Center for Transportation and Urban Planning

Annual Report for Year I
2007-2008

for the

University of Connecticut

University Transportation Center (UTC)
We are pleased to present the first annual report of the Center for Transportation and Urban Planning – Connecticut’s University Transportation Center. The Center for Transportation and Urban Planning (CTUP) at the University of Connecticut has completed its first full year of operations following the approval of our strategic plan in October 2007. 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 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.

During our first year, the Center has worked on a diverse portfolio of activities including the new research program that started this summer. CTUP faculty and staff have also worked directly with policy makers at the local, state, national and international levels in crafting strategies for smart growth development. One particular activity of note was a seminar featuring former Milwaukee Mayor and President of the Congress for the New Urbanism which we sponsored and presented in conjunction with community groups in both Hartford and New Haven.

In the upcoming year, we look forward to develop professional development seminar series working in conjunction with the Connecticut Transportation Institute’s Technology Transfer Program. The pilot seminar for this series addresses the topic of ‘Green Design and Urbanism’ and is slated to take place in spring 2009. This fall we completed the outfitting of our transit technology lab and will offer our first class in this lab in spring 2009. Finally, in summer 2009 we will launch the baseline database of ‘sustainable transportation measures’ which will be the foundation for developing our ‘sustainability index’ for comparing how well the individual states are doing from the perspective of sustainable transportation planning.

**Center Theme**

The theme of the Center for Transportation and Urban Planning is **Transportation for Smart Growth.** The theme, which directly includes the modes of walking, bicycling, transit and automobile transportation, represents the intersection of expertise of university faculty, critical needs within the State of Connecticut and the strategic goals of the Research and Innovative Technologies Administration (RITA) and the USDOT. It also provides common foci for the following core activities of the Center:

1. Competitive research grant program
2. Undergraduate multidisciplinary fellowships and internships
3. Development of a transportation lab
4. Seminar series in transportation and urban planning
5. Professional development courses and workshops

Together these activities allow the CTUP to advance research and promote transportation education, technology transfer and workforce development initiatives.

Management Structure and Principal Center Staff

The Center for Transportation and Urban Planning operates as an independent unit within the university but as a strategic partner to the Connecticut Transportation Institute (CTI). The CTUP and CTI work collaboratively on program activities in areas of overlapping interest for the two organizations.

The Center Director is Norman W. Garrick. Dr. Garrick is responsible for implementing the Center’s Strategic Plan, ensuring compliance with UTC program requirements, and representing the CTUP at internal and external meetings.

Dr. Garrick is assisted in direction and oversight of funds, personnel, and programs by a primary administrative staff from the Connecticut Transportation Institute. The Center’s day-to-day operations and activities are implemented by Program Coordinator, Stephanie Merrall, Financial Assistant, Lori Judd, and Program Assistant, Vivian Castelli.

Affiliated Faculty

The Center’s diverse group of internal and external faculty embodies a wealth of expertise in a broad range of fields.

The Center’s internal core faculty members include:

- Norman W. Garrick, Associate Professor, Civil and Environmental Engineering

- Carol Atkinson-Palombo, Assistant Professor, Geography
  Areas of Expertise: Smart Growth, Sustainable Cities, Spatial Analysis, Geographic Information Systems, Light Rail Transit, TOD

- John N. Ivan, Associate Professor, Civil and Environmental Engineering
  Areas of Expertise: Statistical Modeling of Transportation Systems, Highway Crash Prediction; Traffic Flow Characteristics and Safety, Highway Safety and Land Use

- Nicholas E. Lownes, Assistant Professor, Civil and Environmental Engineering
  Areas of Expertise: Transit Network Modeling and Optimization, Traffic Microsimulation and Driver Behavior, Traffic Engineering and Operations, Public Transportation Systems

