

The challenges of designing and maintaining a transportation system to meet the needs of the coming decades requires a skilled, motivated and sustainable workforce. TEDPP at the UVM TRC is addressing that challenge in Northern New England and creating lessons and resources to be used nationally.



*A CDL simulator gives students hands-on experience.*

Nationally, 40 - 50% of the current transportation workforce is expected to retire in the next decade. In Vermont, New Hampshire and Maine, a similar trend is occurring. Fewer workers are gravitating to the field and there is intense competition from other industries for qualified workers at all levels. While transportation jobs are ubiquitous, they are also invisible, hidden throughout other industries or historically unnoticed by a population that assumes the transportation system will be there to meet their needs.

**The University of Vermont Transportation Research Center** and its partners in the **Transportation Education Development Pilot Project (TEDPP)** are working to address these key challenges through four demonstration programs. Operating from a 2008 U.S. Department of Transportation million dollar award to the UVM TRC, TEDPP is entering its fourth year. The four programs: Transportation Systems Institute (TSI); Transportation Systems Academy (TSA); Second Careers in Transportation (SCT); and Community Colleges are reaching non-traditional labor pools: technical and alternative high school students, corrections students, mature workers, veterans and New Americans. Over the next several years, TEDPP results will be released for use nationally. A toolkit promoting new career pathways and opportunities for specialized training in transportation systems is being developed. This will provide curriculum and program guidance to support replication of these efforts throughout Vermont and nationally.

**In the past year, several key benchmarks have been met.**

The TSA program for high school aged youth was successfully implemented through the Community High School of Vermont at Northern State Correctional Facility and the Canaan Career Center. Lessons learned are being applied to a replication toolkit and the Community High School will run two new programs this summer and incorporate them permanently into its curriculum. Leaders from both schools presented their results at the recent conference of the National Association for Workforce Improvement.

The TSI graduated 27 participants who returned to their roles at state transportation agencies in VT, NH and ME better prepared to manage in an increasingly uncertain environment of infrastructure, workforce and fiscal challenges.

The TRC has initiated work toward an agreement with Community College of Vermont and the Vermont State Colleges to embed core modules in transportation in various degree programs that would provide a career pathway for incoming students or a bridge option for second career workers seeking to enter the transportation workforce.



*Students from Canaan Career Center experience a day in the life of a highway maintenance worker.*

## Transportation Systems Institute (TSI)

TSI is working with VT, ME and NH DOT employees on maintaining, motivating, and transferring knowledge within the state DOT workforces. The TRC partnered with the Technology Extension Division (TED) of Vermont Technical College (VTC) to attract new talent and retain current expertise within the state DOTs. An assessment was conducted in VT, NH & ME Departments of Transportation which revealed a need for several training programs.

In 2010, 15 transportation employees (five from each state) were selected and successfully completed the program. In 2011 an additional 12 agency employees were nominated and completed the program. Training included:

- Trends & Topics in Transportation
- Public & Government Relations
- Government & Project Finance
- Systems & Organizational Change
- Managing & Optimizing Group Process
- Leadership Styles & Workplace Principles
- Technical Project Management
- Conflict Management & Problem-Solving
- Attitude, Motivation & Customer Service Skills
- Coaching & Feedback

Positive feedback was received from all participants. **100% of supervisors noted an increase in knowledge and skill base.** All but one supervisor indicated that they would support other managers to participate. Most supervisors indicated an interest in participating themselves.

At strategic sessions, participants were brought together to create and build a tri-state network for resource sharing and learning. The program will be supported in the final year of the program.

Participants from each of the states above selected a project. In Vermont this included human resource development initiatives that seek solutions for burn-out prevention for leadership at all levels; worker retention strategies; increased support for employees; meaningful recognition of good work; and planning for strategic investments in training.



TSI Graduation Class of 2011

## Transportation Systems Academy (TSA)

TSA provided hands-on training for students interested in transportation sector employment at the Community High School of Vermont and the Canaan Career Center and built a model for replication at high schools throughout the state.



