Researchers in the ITRE Highway Systems group conducted a unique study this November for the NC Department of Transportation to learn how state taxpayers rate and prioritize roadway asset features. During a three-week period, ITRE staff led focus groups and surveyed more than 360 residents across North Carolina on their opinions about state-maintained roadways. Unlike traditional survey methods where respondents may be separated from the survey subject by distance or time, this study polled residents about the roadways as they were driven along them in a caravan of vans.

Called “Roadway Reviews,” the study was administered at six diverse sites across the state including areas in and around Asheville, Burlington, Charlotte, Jonesville, Rocky Mount, and Wilmington. Each predetermined route was approximately 45 miles in length and included various roadway facilities from secondary and primary roads to interstates. Study participants were asked how the NC roadway conditions of the surveyed roads compared to their basic expectations, or what they find personally acceptable.

For smaller segments of each route, participants were also asked to provide feedback on conditions such as pavement smoothness, sign and pavement marking visibility, lighting, guardrail maintenance, and grass height. Expectation ratings provided by the survey respondents will be compared to the physical condition of individual features on each route as measured by NCDOT and federal standards. This research will enable ITRE to identify how public perceptions of roadways compare to the actual conditions of NC roadways.

This innovative study will also help researchers identify the road features users find most important. In addition to rating the conditions of roadway features, survey participants ranked how they prioritize the importance of the features for primary, secondary, and interstate roadway types, as well as for NC roads overall. Findings of the survey will be supplemented by feedback gained during focus group meetings, which will help researchers understand the reasoning behind the residents’ perceptions and expectations.

North Carolina is one of only a few U.S. states to undertake such a roadway study. NCDOT leadership and state legislators are expected to use this research to help inform how limited transportation funds are allocated in the future. For more information about the study, contact Chris Cunningham at cmcunnin@ncsu.edu.

The North Carolina Local Technical Assistance Program (NC LTAP), administered through ITRE, is expanding its highly successful Roads Scholar training curriculum. The new Master Roads Scholar program, which launched in October, enables local and state government transportation employees who have completed the entry-level Roads Scholar and Advanced Roads Scholar training programs to gain additional high-level job skills and knowledge. Master Roads Scholar courses include topics such as Effective Leadership Training, Asset Management, Ethics in Public Works, and more. In addition to their course work, master program participants complete a case study paper on a local transportation project.

The first two Master Roads Scholar courses offered this fall were well-received by all participants. NC State University professor Dr. Jessica Jameson, from the Department of Communication, taught the inaugural course on Effective Leadership Training (pictured below left). ITRE staff Mike Miller and Rob Kimball, of the Geovisual Analytics and Decision Management group, taught a course on Geographic Information Systems (GIS) in November for the new program (pictured below right). NC LTAP provides extensive training and technical assistance to local and state employees who maintain roads in North Carolina. Courses are offered across the state and include topics such as Work Zone Safety, Pavement Maintenance, Heavy Equipment Operation, and Supervisory Skills. For more information contact Linda Collier at linda_collier@ncsu.edu.
Improving Efficiency and Service for the Lee County Transit System

ITRE’s Public Transportation group has been working with the County of Lee Transit System (COLTS), headquartered in Sanford, NC, to create a zone-based structured service plan. This new service will improve efficiency while serving the same number of trips, use fewer vehicles, and reduce employee frustration.

A lack of consistency in service delivery to date has inhibited COLTS’s ability to serve their community as efficiently as possible. To enhance this agency’s service, ITRE used a Geographic Information Systems (GIS) model to create zones based on geographic features including roads, water bodies, and railroads. Existing demand was then mapped to the zones, creating a structured service schedule.

By moving to zone-based structured scheduling, Lee County transit customers and sponsoring agencies will enjoy certainty in both service and costs. With fixed service times and fixed zones, drivers will operate on a set schedule, allowing COLTS to reduce fleet size through efficient vehicle utilization. Assigning a customer to a zone allows the scheduler to quickly fill available vehicles in that zone, maximizing productivity.

The zone-based structured scheduling service is an innovative and versatile solution to rural transportation and can be adapted to all rural transit systems. For more information contact Kai Monast at kcmomonast@ncsu.edu.

New Opportunities and Retirements for ITRE Senior Staff

ITRE bids fond farewell and best wishes this fall to four long-serving and outstanding senior staff members. Two staff are moving on to new career opportunities, while two others move into well-earned retirements. Each of these talented colleagues contributed significantly to the growth and success of ITRE during their tenure, and all will be greatly missed. Thank you for being a part of the ITRE family!

Leigh Lane, senior research associate for the Center for Transportation and the Environment, departed in October after 12 years with ITRE to join The Louis Berger Group as its Transportation Planning and Environmental Manager. Leigh began with ITRE as a consultant in 2003, becoming full-time from 2004-2006, then re-joining the staff in 2009. Leigh brought to ITRE nationally recognized expertise in environmental policy development and implementation for context sensitive solutions (CSS), community impact assessment (CIA), livability and sustainability, performance metrics and revenue strategies. While at ITRE Leigh served as a principal investigator on numerous federal projects which helped establish ITRE as a national leader in CSS and CIA research and training.

Highway Systems group director Bastian Schroeder, Ph.D., P.E., joined Kittelson & Associates in October as a Principal Engineer following 11 years with ITRE. Bastian began his career at ITRE in 2004 as a graduate research assistant and, in 2008, earned his Ph.D. from NC State University. By 2012 Bastian’s expertise in traffic operations, simulation analysis, roundabouts, pedestrian-bicycle operations, and accessibility issues advanced him into the leadership team for Highway Systems. During his tenure at ITRE Bastian authored or co-authored over 30 peer-reviewed publications, and led multiple national and state research projects. He also served as an adjunct associate professor in the NC State Department of Civil, Construction, and Environmental Engineering.

Tom Cook, co-director of the Public Transportation group, retired in October after serving with ITRE for 20 years. Tom joined the Institute in 1995 as a senior researcher with expertise in paratransit, rail, and taxicab systems. In 2000 Tom was promoted to manage all rail and paratransit research at ITRE and, in 2001, he was appointed co-director of Public Transportation. In his two decades with ITRE Tom directed numerous successful research projects on rural transit, urban transit, and rail topics for the NC Department of Transportation, as well as for other state DOTs, U.S. cities, and the federal government.

Information Technology manager Anne LaPierre retires in December after more than 28 years of providing exceptional technology support to ITRE staff, student assistants, training instructors, and conference planners. For nearly three decades Anne helped grow and maintain the Institute’s significant IT infrastructure which now supports over 70 full- and part-time employees with more than 180 computers, 12 file servers, and audiovisual resources in our classroom labs and conference rooms. Anne also applied her many skills to serve as a print communications specialist, editing and producing several of ITRE’s regular publications including its quarterly newsletter and annual activity report.