



# Committee on Ecology and Transportation Newsletter

Transportation Research Board Committee ADC30

Summer 2008

## Notes from the Chair

Tom Linkous, Chair

We are well on our way to the Midyear Meeting in Denver and an excellent program is in place covering transportation aspects of environmental analysis, parks and public lands and ecology. I am sure those members and friends who are in attendance will benefit as well as contribute to the meeting. In addition the discussion of research needs and our future direction in this area will benefit all three sponsoring committees. Thanks are due to Brian Yanchik, Sandy Jacobson, Patty Cramer and Marcel Huijser for their assistance with planning the program and/or agreeing to participate as presenters.

It appears that we will have as many as 9 members in attendance, which is a better participation rate than our last two "non-ICOET" Midyear Meetings. I have initiated discussions of possible future alternatives for "non-ICOET" year summer meetings with Mary Gray. If you have ideas on this topic please pass them along to either of us. We are open to all ideas. I have thoroughly enjoyed our continuing relationship with ADC10 at our joint meetings; however, I would like to find a formula which would lead to greater participation from the entire committee. Mary and I will lead a more formal discussion of this topic at our business meeting next January. With next year being an ICOET year we will have a full year to determine a course of action.

I would also like to update those not involved with planning for the 2009 International Conference on Ecology and Transportation. Planning is moving forward for the meeting in Duluth, Minnesota (September 13-18, 2009). The hotels

and convention center are in negotiation and close to being under contract. Thanks to James Martin at CTE and Paul Wagner the planning is moving forward. One item worthy of your consideration is serving on the abstract review committee. Paul Garrett and Joe Burns are co-chairing this committee. Send them your name and contact information if you can help with this vital task for the next ICOET.

I am still enjoying my retirement, but I have accepted appointment to the board of the Appalachia Ohio Alliance. This relatively young land trust has protected approximately 5,000 acres of land in southeastern Ohio through conservation easements, agricultural easements and fee simple ownership. With the recent federal renewal of tax incentives for land owners who protect the conservation values of their properties with easements and the potential for some state legislation which could aid land trusts we are looking forward to protecting additional properties in 2008/2009.

Finally, an additional personal note, I was honored when my former employer, the Ohio Department of Natural Resources, invited me to provide the art work for their Art in the Halls exhibition for June and July. Forty five of my nature photographs are now hanging in the hall and foyer of the administration building of ODNR.

I am looking forward to seeing many of you at the Midyear Meeting in Denver.



**ICOET 2009 Save the date!**

**ICOET 2009 will be held Sept 13-17, 2009  
in Duluth, Mn. Mark your calendars now!**

## Fragmentation (Can Be a Good Thing) with SHRP Instruments

By Alex Levy, Senior Ecologist, ARCADIS U.S., Inc.

Taking the next step to build on *Eco-Logical*, a diverse Expert Task Group (ETG) assembled from a nationwide cross-section of transportation and natural resource professionals was recently convened by TRB to participate in the development of Requests for Proposals, then selecting contractors for projects C06 A and B under the second iteration of the *Strategic Highway Research Program* (SHRP 2).

Part of an exploratory framework for building highway capacity through improved transportation decision making and

outcomes, Project CO6: *Integration of Conservation, Highway Planning, and Environmental Permitting Using an Outcome-Based Ecosystem Approach to Meeting Highway Capacity Needs*, was not only a mouthful, but was originally comprised of a single \$1.5 million budget.

So the ETG, which included several members from the *Committee on Ecology and Transportation*, recommended uncoupling the combined focal points of planning and impact assessment/credit assignment. The result was the advertisement and

■ See FRAGMENTATION, Page 5

## The Environmental Implications of Cured-in-Place Pipe Rehabilitation Technology

By Bridget Donaldson, Research Scientist,  
Virginia Transportation Research Council

Just as many of the highways and bridges across the United States are in need of repair, so are many of the storm and surface water pipes that are linked to the transportation system. Cured-in-place pipe (CIPP) rehabilitation is among the most commonly used trenchless pipe repair technologies, used for repairing damaged sewer, drinking water, and storm and surface water pipes. In typical CIPP applications, a lining tube saturated with a styrene-based thermosetting resin is installed into the damaged pipe. Subsequent curing with a heat source results in a pipe-within-a-pipe.

In a study conducted by the Virginia Transportation Research Council, seven styrene-based, steam-cured CIPP installations in surface water and stormwater conveyances were identified and observed over the course of one year. Water samples were collected from each project site and analyzed for styrene. The results were then evaluated for compliance with established regulatory standards and published aquatic toxicity criteria.

Water samples collected from pipe outlets at five of the seven CIPP installations showed detectable levels of styrene. Styrene concentrations were generally highest in water samples collected during and shortly following installation. The maximum duration that styrene was detected at any site was 88 days following the CIPP installation. Although the sites in this study were not directly linked to sources of drinking water, styrene levels at five sites were higher than the U.S. Environmental Protection Agency's maximum contaminant level (MCL) for drinking water of 0.1 mg/L. Styrene concentrations above the MCL were detected at five sites for a minimum of 5 days to at least 71 days after installation and were detected at these sites up to 40 m downstream.

Certain measurements were also found to exceed the LC50 values (i.e., the concentration required to kill 50 percent of a study population) for several freshwater aquatic indicator species, such as the rainbow trout, the water flea, and the fathead minnow. Algal blooms, which are often indicative of poor water quality and can lead to adverse ecological impacts, appeared at three surface water sites within 6 to 8 days after CIPP installation and remained at these sites for at least 50 to 55 days post-installation (Photo 1).

The findings suggest that the elevated styrene levels could have resulted from one or a combination of the following: (1) installation practices that did not capture condensate containing styrene, (2) uncured resin that escaped from the liner during installation (Photo 2), (3) insufficient curing of the resin, and (4) some degree of permeability in the lining material.

The Virginia Department of Transportation (VDOT) took several actions in response to the findings of this study. VDOT suspended the use of styrene-CIPP for pipes that convey surface

or stormwater while further evaluating CIPP repair and subsequently developing new requirements for these installations. The new measures include substantial modifications to VDOT's CIPP specifications; an inspector training program; increased project oversight; and water and soil testing prior to and after CIPP installation.

For further information, see the full report at the VTRC website (<http://vtrc.virginia.gov>) or contact Bridget Donaldson, Virginia Transportation Research Council, Charlottesville, VA 22903. Email: [Bridget.Donaldson@VDOT.Virginia.gov](mailto:Bridget.Donaldson@VDOT.Virginia.gov), Phone: 434-293-1922, Fax: 434-293-1990



Photo 1. Algal blooms, photographed 24 days after installation



Photo 2. Uncured resin waste (gray substance adjacent to outlet and along rocks on right side of image), 1 week after installation

*Committee on Ecology and Transportation (ADC30)*

## BUSINESS MEETING *DRAFT* MINUTES

### JANUARY 15, 2008 1:30AM—5:30PM

### EXECUTIVE ROOM HILTON

**1. Attendance**

The meeting was called to order at 1:30 pm. Members, friends and guests were introduced.

**2. Agenda****3. General Items for the Record****Remarks by the Chair**

Tom Linkous welcomed the group and emphasized how important “friends” were to the committee. They are the source of new members.

Tom would like to update poster. Marcel Huiljser agreed to assist, since it was developed by WTI. Sandy Jacobson noted that it would be important to add “TRB” so that it can be used in venues other than TRB.

The 2009 TRB annual meeting theme will be transportation, energy and climate change. Our paper session will need to focus on this.

One of our major missions is to guide and disseminate research information, hence our close connection with ICOET in alternate years. Our 2009 mid-year meeting will be the ICOET (International Meeting on Ecology and Transportation) meeting in Duluth MN. The committee will have a business meeting only, no sessions at the ICOET meeting in 2009. Several members are on ICOET steering committee and many have presented. ICOET information gets brought back to TRB.

**TRB News: Christy Gerencher Senior Program Officer and Staff Representative gave an update.** TRB has invested in new technology - “webinar” software that is available to us. It is a combination of conference call and website. This allows off-site dissemination of the TRB sessions. Several sessions have been taped that can be made available at \$99 per site. Multiple personnel can use one site. She asked that people suggest topics or sessions that would be appropriate for 1.5 hour session (2-3 speakers plus questions). TRB would like to hold 2-3 webinars per month.

The 2010 mid-year meeting is planned for Virginia area, perhaps Williamsburg. We may have our entire section there.

TRB is doing a group level review of committees. Within our section, the committees all are performing well (we have summer meetings, active members, great people, and a great leader).

More than 9600 participants pre-registered at this year’s annual meeting, with overall probably more than 10,000 attendees. For new members, it can be overwhelming. More than 3000 papers were submitted for peer review, with 1500

selected for presentation and perhaps half of those will be published in transportation record. There were 765 paper sessions. The new attendee meeting on Sunday is good guidance for new members plus “ambassador” buttons also help guide new attendees. We had two members there.

Aviation, marine and freight attended our section meeting today, which will improve cross pollination.

**News from the Section: Kate Quinn, Section Chair** reminded us of next year’s annual meeting’s theme. The geology group (Jeff Keaton) is doing some work on climate change and is interested in reaching out in hopes of collaborating.

The TRB Research database is up and running; our charge is to keep it current.

We are planning a joint meeting in early June 2010 in VA area, with all sections hopefully present. Our committee should nominate a person to help in the planning. TRB will need recommendations on other committees to invite as well as other organizations outside of TRB. TRB is currently looking for funding to publish conference proceedings.

Steve Andrie SHRP program provided information on a new project Integration of conservation, highway planning and permitting through development of an outcome-based ecosystem-scale approach and corresponding credit system. Multiple staff are involved in developing the RFP including Carol Atkins FHWA and Jennifer Moyer, US Army Corps of Engineers. The project will go beyond “Eco-Logical” and also work to initiate moving the environmental process forward into planning. Funding is \$1.5 m. The HDR presentation (Zac Toledo, on the Oregon Bridge Program) is “on track” for what they are trying to do. Regulatory involvement will be important in the success of this project. The team would like a private contractor to be involved in the committee, one that wouldn’t be interested in bidding on the work.

**4. Committee Program****Presentation by Wayne Kober**

Wayne Kober, Center for Environmental Excellence, updated the committee on the Center’s activities and items that are available to practitioners, including programmatic agreements, research needs database, practitioner handbooks, environmental management technical assistance program, CSS peer exchanges and executive training. They are developing a national webinar on transportation planning and environmental planning this Spring, and recently published *Above and Beyond: the Environmental and Social Combinations of*

American's Highway Program, an update to the Taking the High Road Report.

## 5. Sub-committee Business Reports

**Communication:** Marcia Bowen reported that two newsletters were produced in the past year. She will forward the minutes of the 2007 Annual Meeting ADC30T Business Meeting and the mid-year meeting, provided by Bridget Donaldson. Chris Gesing provided a website report. Information includes member's names and contact information, meeting information, call for papers, newsletter, Special thanks to CTE and in particular Carol Zarker for promptly posting the website updates. Chris will continue to post materials and maintain the listserv. Patrick Jeffers offered to join the communications subcommittee. Marcel will help with the poster update. Mary Gray and other members of steering committee will check the mission and goals on the poster. Marcia will send out minutes to the members and will revise the list of friends based on the attendees list, then send an email to confirm interest. The communications subcommittee will prepare goals and objectives (patterned after those from ADC10) and update the website with meeting minutes, active and relevant links.

Website ideas include presentations, which Chris is very good about getting. TRB wants written permission from authors to put presentations on website. Session chairs (Joe Burns) will need to follow up with presenters, cc to Chris. Marcia will collect website ideas and send to Chris and cc Tom.

**Liaison:** This subcommittee needs a chair; Lars Carlson volunteered to coordinate. Deb Nelson, Marcel Hjuilser, and Marcia Bowen are current members of liaison subcommittee..

Deb attended maintenance subcommittee- working with Gary McVoy (new chair) on that subcommittee; it is re-examining its mission. The greening of asset management is a topic for possible workshop and session, especially as it pertains to green infrastructure. Maintenance is the new frontier for environmental opportunity.

Joe Burns attended ADC50 historical and cultural resources; they are interested in cosponsoring sessions with Planning and Environment. He also attended Geo-Spatial planning workshop, which was co-sponsored with the maintenance committee. Having it at Marriot (thanks to maintenance committee sponsorship) improved outreach to engineers/maintenance. Much of the DOT budgets are shifting from capital programs to asset management; therefore it is appropriate for our focus to shift as well. Interest at ICOET is high as well. We also co-sponsored a Sunday morning workshop, highly well attended, integrating planning and NEPA; plus Monday session (cultural) that was well attended. Joe also led a session sponsored by AB J60 GIS/Spatial applications committee; Joe will provide a report on data needs, etc.

Marcel attended the safety committee, which trying to figure out how to incorporate next year's theme.

Marcia updated committee on three committees – marine (which had a special presentation by NOAA debris program;

dredged material and restoration); aviation – most germane issue is wildlife attraction, esp. at nearby wetland mitigation sites; and rail.

Ken Polcak attended the transportation, noise and vibration committee and brought up the Thursday session on hydroacoustical effects of blasting.

The natural resource subcommittee of the Environmental Analysis has changed its mission to focus on strategic issues/ actions- to identify upcoming issues, investigate if anyone else is working on, and then pick a couple to focus on. The subcommittee will be proactive rather than reactive approach.

**Program Subcommittee:** Joe Burns will continue to chair this subcommittee, with assistance from others. Its mission includes preparing a call for papers (which Joe will continue to do), paper review (which Alex Levy will continue to do), and coordinate paper and conference sessions. Often the latter includes bringing back ICOET presentations. Trisha White, Joe Burns, and Alex Levy will continue to do this. Brian Yanchik has volunteered to work on the upcoming summer meeting. There was discussion about sessions at the annual meeting, where we have two sessions plus a piece of a third. Collaboration gains more sessions but can lead to conflicts. There was discussion of how to incorporate 2009 climate change theme into conference session (papers, workshop- which does not count against our session "chips"). Patty Cramer, Deb Nelson, Yates Operman, Jennifer Warner, Mary Gray and Trisha White will assist in 2009 annual meeting program development.

Peter Dodds volunteered to be the point person for the 2010 meeting, as requested by TRB.

The Midyear meeting will be held on July 28-31 2008 in Denver, with CoDOT at the Brown Palace and adjoining Comfort Inn, The meeting will include an all day tour at Rocky Mt. national park. The theme will be "into the Rockies...environmental sensitivity in the mountains". Information will go out to members and friends, along with preliminary logistical information. Bridget Donaldson will help with detailed program planning. See [www.colorado.com](http://www.colorado.com), Colorado tourism office, for information as well as [www.denver.org](http://www.denver.org).

**ICOET** will be held in Duluth MN in 2009 (week of September 14). MN DOT is sponsor, with perhaps input from WI DOT.

**Research Needs Subcommittee:** Sandy Jacobson, chair, reported that the subcommittee has developed mission statement and objectives for the subcommittee. Issues include investigation of fencing types that accommodates varying needs across the country. February 8 is the due date to submit research documents, and information for "Research Pays off". Marcia will prepare information for newsletter. Tom provided the cooperative research programs, information on how to develop articles for research pays off, and information on how to prepare synthesis topic. He reminded the committee that the TRIS database needs to be kept "fresh". There was discussion on how best to work with CEE/AASHTO and FHWA to coordinate research needs. There was discussion on the lack of a

formal “research needs” conference, and perhaps instead having a webinar or session in 2010. The group decided that the subcommittee will meet at the summer meeting, and perhaps have a workshop at ICOET. The subcommittee will also use online techniques to gather broader audience/web vote. The subcommittee will also do more research on research issues with a goal of one new research need per month.

Joe Burns suggested that we hold we have one co-sponsored session on green asset management and other sponsored sessions on climate change and accounting measures for environmental mitigation cosponsored. He would like to identify other sponsors right away, with call for papers early on (February). Marcia will be sure that it gets dissemination, along with Patty Cramer, who will distribute to universities in an effort to get wide exposure.

**Steering Subcommittee:** Mary Gray updated group—original purpose of the subcommittee was to help transition from Task Force to Committee. Now the mission is to get research

“out” so there is overlap between steering and research subcommittees. Tom pointed out that TRB’s concept of the steering mission is to evaluate progress towards strategic plans and goals. The Triennial report is how this is reported to TRB, which should be updated continuously rather than every 3 years. Tom has provided Mary with an example of how another committee has approached this. Doug Smith, Pete Dodds, Susan Hagood, Bill Branch, Deb Nelson and Marcel Huiljser) were on original committee. They will continue to be on the subcommittee. The Steering committee will be responsible for collating individual efforts of the meetings to capture success of the committee. Mary will review and update the goals of subcommittee, then develop the triennial reviews.

## 6. Other Business

Tom decided to have other groups (FHWA, WTI, Road Ecology, Defenders). provide information via newsletter to allow more time for strategic discussion.

### ■ FRAGMENTATION from page 1

awarding of two, discrete, but exquisitely interconnected projects: C06-A is the planning piece: *Integration of Conservation, Highway Planning, and Environmental Permitting Using an Outcome-Based Ecosystem Approach*, while C06-B is aimed at producing a means-of-exchange, sometimes referred to as an environmental currency, through the *Development of an Ecological Assessment Process and Credits System for Enhancements to Highway Capacity*.

While the Committee on Ecology and Transportation’s discussions usually involve the respect for connectivity across habitats and within ecosystems, fragmentation of the original C06 task was determined by the ETG to provide a more-rounded balance of goal-oriented research products, as well as stimulating a discrete array of proposals, while ensuring that a maximum portion of the generous budget would be expended on results.

However, combined, these joint projects will develop a business model and ecological assessment/credits system for a multi-resource, ecological approach to conservation and mitigation of impacts associated with highways.

This Expert Task Group will advise SHRP 2 staff on the preparation of an RFP for the SHRP 2 contract research proj-

ect C02, Integration of Conservation, Highway Planning, and Environmental Permitting through Development of an Outcome-based Ecosystem-scale Approach and Corresponding Credit System, so that the outcomes of the project will meet the research objectives set forth in the general plan of contract research established by the SHRP 2 Technical Coordinating Committee on Renewal Research and approved by the SHRP 2 Oversight Committee. The ETG will also review proposals offered in response to the RFPs and communicate the consensus findings of the review to the Oversight Committee for further action. Finally, the ETG will review and approve the proposer’s final research plan that will be included in the contract.

Contracts are anticipated to be in place in September 2008 and, as work progresses, you should expect the research contractors and/or SHRP 2 staff to provide Committee on Ecology and Transportation with news and updates. Keep your eyes posted for updates from SHRP 2 in future Committee on Ecology and Transportation newsletters. Also, plan ahead for updates to be provided at the 2009 TRB annual and/or summer meetings. We also anticipate opportunities for Committee on Ecology and Transportation to sponsor or co-sponsor a special session on the results of SHRP 2 projects C06 A & B at the 2010 Annual meeting.

## 2008 Northeast Transportation and Wildlife Conference

# INTO THE ROCKIES: ENVIRONMENTAL SENSITIVITY IN TRANSPORTATION

The 2008 Northeastern Transportation and Wildlife Conference, hosted by the NH Department of Transportation, NH Fish and Game Department, Federal Highway Administration, The Nature Conservancy, and McFarland Johnson, will be held from September 21-24 at the Inns at Mills Falls in Meredith, New Hampshire

This conference continues the conversation about the critical interface between our transportation systems and our natural communities. Human transportation systems have fragmented wildlife habitats in ways that require planning, engineering, restoration, and mitigation. This is one of the most fertile areas of research for both wildlife ecologists and road engineers. The third biennial Northeastern Transportation and Wildlife Conference brings together biologists, transportation professionals, planners, and others to share their expertise and build partnerships. Topics include experimental crossing structures; field studies of

wildlife-road interactions; modeling connectivity; crossing hot spots and “hot moments”; transportation-wildlife

Focal topics will include:

- Transportation Planning
- Impacts of Transportation and Development
- Assessing Wildlife Connectivity
- Identifying Road Crossing Hotspots
- Road Design & Crossing Structures
- Landscape Level Connectivity & Planning

For further information, visit <http://www.nh.gov/dot/bureaus/environment/NETWC.htm>

Note: An early registration discount is available prior to August 21, 2008.



The Inns at Mill Falls, Meredith, NH

### Sunday, September 21<sup>st</sup>

3:00 pm Hotel Check-in (Church Landing)  
3:00 – 7:00 pm Exhibit Set-up (Chris Craft Room)

### Monday, September 22<sup>nd</sup>

8:00 am – 5:00 pm Exhibits Open (Chris Craft Room)  
8:00 – 9:00 am Continental Breakfast (Chris Craft Room)

#### 9:00 am Opening Comments

**State updates:**  
9:30 am - Maine  
9:45 am - Vermont  
10:00 am - New Hampshire  
10:15 am - Surrounding States/Provinces  
10:30 – 11:00 am Break

**Federal updates:**  
11:00 am Army Corps of Engineers update  
*Christine Godfrey*, ACOE New England Division

11:30 am Federal Funding Options  
*Trisha White*, Defenders of Wildlife

12:00 – 1:00 pm Lunch Buffet (Chris Craft Room)

#### Session I – Transportation Planning

1:00 pm Traffic Volume as a Primary Road Characteristic Impacting Wildlife: A Model for Land Use and Transportation Planning  
*Barbara Charry*, Maine Audubon

1:25 pm The Maryland Route 30 Hampstead Bypass: The Planning and Design of a Green Highway  
*Bill Branch*, MD State Hwy Administration

1:50 pm Fish Habitat Compensation on the Trans Canada Highway Project in New Brunswick  
*Mike Phillips*, New Brunswick DOT

2:15 pm Panel Discussion

2:30 – 3:00 pm Break

#### Session II – Impacts of Transportation and Development

3:00 pm Movements and Survivorship of the Endangered Black Rat Snake (*Elaphe alleghaniensis*) at a Busy College Campus in Western Massachusetts  
*Tom Tynning*, Berkshire Community College

3:25 pm A Non-linear Response of Marsh Bird Communities to Urbanization in Massachusetts Landscapes  
*Brian Tavernia*, Tufts University

3:50 pm Karner Blue Butterflies and Airport Management in New Hampshire  
*Steve Fuller*, NH Fish & Game

4:15 – 4:30 pm Panel Discussion

6:00 – 7:30 pm Dinner (Winnepesaukee Ballroom)

7:00 pm Tom Tynning, Guest Speaker

### Tuesday, September 23<sup>rd</sup>

8:00 am – 5:00 pm Exhibits Open (Chris Craft Room)  
7:30 – 8:30 am Continental Breakfast (Chris Craft Room)

#### Session III – Assessing Wildlife Connectivity

8:30 am Roaded Landscapes: How is Permeability Achieved?  
*John Bissonette*, Utah State University

8:55 am Multi-scale Spatiotemporal Analyses of Moose-Vehicle Collisions: A Case Study in Northern Vermont  
*Kari Gunson*, Toronto Zoo

9:20 am Assessing Connectivity for Wide-Ranging Carnivores in the Greater Southern Lake Champlain Region of Vermont and New York  
*Paul Marangelo*, The Nature Conservancy

9:45 – 10:15 am Break

10:15 am Continuity Assessment of the Ashuelot River Watershed  
*Doug Bechtel*, The Nature Conservancy

10:40 am Integrating Biodiversity and Infrastructure Considerations to Prioritize Transportation Projects  
*Alison Bowden*, The Nature Conservancy

11:05 am Panel Discussion

11:30 – 12:30 Lunch Buffet (Chris Craft Room)

#### Session IV – Identifying Road Crossing Hotspots

12:30 pm Road Mortality Hotspots and Connectivity for Wetland-Forest Herpetofauna in Southern Ontario  
*Kari Gunson*, Toronto Zoo

12:55 pm Predictors and Consequences of Highway Roadkill Hotspots for Freshwater Turtles  
*Tom Langen*, Clarkson University

1:20 pm Using Spatially-explicit Habitat-resistance Models to Guide Mitigation of Road Effects on Amphibian and Reptile Populations  
*David Patrick*, State University of New York

1:45 pm Wildlife Crossing Investigation on US Route 2/State Highway 115 in New Hampshire  
*Sarah Barnum*, Normandeau Associates

2:10 pm Panel Discussion

2:25 – 2:55 pm Break

#### Session V: Road Design & Crossing Structures

2:55 pm Monitoring of Structures Installed Specifically to Pass Animals Through a MaineDOT Transportation Facility – Interim Report  
*Richard Bostwick*, MaineDOT

3:20 pm An Experimental Test of Culvert Size and Position on Passage of Painted Turtles (*Chrysemys picta*)  
*David Paulson*, University of Massachusetts

3:45 pm MaineDOT Experiences Involving Retrofitted Sliplines for Fish Passage  
*John Perry*, MaineDOT

4:10 pm Panel Discussion

4:30 – 5:30 pm Poster Session (Ballot Room)

### Wednesday, September 24<sup>th</sup>

8:00 am – 12:00 pm Exhibits Open (Chris Craft Room)

7:30 – 8:30 am Breakfast Buffet (Chris Craft Room)

**Session VI: Landscape Level Connectivity & Planning**  
8:30 am Statewide Wildlife Connectivity Model for New Hampshire  
*Katie Callahan*, NH Fish & Game

8:55 am Modeling Connectivity of Wildlife at Multiple Spatial Scales  
*Daniel Coker*, The Nature Conservancy

9:20 – 9:35 am Break

9:35 am Landscape Scale Connectivity Modeling Using Conservation Assessment and Prioritization System in Massachusetts  
*Scott Jackson*, University of Massachusetts

10:00 am Wildlife, Roads, and Climate Change: An Applied Rational Planning Framework  
*Kevin Moody*, FHWA

10:25 am Panel Discussion

10:40 am Conference Wrap-up

11:15 am Adjourn

**Joint Summer Meeting Agenda**  
*Sponsored by TRB Committees on*  
**Transportation Needs for Parks and Public Lands (ADA40)**  
**Environmental Analysis in Transportation (ADC10)**  
**Ecology and Transportation (ADC30)**

**Denver, Colorado**  
**July 28-31, 2008**  
**Preliminary Schedule of Events**  
*(Subject to Change)*

**Monday, July 28, 2008**

<b>10:00am - 5:00pm</b>	<b>Registration</b> – Brown Palace, 1 <sup>st</sup> Floor Meetings Rooms
<b>1:00pm - 5:00pm</b>	<b>Committee Business Meetings</b> (ADA40), (ADC10), (ADC30)
<b>6:30pm - 8:30pm</b>	<b>Welcome Reception</b>

**Tuesday, July 29, 2008**

<b>7:30am - 5:00pm</b>	<b>Registration</b> – Comfort Inn, 2 <sup>nd</sup> Floor Conference Center
<b>7:00am - 5:00pm</b>	<b>Sponsor Exhibits</b>
<b>8:30am - 9:45am</b>	<b>Welcoming Session</b>
<b>9:45am - 10:00am</b>	<b>Break</b>
<b>10:00am - 11:30am</b>	<b>Session 1</b> Relevance of Climate Change to Transportation <b>Session 1.1</b> Changes in Distribution of Wildlife and Plant Communities <b>Session 1.2</b> Considerations for Changes to the Transportation Infrastructure <b>Session 1.3</b> Changes in Environmental Assessments and Related Studies
<b>11:30am - 1:00pm</b>	<b>Lunch Provided – Comfort Inn</b>
<b>1:00pm - 2:15pm</b>	<b>Session 2</b> Sustainability in Parks <b>Session 2.1</b> Alternative Transportation for Parks and Public Lands Program <b>Session 2.2</b> Transportation Initiatives at Rocky Mountain National Park <b>Session 2.3</b> Grand Canyon Transportation Plan Environmental Assessment
<b>2:15pm - 2:30pm</b>	<b>Break</b>
<b>2:30pm - 3:45pm</b>	<b>Session 3</b> People and Environment <b>Session 3.1</b> Establishing User Capacity Thresholds for National Park Service Recreational Travel in Demand Models <b>Session 3.2</b> Effects of Economic Development on Mountain Park Resources
<b>3:45pm - 4:00pm</b>	<b>Break</b>
<b>4:00pm - 5:15pm</b>	<b>Session 4</b> Road Ecology <b>Session 4.1</b> Highway Eco-Systems, How Wildlife Adapts to Use Highways <b>Session 4.2</b> Issues in Wildlife Connectivity and Collisions <b>Session 4.3</b> Effects of Air Quality Degradation in Mountain Areas
<b>5:15pm - 7:00pm</b>	<b>Dinner</b> ( <i>on your own</i> )
<b>7:00pm - 8:30pm</b>	<b>Special Evening Workshop</b> – Research Needs and Prioritization by the Three Committees

### Wednesday, July 30, 2008

<b>7:30am - 5:00pm</b>	<b>Registration</b> – Comfort Inn, 2 <sup>nd</sup> Floor Conference Center
<b>7:00am - 5:00pm</b>	<b>Sponsor Exhibits</b>
<b>7:00am - 5:30pm</b>	<b>Transportation Tour Option 1 (All Day)</b> – Rocky Mountain National Park <b>CDOT Environmental Mitigation Site Tours</b> (July 30, 2008, 12:00pm – 5:00pm). <b>Rocky Mountain National Park/Brainard Lake Tour</b> (July 30, 2008, 7:00am – 5:00pm). Cost is \$40 and includes transportation and box lunch.
<b>8:30am - 10:00am</b>	<b>Session 5 Sustainability</b> <b>Session 5.1</b> Corps Proposed Rule and Watershed Approach <b>Session 5.2</b> Transportation and Environmental Planning—Measuring Performance <b>Session 5.3</b> Cumulative Effects, Reaching a Critical Threshold
<b>10:00am - 10:15am</b>	<b>Break</b>
<b>10:15am - 11:30am</b>	<b>Session 6</b> Colorado-It's all Downhill from Here! <b>Session 6.1</b> Castlewood Canyon <b>Session 6.2</b> Plum Creek Habitat Conservation Bank <b>Session 6.3</b> Environmental Sensitivity in CDOT Projects
<b>Noon - 5:00pm</b>	<b>Transportation Tour Option 2 (Half Day)</b> – Castlewood Canyon Ecological Restoration Tour
<b>6:30pm - 10:00pm</b>	<b>Conference Banquet and Festivities</b> – The Denver Museum of Nature & Science

