



# Research News

Spring 2011

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## CONTACT US

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## DIRECTOR'S LETTER



Greetings to all affiliate faculty, students, and friends of UTRC

We commenced 2011 by welcoming four new members into our consortium. Last year, per my recommendation, our Board of Directors approved the expansion of our institution memberships. Therefore, four Universities – Clarkson University, Hofstra University, Syracuse University, and The College of New Jersey, are now fully participating members in our consortium. As a result of these additions to our consortium, we are increasing our Center resources

and greatly expanding our education, technology transfer, and research capabilities. I wholeheartedly agree with our Chairman, Professor John Falcocchio, who commented that, *"The Center's goal of adding value to the planning and management products of our agency partners was strengthened with the addition to our Consortium of four new members,..., thus expanding the Center's capacity in innovation and problem solving."*

Additionally, the legendary contributions of Professor Robert Paaswell, our director emeritus, to university transportation education and research, were recognized at the CUTC Banquet Awards. Buzz was honored, and received, the very prestigious award of the Council of University Transportation Centers (CUTC) Distinguished Contribution to University Transportation Education and Research.

In addition, we are, also, very proud of our City College graduate student, Adina Boyce. Ms. Boyce received the Neville Parker Award for Outstanding Non-thesis Masters Degree Paper in Science and Technology. The awards were presented on January 22, 2011, at CUTC's 14<sup>th</sup> annual awards banquet, held in Washington, DC.

We congratulate Professor José Holguín-Veras of Rensselaer Polytechnic Institute, who was named the William Howard Hart Professor. The William Howard Hart Professor of Rational and Technical Mechanics (1883) Endowed Chair was the first endowed chair at Rensselaer Polytechnic Institute and is one of the highest honors bestowed to a Rensselaer faculty member.

We are very excited about the future of the Center. The faculty, staff, and students continue to be a great source of inspiration for all of us at UTRC. As always, we enjoy sharing our successes and updates with you in our newsletter. We welcome your input, advice, suggestions, and recommendations.

Camille Kamga

# NEWS & NOTES

## UTRC AT TRB 2011

Consortium faculty were particularly productive at the 90<sup>th</sup> Annual Meeting of the Transportation Research Board delivering more than 55 papers and presentations. Follow the link below to our TRB 2011 Compendium listing full details. Also, during TRB, Robert E. Paaswell, UTRC Director Emeritus, was awarded the Distinguished Contribution to University Transportation Education and Research Award from the Council of University Transportation Centers at a banquet held on Saturday evening. Dr. Paaswell optimistically addressed the student-filled audience, strongly recommending “to have a passion in your work and to always make sure you have fun”. Timon Stasko and Adina Boyce, both students, received awards at the banquet as well. See below.

<http://www.utrc2.org/events/assets/UTRC-at-TRB2011.pdf>



From L to R – Penny Eickemeyer, Alison Conway, and Jonathan Peters



UTRC Staff at TRB: From L to R – Danielle Petretta, Camille Kanga, Robert Paaswell, and Penny Eickemeyer



From L to R – Yin Hai Wang, Alison Conway, Jonathan Peters, Curtis Tompkins and Camille Kamega



UTCs “20<sup>th</sup> Annual Outstanding Student of the Year” Recipients at the CUTC Banquet Awards



## UTRC Student of the Year Timon Stasko



Timon Stasko has been awarded UTRC Student of the Year. Timon was selected from an outstanding pool of regional candidates including those working on UTRC sponsored research projects and those participating in the AITE Graduate Scholarship Program. Timon Stasko is currently a Ph.D. student studying transportation systems in the

School of Civil and Environmental Engineering at Cornell University. Timon was also a recipient of the NYMTC September 11<sup>th</sup> Memorial Scholarship where he developed cost effective retrofit and replacement strategies to reduce emissions from diesel school buses in NYC. As part of the UTC award, each student attends the Annual Meeting of the Transportation Research Board, is feted at an awards dinner, and receives \$1,000 dollars. Please click here for more information <http://www.utrc2.org/education/index.php>

January in Washington, DC. A cash prize in the amount of \$1,500 is awarded to the winner in each category.

Ms. Boyce earned the Parker Science and Technology Award for her Master's project "Modeling Traffic Idling Conditions in East Harlem (96th to 145th Street & Lenox Ave to 1st Avenue) and Their Impact on Air Quality." The award is named for Dr. Neville A. Parker, Herbert G. Kayser Professor of Civil Engineering at CCNY and Director of the CUNY Institute for Transportation Systems. Currently working toward a PhD at University of California – Davis, Ms. Boyce



earned her BE (Civil) and ME (Civil) degrees from the Grove School of Engineering at CCNY and participated in the NSF NYC Louis Stokes Alliance for Minority Participation and Bridge to Doctorate programs. Professor Parker, who is a past president of CUTC, and PI of both the NYC LSAMP and BTM programs, was one of her mentors.

## Adina Boyce, CCNY Alum, Receives the Neville A. Parker Award

The **Neville A. Parker Awards** are presented annually for the two best non-thesis papers/projects in transportation submitted for an M.S. degree in lieu of a thesis. Awards are made in two categories – Policy & Planning and Science & Technology and must be certified as being the work of the student in partial fulfillment of the degree. Winners are recognized at the CUTC Awards Banquet held in conjunction with the Annual Meeting of the Transportation Research Board in

## Dr. José Holguín-Veras Awarded Endowed Professorship at RPI

Long standing UTRC collaborator and transportation engineering expert, José Holguín-Veras, has been named the William Howard Hart Professor at Rensselaer Polytechnic Institute. "José is an outstanding educator whose research in transportation economics and systems has impacted our community, this region, and the world. In addition to recognizing a sustained record of research and impact, this professorship will enable Dr. Holguín-Veras to pursue large research initiatives that cut across the many dimensions — technological, economic, social, and political — of transportation research" lauded David Rosowsky, dean of the School of Engineering at

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Rensselaer. José began his academic career as a faculty member at The City College of New York and has acted as principal investigator on over a dozen UTRC Research Projects. He is also the Director of RPI's Center for Infrastructure, Transportation, and the Environment (CITE). Follow the links below for more information.

Congratulations José!

<http://www.utrc2.org/directory/people.php?viewid=14&m2&page=3>

<http://news.rpi.edu/update.do?artcenterkey=2813&setapvvar=page%281%29>

<http://transp.rpi.edu/~CITE/index.shtml>

## Priscilla Nelson Named 2011 ASCE Michel Award Recipient

The American Society of Civil Engineers recently awarded Priscilla P. Nelson, the 2011 Henry L. Michel Award for Industry Advancement of Research. The Michel Award recognizes “a leader in the design and construction industry whose dedication and aggressive vision have provided cornerstones for improving the quality of people's lives around the world through research in the design and construction industry”. Dr. Nelson is the first woman to ever be awarded this honor. The selection committee acknowledged her “visionary leadership at the NSF as senior advisor to the director



at the NSF as senior advisor to the director

and as provost of NJIT”. Dr. Nelson is a Professor in the Department of Civil and Environmental Engineering at NJIT and has served as Provost of NJIT . She is also an active member of the UTRC Board. Dr. Nelson will receive her award at the 2011 OPAL Gala (Outstanding Projects and Leaders ) on March 31.

For more information follow <http://civil.njit.edu/people/nelson.php> or January issue of [ASCE News](#).

