

## Highway Safety Information System

For many researchers, acquiring data to study the safety of our roadways used to be a lot more difficult. That changed in 1990 when the Highway Safety Information System (HSIS) was launched.

The concept for HSIS was developed in 1987 under the direction of Dr. Forrest Council, former HSRC director and HSIS principal investigator, to develop a system, not just a database, that could be used to answer the most critical highway safety questions.

The HSIS is used most often by researchers to evaluate the safety effectiveness of engineering countermeasures and to determine the relationships between characteristics of the roadway environment and crashes. The results of these research efforts are provided to engineers, planners and policy makers and help them to make better decisions about where to spend their limited resources for safety improvements and what changes are needed in the design, operations and maintenance of their roadways. Recent studies using the HSIS include an investigation of collisions involving passenger cars and large trucks, safety analysis of rumble strips, and a crash analysis of collisions involving pedestrians and motor vehicles on rural roads.

Through recent increased funding, the Center can continue its operation of the Highway Safety Information System (HSIS), the nation's only multi-state database incorporating both crash and non-crash safety data for use in the analysis of motor-vehicle crashes.

## Safety Analysis Tools upgraded

One way of turning research into practice is through the development of safety analysis tools. Several tools were upgraded during the past year and are available for download through the HSIS Web site (<http://www.hsisinfo.org>).

The Pedestrian and Bicycle Crash Analysis Tool (PBCAT) is a crash typing software product intended to assist state and local pedestrian/bicycle coordinators, planners and engineers with improving walking and bicycling safety through the development and analysis of a database containing details associated with crashes between motor vehicles



and pedestrians or bicyclists. PBCAT Version 2.0 includes significant improvements in functionality and has an enhanced design that makes the software easier to use.

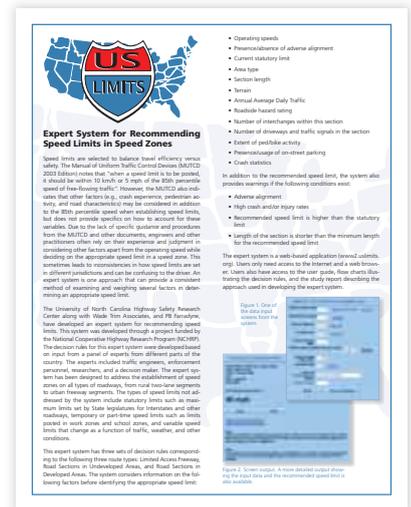
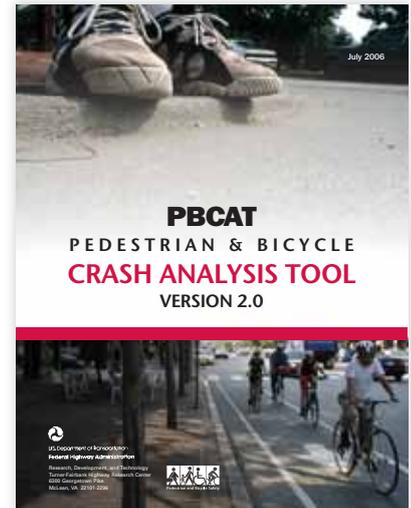
The Geographic Information System (GIS) Safety Analysis Tools have been upgraded to operate within the ArcGIS environment. Computerized crash analysis systems in which crash data, roadway inventory data and traffic operations data can be merged are used in many states and municipalities to identify problem locations and assess the effectiveness of implemented countermeasures. By integrating this traditional system with a GIS, which offers spatial referencing capabilities and graphical displays, a more effective crash analysis program can be realized. The crash evaluation tools in Version 4.0 of the software include: spot/intersection analysis, strip analysis, cluster analysis, sliding-scale analysis and corridor analysis.

The Pedestrian and Bicycle GIS Safety Analysis Tools have also been upgraded to operate within the ArcGIS environment. In this suite of pedestrian and bicycle safety tools, GIS-based analytical techniques have been applied to a series of pedestrian and bicycle safety issues. The high pedestrian crash zone tool uses crash data to generate contour maps of high crash occurrence. The safe routes to school and safe bicycle route tools use roadway and traffic data to generate information on the safest and most direct routes to schools or other destinations.

