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<p>Abstract</p> <p>This report documents the Region 2, University Transportation Research Center Technology Transfer program for the 2011/12 Fiscal Year. By promoting an immediate and ongoing exchange of ideas, regional outreach is provided in many forms including presentations at large and small scale technical briefings, participation in regional transportation projects and advisory boards, representation at major local and national transportation conferences, publication in technical journals, community assistance, seminars, working papers, newsletters, report dissemination, and continual regional contact. Annually, UTRC distributes a professional corporate style Report, and four Research Newsletters of UTRC research, education and technology transfer activities. The Technology Transfer program is supported by regional agencies, and literally reaches thousands of professionals, students and lay people. The Center provides technical assistance to local community groups, transportation agencies and consultants. Technical briefings are presented at agencies, upon request, and serve as a stimulus for further interaction between UTRC study teams and regional agencies. UTRC technical meetings have become places to interact and discuss regional issues in a constructive way not always possible in an office setting. The UTRC also sponsors a Visiting Scholars Seminar series (VSS). The University Transportation Research Center Region 2 maintains a Website at: http://www.utrc2.org, which contains a comprehensive overview of the center's objectives, purposes and functions for planning and management of regional transportation systems.</p>			
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EXECUTIVE SUMMARY

The Region 2, University Transportation Research Center has a broad based Technology Transfer program that is far-reaching and responsive to the needs of both practicing professionals and interested citizens. By promoting an immediate and ongoing exchange of ideas, regional outreach is provided in many forms. Regional outreach has included the following forms:

- Presentations at large and small scale technical briefings.
- Participation in regional transportation projects and advisory boards.
- Representation at major local and national transportation conferences.
- Publication in technical journals.
- Providing community assistance, newsletters, continual regional contact, working papers and report dissemination.
- Conducting seminars.

Annually, UTRC distributes a corporate style report and a Research Newsletter of UTRC that includes research, education, and technology transfer activities conducted by the Center and a comprehensive Directory that represents a growing base of public and private sector transportation professionals. In addition, the Center publishes and distributes research reports of the center's activities. The Technology Transfer program is supported by regional agencies, and literally reaches thousands of professionals, students and lay people. The Center provides technical assistance to local community groups, transportation agencies and consultants. Technical briefings are presented at agencies, upon request, and serve as a stimulus for further interaction between UTRC study teams and regional agencies.

UTRC technical meetings have become places to interact and discuss regional issues in a constructive way not always possible in an office setting. The UTRC also hosts with the cooperation of the New Jersey Department of Transportation, New York State Department of Transportation, New York Metropolitan Transportation Council, and the Rudin Center for Transportation Policy & Management at NYU, a Visiting Scholars Seminar series (VSS) and regional conferences. These seminars and conferences are facilitated by industry renowned speakers and focus on themes of international and national impacts of transportation investments, infrastructure and transit and transportation planning topics. The information shared at these events is an invaluable means of increasing awareness of new trends and practices in the industry. In addition, these events have been an extremely useful opportunity to network, not only among UTRC faculty, students, and agency professionals, but among clusters of regional professionals with similar interests.

The University Transportation Research Center Region 2 maintains a website at: <http://www.utrc2.org>, which contains a comprehensive overview of the Center's objectives, purposes and functions for planning and management of regional

transportation systems. The Center's website serves as an information tool for those transportation agencies that are interested in the Center's activities and as a bulletin board for students who are interested in pursuing transportation research studies toward advanced degrees. The website is a focal point for updated information presented in an accessible format, which is visually pleasing and logically navigable.

BACKGROUND

Accountability is one of the key characteristics of a robust research program as described in the National Cooperative Highway Research Program Synthesis 280, 7 Keys to Building a Robust Research Program. Accountability for research programs is a two way process, that being provision of leadership and support from management and that of excellence and effectiveness of the research program. To ensure the accountability of the research program investment, periodic assessment and evaluation of the program, its processes, structure, and implementation results, can provide opportunities for program improvement as well as build greater trust in current practices and program capabilities.

GOALS AND OBJECTIVES

The goal of UTRC's 2011-2012 Technology Transfer Program for the New Jersey Department of Transportation was to provide research results to potential users in a form that can be directly implemented, utilized and applied to transportation operations.

The objectives of the UTRC 2011-2012 Technology Transfer Program were:

- To increase the awareness and level of information concerning transportation issues facing Region 2 for all within the region.
- To improve the knowledge base and approach to problem solving of the region's transportation workforce, from those operating the systems to those at the most senior levels of managing the system; by doing so, to improve the overall professional capability of the transportation workforce.
- To stimulate discussion and debate concerning the integration of new technologies into our culture, our work and our transportation systems.
- To provide the more traditional but extremely important job of dissemination of research and project reports, studies, analysis and use of tools to the education, research and practicing community.
- To provide unbiased information and testimony to decision-makers concerning regional transportation issues consistent with the UTRC theme.

INTRODUCTION

The New Jersey Department of Transportation has a strong and successful research program. NJDOT intends to further strengthen its research program with an emphasis on ensuring that findings and recommendations developed during research are effectively deployed and implemented in the field. As part of this effort, this year's technology transfer program has emphasized dissemination of research results. UTRC has engaged the researchers and the stakeholders with a documented discussion which includes recommendations to improve the existing dissemination and implementation methods of research results and to deploy technology and innovation more effectively within USDOT Region 2. This report summarizes the UTRC 2011-2012 Technology Transfer Program activities.

SUMMARY OF TECHNOLOGY TRANSFER ACTIVITIES PERFORMED

Seminars, Workshops, and Conferences

Visiting Scholar Seminar Series

HOT Lane Gets Hot: Field Observations and Scientific Investigations on Hot Issues

Event Date: December 17, 2010
Venue: Baruch College Conference Center
Speaker: Yinhai Wang, Associate Professor in Transportation Engineering,
University of Washington (UW)

Dr. Yinhai Wang, an associate professor in transportation engineering at the University of Washington, presented on the topic "HOT Lanes Get Hot: Field Observations and Scientific Investigations on Hot Issues", last year on December 17th. Dr. Wang shared major findings of his NCHRP 03-96 study, "Analysis of Managed Lanes on Freeway Facilities".