External faculty affiliated with the Center’s research activities include:
• Amvrossios Bagtzoglou, Associate Professor, Civil and Environmental Engineering
• Joseph Bushey, Assistant Professor, Civil and Environmental Engineering
• Maria Chrysochoou, Assistant Professor, Civil and Environmental Engineering
• John Clapp, Professor, Finance/Center for Real Estate
• Robert Cromley, Professor, Geography
• Dimo Dimov, Assistant Professor, Management
• Robert Johnston, Professor, Economics, Clark University
• Peter Miniutti, Associate Professor, Landscape Architecture, Plant Science
• Kathleen Segerson, Professor, Economics
• Edvin Yegir, Associate Professor, Art and Art History

Research Advisory Panel

An advisory panel, comprising leading representatives from national and statewide groups, supports the Center by evaluating and selecting research projects to be funded. Members include:

• Emil Frankel, Director of Transportation Policy, Bipartisan Policy Center
• Toni Gold, Senior Associate, Project for Public Spaces
• David Kooris, Connecticut Office Director, Regional Plan Association
• Daniel Morley, Policy Development Coordinator, Connecticut Office of Policy and Management
• Frederick Riese, Senior Environmental Analyst, Connecticut Department of Environmental Protection
• Michael Sanders, Transit Administrator, Connecticut Department of Transportation
• Peter Simmons, Office of Responsible Development Director, Connecticut Department of Economic and Community Development
• Philip Smith, Under Secretary, Connecticut Office of Policy and Management
• P. Christopher Zegras, Urban Planning and Transportation Assistant Professor, Massachusetts Institute of Technology
YEAR I ACCOMPLISHMENTS

The Center for Transportation and Urban Planning’s principal programs stress interdisciplinary collaboration and are designed to attract talented students and faculty from a variety of fields within the university to use their skills and training to tackle transportation problems. Our past year’s accomplishments in the areas of Research, Education and Technology Transfer reflect that effort.

RESEARCH

Last fall, the CTUP launched its research program that focuses on the following target areas within the Smart Growth for Transportation theme:

- 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 process began with a research forum designed to introduce the CTUP to potential researchers. One of the goals of the forum was to encourage researchers doing complimentary work in different disciplines to submit joint project proposals. The call for proposals attracted
university-wide attention, 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 CTUP Research Advisory Panel convened for a one-day meeting to select the final projects to be funded based on the following criteria:

1. Does the project involve both undergraduate and graduate students in research?
2. Does the project encourage cross-disciplinary and multi-school collaboration?
3. Is the project truly relevant to the CTUP theme?
4. Is the project relevant to broad, national strategic planning goals of the US Department of Transportation for research and development, including the UTC program?
5. Does the project have the potential to make fundamental research, education and policy contributions, as well as offer technology transfer and community outreach?
6. Is the project feasible within the time frame presented?

This summer, the Center distributed its first awards for four new projects that began in August:

- **Assessing the Impact of Light Rail Transit on Land Values and Tax Revenues**
  Research Team: Carol Atkinson-Palombo, John Clapp, Nicholas Lownes, Robert Cromley

- **Green Modes of Transportation for Connecticut’s Mixed Use Developments**
  Research Team: Peter Miniutti, Edvin Yegir, Dimo Dimov

- **Reversing Urban Sprawl: A Reclaimability Index Approach for Reviving Downtown Brownfields**
  Research Team: Maria Chrysochoou, Amvrossios Bagtzoglou, Kathleen Segerson, Norman Garrick

- **A Public Transit Design for Smart Growth: Using Choice Experiments to Quantify Tradeoffs, Values and Funding Implications**
  Research Team: Nicholas Lownes, Robert Johnston, Norman Garrick

**EDUCATION**

**Interdisciplinary Graduate Seminar Series**

In conjunction with the departments of Civil and Environmental Engineering and Geography, the CTUP presented the first of a continuing series of educational seminars in spring 2008. Experts from across the nation presented the following topics designed to reinforce the smart growth in transportation theme:

- **GIS Tools for Measuring Individual Accessibility in Real and Virtual Spaces**
  Harvey Miller, University of Utah
• Thinking Big: Lessons from the Washington Metro
   Zachary Schrag, George Mason University

• Highway Corridors as Development Axes
   William Anderson, Boston University

• Transit-Oriented Development and Development-Oriented Transit
   Sam Zimmerman-Bergman, Reconnecting America

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

• ASIF Kyoto Mattered: Transportation and the Clean Development Mechanism
   P. Christopher Zegras, Massachusetts Institute of Technology

Outstanding Students

Two outstanding graduate students were recognized for their contributions to research and community outreach.

• Eric Jackson, currently a Research Associate with the Connecticut Transportation Institute, was named the CTUP 2007 UTC Outstanding Student of the Year while finishing his transportation engineering doctorate. The majority of Jackson’s 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 actively involved in the development of a campus bicycle master plan with the student chapter of the Institute of Transportation Engineers. The chapter’s recommendations to improve ridership and safety were accepted by the university planning committee and will be incorporated into future campus design.

• Wesley Marshall, a transportation engineering doctoral candidate and CTUP affiliated researcher, was awarded a nationally competitive 2007 Eisenhower Graduate Transportation Fellowship by the National Highway Institute. Marshall received the award for his proposed research involving community design, road safety, and transportation sustainability. The two-year fellowship 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.

Transportation Lab

Initial work was completed on a new transportation laboratory designed to support research and teaching in the theme area of the CTUP. The focus of the Transportation Laboratory is 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 serves as a technology resource for researchers and students by providing access to transportation engineering and planning software packages via fourteen high-performance workstations.

TECHNOLOGY TRANSFER/PUBLIC OUTREACH

Community Forums

In 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 were different in each city, but the overall goal was 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.

Public Information and Outreach

- The CTUP web site was launched.  
  http://www.ctup.uconn.edu/
- The Center’s semiannual newsletter, CTUP Footprint, premiered.  
- Several presentations and media pieces were produced by Norman Garrick on issues relating to the Center’s theme of smart growth and transportation.

Invited Talks

~ “New Urbanism and Shared Space,” Congress of the New Urbanism, April 2008, Austin, TX
~ “Freeways and the Fate of Cities,” Hub of Hartford Seminar, April, 2008, Hartford, CT
~ “Shared Spaces in the Netherlands and the UK,” ITE Annual Meeting, August 2007, Pittsburgh, PA
~ “The New Profession of Street Designer,” ITE - Division 1 Annual Meeting, April 2007, Providence, RI
~ “Implementing Sustainable Transportation,” MIT - Guess Lecturer in Land Use Planning Class, April 2007, Cambridge, MA
~ “Creating Great Streets,” ITE - Connecticut Chapter, March 2007, Manchester, CT
~ “Planning for Sustainable Transportation in New England,” Solarclarity Forum, March 2007, Chester, CT
~ “Context-Sensitive Solutions: Their Impact on Local Neighborhoods,” Purdue Road School, March 2007, West Lafayette, IN
~ “Street Design, Transportation Planning and Community Livability,” Livable Cities Series, March 2007, Bloomington, IN
~ “What is Transportation For?,” Indiana Planning Association, March 2007, Indianapolis, IN

Press Articles

~ “Poor Road Development Practices Drive Congestion,” Jamaica Gleaner, March 11, 2008
~ “Faculty Discuss Climate Change,” The Daily Campus, February 1, 2008
~ “Congestion Grows, Even If State Doesn’t,” Connecticut Post, September 18, 2007

8
FINANCIALS

Funding Sources

- University: 50%
- Federal: 50%

Expenditures

- Research: 65%
- Administration: 25%
- Education: 7%
- Technology Transfer: 3%
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. The Center for Transportation and Urban Planning began operations following enactment of the federal SAFETEA-LU legislation designating a University Transportation Center at the University of Connecticut.

CONTACT

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