## Providing recommendations for setting speed limits

Speed limits are set to allow for efficient and safe travel on roadways of all types. It is important to identify a consistent method for setting speed limits, while taking into account all of the potential factors that may influence speed choice on any given roadway. HSRC, along with various partners, has developed a Web-based expert system for identifying reasonable and consistent speed limits across a variety of road types called USLIMITS.

Through funding from the National Cooperative Highway Safety Research Program (NCHRP), the system takes a comprehensive approach by using decision rules derived from expert knowledge for three types of highways: limited access freeways, roadways in undeveloped areas and roadways in developed areas. Prior to identifying an appropriate speed limit, the system takes into account several factors input by the user, including operating speeds, terrain, extent of ped/bike and parking activity, number of interchanges on freeways, number of driveways and traffic signals in developed areas, presence of roadsize hazards in undeveloped areas, and crash statistics and traffic volume.



# YOUNG DRIVERS

## Center for the Study of Young Drivers

The Center for the Study of Young Drivers (CSYD) was established through funding from the Office of the Vice Chancellor of the University of North Carolina at Chapel Hill. The Center continues to work toward shaping the national policy-development and research scene regarding young drivers. Center researchers continue to be at the forefront of activity surrounding young driver research through various activities on the state and national levels.

Throughout the year, CSYD has accepted invitations to participate in several national meetings sponsored by such organizations as the National Safety Council and American Public Health Association. Additionally, the Centers for Disease Control and Prevention (CDC) enlisted the expertise of the Center to conduct a national Web Seminar for CDC titled, "Working with States on Policy" on Graduated Licensing for Teen Drivers.

CSYD has been instrumental in institutionalizing a more scientific approach to studying and improving young driver behavior than has been the case in the past. At the urging of the CSYD, and with CSYD input, a new subcommittee of the Transportation Research Board was created to address young drivers. The subcommittee plans to develop various activities that include leading researchers in the field to address cutting edge research concerns.

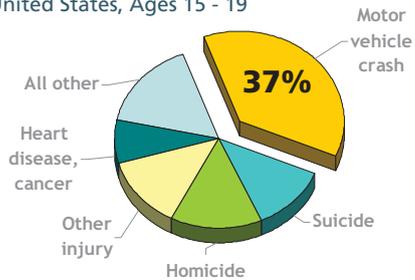
CSYD continues to be recognized by media as a leading resource for research information regarding young drivers. Throughout the year, CSYD and CSYD researchers have been featured in such national media as NPR, PBS, The New York Times, Chicago Tribune and Consumer Reports.

### Effects of Graduated Driver Licensing on hospitalizations

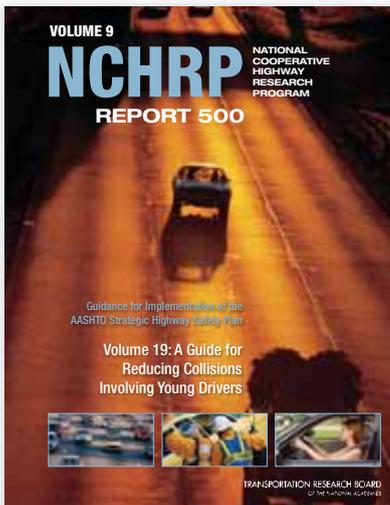
Graduated Driver Licensing (GDL) is a program designed to gradually increase a beginning driver's responsibilities, allowing new drivers to become more familiar with common driving situations, as well as the complexities of driving.

When the state adopted the GDL program in 1997, North Carolina became the second state in the country to utilize this system designed to reduce young driver crashes. A widely-supported venture, GDL is now being credited with a decrease in hospitalizations and medical expenses among young drivers in North Carolina.

Leading Cause of Death  
United States, Ages 15 - 19



Source: CDC, 2004



Researchers at the Center for the Study of Young Drivers worked this year to further explore the benefits of GDL. The research, sponsored by State Farm Insurance Company and the Centers for Disease Control & Prevention, concluded that in the 46 months following the implementation of GDL in North Carolina, hospitalizations of 16-year-old drivers declined by 36 percent, consequently reducing hospital charges by 31 percent, or about \$650,000 per year.

