Vermont’s Transportation Research Center (TRC) is a hub for innovative and interdisciplinary research, education and outreach on sustainable transportation system solutions. The TRC focuses on transportation planning as it relates to resilience, energy and health.
Dr. Lisa Aultman-Hall led the TRC’s first contribution to the consortium, "Challenges and Opportunities for Integrating Climate Adaptation Efforts across State, Regional and Local Transportation Agencies," with researcher Jon Dowds, culminating in a white paper and policy brief that were highlighted on a national webinar with three DOT Secretaries participating.

The UVM Unmanned Aircraft Systems Team, a joint project between the Transportation Research Center and UVM Spatial Analysis Lab, has taken off this year. The team purchased its second aircraft, an eBee RTK, with a much higher level of spatial accuracy and both aircraft have been flying missions all over Vermont. Some of the missions the team has taken on include deploying to a flooding disaster in Central Vermont, flying over construction projects, assisting with construction siting, and even working with Federal Agencies to test how UAS can respond to Federal Disasters.

The UAS team is now focused on better understanding how to get the data collected into the hands of those who need it. This includes how to get data from the field into the hands of decision makers. Future projects for the team include assisting farmers to assess the health of their fields using remotely sensed data, exploring the use of UAS for project planning, and continued development of use of UAS in disasters.

TRC Reports for 2014-2015

Challenges and Opportunities for Integrating Climate Adaptation Efforts across State, Regional and Local Transportation Agencies.  
Author(s): Aultman-Hall; Dowds.  
National Center for Sustainable Transportation White Paper

Author(s): Fukagawa; Holmen.  
TRC Report # 15-009

Adaptation and Application of Micro-Simulation Modeling to Recreational Use of Parks and Public Lands.  
Author(s): Manning; Reigner; Wimpey; Valliere; Xiao.  
TRC Report # 15-008

Intercity Travel in Northeastern Rural Regions of the U.S.  
Author(s): Neely; Lee; Sentoff.  
TRC Report # 15-007

Laboratory Performance of Pervious Concrete Subjected to Deicing Salts and Freeze-Theta.  
Author(s): Anderson; Walsh; Oka; Dewoolkar; Limberg; Sevi; Schmeckpeper.  
TRC Report # 15-006

Conducting a Longitudinal Survey of Overnight Travel: Methods and Preliminary Findings.  
Author(s): Harvey; Aultman-Hall; LaMondia; Sullivan; Greene; Ritter.  
TRC Report # 15-003

Scour Damage to Vermont Bridges.  
Author(s): Anderson; Dewoolkar; Rizzo; Huston; Frolik.  
TRC Report # 15-002

Assessing the Travel Data Needs for Vermont Transportation Performance Metrics.  
Author(s): Aultman-Hall; McRae.  
TRC Report # 14-017

A Risk-Based Flood-Planning Strategy for Vermont’s Roadway Network.  
Author(s): Sullivan; Novak.  
TRC Report # 14-016

Estimating the Effect of Mobility and Food Choice on Obesity  
Author(s): Kolodinsky; Lee; Johnson; Roche; Battista.  
TRC Report # 14-015

Statistical Analysis of Weigh-in-Motion Data for Bridge Design in Vermont.  
Author(s): Hernandez.  
TRC Report # 14-014
Chester Harvey graduated in 2015 from UVM where he received his Masters in Natural Resources from the Rubinstein School of Environment and Natural Resources.

Chester was a graduate research assistant at the Transportation Research Center and a graduate fellow in the Gund Institute for Ecological Economics. He now works for the TRC as a researcher. He was honored, with students from around the country, at the 2015 Council of University Transportation Centers’ (CUTC) award dinner at the Transportation Research Board Annual Meeting in Washington DC. Chester was nominated by his faculty adviser, Dr. Lisa Aultman-Hall. The work that earned Chester the award focused on measuring livability through the use of an automated GIS tool that can quickly measure urban design characteristics on thousands of city blocks. He compared these measurements with results from a crowdsourced visual preference survey of streetscape images, conducted by researchers at MIT, to show consistent preference for streetscapes surrounded by closely-spaced, human-scale buildings and street trees.

