ICOET 2007 Emphasizes Partnerships, Integrated Planning

Over 350 worldwide experts in ecology and transportation gathered in Little Rock, Arkansas, May 20-25 to attend the seventh International Conference on Ecology and Transportation (ICOET). Arkansas Governor Mike Beebe opened the conference with a call to be bold in forging the partnerships required to balance transportation, environmental, and economic goals in order to achieve the quality of life that we want our children to enjoy.

Sponsored principally by the Federal Highway Administration (FHWA) along with 37 additional Federal resource agencies, State transportation agencies, universities, non-governmental organizations, and private consulting firms, ICOET 2007, a biennial conference, featured more than

120 paper and poster presentations related to the theme “Bridging the Gaps, Naturally.” Attendees and technical presenters represented more than a dozen countries in addition to the U.S., including Australia, Canada, France, Hungary, India, Portugal, Spain, South Korea, and The Netherlands, who came to discuss solutions to ecological issues related to transportation.

The conference steering committee and local host, the Arkansas State Highway and Transportation Department (AHTD), selected the conference theme to help fill the knowledge gaps in the current understanding of how to deliver transportation projects without impairing the ecological integrity of the critical landscapes, waterscapes, and wildlife habitats that intersect them. The theme was reflected in the multiple session tracks related to “Integrating Transportation and Conservation Planning” and “Ecological Considerations of Public-Private Partnerships in Transportation.”

AHTD Director Dan Flowers stressed that well-designed partnerships between the department, its sister resource agencies, and stakeholder groups have been the impetus for many of the state’s environmental successes, which were showcased throughout the five-day conference.

CTE serves as an official sponsor and lead organizer for ICOET. CTE will publish the full proceedings of papers and posters later this year. Planning is already underway for ICOET 2009, which will be hosted by the Minnesota Department of Transportation.

For more information on ICOET, please visit www.icoet.net.

FHWA Environmental Excellence Awards Presented at ICOET 2007

In addition to exploring the state of the science and practice in ecology and transportation, this year’s ICOET conference in Little Rock, Arkansas, served as the venue for the 2007 FHWA Environmental Excellence Awards program ceremony. FHWA recognized thirteen winners in twelve environmental categories chosen from the 174 entries submitted from around the nation.

The awards were presented on May 22 at a luncheon ceremony by FHWA Administrator, Rick Capka; Associate Administrator for Planning, Environment, and Realty, Gloria Shepherd; and Water and Ecosystems Team Leader, Carol Adkins.

CTE Research Presented at 2007 TRB Annual Meeting

Five papers written by CTE researchers were accepted for presentation at the Transportation Research Board 86th Annual Meeting in Washington, D.C., January 21-25, 2007. Many of these papers also will be published in the Transportation Research Record, and serve as a national resource for transportation-related decision making.

Senior research fellow Janet D’Ignazio coauthored and presented three papers:

• Context-Sensitive Solutions, Value Engineering, and Asset Management: Creating and Maintaining Value, Improving Accountability, and Reaching for Sustainability;

• Current Department of Transportation Environmental Management System Development Efforts: Examples from Construction, Maintenance, Project Development, and Planning; and

• Integrating CSS Into Management, Planning, and Design.

Senior research associate Leigh Lane, with coauthors and CTE research associates Brian Byfield and Ann Hartell, presented “Integrating Context Sensitive Solutions in Day to Day Activities: Information from a Post Training Survey.” Since 2003 North Carolina DOT has used CSS training as a way to incorporate CSS principles into all areas of transportation decision making.
This paper looks at the impact of CSS training on NCDOT staff as measured through a survey of nearly 1000 course participants. Interesting findings of the survey are highlighted to assist state DOTs in developing CSS initiatives that address the perceived needs of those responsible for implementing CSS department wide.

CTE research associate Ann Hartell also presented her paper “Methodological Challenges of Environmental Justice Assessments for Transportation Projects.” This paper uses a case study of a planned road widening project in Daytona Beach, Florida, to illustrate how various choices made when looking at data have important implications for the outcome of an environmental justice (EJ) assessment. Executive Order 12898 (EO12898) requires federal agencies to conduct EJ assessments to determine if negative effects from projects will fall disproportionately on minority or low-income populations. Ms. Hartell’s analysis demonstrates how conducting genuine EJ assessments can head off conflicts, better reveal the true costs of projects, and allow for more equitable distribution of costs and benefits by better targeting mitigation efforts. For more information, please contact Katie McDermott, CTE technology transfer director, (919) 515-8034 or kpm@ncsu.edu.