### **Working with the State of Kansas to establish GDL**

Kansas is one of the few remaining U.S. states that does not have a GDL program in place. Work by CSYD may help change that. In 2006, CSYD responded to a request from a Kansas Transportation Safety Task Force to speak to the Kansas state legislature about GDL and its positive effects on teen driving-related crashes.

A GDL bill was later proposed and approved by one body of the Kansas legislature, but some policy-makers thought their constituents, particularly those in rural areas, would be opposed.

In collaboration with AAA Kansas and other groups, CYSD researchers designed a telephone interview survey to learn how Kansas parents view the various issues involved.

In addition to providing useful information to policy-makers, this survey also provided an opportunity for researchers to better understand teen driver crashes, as well as the needs and wishes of parents, in a rural state. Currently, GDL policies are less commonly found – and those that are tend to be less comprehensive – in rural Midwestern states.

Results from the study will be available in the spring of 2008.

### **Teens and cell phones**

The CYSD's focus is on developing a fundamental understanding of the multitude of factors that contribute to the high crash rate among young drivers.

The CYSD is currently studying NC legislation banning teen cell phone use to determine whether it works and if so, how it affects teens' behavior.



# New Initiatives

## ADVANCING THE CENTER'S INTERNATIONAL REACH



### Joining Forces with SWOV

In March 2007, HSRC entered a collaborative agreement with the Stichting Wetenschappelijk Onderzoek Verkeersveiligheid, SWOV Institute for Road Safety Research, based in Leidschendam, Netherlands. Under the terms of the agreement, which was the first of its kind for HSRC, the two Centers are working in conjunction to advance road safety in the Netherlands and the US by means of scientific research information exchange.

The two Centers immediately executed one of the terms of the agreement – an exchange program that will allow researchers to experience and work within the other country. For 6 weeks in the spring, SWOV researcher Martine Reurings visited the Center, assisting with Center projects.

In the coming year, HSRC will send a research representative to the Netherlands to offer expertise in a transportation safety area of study, and gather valuable knowledge that can be incorporated into HSRC.

### Visiting scholar from New Zealand

The Center co-sponsored a lecture with the UNC Injury Prevention Research Center focusing on the success New Zealand has experienced in reducing fatal motor vehicle crashes over the last 20 years. Dr. Shane Turner, a safety researcher and civil engineer in New Zealand, visited several researchers throughout the U.S. and Canada, and addressed the predominant differences in highway safety between the U.S. and New Zealand in relation to development of policies, implementation of engineering solutions, enforcement of laws and education of the general population.



## Providing professional development in highway safety

In its effort to encourage young professionals to explore the field of highway safety, HSRC established its first postdoctoral program. HSRC welcomed its first employee within the program in the spring 2007. Dr. Jongdae Baek is a recent graduate from North Carolina State University and will work with the engineering staff at HSRC on a variety of road safety studies.

The Center also established and awarded a \$1,000 scholarship available to a full-time graduate student with a career goal emphasis on transportation safety. Candidates must have been enrolled in 2007 at any of the 16 University of North Carolina system campuses and were evaluated on academic performance, career goals, extracurricular and professional activities, work experience and a 1,000-word essay on a current highway safety issue.

With a well-established public relations component in place, HSRC pursued collaboration with the UNC School of Journalism and Mass Communication to engage public relations students in a challenge to address highway safety. Students used information from the Center to build complete public relations and awareness campaigns that were formally presented to the Center at the end of the semester.

The need for highway safety research and solutions will continue. By reaching out to a younger generation of researchers and scholars, HSRC will continue to play a key role in finding and implementing positive change.



HSRC Director David Harkey presents UNC-Chapel Hill Graduate Student Chava Kronenberg with the 2007 HSRC Scholarship

# 40<sup>th</sup> Anniversary Celebration

In 2006, the UNC Highway Safety Research Center celebrated 40 years of dedicated service to highway safety.

