A Strategic Plan for Brownfield Redevelopment in Connecticut

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There are approximately 300 brownfields in the two databases that are maintained by the Connecticut Department of Environmental Protection (CTDEP) and the Connecticut Brownfields Redevelopment Authority (CBRA). It is estimated that this number grossly underestimates the true number of abandoned and underutilized sites with potential contamination (a.k.a. brownfields); even though no official estimation exists, the non-for-profit organization 1000 Friends of CT speaks of “thousands of sites across the states” in their blog (6/2/2009 entry).

In April 2009, the state Task Force on Brownfields Strategies released their third report, re-iterating the need for more funding and for improved policies. The report cited the connection of brownfield redevelopment with the goals of creating green corridors, transit-oriented development and responsible growth as a major incentive to promote project initiatives and funding.

A CTUP research team, led by Dr. Maria Chrysochoou, interviewed a variety of stakeholders involved in brownfield redevelopment at the state level, including representatives from the Department of Economic and Community Development (DECD), from CBRA, from town authorities (Meriden, New Haven), the Regional Growth Partnership and the Regional Brownfields Partnership of West Central CT and we found all of them share the sentiment that funding is the
No. 1 obstacle, followed by often rigid regulations on liability and remediation.

A step forward was taken in the summer of 2009 with new legislation that targeted to limit liability and ease regulatory requirements for redevelopment. However, the funding issue remains and is not likely to resolve itself in these tough economic times.

The research team’s review of the allocation of the available funds showed that, although smart growth principles are being considered, there is no overall strategic plan that aims at catalyzing urban renewal. Even though there are highly successful projects, e.g., the Occum Park redevelopment in Norwich, which led to an overall neighborhood revitalization, it appears that both towns and the state approach brownfield redevelopment on a case-by-case basis.

Balancing practical considerations such as availability of funding, liability, public perception, and job and tax creation with longer term planning aspects tends to shift the focus into implementing immediate solutions to pressing problems. Shifting from the reactive mode to more pro-active paradigm of deliberate investing of funds to blighted areas will take both a significant funding commitment from the state, as well as the development of a strategy.

The focus of the CTUP-funded project is to develop a tool that will aid the development of a strategic plan for brownfield redevelopment both at the town and at the state level. Geographic Information Systems (G.I.S.) have long been used to visualize spatially dependent parameters and are particularly suited to provide an overview of spatial associations for complex problems with a multitude of parameters.

The G.I.S. under development to support brownfield redevelopment will include maps of three types of parameters related to brownfields: a) smart-growth related, such as proximity to public transit, population density and availability of public amenities; b) environmental, such as proximity of brownfield to public water supplies, parks and risk of contamination; and c) socioeconomic, such as income, poverty levels and business activity in the vicinity of the brownfields. Brownfields will be projected against maps such as “areas with smart growth potential” and “areas with high economic need”, with information on the environmental risk attached to each brownfield location.

The goal of developing this G.I.S. is to offer Connecticut stakeholders a tool to develop strategic thinking about brownfield redevelopment efforts across the state.

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Study Links Decades of Urban Policy to Rising Automobile Use

In January, CTUP researchers attended the Transportation Research Board’s annual meeting in Washington, DC, to present findings that revealed how long-term policies have influenced travel behavior in two New England cities. The study, by PhD student Christopher McCahill and Dr. Norman Garrick, examines trends in Hartford, CT, and Cambridge, MA, since 1960 to understand the relationship between policies, the built environment, and automobile use.

The two cities in this study showed divergent trends in automobile use over the past fifty years. In Hartford, as in most American cities, automobile use has increased significantly since 1960. Cambridge represents just a handful of American cities in which automobile use has decreased. The hope is that cities like Cambridge provide lessons in developing efficient transportation systems that will be crucial for efforts to reduce harmful greenhouse gas emissions and prevent worsening climate change.

The researchers focused largely on parking provision in each city by mapping changes in the extent and configuration of parking for both. Their work emphasizes the dual roles played by parking facilities in effecting urban travel behavior: first, by creating an incentive to drive even when alternatives exist, and second, by creating a more sparse urban fabric that makes walking, cycling, and even transit use difficult.