HOT lane operations involve technical, political, environmental, and equity considerations and hence have fairly broad societal impacts. Data was analyzed and presented from field data collected from identified HOT lane facilities in Florida, Washington, Minnesota and California. Based on these field data, several important issues, such as HOT lane capacity, impacts on HOV drivers, HOT lane users' value of time, and optimal tolling strategies, were investigated by Dr. Wang and his research team.

Dr. Wang is an Associate Professor of Transportation Engineering at the University of Washington (UW) and founder and director of the Smart Transportation Applications and Research Laboratory (STAR Lab) at UW. Dr. Wang has conducted extensive

research in traffic detection systems, transportation data management and analysis, traffic operations, managed lanes, advanced traffic control systems, traffic simulation, and traffic accident modeling.

To access Dr. Wang's presentation and seminar video, please go to the following website address: <http://www.utrc2.org/events/hot-lane-gets-hot-field-observations-and-scientific-investigations-hot-issues-0>

Intelligent Transportation: Trends and Perspectives

Event Dates: April 7, 2011 and April 8, 2011
Venues: NJDOT and Baruch College Conference Center, respectively
Speaker: J.D. Margulici, Novavia Solutions, LLC

J. D. Margulici, founder of Novavia Solutions, LLC and former Associate Director of the California Center for Innovative Transportation (CCIT) presented a Visiting Scholar Seminar to the UTRC audience on April 8th. Margulici has a dozen years of experience implementing and marketing information technology, with primary applications to roadway traffic management, public transit, airport operations, and air traffic control.

In his presentation, he reviewed major trends in information and communication technologies and demonstrated how each of them is driving innovative transportation services. Margulici mentioned that we should attempt to envision how those trends might develop in the future, so that we can finally examine some of their implications for travel demand and network management. There lie both challenges and opportunities for transportation engineers and planners, but either way, profound changes appear inevitable.

To access J.D Margulici's presentation and seminar video, please go to the following website address: <http://www.utrc2.org/events/intelligent-transportation-trends-and-perspectives>

How Are State DOTs Going To Pay For Future Transportation Investments? A Comparative Review Of Alternative Road User Financing Approaches

Event Dates: September 22, 2011 and September 23, 2011
Venues: NJDOT and Baruch College Conference Center, respectively
Speaker: Dr. John Collura, Professor of Civil and Environmental Engineering, University of Massachusetts at Amherst

Dr. Collura, professor of Civil and Environmental Engineering at the University of Massachusetts at Amherst, presented the visiting scholar seminar on future transportation investments. The seminar was well attended by transportation

professionals in academia, and the public and private sectors. He mentioned in his presentation that relying on the current Federal and State motor vehicle fuel tax as the major approach to finance transportation is neither viable nor fiscally appropriate because of the combined effects of inflation and improved vehicle fuel efficiency. As transportation capital and operating costs have continued to increase annually, the purchasing power of fuel tax revenues has declined nationally and is forecast to continue to decline.

The seminar reviewed alternative road user financing approaches currently being considered by state transportation policymakers and administrators in the U.S. Examples of such approaches include: increasing the current fuel tax and indexing the fuel tax to inflation; deploying a vehicle miles traveled (VMT) fee system; and implementing innovative toll strategies on existing toll roads and on roads that do not currently have tolls.

Dr. Collura also reviewed and accessed the system objectives, concept of operations and system architectures of these approaches. As State officials deliberate over the transportation finance problem and consider new financing approaches, a number of fiscal and administrative challenges will need to be addressed including: implementation costs associated with technology innovation; ensuring that a stable and sufficient revenue source will result over the short and long term and for vehicles powered with fossil fuels and other energy sources; providing high accountability; generating public acceptance; guarding against evasion and fraud; preserving privacy; and guaranteeing equitable fees/charges among all user groups and political jurisdictions.

To access Dr. Collura's presentation and seminar video, please go to the following website address: <http://www.utrc2.org/events/how-are-state-dots-going-pay-future-transportation-investments-comparative-review-alternati-0>

State of Good Repair: Can We Really Achieve It In Today's Environment?

Event Dates: October 6, 2011 and October 7, 2011
Venues: NJDOT and Baruch College Conference Center, respectively
Speaker: Dr. Michael Meyer, Director of Georgia Transportation Institute and
 Professor of Civil and Environmental Engineering, Georgia Institute of
 Technology

Dr. Meyer briefly overviewed the transportation investments throughout the United States to keep the existing transportation system in a state of good repair. In his presentation, he mentioned that the United States has invested trillions of dollars in what is arguably one of the finest transportation systems in the world. As the country continues to grow, there will be continued pressure to expand this system to handle the increase in personal and freight mobility that characterizes economic prosperity.

However, perhaps the most significant need and challenge facing the Nation's transportation system is keeping the existing highways, bridges, transit facilities/equipment, ports and airports in a good state of repair.

Dr. Meyer discussed this challenge from the perspective of the level of funding that will be necessary, the ability of transportation agencies in an environment of shrinking resources to meet this need and the important role that strategic asset management systems can play in implementing the most cost effective investment strategies. He reviewed national studies and selected state studies on how large the funding gap is to preserve our system in a state of good repair.

Dr. Meyer also argued that strategic asset management systems are the critical foundation for future investment decision-making for a variety of concerns, from selecting the most important strategies for preserving our investment in infrastructure to even serving as a platform for considering climate change in agency priorities. He presented several case studies of state transportation agencies and transit agencies that are at the forefront of asset management application and how these can act as role models for other organizations.

To access Dr. Meyer's presentation and seminar video, please go to the following website address: <http://www.utrc2.org/events/State-Good-Repair-Dr-Meyer-Presentation>

The Real Time City

Event Date: November 3, 2011
Venue: Baruch College Conference Center
Speaker: Dr. Carlo Ratti, Director, Senseable City Laboratory & Associate Professor, Massachusetts Institute of Technology

Dr. Carlo Ratti's presentation was adored by the audience in this era of rapidly changing information technology tools. Dr. Ratti developed interest among audience members by highlighting the sensors technology and mentioned that increasing deployment of sensors and hand-held electronics in recent years is allowing a new approach to the study of the built environment. The way we describe and understand cities is being radically transformed - alongside the tools we use to design them and impact on their physical structure.

