The Center for Transportation and the Environment conducts innovative programs of research, education, and technology transfer that seek to mitigate the impacts of surface transportation on the environment.

CTE is an activity of the University Transportation Centers Program, administered by the Research and Innovative Technology Administration of the United States Department of Transportation.
Message from the Director
Financial Report
Management Structure
  • CTE Advisory Committee
  • ITRE Council
  • Center Staff
  • Faculty Affiliates
Research Program
Education Program
Technology Transfer Program
The Center for Transportation and the Environment (CTE) was established in 1991 as a national university transportation center within the Institute for Transportation Research and Education at North Carolina State University with funding from the Intermodal Surface Transportation Efficiency Act. At that time, CTE purposefully adopted an environmental theme and a national mission to assist transportation professionals with the challenges associated with this emerging national agenda.

Over the last 15 years CTE has cultivated a network of national partners and mobilized the human and technological expertise of NCSU and other research institutions to accomplish three primary goals: (1) to pursue new research on environmental issues in transportation, (2) to advance an education program that engages students of diverse disciplines in transportation research and that introduces civil engineering students to the environmental aspects of the transportation profession, and (3) to build a technology transfer program that provides significant opportunities for enhanced communication among transportation professionals, students and stakeholders about how to implement promising new research innovations and best practices in the field. Some of the more recent activities that CTE has carried out to achieve these goals are described throughout this report.

In 2006 CTE was funded by the U.S. Department of Transportation as one of the national university transportation centers of excellence. Through this initiative, the faculty and staff look forward to continuing to work with its previous partners as well as new ones in addressing environmental and transportation issues of national concern. CTE intends to serve as a resource for advanced research, policy studies, best practices, and educational programs that help achieve environmental excellence in transportation while improving mobility and safety.

Please let us know of any suggestions you may have as we carry out our mission.

Sincerely,

E. Downey Brill, Jr., Ph.D.
The Center for Transportation and the Environment’s total UTC annual operating budget for 2006–2007 was $860,000. The U.S. Department of Transportation provided $430,000 through the University Transportation Centers Program. The North Carolina Department of Transportation provided the full state match requirement of $430,000 through its funding of CTE/NCDOT joint research projects.

### 2006–2007 Funding Sources
- Federal 50%
- State DOT 50%

### 2006–2007 Expenditures
- Research 49%
- Education 28%
- Technology Transfer 17%
- Administration 6%
CTE is administered by North Carolina State University and is one of 68 centers, institutes, and laboratories on campus that report to the Office of the Vice Chancellor for Research and Graduate Studies. The Center is located on NCSU Centennial Campus in the offices of the Institute for Transportation Research and Education (ITRE).

The Center’s research, education, and technology transfer programs are guided by the CTE Advisory Committee, which provides valuable input on program activities. The committee is composed of representatives from government, academia, and non-profits. In addition, ITRE’s advisory council receives regular updates on CTE activities and provides input at the request of the Center’s director, Dr. E. Downey Brill, Jr.

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CTE partners with the North Carolina Department of Transportation to conduct a joint environmental research program. This partnership was established in 1998 following the Center’s reauthorization in the Transportation Equity Act for the 21st Century (TEA-21).

Each year the NCDOT Research and Development Unit issues a solicitation for proposals based on the transportation research needs of the state. Representatives from CTE, ITRE, and the FHWA NC Division Office serve on the technical advisory committee responsible for reviewing and selecting research projects. Contracts for all project awards are administered by ITRE. Center staff serve on each individual environmental research project committee, which is responsible for providing overall guidance to the principal investigator(s) and monitoring their progress through project completion.

The CTE/NCDOT partnership has generated significant research results in various environmental areas, including air quality, water quality, wetlands mitigation, vegetation management, and wildlife management. During 2006–2007, the research program involved the active participation of more than 52 students and 27 faculty representing many academic disciplines.

For more information on the program and research projects, please visit the CTE website at www.cte.ncsu.edu/cte/research.

