

Winter 2016 **RESEARCH NEWS**

# UNIVERSITY TRANSPORTATION RESEARCH CENTER

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University Transportation  
Research Center

# UTRC BOARD OF DIRECTOR'S MEETING

A meeting of the Board of Directors of the University Transportation Research Center was held on Friday, February 19, 2016 at the City College of New York, CUNY. The UTRC Board is a unique selection of two members from each of its consortium universities. Under the MAP 21 grant, the UTRC consortium includes eighteen (18) universities.



The meeting attendees included Dr. John Falcocchio, Board's Chairman and Professor of Transportation Planning and Engineering at the Polytechnic Institute of NYU, Dr. Robert E. Paaswell, UTRC Director Emeritus and Distinguished Professor of Civil Engineering at CCNY, Dr. Camille Kamga, UTRC Director and Assistant Professor of Civil Engineering at CCNY, UTRC staff members, and representatives from each of the eighteen consortium universities.

The Board's Chairman, Dr. Falcocchio called the meeting to order. A quorum of representatives was present, and the board, having been duly convened, was ready with business. UTRC's Director Emeritus, Dr. Robert E. Paaswell, then welcomed and thanked everyone for attending the meeting. He mentioned the center's overall success since its establishment in 1987 until the present and acknowledged the contribution of all faculty members from each consortium university who are involved in UTRC research projects. He also talked about the center's successful collaboration with local transportation agencies and partners.

UTRC Director, Dr. Camille Kamga, then reviewed the agenda and welcomed everyone to the meeting. He discussed the current status of the UTRC grant under MAP 21 and then presented a comprehensive update on the center's financial plan and allocation of the grant's funding towards the center's research, technology transfer, and education & workforce development activities.

Following his report, UTRC staff presented the research, technology transfer and education programs in detail describing the center's engagement in projects that ultimately help foster goals set forth by USDOT in areas such as safety, reduced congestion, global connectivity, environmental stewardship and security preparedness and response.

After the UTRC's presentations on the center's programs, the meeting was open to discussion. The meeting was adjourned after the Board discussed a number of strategic goals to transact center's activities.

## UTRC IS PROVIDING ASSISTANCE TO NYMTC'S CMAQ PROGRAM

The Congestion Mitigation Air Quality (CMAQ) program is a federal funding program created to support all areas of non-attainment that did not meet the National Ambient Air Quality Standards (NAAQS). CMAQ funding is available for transportation projects, which will reduce traffic congestion and vehicular emissions. The CMAQ program supports two important goals: improving air quality and relieving congestion. This program was designed to help states and metropolitan areas meet their Clean Air Act obligations. During the past three years the City College of New York (CCNY) under the UTRC consortium assisted NYMTC in the development of an application and guidance form to evaluate projects submitted for CMAQ funding. The application was created by combining three separate applications under the direction of the directors of NYMTC sub regions (NYC, Lower Mid-Hudson and Long Island). A secondary resource of reference was also used to create the application by CCNY.

The most recent federal guidance for the CMAQ Program indicates that Metropolitan Planning Organizations (MPOs) need to develop procedures for assessing emission reduction benefits for proposed CMAQ projects. NYMTC, as an MPO with a transportation management area of more than one million in population representing a nonattainment or maintenance area, is required under MAP-21 to develop and update biennially, a performance plan to achieve air quality and congestion reduction targets. UTRC is currently assisting NYMTC in the preparation of the development of the NYMTC CMAQ Performance Plan. A research team at CCNY is performing a literature to document practices related to the CMAQ program implemented by MPOs of comparable size to NYMTC and will conduct a peer workshop to share these best practices. Information assembled from these tasks will guide the development of the CMAQ Performance Plan.

# UTRC ORGANIZED A NYSERDA/NYSDOT SPONSORED CONFERENCE; TRANSPORTATION TRANSFORMED: ADVANCING ECO-FRIENDLY MOBILITY



From L to R: Joseph Tario, NYSDOT moderating a panel with Dr. Stanley Young and Dr. Vassilis Payannoulis, Metropia; Jamyn Edis, Dash; Dr. Alain Kornhauser, Princeton University

UTRC hosted a full day conference, sponsored by the New York State Energy and Research Development Authority (NYSDOT) and New York State Department of Transportation (NYSDOT) on April 7, 2016 at the New York Institute of Technology (NYIT). The objective of this conference was to reflect on the challenges and potential for encouraging preferred driving behaviors in New York State. The conference featured speakers who discussed topics such as cutting-edge technologies, commercial freight applications, communication and marketing, driver training, behavioral factors and incentives, as well as policy implications of implementing an eco-driving program in New York.



