Welcome to the first newsletter of the Center for Transportation and Urban Planning – Connecticut’s University Transportation Center. The Center for Transportation and Urban Planning (CTUP) is in its first full year of operations following the approval of our strategic plan last fall. The theme for our center is “Transportation for Smart Growth,” and in relatively short order CTUP has established a reputation as an important resource for the state of Connecticut as it grapples with the issue of smart growth. The Center has been working on a diverse portfolio of activities including the new research program starting this summer. We have also began some innovative educational activities with the development of our new laboratory on ITS for Transit. CTUP faculty and staff are also working directly with policy makers at the local, state, national and international levels in crafting strategies for smart growth development.

This spring the Center joined with community groups in Hartford and New Haven to organize a series of forums addressing issues of placemaking and transportation planning. The particulars are different in each city, but the overall goal is to ensure that transportation planning is done in such a way that it supports the nascent urban renewal that is slowly taking hold in the respective downtowns. In April, the Center sponsored a visit by John Norquist, former Mayor of Milwaukee and world-renowned advocate for transportation planning that advances urban vitality. During his visit, Mr. Norquist met with
the Mayor of each city and statewide policy makers; he also gave public lectures in both cities.

Also this spring, the Center will distribute its first awards for research. The call for proposals attracted attention university wide, with 19 pre-proposals submitted. This number was later whittled down to 9 full proposals from multidisciplinary teams of researchers, including faculty from transportation engineering, environmental engineering, geography, landscape architecture, economics, education, business, fine arts, natural resources and agriculture.

The backdrop for the work at CTUP is the fact that over the last 60 years, vehicle miles traveled in the USA have increased almost 13 times – much faster than the rate of population growth, which has merely doubled. This rate of motorization is one reason why today, transportation accounts for 30% of USA carbon production. This continued trajectory of increased motorization also means that transportation is one of the few sectors of the economy where carbon production is still growing rapidly. Finding ways to provide people with options to meet their need for access is a core strategy for addressing carbon production and the climate change challenge. The work at CTUP is at the forefront of this effort, directly focused on finding and promoting ways to reduce motorize travel by facilitating walking, biking and transit. We look forward to working with you as the Center develops its multifaceted programs.

Center for Transportation and Urban Planning

The U.S. Department of Transportation supports a network of University Transportation Centers throughout the nation to advance technology and expertise in transportation through combined efforts of research, education, and technology transfer. Within the federal SAFETEA-LU legislation, the Center for Transportation and Urban Planning (CTUP) was designated the University of Connecticut’s University Transportation Center.

The theme of the Center for Transportation and Urban Planning is Transportation for Smart Growth, which directly includes walking, bicycling, transit and automobiles as modes of transportation. Within this theme, research, education, technology transfer and workforce development initiatives focus on the following target areas:

- Document, evaluate and disseminate transportation and land use policies that support the goals for smart growth
- Evaluate the impact of various transportation and land use systems on economic, environmental and societal sustainability
- Develop operating protocols and designs that maximize the efficiency, convenience and competitiveness of green modes of transportation

The theme provides common foci for the Center’s activities:

- Research Grant Program
- Sustainable Transportation Index
- Multidisciplinary Undergraduate Fellowships
- Transportation Lab
- Seminar Series in Transportation and Urban Planning
- Professional Development Courses and Workshops

CONTACT US

Director
Norman W. Garrick, Ph.D.
Department of Civil & Environmental Engineering
University of Connecticut
261 Glenbrook Road Unit 2037
Storrs, CT 06269-2037
Phone: 860-486-2990
Fax: 860-486-2298
Email: Norman.Garrick@uconn.edu
www.engr.uconn.edu/~garrick/

Program Coordinator
Stephanie G. Merrall
Connecticut Transportation Institute
University of Connecticut
179 Middle Turnpike Unit 5205
Storrs, CT 06269-5202
Phone: 860-486-6446
Fax: 860-486-2399
Email: Stephanie.Merrall@uconn.edu

Visit our web site at
http://www.ctup.uconn.edu/
In support of the goals and theme of CTUP, the UConn Transportation Laboratory will be working to develop state-of-the-art capabilities in Traffic Simulation and Intelligent Transportation Systems (ITS) for Public Transportation. In conjunction with these capabilities, the transportation laboratory will serve as a technology resource for CTUP researchers and UConn students; providing access to transportation engineering and planning software packages via fourteen high-performance workstations.

**Computational Power**
The traffic simulation component will strongly support the goals of CTUP in evaluating transportation and land use policy impacts. Developing strong simulation capability will provide an excellent tool to compare and contrast operational impacts, emission impacts, and network performance of transportation system configurations. Experience in research activities and instruction in the classroom will provide students a useful tool for their careers. These facilities will allow students and researchers access to computational power and performance with transportation technology far beyond what is currently available to most.