What they found was that both cities had significant increases in parking. However, a 104 percent increase in parking in Cambridge was nearly matched by a 71 percent increase in jobs. In Hartford, parking increased by 169 percent even as jobs fell by 7 percent.

In the downtown of Hartford, specifically, the number of parking spaces increased from 15,000 in 1960 to 46,000 in 2000. Nearly half of those spaces are in large parking structures, as opposed to surface lots. Today, exclusive parking facilities cover about one-quarter of the land in the downtown. In the area of Harvard Square, in the vibrant core of Cambridge, there was virtually no increase in parking over the same time period.

The study links these increases in parking in Hartford, and the construction of highways through the center of the city, to an increase in automobile use of more than one-third. The data suggests that differences in automobile use between the two cities are due more to increases in walking and biking rates rather than increases in transit use. This indicates that the built urban environment has played at least as important a role as bus or subway service has in either city.

The research also revealed that policy-makers in Hartford acknowledged the undesirable consequences of their decisions even as these trends continued. Cambridge represents a case in which policy-makers took a conscious position against excess automobile use and pursued policies consistent with this objective – such as preventing highway construction and limiting parking supply. Resources in Cambridge were directed, instead, towards improving the pedestrian environment, providing bicycle facilities, and improving connections to transit.

The findings in this study illustrate the significance of urban policy in influencing travel behavior within a city. The study is currently being expanded to include eight to ten cities in order to gain a more comprehensive and definitive understanding of the role that transportation and land use policy plays in achieving greenhouse gas reduction goals.

Surface parking lots in Hartford are an incentive to drive and are detrimental to the pedestrian environment.
Impact of Freeway Removal

CTUP researchers Jason Billings and Dr. Norman Garrick, recently presented their research on the access and mobility impact of freeway removal at the Transportation Research Board in Washington, D.C.

In the beginning stages of this project, the team found ten examples of cities that removed freeways from their inner cores. The initial results from these case studies indicate that removal was largely successful in increasing accessibility and city vitality.

Many other cities throughout the world are now facing costly infrastructure challenges as freeways built during the 1950s and 1960s reach the end of their lifespan. There is strong support in many areas to tear down sections of these freeways similar to the action already taken by San Francisco, Milwaukee, Toronto and Seoul, South Korea. However, little is known about the underlying mechanisms that have caused these positive results. This project aims to explore these mechanisms to help guide these cities in their decision making process.

To showcase this project, the team presented examples of the three types of ways to remove a freeway: i) remove and replace with a surface boulevard, ii) relocate the freeway underground, and iii) close the freeway and use it for another purpose.

Throughout the presentation, several discussions ensued from students, faculty and professionals. These discussions revealed that there are at least five other locations that should be analyzed as potential case studies: i) Newcastle, England; ii) Birmingham, England; iii) Oslo, Norway; iv) Madrid, Spain; and, v) Hannover, Germany. The addition of these cities to the list of potential case studies will help paint a better picture of the successes of freeway removal throughout the world. From this comprehensive list, several cities will be chosen for more detailed analysis.

The team hopes to present the detailed analysis of these select cities at the 2011 TRB annual meeting.

UConn TRB Reception — An Opportunity to Learn and Share

In an effort to effectively promote UConn transportation research to a wider audience and attract new graduate students to the transportation program, the 2nd Annual UConn TRB reception was held at The Churchill Washington on January 11.

Attending this year’s reception were more than 80 friends and colleagues of UConn transportation in academia, industry and the public sector from across the globe. Fifteen UConn transportation graduate students attended the meeting, along with several recent graduates. The relaxed atmosphere was conducive to discussions of UConn transportation research and allowed faculty and students to showcase exciting new developments, network with prospective collaborators and employers, and speak with potential students.