UVM TRC Graduate Scholars

Jim Dunshee
Civil and Environmental Engineering

Saghari Sadeghpour Sotobadi
Civil and Environmental Engineering

Paola Rekalde Aizpuru
Civil and Environmental Engineering

Anna Schulz
Public Administration, Community Development and Applied Economics

Xiao Xiao
Rubenstein School for Environment and Natural Resources

Sean Neely
Civil and Environmental Engineering

TRC Programs and Contacts

National Center for Sustainable Transportation (UTC) – Lisa Aultman-Hall

UVM University Transportation Center (UTC)- Lisa Aultman-Hall

NE Transportation Workforce Center – Glenn McRae

Graduate Certificate & Education – Glenn McRae

Vermont Clean Cities Coalition – Abby Mattera

New England Transportation Consortium – Jacob Leopold

Vermont Transportation Research Collaborative – Glenn McRae

VTrans Statewide Travel Demand Model – Jim Sullivan

UVM Transportation Air Quality Lab – Britt A. Holmen

Remotely Sensed Imagery for Disaster Response – Jarlath O’Neil-Dunne

Unmanned Aerial Systems for Transportation Decision Support- Zachary Borst
The mission of the U.S. Department of Energy’s Clean Cities program is to advance the economic, environmental and energy security of the U.S. by supporting local decisions to adopt practices that contribute to reduced petroleum consumption in the transportation sector. The Vermont Clean Cities Coalition brings together stakeholders in the public and private sectors to deploy alternative and renewable fuels, idle-reduction measures, fuel economy improvements, and emerging transportation technologies. Vermont Clean Cities helped stakeholders decrease petroleum use in transportation by a total of 1,747,790 gallons in 2014!

The FHWA made a set of strategic investments to support the development of the workforce for the transportation industry in the fall of 2014 with the designation and funding of 5 regional surface transportation workforce development centers. The UVM TRC was chosen to host the Northeast Transportation Workforce Center (NETWC) and is working with the Center for Advanced Infrastructure and Transportation as well as the Heldrich Center for Workforce Development at Rutgers University to facilitate partnerships between key stakeholders in the region, provide new resources and support an active information exchange network.

Building on five years of operating the Transportation Education Development Pilot Program (FHWA), the TRC is conducting a regional assessment of demand driven training and workforce development needs, identifying priority jobs and skill sets and highlighting best and promising practices in workforce development programs in the region along the full education and learning continuum from secondary schools to professional development. The Northeast Center has joined with the other 4 designated centers at Montana State, University of Memphis, University of Wisconsin-Madison and California State University Long Beach to create the National Network for the Transportation Workforce (NNTW) developing a coordinated national strategy in addition to region specific efforts.
July 2014
Seminar: Dr. Richard Kimball (Maine Maritime Academy) “Marine Industry Emissions Reductions”
Seminar: David Cohen “The Slow Transportation Movement and the Emergence of the Cargobike”
Seminar: Dr. Luis Vivanco (UVM) “Getting Around Bogotá by Bicycle: Some Ethnographic Reflections”
August 2014

September 2014
Burack Lecture Series – Dr. Brian Taylor (UCLA) “Understanding the Travel Behavior of Teens and Young Adults”

October 2014
Odyssey Day – National Alternative Fuel Vehicle Day on Church Street with Vermont Clean Cities Coalition
Vermont Highway Safety Alliance Annual Assembly for Progress
UVM TRC designated the Northeast Transportation Workforce Center (FHWA)

November 2014
Canada Vermont Business Symposium: TRC presentation on “Transportation Research that matters”
Transportation Board Hearings on Needs of Young Adults sponsored by UVM TRC
Burack Lecture Series - Dr. Kelly Clifton (Portland State) “Do Local Businesses Cash in From Green Transportation?”

January 2015
Annual Meeting of the Transportation Research Board -18 UVM presentations
Inaugural Stakeholder Forum for the Northeast Transportation Workforce Center

February 2015
US Army Cold Regions Research and Engineering Laboratory Visit
Establishment of Vermont Transportation Research Collaborative

March 2015
First use of TRC Unmanned Aircraft System to map icejams issues in Lake Arrowhead in Georgia, VT
Field testing thermal imaging systems to evaluate effectiveness of various roadway snow and ice control systems.
Seminar: Dr. Kari Watkins (Georgia Tech) “Real-time Transit Information: Enablers, Impacts, and Implications”

April 2015
Seminar: Jens Hawkins-Hilke (VT Fish & Wildlife Dept.) “Road Ecology and Climate Change: Why wildlife crossing matters”

UVM Student Research Conference
Northern Stars of New England Awards organized by Vermont Clean Cities Coalition

May 2015
Electric Vehicle Demonstration – Burlington Electric Department with Vermont Clean Cities Coalition

June 2015
National Network for the Transportation Workforce presentation at the summer Council of University Transportation Centers meetings

TRC Team Members 2014-2015: