
# July 2010 Newsletter

## Message from the Director
## Transportation and Federal Lands: *Balancing Visitor Access with Resource Preservation*

Successful transportation planning and development increasingly takes a broad approach, addressing both mobility needs and resource preservation. On federal lands, this has always been a priority. Federal land managers from agencies including the National Park Service, USDA Forest Service, Bureau of Land Management, and US Fish and Wildlife Service face a rare and challenging balancing act: preserving some of our most iconic natural and historic resources, while at the same time providing efficient access to the visitors who come to see them.

WTI prides itself on being a pioneer in the field of innovative transportation solutions for federal lands. In 1999, WTI organized and hosted the ***National Parks: Transportation Alternatives and Advanced Technology for the 21st Century*** conference in partnership with numerous federal and state agencies. The groundbreaking event brought national attention to transportation needs on public lands, and promoted the concepts of regional transportation planning and coordination; traffic demand management; transit alternatives; traveler and visitor information needs; alternative fuels, and non-motorized modes such as bicycle and pedestrian trails.

More than a decade later, WTI continues to lead a variety of efforts to promote enhanced and context sensitive transportation on federal lands and in surrounding, gateway communities. We were very excited to be selected to lead the effort to establish the Paul S. Sarbanes Transit in Parks Technical Assistance Center (TAC), which will help federal land managers with alternative transportation projects in their units. In this newsletter, you will read about the launch of the TAC, and the services that are already up and running.

Other WTI projects featured in this special edition of the newsletter include:

- A major, six year effort to implement a traveler information system on US 89 near Yellowstone National Park, which will provide motorists with up-to-date road condition information through a variety of Intelligent Transportation System (ITS) technologies.

- A guidebook for Federal Land Managers to help them promote bicycle trail development and integrate the trails with the regional transportation network.

- A visitor information system deployment project in Grand Canyon National Park that informs travelers of transit options through Dynamic Message Signs (DMS) and Highway Advisory Radio (HAR) and is successfully increasing ridership by 30% on the Park shuttle bus system.

If you are interested in teaming with WTI on projects on public lands, please contact me at stevea@coe.montana.edu.

# Research

## At Your Service: *Technical Assistance Center Reaches Out to Public Land Managers*


WTI and its team of partner organizations have successfully launched the Paul S. Sarbanes Transit in Parks Technical Assistance Center (TAC), which now offers a variety of services to public land managers.

Established at the end of 2009, the TAC is fully funded by the Federal Transit Administration (FTA) in partnership with the Department of Interior. Its mission is to help resource management professionals who wish to develop and implement alternative transportation projects. "We are their 'one-stop-shop' for information, training, and technical support," said TAC Manager Jenni West.

TAC services are free and provided by a team of public and private transportation professionals located across the country. With a base at WTI headquarters on the Montana State University campus, the TAC staff is in place and reaching out to the public lands community. Currently available services and programs include:

- **Help desk:** The cornerstone of the TAC, the help desk offers personalized assistance to client requests. Trained help desk staff members can provide information and reference materials from the resources of the TAC, or for more complex issues they will assign a Personal Liaison to coordinate ongoing assistance. Clients can contact the Help Desk toll-free at (877) 704-5292 or by email at helpdesk@triptac.org.

- **Website:** The TAC website, www.triptac.org, is growing rapidly, and has recently added a variety of new web pages that detail the services provided by the TAC, background information on the many forms of alternative transportation, profiles of team members and partner organizations, answers to Frequently Asked Questions, and useful links to the websites of organizations with shared interests.

- **Training:** In May, TAC staff traveled to Denver to lead the first "Alternative Transportation Systems Regional Forum and Training for Federal Land Management Agencies." Facilitators had the opportunity to introduce the TAC and present a training module on transportation

planning. Staff will present three additional training sessions later this year, as well as providing updates and information on trainings offered by other organizations.

- **Case Studies:** The TAC has selected four federal land units around the country that have implemented or expanded alternative transportation through innovative partnerships. TAC partner organizations will research and prepare a case study evaluation at each site, with the long-term goal of showcasing successful models to other federal land managers. The first case study at North Moab Recreation Area was recently completed. The reports will be made available on the TAC website, and will serve as a valuable resource for training and technical assistance efforts.