Mr. Jamil Ahmad, United Nations



Gabriel Pacyniak, Georgetown Climate Center



Matthew Daus (L), UTRC and Dr. Camille Kamga (R), UTRC with the NJ Motor Vehicle Commission Administrator/Chairman; Raymond P. Martinez



Policy Session Panel Speaker: Maureen Koetz, Koetz and Duncan LLC.

The conference morning keynote speakers included Mr. Jamil Ahmad, Deputy Directory at the United Nations Environment Programme (UNEP), Global Warming, Climate Change, COP21; Gabriel Pacyniak, Adjunct Professor, Mitigation Program Manager, Georgetown Climate Center: Transportation and Climate Initiative. The afternoon keynote speaker was Mr. Raymond P. Martinez; Administrator/Chairman from the New Jersey Motor Vehicle Commission. In addition to them, there was a great line of speakers from academia and industry side who shared their best practices with conference attendees.

The conference proceeding is available on the event's website at:  
[www.utrc2.org/events/transportation-transformed-advancing-eco-friendly-mobility](http://www.utrc2.org/events/transportation-transformed-advancing-eco-friendly-mobility)

## UTRC IS PROVIDING ASSISTANCE TO NYMTC FOR THE PLAN 2045; LONG TERM REGIONAL TRANSPORTATION PLAN THROUGH PUBLIC OUTREACH

In collaboration with NYMTC, UTRC has designed and developed a web-based outreach tool for the NYMTC's Plan 2045 public outreach. This tool aims for an optimal public outreach through the Regional Transportation Planning website and a virtual public engagement platform "Mysidewalk" which allows people to share their ideas on the transportation issues within the NYMTC region. The user friendly website platform allows people to engage into a virtual discussion forum on the already specified important transportation topics. The tool will be available to the public for 5 months. During this time, public comments and suggestions will be collected about transportation projects within the NYMTC region including the NYC boroughs, Hudson Valley and Long Island regions. The comments, ideas, and suggestions submitted through the web platform will be considered while developing the Plan 2045.

UTRC, in coordination with NYMTC staff, will also organize twelve open-houses to continue the public involvement process for the development of the Plan 2045. These open-houses will be held in each of the ten NYMTC counties and boroughs in the NYMTC region. (There will be two open houses in Manhattan and Suffolk). The information gathered at these open-houses will be combined with those received from other outreach efforts to help develop the Plan 2045. The public announcements are sent out to encourage general public to attend and participate in the open-houses. The NYMTC RTP website is enriched with information on ways to engage. To access this site, please visit: [www.nymtc-rtp.org](http://www.nymtc-rtp.org)



April 15

**NYMTC is developing its next Regional Transportation Plan** posted

### Share your ideas and comments on Plan 2045

#Livability, #Transportation, #Government in New York, NY, Bronx County, NY, Queens County, NY