>>> NEW PROJECTS

The following new research projects were awarded during the 2006–07 reporting period.

**Stilling Basin Design and Operation for Water Quality: Field Testing (HWY-2007-02)**
*Performing Organization:* North Carolina State University  
*Principal Investigator:* Dr. Richard A. McLaughlin  

**Platinum Markers as Indicators of Transportation Impact (HWY-2007-03)**
*Performing Organization:* North Carolina State University  
*Principal Investigators:* Dr. W. Gregory Cope, Dr. Thomas J. Kwak, Dr. Damian Shea  

**Evaluation of Nutrient Loading Rates and Effectiveness of Roadside Vegetative Connectivity for Managing Runoff from Secondary Roads (HWY-2007-04)**
*Performing Organization:* University of North Carolina at Charlotte  
*Principal Investigators:* Dr. Jy Wu, Dr. Craig Allan  

**Effects of Highway Construction in the Sedgefield Lakes and King’s Mill Watersheds (HWY-2007-17)**
*Performing Organization:* North Carolina State University  
*Principal Investigators:* Dr. Daniel E. Line, Dr. Jean Spooner  

**Research of Hydrologic and Water Quality Performance of Four Linear Wetlands in Eastern North Carolina and House Creek Watershed Interchange Retrofits (HWY-2007-21)**
*Performing Organization:* North Carolina State University  
*Principal Investigator:* Dr. William Hunt  
*Period:* March, 2007 – June, 2009
The following research projects were in progress or in the draft final report stage during this reporting period.

**Characterization of the Genus Alasmidonta in North Carolina to Facilitate Accurate Environmental Impact Assessments (HWY-0754)**
*Performing Organization:* North Carolina State University  
*Principal Investigators:* Dr. Jay F. Levine, Dr. Morgan Raley, Dr. Arthur E. Bogan (North Carolina Museum of Natural Sciences)  

*Performing Organization:* North Carolina State University  
*Principal Investigators:* Dani Wise Johnson, Dr. Jean Spooner  

**Evaluating Systems to Reduce Road Improvement Impacts on Mountain Streams (HWY-2005-05)**
*Performing Organization:* North Carolina State University  
*Principal Investigators:* Dr. Richard A. McLaughlin, Dr. Gregory D. Jennings  

*Performing Organization:* University of North Carolina at Charlotte  
*Principal Investigators:* Dr. Craig Allan, Dr. Jy Wu  
*Period:* May, 2006 – April, 2008

**Real World Duty Cycles and Utilization for Construction Equipment in North Carolina (HWY-2006-08)**
*Performing Organization:* North Carolina State University  
*Principal Investigators:* Dr. H. Christopher Frey, Dr. William Rasdorf  

**Effectiveness of Bear Crossings on I-26 in Madison County, North Carolina (HWY-2006-14)**
*Performing Organization:* North Carolina State University  
*Principal Investigators:* Dr. Richard A. Lancia, Dr. Phillip D. Doerr  

**Evaluating Sediment Capture Rates for Different Sediment Basin Designs (HWY-2006-17)**
*Performing Organization:* North Carolina State University  
*Principal Investigator:* Dr. Richard A. McLaughlin  

**Stilling Basin Design and Operation for Water Quality (HWY-2006-22)**
*Performing Organization:* North Carolina State University  
*Principal Investigator:* Dr. Richard A. McLaughlin  
*Period:* August, 2005 – October, 2006

**Shoreline Monitoring at Oregon Inlet Terminal Groin (HWY-2007-18)**
*Performing Organization:* North Carolina State University  
*Principal Investigator:* Dr. Margery F. Overton  

**Ongoing Maintenance and Enhancement of Precipitation Alert and Visualization Tool in Support of NCDOT’s Storm Water Quality Monitoring (HWY-2007-20)**
*Performing Organization:* North Carolina State University  
*Principal Investigator:* Dr. Sethu Raman  
The following research projects were completed, and a final report issued, during the 2006–07 reporting period. Final reports and other project details are available through the CTE website at www.cte.ncsu.edu/cte/research.

