



UNIVERSITY OF VERMONT

TRANSPORTATION RESEARCH CENTER

Newsletter

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Second Careers in Transportation

With demographic changes and the dynamic nature of our 21st century transportation system, the transportation sector needs a comprehensive workforce development plan that includes innovative programs that can be used nationwide to attract and retain skilled workers. As part of the Transportation Research Center's - Transportation Education and Development Pilot Program (TEDPP), the Second Careers in Transportation (SCT) project has forged a partnership with AARP-VT and Vermont Associates in Training and Development to test specific strategies designed to attract older workers, usually retirees, to professional and office/public support positions within the transportation industry. The project's aim is to reach this population of potential workers and to establish pathways to re-tool their skills to meet current needs in the transportation sector.

A pilot effort was initiated in Vermont with

a needs assessments survey, conducted by the Center for Rural Studies at UVM, which drew responses from the Vermont Agency of Transportation, 165 municipal agencies, and forty one private sector employers in transportation. Documenting more than 3000 administrative, professional or skilled labor jobs in the Vermont transportation sector, information was collected on current and anticipated vacancies over the next year. Not surprisingly the majority of vacancies were in full-time, long-term and short-term skilled labor.

The partnership is now engaged in preparing a strategy to work with potential employers and the target group of potential employees (50+) to create an effective pathway into the transportation industry. Through outreach and education efforts, this program will market new skills needed in the transportation industry to those approaching retirement in other industries to show the transferability of skills and

the ability to affect change. Because local, regional and global transportation systems are vital to community, the economy, and economic development, it is expected that this work will be particularly meaningful to these target groups. This information will also provide lessons that will be of value in efforts to retain current older workers.

AARP-VT has an extensive network of contacts in the target group and Vermont Associates brings an extensive history of training to support this initiative. The project is also working to identify and promote changes in human resource practices in recruiting and assessing potential employees and workplace conditions that better meet the identified needs and interests of older workers. As the project becomes better defined in Vermont, lessons learned will be applied to new initiatives to survey and design strategies in New Hampshire and Maine.

Certificate in Graduate Study

The TRC is proud to announce a Certificate of Graduate Study in Sustainable Transportation Systems and Mobility (STSM) will be offered in the Fall of 2011. The academic merit of the STSM Certificate is multifaceted and includes the development of technical knowledge of transportation and mobility systems as well as research skills, academic writing, direct experience with transdisciplinary work and the development of a graduate student cohort around transportation research. The overall goal of the STSM Certificate is to establish a baseline of transportation system knowledge and to develop advanced critical thinking around interdisciplinary partnerships addressing problems in transportation and mobility.

Transportation is a transdisciplinary field of study that broadly examines the movement of people and goods over space as well as the economic, public health, environmental and social impacts of those systems. There are two ways in which to earn the Certificate: as part of a UVM master's and/or doctoral degree program; or as a standalone for those who already have an appropriate undergraduate degree and are admitted to the Graduate College.

For more detailed information on the course requirements for the Certificate of Graduate Study, go to www.uvm.edu/trc and follow the link to Graduate Studies. Student applications are reviewed by an appropriately identified group of faculty. For more information please contact: transctr@uvm.edu

Join Us

Brown Bag Discussions

The dates for the 2011 brown bag lunch discussions focusing on critical issues in Transportation will be: June 10, July 15, and August 12. Topics coming soon. 802-656-1312 transctr@uvm.edu

Guest Lecturers



The Visual World of the Road

Dr. John W. Senders, Professor Emeritus of Industrial Engineering at the University of Toronto, Adjunct Professor of Law at York University (Toronto), and the 2006 recipient of the James Marsh Professor-At-Large at the University of Vermont, captivated an audience at the Frank Livak Ballroom in the Davis Center on March 16, 2011 with his presentation, "Dissecting Motor Vehicle Accidents: Can We Find the Lethal Distraction?" From an observation while driving in a heavy rainstorm, Dr. Senders became interested in transportation and began serious pioneering research about the attention span needed for safe driving. The event was hosted by Lisa Aultman-Hall, Director of the Transportation Research Center and Dr. Ben Littenberg of the College of Medicine.

How Well Do You Know Your Commute?

How do transportation practices of driving, bicycling and walking differ in the way they shape an individual's understanding of their local environments and mobility? That was the guiding research question for Denver Nixon, doctoral candidate at the University of Western Ontario, Department of Geography and Visiting Scholar at UBC School of Population and Public Health. Nixon presented, "Through the Windshield: Transportation Practices and Dis/Embodied Landscapes," on March 25, 2011 in North Billings Lounge, in efforts to address the ongoing scholarly debate that different modes of mobility produce different ways of knowing the world. Nixon was hosted by the Transportation Research Center and the Department of Geography.