April 20

**NYMTC is developing its next Regional Transportation Plan** posted

### Freight Transportation

#Transportation in New York-Northern New Jersey-Long Island Area





# UTRC Faculty Profile

## Dr. Yusuf Mehta Rowan University

Yusuf Mehta, Ph.D., P.E. is a Professor in the Department of Civil and Environmental Engineering and Director of Center for Research and Education in Advanced Transportation Engineering Systems (CREATEs). Dr. Mehta has been at Rowan University since 2001. At Rowan University, he has established a transportation research center, CREATEs, which consists of a certified construction materials lab and an accelerated pavement testing facility. He has been awarded \$9.4 million in research grants as a Principal Investigator from a broad range of agencies such as USDOT/University Transportation Research Consortium (UTRC) and Federal Highway Administration (FHWA), Federal Aviation Administration (FAA), New Jersey, Rhode Island, New York, Florida and Wisconsin Departments of Transportation (DOT). He has a Patent on determining the Degree of Blending between of Reclaimed Asphalt Binder in Hot Mix Asphalt. He has received five faculty initiates research grants and two technology transfer grants from UTRC. He has published in 45 refereed journal publications and 100 peer-reviewed conference proceedings and published two Geotechnical Special Publication books. He is a co-editor in one and lead editor of another. In addition, he has won several research awards, Rowan University Research Achievement Award 2014 for outstanding research record and the national recognition in the field of Transportation Engineering., Aviation Research Award (2012) American Institute of Aeronautics and Astronautics (AIAA) and Institute of Electrical and Electronics Engineering (IEEE). The research study was able to identify and quantify the key parameters that affect load transfer efficiency (LTE), which was not well understood prior to this research. This is critical in understanding LTE and designing of pavements. He received the New Jersey DOT Research Implementation Award in 2012 and 2014. In addition,



he has won the ASCE-NJ Educator of the Year Award in May 2014, and Louis J. Pignataro Memorial Transportation Engineering Education Award in 2012 for outstanding academic performance, research, teaching, and contributions to the transportation engineering profession and the Mid-Atlantic American Society of Engineering Education Section Distinguished Teaching Award, West Point, 2008. He has served as a Chair, Civil engineering, Division of American Society of Engineering Education, 2014-2015 and Program Chair, Civil Engineering, Division of American Society of Engineering Education, 2013-2014. He has also served on various Transportation Research Board committees, such as Non-bituminous Components of Bituminous Paving Mixtures and Flexible Pavement Design Committees. He serves as the NCEES FE Civil Exam and Associate Editor, ASCE Journal of Transportation Engineering 2010 to present, and Editorial Board, Journal of

Solid Waste Management and Technology, 2008- and Board Member, University of Transportation Research Consortium. He has served as a Member and Reviewer for Association of Asphalt Pavement Technologist, Journal of Materials in Civil Engineering, American Society of Civil Engineering, Journal of Materials, Journal of Transportation Engineering, International Journal of Pavements and International Journal of Pavement Engineering, Indian Roads Congress, and ASCE Geo-Institute. He also serves as an Adviser to the Rowan Engineers-without-borders student chapter and graduate coordinator for the Department of Civil and Environmental Engineering. Prior to joining Rowan University, he was Research Associate at University of Florida. He got his PhD at Pennsylvania State University and MS at University of Oklahoma. Prior to arriving in the US in 1993, he got his Bachelor of Engineering at University of Mumbai, India.

UTRC's two popular scholarship programs started receiving applications for the year 2016;

- Advanced Institute for Transportation Education (AITE)
- NYMTC/UTRC September 11th Memorial Program

## 2016 AITE SCHOLARSHIP APPLICATIONS

The application process for the UTRC's AITE Scholarship is now open for the 2016-2017 academic year and applications can be submitted on the UTRC's submission system through April 29, 2016. The purpose of UTRC's Advanced Institute for Transportation Education (AITE) scholarship program is to increase the knowledge and capabilities of transportation professionals by supporting the pursuit of master's degrees in transportation-related fields. The program supports both full-time master's students and professionals working at participating agencies who are looking to increase their expertise through pursuit of a master's degree. All Universities that are members of the UTRC Consortium are eligible to participate in the AITE Scholarship Program.

The details of the full AITE program are available at: <http://utrc2.org/education/aite-scholarships>.

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## 2016 NYMTC/UTRC SEPTEMBER 11TH MEMORIAL SCHOLARSHIP

The application process for the NYMTC/UTRC September 11th Program Academic Initiative Internship Program is now open for the 2016-17 academic year and applications can be submitted on the UTRC2.org website through May 16. The New York Metropolitan Transportation Council (NYMTC) established the September 11th Memorial Program for Regional Transportation Planning to honor the memory of Ignatius Adanga, Charles Lesperance, and See Wong Shum, the three employees it lost during the attack on the World Trade Center. The program was established to educate and motivate people interested in transportation technology and planning and to encourage innovations in planning activities throughout the NYMTC region. The Program's Academic Initiative is designed to foster the academic and professional development of students by providing them with opportunities to participate in innovative research and planning projects.