Dr. Ratti pointed out that scholars back in 1995 speculated about the impact of the ongoing digital revolution on the viability of cities. Only 14 years ago, the mainstream view was that, as digital media and the internet had killed distance, they would also kill cities.

Technology writer George Gilder proclaimed that “cities are leftover baggage from the industrial era” and concluded that “we are headed for the death of cities”, due to the continued growth of personal computing, telecommunications and distributed production. The digital revolution did not end up killing our cities, but neither did it leave them unaffected.

Advances in microelectronics now make it possible to spread “smart dust” networks of tiny, wireless, micro-electromechanical system (MEMS) sensors, robots or devices. Most noticeable is the explosion in mobile-phone use around the globe. More than four billion mobile phones were in use worldwide by early 2009. Across socio-economic classes and five continents, mobile phones are ubiquitous: they allow us not only to communicate with each other in unprecedented ways, but to create a pervasive sensing network that covers the whole globe. One consequence of this process is particularly important: cities can start to work as real-time control systems, and this opens up a new world of opportunities.

To access Dr. Ratti’s presentation and seminar video, please go to the following website address: <http://www.utrc2.org/events/real-time-city-0>

Performance and Policy Reform of the U.S. Transportation System

Event Date: April 13, 2012
Venue: Baruch College Conference Center
Speaker: Dr. Clifford Winston, Senior Fellow, Economics Studies Program,
Brookings Institution

Dr. Winston’s seminar was very well attended by transportation experts in academia and private & public sectors. He has been in the Brookings Institution’s Economic Studies program since 1984. Dr. Winston is an applied micro-economist who specializes in the analysis of industrial organization, regulation, and transportation.

In Dr. Winston’s presentation, he assessed the performance of the urban and intercity components of the U.S. transportation system on efficiency and equity grounds. After identifying pervasive inefficiencies in how the current system is managed and operated, he outlined public sector reforms to improve the system’s performance and concluded that such reforms are inadequate. Instead, he argued that privatization and deregulation offer the potential to greatly improve Americans’ satisfaction with their transportation services.

To access Dr. Winston's presentation and seminar video, please go to the following website address: <http://www.utrc2.org/events/performance-and-policy-reform-us-transportation-system-0>

Wider Economic Benefits of Transport Investment And The Role Of Agglomeration Economies

Event Date: April 27, 2012
Venue: Baruch College Conference Center
Speaker: Dr. Daniel Graham, Reader in Transport Economics and Statistics, Centre for Transport Studies, Imperial College London

Dr. Graham delivered a presentation at the UTRC Visiting Scholar Seminar and shared his expertise on transportation economics. He specializes in the statistical modeling of transport systems. His main research themes are concerned with the implications of transport investment for productivity and economic growth; modeling efficiency in public transport provision; and with the wider consequences of travel demand patterns particularly in relation to safety, congestion, and environmental impacts.

In his presentation, he provided an overview of the measurement of wider economic impacts in transport appraisal focusing in particular on the role of agglomeration economies. He described how agglomeration effects can be estimated and included within a standard Benefit Cost Analysis framework to assess the productivity benefits of investment. Examples from around the world were used to illustrate the potential significance of agglomeration externalities. The talk also discussed limitation of the existing approach, particularly in relation to econometric modeling, and suggested future areas for research.

To access Dr. Graham's presentation and seminar video, please follow the go to the following website address: <http://www.utrc2.org/events/wider-economic-benefits-transport-investment-and-role-agglomeration-economies-0>

Connecting the Dots: Future Housing Development in Post-recession America

Event Dates: May 18, 2012 and June 6, 2012
Venues: Baruch College Conference Center and NJDOT, respectively
Speaker: Oliver Hartelben, Architect and City Planner, currently at the Harvard Kennedy School

Oliver Hartleben, a Guatemalan architect and city planner who recently graduated from the Harvard Kennedy School with a public administration degree, presented a seminar on the Future Housing Development in Post-recession America. Before coming to Boston, he worked for seventeen years with the City of Guatemala, lastly as Director of

Urban Planning, where he oversaw the complete revision of the zoning and subdivision ordinances and the planning of the city's first bus rapid transit line.

Mr. Hartleben's presentation focused on the subprime mortgage crisis that plunged the world into the Great Recession of 2008 which had a devastating effect on the US housing market, leading many to question if the market will return to pre-crisis levels, or whether a paradigm shift has occurred that will pave the way to a 'new normal.

In his talk, he presented his argument that the US housing market will increasingly focus on the infill, retrofit, and redevelopment of inner suburbs and neighborhoods, where the new demand for walkability and urban amenities can be better combined with the latent demand for single family homes, while at the same time being less likely to encounter opposition by local officials, homebuilders, and current neighbors. This new form of development, which we call 'Pedestrian Oriented Development', or POD, will constitute the largest opportunity to shift the pendulum back towards higher densities and more responsible urban forms and to prepare urban areas for high-capacity transit service in the future.

To access Mr. Hartleben's presentation and seminar video, please go to the following website address: <http://www.utrc2.org/events/connecting-dots-future-housing-development-post-recession-america>

Measuring Transportation Infrastructure Performance: Insights and Challenges

Event Dates: December 14, 2012
Venues: Baruch College Conference Center
Speaker: Dr. Sue McNeil, Professor of Civil and Environmental Engineering and Urban Planning and Public Affairs at University of Delaware

Dr. McNeil presented a seminar on Measuring Transportation Infrastructure Performance: Insights and Challenges. Sue McNeil is the principal investigator for the CAIT affiliate at University of Delaware - CAIT at UD. She is Professor of Civil and Environmental Engineering and Urban Planning and Public Affairs at University of Delaware and Director of the Tier 2 University Transportation Center. She is also the former Director of the Disaster Research Center at University of Delaware. Her research and teaching interests focus on transportation infrastructure management with emphasis on the application of advanced technologies, economic analysis, analytical methods, and computer applications. Her most recent research includes the impact of natural hazards on physical infrastructure and asset management.