## Guo Wins Best Paper Award

Dr. Zhan Guo, Assistant Professor of Urban Planning and Transportation Policy and Director of Research at the Rudin Center, has won the award for Best Transportation Paper, presented by the University Transportation Research Center. Professor Guo was honored at a reception hosted by NYU's Rudin Center for Transportation Policy & Management at the Robert F. Wagner Graduate School of Public Service. Professor Guo's paper, “Does the Built Environment Affect the Utility of Walking? A Case of Path Choice in Downtown Boston,” was published in *Transportation Research D: Transport and Environment*, Vol. 14 in 2009. For more information about the award and to access Prof. Guo's paper, please visit the UTRC website: <http://www.utrc2.org/research/bestpaper.php>



From Left to Right: Camille Kanga, Zhan Guo, and Michael Moss



## NYC TLC Honors Matthew Daus

Matthew Daus, UTRC Distinguished Lecturer and head of the Transportation Practice Group at Windels, Marx, Lane & Mittendorf, LLP, was recently honored by the New York City Taxi And Limousine Commission and current TLC Commissioner David Yassky in acknowledgement and thanks for his more than 14 years as Commissioner and General Counsel at the TLC. Matt is also President of the International Association of Transportation Regulators. Follow the link to his monthly column for information on new happenings and current issues in the industry [IATR](#).



New TLC Chair David Yassky and the TLC's Board of Commissioners honored former TLC Chair Matthew Daus at their November public meeting, presenting him with his laminated City badge and a plaque mounting his gavel and acknowledging his "historic and compassionate leadership" of the TLC.

## Professor Sadek's Research Designed to Avert Stranded Motorists

Dr. Adel Sadek, Director of the Transportation Systems Laboratory and Associate Professor in the Department of Civil, Structural and Environmental Engineering at the University of Buffalo is currently working on a project funded by the Federal Highway Administration (FHWA) entitled "Using TRANSIMS for on-line Transportation Systems Management During Emergencies". Dr. Sadek explains that "We are building a computer model of the Buffalo-Niagara region to help planners better manage

the transportation system during inclement weather emergencies like (December's) snowstorm" and ultimately avert scenarios which left motorists stranded in their vehicles for hours and closed the NY Thruway for 24 hours when hit with multiple hazards, including a severe winter storm. Utilizing the model, planners will be able to discern the impacts on traffic patterns when closing certain segments of roadway or directing traffic to a different route, etc. Dr. Sadek and the benefits of this research were touted in several media outlets including the Buffalo News, WBEN - the local Buffalo radio station, and the UB News. Follow the link for more information on the [Transims Project](#).



## Kuo-Ann Chiao Moves On



After 27 years of service with NYSDOT and NYMTC, Kuo-Ann Chiao will fulfill his family's wish and move closer to them. After reflecting on his time here in NY, Kuo-Ann, Director of the Technical Group at the New York Metropolitan

Transportation Council, stated that he has "had the privilege of working with and learning from ... intelligent and professional co-workers at NYSDOT and

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NYMTC” and also that it has been a “great honor working with stakeholders throughout the region.”

Kuo-Ann and UTRC have had a strong and productive relationship beginning in the early 1990’s when Kuo-Ann first met Robert Paaswell, UTRC Director Emeritus, at a conference in Los Angeles. Since that time, UTRC and NYMTC have enjoyed excellent collaboration with more than 15 research studies completed. Subsequent to that first meeting, a team of UTRC faculty acted as advisors in the development of the Best Practice Model (BPM). In addition, UTRC faculty have also assisted in studying the feasibility and eventual development of a freight analysis model. In fact, Kuo-Ann reminisced, the study acted as “the basis of the RFP for the model” and that NYMTC and UTRC were “actually pioneers in this comprehensive analysis for freight modeling needs”. Another innovative program developed through UTRC and NYMTC was the institution of the first training program that brought together planners, engineers and others to “synchronize the same level of skills” for the multi-disciplined staff including basic knowledge of the modeling process, statistics, writing, network analysis. etc.

Kuo-Ann added that he “surely will miss the collaboration experience with all of ...UTRC” and he has conveyed his views to staff reminding them that “we are so fortunate to have such a list of great universities with a group of wonderful and talent faculty and students who provide us with excellent ideas, research capacity and professional advices. UTRC has played a vital factor to where we are today.”

Dr. Paaswell lauded Kuo-Ann asserting “what a wonderful legacy you leave at NYMTC - you should be very proud, as should the whole NY transportation community. My very best wishes for your future work... and, we have had some fun working together!!”

UTRC Acting Director, Camille Kamga, agreed and offered Kuo-Ann the following: “On behalf of the UTRC staff and faculty, I would like to say how sorry we are to hear of your departure from NYMTC and from the region. You will certainly be missed. Thanks again for all your support to our consortium, and best of luck in your new career path.”

Kuo-Ann leaves with only best wishes believing that “NYMTC will reach even greater heights working with its stakeholders to achieve excellence.” He hopes to

apply all he has learned in NY to assist rapidly growing Asian cities address regional perspectives and long term transportation issues.

Best of Luck Kuo-Ann Chiao! Kuo-Ann can be reached at the following email address [kc79@cornell.edu](mailto:kc79@cornell.edu).



## UTRC FACULTY PROFILE

### *Nicholas Maxemchuk*



Nick Maxemchuk was born in Manhattan and has lived his entire life in the NYC metropolitan area. He is currently Professor of Electrical Engineering at Columbia University and has received his PhD and MSEE from the University of Pennsylvania. He is also a CCNY alum receiving his BSEE from City College. Currently, Dr. Maxemchuk is working on three UTRC related projects. They are briefly described below.

“NetSE: Small: Collaborative Research: Integrating Real Time Traffic Signal Control with Networking Control Strategies to Optimize Urban Traffic Networks,” with Dr. Satish Ukkusuri Associate Professor of Civil Engineering Purdue University. Here, the researchers are using communications and networking techniques to control traffic signals based upon the current values of the number of vehicles waiting at a traffic light, nearby traffic lights and in transit on the nearby streets. This project is funded through an NSF grant.

"CPS:Small:The Roles of Communications in Lane Merging Systems." In this project, Dr. Maxemchuk is using a technique called probabilistic verification that he developed for communications protocols to guarantee that collaborative driving protocols are unlikely to fail. I'm applying the techniques to lane merging protocols in

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which automobiles coordinate their maneuvers during the merge of multiple lanes. This project is also funded through an NSF grant.

“NYC MTA”, with Dr. Umit Uyar, Professor of Electrical Engineering, CCNY. Here, the researchers are applying information technology to mass transit. For the past year, the MTA has supported this research on projects ranging from accurately determining the location of buses, using a combination of GPS, dead reckoning and Google maps, to determining the cost of using alternative small payment mechanisms, such as credit cards, for subways and buses.

In addition, Dr. Maxemchuk is also currently the chief researcher at the Institute for Advanced Studies in Networks (IMDEA Networks) in Madrid, Spain. Prior to joining Columbia he was a Technical Leader/Department Head/MTS at Bell Labs and AT&T Labs for 25 years. He has also received the 2006 IEEE Koji Kobayashi Award for Computer and Communications for his work on metropolitan area networks, as well as numerous other awards and accolades and has published more than 150 papers and received more than 30 patents.

Click here for more information <http://www.ee.columbia.edu/~nick/>

## RECENT EVENTS

### Visiting Scholar Dr. Yin Hai Wang Delivers “HOT Lanes Get HOT”



Dr. Yin Hai Wang delivering the UTRC VSS seminar at Baruch College

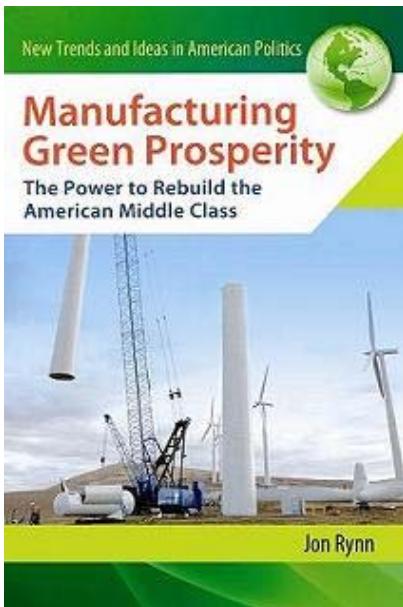
“HOT Lanes Get Hot: Field Observations and Scientific Investigations on Hot Issues”, was presented by Dr. Yin Hai Wang in December last year. Dr. Wang shared major findings of his NCHRP 03-96 study, “Analysis of Managed Lanes on Freeway Facilities”. HOT lane operations involve technical, political, environmental, 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.

