



WINTER 2014

RESEARCH NEWS

University Transportation Research Center

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Director's Message



Dr. Camille Kamga
Director, University Transportation
Research Center
Assistant Professor
The City College
of New York, CUNY

UTRC began this year by closing out the grant that we had been awarded under SAFETEA-LU legislation through a competitive process, while also receiving a new competitively awarded grant funded through MAP-21. A scan through the closing documents highlights why we should all be proud of our accomplishments during the past seven years. Yes, the SAFETEA-LU grant started in 2007 and during these years, the Center has performed an unprecedented number of research studies. More than 150 technical reports have been issued, more than 200 seminars, workshops, conferences have been held, and many students have directly benefited from scholarships awarded by the Center and graduated from programs supported by the grant. UTRC has worked closely with national, regional, and local partners to assist them with management and technological improvements through the provision of education, technology transfer and research programs. While the Center has addressed individual assignments given to us by these agencies, UTRC expertise and programs have also contributed to enhanced system performance and regional change.

Building on past accomplishments, we have started the year by receiving funding for the successful grant competition under MAP-21 legislation. The problems of 2007 were very different from the problems of 2014 and beyond. Therefore, our research, education, and workforce development efforts must be updated for today's needs. UTRC will continue to integrate the long-term strategic perspective that is characteristic of universities, with the critical, often immediate needs of transportation agencies and professionals in the region and nationally. It will do so recognizing that the changes in the operations and deliveries of transportation systems are dynamic, fostered by the rapid integration of new technologies. As you are reading the articles in this issue of the Center's newsletter, you will notice that we are starting on a good step to move forward and exceed our past accomplishments.

USDOT Awards UTRC \$5.2 Million as the Regional Center for “Economic Competitiveness”

The award from the federal government and the renewal of our agreements with NYSDOT and NYMTC are a tremendous vote of confidence not only for us but also for the region we serve.

Among the projects the grants will support are:

- Studying the impact of transportation systems on the regional dynamics, competitiveness and structural changes of economies;
- Developing and evaluating new mechanisms for financing transportation infrastructure and operations;
- Promoting freight productivity, efficiency, and sustainability through multi-modal policy, planning and logistics;
- Developing infrastructure monitoring systems to enhance infrastructure inspection and management to ensure a state of good repair;
- Promoting safe, secure, livable and sustainable communities through quality of life improvements and diverse transportation development.



UTRC will promote research that supports the USDOT strategic goals to improve public health and safety, foster livable communities, ensure that transportation assets are maintained in a state of good repair, support the nation's long term economic competitiveness, work to achieve environmental sustainability, and achieve organizational excellence. *The award from the federal government and the renewal of our agreements with NYSDOT and NYMTC are a tremendous vote of confidence not only for us but also for the region we serve*, said Dr. Camille Kamga, the center's director.

The center's research focus under the federal grant will be economic competitiveness. It was one of 33 awardees out of 142 applicants in the 2013 round of USDOT funding. A list of grant recipients is available at: http://www.rita.dot.gov/utc/about/grant_recipients/html/2013_grant_recipients.html

UTRC Region 2's Student from Rowan University Receives the “2013 UTC Outstanding Student of the Year” Award



Sean Coffey, a graduate research assistant in the Civil and Environmental Engineering Department at Rowan University was presented the 2013 UTC Student of the year award at the CUTC Banquet at 23rd Annual Outstanding Student of the Year Awards at TRB meeting, held on January 11, 2014 at Washington, DC. Sean was selected on the basis of his technical merit, research and academic performance. He graduated in May 2012 with a bachelor's degree in civil engineering with honors and anticipates completing his master's degree in civil engineering in December 2013.

Sean started his graduate studies by being the first Rowan University student to receive the UTRC Advanced Institute for Transportation Education (AITE) Graduate Fellowship. Sean has worked on various projects for both the New Jersey Department of Transportation (NJDOT) and the Rhode Island Department of Transportation (RIDOT). His initial project looked at reclaimed asphalt pavement (RAP) variability and its effect on pavement performance when used in higher percentages. NJDOT has been restricted to using less than 15 percent of RAP in surface layers of pavement due to

variability. Sean's work gave insight in how to control this variability issue.

The NJDOT project, he most recently work on, focuses on correlating multiple stress creep recovery results with polymer modification in binders. Sean's main task was to create a Microsoft Access database that will store all of the data, making it searchable and completing basic calculations for the user. He has also been working on predictive pavement performance and preservation for RIDOT.

Based on his academic achievement and work in the area of asphalt pavement materials, the University Transportation Research Center is proud to select Sean Coffey as its 2013 Outstanding Student of the Year.

Congratulation Sean!

UTRC's Distinguished Lecturer Matthew W. Daus Delivers "Game Changer" Technology Disruption Speech in Washington, DC at U.S. Department of Transportation Headquarters



Figure 1-Former TLC Commissioner/Chair and Coalition of Transportation Associations (COTA) President/Board Chair Matthew W. Daus, congratulates his friend the newly appointed Chair of the NYC Council Transportation Committee, Ydanis Rodriguez (second from left),

Matthew Daus, UTRC Distinguished lecture delivered a "Game Changer" speech at the request of the Assistant Secretary of the United States Department of Transportation (US DOT) in Washington, D.C. on February 6th, 2014. The two day conference hosted by the U.S. DOT's Research and Innovative Technology Administration (RITA) was entitled the Clean Transportation Sector Initiative Workshop – Reducing Greenhouse Gas Emissions Beyond 80% by Mid-Century. A select group of distinguished members from the private, public and academic sectors specializing in transportation and technology, as well as automotive and climate change experts attended and worked closely together for two straight days.

