

VTM Connection

Virginia's Transportation Modeling Newsletter

VDOT Provides Training with New VTM Model for Charlottesville

After several months of development, the new Charlottesville travel demand model is close to completion. The new model includes transit, bike and pedestrian sensitivity, and a new model network developed directly from the road centerline file maintained by Transportation and Mobility Planning Division (TMPD) of the Virginia Department of Transportation (VDOT).



Ken Kaltenbach and Amandeep Randhawa from Corradino Group co-teach in training

A one-day model application training work shop for local planning staff was conducted by VDOT for the Thomas Jefferson Planning District Commission (TJPDC), which provides the staff for the Charlottesville MPO, on July 21. The purpose of the training was to build the capacity of local planning staff to use and apply the new MPO regional travel demand model. Participants included staff from TJPDC, UVA, and VDOT.

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KEY TRAVEL MODELING WEBSITES

↪ **Virginia Travel Modeling Program**
<http://www.virginiadot.org/vtm>

↪ **Hampton Roads PDC Travel Modeling**
http://www.hrpdc.org/TRANS/TRANS_TravelDemand.asp

↪ **Metropolitan Washington COG Travel Modeling**
<http://www.mwcog.org/transportation/activities/models/>

↪ **FHWA Travel Model Improvement Program (TMIP)**
<http://tmip.fhwa.dot.gov/>

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*Senior Modeling Systems Analyst,
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Jeremy is the son of two university professors and was born in Pietermaritzburg, the capital of the KwaZulu-Natal province in South Africa. His family came to the United States when he was two years old, settling in St. Louis, Missouri. His father taught Chemistry at St. Louis University, and his mother taught mathematics at the University of Missouri in St. Louis. Jeremy earned a Bachelor degree from Washington University in St. Louis, with a dual major in Philosophy and French.

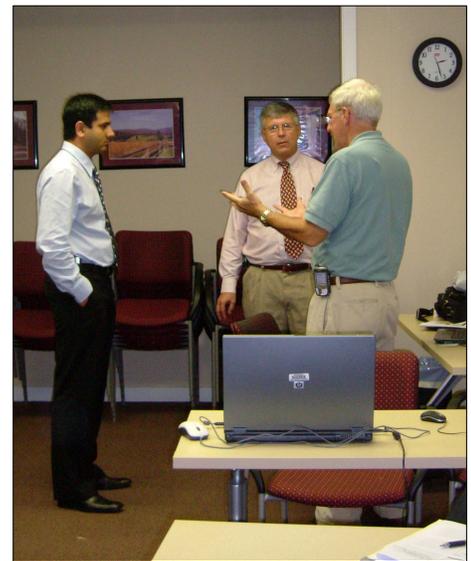
Jeremy initially pursued graduate study at New York University (NYU) and earned a Master's degree in French. During this time, Jeremy rediscovered an early interest in engineering. He went on to earn a Bachelor degree in mechanical engineering from The Cooper Union, with plans to pursue a career in alternative energy. But Jeremy muses today, "I was about 20 years ahead of my time!" and he couldn't find a job in that field. During his school years, Jeremy supported himself by part-time work as a typist and secretary. He learned word processing in New York, and made a transition from that to database management and computer programming. After graduating from Cooper Union, Jeremy took a job as a computer programmer and lived in New York City for several years. His success eventually led him to into a career as an independent consultant where he served a variety of clients in the New York area and in Canada, including some Wall Street firms.

Eventually, many of his clients moved out of New York City, and in the dawning internet age, it did not matter where he was located, so Jeremy moved to Durham in the Triangle area of North Carolina. In North Carolina, Jeremy

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The topics of the training included a short introduction of travel demand modeling, including a description of the traditional four-step process, and a description of the newly developed Charlottesville model. The new Charlottesville model is consistent with the Virginia Transportation Modeling (VTM) policy & procedures guidelines and standards and uses the new Citilabs CUBE Catalog format. The previous model used MINUTP.