Assessment of Groundwater Flows at Juniper Bay and their Impacts on the Surrounding Area (HWY-2002-19)
Performing Organization: North Carolina State University
Principal Investigators: Dr. Rodney L. Huffman, Dr. Michael J. Vepraskas
Period: May, 2002 – December, 2006

Evaluation and Implementation of BMPs for NCDOT’s Highways and Industrial Facilities (HWY-2003-19)
Performing Organization: University of North Carolina at Charlotte
Principal Investigators: Dr. Jy Wu, Dr. Craig Allan
Period: July, 2002 – March, 2006

Methodology to Assess Soil, Hydrologic, and Site Parameters that Affect Wetland Restoration – Phase II (HWY-2004-19)
Performing Organization: North Carolina State University
Principal Investigator: Dr. Michael J. Vepraskas

Ecological Assessment of a Wetlands Mitigation Bank – Phase IV: Post-Restoration (HWY-2005-06)
Performing Organization: University of North Carolina at Asheville
Principal Investigators: Dr. Kevin K. Moorhead, Dr. James Petranka, Dr. Irene Rossell

Propagation of Freshwater Mussels for Release into North Carolina Waters (HWY-2005-07)
Performing Organization: North Carolina State University
Principal Investigators: Dr. Jay F. Levine, Dr. Morgan Raley, Chris Eads, Dr. Arthur E. Bogan (North Carolina Museum of Natural Sciences)

Development of Methods to Determine Lateral Effect of Highway Drainage Systems on Wetland Hydrology – Phase 2 (HWY-2005-21)
Performing Organization: North Carolina State University
Principal Investigator: Dr. R. Wayne Skaggs

Determination of Lateral Effects of Borrow Pits on Hydrology of Adjacent Wetlands (HWY-2005-24)
Performing Organization: North Carolina State University
Principal Investigator: Dr. R. Wayne Skaggs
Period: September, 2004 – August, 2007
Environmental Implications of Current Domestic Trends in Goods Movement
To ensure the development of U.S. policies that continue to facilitate efficient freight movement, government decisionmakers need more information on how domestic transportation operators, shippers, consignees, and others are responding to broader trade and freight transportation trends. This research, led by CTE faculty affiliate, Dr. Billy M. Williams, addresses these issues in the context of ports and other freight hubs.

Integration of CSS in the Transportation Planning Process
In January 2007 CTE completed a two-year research project, sponsored by the Federal Highway Administration, to determine best practices associated with integrating context sensitive solutions (CSS) into transportation planning. Addressing CSS during planning incorporates core natural, historic, cultural, aesthetic, scenic, and socioeconomic concerns through a collaborative, open, and interdisciplinary process.

Materials for Web and print publication were developed by CTE 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 local communities. The final report 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 the FHWA website at www.fhwa.dot.gov/planning/csstp/csstransplan.htm.

Greenhouse Gas Reductions in Freight Transportation
This important USDOT research project, led by CTE faculty affiliate, Dr. Chris Frey, investigates current efforts within the multi-modal freight transportation sector to reduce emissions of greenhouse gases (GHG) in order to develop a guidebook of best practices and promising initiatives. GHG emissions from freight transportation, which are largely based on energy use, are expected to increase significantly in the future as energy use for all freight modes increases. This research provides information useful to decisionmakers in the freight transportation sector in identifying, evaluating, and adopting similar technological and operational strategies for reducing energy use and GHG emissions. The best practices guidebook resulting from the study is available from the CTE website at www.cte.ncsu.edu/cte/downloads/research/ghg-guidebook.pdf.