TAC activities will continue to expand throughout this year. "We have an enthusiastic team of transportation experts who are helping us to hit the ground running," said West; "we'll soon be rolling out more programs and services, like an online resource database of trainings, technical manuals, planning guides, and other useful materials, as well as a peer-to-peer assistance program."

For more information, visit the TAC website at www.triptac.org.

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## Promoting Bicycling on Federal Lands

Federal Lands, including National Parks, National Forests, National Wildlife Refuges, and the Bureau of Land Management lands, are at a critical juncture. Increasing numbers of automobiles in some areas have led to congestion, poor air quality, damage to natural resources, and degraded visitor experience. Increased fuel costs and climate change concerns have spawned efforts to reduce fuel consumption and minimize the carbon footprint of Federal land agencies. Federal land managers must plan carefully to preserve the historical and natural treasures that visitors come to see. They are seeking cost-effective solutions to provide visitor access while preserving lands for future generations.

Floyd A. Thompson, III, is the National Program Lead of Recreation Planning, Sustainable Tourism, TRIP and Scenic Byways for the USDA, Forest Service. "Federal Land managers face increasing challenges to develop transportation solutions that reduce green house gases and carbon footprints, while enhancing accessibility for communities and the public at large to connect with federally managed outdoor recreation resources," says Thompson.

In 2008, WTI completed a project for the Federal Highway Administration to encourage Federal Land Highways (FLH) partner agencies to promote bicycle facilities and programs as one tool to help protect natural resources, improve air quality, and enhance visitors' experience. The project identified issues related to bicycling on federal lands and described some of the solutions that may guide federal land planners and managers.

WTI's Rebecca Gleason served as the primary

investigator for the project. Gleason collected information from Federal Land Management Agencies, national cycling networks and other stakeholders on biking access and safety issues. She compiled existing resources to plan and design bike facilities and programs in urban and rural settings. Case histories of integrating bicycle travel on Federal lands were also included. Gleason synthesized the research and authored a final report published in 2008 to high acclaim. The guide has been making its way into the hands of federal land managers who are finding it very useful.


*Route of the Hiawatha Railroad Trestle, Idaho panhandle and Lolo National Forests*

"The Guide to Promoting Bicycling on Federal Lands provides a valuable tool for Fish and Wildlife Service, Federal Land Highway, Federal Transit Administration, and other partners in the Long Range Transportation Planning process," says Nathan Caldwell, the US Fish and Wildlife Service's Trails, Byways, Transportation Enhancement and Alternative Transportation Coordinator. "It provides information to ensure the plans will be multi-modal, so that transportation decisions made using the plans will result in sustainable transportation facilities and programs on FWS lands."

Thompson agrees. "This guide is an outstanding resource to assist our collective federal, state, local and private partnership efforts. It is full of illustrative case studies, such as our Lake Tahoe Basin Unit where federal managers have made great strides to plan an integrated non-motorized network and promote bicycling to help meet these challenges."


*National Mall and Memorial Parks Bicycle Tour, Washington, DC*

As Federal Land Management Agencies become increasingly interested in non-motorized transportation to help protect resources as well as to reach their public health and sustainability goals, a variety of bike programs are being considered. Building on knowledge gained researching the Bike Guide, Gleason is currently investigating how bike-share systems may be applied in federal land settings.

"This project (Bike Guide) opened my eyes to a shift in how people think about transportation. It is about moving people and increasing mobility choices, not just moving cars," says Gleason. "It is exciting to see the growing recognition of how bicycles can complement transportation networks and improve the environment, health and visitor experience on Federal lands."

To access the Guide to Promoting Bicycling on Federal Lands please visit: www.cflhd.gov/programs/techDevelopment/bikes

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## Variable Message Signs in Grand Canyon National Park

Over 4.4 million visitors enjoy Grand Canyon National Park (GRCA) each year. During summer peak season, the Grand Canyon Village area on the Park's South Rim experiences extreme traffic and parking congestion, and parking supply falls short of demand.

During the summer of 2008, the GRCA began a pilot shuttle service linking the gateway community of Tusayan just outside the park to the Canyon View Information Plaza inside the park near the Canyon rim, to offer visitors opportunities for car free travel to the park. This pilot program was intended to reduce traffic congestion along State Route (SR) 64 through the South Entrance and within Grand Canyon Village, and improve access to the Canyon View Information Plaza and South Rim of the Grand Canyon, where parking is limited at key destinations.

