

# **Annual Report**























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### **MESSAGE FROM THE DIRECTOR**

Success is something that all of us strive for in the work we do. It is what many of us tell our children as they traverse the academic maze and think about their own careers. Over the past couple of years, we have seen a substantial decrease in traffic fatalities in our country, from 41,259 in 2007 to 33,808 in 2009. I have seen a number of stories in the media during this period in which a government official or road safety expert has claimed success for the fewer lives lost as a result of interventions that have been put in place. While some of the improvement may indeed be the result of better policies and programs and improvements in vehicle design, it has also been documented that a portion is due to the economic recession and decline in motor vehicle travel.

One can plot our traffic safety record over the past 50 years and find the same decline in fatalities with every recession in this country. Unfortunately in every case, much of the safety gains made are lost as the economy improves and travel increases. So what will make this time any different? Are we smarter in our approach to road safety now than in the past? Are we investing more resources into understanding the problems we face? Are we more dedicated as a nation or as individual states to address the issue?

Perhaps the most important lesson from past trends is to not become complacent and think the positive trend will continue. Grab the momentum gained as a result of the recent recession and decline in fatalities and build on it. Every few years, we assess our road safety status in this country and set new goals for improvements. This past year, a new vision was established – Toward Zero Deaths: A National Strategy on Highway Safety. HSRC is proud to support this initiative and has been involved in the development of white papers and strategies to make this vision a reality.

HSRC has been around to see these trends for the past 45 years. As we move into the second decade of this century, we will not be complacent. Our staff will continue to strive for excellence in research and analysis that results in improved policies and interventions to reduce crashes and save lives. We will expand our capabilities in academic training and professional development to produce a new generation of road safety professionals. And we will continue to serve as a resource to the public, media, legislators and others to tell the story of the thousands of lives lost every year on our nation's highways. When we reach a point of zero deaths, we can claim success.

David Harkey, Director



The mission of the Highway Safety Research Center (HSRC) at the University of North Carolina is to improve the safety, security, access and efficiency of all surface transportation modes through a balanced, interdisciplinary program of research, evaluation and information dissemination.

For over 40 years, HSRC has been a leading research institute that has helped shape the field of transportation safety.

### Toward Zero Deaths: Supporting a National Strategy

In 2009, the highway safety community came together to create Toward Zero Deaths: A National Strategy on Highway Safety. This national strategy will be a data-driven effort focusing on identifying and creating opportunities for changing American culture as it relates to highway safety.

Center researchers contributed to the development of a series of white papers on this strategy and also participated in the national stakeholder workshop meeting hosted by the American Association of State Highway and Transportation Officials.

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

### HSRC CONTRIBUTIONS AT A GLANCE

- Released 24 publications on a variety of topics from teen cell phone usage to painted bike lanes
- Generated over \$15 in revenue for every
  \$1 of support provided by the state of
  North Carolina
- Funneled nearly \$120,000 of grant monies back into communities across the U.S. to support safety programs
- ♦ Awarded two scholarships to encourage more interest among graduate students in the field of highway safety
- Launched two new Websites and maintained over 20 existing Websites to support the educational mission of the Center

# Center Highlights

### **Traffic Operations and Roadway Design**

### Supporting national engineering guidance

This year, HSRC established the Crash Modification Factors (CMF) Clearinghouse, a central, Web-based repository of Crash Modification Factors, or CMFs. These factors assist transportation engineers in making safety improvement decisions. The establishment of the clearinghouse supports a newly released, national transportation engineering publication — the Highway Safety Manual (HSM). The HSM will assist highway agencies as they consider improvements to existing roadways or as they are planning, designing, or constructing new roadways. The publication of the HSM is the result of a decade of research and development efforts from a variety of organizations and agencies, including HSRC.

Developed with funding from the Federal Highway Administration (FHWA), the clearinghouse provides transportation professionals with a regularly updated, online repository of CMFs, a mechanism for sharing newly developed CMFs, and educational information on the proper application of CMFs.

This year HSRC launched the Crash Modification Factors (CMF) Clearinghouse, the nation's first dynamically generated database of CMFs. For more information, please visit www.CMFclearinghouse.org.



"The Crash Modification Factors Clearinghouse provides an easy way for practitioners to use the latest knowledge as they make important safety improvement decisions on their roadways."