Support for the North Carolina Ecosystem Enhancement Program
During 2006-2007 CTE continued its support of the North Carolina Ecosystem Enhancement Program (EEP), a unique partnership between the North Carolina Department of Transportation, N.C. Department of Environment and Natural Resources, and the U.S. Army Corps of Engineers. EEP is a national model program for protecting wetlands from the environmental impacts of transportation infrastructure improvements. CTE senior research associate, Dr. David Robinson, works on-site with EEP in its strategic planning, program design and procedure development. Since 2003 CTE has actively supported EEP in its ongoing efforts to preserve and protect wetlands, streams and riparian areas throughout the state.
In January, 2007, five papers authored or coauthored by CTE researchers were selected for presentation at the Transportation Research Board (TRB) annual meeting in Washington, D.C. Through the TRB, CTE research contributes to the national discourse on transportation and environmental issues and serves as an important resource for transportation-related decisionmaking. The research chosen for presentation includes:

- Three papers coauthored and presented by CTE senior research associate, Janet D’Ignazio:
  - 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.

- Integrating Context Sensitive Solutions in Day to Day Activities: Information from a Post Training Survey, coauthored and presented by CTE senior research associate, Leigh Lane. CTE research associates, Brian Byfield and Ann Hartell, also coauthored the report.

- Methodological Challenges of Environmental Justice Assessments for Transportation Projects, authored and presented by CTE research associate, Ann Hartell. This paper also was selected for publication in the TRB’s Transportation Research Record.

In 2006-2007 CTE was actively involved in three projects for the National Cooperative Highway Research Program (NCHRP). Administered by the Transportation Research Board, NCHRP conducts research in acute problem areas that affect highway planning, design, construction, operation, and maintenance nationwide.

**NCHRP Project 8-36, Task 66, Improved Methods for Assessing Social, Cultural and Economic Effects of Transportation Projects**

Working in partnership with Cambridge Systematics, CTE performed the lead research to identify and describe social (human) indicators that reflect quality of life considerations during the transportation decisionmaking process. This research leverages the Center’s extensive base of both completed and ongoing community impact assessment, context sensitive solutions, and socioeconomic research. Cambridge Systematics provided staff input on matters involving demographics, geographic information systems, quantitative methods, and statewide and metropolitan area transportation planning. Principal research was conducted in spring-fall 2007, with a final report submitted to NCHRP for publication in 2008.

**NCHRP Project 20-5, Synthesis 373, Multi-Disciplinary Teams in Context-Sensitive Solutions**

CTE staff conducted research to document the current knowledge and practice of state departments of transportation in using multi-disciplinary teams to develop context sensitive solutions (CSS). The final report, to be published by NCHRP in 2008, presents information from a nationwide survey, review of available literature, and examination of all state DOT websites for information on CSS policies and programs. Guidelines are provided in the report to point out areas where practices
can be revised to make multi-disciplinary teams an even more effective part of achieving CSS.

**NCHRP Project 25-30, The Use of Temporary Bridging to Avoid and Minimize Impacts to Waters and Wetlands during Highway Construction**

CTE is assisting Mulkey Engineering and Consultants, Inc. in its nationwide research to study the practicality of using temporary bridging methods to avoid or minimize the impacts of roadway construction on rivers, wetlands, and other waters. Employing alternative methods such as floating or prefabricated bridges can create an opportunity to protect the environment and reduce costs. The results of the study, which included Web-based and phone surveys of over 100 potential respondents, are discussed in detail in the project’s final report.

As a companion to the report, CTE and Mulkey are producing a guidebook incorporating key information from the survey to assist decisionmakers with the selection and use of temporary bridging for traffic detours or construction access. The guidebook provides an overview of the main types of temporary bridging, factors that influence their selection, a decision matrix for determining the applicability of temporary bridging types to various conditions, state examples of lessons learned, and recommendations for the future. Publication of the guidebook and final report by NCHRP is anticipated in 2008.
For more than a decade CTE’s education program has been encouraging undergraduate and graduate students of diverse academic disciplines to participate in transportation and environmental research and to consider potential careers in the field. The Center’s educational outreach also extends to the professional development needs of practitioners. More information about CTE’s education program can be found at www.cte.ncsu.edu/cte/education.