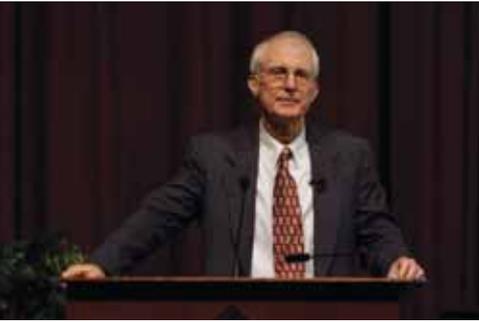
The Center kicked off its anniversary event with a recognition dinner for the HSRC family. HSRC staff, funders and friends of the Center gathered to recognize the people that have made HSRC a success. Many researchers from the Center have dedicated their entire careers to highway safety. In addition to recognizing the 3 past directors of the Center, the event honored 11 members of the HSRC Quarter Century Club, individuals who have given more than 25 years of their lives and their careers to HSRC.

The Center also marked its anniversary by hosting “The Evolution of Highway Safety: How Research Can Save Lives on Our Roads,” an inaugural symposium the Center plans to hold every 2 years. The symposium, held in October 2006, explored the many factors that influence highway safety and the importance of research in developing solutions.

Three nationally renowned speakers reviewed the accomplishments that have led to improved practices, policies and legislation, as well as looked towards the future and discussed the type of research that will be required by multiple disciplines to reduce the toll on our highways.

- Dr. Forrest Council, former HSRC director and senior researcher, presented *Highway Safety Research – A Limited (and Biased) History*, a review of highway safety in a historical context and discussion of many of the accomplishments that have led to improved practices, policies and legislation.
- Dr. Bruce Simons-Morton, Chief of the Prevention Research Branch in the Division of Epidemiology, Statistics, and Prevention Research at the National Institute of Child Health and Human Development, presented *Behavioral Science and the Novice Driver Problem*, an examination of young drivers and how driving behaviors may be improved by putting research results into practice.
- Dr. Ezra Hauer, world renowned engineer and Professor Emeritus in the Department of Civil Engineering at the University of Toronto, gave a speech entitled *Challenges*, about the future of highway safety research within the engineering realm and how we can make substantive safety impacts on our roadways.

View video of the symposium event at <http://www.hsrc.unc.edu/anniversary>.







**1965**

North Carolina General Assembly establishes the Highway Safety Research Center at the University of North Carolina.

**1968**

HSRC conducts the first ever scientifically based brand comparison of automobiles dealing with the variation in injury to unbelted drivers involved in crashes.

**1974**

HSRC study results show increased crash rates among younger school bus drivers, resulting in school districts increasing the minimum legal driver age to 16-and-a-half.

**1993**

HSRC helps spearhead "Click It or Ticket," the high visibility enforcement program to increase seat belt use that is subsequently adopted nationally as the model for increasing belt use.

**1997**

North Carolina General Assembly enacts the Graduated Driver Licensing system developed by HSRC to address the extraordinarily high crash rate among young teen drivers.

**1999**

Center conducts the first survey to directly measure college student drinking using portable breath-testers. Findings challenge misperceptions about student drinking and a subsequent program providing this evidence to students results in decreased drinking.

# Timeline of HSRC Accomplishments



**1980**

HSRC develops the Accident Research Manual to help safety engineers and analysts conduct better evaluations and improve the knowledge of the relationships between the roadway environment and crashes. This compilation of sound research methods was taught in safety workshops nationwide.

**1981**

The Center conducts research studies demonstrating the benefits of child restraints and safety belts in crashes. Lawmakers relied heavily on this data while formulating the child passenger safety law passed in 1981 and the seat belt law passed in 1985.

**1981**

HSRC develops the concept for FHWA's Highway Safety Information System and launches the system with five initial states. HSIS continues to expand to include additional states and urban centers.

**2001**

HSRC evaluates the initial effects of Graduated Driver Licensing. Results show substantial decline in 16-year-old driver crashes and also lead North Carolina Legislators to add passenger restriction to GDL system.