— Jeff Paniati, FHWA Executive Director, Public Roads Magazine, November/December 2010 Speed continues to be an issue in highway safety. In 2010, the Center developed a crash typology model to help explore the characteristics of speed-related crashes and how to best apply solutions to address this issue.



### **Evaluating signs and markings**

Center researchers study roadway engineering concepts in the hopes that practitioners will make sound, researchdriven decisions for their roadways. This year the Center completed several national engineering evaluations, including shared lane markings and road warning signs.

Shared lane markings, also known as "sharrows," help convey to motorists and bicyclists that they must share the roads on which they operate. The markings create improved conditions by clarifying where bicyclists are expected to ride and by notifying motorists to expect bicyclists on the road. The Center conducted evaluations in Cambridge, MA; Chapel Hill, NC; and Seattle, WA. The study concluded sharrows can be used in a variety of situations, and increased use should enhance motorist awareness of bicyclists or the possibility of bicyclists in the traffic stream. Results also indicated that sharrows increased operating space for bicyclists.

Center researchers also conducted a study that found placing road warning signs to give motorists advanced notice of curves and marking the edges of the road as it turns can be a cost-effective approach to improving overall road safety. The research is part of the FHWA's Low Cost Safety Improvements Pooled Funds Study, an effort to evaluate unproven low cost strategies to improve safety and decrease fatalities in a variety of road conditions.



### **International Collaboration**

HSRC continued to expand its international presence to contribute road safety knowledge at the global level. A delegation of emergency medical professionals from the Republic of Turkmenistan visited HSRC in October 2009. During a visit sponsored by the Community Connections program of the International Affairs Council, the delegation shared road safety issues from their country, and heard from HSRC researchers about U.S. conditions and approaches to various aspects of road safety, including infrastructure design and operations, occupant protection programs, licensing of young drivers, and programs to protect pedestrians.

HSRC Director David Harkey returned to the United Arab Emirates once again to provide the U.S. perspective on road safety at the International Symposium on the Role of Road Safety Councils and National Committees. Harkey presented "Road Safety in the United States: A Shared Responsibility," discussing the roles of multiple stakeholders in the U.S. that are charged with creating and maintaining a safe road environment.

HSRC Associate Director Charlie Zegeer served as a keynote speaker at the 2010 International Conference on Safety and Mobility of Vulnerable Road Users in Jerusalem, Israel. Zegeer presented "Pedestrian Crashes and Treatments from Around the World," discussing pedestrian safety statistics at the global and regional level and the relationships between design, engineering treatments, and pedestrian safety.



A delegation of emergency medical professionals from the Republic of Turkmenistan visited HSRC in October 2009.

### **Driver Behavior**

### Supporting state Graduated Driver Licensing systems

HSRC continues its work in the young driver area through its Center for the Study of Young Drivers (CSYD). The Center was awarded a contract from the Centers for Disease Control and Prevention (CDC) to provide assistance to states that are interested in upgrading their Graduated Driver Licensing (GDL) systems. The project involves working closely with state coalitions to bolster the quality of their young driver licensing systems in ways that are known to improve teen driver safety.

The process takes stakeholder groups through steps outlined in a GDL Planning

Guide, developed by CDC with input from young driver researchers from HSRC and elsewhere. Assistance is being offered to a small number of states whose GDL systems have known shortcomings and where there is an existing group or coalition that has an interest in this issue. As states work through the guide, HSRC researchers offer on-call assistance in tackling the individual issues of each partner state. These issues can include local data collection and analysis, designing surveys of parents, networking with additional state and national experts, and explaining GDL to legislators.

"Unlike when a surgeon saves a life, I don't know the people whose deaths were prevented by GDL. But I do know that there are hundreds of North Carolinians walking around today that wouldn't be if this program had not been developed and put into action."

Rob Foss, Ph.D., DirectorCenter for the Study of Young Drivers





HSRC researchers also expanded their work in teen driver research to the state of Kansas. Researchers worked with the AAA Kansas Traffic Safety Committee to find out if parents of young drivers in Kansas — particularly in the rural areas — approved of several integral elements of GDL. Study results indicated that both parents and teens approve of the kinds of protective restrictions that characterize GDL systems and that those living in the most rural locations were equally as supportive as those who live in more urban areas. AAA Kansas shared the results of the study with the public, media, and legislators as part of their efforts to encourage adoption of GDL in Kansas. In February 2009, a GDL



Causes of Death Among Persons Ages 15–19

bill was passed in the Kansas legislature that went into effect January 1, 2010. CSYD researchers plan to examine the effects of this new licensing system in 2011 and 2012, comparing some of the data obtained from this past round of teenager interviews to similar information to be collected with a group of teens licensed under the new system.



### Pedestrian and Bicycle Safety

### Taking a look back

The Pedestrian and Bicycle Information Center (PBIC) — the national pedestrian and bicycle clearinghouse housed within HSRC — released an update to the 1994 National Bicycling and Walking Study. The 15-year status report reveals the progress made in pedestrian and bicycle safety.





U.S. Department of Transportation Secretary Ray LaHood featured the PBIC report in his blog "The Fast Lane." LaHood stressed the importance of providing alternative transportation methods to driving.

Taking a look at the 2009 National Household Travel Survey (NHTS), walking trips accounted for 10.9 percent of all trips and one percent of all trips reported were taken by bike; together accounting for 11.9 percent of all trips. Bicycling and walking combined attributed to approximately a 25 percent increase for both modes of transportation since the 2001 NHTS. The number of trips taken by bicycling and walking has more than doubled since 1990. In regards to safety, the nation has witnessed a 12 percent decrease in pedestrian fatalities and a 22.3 percent decrease in fatalities among bicyclists between 1993 and 2008. National Highway Traffic Safety Administration (NHTSA) data indicates that there was a 17.8 percent and a 14.7 percent decrease in pedestrian and bicyclist injuries, respectively, between 1995 and 2008.

To access the full report, please visit http://www.walkinginfo.org/ 15\_year\_report/.



### Number of Pedestrian and Bicyclist Fatalities and Trips Taken in the United States Between 1990 and 2009

According to the 2009 National Household Travel Survey, 11.9 percent of all trips taken in the United States were by foot or by bike. Since 1990, the number of walking and bicycling trips in the country has more than doubled. In that same time period, the number of pedestrian and bicyclist fatalities has decreased by 35 percent.



### Funding community programs

Coupling the Center's expertise with external funding, HSRC is able to mobilize communities while providing them helpful guidance on implementing programs and countermeasures along the way. The Center used this model to award \$119,000 in mini-grants to 86 communities across the U.S. this year. Highlights of these programs include:

- 12 grants to teach "Pedestrian Safety Workshop: A Focus on Older Adults." This national course, developed with funding from NHTSA, engages communities in addressing pedestrian safety issues that older adults face and provides strategies for improving walking conditions.
- 15 grants to improve pedestrian safety and help make their environments more "walkable" with the use of the guide, A Resident's Guide for Creating Safe and Walkable Communities.
- 59 grants for projects designed to encourage safe walking and bicycling to school.

### Making a difference with mini-grants

### South of South Neighborhood Association



To create a safer nighttime walking environment in the community, the South of South Neighborhood Association (SOSNA) provided free light bulbs for residents of dark neighborhood streets.

### Swannanoa Community Vision Group



The Swannanoa Community Vision Group hosted four local events to boost walking throughout the town.

Swannanoa, NC

### Fit City Wabasha

Wabasha, MN



Fit City Wabasha developed and promoted the "Walk to Win" walking challenge which fostered walking in a competitive event with a neighboring town.



Fit City Wabasha also produced paper fans to be held during walking events, such as Walk to School Day, to encourage safety and pedestrian awareness among drivers.

### **Contributing locally**

HSRC also worked to support pedestrian and bicycle safety in its home of Chapel Hill and Carrboro, NC, and on the campus of the University of North Carolina at Chapel Hill. In the study "Identifying and Prioritizing Locations for Pedestrian and Bicyclist Safety Improvements in Chapel Hill and Carrboro, North Carolina", prepared for the North Carolina Department of Transportation (NCDOT), HSRC researchers worked to identify locations in Chapel Hill and Carrboro that would benefit from pedestrian or bicycle safety improvements. One such improvement that was implemented during the summer of 2010 was the installation of seven mid-block crosswalks along two major corridors (see photo below). The crossings also incorporate median islands to allow pedestrians to cross one direction of traffic at a time and warning signs to make drivers aware of the crossings and the need to watch for pedestrians.