A principal focus of CTE’s education program in 2006-2007 has been in the area of Context Sensitive Solutions (CSS), a collaborative process for transportation planning and design to achieve solutions to transportation projects that integrate with the environment and communities they serve. Through the efforts of the Center’s outstanding research associates, CTE has been a nationally recognized leader in CSS research and education since 2003.

**Graduate-Level Engineering CSS Course**

During Fall semester, 2006, CTE and North Carolina State University’s Department of Civil, Construction and Environmental Engineering launched a new graduate-level course on the principles and practices of Context Sensitive Solutions. Funded through a contract with Federal Highway Administration, the new curriculum helps students develop a greater awareness of how to plan and deliver transportation projects that support community values without compromising safety, cost efficiency, and integrity of the natural environment. The curriculum is available for use at civil and environmental engineering programs nationwide, and can be downloaded at www.cte.ncsu.edu/cte/education/css-coursefiles.asp.

**CSS Summer Academy**

In cooperation with the North Carolina Department of Transportation, CTE since 2004 has conducted a unique, experiential summer program for junior- and senior-level undergraduate students interested in careers in transportation. The Context Sensitive Solutions Summer Academy introduces students to the principles of CSS and teaches how CSS concepts are applied at various levels of transportation planning, project development, construction, operations and maintenance.

CTE researchers and North Carolina State University engineering faculty lead the academy’s students through coursework and case study activities. In addition to classroom instruction, students work as NCDOT summer interns and participate in field trips that showcase real-world CSS applications such as bypass construction, railroad crossings, and bridge replacement projects. The students serve in positions that directly address transportation and environmental concerns, conduct research and interviews, and write a case study related to their assignments. At the Academy’s conclusion students give final presentations of their findings to a group of NCDOT staff, other professionals, and university faculty.

Seventeen undergraduate juniors and seniors successfully completed the 2006 and 2007 academies, for a total of 23 student participants since the program began. More than 50 different NCDOT projects have been researched and analyzed as case study activities. The CSS Summer Academy experience helps to better prepare students for their transportation careers and in turn helps improve future transportation project planning. More information about the CSS Summer Academy can be found at www.cte.ncsu.edu/cte/education.
Context Sensitive Solutions Training
“Context Sensitive Solutions: A Better Way” is a three-day training course developed by CTE for the North Carolina Department of Transportation. First delivered in 2003, the training covers CSS approaches and tools from transportation planning, project development, and design to right-of-way, construction, operations, and maintenance. Participants learn through lectures, case study presentations, facilitated group discussions, and decision-making exercises. During 2006-2007 CTE conducted CSS training throughout North Carolina to 315 NCDOT employees. To date, CTE has delivered over 50 CSS courses to more than 1,500 transportation department staff, local agencies and consultant groups across the state.

Community Impact Assessment Training
Community Impact Assessment (CIA) is the process used to analyze proposed transportation actions and determine their effects on the human and social environment. CIA is crucial to making balanced transportation decisions that preserve, protect and enhance quality of life. CTE in 2006-2007 conducted a series of Federal Highway Administration-sponsored CIA training courses for the Alaska, Illinois, Maryland, Utah and North Carolina state departments of transportation. Over 270 DOT professionals in the five states were successfully prepared to incorporate the FHWA CIA process in both transportation planning and project development.

NCDOT Merger 01 Training
CTE further extends its partnership with the North Carolina Department of Transportation by providing instructional and administrative support for the department’s Merger 01 training courses. Merger 01 is a process to streamline transportation project development and permitting. The process provides a 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. In 2006-2007 CTE assisted NCDOT in its Merger 01 training of more than 170 executives and practitioners. More information can be found on the NCDOT website at www.ncdot.org/doh/preconstruct/pe/merger01.