As part of the pilot shuttle bus program, WTI was contracted to implement a traveler information system to help improve transit usage and visitor experience. WTI researchers, Zhirui (Jared) Ye and Jaime Eidswick, developed a Concept of Operations for system implementation which included Portable Dynamic Message Signs (PDMS) and Highway Advisory Radio (HAR), conducted field observations for siting locations and placement of system units, determined specifications for system units, and developed methodologies to evaluate the effectiveness of the system. Based on discussions with stakeholders including GRCA, Arizona Department of Transportation, and Federal Lands Highway Division, PDMS and HAR were deployed five miles from the park's south entrance in Tusayan and 25 miles from the south entrance in the city of Valle.


*PDMS and HAR in the Gateway Community of Tusayan, used in tandem spaced approximately 2 miles apart*

Shuttle ridership data were collected before and after the implementation of the PDMS/HAR system during the 2008 pilot shuttle bus program to evaluate the performance of the system. An analysis of ridership data from the pilot estimated that the HAR/PDMS had a positive effect, increasing shuttle ridership by 368 riders per day, and that the signs increased overall shuttle ridership by 30 percent. Focus group participants said that parking seemed to run smoother than in previous years, yet there was no notable decrease in parking demand. The pilot shuttle program and the use of Intelligent Transportation System techniques demonstrated success in improving transportation management in GRCA.

Following the 2008 pilot program, ridership in May 2009 included 8,360 boardings. May 2010 ridership included 11,376 boardings, including 2 days each of over 1000 boardings during the Memorial Day weekend. While other factors may have contributed to this 36% increase in ridership, the use of DMS/HAR likely played a large role in the increase. "The staff at Grand Canyon National Park is quite pleased with the usage of the shuttle bus system on the Tusayan Route, and with the continued use of the DMS/ HAR system, we feel the shuttle use will continue to grow," said Vicky Stinson, Project Manager, GRCA.

Building on the success of this project, WTI researchers also provided recommendations for traffic management in the GRCA, including deploying a permanent traveler information system, providing real-time traffic and parking information, developing an ITS systems architecture and strategic deployment plan, and developing a village area parking management system. "The system has also been used to inform visitors about weather conditions, construction in the park, and upcoming events, especially during the seasons when the Tusayan Route is not running," added Stinson. "WTI's assistance was not only helpful in getting the right system established, but has helped the park to 'fly on our own' with system operations and branch out with information for other needs."

For more information on this project, please contact Zhirui (Jared) Ye (jared.ye@coe.montana.edu) or Jaime Eidswick (jaime.eidswick@coe.montana.edu).

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## Yellowstone Park and WTI Address Traffic Problems on U.S. 89

Every summer, thousands of travelers exit off of I-90 in Livingston, Montana and meander south down U.S. 89 to the north entrance of Yellowstone National Park (YNP) in Gardiner, Montana. This 55 mile stretch of highway through the Gallatin National Forest presents travelers with varying weather conditions, alternate routes separated by great distances, and animal-vehicle collisions.

In 2004, the Western Transportation Institute (WTI) began working with representatives from YNP to develop innovative solutions to convey current road condition information to motorists. "There was no access to real-time weather updates, details on alternative routes in case of bad weather or sudden road closures, or other transportation options available to travel U.S. 89," noted WTI Principal Investigator David Kack. "The long distance between alternate routes makes it particularly important for motorists to be made aware of this information before they actually reach critical decision points."

One of the major components of this six-year project included the installation of a fixed Highway Advisory Radio (HAR) near the park entrance in Gardiner in November 2009. A roadside sign approximately three miles from Gardiner installed in May 2010 will alert motorist/visitors to tune into the AM signal (AM 1610) to hear pertinent park information. It is likely that HAR will also be placed at the park's south, east and west entrances by July 2010, with the complementary roadside signage. It is anticipated that a variation of HAR radios will be placed at approximately 20 of the park's campgrounds during the summer and fall of 2010. These radios will take advantage of the two NOAA/NWS transmitters within the park.

Other traveler information sources that have been explored by those involved in the project include the Internet, portable Dynamic Message Signs and Highway Advisory Radios, and the 511 system. Through a related WTI project, the park shares its information with surrounding states, so that current YNP travel information will be available on Montana's, Idaho's and Wyoming's 511 systems.