# **Cost is in Highway Safety: Professional Development and Education**

In 2009, HSRC centralized its training offerings and established the Road Safety Academy (RSA) as its training, education and professional development arm. RSA aims to reduce the death toll on U.S. roadways by offering a diverse range of training and education options to both the public and road safety professionals. RSA offers both in-person and Webbased trainings that cover a broad range of road safety topics.

### Applying 45 years of expertise

Since it opened its doors in 1966, HSRC has conducted research and provided training to students, transportation officials, health care providers, law enforcement officers, engineers, community members, educators and legislators at the local, state and national level. HSRC has established a reputation for high quality training covering a wide range of highway safety topics.

### **Opportunities for knowledge**

State transportation agencies are experiencing downsizing and increased retirements that have led to a shortage of highly skilled personnel in the road safety field. Because of this shortage, transportation agencies are finding it necessary to hire employees with little or no prior experience. RSA was established to help address this growing need for education and training in the field of transportation safety.

### Flexible learning for professionals

Decreased budgets, increased travel costs and economic uncertainties have greatly influenced the training landscape. Unable to travel, road safety professionals are limited in their ability to seek out professional development opportunities. RSA offers self-paced course offerings so that professionals can complete courses on their own schedules.



Complete online courses and find out more about in-person offerings at www.rsa.unc.edu.



HSRC Engineering Research Associate Carl Sundrom, P.E. leads a discussion in a city and regional planning class at the University of North Carolina at Chapel Hill.

### COURSE HIGHLIGHT: ACCESSIBLE PEDESTRIAN SIGNALS WORKSHOP

The APS Workshop is designed to equip attendees with the knowledge and tools to understand the purpose of Accessible Pedestrian Signal installations and how blind and low-vision pedestrians travel. Workshop attendees will also learn to plan, design, install and maintain APS systems.

"This was one of the best workshops I have attended over the last 15 years. Presenters were very knowledgeable of the material presented."

— APS Workshop attendee

### Web-based offerings

In addition to traditional, classroombased trainings, RSA offers a variety of Web-based course offerings from Webinars to self-paced modules.

### Partnering with instructional design experts

In the development of its courses, RSA draws from both the staff expertise at HSRC as well as other experts on campus at the University of North Carolina at Chapel Hill. In the instructional design and delivery of its courses, RSA works collaboratively with UNC Teaching & Learning Interactive. UNC TLI is dedicated to the design, development, delivery, and support of innovative educational products and services.

#### Module 1: Welcome





### **Road Safety Academy Course Offerings**

Course	Area of Interest
Buckle Up to Grow Up 🖆 (http://www.rsa.unc.edu/buckle_up/)	Child Passenger Safety
Taking Action to Make Your Neighborhood Safe and Walkable 🕀 (http://www.rsa.unc.edu/ped_safety/)	Pedestrian Safety
Pedestrian Safety Workshop: A Focus on Older Adults 🐣 🕂 (http://www.rsa.unc.edu/psw/)	Pedestrian Safety
Developing a Pedestrian Safety Action Plan	Pedestrian Safety
Creating a Pedestrian Safety Action Plan	Pedestrian Safety
Designing for Pedestrian Safety	Traffic Engineering/Pedestrian Safety
Planning and Designing for Pedestrian Safety	Pedestrian Safety
Creating Livable Communities through Public Involvement	Pedestrian Safety
Accessible Pedestrian Signals Workshop	Traffic Engineering/Pedestrian Safety
Safe Routes to School National Course 🕂	Safe Routes to School
Skills for Local Safe Routes to School Program Development $\checkmark$	Safe Routes to School
Safe Routes to School Media Training	Safe Routes to School

- ℬ Includes Web-based component
- + Instructor training options

### **Developing national curriculum**

The Center is also involved in developing graduate-level curricula. HSRC staff developed a 3-credit, graduate-level course that explores the core concepts related to creating and evaluating effective and comprehensive bicycle and pedestrian plans and programs. Developed with funds from the University of North Carolina at Chapel Hill, the course was taught in 2009 within the UNC Department of City and Regional Planning, and will be offered in the spring 2011 as well.

In addition to offering the course at UNC, Center researchers also made the course materials available to any professor wishing to offer the curriculum. The free modular course materials can also be integrated individually into existing courses to fit the needs of the students or the academic program.