She mentioned in her presentations that the transportation infrastructure in the United States serves as a foundation for economic competitiveness, and quality of life.

Understanding how transportation infrastructure performance changes over time and quantifying the relationship between transportation infrastructure performance and economic growth helps us to improve infrastructure performance strategically. The Transportation Performance Index (TPI) was constructed for the period 1990 to 2009 using a replicable and transparent process. The process and data used, and the relationship with economic growth are discussed, as well as the role of the index in communicating national needs, and the importance of infrastructure.

To access Dr. McNeil's presentation and seminar video, go to the following website address: <http://www.utrc2.org/events/measuring-transportation-infrastructure-performance-insights-and-challenges>

UTRC Book Talk Series

Manufacturing Green Prosperity: The Power to Rebuild the American Middle Class

Event Date: December 6, 2010
Venue: UTRC at the City College of New York
Author/Speaker: Jon Rynn

Jon Rynn presented his book which connects two critical issues: the importance of manufacturing to the growth and fair distribution of national wealth and the need to create an environmentally sustainable society. In so doing, the author explained how the book offers groundbreaking arguments demonstrating the centrality of manufacturing and shows ways in which creating a green economy will rebuild U.S. manufacturing and expand the middle class.

Drawing from the fields of political science, economics, ecology, history, engineering, and philosophy, the author challenges existing myths about manufacturing, exposes the weaknesses of neoclassical economics, and proposes a production-centered alternative. America, Rynn persuasively argues, needs a sophisticated, green manufacturing base in order to create an entirely new transportation and energy infrastructure-one that will make cities ecologically sustainable; prevent the worst effects of global warming; protect vulnerable ecosystems; and counter the depletion of oil, coal, and other critical natural resources.

To access Mr. Rynn's presentation, please go to the following website address: <http://www.utrc2.org/events/book-talk-manufacturing-green-prosperity-power-rebuild-american-middle-class>

Auto Motives - Understanding Car Use Behaviors

Event Date: April 28, 2011
Venue: UTRC
Author/Speaker: Dr. Rachel Weinberger, Department of City and Regional Planning,
University of Pennsylvania

Dr. Rachel Weinberger, an Associate Professor at the University of Pennsylvania, captured the major findings of her book which included our global reliance on private automobiles as the primary means for transporting individuals. Dr. Weinberger explained that it is likely to become increasingly problematic over the next ten to 20 years. She said that international traffic forecasts suggest that the total number of private automobiles will grow from approximately 800 million in 2002 to more than two billion in 2030. At the same time, lack of auto mobility leads to social exclusion and hinders positive economic outcomes for many segments of society.

A large part of the popularity of automobiles is that they allow us to decide when and where we travel and to control our micro-environments while we do so. While the individual benefits of car-based travel are significant, the wider environmental and social costs of automobiles also are apparent and the need for political intervention to control some of their worst effects is increasingly accepted within policy circles internationally.

It is within this context that Dr. Weinberger's book, *Auto Motives*, critically evaluates the evidence for better understanding of "what drives us to drive?" Uniquely, it draws together and explains the diverse theoretical literatures that pertain to people's auto motives and considers these theories in the light of empirical research of what actually informs our automobile decisions and behaviours.

With contributions from leading academic experts from around the world, its core arguments and narratives are presented to offer widespread appeal to a wide-ranging audience. The book is aimed at students, researchers, policymakers and practitioners from a growing spectrum of disciplines with an interest in understanding the motivations and decision processes underpinning the public's overwhelming preference for the car as the primary means of people-based movement. We hope that Dr. Weinberger's book will help to encourage further dialogue, interaction and future research collaborations on this important topic.

To access Dr. Weinberger's presentation, please go to the following website address:
<http://www.utrc2.org/events/book-talk-auto-motives-understanding-car-use-behaviours>

Human Transit: How Clearer Thinking about Public Transit Can Enrich Our Communities and Our Lives

Event Date: February 6, 2012
Venue: Graduate Center, CUNY
Author/Speaker: Jarrett Walker, Principal Consultant with M.R. Cagney in Australia and Freelance Consultant in North America

Jarrett Walker delivered a presentation on his book, *Human Transit* where the event was well attended and received a positive feedback from the audience.

Mr. Walker discussed the main points of his book which included that public transit is a powerful tool for addressing a huge range of urban problems, including traffic congestion and economic development as well as climate change. Mr. Walker discussed that while many people support transit in the abstract, it's often hard to channel that support into good transit investments. Part of the problem is that transit debates attract many kinds of experts, who often talk past each other. Ordinary people listen to a little of this and decide that transit is impossible to figure out.

Jarrett Walker believes that transit can be simple, if we focus first on the underlying geometry that all transit technologies share. In his book *Human Transit*, Walker supplies the basic tools, the critical questions, and the means to make smarter decisions about designing and implementing transit services.

Human Transit explains the fundamental geometry of transit that shapes successful systems; and the local choices that lead to transit friendly development. At the heart of the book is a challenge to land use planners and architects to respect the intrinsic geometry of transit networks at the earliest stages of development, in the same way that all development respects the intrinsic geometry of road networks.

It's fun to imagine that some new technology will make transit work in a new way, but as Walker cautions, "technology never changes geometry." Walker goes on to show that respect for transit's geometry can unleash a flood of new ideas, from new ways to "repair" the suburban arterial to new strategies for envisioning the urban structure.

To access Mr. Walker's presentation, please go to the following website address:
<http://www.utrc2.org/events/book-talk-human-Jarret-Walker>

Transport, the Environment and Security - Making the Connection

Event Date: December 12, 2012
Venue: NYU Wagner/Rudin Center
Author/Speaker: Rae Zimmerman, Professor of Planning and Public Administration, Director of the Urban Planning Program and the Director of the Institute for Civil Infrastructure Systems (ICIS) at NYU-Wagner.

On December 12, 2012, Dr. Rae Zimmerman presented at the UTRC Book talk series for her latest book on "Transport, the Environment and Security – Making the Connection" at New York University. Rae Zimmerman is a Professor of Planning and Public Administration, Director of the Urban Planning Program and the Director of the Institute for Civil Infrastructure Systems (ICIS) at NYU-Wagner. She teaches and conducts research in environmental management and planning, urban infrastructure, and environmental health risk management, and the socioeconomic dimensions of environmental and transportation infrastructure. She is a Fellow of the American Association for the Advancement of Science and a past president and Fellow of the international Society for Risk Analysis. Her presentation induced a lot of interest in the audience on the major finding in her book.

For more details, please visit the event website at: <http://www.utrc2.org/events/book-talk/transport-environment-and-security>

UTRC Hosts Two Prominent Conferences

Connected Vehicle Test-beds: Development & Integration Workshop

Event Date: June 1, 2012
Venue: University at Buffalo (UB), the State University of New York (SUNY), Amherst, NY

The purpose of this mini-conference or symposium was to push the envelope regarding test beds for connected vehicles. The symposium also aimed at building a strong working network among higher education institutions, government and industry for next generation technology, and at highlighting some of the Northeast region's leading research and researchers in the field of connected vehicles and develop a series of next-step scenarios.

At the symposium, sessions were planned for presenting the perspectives of: (1) the auto industry; (2) the IT & Telecom industry; (3) the academic community; and (4) the government on Connected Vehicle test-bed development and integration. Opportunities

were also provided to facilitate discussions among the symposium attendees and the invited speakers.

For more details on speaker's presentations, images and event video, please visit the Conference website at: <http://www.connectedvehicleworkshop.com/>

Legislative Forum - Taxi & Livery Issues of Today & Tomorrow

Event Date: June 26, 2012
Venue: Graduate Center, CUNY
Panel Moderator: Matthew Daus, Distinguished Lecturer at CUNY's Transportation Research Center and former NYC Taxi & Limousine Commissioner

There will be dramatic changes resulting from legislative events of the past year that may profoundly impact the taxi, livery and for-hire ground transportation industry in New York City. The New York State Legislature and NYC Council have been more active and instrumental in making such changes than at any other time in recent memory. Three of the most influential, involved and experienced legislators representing all three legislative bodies involved in these issues and reforms were engaged in a panel discussion to explore a wide range of topics. Topics included: the 5 Borough Livery Street Hail Law and Enforcement issues; the emerging role of technology (smart phone Apps, data collection and black box accident data recorders); wheelchair accessibility (the ADA and state grants/tax credits); sustainable transportation; tax policy (MTA surcharges and sales taxes); and the Taxi of Tomorrow. Senator Golden, Councilman Vacca and Assemblyman Kellner discussed specific legislation that they have authored and passed, the legislative policy making process, and what is in store for the future on these and other issues.

For more details, please visit the event website at:
<http://www.utrc2.org/events/legislative-forum-taxi-livery-issues-today-tomorrow-0>

UTRC Helps Co-ordinate the September 11th Memorial Program for Regional Transportation Planning: A Five Year - Retrospective—Planning & Academic Initiatives

Event Date: September 15, 2011
Host: New York Metropolitan Transportation Council
Program Booklet: [utrc2.org/ education/911memorial.php](http://utrc2.org/education/911memorial.php)

The New York Metropolitan Transportation Council hosted a memorial program to commemorate the tenth anniversary of the World Trade Center terrorist attacks. Several speakers participated in this event including Alice Greenwald, Director of the September 11 Memorial Museum and Affiong Adanga, Renee Alexander and Rebecca Shum,

family members of the three employees who died in the attack- Ignatius Udo Adanga, Charles Lesperance and See Wong Shum.

UTRC also participated in this program by presenting a five year retrospective of the September 11th Memorial Program for Regional Transportation Planning. Dr. Robert Paaswell, UTRC Director Emeritus, provided the context in which the September 11th Memorial Program was developed and Penny Eickemeyer, UTRC Assistant Director for Program Management, gave a brief background on the program and introduced former participants who commented on their experiences. These speakers included Li Chen from program year 2005–06, Richard Barone (2006-07), Peter Feroe (2008-09) and Sandra Rothbard (2009-10). Comments from Gitakrishnan Ramadurai (2007-08) were read during the presentation.

The September 11th Memorial Program was designed as a living tribute to the three NYMTC staff members who died to acknowledge their passion for learning and dedication to regional planning. It is comprised of two elements: the Planning Initiative and the Academic Initiative. UTRC has been honored to administer the Academic Initiative, co-sponsored by NYMTC, during the last five years and will continue doing so for the next academic year, 2011-2012. A retrospective booklet, explaining the program in full, was prepared by the University Transportation Research Center and NYMTC staff.

For the academic year 2011-2012, three new students; Shuai Ren from New York University, Maxwell Sokol from Columbia University, and Cyrus Naheedy from Polytechnic Institute of NYU, were awarded the scholarship to carry on research at different transportation agencies. Two additional students, Daysi Manzano from Baruch College, and Kelli Pearson from the New Jersey Institute of Technology, were given an opportunity to participate in other internships at NYMTC member agencies during the summer or part-time during the school year.

For more information on the individual student projects, please visit the program page at the UTRC website: <http://www.utrc2.org/education/september-11th-memorial-program>

UTRC's Faculty Leads the First Panel on University's ITS Research at the 2011 ITS-NY Annual Meeting

Event Dates:	June 9 and June 10, 2011
Venue:	Saratoga Springs, NY
Moderator:	Dr. Camille Kamga, ITS Board Member
Panel:	Current ITS University Research and Projects

The Intelligent Transportation Society of NY held its 18th Annual Meeting and Technology Exhibition where ITS related research projects that were conducted at various institutions were presented by the panel speakers. The panel speakers included the following current UTRC consortium members: Jonathan Muckell, a Ph.D. Candidate at SUNY/Albany, Dr. Adel Sadek, SUNY Buffalo, Dr. Camille Kamga, UTRC/CCNY, Dr. Kaan Ozbay, Rutgers University, and Dr. Alain Kornhauser, Princeton University.

The 2011 ITS-NY Annual Meeting photos are posted on the ITS-NY website's Library Page (www.its-ni.org). All presentations are also posted on the Library Page of the ITS-NY website. The direct address for more photos of the ITS-NY Annual Meeting can be found at the following website address: <http://www.its-ni.org/library.php>

UTRC's Project "On the Go! Travel Station /Kiosk" was selected as one of the "ITS-NY 2012 Project of the Year"

Event: 19th Annual Meeting and Technology Exhibition
Event Dates: June 7 and June 8, 2012
Venue: Saratoga Springs, NY

The Intelligent Transportation Society of New York (ITS-NY) announced the 2012 ITS-NY Project of the Year Winners which included UTRC's Project called "On the Go! Travel Station/Kiosk". "These winning projects feature Intelligent Transportation Systems (ITS) and technologies at work in New York State to improve traveler mobility and safety, as well as the efficiency of New York State's transportation system across all modes of travel," said Dr. Isaac Takyi, ITS-NY President.

The Metropolitan Transportation Authority, New York City Transit, Metro-North Railroad, Long Island Rail Road, University Transportation Research Center, Cisco Corporation, Comark, and Antenna Design piloted a "first in the world" interactive, touch screen travel information kiosk that is "super user friendly," has a modern, advanced design and an innovative concept of centrally feeding to it real-time information about transit services in New York City. The full rollout is being planned for 468 New York City subway stations.

Visit this website address: www.ITS-NY.org for more information.

UTRC Hosts French Interns

In April, UTRC welcomed seven master's degree-level students with specialties in sustainable transportation and civil engineering from the Ecole Nationale des Travaux Publics de l'Etat (ENTPE) in Lyon, France, which is a highly competitive engineering school in France. The students are all participants in a national civil service program which requires that they complete a 20-week internship either in France or abroad.

The internship must be related to a specialty that the students have to choose in their first year (civil engineering, environment, urban planning, transport engineering, or building engineering). The internship occurs after the second year of classes out of a three year program. Their salary and expenses are covered by the French government and in exchange, the students are required to work in French civil service positions for eight years after they graduate.

These students, Luis Blanche, Melina Christina, Simon Dupin, Emmanuelle Lezais, Paul Maurin, Arnaud Parot, and Oriane Thuillier, all wanted to work in New York and contacted UTRC in the fall of 2011 to request an internship at no cost to the Center. In addition, Alexandre Brégeon had contacted Dr. Michel Ghosn, of CCNY's Civil Engineering department, to request an internship directly with him.

Nina Marousek, Associate Director and International Student Advisor of the Office of International Student & Scholar Services, was instrumental in helping the students take advantage of this opportunity. Since City College is approved as a U.S. Department of State sponsor for the J-1 Exchange Visitor Program and Ms. Marousek is the Responsible Officer (RO), she was able to generate the Certificate of Eligibility forms necessary to receive the J-1 visas at the US Embassy. UTRC also hosted two interns from ENTPE in past years, Nhat Bui in 2010 and Pierre-Emmanuelle Fatison in 2011.

J-1s can be used for short term research as well as other opportunities including enrollment in a bachelor's or master's degree program in a U.S. academic institution or participation in research/ teaching positions. Since the UTRC consortium is hosted by City College, the French students were able to be placed at any of the member institutions, while under CCNY sponsorship, to be engaged in short-term research internships. Luis Blanche, a Ph.D. candidate and Liam Wang, interning at the Department of Civil Engineering, both at Columbia University, have picked Open- Mode Integrated Transportation Systems (OMITS) as their study topic.

In addition to contributing to the professor's research and papers, the students are also required by their school to produce a lengthy technical and sociological report summarizing their internship pursuits. Upon returning to ENTPE in fall 2012, the students will present their work to a jury as part of their oral exams. The sociological part of the report requires the student to learn about and document the organizational structure of the office in which they are interning. In addition, the student must write this report in the language of their sponsor.

UTRC Sponsored the 2012 ITS-NY Best Student Paper Essay

UTRC sponsored the 2012 ITS-NY Best Student Paper Essay. The winner was announced at the ITS-NY 19th Annual Meeting and Technology Exhibition in Saratoga Springs, NY. Mr. Graziano Fiorillo, a graduate student at the City College of New York, was the recipient of this award for his paper entitled, "Data Mining Algorithm for the Analysis of Overweight Vehicles Using WIM Technology". Mr. Fiorillo presented his winning paper at the ITS Annual meeting's 4th Panel, moderated by Dr. Camille Kamga, Director of UTRC. In addition to a networking experience with transportation experts, Mr. Fiorillo received a \$500 stipend along with a complimentary 2012 ITS-NY Annual Meeting registration, travel and lodging benefits to attend all technical sessions presented at the Annual meeting. Please go to the following web address for more information: www.ITS-NY.org

UTRC Co-Sponsored Events

Walking and the Life of the City Symposium

Event: Walking and the Life of the City Symposium
Event Date: June 7, 2012
Venue: Rudin Center, New York University

UTRC co-sponsored the Walking and the Life of the City symposium. The event put walking back at the center of urban life by presenting research from six transportation scholars on why people walk, its role in urban life, and how walking is likely to change in the future.

The event was led off by journalist Tom Vanderbilt, who gave a keynote about the challenges of walking in America, while showing that even in the suburbs, the need for more walking and better pedestrian infrastructure exists. Vanderbilt set the stage for the research presentations, which presented some of the latest findings on walking in transportation research. The prominent scholars who gave presentations included: Kevin Manaugh from McGill University in Montreal, Dick Ettema who is an Associate Professor at Utrecht University in the Netherlands, David King, Assistant Professor of Urban Planning at Columbia University, Andrew Mondschein who is a research fellow at the NYU Rudin Center, Sarah Kaufman who is also an NYU Rudin Center research associate, and Robert Schneider, a post-doctoral researcher at UC Berkeley and UC Davis. Schneider concluded the symposium with a description of future walking research needs which would go beyond traditional travel surveys and counting all walking trips. Overall, the presentations and the audience's response showed that walking is a central part of urban life, and that transportation research and policy is just now beginning to catch up to that fact.

Visit this website address: www.wagner.nyu.edu/events/rudin-06-07-2012 for more information.