Transportation in Hard Times

The Transportation Research Center hosted Dr. Joseph Schofer as part of the Dan and Carole Burack President's Distinguished Lecture Series on April 14, 2011 in the Waterman Building. Dr. Schofer, Professor of Civil and Environmental Engineering at Northwestern University and Associate Dean for Faculty Affairs and the Director of the Infrastructure Technology Institute, enlightened the audience with his presentation, "The Future of Transportation: How The System Must, Can and Will Change." Dr. Schofer expanded on four major issues for transportation in hard times: congestion, livability, infrastructure and finance. Among many take home messages, Dr. Schofer urged students, researcher and analyst to think right brained when searching for solutions to transportation issues. His research and teaching are in transportation policy planning, analysis, evaluation, and behavior.



The TRC and VTrans Work Together



A large portion of the Transportation Research Center's external portfolio has been its agreements with the Vermont Agency of Transportation (VTrans). In the past five years, the TRC and VTrans have worked together on more than 20+ agreements and plan to renew the Cooperative Research Agreement. The partnership has been an integral resource to both parties. Below is a listing of some of the current projects issued by VTrans to the TRC.

VTRANS PROJECTS

Use of Piles in Slope Stabilization
Optimal Design Using Porous Concrete: Phase III
Maintenance, Operation and Evaluation of the VTrans Statewide Transportation Model
Renegotiation of Highway Construction Contracts
Harvesting Data from Advanced Technologies for Real Time Transportation Network Management

UVM PRINCIPAL INVESTIGATOR

Mandar Dewoolkar
George Pinder
James Sullivan
Richard Sicotte
Xindong Wu

Livable Communities for Seniors

The TRC, in partnership with AARP, has completed Phase 1 “Livability Attribute Importance” of the three-phase project, “A Travel-Livability Index for Seniors.” TRC researchers used existing AARP survey methods and data analysis to assess the needs and preferences of seniors in specific regions that directly and indirectly relate to transportation in considering livable communities for seniors. The results of Phase I revealed several important patterns.

Ranking the livability-attributes assessed by two age-classifications and two geographical classifications, the number one attribute that dominated the livability concerns of older Americans was safe neighborhoods. Having a hospital in the community ranked as the second most important attribute: Housing was deemed important as were attributes related to shopping, places of worship, and infrastructure. Attributes related

to recreational opportunities, however, tended to be unimportant.

Although some variation exists, the rankings of variables among groups are similar. Such similarity may mean that a single livability model will be widely applicable to seniors of all ages and urban/rural classifications. Further analysis and model calibration will be required to ultimately determine whether differences among these subgroups are meaningful.

AARP’s commitment to research and policy advocacy for livable communities is evident in the Livable Communities Evaluation Guide, originally produced in 2000 and then updated in 2005. Phase II of the project will include the identification of spatial and temporal livability metrics from other data sources to correspond to these attributes.

Ranking of Top Livability Attributes by Classification Group					
Rank	Rural	Urban	55-65 yrs of age	65+ yrs of age	All
1	Safe Neighborhood				
2	Hospital in the Community				
3	Affordable Housing	Variety of Senior Housing Options	Affordable Housing	Variety of Senior Housing Options	Variety of Senior Housing Options
4	Variety of Senior Housing Options	Maintenance of Streets	Variety of Senior Housing Options	Place of worship	Affordable Housing
5	Place of worship	Affordable Housing	Maintenance of Streets	Affordable Housing	Place of Worship
6	Affordable Shopping	Convenient Public Transport	Place of Worship	Convenient Public Transport	Maintenance of Streets
7	Grocery Store Within ½ Mile	Place of worship	Affordable Shopping	Access to Shopping	Convenient Public Transport

TRC Professor Explores Bike/Ped Issues

This Spring, UVM TRC Assistant Professor Brian Lee led CE295: Design for Bicycles and Pedestrians as an elective course to senior-level CEE and graduate students with the appropriate prerequisites. The course focus is to introduce engineering design concepts and principles to address the needs of bicyclists and pedestrians using a systems view contextualized by the bicycle and pedestrian master planning process. Course discussions concentrate on various user requirements and engineering issues and explore the core concepts and strategies related to analyzing and designing transportation infrastructure for bicyclists and pedestrians. Current best practices are critiqued in the context of how effectively bicycle and pedestrian master plans and programs are addressing the social, environmental, economic, and health related transportation impacts.