Workshop moderator Kevin Womack, the U.S. DOT's Associate Administrator for Research and Technology, coordinated excellent sessions that highlighted the crossroads between technology and environmental sustainability.

To access the full article, authored by Matt Daus, please visit the website at: http://tlc-mag.com/in_focus_mar14.html

UTRC Faculty from NYU, Dr. Rae Zimmerman will Participate in the New York State Resiliency Institute for Storms & Emergencies (NYS RISE) Storm Preparedness Initiative

Governor Andrew M. Cuomo has announced the launch of the New York State Resiliency Institute for Storms & Emergencies (NYS RISE), an "applied think tank" led by New York University and Stony Brook University – and NYU Wagner professor Rae Zimmerman will participate as a researcher. According to the Governor's announcement, the new Institute "will serve as a hub of research and education on emergency preparedness, as well as a clearinghouse of information regarding extreme weather and natural disasters."

Rae Zimmerman, Professor of Planning and Public Administration, has been working under the leadership of NYU-Poly and other members of NYS RISE as a researcher in infrastructure resiliency and planning-related issues in connection with extreme weather events.

In addition to NYU and Stony Brook University, partners in the research consortium include Columbia University, Cornell University, City University of New York, and Brookhaven National Laboratory.

For more information, visit: www.governor.ny.gov/press/11012013-nys-rise

IATR Model Regulations for Accessible Ground Transportation

Authored by UTRC Distinguished Lecture, Matthew Daus

The International Association of Transportation Regulators (IATR) will be undertaking a very important and extensive project in the New Year that will involve wheelchair accessible service in the ground transportation arena. This is a landscape-changing project that will be somewhat similar to, but even more expansive than, our work in the smartphone application regulatory arena.

The initial stages of this project will involve the formation of a committee and working group to solicit ideas, draft regulations and research policy approaches taken in key jurisdictions in the United States, Canada, Australia, Europe and beyond. While participation on the IATR Accessibility Committee will be limited to regulators, there will be significant opportunities and formats for stakeholders, such as automobile manufacturers and retrofitters, accessibility advocates, tourism officials and others, to participate.

To read more about the project, please read the full article at: <http://www.iatr.org/PresidentUpdate-Feb2014.html>

Dr. Zhan Guo, a NYU Professor Publishes an Article Resulted from a UTRC Sponsored Research on “Residential Street Parking and Car Ownership” in the Journal of American Planning Association

Residential street parking and car ownership: A study of households with off-street parking in the New York City Region. Journal of the American Planning Association, 79 (1), 32-48

In this research, Zhan Guo, a professor of urban planning and transportation policy at NYU, investigates whether the availability of street parking would affect the car ownership of households who already have a private garage or driveways. He collects home parking information through Google Street View and links it to

households in the travel diary survey in the New York City region. Results show that readily available AND free street parking on residential streets increases private car ownership by nearly 9%; that is, 1 out of 11 cars owned by households with off-street parking are purchased due to the availability of street parking.

Project's Website: <http://www.utrc2.org/research/projects/residential-parking-policies-new-york-city>

Dr. James Cohen, Professor Emeritus and Director of Research Initiatives, ITS/CUNY's Research on Digitized Publication for the U.S. High Speed Rail Association's Website

Dr. Cohen is developing a digitized publication for the website of U.S. High Speed Rail Association (USHSRA). Jim's research will provide the USHSRA with information on the history of trains, their financing from public and private sources, speed, corridor maps,

and historical videos, on corridors where high speed rail is currently under consideration in the U.S., such as San Francisco to Los Angeles, Houston to Dallas, and Tampa to Orlando to Miami. For more information, contact Jim at: jcohen@jjay.cuny.edu

News from University at Buffalo/SUNY

Projects:

- **Freight Demand Forecasting in the Context of the Built Environment: An Integrated Land Use and Travel Demand Modeling Approach**
PI: Qian Wang, Assistant Professor, Department of Civil, Structural and Environmental Engineering, University at Buffalo, the State University of New York
Sponsor: University Transportation Research Center
- **Mining Transportation Information from Social Media for Planned and Unplanned Events**
PI: Dr. Qing He, The Stephen Still Assistant Professor in Transportation Engineering and Logistics at SUNY Buffalo
Sponsor: TransInfo University Transportation Center

New Faculty/Promotions/Appointments:

- Dr. Daniel B. Hess has been appointed co-chair of the Pedestrian and Bicycle University Education Subcommittee of the Transportation Research Board.
- Dr. Panagiotis (Panos) Ch. Anastasopoulos has been appointed as a Founding Editorial Board Member of the Elsevier journal Analytic Methods in Accident Research.

UB hosted the reception at the 93rd Annual Meeting:

SUNY-Buffalo, the Institute for Sustainable Transportation and Logistics (ISTL), and TransInfo University Transportation Center, hosted a Reception at the 93rd Annual Meeting of the Transportation Research Board of the National Academies in January 2014, in Washington DC.

The Reception highlighted the establishment of the ISTL and TransInfo centers, and was hosted by Prof. Adel Sadek, ISTL's and TransInfo's Director and Professor of Civil Engineering, and Assistant Professors at the Department of Civil, Structural and Environmental Engineering, Dr. Panagiotis (Panos) Ch. Anastasopoulos, Dr. Qing He, and Dr. Qian Wang.

The University at Buffalo is Awarded a Tier I University Transportation Center to Mine “Big Data” for Transportation Informatics

The mission of the Tier I Transportation Informatics University Transportation Center (referred to hereafter as TransInfo UTC) is undertake research, education, training, and technology transfer activities aimed at realizing the full potential of “Big Data” and Transportation Informatics in: (1) improving transportation system performance; and (2) guiding investments and policies. We anticipate that the activities performed under the umbrella of the TransInfo Center will advance the state of knowledge of the emerging field of transportation informatics, and will better prepare and educate both the existing transportation workforce, as well as the next generation of transportation professionals in how to harness the power of “Big Data” to address transportation challenges.

To read more about the award, please visit www.buffalo.edu/transinfo

TransInfo is a consortium of four National Universities led by the University at Buffalo (UB), the State University of New York (SUNY) located in Buffalo, New York. The three other universities are: Rensselaer Polytechnic Institute (RPI) located in Troy, New York; George Mason University (GMU) located in Fairfax, Virginia, minutes from Washington, D.C.; and (4) the University of Puerto Rico-Mayagüez (UPR-M) located in Mayaguez, PR, which is a minority-serving institution. In addition, the Universities are partnering with CUBRC, a not-for-profit, Research Corporation headquartered in Buffalo, NY, which will serve as a non-member partner.

Prof. Changhyun Kwon in the Industrial and Systems Engineering Department, Who has Previously Received Funding from UTRC, has been just Awarded an NSF CAREER Grant

Title: *CAREER: Advancing Routing Methods in Hazardous Materials Transportation*

The objective of this project is to advance routing methods in hazardous materials (hazmat) transportation to mitigate the risk of hazmat accidents and provide fundamental building blocks to bring the current research and practice up to the next level. This project will provide essential theory and algorithms of Spectral Risk Measures (SRM) applied in hazmat transportation, which have the potential to radically change current research and practice in

government planning for safer management of infrastructure. This project will deliver routing methods based on the SRM concept under data uncertainty and time dependency. SRM will be shown to be effective in low-probability, high-consequence applications. If successful, this project will provide the most advanced risk mitigation methods for hazmat routing.

Albany Visualization And Informatics Lab (AVAIL) has been Selected to Develop Advanced Web-Based Data Analysis Tools for the Federal Highway Administration (FHWA)

As Director of the Lewis Mumford Center at the State University of New York at Albany, Dr. Catherine T. Lawson has announced this week that its Albany Visualization And Informatics Lab (AVAIL) has been selected to develop advanced web-based data analysis tools for the Federal Highway Administration (FHWA). The prestigious project is focused on supporting evidence-based decisions about vehicle travel data across the country. Utilizing innovative visualizations and analysis techniques, AVAIL will create software to enable government agencies, academic institutions, private industry and the general public to benefit from improved data covering the permitting of overweight vehicles, truck routing, trends in freight movement, noise and air pollution, pavement design, safety implications of various mixes of vehicles, average daily traffic, signal timing, and more!

AVAIL serves as a multidisciplinary workforce development bridge for its university graduate students. Pairing students with full-time AVAIL staff on software development and project management tasks creates a cooperative learning environment where subjects learned in the classroom can be solidified with hands-on experience. After leaving the AVAIL team, its graduates are better prepared to meet the needs of today's job market

For more information on the Lab, please visit the website at: www.albany.edu/avail/

Four Stony Brook Professors, Including a UTRC Faculty; Dr. Alexander Orlow, Receive NSF-CAREER Awards Totaling Nearly \$2 Million



Researchers are producing hydrogen from water using light and novel nanomaterials.

Picture from left to right:
Peichuan Shen, PhD student;
Shen Zhao, PhD student;
and Dr. Alexander Orlow.

Award given to promising young faculty members in the beginning stages of their careers.

Four faculty members at Stony Brook University were selected to receive the prestigious National Science Foundation (NSF) Faculty Early Career Development (CAREER) program award. The award, which includes a substantial grant to support research over a five-year period, is given to promising young faculty members who exemplify the role of teacher-scholar through outstanding research, excellent education and the integration of both education and research. –

The research team includes PI John Parise, PhD, a Distinguished Professor in the Department of Geosciences and the Department of Chemistry at Stony Brook with a joint appointment at Brookhav-

en National Laboratory (BNL); Artem Oganov, PhD, Professor of Theoretical Crystallography in the Department of Geosciences and Department of Physics and Astronomy at Stony Brook; and Alexander Orlov, PhD, Assistant Professor of Materials Science & Engineering at Stony Brook. Their project, entitled “High-Pressure Synthesis of Novel Oxynitride Photocatalysts Directed by Theory and In Situ Scattering,” will integrate theory, synthesis and property measurements with the aim of unlocking the potential of high pressure as a routine tool for solid state materials discovery.

- See more at: http://commcgi.cc.stonybrook.edu/am2/publish/General_University_News_2/SBU_Professors_Collaborate_on_NSF-Funded_Materials_Genome_Initiative.shtml#sthash.6oDuPgORdpuf

UTRC Faculty Profile

Dr. Hongmian Gong, Member in the Board of Directors, University Transportation Research Center Region II

Associate Professor of Geography at Hunter College of the City University of New York

Associate Professor of Earth and Environmental Sciences at the Graduate Center of the City University of New York



Dr. Hongmian Gong has been an Associate Professor of Geography at Hunter College of the City University of New York since 1998 and an Associate Professor of Earth and Environmental Sciences at the Graduate Center of the City University of New York since 2003. She holds a Ph.D. in Geography from the University of Georgia, M.A. in Urban Studies from the University of Akron, and B.S. and M.S. in Geography from Zhongshan University, China.

Dr. Hongmian Gong has done substantial research on using GPS, Web GIS, and mobile technologies for urban transportation studies. She accumulated considerable experience on GPS accuracy and urban canyon effect from a project of pilot testing the use of handheld GPS in the household travel survey in New York tri-state metro region. After the pilot-test, she and her team members explored the feasibility of a passive travel survey collection in a complex urban environment like New York City and published an article in *Transportation Research Part A*. They also post-processed data from two small GPS-based travel surveys for travel mode detection in New York City, the results of which is published in *Computers, Environment and Urban Systems*. To extend the GPS research further, Dr. Gong built a Web GIS for validation of GPS travel data and developed a smartphone app to transmit GPS data over the Internet to an cloud server for travel mode detection. The app is being tested by students at Queens College to provide carbon emission and calorie-burned information in relation to commuting mode choices. Dr. Gong is recently funded to integrate real-time GIS and social media to collect qualitative transportation data for trip purpose speculations and for responses to extreme events.

In addition to transportation, Dr. Gong is interested in research on urban advanced services (the financial services in New York City, in particular) and China. She serves in the Board of Directors in the Asian Urban Research Association and in the Association of American Geographers Urban Geography Specialty Group. Dr. Hongmian Gong is the author/coauthor of 33 publications including journal articles, book chapters, and research reports. She presented in 51 international, national, and regional conferences and organized three conference sessions. Last year, Dr. Gong established a research cluster team on GPS for Transportation at UTRC2 (<http://www.geography.hunter.cuny.edu/~hgong/GPS/ClusterTeam.htm>) and organized a GPS for Transportation Symposium in New York City (program and presentation videos available at <http://www.geo.hunter.cuny.edu/~hgong/GPS/Symposium.htm>). To fund her research, Dr. Gong has obtained over \$500K from various sources such as University Transportation Research Center, New York Metropolitan Transportation Council, and Research Grants Council of Hong Kong.

NYU Rudin Center for Transportation Hosted the Excellence in Transportation Breakfast

March 13, 2014 at the Modern



From Left to Right: Dr. Camille Kamga, Sarah Kaufman and Chris Boylan at the NYU Rudin Center for Transportation breakfast at The Modern, March 13, 2014

The NYU Rudin Center for Transportation hosted the Excellence in Transportation Breakfast on March 13, 2013, at The Modern. Tom Prendergast, MTA Chairman and CEO and Polly Trottenberg, NYC DOT Commissioner, delivered keynote addresses. UTRC's Director, Dr. Camille Kamga attended the event and had a chance to meet the officials to discuss the transportation issues facing the Region.

Dr. Neville A. Parker Presented the “Parker Award” for Outstanding Non-thesis Masters Degree Paper in Policy and Planning at CUTC Banquet



From L to R: Dr. Neville A. Parker, CCNY; Mr. Martin Barna, MIT; and Peter Hass, MIT

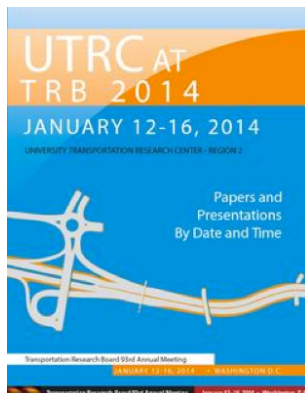
We proudly acknowledge Dr. Neville A. Parker for his association with UTRC and his long term contribution to Transportation. Dr. Neville Parker attended the TRB meeting and CUTC Banquet award to present the prestigious award named after him, “Parker Award for Outstanding Non-thesis Masters Degree Paper in Policy and Planning”. The award was given to Mr. Martin Barna of Mineta Transportation Institute-San Jose State University for his paper

titled, “Evaluation of Service Design Characteristics for Concurrent BRT and Local Bus Service in Santa Clara County and Other Urban Corridors”.

Past Events

UTRC at Transportation Research Board 93rd Annual Meeting

January 12-16, 2014 at Washington, D.C.

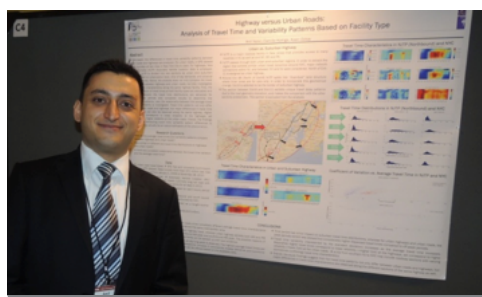


UTRC staff and consortium faculty participated at the 93rd Transportation Research Board Meeting held from January 12 - 16 2014. There were more than 100 papers and presentations delivered at TRB from UTRC Consortium faculty covering all kind of transportation related topics; Aviation, Bridges, Finance, Economics, Freight, Operations & Traffic Management, Pedestrian and Bicyclists, Policy and Safety, just to name a few. UTRC has compiled a list of all these presentations in a compendium available online at <http://www.utrc2.org/publications/utrc-trb-2014-compendium>

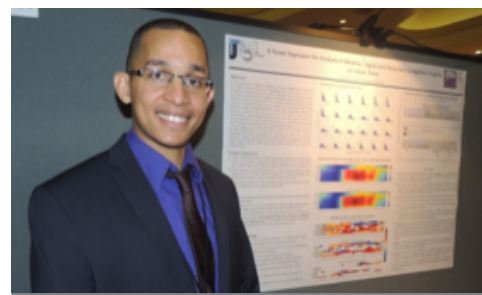


UTRC Director Emeritus, Dr. Robert E. Paaswell (second from Left) joined a panel discussion on the History of the New York Metropolitan Transportation Authority

UTRC researchers presented at the TRB meetings. Below are few images from our UTRC members:



UTRC Senior Research Fellow, Dr. Anil Yazici presented his research, "Highway Versus Urban Roads; Analysis of Travel Time and Variability Patterns Based of Facility Type"



UTRC French Intern, Yohan Urie presented his UTRC research, "A Novel Approach for Analysis of Weather, Signal, and Recurrent Congestion Impacts on Urban Policy"



UTRC staff at the CUTC Banquet at the TRB meeting along with other attendees

Dr. Zhan Guo Presented his Research at the University of California on the Topic “The Impact of Metro Map Design on Passenger Route Choices: Cases of London and Washington D.C.”

February 13th, 2014 – University of California, Berkely

Zhan Guo, a professor of urban planning and transportation policy at NYU, was invited to give a talk at the City Lecture Series in University of California, Berkeley on Feb 13th, 2014. The topic is “Impact of Metro Map Design on Passenger Route Choices: Cases of London and Washington D.C”. He analyzed the effect of the tube map in London on passengers’ route choice decision and presented an on-going research that aims to redesign the metro map in Washington DC to “persuade” passengers away from bottlenecks to underutilized links in the network. The experiment was done through a crowdsourcing platform, the Mechanic Turk. The talk attracted about 70 students and faculty members from urban planning, architecture, transportation, informatics, computer sciences, and graphic design.



UTRC and BWRC Hosted a Half-Day Symposium on “Has the Brooklyn Waterfront Gone Global - Again?”

March 21, 2014 at Brooklyn Borough Hall

*Event Photos by Eva Zelarayan, courtesy of CityTech's Facility Commons

University Transportation Research Center and Brooklyn Waterfront Research Center hosted a half day symposium on March 21st, 2014 at the Brooklyn Borough Hall. The symposium addressed the history of the Brooklyn in the context of the Brooklyn waterfront's rich industrial history and how and why that industry disappeared.

In the past the Brooklyn waterfront has played an important role on the global stage. In the early 19th century it was a processing destination for raw commodities such as sugar, coffee, and tobacco with complicity in the global slave trade. In the early 20th century, it became an industrial center for manufacturing, warehousing and export distribution. Then, in the 1960s, it suffered a huge decline in jobs, economic vitality, and global reach. Today there has been rejuvenation but the commerce that has returned to the waterfront is different yet again.

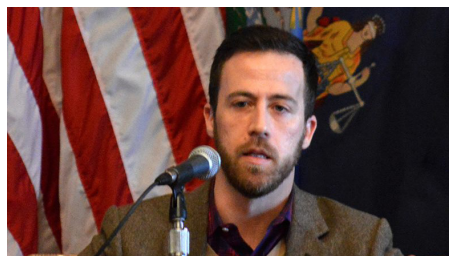
- Are these new jobs once again placing Brooklyn on the global stage? How?
- In what ways is the Brooklyn waterfront having a global reach?
- How is that global reach similar and differ ent from what it once was?



Presenter: Mary Habstritt, president and founder of the Historic Ships Coalition



Mark Levinson, author of the award-winning book *The Box: How the Shipping Container Made the World Smaller and the World Economy Bigger*(Right), Richard Hanley, CityTech (Left)



Presenter: Christopher Tepper, Jamestown Properties (Industry City)



Presenter: John J. Liantonio, PANY/NJ

Past Events

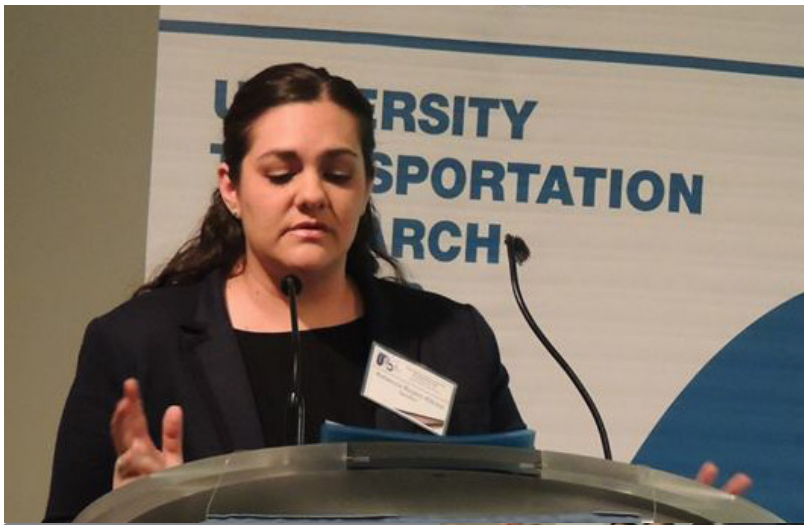
Future Rail Investments Planned for the Northeast Corridor

DATE: March 28, 2014 - 2:00pm to 4:00pm

Rebecca Reyes-Alicea is FRA's program manager for NEC FUTURE. She described the nature of the planning process, the challenges in working on a corridor that crosses eight states and is served by commuter, intercity and freight railroads, and the steps NEC FUTURE is taking to develop a long-range investment program.

Population and employment in the Northeast is expected to grow some 25-35 percent over the next 25 years, bringing the prospect of economic prosperity and the reality of even more traffic and congestion. The Washington-Boston Northeast Corridor rail line already carries a significant portion of the region's travelers to and

from work and other destinations. Its ability to absorb the crush of new travelers in the coming decades, and to support the region's economic development, will require a significant investment to grow capacity, improve reliability and serve new markets. The Federal Railroad Administration (FRA), an agency within the U.S. Department of Transportation, is leading development of a Passenger Rail Corridor Investment Plan – called NEC FUTURE – to define the investment required to keep the Northeast Corridor vibrant and to prepare the roadmap for federal, state and private investment. For the event video and photos, please visit the event's website at: <http://utrc2.org/events/vss-future-rail-investments>



Rebecca Reyer-Alicea, FRA's Program Manager for NEC Future presenting at the UTRC's Visiting Scholar Seminar



A Packed-house at the UTRC's Seminar on the Future of Railroad corridor

Upcoming Events

Short Talks, Big Ideas

DATE: April 7, 2014 - 6:30pm to 9:00pm

Join the NYU Rudin Center on Monday, April 7th at 6:30pm to learn about new projects and thinking on the frontiers of transportation. Speakers will deliver lightning presentations about their work and ideas, followed by networking, refreshments. We guarantee the audience will learn something new.

<https://wagner.nyu.edu/events/rudin-04-07-2014>

NJ TransAction 2014

DATE: April 8-10, 2014 - at the Hotel Tropicana, NJ

TransAction 2014 will be here shortly! The annual New Jersey Transportation Conference and Expo - TransAction 2014 will be held at the Tropicanna Hotel, Casino and Conference Center, Atlantic City, NJ on April 8th, 9th, and 10th (Tuesday, Wednesday & Thursday). TransAction 2014 will feature over 72 workshop sessions (4 & 5 concurrent throughout each day) specializing in bus, rail, roads, bridges, goods movement, pedestrian/bicycle, para-transit, community transportation, ports, and much more.

For more information, please visit: <http://www.njtransaction.com/>

Newly Awarded Projects

UTRC has funded the following projects in response to its 2013-14 Faculty Initiated Proposals. The projects fall into the following research categories:

- Faculty Initiated
- Emerging Investigators
- Education and Technology Transfer

Faculty Initiated

The primary purpose of this program is to fund novel and exciting ideas from faculty in the area of transportation. The projects funded should seek to promote excellent and innovative research on transportation problems relevant to U.S. DOT's Region 2.

PI	Institution	Topic
Robert Noland	Rutgers	Omitted variable bias in crash data analysis
Ricardo Daziano	Cornell	Analyzing Willingness to Improve the Resiliency of New York City's Transportation System
Rae Zimmerman	NYU	Suburban Poverty, Public Transit, Economic Opportunities and Social Mobility
Steven Chien	NJIT	Optimizing Work Zones for Highway Maintenance with Floating Car Data (FCD)
John Bullough	RPI	Demonstrations of Urban Outdoor Lighting for Pedestrian Safety and Security
Qing He	U Buffalo	Smarter Multi-modal Traffic Signal Control with Both Floating Sensor Network and Fixed Sensor Network
Jeff Ban	RPI	Investigating the Network System Effects of Mileage FeesFixed Sensor Network
Riyad Aboutaha	Syracuse	The Economy of Preventive Maintenance of Concrete Bridges
Fadi Karaa	NJIT	Requirements, Model and Prototype for a Multi-Utility Locational and Security Information Hub
Rajan Batta	U Buffalo	Effective and Equitable Supply of Gasoline to Impacted Areas in the Aftermath of a Natural Disaster
Karl Korfmacher	RIT	Modeling Emissions and Environmental Impacts of Transportation Activities Associated with High Volume Horizontal Hydraulic Fracturing Operations in the Marcellus Shale Formation
Yusuf Mehta	Rowan	Truck Driver Fatigue Assessment using a Virtual Reality System
Panagiotis Ch. Anastasopoulos	U Buffalo	Evaluation of Public-Private Partnership Contract Types for Roadway Construction, Maintenance, Rehabilitation, and Preservation
Elena Prassas	NYU Poly	Development of a New Connected Eco-Driving Technology at Signalized Intersections with Adaptive Signal Control
Cara Wang	RPI	Investigating Temporal Effects on Truck Accident Occurrence and Severity Levels in New York City
Alexander Orlov	Stony Brook	Nitrogen Dioxide Sequestration Using Demolished Concrete and Its Potential Application in Transportation Infrastructure Development
Hongmian Gong	CUNY	Integrating Real-time GIS and Social Media for Qualitative Transportation Data Collection

Research

PI	Institution	Topic
Alison Conway	CCNY	Freight Costs at the Curbside: Impacts of Accessibility Restrictions
Catherine Lawson	U Albany	Techniques for Information Extractions from Compressed GPS Traces
Huiming Yin	Columbia	Characterization and Modeling of Photon Absorption in Asphalt Materials for Improved Accuracy and Consistency of Nuclear Density Measurement
H Oliver Gao	Cornell	Evaluating the Role of Private Investment in Life Cycle Management of New York State's Infrastructure Assets
William T. Riddell	Rowan	Effect of plug in hybrid electric vehicle adoption on gas tax revenue, local pollution and greenhouse gas emissions
Jose Holguin-Veras	RPI	Impacts of Freight Parking Policies in Urban Areas: The Case of New York City
David King	Columbia	Understanding Transit Finance: An Analysis of Transit Funding Around the World
Kaan Ozbay	NYU Poly	Real-time Estimation of Transit Origin-Destination Patterns and Delays Using Low-Cost Ubiquitous Advanced Technologies
Jiyoung Park	U Buffalo	The Ties that Bind: Developing a Bi-national Transportation-Combined Economic Simulation Model to Assess Security and Policy Implications of US-Canada Border Bridges
Sulapha Peethamparan	Clarkson	Characterizing and quantifying the shrinkage resistance of Cement Free Concrete and evaluating potential mitigation methods for reducing early age cracking in pavements and bridges