Eight Annual Lewis Mumford Lecture on Urbanism

Event: The Eight Annual Lewis Mumford Lecture on Urbanism
Event Dates: April 5, 2012
Venue: City College of New York
Speaker: Janette Sadik-Khan, NYCDOT Commissioner

UTRC co-sponsored the Eight Annual Lewis Mumford Lecture on Urbanism with the NYC Transportation Commissioner, Janette Sadik-Khan. The event was hosted by the Graduate Program in Urban design Bernard and Anne Spitzer School of Architecture at the City College of New York.

The lecture webcast is available at the following web address:
<http://www.totalwebcasting.com/view/?id=ccnyssa#>

The Livable Cities Of The Future, A Symposium Honoring The Legacy Of George Bugliarello

Event: Livable Cities Of The Future, A Symposium Honoring The Legacy Of George Bugliarello
Event Date: October 26, 2012
Venue: Polytechnic Institute of New York University

UTRC co-sponsored the Livable Cities of the Future, A Symposium Honoring The Legacy Of George Bugliarello, on Friday, October 26, 2012, at Polytechnic Institute of New York University.

The Symposium featured thought leaders in a vital conversation to address the fundamental needs and emerging challenges in large cities, including water, energy, transportation, sustainability, information technology and the environment. Robert Steel, New York City Deputy Mayor for Economic Development, opened the Symposium sessions at which participants heard from a remarkable list of speakers. Private and public service operators, infrastructure agencies, elected officials, the academic community and other stakeholders in the critical urban sectors shared their experiences at this global metropolitan forum through open discussion.

For more information on this symposium, please visit <http://www.poly.edu/bugliarello-symposium/>

UTRC Provided Assistance to New York Metropolitan Transportation Council (NYMTC) for the 2040 Regional Transportation Plan (RTP) Through Public Outreach

Event: NYMTC Open Houses
Event Date: Sep-Oct 2012
Venue: 10 NYMTC Counties

UTRC and the NYC Department of City Planning, in coordination with NYMTC staff, have also organized ten open-houses to continue the public involvement process for the development of the 2040 Regional Transportation Plan (RTP). These open-houses were held in each of the counties and boroughs in the NYMTC region. The information gathered at these open-houses will be combined with those received from other outreach efforts to help develop the 2040 RTP. The public was invited and encouraged to attend and participate in the open-houses.

To access the open house presentations, please visit the website at: <http://nymtc-rtp.org/open-houses/>

UTRC's Participation In the Transportation Events

2012 UTC Spotlight Conference on Sustainable Energy and Transportation: Strategies, Research, and Data

Event: 2012 UTC Spotlight Conference on Sustainable Energy and Transportation: Strategies, Research, and Data
Event Date: November 8, 2012
Venue: The Keck Center of the National Academies, Washington, DC

Organized by the Transportation Research Board - The Topic of the 7th Annual 2012 UTC Spotlight Conference was Sustainable Energy & Transportation. This topic speaks to one of the leading challenges facing the nation, and also addresses one of USDOT's strategic goals, with a particular emphasis on improved energy efficiency, reduced dependence on fossil fuels, and identification of effective strategies to promote these goals. As the U.S. moves toward a performance-based transportation bill, energy-focused environmental sustainability is expected to become one of the pillars against which success is measured if it is to become a national priority. The conference brought together representatives of federal, state and local agencies, and universities in transportation. The purpose of the conference was to promote synergies among these diverse groups in order to understand and address the unique issues involved with sustainable energy in the transportation sector, to spotlight recently completed and ongoing research in this area by University Transportation Centers and others, and to identify existing knowledge gaps in current research and related activities.

For more information, please visit the conference website at:
www.iatr.org/2012ConfWeb/

2012 International Association of Transportation Regulators (IATR) Conference

Event: 2012 International Association of Transportation Regulators
(IATR) Conference
Event Date: November 14-17, 2012
Venue: Four Seasons Hotel, Washington, DC

The 2012 IATR Conference was held on November 14-17, 2012 at the Four Seasons Hotel in Washington, DC. The three day conference captured government, industry and regulator's perspective on various transportation issues. The focus areas on each day were: Day 1 – "Day on the Hill" and Concurrent Workshops Day 2 - The Future of Ground Transportation and Technology Day 3 - Regulatory Reforms: Research, Safety and the Customer Experience. The 2012 IATR Conference examined the scale of mobile app design, mobile app development and its effects on a global transportation industry. The conference highlighted various innovations that are surfacing for taxi and limousine transportation arrangements, which may affect the future of Smartphone app development for the transportation industry.

For more details, please visit the conference website at: www.iatr.org/2012ConfWeb/

UTRC Faculty and Staff Attended the 91st Annual TRB Meeting

UTRC staff and consortium faculty participated at the 91st Transportation Research Board Meeting held from January 22nd – 26th 2012. There were more than 90 papers and presentations delivered at TRB from UTRC Consortium faculty covering various transportation related topics, including but not limited to the following: Aviation, Bridges, Finance, Economics, Operations & Traffic Management, Pedestrian and Bicyclists, Policy and Safety, and Freight.

UTRC has compiled a list of all these presentations in a compendium available online at the following web address: <http://www.utrc2.org/publications/download-utrc-compendium>

13th & 14th Annual NJDOT Research Showcase

UTRC staff, faculty, and students attended the 13th and 14th NJDOT Annual Research Showcase held on October 27, 2011 and October 18th, 2012 respectively. The

Showcase offers an opportunity for NJDOT customers to experience the broad scope of ongoing research initiatives, technology transfer activities, and academic research being conducted by university research partners and their associates.

Research was highlighted in presentations, poster sessions and displays. The program was sponsored by the NJDOT Research Bureau with assistance from Rutgers' CAIT's NJ LTAP. For more information about both events, please visit the event websites at: <http://www.cait.rutgers.edu/njltp/highlights-13th-annual-njdot-research-showcase> and <http://www.cait.rutgers.edu/cait/14th-annual-research-showcase>.

Other Activities

Promotional Video and Marketing of the Bureau of Research

Promotional Video

Stokes Creative Group produced a promotional video for the NJDOT Bureau of Research. The video was developed to communicate the mission and responsibilities of the Bureau of Research. The video introduced the Bureau, its services and benefits to the DOT as well as associates, and the general public. The video highlighted past success stories and current research. The video also included interviews with key department personnel.