A second major component to the U.S. 89 project involves measures to mitigate the high volume of traffic. There are several likely solutions. While the park already has one employee shuttle from Livingston to Gardiner that was implemented before this project, Kack says there is the strong possibility for a second Livingston to Gardiner shuttle that would serve employees and visitors, as well as implementation of a Gardiner to Mammoth shuttle for employees to be implemented by July 2010.

At the height of the tourist season, there are nearly 5,000 employees within the park, and discussions are continuing on opportunities to move these employees in the most efficient manner possible. The project team continues to coordinate the major transportation providers that use this stretch of highway – charter companies, YNP employee shuttles, school buses, etc. – to increase effectiveness and efficiency.

For more information on the U.S. Hwy 89 project, contact David Kack (406)994-7526 dkack@coe.montana.edu.

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# Outreach

## WTI Director Elected CUTC President

The Council of University Transportation Centers (CUTC) elected Western Transportation Institute Director, Steve Albert, as the organization's new president at the 2010 Summer Meeting held in College Station, Texas this past June. Established in 1979 by the major transportation research centers and institutes in the United States, the CUTC provides a forum for the Universities and Centers to interact collectively with government and industry.


*Steve Albert addresses the CUTC 2010 Summer Meeting*

Albert, who was serving as Vice President, has provided service and leadership to CUTC for over 13 years and has helped lead the CUTC transition from a volunteer organization to a professional society. His achievements include creating the UTC Administrators annual meeting, improving strategic partnerships with AASHTO RAC/SCOR and LTAP, and creating a National Laboratory repository. Well regarded in the transportation world for bringing organizations together for a common purpose, Albert, along with Michael Kyte of the National Institute for Advanced Transportation Technology, integrated the 33 member UTC Director Association with CUTC, bringing CUTC's membership to 92 centers.

Over the course of his term, Albert plans to inventory CUTC member activities and create national leveraging opportunities through CUTC and RITA, accelerate collaborative opportunities with strategic partners to demonstrate a shared and coordinated vision, and initiate proactive outreach and communications to decision makers on the value of research and education. He will also create targeted communications to promote positive UTC Program perceptions and will investigate the development of a CUTC marketing plan.

Albert's election to the office of president places him with a very distinguished group of past presidents including, most recently, Mr. Robert Plymale, Marshall University (09-10), Dr. Randy B. Machemehl, University of Texas at Austin (08-09), Mr. Rod Diridon, San Jose State University (07-08), Dr. Daniel S. Turner, University of Alabama (06-07), Dr. Melissa S. Tooley, University of

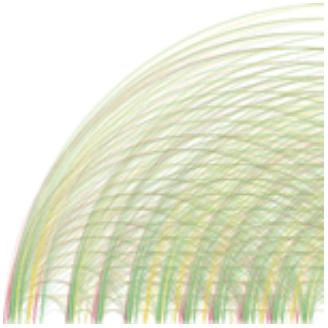
Arkansas (05-06), Dr. Z. Andrew Farkas, Morgan State University (04-05), Dr. Michael J. Demetsky, University of Virginia (03-04), and Daniel L. Christiansen, Texas A&M University (02-03).

## 2010 National Rural Intelligent Transportation Systems Conference


Huntington, West Virginia will serve as host city for the 2010 National Rural Intelligent Transportation Systems (NRITS) Conference, August 1-4. Dozens of technical sessions will complement full and half-day training opportunities. Networking functions and an ever-expanding vendor exhibition will round out this year's conference, themed - **The Bridge to Success: Engineering the Future of Rural ITS**.

The 2010 NRITS Conference is sponsored in part by ITS America, Federal Highway Administration, Rahall Transportation Institute, USDOT ITS Joint Program Office, West Virginia Division of Highways, and the Western Transportation Institute. Participant registration forms and online access are available at www.nritsconference.org/registration.html. For more information, please visit www.nritsconference.org.

## ARC Competition Officially Launched Design Teams: *Submit your entries!*



The International Wildlife Crossing Infrastructure Design Competition, a challenge for design teams to reweave landscapes in a cost-effective manner using new methods, materials, and ideas, officially opened for submittals on June 14. Information and Expression of Interest forms may be downloaded from www.arc-competition.com. To be considered, Expressions of Interest must be received by 4pm (Mountain Daylight Time) on July 30, 2010.