Information on how to apply is available at <http://www.utrc2.org/education/september-11th-memorial-program>.

## 25TH ANNUAL OUTSTANDING STUDENT OF THE YEAR AWARDS AT THE 95TH TRANSPORTATION RESEARCH BOARD MEETING

AWARD RECIPIENT: TENZIN GETSO, THE CITY COLLEGE OF NEW YORK, CUNY



*Tenzin Getso Receiving the Award at the 2016 CUTC Annual Banquet from Gregory Winfree (L), USDOT OST-R'S Assistant Secretary and Joel Volinski (R), CUTC President and Director, National Center for Transit Research, University of South Florida*

UTRC is proud to announce this year's Outstanding Student Award recipient from Region 2: Tenzin Getson, the City College of New York and acknowledges CUTC for honoring him with the prestigious award. The 25th Annual CUTC Banquet took place on January 9, 2016 at the Marriott Marquis hotel during TRB 95th Annual Meeting.

Tenzin Getso immigrated to the United States in 2007. In 2009, he enrolled in the Grove School of Engineering at the City College of New York and began working toward a bachelor's degree in civil engineering with a specialization in structures. During his senior year, Tenzin joined GACE Consulting Engineers DPC as an engineering intern. After graduating in 2013, he joined GACE as an engineer and enrolled in the graduate Structural Engineering and Mechanics program at the City College of New York.

Tenzin was an outstanding undergraduate student, having received various scholarships and awards while maintaining active membership in several honor societies. More recently, Tenzin became the first recipient of the Abe Gutman Memorial Scholarship: a scholarship established by Thornton Tomasetti to honor Abe Gutman, one of the firm's founding principals and an internationally recognized structural engineer and concrete foundations expert. Tenzin has a keen interest in understanding the behavior of structures at the finite element level. Some of his other interests include plastic behavior of steel members, behavior of concrete elements in general, and finite element modeling of concrete slabs.

Based on his academic success and work in the area of structures, the University Transportation Research Center is proud to select Tenzin Getso as its 2015 Outstanding Student of the Year.



### NEXUS OF ROADS AND WATER RESOURCES: EMERGING ISSUES AND APPROACHES FOR URBAN STORMWATER MANAGEMENT

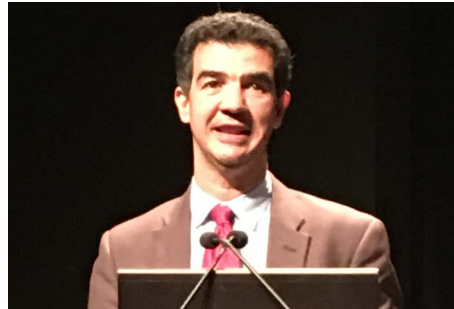
UTRC co-sponsored an event titled; Nexus of roads and water resources: Emerging issues and approaches for urban stormwater management. The event was held on April 12th at the Manhattan College. The event included following sessions;

1. Research and demonstration on porous pavements at a USEPA parking lot by Tom O'Connor, PE, US Environmental Protection Agency, Office of Research and Development, Urban Watershed Management Branch, Edison, NJ
2. Performance of green stormwater control measures by Franco Montalto, Ph.D, PE, Drexel University, Department of Civil, Architectural and Environmental Engineering, and
3. Evaluation of water quality aspects of beneficial re-use of lead and zinc mining wastes in concrete pavement by Goli Nossoni, PhD, Manhattan College Department of Civil and Environmental Engineering, Riverdale, NY.

This event was co-sponsored by the Manhattan College Chapter of the NY Water Environment Association, Manhattan College Center for Urban Resilience and Environmental Sustainability and the University Transportation Research Center.