**2006**

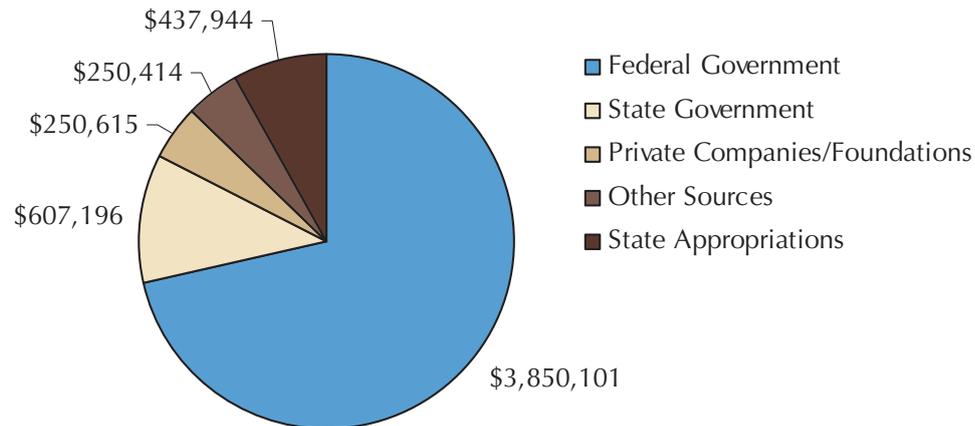
The Center establishes the National Center for Safe Routes to School, a national clearinghouse that assists communities in enabling and encouraging children to safely walk and bike to school.



# Financial Report

The total revenues for the past fiscal year, FY07, were \$5.4 million. The majority (71%) of the revenues received are from contracts, grants and cooperative agreements with Federal Government agencies. State government and private-sector contracts comprise an additional 16% of the revenues. For each dollar appropriated to the center by the State of NC, HSRC staff generated almost \$11 in research and program funding.

## Fiscal Year 2007 Revenues





# Making It Happen: the people of HSRC

The people of HSRC are truly the foundation of the Center. Only through their creativity, passion, energy and expertise has the Center been able to achieve the success that it has.

## Business Services

Dianne Blake  
*Senior Accounting Specialist*

Patrick Fogarty  
*Technical Support Analyst*

Daniel Harper  
*Contract Specialist*

Harvey Hou  
*Computer Systems Manager*

Peggy James  
*Human Resources Manager*

Jean Justice  
*Office Assistant*

Paulette McKoy  
*Senior Contracts Specialist*

Jeana Nickerson  
*Business Officer*

Beverly Thomson  
*Senior Administrative Advisor*

## Research Programs

Jongdae Baek, Ph.D.  
*Post-Doctoral Research Engineer*

Jennifer Bonchak  
*Public Relations Coordinator*

Austin Brown, M.P.H., M.R.P.  
*Program Specialist*

Daniel Carter, M.S.C.E.  
*Engineering Research Associate*

Forrest Council, Ph.D.  
*Senior Research Scientist*

Michael Daul  
*Graphic Designer*

Rob Foss, Ph.D.  
*Senior Research Scientist and Director, Center for the Study of Young Drivers*

Zoe Gillenwater  
*Design Services Manager*

Arthur Goodwin, M.A.  
*Senior Research Associate*

Bill Hall, M.A.  
*Manager, Occupant Protection Program*

Charles Hamlett  
*Research Assistant*

David Harkey, M.S.C.E.  
*Director*

Bill Hunter, M.C.E.  
*Senior Research Scientist*

Katy Jones  
*Manager, Research Information and Education Programs*

Lauren Marchetti  
*Director, National Center for Safe Routes to School*

Carol Martell  
*Senior Applications Specialist*

Nancy Pullen-Seufert, M.P.H.  
*Program Manager*

Craig Raborn  
*PBIC Technical Manager*

Eric Rodgman, M.P.H.  
*Senior Database Analyst*

Laura Sandt, M.R.P.  
*Research Associate and PBIC Program Manager*

Margaret Scully, M.R.P.  
*Special Projects Manager*

Jamie Sohn  
*Research Assistant*

Raghavan Srinivasan, Ph.D.  
*Senior Transportation Research Engineer*

Jane Stutts, Ph.D.  
*Associate Director for Social and Behavioral Research*

Donna Suttles  
*Research Assistant*

Libby Thomas, M.S.  
*Research Associate*

Mary Ellen Tucker, M.L.S.  
*Librarian*

Carolyn Williams  
*Programmer Analyst*

Charlie Zegeer, M.S.  
*Associate Director for Engineering and Planning*

## Working within the University

Being a part of a world-class university has brought opportunity for HSRC to coordinate a number of inter-institutional collaborations to further educate the University community on the Center's research.