**Innovative Technology**
Two key components of a successful public transportation system are quality and reliability or, perhaps more accurately, the perception of quality and reliability. This is not to say that one can offer a shoddy system and simply gloss over the deficiency with technology. This statement addresses the fact that people tend to choose transportation modes they perceive as premium services if given the option. A transit system must offer a safe and quality experience; the additional burden today is achieving this perception of quality in a mode that has traditionally been thought of as the means of conveyance for the poor or those unable to drive a personal automobile.

Cultivating these positive perceptions will help secure a ridership base. Offering something viewed as a “premium” product will attract new riders. Attracting new riders to a transit system will in the long-term help achieve several goals: reducing congestion, reducing emissions, and promoting smart growth patterns. The CTUP transportation laboratory at UConn, through developing public transportation ITS capability, will be in a unique position to study the impact of reliable information and ITS technology on the perception of public transportation, the associated ridership impact on a public transportation system, and the operations of such a system.

The initial project in support of this goal is the development of a web-based, real-time transit vehicle location tool. This tool will provide travelers near real-time location of transit vehicles and reliable estimates of arrival times at transit stops. This sort of information may improve the perception provided that it is reliable and delivered in a desirable manner. An improved perception may translate to higher ridership.

There are models of such ITS-enabled public transportation systems around the globe, but no systems in such a unique position as what now exists at UConn. We have a new, mixed-use development to be constructed in the near term (Storrs Center), there are small, but established transit systems in the region (UConn and CTrail), we are in a growing community that will need to develop in a sustainable fashion, and there is a dense concentration of potential riders at the university. This unique combination will provide many opportunities for study and will enable UConn to become a recognized leader in public transportation ITS.

For more information, please contact Dr. Lownes (nlownes@engr.uconn.edu)
Spotlight on Faculty

Carol Atkinson-Palombo, Ph.D.

Carol Atkinson-Palombo joined UConn’s Department of Geography as an Assistant Professor in Fall 2007. She spent over a decade working in the global financial markets in New York and London for American, Dutch, and Spanish investment banks. As a Strategist for Latin American bond markets, she worked with teams of economists and political scientists to track events around the globe and evaluate their effect on the perception of investment risk for Latin American countries. First-hand experience of the limitations of free-market economic policies to foster growth in developing countries motivated her to study alternative approaches to development. Her abiding interest in how place-based factors shape the feasibility of public policies led naturally to Geography. Consideration of sustainable development and sustainability required that she supplement her training in mathematics, economics, political economy and finance gained from NYU’s Economics Department and the Stern School of Business with an understanding of how those factors articulate with the environment. Dr. Atkinson-Palombo was therefore trained as an integrative scholar, funded by the National Science Foundation’s IGERT program, and has PhD minors in Planning and Ecology in addition to her PhD in Geography.

For her PhD dissertation she examined the effects of the forthcoming Light Rail Transit system in the metropolitan Phoenix area on house prices, the density of housing, and the type and location of new construction in the transportation corridor. Her overarching interest is in understanding how trade-offs are made by policy makers between the impacts of individual public policies on equity, economics, and the environment. A first step to evaluating these trade-offs is to quantify what those impacts are. Her research therefore focuses on using GIS-based spatial analysis to quantify the impacts of public policies to promote smart growth, sustainable cities, and sustainable development. She was recently awarded a Large Grant by the University of Connecticut to extend her dissertation to Denver, Colorado and Charlotte, North Carolina, two other rapidly growing cities that are using Light Rail Transit as the centerpiece for urban revitalization and densification of their downtowns.

Dr. Atkinson-Palombo’s research goal as is to engage in collaborative research with teams of scholars from a wide range of disciplines and policy makers to inform on issues that are highly relevant to society. In addition to her ongoing work on the impacts of Light Rail Transit, she is also engaged in research to quantify the spatial and temporal patterns of air pollution caused by vehicle emissions and urbanization with a team of climatologists; a study of the impact of vehicle emissions on children’s asthma with professors specializing in epidemiology and social justice; and research with a multi-disciplinary team on household attitudes towards housing density, urban sprawl and public transportation in metropolitan Phoenix, Arizona. Consistent with her goal to conduct “boundary research” that extends beyond the academy, Dr. Atkinson-Palombo is also actively engaged with the Geographic Alliance, an organization that trains K-12 teachers, and several not-for-profit agencies seeking to promote grassroots development in Africa and Latin America.

(carol.atkinson-palombo@uconn.edu)

Nicholas E. Lownes, Ph.D.

Nicholas Lownes joined the Transportation Engineering faculty in the Department of Civil and Environmental Engineering at the University of Connecticut (UConn) in August of 2007. He completed his graduate work at the University of Texas at Austin and his undergraduate work at Iowa State University. He brings expertise in traffic engineering, public transportation systems and traffic micro-simulation. His investigations into traffic simulation driver behavior and public transit optimization have generated publications in several journals, reports and conference proceedings. He was awarded the Outstanding PhD Student of the Year in 2007 by the Southwest Region University Transportation Center, the Eno Transportation Fellowship in 2006 and the Eisenhower Transportation Fellowship in 2005 along with several other awards and fellowships.