Student Spotlight
Dawn Rierson
B.S., Biological Engineering
NC State University
CSS Summer Academy Class of 2006
Now employed as an NCDOT Transportation Engineering Associate

The CSS Academy demonstrated the challenges of a relationship between transportation and the environment and the importance of facing and resolving these challenges. I hope my career path will be involved in the environmental aspects of transportation engineering. I wish to be mindful of how my engineering designs will impact the natural and human environment.

The academy prepared me to understand the importance of maintaining and fostering relationships between NCDOT, NCDENR, and other federal and state agencies to reach consensus on differences of opinions on issues. These relationships are the foundation of successful CSS.

Thank you for the opportunity to participate in the CSS Academy!
Through technology transfer, CTE fosters enhanced communication and collaboration among transportation and environmental professionals. The program uses state-of-the-art media and traditional forums to connect students and practitioners with new research and technology developments, best practices, and emerging policy issues. Videoconferencing and web-based technologies are key tools for meeting the Center’s technology transfer objectives. For more information on the CTE technology transfer program, please visit the website at www.cte.ncsu.edu/cte/techtransfer.

National Teleconference Series

CTE’s National Teleconference Series (NTS) offers an annual schedule of live satellite and web broadcasts featuring expert panels that address transportation and environmental issues of national concern with a diverse audience of government, non-government, university, and private sector representatives. The series is also an effective platform for agencies and organizations to showcase successful partnerships and innovations.

Since 1994, CTE has conducted 42 NTS teleconferences reaching tens of thousands of students, practitioners, and decisionmakers. Broadcasts are delivered via web streaming and a through a satellite downlink network of more than 200 sites, including the U.S. Environmental Protection Agency’s Air Pollution Distance Learning Network. During 2006-2007 CTE scheduled four NTS broadcasts. In addition, the Center produced two special webcast series – comprising six programs in total – for the Izaak Walton League of America. For more information on CTE teleconferences, including access to previous broadcasts, please visit the website at www.cte.ncsu.edu/cte/techtransfer/teleconferences.

Bicycle/Pedestrian Planning Strategies: From SAFETEA-LU to Safe Routes to School
(Satellite/Web Broadcast May 4, 2006)
In November, 2005, CTE launched a series of broadcasts to highlight key provisions and implementation of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The second broadcast in the series, Bicycle/Pedestrian Planning Strategies, focuses on the SAFETEA-LU provisions and expanded federal legislation that support bicycle and pedestrian programming, planning and funding. The three-hour program features an expert panel highlighting creative approaches underway nationally which illustrate how well-planned and well-designed bicycle and pedestrian initiatives can improve mobility, enhance safety and foster healthier and more livable communities.

Overview of the Proposed Rulemaking on Planning
(Satellite/Web Broadcast July 13, 2006)
In partnership with the Federal Transit Administration and Federal Highway Administration, CTE continued its SAFETEA-LU series with this two-hour broadcast on the planning and environmental provisions of the new law. Panelists from FTA and FHWA headquarters in Washington, D.C., are featured in the broadcast, which served as a part of each agency’s public outreach efforts to provide important information about the proposed rule to federal, state, and local transportation staff, planners, and other decisionmakers.

The International Stormwater BMP Database: A Resource for BMP Selection and Design Guidance
(Satellite/Web Broadcast November 29, 2006)
The International Stormwater Best Management Practices (BMP) Database (www.bmpdatabase.org)
serves as a central clearinghouse for BMP data to help improve BMP selection, design, and performance. This two-hour broadcast introduces viewers to the history and significant findings of the BMP database, and includes guidance on monitoring and examples of how various municipalities and state DOTs are contributing to and utilizing the database.

**Overview of the Final Rule on Metropolitan and Statewide Transportation Planning**
(Satellite/Web Broadcast April 19, 2007)

This broadcast, the fourth in CTE’s SAFETEA-LU series, follows up on the July 2006 program as panelists from the Federal Transit Administration and Federal Highway Administration return to discuss the final rule on the metropolitan and statewide transportation planning provisions of SAFETEA-LU. The two-hour broadcast provides an overview of the final rule, including a summary of public comments received during the Notice of Proposed Rulemaking.