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL

## Research Fellows

The following University of North Carolina affiliated researchers work with the HSRC on projects in the area of transportation safety and motor vehicle injury prevention.

Mary Altpeter  
*UNC Institute on Aging, UNC-Chapel Hill*

Mike Bowling  
*Health Behavior/Health Education,  
UNC-Chapel Hill*

Carolyn Crump  
*Health Behavior/Health Education,  
UNC-Chapel Hill*

James Drennan  
*School of Government, UNC-Chapel Hill*

James Emery  
*Health Behavior/Health Education,  
UNC-Chapel Hill*

Kelly Evenson  
*Epidemiology, UNC-Chapel Hill*

Laura Linnan  
*Health Behavior/Health Education,  
UNC-Chapel Hill*

Lewis Margolis  
*Maternal & Child Health, UNC-Chapel Hill*

Steve Marshall  
*Epidemiology, UNC-Chapel Hill*

Daniel Rodriguez  
*City & Regional Planning, UNC-Chapel Hill*

Anna Waller  
*Emergency Medicine, UNC-Chapel Hill*

Dianne Ward  
*Nutrition, UNC-Chapel Hill*

Herb Garrison  
*Brody School of Medicine,  
East Carolina University*

Joseph Hummer  
*Civil Engineering, NC State University*

Nagui Roupail  
*Institute for Transportation Research &  
Education, NC State University*

John Stone  
*Civil Engineering, NC State University*

Jeff Tsai  
*Institute for Transportation Research &  
Education, NC State University*

Michael Simmons  
*Transportation Institute, NC A&T  
State University*

Deborah Underwood  
*Transportation Institute, NC A&T  
State University*

Johnny Graham  
*Civil Engineering, UNC-Charlotte*

Edd Hauser  
*Center for Transportation Policy Studies,  
UNC-Charlotte*

Martin Kane  
*Civil Engineering, UNC-Charlotte*

## Advisory Board

The HSRC Advisory Board consists of the following group of distinguished professionals, and serves to assist in the identification of strategies and program direction for the UNC Highway Safety Research Center.

Dr. Herb Garrison – Chair  
*Director, Eastern Carolina Injury  
Prevention Program, Greenville*

Dr. Alice Ammerman  
*Director, Center for Health Promotion &  
Disease Prevention, UNC-Chapel Hill*

Colonel W. Fletcher Clay  
*Commander, North Carolina State  
Highway Patrol*

Dr. Jo Anne Earp  
*Professor, Health Behavior/Health  
Education, UNC-Chapel Hill*

Mr. J. Douglas Galyon  
*Chair, North Carolina Board of Transportation*

Dr. Edd Hauser, P.E.  
*Director, Transportation Policy Studies,  
UNC-Charlotte*

Dr. Richard F. Pain  
*Transportation Safety Coordinator, Trans-  
portation Research Board*

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*Vice Chancellor for Research & Economic  
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*Director, UNC Highway Safety  
Research Center*

# 2006–2007 Publications

**This listing includes publications from fiscal year 2007 (July 1, 2006–June 30, 2007)**

Carter, D.L., Harkey, D.L., Barlow, J.M., and Bentzen, B.L. (2007). Development of an intersection prioritization tool for accessible pedestrian signal installation. *Transportation Research Record No. 1982, Pedestrians and Bicycles*. p. 13–20.

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Foss, R.D. (2007). Addressing behavioral elements in traffic safety: a recommended approach. In J.P. Kissinger, (ed.) *Improving traffic safety culture in the United States: the journey forward*. Washington, DC : AAA Foundation for Traffic Safety.