For more details click here [VSS Dr. Wang.](#)



## Jon Rynn on “Manufacturing Green Prosperity”



In his book, Manufacturing Green Prosperity, author Jon Rynn 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. On December 6<sup>th</sup>, Rynn presented his ideas and argued that

America 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. Jon Rynn holds a Ph.D. in Political Science from the City University of New York, and has also served as research assistant for the late Professor Seymour Melman of Columbia University. Jon has recently contributed a chapter about green jobs to the book “Mandate for Change”, and has been an environmental blogger for many years for [grist.org](http://grist.org), [newdeal20.org](http://newdeal20.org) and is creator of the following website [www.ManufacturingGreenProsperity.com](http://www.ManufacturingGreenProsperity.com).

### Kari Watkins and One Bus Away

Kari Watkins, P.E. and Ph.D. candidate in Civil and Environmental Engineering at the University of Washington presented “Using Technology to Revolutionize Public Transportation” this past January to staff of the MTA and NYC Transit. In her presentation, Kari emphasized that it is imperative to improve the reliability of public transportation because of the numerous societal benefits, including general mobility, congestion reduction and reduced environmental impacts. However, she argued, from a customer perspective, a mobility choice is only

preferable if it is fast, comfortable and reliable. The presentation then focused on the impacts of the transit rider information system OneBusAway (OBA), originally

developed at the University of Washington by two PhD students – Kari and Brian Ferris - in the summer of 2008. OBA was developed purposely to combat unreliability with greater information to allow riders more control of their trip and therefore encourage and increase transit ridership. The primary use of OBA is to provide real-time next bus countdown information for riders of King County Metro via multiple interfaces, including a website, a standard telephone number, an SMS interface for text-messaging, a website optimized for internet-enabled mobile devices and smartphone applications for the iPhone, Android and others. Follow the link below for more information.

<http://www.onebusaway.org/>



### NYU Polytechnic Workshop Held in Abu Dhabi

Dr. Rae Zimmerman, Professor of Planning and Public Administration at *New York University's* Robert F. Wagner Graduate School of Public Service, was a co-organizer with NYU-Poly's Center for Interdisciplinary Studies in Security and Privacy (CRISSP) and panel presenter with Dr. John Falcoocchio, Professor of Transportation Planning and Engineering at NYU Poly, for the research Workshop on Interdisciplinary Studies in Information Security and Privacy 2010 held on October 3-4 in Abu Dhabi. It was sponsored by the NYU Abu Dhabi Institute. <http://crissp.poly.edu/wissp10/>

Professor Zimmerman co-organized a panel on Critical Infrastructure and Cybersecurity and the presentation by Falcoocchio and Zimmerman was titled “The Importance of Information Technology (IT) for Transportation Security”. The workshop drew participants from Abu Dhabi and different parts of the region around the Abu Dhabi.



# UPCOMING EVENTS

## JD Margulici to Present “Intelligent Transportation: Trends and Perspectives”



J.D. Margulici, founder of Novavia Solutions, LLC and former Associate Director of the California Center for Innovative Transportation (CCIT) will present a Visiting Scholar Seminar to the UTRC audience on April 8<sup>th</sup>. J.D. 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. For details and to register, follow this link:

<http://www.utrc2.org/events/events.php?viewid=290>.

## New York Academy of Science’s Greening Infrastructure and Transportation Series

The Greening Infrastructure and Transportation Discussion Group of the NYAS, of which UTRC is a member, has developed three panel discussions around critical and timely transportation issues faced by our region. Spring seminars are listed below. Follow the NYAS link for more details and to register.

March 2<sup>nd</sup> - Transportation Resiliency in Extreme Weather. Organized by Rae Zimmerman.

April 26<sup>th</sup> - Fare and Toll Payment Technology. Organized by Bruce Schaller.

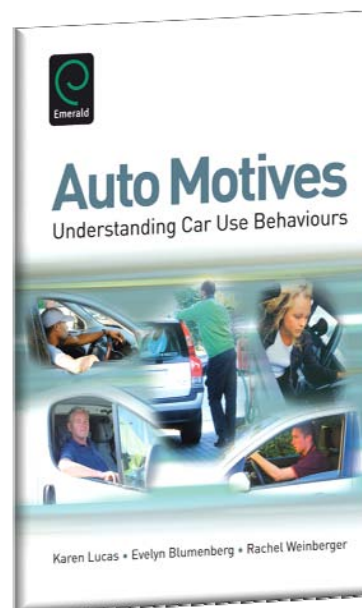
May 10<sup>th</sup> - Smart Growth Around Transportation Hubs. Organized by David King.

[NYAS Transportation and Infrastructure Events](#)

## UTRC Book Talk: “Auto Motives” with Rachel Weinberger

Join UTRC on Thursday, April 28<sup>th</sup> as Rachel Weinberger presents the major findings in the book: Auto Motives: Understanding Car Use Behaviors. The Talk will take place in Sciame Auditorium, the main lecture hall in the Bernard and Anne Spitzer School of Architecture at CCNY, 135<sup>th</sup> and Convent Avenue.

Click [here](#) for more information and to register. Light refreshments will be served.



## Rudin Center Policy Seminars

The Rudin Center for Transportation Policy and Management at NYU’s Wagner Graduate School of Public Service will continue its successful “Thinking and Doing Breakfast Series”. This policy series seeks to pair current policy leaders and practitioners with top academic thinkers to discuss challenging transportation topics and to bridge the gap between theory and practice. The “New Thinking on Transportation and Society: Doctoral Research Series” will also continue. This series provides an informal setting for the nation’s leading young scholars to present their current dissertation research on cutting-edge transportation matters. Students are selected through a nation-wide

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competition. Both programs are co-sponsored by UTRC. Upcoming presentations include:

**March 24th: Noah McClain, NYU:** "The Institutions of Urban Anxiety: Work, Organizational Process and Security Practice in the New York Subway"  
**April 20th: Eric Goldwyn, Columbia** "NYC Taxi & Limousine Commission (TLC) Group Ride Vehicle (GRV) pilot program"

Follow the link for details and updates  
<http://wagner.nyu.edu/rudincenter/>.

## Transportation Choices for Individuals with Autism

Designed for educators, transition coordinators, and adult support staff, this one-day conference will introduce a range of transportation options that can be embedded in current educational and life skills programming. The goal of this conference is not only to help facilitate technology transfer, but also promote a dialogue between service providers and the needs of the developmentally disabled community, who are often under-utilizing existing transportation infrastructure. The event will be April 20, 2011 at the Rutgers University Busch Campus Student Center. Click [here](#) to register.

## Dr. Gong and Dr. Chen selected to present at the AAG Annual Meeting

Two papers authored by Dr. Hongmian Guo and Dr. Cynthia Chen were selected for presentation at the Association of American Geographers' Annual Meeting in April 2011. Dr. Gong is an Associate Professor Department of Geography and in the Ph.D. Program in Earth and Environmental Sciences at Hunter College/CUNY. Dr. Chen is an Associate Professor of Civil Engineering at the University of Washington. Both professors are active UTRC researchers. Their papers accepted are "*Using Mobile Phones for Location Tracking and Activity Monitoring*" and "*Combining GPS/GIS/Internet/mobile technologies to Understand People's Travel*".

For more information  
<http://www.aag.org/cs/annualmeeting> .

## Zhan Guo To Lead Course in Shanghai

Dr. Zhan Guo, Assistant Professor of Urban Planning and Transportation at NYU's Wagner School of Public Service, will be teaching this summer's study abroad program to be held in Shanghai from June 19 to July 1st, 2011. The topic is on urbanization and sustainable development in China. Part of the course will cover the motorization process, the booming of metro systems, and the high-speed rail network in China. The course is opened to all NYU and non-NYU graduate students. More information can be found at

<http://wagner.nyu.edu/global/abroad/shanghai.php>.