Emerging Investigators

This program is to assist faculty (especially junior faculty) at UTRC member institutions to learn to write competitive research proposals and to develop relationships with funding agencies

PI	Institution	Topic
James Cohen	CUNY	Finance, Speed And Rail Infrastructure Improvement
Qian Wang	U Buffalo	Freight Demand Forecasting in the Context of the Built Environment: An Integrated Land Use and Travel Demand Modeling Approach
Jiyoung Park	U Buffalo	Panama Canal Expansion and the Economic Impacts on New York and New Jersey States
Ya Wang	Stony Brook	Broadband Hybrid Electromagnetic and Piezoelectric Energy Harvesting from Ambient Vibrations and Pneumatic Vortices Induced by Running Subway Trains
Thomas Brennan	TCNJ	Characterizing Highway Corridor Length to Evaluate Travel Time Reliability using Probe Vehicle Data
Jee Eun Kang	U Buffalo	Development of the Household Activity Pattern Problem as an Activity-Travel Simulator

Education and Technology Transfer

Projects under this category include outreach activities to advance the awareness of the general public, policy makers and transportation organizations on the issues, consequences, objectives and resources, associated with the USDOT strategic goals.

PI	Institution	Topic
Jose Holguin-Veras	RPI	Improving Freight System Performance in Metropolitan Areas
Changxu Wu	U Buffalo	Addressing the Four Leading Factors of Accidents of Young Drivers in Region II using a New Driver Feedback System
Mitchell Moss	NYU	Adaptable Transportation Models for the New York Region
William Wallace	RPI	Mobile Information Technology for Improving Traffic Management at Planned Special Events: A case study of the New York State Fair
Mitchell Moss	NYU	Preparing Emerging Leaders in Transportation Innovation

UTRC Recently Completed Projects

As we promise to share the research results with transportation professionals in the industry and academia, we are pleased to report the completion of our following projects with a link to download the full report at the UTRC website.

PI	Institution	Topic	Sponsor(s)
Dr. Thomas Bennert	Rutgers University	Grade Determination of Crumb Rubber-Modified Performance Graded Asphalt Binder Final Report: http://www.utrc2.org/publications/final-graded-asphalt-binder	NYSDOT
Dr. Yusuf A. Mehta	Rowan University	Correlation between Multiple Stress Creep Recovery (MSCR) Results and Polymer Modification of Binder Final Report: http://www.utrc2.org/publications/final-MSCR-polymer-modification	NJDOT UTRC
Dr. Kaan Ozbay & Dr. Hani Nassif	Rutgers University	Data Driven Performance Measures for Effective Management of Complex Transportation Networks Final Report: http://www.utrc2.org/publications/final-data-driven-performance-measures	UTRC
Dr. Raimondo Betti	Columbia University	Finite Element Model Updating and Damage Detection for Bridges Using Vibration Measurements Final Report: http://www.utrc2.org/publications/final-finite-element-model	UTRC
Dr. Lisa B. Axe	New Jersey Institute of Technology	Field Methods for Determining Lead Content in Bridge Paint Removal Waste Final Report: http://www.utrc2.org/research/projects/lead-content-bridge-paint-removal-waste	NYSDOT
Dr. John Bullough & Dr. Mark Rea	Rensselaer Polytechnic Institute	Leveraging Brightness from Transportation Lighting Systems through Light Source Color: Implications for Energy Use and Safety for Traffic and Pedestrians Final Report: http://www.utrc2.org/publications/final-leveraging-brightness-light-source-color	UTRC

PI	Institution	Topic	Sponsor(s)
Dr. Alexander Orlov	State University of New York (SUNY)	Developing Self-cleaning and Air Purifying Transportation Infrastructure Components to Minimize Environmental Impact of Transportation Final Report: http://www.utrc2.org/publications/final-self-cleaning-transportation-infrastructure-components	UTRC
Dr. Xiaokun (Cara) Wang	Rensselaer Polytechnic Institute	Traffic Volume Estimation using Network Interpolation Techniques Final Report: http://www.utrc2.org/publications/final-traffic-volume-interpolation	UTRC
Dr. Yusuf A. Mehta	Rowan University	Characterization of Fatigue Properties of Binders and Mastics at Intermediate Temperatures using Dynamic Shear Rheometer Final Report: http://www.utrc2.org/publications/final-binder-fatigue	UTRC
Dr. Elena Prassas	Polytechnic Institute of NYU	Relating the 2010 Signalized Intersection Methodology to Alternate Approaches in the Context of NYC Conditions Final Report: http://www.utrc2.org/publications/final-signalized-intersection-methodology	UTRC
Dr. John C Falcocchio & Dr. Elena Prassas	Polytechnic Institute of NYU	Traveler Oriented Traffic Performance Metrics Using Real Time Traffic Data from the Midtownin- Motion (MIM) Project in Manhattan, NY Final Report: http://www.utrc2.org/publications/final-traffic-performance-metrics	NYSDOT
Dr. Changhyun Kwon	State University of New York (SUNY)	Towards Socially and Economically Sustainable Urban Developments: Impacts of Toll Pricing on Residential Developments Final Report: http://www.utrc2.org/publications/final-toll-pricing	UTRC
Dr. Xiaokun (Cara) Wang	Rensselaer Polytechnic Institute	Conduct Urban Agglomeration with the Baton of Transportation Final Report: http://www.utrc2.org/publications/final-urban-agglomeration	UTRC
Dr. Thomas H. Wakeman III & Dr. Jon Miller	Stevens Institute of Technology	Lessons from Hurricane Sandy for Port Resilience Final Report: http://www.utrc2.org/publications/hurricane-sandy-port-resilience	UTRC
Dr. Camille Kamga & Dr. Satish V. Ukkusuri	City University of New York	A Decision Support Model to Understand Route Choice Decisions and Siting of Facilities in Emergency Evacuation Final Report: http://www.utrc2.org/publications/decision-support-model-emergency-evacuation	UTRC
Dr. Xiaokun (Cara) Wang, Dr. Alison Conway, and Dr. Camille Kamga	Rensselaer Polytechnic Institute The City College of New York	Evaluation of the Cooperative Multi- Carrier Delivery Initiatives Final Report: http://www.utrc2.org/publications/final-cooperative-multi-carrier-delivery	UTRC