### Supporting young professionals

HSRC takes pride in recognizing students with innovative ideas in the field of highway safety. This fall, the Center awarded the 2010 UNC Highway Safety **Research Center Scholarship to Catherine** J. Vladutiu and Michael Ousdahl. Vladutiu is a doctoral candidate at UNC-Chapel Hill in the department of epidemiology. Ousdahl is a master's candidate at UNC-Chapel Hill in the departments of city and regional planning and public administration. The purpose of the Highway Safety Research Center Scholarship is to foster the education and professional development of graduate students with an interest in transportation safety-related areas, including but not limited to, engineering, driver behavior, planning, public health and environment.



HSRC Director David Harkey with 2010 scholarship recipient Catherine Vladutiu.

# **Financial Report**

### **CURRENT AND PREVIOUS FUNDING AGENCIES**

### **U.S. and International Government Sponsors**

- U.S. Department of Transportation
  - Federal Highway Administration
  - National Highway Traffic Safety Administration
- Transportation Research Board of the National Academies
- U.S. Centers for Disease Control and Prevention
- National Institutes of Health
  - National Institute on Alcohol Abuse and Alcoholism
  - National Institute of Child Health and Human Development
- U.S. Environmental Protection Agency
- University of North Carolina at Chapel Hill
- North Carolina Department of Transportation
- North Carolina Governor's Highway Safety Program
- California Department of Transportation
- Florida Department of Transportation
- New York Department of Transportation
- Kansas Bureau of Traffic Safety
- Kansas Turnpike Authority
- Land Transport New Zealand/The Beca Group
- Traffic Injury Research Foundation of Canada
- British Columbia Ministry of Transportation

### **Corporate and Foundation Sponsors**

- AAA Foundation for Traffic Safety
- AAA Kansas
- General Motors
- Insurance Institute for Highway Safety
- Motorcycle Safety Foundation
- Robert Wood Johnson Foundation
- Society for the Advancement of Violence and Injury Research
- State Farm Insurance Company

For each dollar appropriated to the Center by the state of North Carolina in FY10, HSRC staff generated \$15 in research and program funding. External revenues to support the mission of HSRC were received from contracts, grants, cooperative agreements and donations.



# 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.

# **of HSRC** The people of HSRC are tru the foundation of the Center

**BUSINESS SERVICES** 

Blake Allen Human Resources Manager

*Matthew Glassman* Technical Support Analyst

Daniel Harper Contract Specialist

*Dianne Harrington* Senior Accounting 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



Peggy James retired from the Center in 2009 after 25 years of service to the Center.

### **RESEARCH PROGRAMS**

Davien Anderson Communications Coordinator

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

*Pamela Barth, M.R.P.* Project Manager, NCSRTS

*Austin Brown, M.P.H., M.R.P.* Program Manager, NCSRTS

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

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

*Michael Daul, M.I.S.* Design Services Manager

*Caroline Dickson* Communications and Marketing Manager, NCSRTS

*Ryan Downs* Data Specialist, NCSRTS

NCSRTS: National Center for Safe Routes to School



Katy Jones, Manager of Research Information and Education Programs, received a graduate certificate in project management.



*Rob Foss, Ph.D.* Senior Research Scientist and Director, CSYD

**Dan Gelinne** Social Research Assistant and Project Coordinator, PBIC

Arthur Goodwin, M.A. Senior Research Associate

Amanda Gold Marketing and Communications Coordinator, NCSRTS

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

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

*Stephanie Harrel* Project Coordinator

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

*Katy Jones* Manager, Research Information and Education Programs

CSYD: Center for the Study of Young Drivers





Bevan Kirley, M.P.H. Research Associate

Seth Lajeunesse, M.R.P. Research Associate and Program Coordinator, NCSRTS

Daniel Levitt Project Coordinator

*Richard Lytle* Web Applications Programmer

*Lauren Marchetti* Director, NCSRTS

*Carol Martell* Senior Applications Specialist

*Natalie O'Brien, M.S.* Research Associate

Jeremy Pinkham Communications Coordinator

*Nancy Pullen-Seufert, M.P.H.* Associate Director, NCSRTS

*Lewis Randall* Data Collector

PBIC: Pedestrian and Bicycle Information Center

Engineering Research Associates Carl Sundstrom and Daniel Carter both passed the Professional Engineering exam to become licensed engineers.



Remembering Megan Cornog

This year, HSRC lost a talented staff member, Megan Cornog. Megan died Sunday, November 7, 2010 at her home in Carrboro, N.C., after a courageous battle with cancer. Earning her master's degree from UNC-Chapel Hill in May 2009, Megan began her career working as a project coordinator for HSRC, focusing on pedestrian and bicycle issues. Megan will be remembered for her tenacious spirit, strong work ethic and passion for active transportation.

To honor Megan and her contribution to HSRC, the Center renamed its scholarship in 2011 to the The Megan Cornog Memorial Highway Safety Scholarship. *Eric Rodgman, M.P.H.* Senior Database Analyst

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

*Sarah Smith* Engineering Research Assistant

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

*Carl Sundstrom, M.S.C.E., P.E.* Program Specialist, PBIC

**Donna Suttles** Research Assistant

*Libby Thomas, M.S.* Research Associate

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

*Carolyn Williams* Programmer Analyst

Anran Ye, M.S.I. Interaction Designer

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

### **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, Ph.D.* UNC Institute on Aging, UNC-Chapel Hill

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

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

*James Drennan, J.D.* School of Government, UNC-Chapel Hill

James Emery, M.P.H. Health Behavior/Health Education, UNC-Chapel Hill

*Kelly Evenson, Ph.D.* Epidemiology, UNC-Chapel Hill

*Herb Garrison, M.D.* Brody School of Medicine, East Carolina University Johnny Graham, Ph.D. Civil Engineering, UNC-Charlotte

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

*Joseph Hummer, Ph.D.* Civil Engineering, NC State University

*Martin Kane, Ph.D.* Civil Engineering, UNC-Charlotte

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

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

*Steve Marshall, Ph.D.* Epidemiology, UNC-Chapel Hill

*Noreen McDonald, Ph.D.* City & Regional Planning, UNC-Chapel Hill

*Greg Mears, M.D.* Emergency Medicine, UNC-Chapel Hill

*Daniel Rodriguez, Ph.D.* City & Regional Planning, UNC-Chapel Hill *Nagui Rouphail, Ph.D.* Institute for Transportation Research & Education, NC State University

*John Stone, Ph.D.* Civil Engineering, NC State University

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

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

*Anna Waller, Sc.D.* Emergency Medicine, UNC-Chapel Hill

*Dianne Ward, Ed.D.* Nutrition, UNC-Chapel Hill

### **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.

Herb Garrison, M.D. — Chair Director, Eastern Carolina Injury Prevention Program, Greenville

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

*Jo Anne Earp, Sc.D.* Professor and Chair, Health Behavior/ Health Education, UNC-Chapel Hill *Edd Hauser, Ph.D.* Director, Transportation Policy Studies, UNC-Charlotte

*Richard F. Pain, Ph.D.* Transportation Safety Coordinator, Transportation Research Board

*Nagui Rouphail, Ph.D.* Director, Institute for Transportation Research & Education, N.C. State University

*Carol W. Runyan, Ph.D.* Director, Injury Prevention Research Center, UNC-Chapel Hill

John F. Sullivan III, P.E. Division Administrator, Federal Highway Administration

# **2009 – 2010 Publications**

*This listing includes publications from fiscal year 2010* (*July 1, 2009 to June 30, 2010*)



### 2009

Decina, L., Foss, R.D., Tucker, M.E., Goodwin, A., and Sohn, J. (2009). Alternative Transportation Programs: A Countermeasure for Reducing Impaired Driving. (Report No. HS 811 088). Washington, DC: National Highway Traffic Safety Administration.

Hunter, W.W., Srinivasan, R., and Martell, C.A. (2009). Evaluation of a Green Bike Lane Weaving Area in St. Petersburg, Florida. Tallahassee, FL: Florida Department of Transportation.

Hunter, W.W., Srinivasan, R., and Martell, C.A. (2009). Evaluation of the Rectangular Rapid Flash Beacon at a Pinellas Trail Crossing in St. Petersburg, Florida. Tallahassee, FL: Florida Department of Transportation. Hunter, W.W., Srinivasan, R., and Martell, C.A. (2009). An Examination of Bicycle Counts and Speeds Associated With the Installation of Bike Lanes in St. Petersburg, Florida. Tallahassee, FL: Florida Department of Transportation.

Martin, S., Moeti, L. R., and Pullen-Seufert, N. (2009). Implementing Safe Routes to School: Application for the Socioecological Model and Issues to Consider. Health Promotion Practice, Vol.10, No. 4, pp 606–614.