## Taxi Research Network Roundtable

The next meeting of the Taxi Research Network is schedule for March 29<sup>th</sup> and will be held in Paris. The session will be webcast live and recorded and posted on the TRN website. Please follow the link below to register and also to access the Network's current newsletter. In it you can find information regarding the recent development and approval of a new TRB subcommittee on taxis, thanks to the diligence of the Network's founding members. In addition, the Network has developed a repository for detailed publications, reports and data of interest to the taxi community. The Network seeks to populate the page further and calls for others to deposit additional relevant information for the sake of rigorous research related to the taxi's integration into mainstream transportation planning. <http://www.taxiresearch.net>

## UTRC Sponsored Research Five Projects Completed

*Three-dimensional Analysis of Underground Tunnels in Liquefiable Soil subject to Earthquake Loading (MINI GRANT) Huabei Liu, Assistant Professor, Department of Civil Engineering, City College of New York/CUNY*

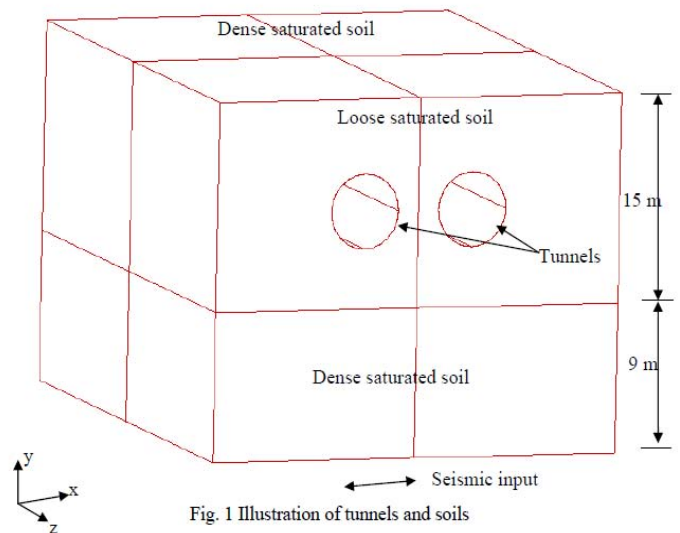
Dr. Huabei Liu, Assistant Professor in the Department of Civil Engineering at City College, undertook this project, “Three-dimensional Analysis of Underground Tunnels in Liquefiable Soil Subject to Earthquake Loading, as part of the UTRC mini-grant program. The study looked at the relationship between tunnel damage in underground subway tunnels during earthquakes and soil consistency, which may be heavy and saturated (liquefiable) or loose (non liquefiable.) When seismic load increases, pore pressure in the soil also increases depending on the extent to which the soil is susceptible to liquefaction. This in turn, influences soil stiffness and strength making the tunnel prone to upward and lateral movement, resulting in deformation and damage. The deformation is known as three-dimensional deformation.

In this study, Three Dimensional (3D) Finite Element Analysis, or numerical simulation modeling, was performed to investigate the seismic response of underground tunnels when they are subject to earthquake loading. This review looked at situations where the 3D response of underground tunnels was due to the occurrence of both loose and liquid-saturated dense soil. Specifically, two subway tunnels were analyzed, both having the same diameter measurement, lining material, and thickness. The finding showed that the shear load may exceed the strength of the underground structure, resulting in severe damage.

The scenario for this simulated analysis involved two subway tunnels based on a real subway line in New York City. Both were assumed to be 5.5 meters in diameter and 9 meters apart, center to center. The assumption for the ground was that it had both loose and dense qualities and was 15 meters thick vertically. Underlying this was either bedrock or a dense soil layer that was 9 meters thick. The analysis involved simulating ground motion at different intensities at the

bedrock layer. Input for the ground motion data was based on one actual earthquake, the 1994 Northridge earthquake in California, and estimates of seismic motion for NYC bridges from Risk Engineering Inc. (Seismic Hazard for New York City. Final Report To Weidlinger Associates, 2002.)

The analysis showed that deformation was greater in liquefied soil than in non-liquefied. It also revealed that underground tunnels passing through both dense and loose saturated ground exhibited two distinctive deformation modes: the uplift and the lateral deformation due to the difference in the soil liquefaction susceptibility. The tunnels would be twisted due to these distinctive deformation modes and the maximum stress in the tunnels would occur in a region close to the boundary between dense and loose grounds. Comparatively, the analysis results indicated that lateral soil



deformation contributed more to the stress in the tunnels than the uplift.

Preliminary analysis also showed that deep soil, at least in the range investigated, led to larger response in the tunnels. It is postulated that this effect is also related to the frequency characteristics of input motions and should be further investigated.

Please refer to

<http://utrc2.org/research/projects.php?viewid=196> for the final report and more detail on this study.

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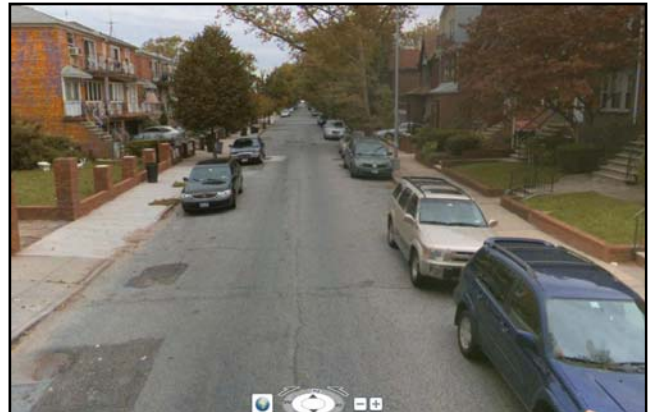
*Michael Carpenter. College of Nanoscale Science, Engineering University, Albany/SUNY Albany, MINIGRANT, Investigation of RFID Sensors for Sustainable Transportation Applications Study*

Though the “Investigation of RFID Sensors for Sustainable Transportation Applications Study” reviewed several uses for RFID (radio frequency identification) technology in transportation, its focus was the utilization of RFID sensing technology for chemical sensing in transportation use. Specifically, PI Michael Carpenter of the College of Nanoscale Science Engineering at SUNY Albany, looked at existing technology which uses RFIDs to obtain temperature readings of concrete during construction, and which improves the construction process in terms of significant time and cost savings. Knowledge of concrete temperature is important because it is necessary to know when the concrete has cured and is therefore strong enough to hold the expected weight. Without RFID, the typical method is to rely on an established protocol, which involves waiting for a mandatory 28 days to guarantee that maximum strength has been reached. With RFID identification, however, temperature can be measured on a case-by case basis, which may vary depending on local temperatures, humidity, concrete volume, etc. With this, construction of transportation related infrastructure can most likely proceed at a faster rate, sometimes after just seven days.

This paper, funded by the UTRC mini-grant program, discusses improvements to the current technology through the recommendation of optical based chemical sensing technologies. Instead of relying on the current approach which requires the RFID tag to be coated with the chemical of interest and the separate use of an expensive reader, the proposed technology would develop low powered chemical sensing devices which can be incorporated directly into the RFID platform. The sensing signals would be transmitted by the RFID tag when the tag is remotely probed. The advantage of this is that sensitive and selective chemical sensors with low power requirements are used and they can be integrated into a flexible material platform. This allows for a more accessible technology and cost and efficiency savings.

Please refer to <http://utrc2.org/research/projects.php?viewid=186> for the final report on this project.