ARC is a partnership-driven wildlife crossing design competition that will engage the best and most innovative international, interdisciplinary design teams—comprised of landscape designers, architects, engineers, ecologists, and other experts—to create the next generation of wildlife crossings for North America's roadways. In doing so, the competition will raise international awareness around wildlife movement and protection while promoting feasible, buildable, context-sensitive and compelling design solutions for safe, efficient, cost-effective, and ecologically responsive wildlife crossings.

The site of the competition will be along Interstate Highway 70 near West Vail Pass, Colorado - a challenging location along a busy

road at high elevation in the midst of the Rocky Mountains and home to a wide variety of wildlife. In order to qualify, design teams must include registered, professionally-licensed landscape architects and structural engineers. They may also opt to include professional architects and other specializations. The expectation is that wildlife biologists, ecologists, transportation specialists and other experts will broaden the teams' interdisciplinary design approach. In Phase Two, design teams must include at least one firm licensed to practice in the State of Colorado.


*ARC Competition Site – West Vail Pass, looking west on I-70*

Jurors will be looking not only for beautiful, compelling designs that meet the needs of both people and wildlife, but also the use of materials that make infrastructure more affordable and, ultimately, our roads safer from wildlife-vehicle collisions. The Jury will be chaired by Charles Waldheim, Professor and Chair of Landscape Architecture at Harvard University's Graduate School of Design.

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# Education

## High School Students Explore Transportation Modes and Careers

The 2010 Summer Transportation Institute (STI) brought fifteen high school students to Montana State University in June for a two-week exploration of transportation. The students learned about infrastructure materials through hands-on activities with Civil Engineering faculty that included a soil tower competition, balsawood bridge competition, and concrete making and breaking session. They tinkered with software tools used by transportation engineers to improve road capacity and competed for the title of Best Mayor while planning transportation systems in a town of their own creation using SimCity. They also learned about the environmental impacts of transportation systems on wildlife, riparian areas, wetlands, and air quality, and they discussed alternate transportation modes. Safety was an important theme throughout the program and students were able to design their own human factors research scenarios in the Western Transportation Institute's state-of-the-art driving simulator laboratory. In addition to surface transportation, students explored other modes while taking a ferry ride on the Missouri River and taking to the skies with flight instructors from Summit Aviation.

The STI program is designed to introduce students to transportation as a possible college and career path. The participants were able to meet faculty, researchers, and university students

involved in a wide array of transportation related topics. They learned about public and private sector employment opportunities while touring the Montana Department of Transportation in Helena and transportation consulting firms Sanderson Stewart and HKM in Billings. STI participants additionally received guidance on college preparation and entrance, as well as career planning.

The program is funded by the Federal Highway Administration and administered by the Montana Department of Transportation (MDT). Students selected to participate receive a full scholarship that covers their room and board and all program expenses. Additional partners and contributors to the 2010 program include the Montana Chapter of the Institute of Transportation Engineers (ITE), Sanderson Stewart, HKM, MDT, and Summit Aviation.

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## Huntsville, We Have a Problem... WTI Sponsors Students at Space Camp

In a continuing outreach effort to teach middle school students about careers in engineering, WTI helped sponsor six students from Monforton School to attend Space Camp in Huntsville, Alabama. The students were selected through an essay contest and interviews.


*Space camp participants watching a variety of fuel types burning and the vastly different burn rates.*

The space camp curriculum is correlated to the National Math and Science Standards so the students are learning materials that are also being taught in the classroom. This correlation is critical to overcoming the perception that engineering careers are too difficult. If the students have just learned a concept in the classroom and are then given an engineering project using the concept, the students begin to realize that while engineering is a challenging career, it isn't overwhelmingly difficult.

The six day program is a full immersion program into aviation and space. The students stay in a habitat that is designed to look like the international space station and spend the duration of the program learning about the history of aviation and space, as well as participating in a wide range of activities. One of many highlights was flying two simulated space shuttle missions complete with malfunctioning equipment, stuck switches, experiments on the international space station, and a space walk to repair heat tiles on the outside of the shuttle. Each of the students held a position that occurs on real shuttle missions. Various problems arose during the missions, and the students were judged on their ability to resolve the issues quickly using the correct protocol, as well as sticking to the mission timeline.

