VISION ZERO

ITRE researchers have been working on a research project sponsored by the North Carolina Governor’s Highway Safety Program (GHSP) to investigate the feasibility and necessary components of an overall highway safety outreach initiative, Vision Zero. Vision Zero is an initiative that sets a vision for zero fatalities on our highways. Vision Zero encompasses a single unified vision that involves the collaboration of key stakeholders ranging from government agencies to law enforcement to educators to individuals—it includes EVERYONE. To meet this vision, a transformation in driver behavior and traffic safety culture must be reconstructed from its foundation. This necessary change can be encouraged by sustained focus and effort from stakeholders, which is a primary objective of Vision Zero.

In 2012, approximately 92 people died each day in a motor vehicle crash in the United States—averaging one life lost on a roadway every sixteen minutes. In the same year, a total of 33,561 people died and over 2 million people were injured as a result of vehicular crashes across the country. These figures represent a 3.3 percent increase in fatalities and a 6.5 percent rise in injuries. According to the Centers for Disease Control and Prevention (CDC), unintentional injury resulting in death from a vehicular collision is in the top three leading causes of death for every age group. In 2010, collisions cost the United States a total of $277 billion. There were over 240,000 traffic crashes reported in North Carolina in 2012, resulting in over 110,000 injuries and 1,276 deaths on roadways. The high incidence of motor vehicle crashes costs the state over $1 million per hour, adding up to over $10.3 billion dollars annually. Visit the YouTube link below to watch a video produced to share the concept of Vision Zero for NC. For more information, email difindle@ncsu.edu.

OREd and Student Assignment for WCPSS

ITRE’s Operations Research and Education Laboratory has been working with the Wake County Public School System for almost ten years – providing long-range data-driven forecasts and determining optimal locations to build new schools to accommodate a district membership that is growing by more than 3000 students a year.

Beginning with the 2014-15 school year, ORED is expanding its involvement by using optimization algorithms to assist in determining school base attendance zones for WCPSS. A new school building program – supported by the $800M bond referendum passed in 2013 – will open seventeen new schools starting in 2015-16. Optimal base attendance zones for these schools are created to consider (1) proximity to schools, (2) building capacity constraints, (3) anticipated growth, and (4) the impact of future school openings.

Since WCPSS provides many school choices for students, it is challenging to know how many students are expected when a new school opens. The multi-year assignment plan will use numbers provided by the data-driven membership forecast combined with a probabilistic student behavior model now being developed by ORED.

The behavior model will provide a better understanding of how school choice decisions impact school enrollment which in turn should provide more assignment stability for Wake County families. For more information, email mamiller@ncsu.edu.
**ITRE director interviewed for Korean land planning and policy journal**

Dr. Nagui M. Rouphail, director of the Institute for Transportation Research and Education (ITRE) at North Carolina State University, was interviewed for an article in the July 2014 *Planning and Policy*, a monthly journal published by the Korea Research Institute for Human Settlements (KRIHS). The interview for “Transportation Safety Improvement: Methods and Culture” was conducted by Sangkey Kim, a graduate research assistant and PhD candidate at NC State who is working on research projects at ITRE that involve mobility and safety. KRIHS is a national research institute that does policy research on land development and quality of life issues.

The focus of the interview was on traffic safety and Rouphail was asked about several safety-related projects he is involved in at ITRE. Rouphail discussed pedestrian accessibility at complex intersections including roundabouts and channelized turn lanes and how the goal of keeping traffic flowing has generated conditions with unpredictable traffic movements and confusing auditory environments that make it difficult for pedestrians with vision disabilities to navigate those intersections. Options that improve driver yielding behavior at such intersections are currently being evaluated by ITRE researchers.

Kim asked about two projects related to safety specifically in North Carolina: SMARTLink and Incident Management Assistant Patrols (IMAP), both funded by the North Carolina Department of Transportation. SMARTLink uses Intelligent Transportation System concepts to track and enhance mobility while IMAP uses trained personnel to assist in safely clearing incidents to keep traffic flowing.

The last project Rouphail discussed was Vehicle Trajectory Tracking, or VTT, which makes use of micro-scale, second by second travel data in a vehicle fleet environment. VTT can be used to characterize driver behavior and infrastructure elements that could be potential causes of crashes. It is currently being deployed by student and staff volunteers at ITRE in a massive data collection exercise.

Finally, Rouphail was asked to comment on safety issues related to the ferry accident that occurred in South Korea in April of this year. He emphasized the importance of nurturing a culture of safety throughout all transportation elements from operator to vehicle and infrastructure. For more information, email rouphail@ncsu.edu.

**Martin recognized by American Public Works Association**

James B. Martin, P.E., associate director at the Institute for Transportation Research and Education (ITRE) at North Carolina State University, was recognized by the American Public Works Association (APWA) for his “dedicated and valuable service” as president of the North Carolina Chapter for 2013. APWA is a non-profit membership association that provides educational and networking opportunities for professionals in all aspects of public works.

During his tenure as president, Martin presided over seven executive board meetings and the chapter held over 20 conferences, workshops, and training opportunities for its 800-plus members. The North Carolina Chapter was also selected to receive the Presidential Award for Chapter Excellence (PACE) in 2013. The PACE award recognizes APWA chapters for contributions that positively impact their membership, profession, and community.

Martin was recognized during the State Chapter 57th Annual Conference and Exposition held in New Bern, NC on June 19, 2014.

*James Martin, left, receives recognition plaque from 2014 APWA-NC President Russell Byrd.*