The Center for Transportation and the Environment is a university transportation center that seeks to mitigate the impacts of surface transportation development on the environment.

See FHWA on page 2
USDOT Greenhouse Gas Reduction Guidebook in Production

CTE is in the process of finalizing the documentation for an important USDOT research project titled “Best Practices Guidebook for Greenhouse Gas Reduction in Freight Transportation.”

The study, led by North Carolina State University Civil Engineering faculty Billy Williams and Chris Frey, investigates current efforts within the freight transportation sector to reduce emissions of greenhouse gases (GHG) in order to develop a list of best practices and promising initiatives. The project considers programs and demonstration projects developed at the state, local, or individual company/operator level.

The project also considers all modes of freight transport, including air, road, rail, and marine transport. Because many practices have significant greenhouse gas reduction benefits even though they are not formally considered GHG reduction programs, the study considers programs and technologies that have a significant potential to reduce GHG emissions even if this is not their primary focus. This includes programs developed to reduce fuel consumption, to improve the efficiency of the freight transport sector, fuel-saving technologies, etc.

The guidebook of best practices resulting from this study is being designed for use by companies and individual operators. For more information, please contact Katie McDermott, CTE technology transfer director, (919) 515-8034 or kpm@unity.ncsu.edu.

CTE Broadcasts Focus on Planning and Air Quality

In April CTE produced a live satellite/Web broadcast discussing the final rule on the metropolitan and statewide transportation planning provisions of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

Featured in the April 19 broadcast were Charlie Goodman from Federal Transit Administration and Larry Anderson with Federal Highway Administration headquarters in Washington, DC. The panel provided an overview of the final rule and answered questions from the national audience participants. Victor Austin with FTA headquarters moderated the program.

The two-hour broadcast was the fourth in CTE’s series on SAFETEA-LU planning and environmental provisions. The program provided valuable information for federal, state and local transportation and planning staff, National Environmental Planning Act compliance administrators, and other transportation stakeholders.

Also in April, CTE provided a streaming and archiving service for a US Environmental Protection Agency (EPA) Office of Air Quality Planning and Standards (OAQPS) broadcast on “The 2007 Clean Air Act Update.”

During this two-hour program originally produced by OAQPS, senior EPA representatives discussed significant activities underway related to OAQPS programs. The program covered a range of topics including the new process for reviewing national ambient air quality standards. Voluntary programs such as air quality forecasting and woodstove changeouts were also highlighted.

To learn more about CTE’s national broadcast series, and to view these and other archived programs, please visit www.cte.ncsu.edu.

For more information, please contact Eugene Murray, CTE distance learning specialist, (919) 515-8037 or eugene_murray@ncsu.edu.

CTE Supports NCDOT Merger 01 Training

North Carolina DOT is calling on CTE to provide administrative support for the department’s Merger 01 Training courses. From January to June this year, CTE has assisted NCDOT in its training of more than 170 executives and practitioners on the Section 404 NEPA Merger 01 Process.

Merger 01 is a process to streamline the project development and permitting processes, and provide a common forum for federal, state and local agencies to discuss and reach consensus on ways to meet the regulatory requirements of Section 404 of the Clean Water Act during the NEPA/SEPA decision-making phase of transportation projects.

The training familiarizes practitioners, technical participants and executives with the Section 404 NEPA Merger 01 Process information. Successful completion of the training results in more timely, cost-effective and environmentally sound NCDOT project delivery. Merger meetings become more efficient, increasing the frequency of merger meetings at which concurrence is reached. The training also increases awareness that merger meetings should be approached as problem-solving sessions. The training helps to ensure that roles and responsibilities of merger process practitioners are commonly understood, ultimately fostering interagency cooperation and teambuilding.

CTE will support additional Merger 01 training courses scheduled for July, September and October. For more information about Merger 01, visit the NCDOT website at www.ncdot.org/doh/preconstruct/pe/merger01.