Dr. Lownes’ research interests and current work encompass both traditional traffic engineering and new, innovative approaches to transportation system management and design. His continued work on traffic microsimulation driver behavior extends previous work by identifying operational-level interaction in simulation output due to driver behavior. A new collaborative effort seeks to develop a tool that will allow traffic microsimulation to communicate with advanced numerical weather models. This tool will be used to estimate operational impacts of weather events on traffic with a far greater degree of accuracy; further, it will allow estimation of the impacts of...
climate change on the operations of our transportation system on a regional and national level.

His work in public transportation systems covers a broad range of interests, but is focused on the goal of giving public transit design and operation the quantitative rigor that is needed and deserved. Public transit must be designed not as a servant to highway networks, but as a crucial component of an overall transportation system. His continued efforts in exact and heuristic algorithmic development for transit route design will extend previous work with circulator systems to dial-a-ride service, deviated fixed route systems and other innovative transit routing strategies. Other projects seek to develop a transit availability index that is demand sensitive incorporating the O-D coverage of a transit system. Another collaborative work will quantify the value of public transit access to all classes of users and non-users using econometric modeling techniques and choice experiments. This collection of projects will improve understanding of the types and magnitude of benefit that public transit access can provide citizens, improve the measurement of this coverage, and finally utilize these measurements to optimize the design configuration of these systems.

Dr. Lownes has been affiliated with CTUP since his arrival at UConn, working to develop the CTUP Transportation Laboratory. The lab will offer students and researchers access to state of the art transportation software and computing facilities, and will serve as a center for public transportation ITS research and development. He is also involved in the CTUP research program as PI and Co-PI of several proposed studies.

Jackson Named CTUP’s Student of the Year

The Center for Transportation and Urban Planning has recognized Eric Jackson as CTUP’s first University Transportation Center (UTC) Student of the Year.

The annual award, sponsored by the U.S. Department of Transportation, is bestowed to an outstanding student in a transportation-related field for achievements and promise for future contributions to transportation technology.

Jackson, who successfully defended his Ph.D. in December, joined fellow Students of the Year from other UTC’s across the country who were honored at an awards ceremony during TRB week in January.

After graduating from the University of Connecticut with his M.S. in Civil Engineering in 2005, Jackson continued to pursue his PhD at UConn where the majority of his research focused on collecting and modeling on-board real-world vehicle emissions. He presented his work at TRB each of his final four years and three of his papers were published in the Transportation Research Record. He was also involved in resurrecting the UConn Chapter of the Institute of Transportation Engineers. The chapter’s ambitious first project was to develop a bicycle master plan for the Storrs campus. Over 2000 surveys were collected, and recommendations to improve ridership and safety that were presented and accepted by the university planning committee will be incorporated into the campus design.

Dr. Jackson is currently employed by the Connecticut Transportation Institute where he continues to conduct research and community outreach.

Marshall Garners Eisenhower Transportation Fellowship

Transportation engineering doctoral candidate and CTUP affiliated researcher, Wesley Marshall, was awarded a nationally competitive 2007 Eisenhower Graduate Transportation Fellowship by the National Highway Institute (NHI).

Marshall received the award for his proposed research involving community design, road safety, and transportation sustainability.

The two-year fellowship conferred $61,500 in funding and a stipend that allowed Marshall to attend the 2008 Transportation Research Board Annual Meeting, where he presented his proposed research and an overview of previously conducted research involving the benefits of on-street parking to urban development.

The Dwight David Eisenhower Transportation Fellowship Program (DDETFP) was initiated in 1991 and is administered by NHI for the U.S. Department of Transportation. Graduate Transportation Fellowships, one of six award categories, are bestowed to top students nationwide enabling them to pursue masters and doctoral degrees in transportation-related disciplines at universities of their choice.
This spring, the Center for Transportation and Urban Planning was pleased to sponsor the first Interdisciplinary Graduate Seminar Series with the University of Connecticut’s Civil & Environmental Engineering and Geography departments. We offer our sincere thanks to the distinguished authorities whose engaging and thought-provoking guest lectures contributed in great measure to the series’ success:

- **Harvey Miller**, University of Utah  
  *GIS Tools for Measuring Individual Accessibility in Real and Virtual Spaces*, February 29

- **Zachary Schrag**, George Mason University  
  *Thinking Big: Lessons from the Washington Metro*, March 7

- **William Anderson**, Boston University  
  *Highway Corridors as Development Axes*, March 21

- **Sam Zimmerman-Bergman**, Reconnecting America  
  *Transit-Oriented Development and Development-Oriented Transit*, March 24

- **Samuel Ratick**, Clark University  
  *An Interperiod Network Storage Location Allocation (INSLA) Model for the Distribution of Ethanol Biofuels*, April 11

- **P. Christopher Zegras**, Massachusetts Institute of Technology  
  *ASIF Kyoto Mattered: Transportation and the Clean Development Mechanism*, April 25

Information on the fall series will be available soon. Please check for details on our web site at www.ctup.uconn.edu