*Mode Shift in Transit Underserved Neighborhoods in the New York City Region, Research Initiative, Zhan Guo. Ph.D., Assistant Professor, Robert F. Wagner Graduate School of Public Service, New York University*



The paper, “Mode Shift in Transit Underserved Neighborhoods in the New York City Region,” was funded by the UTRC Research Initiative Program and undertaken by Zhan Guo, Ph.D, Assistant Professor in the Robert F. Wagner Graduate School of Public Service at NYU. This research defines the concept of transit under-served areas (TUSA), and argues that with the right policies, TUSA residents have a great potential to reduce car dependency and usage and switch to public transit. It focuses on one important but often overlooked policy—residential parking, in reshaping travel patterns in TUSA neighborhoods, using the New York City region as an example. Nine hundred households were randomly selected from a regional household travel survey in the Region. Their parking types were identified using streetscape images from Google and Bing, and the types of parking connected with the travel behavior identified in the travel survey.

The study finds that residential parking could significantly affect not only household car ownership, but also choice of commuting mode, trip frequency, trip chaining, and total vehicle time. TUSA households with only on-street parking tend to have fewer cars, make fewer vehicle trips, and drive less overall vehicle time, compared to households with a garage. However, when on-street parking becomes a viable alternative to available off-street parking and is free, convenient, and readily available, households tend to have more cars and use these cars more often. Based on the results, the research suggests that in order to discourage car use and encourage mode shift, government should limit the conversion of on-street parking to off-street parking

*Continued on Page 13*

through new curb cuts in TUSA neighborhoods with insufficient off-street parking. In TUSA neighborhoods with sufficient off-street parking, government policy should limit the provision and usage of on-street parking through better street design and/or permit fees. Additional information can be found on the UTRC website:

<http://utrc2.org/research/assets/177/ModeShift1.pdf>.

*Modeling Air Quality and Energy Impacts of NYSDOT Highway Right of Way Management, Oliver Gao, Assistant Professor of Civil and Environmental Engineering at Cornell University, NYS DOT: Project Sponsor*

Mowing the highway right-of-way is important for the safety of roadway users and maintaining the highway infrastructure. However, little quantitative data are available on the energy use and air quality impacts of highway mowing activities. In this report, fuel usage and exhaust emission rates are reported from a study that monitored tractors operating in real-world conditions by the New York State Department of Transportation.

NYSDOT issued an RFP for this project as a result of an Environmental Initiative in 2007 to incorporate environmental objectives into its maintenance and operations practices. As part of the Environmental Initiative, the NYSDOT developed an Environmental Handbook for Transportation Operations, with the most recent version updated in February, 2009 (NYSDOT, 2009). The Handbook outlines environmental concerns regarding ROW management, specifically “Mechanical (mowing, weeding/string trimming/tree and brush cutting) and selective use of herbicides and growth regulators” (NYSDOT, 2009).

PI Oliver Gao, Assistant Professor of Civil and Environmental Engineering at Cornell University, was selected to undertake this analysis. The study estimates the emissions and energy impact of on-road vehicles and nonroad equipment operation. The sample methodology involved a portable emissions measurement system, which took measurements on-board engines in real operating conditions. They used a measuring system known as the Axion System which provides measurement rates of four gaseous emissions: hydrocarbons (HC), carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), carbon dioxide (CO<sub>2</sub>), and a measure of particulate matter (PM). The Axion system also measures the fuel rate, as well as engine speed, intake air temperature, and boost-pressure (for turbocharged CI

engines) (Clean Air Technologies, 2008). HC, CO, and CO<sub>2</sub> are measured using a nondispersive IR (NDIR) sensor, and HC and CO yields measurements within 10% accuracy compared to laboratory settings (Frey et al. 2006b). The equipment to be evaluated included diesel tractors and various types of mower equipment.

The emissions and fuel consumption from the mowing practices of twelve tractors were compared based on miles-mowed per hour and acres-mowed per hour. The distance-based comparison revealed that there was substantial variability in emissions and fuel rates due to the technology of each tractor. Due to the high fuel rates of the relatively newer (2004) and larger tractors, the absolute emissions levels from these tractors were comparable to the older 1980’s era tractors. In the area-based comparison, the operating conditions and mower type were the dominant variables determining the emission and energy rates. The sickle bar, flail and rotary equipped mowers had comparable fuel consumption and emission rates. Mowing over the guiderails, which involves a large tractor and a small cutting head, had fuel consumption and emission rates 2 to 4 times higher than the other mowing activities.

Highway mowing activities are an important source of air-borne pollutants and this study showed that mowing the median or highway roadside can be equivalent to 20-60 passes of a 1990’s era heavy-duty diesel truck for CO<sub>2</sub> and NO<sub>x</sub> emissions, and 50-60 passes for PM emissions.



Figure 14. Preparing the setup of emissions equipment on a tractor in real-mowing conditions.

*Continued on Page 14*

*Design of a Scale Model to Evaluate the Dispersion of Biological and Chemical Agents in a NYC Subway Station, MINIGRANT, Beth Wittig, Ph.D, Assistant Professor, Civil and Environmental Engineering, The City College of New York.*

Urban subway systems remain among the most susceptible to a terrorist attack by biological or chemical agents (BCA) because they are heavily trafficked and have limited points of egress. The combination between efficient creation of casualties and anonymity afforded to terrorists make subways attractive targets. Due to these vulnerabilities, this project was undertaken by Beth Wittig, Ph.D, Assistant Professor of Civil and Environmental Engineering at City College who collected data which can be used to characterize the transport and dispersion of a surrogate biochemical agent (BCA) both across and out of a scale model of a New York City subway station and constructed a 1:48 scale model made of materials that represent the actual materials used in the construction of subway stations in NYC. This study, funded by the UTRC minigrant program, had both short-term and long-term goals. The short-term goals were to collect the data and build the model. The long-term goal is to improve the ability of transit authorities to respond to a release of a BCA agent in or outside of a subway station, by informing policy regarding the following:

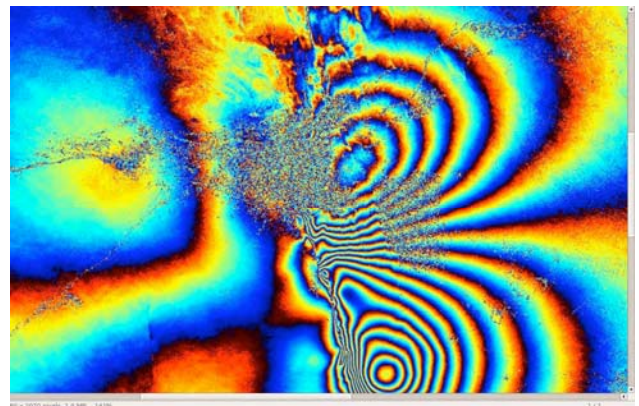
- Placement of BCA sensors within subway stations
- Necessary sensitivity and response time of sensors to monitor BCAs
- Ventilation design considerations to mitigate potential exposure to BCAs
- Development of risk-minimizing evacuation strategies

However, the immediate goals to utilize this data included identifying current practices for ventilation in normal and emergency situations, developing autocad drawings of the 137<sup>th</sup> and 145<sup>th</sup> Stations on the #1 Line, and identifying construction materials for the scale model which will represent the texture of materials used in the actual stations.

For more detail on this project, refer to the UTRC website at <http://utrc2.org/research/assets/113/DesignScaleModel1.pdf>

*Utilizing Remote Sensing Technology in Post Disaster Management of Transportation Networks, Research Initiative, Hani Nasif, Associate Professor and Kaan Ozbay, Professor, Center for Advanced Information Processing (CAIP) Rutgers Infrastructure Monitoring and Evaluation (RIME) Laboratory Department of Civil and Environmental Engineering Rutgers, The State University of New Jersey*

Infrastructure system components such as bridges, highways, tunnels, traffic systems, road pavements, and other systems are considered assets that should be protected and properly managed, but exposure to natural and malicious disasters are potential risks that could cause a large amount of deterioration. Major decisions must be made to for maintain and safeguarding the national infrastructure. In addition, transportation services are crucial to disaster recovery including initial rescue operations and disaster assistance. The main objective of this project is to study the feasibility of utilizing remote sensing technology that can be used for damage prediction and probabilistic routing algorithms as a tool for the post-disaster management and planning of transportation networks in densely populated areas such as the NY/NJ metropolitan region. The focus of this study was primarily on the use of SAR (Synthetic Aperture Radar) Systems, which can provide very high-resolution imagery of roads and bridges using new SAR satellites or airborne SAR systems, and can operate day or night under all weather conditions.