FHWA continued from page 1

“Balancing the needs of a safe and efficient transportation network with environmental sensitivity has yielded a number of creative solutions and innovations – such as those honored this year with an FHWA Environmental Excellence Award,” says FHWA Administrator Capka. “By integrating environmental protection and enhancement with traditional highway engineering, these projects not only set a good example for the transportation community, they set a high standard of excellence in project decisionmaking for the next generation.”

This year was a first for ICOET and FHWA to collaborate on the Environmental Excellence Awards ceremony, and the partnership proved to be successful for all involved. “The whole theme that we have here this week is reflective of what we’re trying to recognize with these awards,” says Capka, “so it was a perfect marriage and something that we readily latched on to.”

Visit www.fhwa.dot.gov/environment/eea2007 for more information about the FHWA Environmental Excellence Awards program. To learn more about ICOET and to view a video of this year’s awards ceremony, please visit www.icoet.net.
**Determining Lateral Effects of Borrow Pits on Hydrology of Adjacent Wetlands**

**Performing Organization:**
Department of Biological and Agricultural Engineering, North Carolina State University

**Principal Investigator:**
R. Wayne Skaggs, Ph.D., Biological and Agricultural Engineering, North Carolina State University, wayne_skaggs@ncsu.edu

**Project Period:**
September, 2004 to August, 2007

Highway construction often requires soil to fill low areas and to build overpasses and ramps. When the fill is unavailable from cuts made during construction, it is usually obtained from borrow pits located near the construction site.

Eastern North Carolina borrow pits are often near or adjacent to wetlands due to the area’s low elevations and flat topography. There is concern that the borrow pit may serve as a long-term drainage sink and that after its closure, the hydrology of wetlands close to the pit will be affected.

Dr. Wayne Skaggs at NC State University has been conducting a three-year research project to develop methods for determining the lateral effects of borrow pits on the hydrology of adjacent wetlands. Working with assistant professor George Chescheir and student Brian David Phillips, Dr. Skaggs is testing a method to predict the distance borrow pits should be set back from wetlands to avoid detrimental impacts on wetland hydrology.

A method, originally developed by Skaggs and Chescheir to predict the lateral effect of drainage ditches on wetland hydrology, was modified to determine the potential effect of borrow pits. An objective of this project is to determine the “equilibrium” water level elevation in the pit, and how it varies with weather conditions and season. Once this elevation is known, the modified method can be applied to estimate the lateral effect.

The research involves field surveys of older closed borrow pits and monitoring of recently closed pits – more than 25 pits over a 30-month period. Dr. Skaggs expects the research to yield methods to determine both the “equilibrium” water level and the time required after closure to attain that level. Water balance models will be developed to predict fluctuations of the pit water level on a daily and seasonal basis.

For more information, contact Dr. Skaggs or project manager G. Dennis Pipkin with the NCDOT Research & Development Unit, (919) 508-1816 or dpipkin@dot.state.nc.us.

Researchers use a sonar-equipped model boat to measure the depth to the restrictive layer in several study site borrow pits. Inset shows closer image of the boat.
What's Coming Up?

July 7–9, 2007
TRB 2007 Summer Conference
ADC10 Environmental Analysis in Transportation Committee Workshop: The Environmental Faces of Transportation Sustainability (Chicago, IL)
www.trb.org

July 22–25, 2007
ADC50 Historic and Archeological Preservation in Transportation Committee Summer Conference (Flagstaff, AZ)
www.itre.ncsu.edu/ADC50

August 26–28, 2007
Best Practices: Coordination of Transit, Regional Transportation Planning and Land Use Conference (Denver, CO)

September 27–October 1, 2007
AASHTO Annual Meeting (Milwaukee, WI)
www.transportation.org

Research continued from page 3

of departure, a set of principles applicable to transportation planning was developed. Materials for Web and print publication were prepared that include an assessment of CSS as applied to planning, a toolkit of fact sheets, questions and answers, and case studies for both States and communities.

The report also provides recommendations on ways to incorporate CSS into transportation planning and the connection with SAFETEA-LU requirements for long-range planning. To view the final report visit www.fhwa.dot.gov/planning/cstsp/csttransplan.htm.

For more information, contact Ann Hartell, CTE research associate, (919) 515-9351 or amhartel@ncsu.edu.