**Izaak Walton League of America Webcast Series**

From March to December, 2006, CTE partnered with the Izaak Walton League of America (IWLA), a national conservation organization, to produce two series of live web broadcasts related to conserving wetlands through land management: *Backyard Wetland Conservation* and *Alternative Practices for Highway Stormwater Management*. The two informative series were made possible with support from the Federal Highway Administration, the U.S. Environmental Protection Agency, the Bureau of Land Management, the U.S.D.A. Forest Service, and the U.S. Fish and Wildlife Service.

Each program in the IWLA series features a discussion panel of national experts and Q&A with participating viewers. The webcasts were well received, drawing questions and participation from viewers in more than 40 states and over 1,700 peak hits to the webcast server. For more information on the IWLA webcast series, please visit the CTE website at [www.cte.ncsu.edu/cte/techtransfer/teleconferences/iwla2006.asp](http://www.cte.ncsu.edu/cte/techtransfer/teleconferences/iwla2006.asp).

**Web Streaming for EPA Broadcasts**

Continuing a long-standing technology transfer partnership with the U.S. Environmental Protection Agency (EPA), CTE in 2006-2007 provided web streaming and hosting for three broadcast programs produced by the EPA Agency Office of Air Quality Planning and Standards (OAQPS). These programs first were carried live over the EPA’s Air Pollution Distance Learning Network, then transferred to the Center’s web server for on-demand viewing and archiving.

- **The 2007 Clean Air Act Update** (April 2007)
- **Air Quality Data & Tools for Ozone Season & Beyond** (July 2007)
- **PM 2.5 Implementation** (September 2007)

To view these and other EPA broadcasts, visit the CTE website at [www.cte.ncsu.edu/cte/techtransfer/teleconferences/epa2007.asp](http://www.cte.ncsu.edu/cte/techtransfer/teleconferences/epa2007.asp).
CTE regularly co-sponsors and serves as lead organizer of workshops and conferences that relate to the Center’s mission of mitigating the impacts of surface transportation development on the environment. The following events were conducted under CTE’s co-sponsorship during the 2006-2007 period:

**International Conference on Ecology and Transportation**
May 20–25, 2007
(Little Rock, Arkansas)
A major technology transfer event for CTE in 2006-2007 was the International Conference on Ecology and Transportation. ICOET is an international, multidiscipline conference that addresses the broad spectrum of ecological issues related to surface transportation planning and project development.

ICOET 2007 was conducted in Little Rock, Arkansas, in coordination with the host agency, the Arkansas State Highway and Transportation Department. Principally sponsored by the Federal Highway Administration, the 2007 conference was broadly supported by 37 additional federal resource agencies, state transportation agencies, universities, non-governmental organizations, and private consulting firms.

The biennial conference drew over 350 transportation and environmental experts from around world to discuss new research and best practices that improve the integration of ecological concerns in transportation planning and project development. More than 120 technical presentations and poster displays were featured relating to the conference theme “Bridging the Gaps, Naturally.” Attendees and technical presenters representing 14 countries, including the U.S., Australia, Canada, France, Hungary, India, Portugal, Spain, South Korea, and The Netherlands, came to discuss solutions to ecological issues related to transportation.

The conference website, [www.icoet.net/icoet2007.asp](http://www.icoet.net/icoet2007.asp), contains a complete conference agenda (with links to abstracts, speaker bios, and participant lists), sponsor listings, video clips of conference sessions, and a PDF version of the final proceedings. CTE also produced print and CD-ROM versions of the 2007 proceedings, which are available upon request.

ICOET 2007, marking CTE’s fourth opportunity as lead organizer for the conference, was considered a major success. CTE will continue its role as lead organizer for the next conference scheduled for fall 2009 in Duluth, Minnesota.