The event was sponsored by a grant from the Graduate School, the School of Engineering, Civil Engineering Department, CTUP and corporate sponsors Fuss and O’Neill, Lochner and Beta Group, Inc.
CTUP Outstanding Students of the Year for 2009

CTUP Student of the Year — Craig Yannes

Craig received his Bachelors and Masters of Science in Civil Engineering (2007 and 2009) from the University of Connecticut. His thesis work designed a choice experiment survey instrument around econometric models to estimate the value the general public places in both placemaking and transit system characteristics. In 2007 and 2008 he received the New England University Transportation Center (NEUTC) fellowship for his graduate studies. In 2009, he joined Dewberry-Goodkind Inc. in New York City as a transportation engineer in the rail and transit division. His research interests include public transportation operations and planning.

Craig was selected as the Center for Transportation and Urban Planning Student of the Year by the CTUP selection panel because of his academic accomplishments, publication record as a master’s student (two archival publications and two refereed conference proceedings), his active leadership role in student organizations and in his research team, and his professionalism and work ethic. As a student, Craig played a vital leadership role among veteran and new students and contributed to the strength of the UConn transportation program.

In recognition of being named CTUP Student of the Year, Craig received a certificate of achievement and a $500 stipend for travel to the Transportation Research Board Annual Meeting where he attended the Council of University Transportation Centers (CUTC) awards banquet.

NEUTC USDOT Student of the Year, UConn Nominee — Wesley Marshall

Wesley completed his doctorate at the University of Connecticut in August of 2009. A native of Watertown, Massachusetts, Wes earned his master’s degree from the University of Connecticut in 2006 and is a 1998 graduate of the University of Virginia. While at UConn, Wes received the Dwight D. Eisenhower Transportation Fellowship as well as the Charley V. Wootan Award for Outstanding TRB Paper in the field of Policy and Organization. Wes specializes in transportation planning, safety, and sustainability as well as urban design, congestion pricing, and parking. His recent research has included defining and measuring the street network and an empirical study considering the role of street patterns, connectivity, and network density in road safety and sustainability. Related research has focused on analyzing parking at mixed-use centers in small New England cities, investigating the effects of parking on urbanism, a reassessment of on-street parking, and developing a child pedestrian safety curriculum for the Connecticut Transportation Institute. On the basis of time spent with Sasaki Associates and Clough, Harbour and Associates, Wes has been working on planning and site design issues related to civil and transportation engineering for more than the last ten years.

As UConn’s nominee for the New England University Transportation Center USDOT Outstanding Student of the Year, Wes received a certificate of achievement from CTUP, a $500 stipend for travel to the transportation conference of his choice, and the opportunity to be considered along with other consortium university nominees for the New England Center’s award.
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.

Visit our web site at http://www.ctup.uconn.edu/

Spring 2010 Graduate Transportation Seminar Series

Anne-Marie McDonnell, Connecticut Department of Transportation  
*FHWA-LTPP: Long-Term Pavement Performance Research in Connecticut*, February 8

Peter Miniutti, University of Connecticut  
*Green Modes of Transportation for Connecticut’s Mixed Use Developments*, February 15

Stephen Gazillo, Stuart Popper and Jenna Nichols, URS Corp.  
*Can Streetcars Help Connecticut’s Cities Meet Their Mobility, Economic and Environmental Challenges?*, February 22

Kweku Brown, Geeta Dahal and Catalina Granda Carvajal, University of Connecticut  
*Reversing Urban Sprawl: A Reclaimability Index Approach for Reviving Downtown Brownfields*, March 1

Rick Gustafson, Portland Streetcar, Inc.  
*Portland Streetcar – Development Oriented Transit*, March 18

Greg Raisman, Traffic Safety Specialists, Portland (OR) Bureau of Transportation  
*Bicycle Transportation in Portland: The Past, Present, and Future*, March 22

Branden Bergeron, University of Connecticut  
*Assessing the Potential of a Visual Assessment Survey for Predicting Speeds on Streets and Roadways*, March 29

Sha Al Mamun, University of Connecticut  
*A Composite Index of Public Transit Accessibility*, March 29

New England ITE Student Symposium, April 7

Brandon Cramer and Dr. Carol Atkinson Palombo, University of Connecticut  
*Geographic Perspectives on US Energy Policy*, April 21

Alison Conway, City College of New York  
*The Future of Highway User Charging for Commercial Vehicles*, April 26