Participants were also able to receive hands-on experience in applying the model for MPO and local planning analysis. Training participants felt they have gained a better understanding in the complexity and importance of travel demand modeling work from the training and that it would enhance future MPO and local planning efforts. VDOT plans to do similar training in other MPO areas in the future.



Amandeep Randhawa (left), Ken Kaltenbach (middle), and Dr. Thomas Guterbock from UVa chatted during the break.

National Household Travel Survey Effort Continues in Virginia and Nationwide

The National Household Travel Survey (NHTS) effort began in Virginia and nationwide in April, 2008 and will continue until April, 2009. The purpose of the NHTS survey is to provide trends on America's daily travel behavior. NHTS captures both daily and seasonal variation as well as long distance travel. The NHTS is conducted every 5 to 8 years by the Federal Highway Administration (FHWA) with past surveys occurring in 1969, 1977, 1983, 1990, 1995, and 2001. NHTS is the United States' flagship travel survey and serves as the nation's inventory of daily and long-distance travel. The survey has provided the nation with authoritative data on travel by all modes of transportation, for all travel purposes, and all travel distances. The NHTS series provide vital data on American passenger travel and can be used to examine the relationship among social and demographic change, land development patterns, and transportation. The series is an essential tool for those seriously interested in understanding travel behavior and transportation planning issues.

The NHTS data is intended to address a number of issues in transportation, ranging in scope from the impacts of gas tax changes to trip generation rates needed to calibrate travel demand models. Along the way there are a number of issues that relate to how we, as a nation, are evolving - the changing roles of women and men within the family structure, the growth and increased mobility of the older driver population, the continued increase in vehicle ownership, and the continued decentralization of our metropolitan areas.

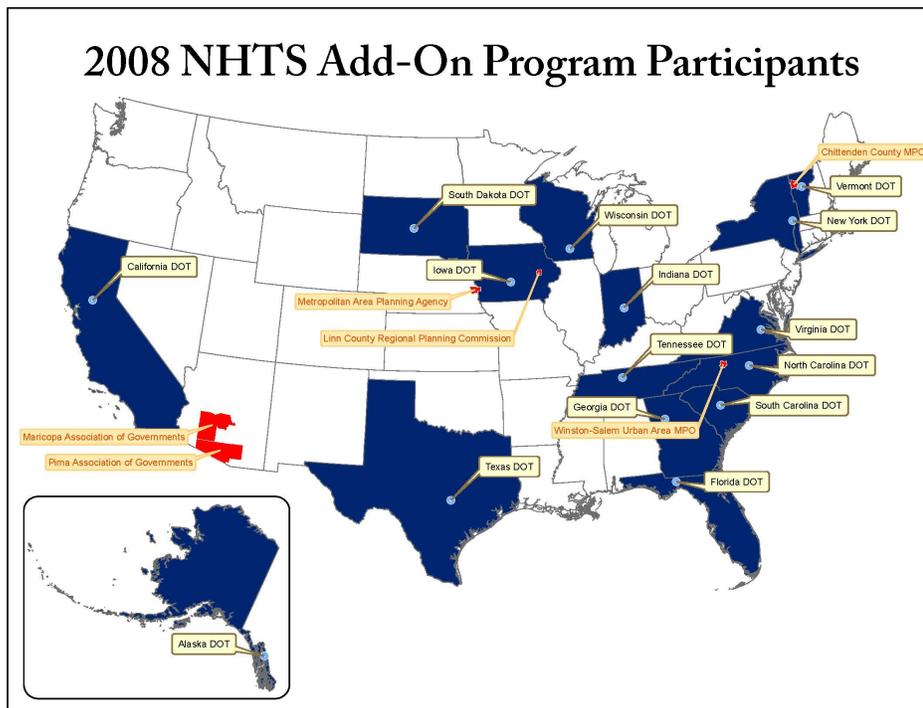
The need for sound, reliable data on the travel of the American public could not be greater. We are facing issues of the "working retirement" of the first wave of baby boomers, continued congestion on our nations streets and highways, unmet mobility needs of older Americans, greater flexibility in working arrangements, a crisis in teen driving safety. and a host of other concerns.