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Goodwin A.H., Waller, M.W., Foss, R.D., and Margolis, L.H. (2006). Parental Supervision of Teenage Drivers in a Graduated Licensing System. *Traffic Injury Prevention*, 7(3), 224–231.

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Krizek, K.J., Hunter, W.W., Tharpe, D., and Gillenwater, Z., et al. (2006). *Guidelines for analysis of investments in bicycle facilities*. NCHRP Report 552. Washington, DC: Transportation Research Board, National Academy of Sciences.

Margolis, L.H. Masten, S.V. and Foss, R.D. (2007). The effects of graduated driver licensing on hospitalization rates and charges for 16-and 17-year-olds in North Carolina. *Traffic Injury Prevention*, 8(1), 35–38.

Masten, S.V. (2007). Do States Upgrading to Primary Enforcement of Safety Belt Laws Experience Increased Daytime and Nighttime Belt Use? *Accident Analysis and Prevention*, 39 (6), 1131 – 1139.

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National Center for Safe Routes to School. *Annual Report, 2006–2007* (2007). Retrieved October 10, 2007 from the Safe Routes to School Web site: <http://www.saferoutesinfo.org/>

Pullen-Seufert, N. and Marchetti, L. (2006). *The walking school bus: combining safety, fun and the walk to school*. Retrieved October 10, 2007 from the Safe Routes to School Web site: <http://www.saferoutesinfo.org/>

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Zaloshnja, E., Miller, T., Council F.M. and Persaud, B. (2006). Segment characteristics and severity of head-on crashes on two-lane rural highways in Maine. *Accident Analysis and Prevention*, 38(4), 652–661.

Zegeer, C.V., Carter, D.L., Hunter, W.W., et al. (2007). Index for assessing pedestrian safety at intersections. *Transportation Research Record No. 1982, Pedestrians and Bicycles*, 76–83.

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# Web Sites

HSRC maintains nearly 20 Web sites for various highway-safety related projects and tools. For a complete list of Center Web sites, please visit [www.hsrc.unc.edu/websites](http://www.hsrc.unc.edu/websites).

## UNC Highway Safety Research Center

<http://www.hsrc.unc.edu>

Our Web site features safety information on a wide variety of topics, a library of published research from the Center, along with news updates, links and other information.



## Pedestrian and Bicycle Information Center

<http://www.walkinginfo.org>

<http://www.bicyclinginfo.org>

National clearinghouse of pedestrian and bicycle information about health and safety, engineering, advocacy, education, enforcement and access and mobility





## Highway Safety Information System

<http://www.hsisinfo.org>

Multi-state database that contains crash, roadway inventory and traffic volume data for a select group of states and urban centers



## National Center for Safe Routes to School

<http://www.saferoutesinfo.org>

Includes steps on starting a Safe Routes program, frequently asked questions, helpful links and a list of sample programs currently in place across the country



## Center for the Study of Young Drivers

<http://www.csyd.unc.edu>

Provides insight into why motor-vehicle crashes are the leading cause of death among teenagers and information on the research being conducted at the Center to investigate this issue

## NC Crash Data Query

<http://www.hsrc.unc.edu/crash>

A data analysis tool to create tables reflecting crash, vehicle and person information for crashes in North Carolina



## North Carolina Child Passenger Safety Resource Center

<http://www.buckleupnc.org>

Information about North Carolina occupant restraint laws as well as tips for choosing and using child occupant protection



## National Child Passenger Safety Board

<http://www.cpsboard.org>

Provides program direction and technical guidance to states, communities and organizations as a means to maintain a credible, standardized child passenger training and certification program





## U.S. Walk to School

<http://www.walktoschool.org>

Information about Walk to School events in the USA, how to get involved and resources to help plan a walk in your community



## International Walk to School

<http://www.iwalktoschool.org>

Information about International Walk to School Month, recognized in October across the globe



## North Carolina Alcohol Facts

<http://www.hsrx.unc.edu/ncaf/>

Provides information about alcohol-related crashes and injuries as well as convictions for impaired driving in North Carolina. The site also offers a variety of county-specific and statewide data about drinking and driving in North Carolina.

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