PI	Institution	Topic	Sponsor(s)
Dr. Ali Maher	Rutgers University	Effects of New Jersey's Cell Phone and Text Ban Final Report: http://www.utrc2.org/publications/final-NJ-cell-phone-and-text-ban	UTRC
Dr. Joseph Berechman	City University of New York	The Politics of Large Infrastructure Investment Decision-Making: The Case of the Second Avenue Subway Case Study Final Report: http://www.utrc2.org/publications/final-second-avenue-subway-case	UTRC
Dr. Lei Zuo	State University of New York (SUNY)	Energy Harvesting from Rail Track for Transportation Safety and Monitoring Final Report: www.utrc2.org/publications/final-energy-harvesting-rail-track	UTRC
Dr. Rae Zimmerman & Dr. Marta Panero	New York University	Mobile Source Air Toxics Mitigation Measures Final Report: http://www.utrc2.org/publications/air-toxics-mitigation-measures-Final	NYSDOT UTRC

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Zhan Guo

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Rae Zimmerman

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R. Zimmerman, "Network attributes of critical infrastructure, vulnerability, and consequence assessment," in *Safety, Reliability, Risk and Life-Cycle Performance of Structures and Infrastructures*, edited by G. Deodatis, B. R. Ellingwood, and D. M. Frangopol, London, UK: Taylor & Francis Group, CRC Press, 2014.

Presentations

- February 6, 2014. "Electric Power Delivery and Transit Infrastructure Performance Models for Sandy," Dorothy A. Reed (presenter), C. J. Friedland, R. Zimmerman, and S. Wang, Poster presentation, 94th American Meteorological Society Annual Meeting, Atlanta, GA.
- January 13, 2014. "Introduction to Transportation Infrastructure Cost Recovery Needs," in Session titled Cost Recovery Strategies for Transportation Agencies: Protecting Transportation Infrastructure and Systems Through Financial Strength, Transportation Research Board 93rd Annual Meeting, Washington, DC.
- December 10, 2013. "Network approaches to assess critical infrastructure risks," Society for Risk Analysis annual meeting, Baltimore, MD.
- November 15, 2013. Presentation in the session titled, "Disasters and Planning: An Emerging Direction for Planning Education," The Association of Collegiate Schools of Planning Administrator's Conference, Ohio State University, Columbus, OH.
http://www.acsp.org/sites/default/files/FINALACSP%20conference_for%20program_8.5x11_11.8.13.pdf
- November 8, 2013. Moderator and Organizer of "Integrating Planning and Resilient Infrastructure: The Next Frontier," panel for the 2013 APA NY Metro Chapter Conference, New York, NY.
http://nyplanning.org/event_11082013.html
- September 23, 2013. "Once Again, the Urban Planning Challenge Associated with Climate Change and Disasters," DIMACS/CCICADA Workshop on Urban Planning for Climate Events, DIMACS Center, Rutgers University, New Brunswick, NJ.
<http://dimacs.rutgers.edu/Workshops/Urban/program.html>

Publications from Rutgers University

(Related to UTRC Sponsored Research, “*Effectiveness-Based Pavement Preservation Selection Based on Statistical Analysis of Long Term Pavement Performance Data*” (<http://www.utrc2.org/research/projects/pavement-preservation-selection>))

Hao Wang

- Wang, H.*, and Z.L. Wang, Effectiveness of Preservation Treatments on Pavement Surface Friction, Construction and Building Materials, Vol. 48, 2013, pp. 194-202
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Publications from University at Buffalo/SUNY

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- He, Q., H. Li, D. Bhattacharjya, D. Parikh and A. Hampapur, “Railway Track Geometry Defect Rectification based on Deterioration Modeling and Derailment Risk Assessment”, to appear in Journal of Operations Research Society 2014
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- L. Lin, Q. Wang, and A.W. Sadek. (2014). On-line Prediction of Border Crossing Traffic using the Spinning Network Method. Transportation Research – Part C (in press).
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- PC. Anastasopoulos, A.W. Sadek, D. Perperidou, and M.G. Karlaftis. (2014). Exploratory Empirical Random Parameter Hazard-Based Analysis of Travel Distance for Sustainable Transport Habits. Proceedings of the 93rd Annual Transportation Research Board Meeting, Washington, D.C.
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