NEWS BRIEFS

o Upcoming Conferences of Interest:

- 13th Annual International HOV Conference to be held in Minneapolis, MN, September 8-9, 2008: <http://tti.tamu.edu/conferences/hov08/>
- 2008 Virginia GIS Conference in Roanoke, September 29-30th: <http://www.rvarc.org/vagis/>

The 1969, 1977, 1983, and 1990 survey efforts did not allow public agencies to Add-On to the national sample, but in the 1995 survey effort, this option was made available for the first time. This option became the NHTS Add-On program in 2001 and was greatly expanded with over 44,000 surveys conducted. For the current 2008 NHTS effort, the Add-On program has again significantly expanded with over 125,000 surveys planned in sixteen states.



About 15,000 total household surveys are planned statewide: 14,342 from the statewide Add-On and about 700 from the national NHTS sample. The Virginia effort focuses primarily on metropolitan planning organizations (MPOs) within Virginia, but will also do some rural sampling for statewide planning purposes. The survey data collected from this effort will provide planners across Virginia with a rich data source to support a variety of transportation planning applications. Data from this survey effort will be processed and geocoded in the summer/fall of 2009 and should be available for analysis by early 2010.

For more information about NHTS, please visit:

Official NHTS website: <http://nhts.ornl.gov/>

FHWA's NHTS website: <http://www.fhwa.dot.gov/policy/ohpi/nhts/index.htm>

NHTS FAQs website: <http://www.fhwa.dot.gov/policy/ohpi/nhts/nhtsspinfo.htm>

University NHTS Survey Effort Begins

To supplement the ongoing statewide National Household Travel Survey (NHTS) Add-On effort, the Virginia Department of Transportation (VDOT) is partnering with universities to conduct a supplemental NHTS survey effort for their university student populations to better understand university student travel behavior. These four universities are listed below:

was dismayed to find that he had to buy his first car. Longing for the freedom of being chauffeured around town on effective public transportation, he became involved in transportation issues and started volunteering on citizen committees for the local transit agency and MPO. During his time on these citizen committees, he progressively became more interested in transportation issues and policy and eventually decided to pursue a career in transportation planning. In 2001, Jeremy enrolled at the University of North Carolina and earned his master's degree in city and regional planning.

After graduation, Jeremy took a position with the Durham, NC MPO doing travel demand modeling, along with a variety of transportation planning duties. Jeremy's computer programming and database background equipped him well for travel demand modeling. At the Durham MPO, Jeremy performed a variety of travel demand modeling analyses to support the MPO process for both the Durham and Raleigh MPOs, and he performed the modeling work required for the air quality conformity process for the entire Triangle area of Raleigh/Durham/Chapel Hill.

Jeremy joined the Virginia Department of Transportation (VDOT) Central Office's travel demand modeling group in 2006 as a senior modeling analyst and works on a number of modeling projects across the state, notably in Fredericksburg, Richmond/Tri-Cities, and Hampton Roads areas. He is leading a number of important projects including the development of HOT lane capability for the Fredericksburg model and development of a truck model for Hampton Roads. Jeremy earned his AICP in 2006 and recently received a Professional Engineer license (P.E.). Jeremy is also involved with TRB and has written several papers including one titled: "Alternative Strategies for Future Year Trip Table Distributions," that he will give at a TRB conference in September.

Jeremy's hobbies include bicycling, gardening, reading, and languages. Jeremy is fluent in French and also knows German and some Russian, Chinese, and Spanish. Jeremy attends the Richmond Friends Meeting, and he recently joined the board of directors for the Richmond Peace Education Center which provides non-violence training and advocates for peaceful resolution of conflicts. Jeremy and his wife Sally Norton, a public health researcher at VCU, have a resilient fourteen year old pet parakeet named Isaac, and live in Richmond's West End.