FHWA Awards at ICOET 2007

ICOET 2007 also served for the first time as a venue for the FHWA Environmental Excellence Awards ceremony. Rick Capka, FHWA Administrator, and Gloria Shepherd, Associate Administrator (pictured above), Carol Adkins, Water and Ecosystems Team Leader, and other agency leaders were in attendance to recognize the biennial award winners in twelve environmental categories.
2nd Workshop on Impacts of Global Climate Change on Hydraulics, Hydrology and Transportation
March 29, 2006 (Washington, DC)
CTE served as co-sponsor and lead organizer for the second in a series of workshops to examine the implications of global climate change and possible sea level rise on hydraulics, hydrology, and transportation infrastructure design. More than 30 research scientists and government officials from the United States convened in Washington, D.C., to present current research related to transportation and climate change, and to discuss future research needs.

CTE conducted this workshop in cooperation with the USDOT Center for Climate Change and Environmental Forecasting, the Coastal Transportation Engineering Research and Education Center (University of South Alabama), and the Ports and Waterways Center at Texas Transportation Institute (Texas A&M University). More information about the workshop, its participants, and presentations for download are available on the CTE website at www.cte.ncsu.edu/cte/techtransfer/GCCworkshop2006.asp.

Transportation, Land-Use, Planning, and Air Quality Conference
July 9-11, 2007 (Orlando, Florida)
This conference focused on the latest developments in transportation planning and land use modeling, and new developments and strategies that result in air quality benefits. CTE, along with TRB’s Transportation Air Quality Committee (ADC20) and Access Management Committee (ADA70), served as an official co-sponsor of the conference. The well-attended event attracted nearly 200 transportation and environmental professionals from around the nation. For more information, visit the conference website at www.cte.iastate.edu/educweb/transaq/transaq2007.htm.

Context Sensitive Solutions: An AASHTO/FHWA Peer Exchange
September 6-8, 2006 (Baltimore, Maryland)
CTE, the American Association of State Highway and Transportation Officials (AASHTO), and the Federal Highway Administration collaborated on this successful three-day conference, attracting 262 federal and state agency participants representing 46 state DOTs, the District of Columbia, Puerto Rico, and Nova Scotia. The peer exchange engaged transportation stakeholders in facilitated sessions that explored the successes, challenges, and lessons learned from CSS implementation since the 1998 “Thinking Beyond the Pavement” workshop. CTE served as lead organizer for the event to manage the conference activities, facilitate discussion sessions, and assist AASHTO/FHWA in documenting the proceedings.

AASHTO/FHWA Workshop on Implementing CSS
As a follow-up to the successful peer exchange on context sensitive solutions conducted in Baltimore, MD, CTE was invited by AASHTO and FHWA to facilitate a one-day planning workshop to refine the defining principles of CSS. This workshop laid the ground work for a joint AASHTO/FHWA strategic plan that will help states more effectively implement CSS. In May, 2007, CTE submitted its final report from the workshop, “Results of the Joint AASHTO/FHWA Context Sensitive Solutions Strategic Planning Process.”

Partnerships with TRB
CTE continues to provide technology transfer assistance to environmental committees of the Transportation Research Board through the Center’s hosting of committee websites and by the administration of listservs for committee members and their peers. CTE is pleased to support these TRB environmental committees:

- TRB ADC10 Committee (Environmental Analysis in Transportation)
- TRB ADC30 Committee (Ecology and Transportation)
- TRB ADC50 Committee (Historic and Archaeological Preservation in Transportation)

To learn more about the Center’s support of TRB on these and other initiatives, visit the CTE website at www.cte.ncsu.edu/cte/trbpartners.
The Center for Transportation and the Environment is a university transportation center funded by the U.S. Department of Transportation and North Carolina Department of Transportation, and located at North Carolina State University within the offices of the Institute for Transportation Research and Education.

For more information about CTE, or to inquire about partnership opportunities, please contact:
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