In SAR Phase image of ground surface displacement from BAM, Iran earthquake (Dec. 26, 2003)

This project, undertaken by Associate Professor Hani Nasif and Professor Kaan Ozbay of the Center for Advanced Information Processing(CAIP) at Rutgers University, proposes the use of novel remote sensing technologies to quickly assess damage to transportation infrastructure. Some of the latest remote sensing

*Continued on Page 15*



technologies can quickly assess damage to the transportation infrastructure including very small displacements of infrastructure elements on roads and bridges with accuracy within one centimeter. Therefore, this information along with historic information about the transportation infrastructure component, combined with simple, but accurate structural engineering models, can be used to determine the individual components of a given network that might be susceptible to failure under various loading conditions. This will create a mapping of

the infrastructure that could be used to estimate probabilistic failure and develop a robust transportation and emergency response plan, which would minimize the risk of disruptions. The availability of high-resolution images is key to the future success of the initiative described in this report. For more information, please refer to the website, <http://utrc2.org/research/assets/156/Remote-Sensing1.pdf>.



## NYSDOT Recently Executed Research Contracts

Title	Co- Sponsors	Principal Investigator
Adaptive Traffic Signal Control for Tarrytown Road, White Plains, NY	NYSERDA	Steve Levine, TransCore ITS, LLC
Schodack Smart Roadside Inspection System Enhancement	NYSERDA	Fred Ko, Intelligent Imaging Systems, Inc
High Visibility Reflective Sign Sheeting Evaluation	UTRC	Dr. Mark S. Rea, Rensselaer Polytechnic Institute
Roadway Lighting Guide	NYSERDA	Dr. John Bullough, Rensselaer Polytechnic Institute
Underground Pneumatic Transport of Municipal Solid Waste and Recyclables Using New York City Subway Infrastructure	NYSERDA	Dr. Camille Kamga and Benjamin Miller, The City College of New York
Alternative Fuel Vehicles and Infrastructure Requirements Conference	NYSERDA	Dr. Marta Panero, NYU Wagner Rudin Center for Transportation

## UTRC Research and Advanced Technology Initiatives for 2011 Awarded

Five grants were awarded through the 2011 UTRC Research and Advanced Technology Initiative program. The winning proposals covered a wide range of topics and the principal investigators came from a number of different institutions within the UTRC Consortium. The proposal titles and principal investigators are:

- Vehicle Classification Using Mobile Sensors, Jeff Ban, RPI.
- Finite Element Simulation of Truck Impacts on Highway Bridge Piers, Anil Agrawal, CCNY.
- Rethinking Residential Parking Policies in New York City based on Behavioral Responses from Developers and Residents, Zhan Guo, NYU.
- An Analysis Framework for Determining the Best Location of VMS's in a Transportation Network Using DTA, Neville Parker, CCNY.
- Relating the 2010 HCM Signalized Intersection Methodology to Alternate Approaches in the Context of NYC Applications, Elena Prassas, NYU Poly.

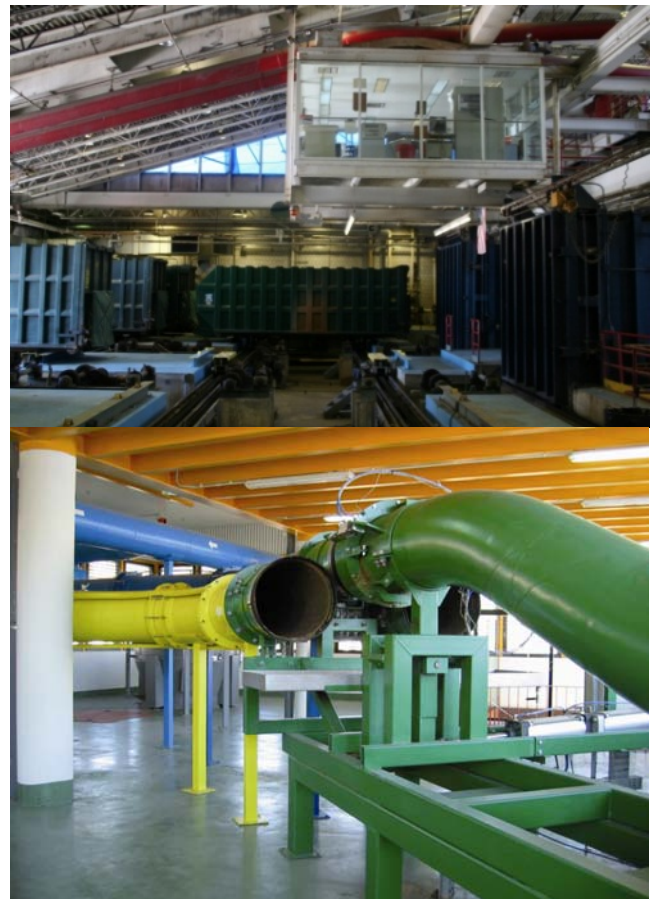
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### NYSERDA Awards UTRC Team Two Projects

The New York State Energy Research and Development Authority has awarded two grants to UTRC under its “Low Carbon Transportation” and its “Advanced Transportation Technologies” programs. Both projects, which will be conducted by Camille Kamga (Principal Investigator), Benjamin Miller (project manager), and Penny Eickemeyer (UTRC coordinator), in partnership with Envac, a provider of underground pneumatic waste transport systems, and architect Juliette Spertus, will study the feasibility of reducing the use of garbage trucks in New York City through the use of pneumatic-tube technology.

Roosevelt Island, located in the East River between Manhattan and Queens, offers an opportunity to study one of the only pneumatic waste systems in North

America. The other systems are in Disney World, a housing complex in New Jersey, and various hospitals. The Roosevelt Island automated vacuum system, or “AVAC,” has been in operation since 1975. It was designed to collect residential municipal solid waste only. New technologies used elsewhere now allow additional materials, such as source-separated recyclables and commercial waste, to be handled as well. On Roosevelt Island, source-separated recyclables are currently transported by individual building management



teams and commercial wastes are collected by private carters. In addition to other proposed improvements, the “Advanced Transportation Technologies” study will consider the merits of adding these waste streams to Roosevelt Island’s tube system. The feasibility study’s cost-benefit analysis will provide a basis for the Roosevelt Island Operating Corporation to make decisions about potential future upgrades to the system. The “Low Carbon Transportation Project” will evaluate the possibility of using existing subway tunnels to provide a low-cost means of installing pneumatic tube equipment for collecting waste and recyclables in midtown Manhattan. Both projects are expected to begin in the spring of 2011 and be completed before the end of 2012.

## Dr. O'Rourke and Dr. Letchford Awarded Project by NYSDOT



The Research and Policy Studies section of NYSDOT recently announced that Rensselaer will conduct project C-10-07 "Determining Remaining Fatigue Life of In-Situ Mast-Arm Traffic Signal Supports". Harry White is the NYSDOT project manager with Rensselaer Investigators Professors Michael O'Rourke (PI) and Chris Letchford (Co-PI). Both are professors of Civil and Environmental Engineering at RPI. The issue is wind induced vibration of the long cantilever signal support arms, such as shown in the photograph. Instrumentation will be installed on a mast-arm structure in Saratoga County, which will allow simultaneous readings of wind (speed and direction) and mast-arm vibration. The wind and structural vibration data will be used to benchmark a Finite Element (FE) dynamic model of the mast arm structure. The verified FE model will then be used to estimate future vibration levels which in turn will be compared to fatigue limits.