NEWS BRIEFS (continued)

- TRB 88th Annual Meeting in Washington, D.C., January 11–15, 2009: <http://www.trb.org/meeting/2009/default.asp>
- The 12th TRB Applications Conference has been moved from Atlanta, GA to Houston, TX. Now Scheduled for May 17-21, 2009: <http://www.trb-appcon.org/>

1. Old Dominion University (ODU)
2. University of Virginia (UVA)
3. Virginia Commonwealth University (VCU)
4. Virginia Tech (VT)

VDOT is doing this because the statewide NHTS effort is expected to significantly under represent university student travel for two reasons. First, the survey will primarily use landline telephone numbers to recruit participants which many university students do not have. Second, NHTS traditionally has a low response rate for university aged students who are successfully contacted relative to the general population.

The data from this survey effort will be used to complement the statewide NHTS effort and enhance both statewide and metropolitan planning efforts including using the data to develop new university student trip purposes for travel demand models statewide.

The planning and design of the survey effort is currently underway and a pretest is planned for each of the four universities this fall and full implementation is planned for Spring of 2009. The post processing and analysis of survey data will take place during the Spring/Summer of 2009 with final results expected by Fall of 2009. Please look for future updates on this survey effort in the next edition of VTM Connection.

Update on 2010 Transportation Analysis Zone Definition Process

The process for defining new Transportation Analysis Zones (TAZs) based on 2010 Census Geography will be kicking off in early 2009 and continuing for about four months. These new TAZs will be used for the next Census Transportation Planning Products (CTPP) effort. This TAZ definition process is called 2010 TAZ-Up and is a continuation of the program started by FHWA in the late 1990's for the 2000 TAZ definition process. The Virginia Department of Transportation (VDOT) will be coordinating the statewide TAZ-Up effort and working with Virginia Planning District Commissions (PDCs) and Metropolitan Planning Organizations (MPOs) to define TAZs for both rural and metropolitan areas with the goal of creating consistent TAZ coverage for the entire state of Virginia for the first time. For the 2000 TAZ-Up process, TAZs were only defined for MPO areas. Defining TAZs for the entire state will enable transportation planners to use future Census Transportation Planning Products (CTPP) data to perform statewide analysis and also will provide a valuable source of data for the Virginia Statewide Model (VSM).

The federal criteria and guidelines for TAZ definition are expected to be released by late fall of 2008. VDOT will share this information with PDCs and MPOs when it becomes available and plans to give a presentation on this topic at the Virginia GIS conference in September and have a statewide kickoff meeting for this process in early 2009. Look for updates on the 2010 TAZ-Up process in the next edition of VTM Connection.

Highlights of Virginia Travel Demand Modeling Activities

No.	District/MPO Area	Contact(s)	Current/Recent News
1	Hampton Roads	Jeremy Raw Andy Pickard	Model is undergoing extensive improvement, including a truck component, toll and HOV modeling improvements, and mode choice enhancements. Model is being used for a study of the Elizabeth River crossings. New model is being developed for City of Franklin.
2	Harrisonburg	Paul Agnello	CUBE Catalog model being updated to be consistent with VTM guidelines.
3	Richmond/Tri-Cities	Jeremy Raw	Model was used for CLRP and TIP air quality conformity analysis.
4	Fredericksburg	Paul Agnello	New Version 2.1 model with HOT lane capability being developed.
5	Roanoke	Paul Agnello	CUBE Catalog model being updated to be consistent with VTM guidelines.
6	Charlottesville	Juyin Chen Paul Agnello	Conducted staff training for TJPDC on newly developed travel demand model.
7	Danville	Jaesup Lee	New CUBE Catalog model being developed.
8	Winchester	Juyin Chen Paul Agnello	Model is being used for Rte 37 Bypass Study. Model improvement is close to being completed.