After learning about Charlie Decker's highest moon jump attempt, which resulted with him on his back unable to get up due to the weight of his life support system, the students used three tried and tested methods of walking on the moon: bunny hop, side to side and slow

motion jog using the 1/6th gravity chair. NASA simulators such as this chair, help the students better understand the challenges of designing equipment for space. Other simulators include: 5 Degrees of Freedom which emulates floating in space; the Multi-axis Trainer which demonstrates an uncontrolled tumble spin in space; and the Manned Maneuvering Unit which was a vital component of early shuttle missions and allowed astronauts to travel through space outside the shuttle.


*Campers in mission control work with fellow camper astronauts in flight on the shuttle and on the international space station to resolve issues during a simulated space mission*

Other highlights of the week included designing and launching rockets, designing a lunar base station to withstand the extreme temperatures of space, and a "Jeopardy" competition called Space Bowl. And to wrap up the camp, the graduation speaker was Hoot Gibson, an incredibly accomplished pilot and 5 time shuttle astronaut who encouraged the students to check out engineering for a career.


*Monforton student experiencing the MMU simulator which emulates the equipment used by early shuttle astronauts to navigate outside the shuttle*

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## First Annual National Rural ITS Conference Student Paper Competition: *WTI Grad Student Selected*

*"Naturalistic Data Collection in Rural Emergency Medical Services Transportation"* a paper written by WTI graduate student, Jessica Mueller, has been selected as the second runner-up for the First Annual National Rural ITS Conference Student Paper Competition. Undergraduate and graduate students were invited to submit an original written paper on rural intelligent transportation systems to the 2010 National Rural ITS (NRITS) Conference. Five student papers were selected as winners. The winners will present their papers at the 2010 NRITS Conference in Huntington, West Virginia this August. The papers will also be posted on the United States Department of Transportation, Research and Innovative, Technology Administration - ITS Joint Program Office website.

Selection for this award is an impressive accomplishment, as a number of excellent papers were submitted for the competition. As a top three finisher, Mueller will receive a cash prize, travel expenses to the conference, and full conference registration. Earlier this year, Mueller was selected as the Western Transportation Institute's University Transportation Center Student of the Year for 2009.

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# News from the Lab

## TRANSCEND Lab Update

After a busy winter conducting field tests for two projects, TRANSCEND is welcoming the arrival of construction season. This summer, TRANSCEND will be installing a communication system to support future projects that can be based on any portion of TRANSCEND's 230 acres. The communication system will consist of an antenna tower located near the shop that can communicate wirelessly to portable data trailers. The enclosed data trailers will have power and data acquisition systems to seamlessly collect information and relay it to a server in the shop. Researchers at WTI's headquarters in Bozeman will be able to download data remotely. Also being erected this summer is a building to store TRANSCEND's large equipment - two snowplows, skid steer, portable light trailers, and snow-making guns.

In August TRANSCEND will host a visit for its Advisory Committee members. There are currently seven committee members: Ed Adams (Montana State University), John Blacker (Montana DOT), Chris Christopher (Washington DOT), Wilf Nixon (University of Iowa), Scott Jackson (US Fish & Wildlife Service), Paul Pisano (FHWA), and Dick Hanneman (Salt Institute). The committee anticipates research needs, advises on the infrastructure at TRANSCEND, and establishes potential funding sources. This summer will be the first face-to-face meeting after several teleconferences over the last couple of years.

To take advantage of TRANSCEND's unique features and WTI's renowned research staff, contact Eli Cuelho (406) 994-7886, elic@coe.montana.edu. Visit our website at www.transcendlab.org.

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## Driving Simulator

Driving simulators have emerged as a leading research tool to help understand driver behavior and mitigate traffic safety concerns. The overall effectiveness of driving simulation as a research tool is linked to how accurately modern technology can model reality. The WTI driving simulator is one of the most advanced high-fidelity simulators in the nation. To capitalize on technological advances, WTI initiated efforts in 2009 to increase the realism and ecological validity of their simulator.

Tuning: Feels like a real car

The WTI driving simulator is capable of reproducing realistic driving behavior across all driving maneuvers ranging from high speed highway driving to parking. The simulator consists of a full Chevrolet Impala car body with all original controls mounted on a 6-DOF motion platform placed in the center of curved surround projection screens and speakers. WTI contracted Entropy Control Inc. to optimize the simulator to assure that the driver experience closely matches the driving experience of a real Impala. The natural driving style and effort that drivers experience in the WTI driving simulator is the result of the close match between the forces plus movements that drivers experience in the real world.