Two highlights of the semester were a wheel-chair lab and a field trip to Montreal. The wheel-chair lab simulates the experience of wheelchair users and examines how different environment can present barriers for people with physical impairments. Students were given the opportunity to gain an understanding of the issues these road users face and how design improvements can be made to meet or exceed requirements laid out in the Americans with Disabilities Act. The trip to Montreal was unique

because it was combined with two other courses: the History of Montreal and English Literature of Montreal. In addition to examining the history of the city, students were provided with a narrative of how Montreal’s transportation infrastructure came to include the needs of bicyclist and pedestrians. This interdisciplinary experience was funded by contributions from the Canadian Studies Program, the Transportation Research Center, UVM School of Engineering, and the Departments of History and English.



Nancy Liu, Matt Conger, Dr. Brian Lee & Hannah Wingate in Montreal

TRC Team Update



Dr. Lisa Aultman-Hall, Director of the Transportation Research Center, will resume her role as Professor for the TRC and School of Engineering in the fall of 2011. Developing new courses, one for the newly acquired Graduate Certificate program in Sustainable Transportation Systems and Mobility, and re-focusing on her own research projects, Dr. Aultman-Hall says she will be honoring her obligations to her existing students and pressing forward in her own research endeavors.

During her five-year administrative assignment as founding Director of the UVM TRC, Dr. Aultman-Hall has spent much of her time seeking external funding and long-term budget stability including non-federal matching funds for the TRC's UTC grant, as well as hiring the TRC research, outreach and administrative team. She has been a passionate coach for the faculty and students working on projects in the five signature focus areas by connecting transportation to environment, energy, community and health. She has supervised three graduate students: Nathan

Belz who studies roundabout traffic engineering; James Sullivan who studied transportation network robustness; and Cassandra Gekas who studied the relative travel time and transportation cost burdens for women.

When asked about her new interests of study, Dr. Aultman-Hall says, "The best research often happens when you are studying one thing and discover something else." While seeking to study bicycle route choice in the 1990s, she produced some of the most defensible data on the relative bicycle crash rates for on-road versus off-road bicycling. While trying to use GPS to study vehicle route choice, she wrote papers on how to use GPS to extract people's trip information, a problem that still plagues the field. Her in-vehicle GPS data collection also became the basis for her on-going research with Dr. Britt Holmen, School of Engineering, about how second-by-second driving style affects tailpipe emissions. Her efforts with Professor David Novak, School of Business Administration, were originally intended to develop better methods to determine where to add roads to the network; but are now being used to consider strategic disinvestment or road removal.

Dr. Aultman-Hall reports a planned new focus on transportation system finance based on her sense that the system of collecting revenue and funding expenditures is limiting not only to the sustainability of our transportation system but also optimization of how it impacts quality of life. Dr. Aultman-Hall's research will continue to be interdisciplinary and innovative, the very thing that UVM matrix centers like the TRC were created to do.

The TRC is pleased to announce that Jody Ciano, MA has joined the staff as the Communications Professional. Jody comes to the Center with more than 15 years of writing and editing experience in a scientifically-based environment. Formerly the writer and editor for the UVM Department of Surgery, Division of Research, she consulted on and edited medical manuscripts and grant proposals as well as served as the marketing professional for the department. She has been acknowledged in numerous medical journals for her editorial expertise and has served as the assistant editor to a book in print. Her own writings have been published in newspapers and poetry journals. "The genre of transportation is incredibly interesting – it's so current and progressive – and vital to our community," Jody said, "I am delighted to be here at the TRC."



Elysia Nelson, a Graduate Scholar Research Assistant at the TRC, is pursuing her master's degree in Public Administration. She is a 2010 graduate from the University of Vermont, College of Arts and Sciences, with a degree in Sociology, which lends itself to the social context of the tailpipe emissions project she is working on. The project is exploring how people conceptualize tailpipe emissions by researching how and where they obtain their information regarding cars, pollution, and global warming. In addition, the project is investigating whether or not a person's social capital, or social networks, affects their environmental attitudes and behaviors. Social capital can include the number of connections a person has to different types of people, the level of trust a person has in others or in society, and the level of engagement a person has in their community.



TRC Research Analyst George Lu won the 2010 Best Paper Award by the Task Force on Roundabouts (ANB75T) Committee of the TRB, for his "Simulation Study of Access Management at Modern Roundabouts: Pedestrian Crosswalk Treatments," which calls attention to pedestrian access issues at modern roundabouts for the vision-impaired pedestrian.

Lu's simulation study quantitatively assessed the performances of four existing pedestrian signal systems placed at roundabouts using a wide spectrum of test scenarios aimed to provide the access management community with improved roundabout accessibility. The findings are informative to transportation policy-makers, planners, and practitioners in access management community who put efforts on enhancing roundabout accessibility for pedestrians - especially those with impaired vision or mobility.

The paper was presented at the 90th Transportation Research Board Annual Meeting, in Washington D. C., in Session 606 titled "Using field data and analysis to support roundabout decision making." The paper will be published in the upcoming Journal of Transportation Research Record, 2011 Series.