Srinivasan, R., Baek, J., Carter, D., Persaud, B., Lyon, C., Eccles, K., Gross, F., and. Lefler, N. (2009). Safety Evaluation of Improved Curve Delineation. (Report No. FHWA-HRT-09-045). Washington, DC: Federal Highway Administration. Staplin, L., Lococo, K.H., Gish, K.W., and Martell, C. (2009). Pilot Study: Multiple Medication Usage and Driving Functioning. Accident Investigation Quarterly, (56), 9–20, 33–45, 48.

Stutts, J. C., Martell, C.A., and Staplin, L. (2009). Identifying Behaviors and Situations Associated with Increased Crash Risk for Older Drivers. (Report No. HS 811 093). D.C.: National Highway Traffic Safety Administration.

Vaughn, A., Ball, S.C., Linnan, L.A., Marchetti, L.M., Hall, W.L., and Ward. D.S. (2009). Promotion of Walking for Transportation: A Report from the Walk to School Day Registry. Journal of Physical Activity and Health, (6) 3, 281 – 288.



### 2010

Council, F.M., Srinivasan, R., Masten, S., Carter, D., and Reurings. M. (2010). Development of a Speeding-Related Crash Typology. HSIS Summary Report. (Report no. FHWA-HRT-10-039). McLean, VA: Federal Highway Administration.

Council, F.M., Srinivasan, R., Masten, S., Carter, D., and Reurings, M. (2010). Development of a Speeding-Related Crash Typology. Final Report. (Report no FHWA-HRT-10-024). McLean, VA: Federal Highway Administration.

Decina, L.E. Hall, W.L. and Lococo, K.H. (2010). Booster Seat Law Enforcement: Examples From Delaware, New Jersey, Pennsylvania, and Washington. (Report No. DOT HS 811 247). Washington, D.C.: National Highway Traffic Safety Administration. Fischer, E.L., Rousseau, G.K., Turner, S.M., Blais, E.J., Engelhart, C.L., Henderson, D.R., Kaplan, J.A., Keller, V.M., Mackay, J.D., Tobias ,P.A., Wigle, D.E., and Zegeer, C.V. (2010). Pedestrian and Bicyclist Safety and Mobility in Europe. (Report No. FHWA-PL-10-010). Washington, DC: Federal Highway Administration.

Goodwin, A.H., Hall, W.L. Thomas, L.J. and Tucker, M.E. (2010). Countermeasures That Work, fifth edition. (Report no. HS 811 258). Washington, D.C.: National Highway Traffic Safety Administration.

Hummer, J., Rasdorf, W., Findley D., Zegeer, C., and Sundstrom, C. (2010). Examination of Horizontal Curve Collision Characteristics and Corresponding Countermeasures. Paper presented at the 89th Annual Meeting of the Transportation Research Board, Washington, DC. (Paper #10-1009).

Hunter, W.W., Srinivasan, R., and Martell, C.A. (2010). Change in Amount of Bicycling Associated with Installation of Bike Lanes in St. Petersburg, Florida. Paper presented at the 89th Annual Meeting of the Transportation Research Board, Washington, DC.

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### **Websites**

HSRC maintains nearly 20 Websites for various highway-safety related projects and tools. For a complete list of Center Websites, please visit **www.hsrc.unc.edu/centers**.

The majority of projects and information discussed within the HSRC Annual Report can be found within these Websites.

### **Pedestrian and Bicycle Information Center**

www.walkinginfo.org www.bicyclinginfo.org www.pedbikeimages.org







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

### **Highway Safety Information System**

www.hsisinfo.org



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

### Center for the Study of Young Drivers

### 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

### National Center for Safe Routes to School

#### 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

### **Crash Modification Factors Clearinghouse**

www.cmfclearinghouse.org



Provides a search database of Crash Modification Factors (CMFs), helpful tools in evaluating road safety engineering countermeasures

### **NC Crash Data Query**

### 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 Alcohol Facts**

#### www.hsrc.unc.edu/ncaf



Provides statewide and county-specific data for North Carolina regarding DWI arrests and convictions as well as alcohol involvement in crashes

### North Carolina Child Passenger Safety Resource Center

www.buckleupnc.org



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

### U.S. Walk to School

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

### **National Child Passenger Safety Board**

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

### **International Walk to School**

www.iwalktoschool.org



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

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