VTrans Designer and Resident Engineer, Gilbert Newbury, P.E. instructs class

The first successful TSA at the Northern State Correctional Facility in Newport with the Community High School of Vermont (CHSVt) resulted in CHSVt adopting the program into their curriculum and launching new academies this summer in Newport and Rutland.

The Career Center in Canaan implemented the program for 18 students from Vermont and New Hampshire. Based on this experience, the TRC is building a toolkit for other high schools to adopt a TSA program.

**Six of the TSA graduates from Newport have found gainful employment with the transportation industry or other occupations;** four are seeking or have completed 40 hour internships with the Vermont Agency of Transportation with possible future employment opportunities; and seven are currently completing educational courses or other requirements.

The program successfully introduced 10 courses in an educational setting that allow students to receive academic credit (ranging from one-half to one full credit), certification and/or certificates of completion.

The program was highly rated by graduates of the program and school administrators.

## Second Careers in Transportation (SCT)

SCT focuses on attracting retirees from other industries and mature workers who are seeking a second career by designing support structures to transfer their skills to the 21st century challenges in transportation.

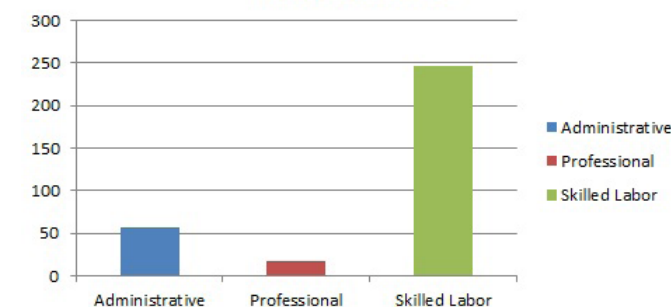
TRC has partnered with AARP-VT and Vermont Associates in Training and Development to advance this agenda. **The project is looking to encompass mature, displaced, and non-traditional workers, including veterans and New Americans.**

The SCT program is assessing the public and private sector workforce needs of the transportation industry in VT, NH and ME. The mission of the program is to provide mature workers with transportation career awareness, demonstrate how they can transfer their skills to professional and office support positions within the transportation sector, and offers specific career pathways, credentialing and training programs to make the transition from one field to another.

Survey work by the Center for Rural Studies at UVM provided an overview of current and anticipated workforce needs for state, municipal and private sector transportation employers in Vermont, demonstrating that employment opportunities at the professional and skilled levels continue to be strong throughout communities around the state.

A new partnership between the Community High School of Vermont and Vermont Associates for Training and Development has created a multi-generational learning environment with creative opportunities for mentoring. The anticipated outcome is a diverse set of options from high school courses to post graduate certificates for individuals working to build a professional skill base for entry-level or next-step employment in transportation systems.

Total # of Anticipated Transportation Job Vacancies in 2011



## Community Colleges

### Community College participation and endorsement will be integral to the success of a National Transportation Workforce Development Strategy

Working with the American Association of Community Colleges (AACC), information was collected on what community colleges are currently teaching and what they could do to provide for greater engagement in transportation workforce development efforts.

Research results suggest that a solid foundation exists within community colleges to deliver transportation-related training, but that additional investment and coordination will be necessary to support future workforce needs. The final report addresses best practices for community colleges looking to increase their transportation programs and recommendations for how the USDOT can best stimulate and support the evolution of community colleges as a key pillar in transportation workforce development.

The TRC has initiated an agreement with Community College of Vermont and the Vermont State Colleges to embed core educational modules on transportation in various degree programs to provide both **a career pathway to specific transportation jobs** for incoming students as well as a bridge option for second career workers looking to transfer skills to the field.

Incumbent transportation workers seeking new opportunity will also be able to benefit from the programs to establish new credentials. The Community College partnership offers the opportunity to coordinate efforts from high school programs through college and graduate level studies and continuing educational opportunities for workers to enter and excel in the field of transportation.