### Thursday, July 31, 2008

<b>7:00am - 12:00pm</b>	<b>Sponsor Exhibits</b>
<b>8:00am - 10:15am</b>	<b>Session 7</b> New Research Assessment Techniques and Tools <b>Session 7.1</b> STEP UP (Strategic Transportation, Environmental and Planning Process for Urbanizing Places)-The Next Step <b>Session 7.2</b> Landscape Level Assessments-What's Worked, What Hasn't <b>Session 7.3</b> A Case Study of North Shore Road (Great Smoky Mountain National Park) <b>Session 7.4</b> New Thoughts on Linkages between Transportation and the Environment <b>Session 7.5</b> Techniques to Assess Visitor Experience
<b>10:15am - 10:30am</b>	<b>Break</b>
<b>10:30am - 12:00pm</b>	<b>Session 8</b> – Workshop Wrap Up <b>Session 8.1</b> How to Develop and Fund Research Efforts <b>Session 8.2</b> Concluding Remarks
<b>12:00pm</b>	<b>Joint Summer Meeting Adjourns</b>



# CTE

## The Center for Transportation and the Environment

North Carolina State University

### CTE Sponsors 2008 CSS Summer Academy

In cooperation with the North Carolina Department of Transportation (NCDOT), the Center for Transportation and the Environment (CTE) at North Carolina State University is hosting its fourth annual Context Sensitive Solutions Summer Academy. The program is conducted each June-August for junior and senior-level university students interested in careers in transportation and environmental engineering. Eleven undergraduate engineering students from NC State, NC A&T State University, and The Citadel were accepted into the 2008 academy class.

The academy is a unique, experiential summer program that introduces students to the principles of context sensitive solutions (CSS) and illustrates how CSS concepts are being applied at various levels of transportation planning, project development, construction, operations and maintenance. North Carolina State University civil engineering faculty and CTE researchers lead academy students through their coursework and case study activities.

CSS is a collaborative, interdisciplinary approach that involves all stakeholders in the development of a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. CSS considers the total context within which a transportation improvement project will exist. CTE is a nationally recognized leader in CSS research and has helped train over 1,500 NCDOT employees in CSS since 2003.

In addition to their classroom instruction, academy students work as summer interns with NCDOT and participate in field trips that showcase real-world CSS applications such as connector road widening, bypass construction, railroad crossings, and bridge replacement projects. Students work in positions that directly address environmental concerns in transportation and are required to conduct research, interviews, and write a case study related to their assignments.

The research topic for this year's academy is to determine the effects of CSS measures on the construction process. Students will select a random sample of 70 TIP highway and bridge projects throughout North Carolina. CSS measures implemented for these projects – such as erosion control, detour routes, and wetland construction methods – will be identified. Through interviews with project engineers and inspectors, students will estimate the CSS impacts on construction including dollar cost, schedule delays, and community response. The students will produce a draft research paper in August and present their findings to CTE and NCDOT sponsors, with an eventual goal for presentation to TRB.

The CSS Summer Academy experience helps to better prepare students for their engineering careers in turn, helps improve future transportation project planning. For more information about the program, visit the CTE website at [www.cte.ncsu.edu](http://www.cte.ncsu.edu) or contact James Martin, CTE associate director, at (919) 515-8620 or [jbm@ncsu.edu](mailto:jbm@ncsu.edu).

The Center for Transportation and the Environment is a national university transportation center located at the Institute for Transportation Research and Education at North Carolina State University. CTE is funded in part by the U.S. Department of Transportation and the North Carolina Department of Transportation.

For more information contact: James Martin, Associate Director, CTE, (919) 515-8620, [jbm@ncsu.edu](mailto:jbm@ncsu.edu).

CTE is funded by

USDOT and NCDOT

through the Institute

for Transportation

Research and

Education at

North Carolina

State University