### News from the Lighting Research Center at RPI

#### *Lighting Research Center reports on LED technology in transportation systems*

John Bullough, senior research scientist and adjunct assistant professor at the Lighting Research Center at Rensselaer Polytechnic Institute presented two papers at the 90th Annual Meeting of the Transportation Research Board (TRB) of the National Academies in Washington, the week of January 24th. These papers, co-authored by Senior Research Specialist Nicholas Skinner, both



address the increasing use of light-emitting diodes (LEDs) in roadway transportation applications.

The first paper, "Evaluation of Light-Emitting Diode Warning Beacons for Maintenance

Vehicles," summarizes a recent LRC study of LED beacons on maintenance trucks. The LED beacon lights provide equivalent information for closure detection to other drivers, but use substantially less energy, allowing transportation agencies to turn trucks off rather than idle when parked at roadway work zones. This results in lower fuel costs and fewer greenhouse gas emissions. The TRB has recognized this paper as a "Practice-Ready Paper," meaning the results could be implemented immediately by departments of transportation.

The second paper, "Luminance Criteria and Measurement Considerations for Light-Emitting Diode Billboards," describes field measurements of LED and conventional billboards with the aim of identifying criteria for limiting the luminance of LED billboards to minimize distraction and glare from these signs, increasingly found along our nation's highways. The data from this study can be used to ensure that LED billboards will, at a minimum, be no higher in luminance than conventional billboards during both daytime and nighttime.

Abstracts of these papers can be found on the TRB website at the following links:

<http://pressamp.trb.org/conferenceinteractiveprogram/PresentationDetails.aspx?ID=39057>

<http://pressamp.trb.org/conferenceinteractiveprogram/PresentationDetails.aspx?ID=39226>





John Bullough, senior research scientist and adjunct assistant professor at the Lighting Research Center, contributed an article on the fast-paced evolution of roadway lighting systems for a December 2010 supplement to the magazine *ITS International* entitled "Sustainability for Road Infrastructure." His article discusses how light-emitting diodes, light pollution awareness and improved vehicle lighting will impact roadway lighting. The article can be found on page 16 of the supplement, which is available electronically at <http://www.ropl-digital.com/mags/sustRI1012/sustRI1012.pdf>.

***National Lighting Product Information Program Releases Report on Street Lighting Technologies Used in Residential Areas***

*Specifier Reports: Streetlights for Local Roads* is available [online](#)

The National Lighting Product Information Program (NLPIP) at the Rensselaer Polytechnic Institute Lighting Research Center (LRC) released its latest publication, *Specifier Reports: Streetlights for Local Roads*, designed to provide objective performance information on streetlights for local roads in residential areas.

LED and induction streetlights are sometimes claimed to provide greater energy savings, better lighting uniformity and distribution, and lower maintenance costs than high pressure sodium (HPS) streetlights and, as a result, are marketed as effective replacements for new construction and retrofit applications. NLPIP's report is intended to provide objective data to help lighting specifiers make informed decisions.

Between February and March 2010, NLPIP purchased six streetlights identified by manufacturer

representatives as equivalent to an incumbent technology, a 100-watt high pressure sodium (HPS) luminaire with a Type II distribution. Of the streetlights tested, one used an HPS lamp (the base case model), one used an induction lamp, and four used light-emitting diode (LED) modules. NLPIP determined how many of each type of streetlight were needed to illuminate a one-mile stretch of local road in a residential area to meet the roadway lighting criteria specified in the *American National Standard Practice for Roadway Lighting*, ANSI/ IESNA RP-8-00 (referred to as RP-8). NLPIP then calculated power demand and life-cycle costs per mile for each streetlight.

"Prior surveys show that 75 percent of streetlight system owners do not continuously light their local roads per RP-8 recommendations; however, NLPIP followed the RP-8 lighting criteria because no other national lighting standard exists and there is high variability in the pole spacings prescribed by municipalities," said Leora Radetsky, LRC lead research specialist, principal investigator and author of the report. "The low adoption rate of RP-8 nationally could indicate that this standard is not meeting the needs of streetlight system owners."

Following is a summary of the findings from *Specifier Reports: Streetlights for Local Roads*.

**Pole spacing**

The tested LED streetlights required an average of 40 percent more poles per mile than the HPS base case to meet the RP-8 lighting criteria, and the tested induction streetlight required 64 percent more poles per mile. Only one of the tested LED streetlights was able to provide pole spacing similar to the HPS base case.

**Power demand**

The average power demand per mile of the LED streetlight layouts evaluated was lower than the power demand per mile for the HPS base case, but there was wide variation among the LED streetlights tested, according to NLPIP. The tested induction streetlight required more power per mile than the HPS base case.

*Continued on Page 19*

## Life-cycle cost per mile

For an assumed LED module replacement interval of 25,000 hours, the average tested LED streetlight life-cycle cost per mile was 1.9 times that of the HPS base case. For an assumed LED module replacement interval of 50,000 hours, the average tested LED streetlight life-cycle cost per mile was 1.6 times that of the base case. NLPiP identified one tested LED streetlight that achieved similar pole spacing as the base case while meeting RP-8. If this streetlight does not require a replacement LED module during its 27 year (113,000 hour) life, it would achieve a lower life-cycle cost per mile than the base case. The average life-cycle cost per mile of the tested induction streetlight was 1.8 times that of the base case.

The full report can be accessed at

<http://www.lrc.rpi.edu/nlpip/publicationDetails.asp?id=931&type=1>.



## New Projects at the Voorhees Center

Researchers at the Alan M. Voorhees Transportation Center (VTC) located at the [Edward J. Bloustein School of Planning and Public Policy](#) at Rutgers, continue to address regional and national transportation issues centering around transportation and the built environment, transportation and social equity and transportation finance and the economy. Here is information on a few new projects.

**Flexible Transit Services & ADA Paratransit:** VTC was recently awarded a grant from FTA as part of the Rutgers TCC/FTA grant program to examine the feasibility of introducing flexible transit services in a select number of high volume ADA paratransit service areas/corridors in New Jersey and New York City. The goal of introducing flexible transit services in the selected corridors is to simultaneously expand travel options for paratransit customers and reduce the cost of providing paratransit trips by attracting paratransit customers to these new/enhanced services. We will be working closely with NJ TRANSIT and NY MTA to undertake this study. Jon Carnegie, Executive Director of the Voorhees Center is the principal investigator for this project.

## Measuring the Benefits of Transit-Oriented

**Development:** A new project awarded by NJ DOT will develop a methodology to assess the benefit of transit-oriented development that will be used to measure these benefits in several NJ locations. This study will examine a wide variety of impacts beyond travel. These include impacts on health, economic activity, community cohesion, and the environment. The study aims to develop a spreadsheet tool that NJ TRANSIT can use in developing strategies in where and how to best implement transit-oriented development in New Jersey. Dr. Robert Noland will lead this effort along with Stephanie DiPetrillo, from the Voorhees Center and Dr. Kaan Ozbay from the Dept. of Civil Engineering.

## Expanding Travel Training to Improve Employment Outcomes among People with Disabilities:

Travel training is a widely accepted and growing field that seeks to teach transportation disadvantaged populations how to use public transportation. A new VTC initiative funded by a federal Medicaid Infrastructure Grant and led by senior research specialist Andrea Lubin will focus on developing and implementing a pilot travel training program targeted to employment/social service providers that work with people with disabilities seeking employment. The overarching goal is to familiarize the employment/social service provider community with the concept and value of offering travel training as a means of imparting travel independence and options to their consumers seeking employment.

## Considering New Drive-Recording Technologies to aid NJ TRANSIT's Access Link Service:

In partnership with the Rutgers Center for Advanced Infrastructure and Transportation (CAIT), VTC will consider new technologies related to drive-recording that could benefit NJ TRANSIT's Access Link transportation service and its customers. (*Access Link is NJ TRANSIT's ADA complementary paratransit service*). VTC will focus efforts on creating a survey tool to be disseminated to transit agencies nationwide to determine best practices and issues related to drive-recording technologies. Andrea Lubin will lead the efforts at the Voorhees Center.