The video can be utilized on the web, in presentations, and as a standalone looped DVD for events such as trade shows, DOT events, proposals and public forums.

Identity/Branding/Trade Show Handout

Stokes Creative Group created an element that helped to quickly identify the Bureau of Research by incorporating the NJ Department of Transportation graphic guidelines.

Stokes Creative Group incorporated the new identity and illustrated the function and benefits of the department in bi-fold and trio-fold brochures.

Icon Mentor Program

The USDOT Region 2 is rich in professionals who have devoted their careers towards advancing transportation theory and practice. Each year, the University Transportation Research Center selects one of these persons to serve as its Consortium-wide mentor. He/she will be available throughout the year to meet with students and faculty at each consortium institution and literally, give out pearls of wisdom.

For the past few years, UTRC has selected Herbert Levinson, a member of the National Academy of Sciences, to serve as the icon mentor. Herbert Levinson is considered to be one of the fathers of modern transportation planning and has extensive knowledge of transportation activities and operations throughout the world. Mr. Levinson is a planning innovator and member of National Academy of Engineering. He is also one of the major leaders and innovators in modern transportation planning. His knowledge about technique, practice and projects is without parallel. Mr. Levinson is an invaluable resource to the region.

UTRC's Website

The University Transportation Research Center Region 2 maintains a website at <http://www.utrc2.org>, which contains a comprehensive overview of the center's objectives, purposes and functions for planning and management of regional transportation systems. The UTRC website serves as an information tool for those transportation agencies that are interested in the Center's research activities and as a bulletin board for students who are interested in pursuing transportation research studies toward advanced degrees. The website is a focal point for updated information presented in an accessible format which is visually pleasing and logically navigable. All recent research reports are available for downloading in PDF format and archived reports are also available in bound copies. Videotapes of visiting scholar seminars are available by contacting the center.

The UTRC website and the online system for submission and review of proposals are currently being refined.

NJDOT Quarterly Progress Reports and Meetings

The Center prepares quarterly progress reports of all active NJDOT research projects. The reports are submitted to the Department in PDF format for web posting. The Center attends all NJDOT quarterly meetings at the NJDOT in Trenton.

USDOT Reporting

The USDOT grant requires an Annual Report prepared in three parts: A. Corporate Style Annual Report, B. Financial Status Report and C. Performance Indicators. The Annual report is submitted to DOT thirty days after the end of the grant year.

Final Research Reporting

A final report for each research project which is conducted with the Center's funding is submitted to the USDOT's selected national transportation libraries. The report is posted on the Center's website in full text, transmitted to the Transportation Research

Board for its newsletter, the Bureau of Transportation Statistics, and published for distribution to interested professionals and other government agencies.

UTRC's Research Newsletter

The Center's newsletter, Research News, is published each trimester to disseminate information to a broad based population in the New York/ New Jersey/Connecticut Metropolitan area. Research News contains articles, which emphasize the Center's Theme, "Planning and Managing of Regional Transportation Systems in a Changing World", and the Center's program: Education and Training, Research, and Technology Transfer. Research News editions are available on the UTRC website at <http://www.utrc2.org>.

NJDOT: Outstanding University Student in Transportation Award

Xiaochen Xu, The City College of New York, CUNY

Xiaochen Xu, a Ph.D. Student of Civil Engineering at the City College of New York was presented with the 2011 NJDOT Outstanding Student in Transportation Award. Ms. Xu was selected from a pool of potential candidates enrolled at UTRC Consortium schools.

Camille Crichton-Sumners, Manager of the Bureau of Research at the New Jersey Department of Transportation, presented Ms. Xu with a plaque at the NJDOT's 13th Annual Research Showcase held on October 27th at the Mercer County Community College Conference Center. Students nominated from other NJDOT research partners were also presented with awards. Ms. Xu's research work focused on the behavior of bridges under blast loads. She has been working on vehicular impacts on bridges, multi-hazard considerations for bridges, and blast load effects on bridges under the supervision of Professor Anil Agrawal of CCNY.

UTRC's Student of the Year Award

Kristen Derewecki, Rutgers University

Kristen Derewecki is a Master's of Science candidate at the School of Engineering at Rutgers, The State University of New Jersey. Derewecki's graduate thesis is on developing specifications to use the 4 mm Dynamics Shear Rheometer (DSR) parallel plates to performance grade asphalt binders. Additionally, she is attempting to relate the results of other existing binder tests to the results obtained using the 4 mm parallel plates. In doing so, she hopes to reduce the amount of material needed for forensic testing of binders, maintaining the integrity of the roads as well as reducing the amount of solvents needed to extract binder from asphalt samples, which will make the process on the whole less expensive and more environmentally friendly.

She is also active in the Rutgers community as Bunting-Cobb Graduate Mentor for Women in Science, Technology, Engineering and Math, where she fosters the

academic, professional and personal development of the residents through regular interactions, programming, and mentoring sessions. She also volunteers her time as a coach for the Rutgers Women's Rugby Club.

In recognition of her outstanding academic performance, the technical merit of her research topic and her service to the university community, the UTRC Region II is pleased to select Kristen Derewecki as its 2011 Outstanding Student of the Year.

As part of the UTRC award, each student attends the Annual Meeting of the Transportation Research Board, is feted at an awards dinner, and receives a \$1,000 prize.

Please visit the following web address for more information:
<http://www.utrc2.org/education>

CONCLUSIONS AND RECOMMENDATIONS

The Region 2, University Transportation Research Center has demonstrated throughout this final report that they have offered NJDOT a comprehensive, relatively cost-effective Technology Transfer Program that fulfills their Bureau of Research's federal funding requirements of promoting an effective use of available resources by achieving RD&T objectives established at the national level with this research project. UTRC has consistently improved the knowledge base and approach to problem solving of the State's transportation workforce, including the employees of NJDOT, ranging from those operating the systems to those at the most senior levels of managing the system.

It is recommended that the UTRC Technology Transfer Program continue to disseminate unbiased research results to potential users in a form that can be directly implemented, utilized and applied to transportation operations to improve the overall professional capability of the tri-State area's transportation workforce, which includes the employees of NJDOT.