Validation: Produce behaviors in a simulator similar to the real world.

The WTI simulator was used to conduct an experiment to examine the perceptual and behavioral effects of various parameters of the simulation (motion, field of view, and level of optic flow) deemed relevant from theories of ego motion. The data collected from this experiment allowed the researchers to quantify the relative importance of these parameters as a basis for future behavioral validation of the simulator.

The state-of-the-art facilities at WTI allow the research team to conduct complex and realistic traffic research in a controlled environment before extending the research to the naturalistic settings of test track and open road studies. Simulation offers great advantages for safety research, in particular the ability to study the human aspects of crash and near crash events without risk to participants.

The WTI facility provides an ideal setting to collect data on driver performance and behavior in a variety of driving scenarios custom-designed to meet the needs of individual transportation research projects.

For more information on the research conducted at the facility, please visit www.westerntransportationinstitute.org/laboratories/driving/ or contact Nicholas Ward, PhD (406) 994-5942.

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# New Projects

## Assessment of Swimming Capabilities of Selected Trout

Project Objective: The primary objective of this research is to determine scientifically valid, volitional swimming abilities of westslope cutthroat trout and rainbow trout that reside in the Rockies Ecosystem.
Find out more »

## Testing Methodology for Performance Characteristics and Friction Coefficient of Deicing and Anti-icing Chemicals

Project Objective: The purpose of this project is to conduct a thorough analysis of test methods and available literature and make recommendations to design a single or suite of laboratory tests that will predict the actual field performance of deicers in a variety of meteorological and pavement conditions.
Find out more »

### Automated Safety Warning System Controller, Phase II

Project Objective: This project is a continuation of the prior phase of the Caltrans Automated Warning System Controller project. The goal is to conduct further research and development of an automated warning system controller that can be easily configured to acquire sensor data from Roadside Weather Information Systems (RWIS), detection loops, Remote Traffic Microwave Sensors (RTMS) and video detection systems, and to prepare the system for deployment in Caltrans.
Find out more »

### White Papers for "Toward Zero Deaths": A National Strategy on Highway Safety

Project Objective: This project will develop a series of eight white papers that will outline the key issue areas that may be addressed as part of the process for developing a National Strategy on Highway Safety. The key issues have been identified as: 1) Future View of Transportation: Implications for Safety, 2) Safety Culture, 3) Safer Drivers, 4) Safer Vehicles, 5) Safer Vulnerable Users, 6) Safer Infrastructure, 7) Emergency Medical Systems, and 8) Data Systems and Analysis Tools. WTI is responsible for developing the Safety Culture white paper.
Find out more »

### Modeling Effective, Efficient and Sustainable Emergency Medical Service System for Rural Areas – UTC

Project Objective: The overall goal of this project is to develop one or more model response systems for Emergency Medical Services (EMS) in rural areas that are regional, coordinated, accountable, and sustainable.
Find out more »

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## Staff News

### WTI Director Awarded 2010 Management & Operations/ITS Council Achievement Award

The ITE Management & Operations/ITS Council recently announced Western Transportation Institute Director, Steve Albert, as this year's Individual Achievement Award winner. Albert is considered a national leader on intelligent transportation systems (ITS) and has been involved in and guided ITS research and development projects in more than 35 states. He has delivered more than 100 professional presentations on relevant subjects, including twice addressing the U.S. Senate on the U.S. Department of Transportation's ITS program. In 2007, U.S. Transportation Secretary Mary Peters selected him to serve on the national ITS Advisory Committee.

Daryl Taavola, Vice President of ITS and Traffic Engineering for URS Corporation, served as chair of the ITE M&O/ITS Council Awards Committee. "Steve is being recognized for his devoted service and outstanding contributions to the transportation industry," says Taavola. "He is considered a national leader on intelligent transportation systems (ITS) and on an on-going basis has championed improvements to rural transportation by promoting continued research, education and the deployment of innovative safety and ITS related projects."

Albert will be officially recognized at the Honorees Reception and Dinner held during the ITE 2010 Annual Meeting and Exhibit in Vancouver, British Columbia, Canada this upcoming August.

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