## Recent Publications

### *Camille Kamga, The City College of New York*

- ❖ Kamga, C.N., Mouskos, K.M., and Paaswell, R.E. "A methodology to estimate travel time using dynamic traffic assignment (DTA) under incident conditions". *Transportation Research Part C* (2011), doi:10.1016/j.trc.2011.02.004

### *Joseph Berechman, The City College of New York*

- ❖ Berechman J., and Chen L., "Incorporating Risk of Cost Overruns in Transportation Capital Project Decision Making," *Journal of Transport Economics and Policy*, 45(1), 83–104, 2011
- ❖ Ida Y., and Berechman J., "Efficient Contracts of Public Transit Services Provision", *Economics Quarterly* (Hebrew), 2010.

### *Zhan Guo, NYU*

Guo, Z., & Wilson, N.H.M. (2011). Assessing the cost of transfer inconvenience in public transport systems: A case study of the London Underground. *Transportation Research Part A: Policy and Practice*, Vol. 45, (2), Pp. 91-104.

### *Jean-Paul Rodrigue, Hofstra University*

"Factors Impacting North American Freight Distribution in View of the Panama Canal Expansion"

<http://www.vanhorne.info/vanhorne/files/vanhorne/Panama%20Canal%20Expansion%20Study,%20Final%20Report.pdf>

### *Rae Zimmerman, NY*

- ❖ R. Zimmerman and C. E. Restrepo, "Urban Transportation," Chapter 19 in *Urban Health. Global Perspectives*, edited by D. Vlahov, J. I. Boufford, C. Pearson, and L. Norris. New York: Jossey-Bass/John Wiley & Sons, 2010. Pp. 283-304.
- ❖ R. Zimmerman, C.E. Restrepo, A. Culpen, W.E. Remington, A. Kling, I. Portelli, and G. Foltin, "Risk Communication for Catastrophic Events: Results from Focus Groups," *Journal of Risk Research*, Vol. 13, No. 7, 2010, pp. 913-935. The application is for a confined area within a hypothetical transportation system.
- ❖ R. Zimmerman and C. Faris, "Infrastructure Impacts and Adaptation Challenges," Chapter 4 in *Climate Change Adaptation in New York City: Building a Risk Management Response*, New York City Panel on Climate Change 2010 Report, edited by C. Rosenzweig and W. Solecki. Prepared for use by the New York City Climate Change Adaptation Task Force. *Annals of the New York Academy of Sciences*, Vol. 1196. New York, NY, NY Academy of Sciences, 2010, pp. 63-85. ISBN 978-1-57331-800-6. <http://www3.interscience.wiley.com/cgi-bin/fulltext/123443062/PDFSTART>





## Call for Proposals UTRC Initiatives

The Region 2 University Transportation Research Center (UTRC) is pleased to announce three competitive matching grant programs for its 2011 Faculty-Initiated Projects. The first two are the 2011-12 UTRC Research Initiative and the Advanced Technology Initiative. The third is the 2011 UTRC Faculty Development Minigrant program.

The primary purpose of the Research and Advanced Technology Initiatives 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 projects on transportation problems relevant to U.S. DOT's Region 2. The proposal submission period opens today on January 21, 2011 and closes on April 30, 2011. Abstracts must be submitted by April 1, 2011. Proposals will be evaluated on a competitive basis. Selected proposals will receive a grant of up to \$50,000 and should be fully matched with a non-federal source of funds. Final awards will be subject to the governing requirements of the U.S. DOT University Transportation Centers Program and the Research Foundation of the City University of New York. It is anticipated that awards will be announced by October 31, 2011.

The primary purpose of the Faculty Development Minigrant program is to stimulate innovative and imaginative research by faculty in new and emerging areas related to transportation. Mini-grants of up to \$5000 will be awarded for the costs of developing a working paper. The working papers, which are to be completed within a year, will be independently peer-reviewed and ranked. Based on the results, UTRC may elect to negotiate with the author of the best paper for additional research in the form of a grant for a full-scale study. The deadline for submissions is April 30, 2011.

Proposals for these grants must be submitted electronically in Microsoft Word, .rtf, or pdf format and Budget in Microsoft Excel format, through the [UTRC Online Submission System](http://www.utrc2.org) (visit [www.utrc2.org](http://www.utrc2.org)).

For more information, please click on the following link to the UTRC website (<http://www.utrc2.org/research/rfps.php>). Questions about these programs should be directed to Dr. Ellen Thorson at 212-650-8144 or [ethor@utrc2.org](mailto:ethor@utrc2.org).

### Transport History Research Essay Competition & Prize John Scholes Transport History Research Essay Prize

The John Scholes Prize, of up to £250 (pounds Sterling), is awarded annually to the writer of an unpublished essay based on original research into any aspect of the history of transport and mobility. The prize is intended for recent entrants to the profession and may be awarded to the writer of one outstanding article or be divided between two or more entrants.

Publication in the Journal of Transport History will be at the discretion of the Editor and subject to the normal refereeing process.

The prize is funded by the Transport History Research Trust in memory of John Scholes, first Curator of Historical Relics at the British Transport Commission. It is awarded by the International Association for the History of Transport, Traffic and Mobility (T2M – [www.t2m.org](http://www.t2m.org))

#### General Rules

To be eligible for the prize the candidate must not at the time of submission

- (a) be in a permanent academic position
- (b) have published either an academic monograph or an essay in a major academic journal.

Essays (in English, double-spaced) must not exceed 8000 words (including footnotes) and must be fully documented. Entries should be submitted electronically, to arrive no later than 1 July 2011 for the current competition. Essays should be submitted electronically, to arrive no later than 1 July 2011 for the current competition. Essays should not bear any reference to the author, either by name or department.

The judges will not enter into correspondence.

Entries for the prize should be sent to [jth.editorial@gmail.com](mailto:jth.editorial@gmail.com). A cover letter and a one-page CV must demonstrate eligibility for the prize. The subject line of the message should read 'John Scholes Prize entry'.

## 2011 International Symposium Visualization in Transportation/ Call for Presentations and Session Topics

2011 International Symposium -- Visualization in Transportation  
Call for Presentations and Session Topics

The TRB Visualization in Transportation Committee (ABJ95) is encouraging interested individuals to submit presentation and session topic abstracts to be considered for the 2011 International Visualization in Transportation Symposium to be held in Chicago, Illinois, August 20th to 23rd.

Additional information can be found at:

<http://www.trbvis.org/SYMPOSIUM-2011/Overview.html>

Submission Deadline: April 1st, 2011

## Save the Date & Call for Sessions: 2011 New Jersey Planning Conference

Proper engagement, understandable and replicable case studies, effective outreach and education to key stakeholders, civic leaders, and the public is as important, if not more so, than the most expertly crafted plan. This year the New Jersey Chapter of the American Planning Association (APA-NJ) is undertaking several new initiatives to help engage the public and "bring planning to the people" through the development of policy guides, grassroots advocacy and increased educational opportunities. To that end the overarching theme of our 2011 conference is called "*Reach Them to Teach Them*". This theme should be integrated into all workshops and sessions, regardless of the topic. We know the value of planning, now it's time to make our case to everyone else. Submit Proposals by May 6, 2011

<http://www.njplanning.org/conference.html> .

### Employment Opportunities

#### Positions Available at Clever Devices, Inc.

Seven positions are currently available at Clever Devices, one of UTRC's industry partners. Clever Devices provides innovative, state of the art transit technology solutions to public and private transportation providers to improve rider experience, facilitate efficient operations, and increase profitability. The Company's Headquarters are in Plainview, New York. Positions include engineers, project managers, and an internship.

Contact [recruiting@cleverdevices.com](mailto:recruiting@cleverdevices.com) .



**Region 2 University Transportation Research Center  
(Serving New Jersey, New York, Puerto Rico, and U.S. Virgin Islands)**

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For more information on our programs or to notify us of an address correction,  
Please email [nadia@utrc2.org](mailto:nadia@utrc2.org).

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