### CAR FREE NYC: PANEL ON IMPACTS AND RESEARCH OPPORTUNITIES



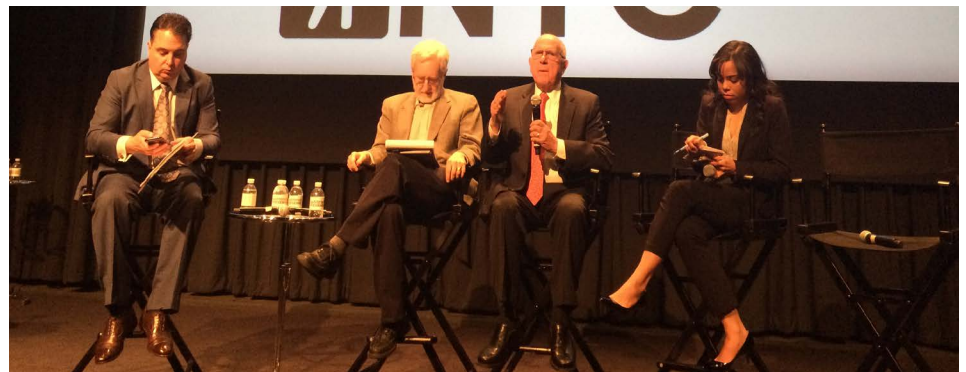
NYC Councilman Ydanis Rodriguez

This Earth Day (April 22), New York City held its first ever Car Free Day. NYC Councilman, Ydanis Rodriguez was the main visionary behind this initiative. The objective of this initiative was to reduce emissions and to bring attention to the need for more investment in mass transportation.

UTRC along with local transportation agencies co-sponsored a transportation research panel meeting on April 21st; a day before the Earth day. The panel was moderated by Matthew W. Daus; UTRC's Distinguished Lecturer. Panelists included Elliott Sclar; Professor of Urban Planning, Graduate School of Architecture, Planning and Preservation; Director, Center for Sustainable Urban Development,

The Earth Institute, Columbia University, Richard Wener, Professor of Environmental Psychology, Polytechnic Institute of New York University; Co-Director, Sustainable Urban Environments Program; Pierina Ana Sanchez, NY Director, Regional Plan Association; John Falcocchio, Professor of Transportation Planning and Engineering, Tandon School of Engineering, New York University; Chairman, University Transportation Research Center. The panel discussed the importance of #CarFreeNYC and highlighted the different ways the city can use its streets. Panelists touched upon topics of transportation, mobility, equity, environmental psychology, air quality, public health and safety. The panel focused on the research opportunities that #CarFreeNYC provides. The Councilman Ydanis Rodriguez delivered keynote remarks about the importance of CarFreeNYC.

This event was supported by Windels Marx Lane & Mittendorf, LLP; The Earth Institute, Columbia University; New York University, Regional Plan Association, New York Institute of Technology, and University Transportation Research Center.



From (L) to (R): Matthew Daus from UTRC moderated the panel with Richard Wener, NYU; Elliott Sclar, Columbia University; and Pierina Ana Sanchez, Regional Plan Association



# TECHNICAL SUMMIT ON SMART CITY AND TRANSPORTATION



*Pecha-Kucha presenters at the Smart City Summit*



*Lew Gaskell Jr., IBM*



*Mike Lydon, Author of Tactical Urbanism*



*Mohammad Talas, NYCDOT*

ITE Met Section in coordination with UTRC hosted a ½ day summit on Smart Cities and Transportation on March 30, 2016 at NYIT. More than 200 professionals attended the summit to share knowledge, exchange ideas, and to network.

Technology, city planning, and transportation have merged at the intersection of Smart Cities. This half-day summit was organized to provide the attendees with a glimpse of Smart Cities and how the Transportation field is adapting to this changing environment. This conference brought to life the current topics of Intelligent Transportation System (ITS), NYCDOT's connected vehicles program, and how the tech industry is finding solutions to integrate the existing infrastructure to the connected world.

The participants heard from industry leaders who are shaping the Smart Cities of today and tomorrow, including real examples of how the Smart Cities concept is transforming the transportation industry. The program started with IBM's Smarter Cities' Lew Gaskell and NJIT's Munir Cochinwala; followed by Pecha-Kucha style presentations from Intersection, Placemeter, and CartoDB; a talk by Mike Lydon - author of Tactical Urbanism; a panel discussion with NYCDOT's connected vehicles team, NJDOT, the City of Newark, and Port Authority; and closing remarks by NYCDOT Chief Technology Officer Cordell Schachter.

Visit ITE-MET Section website at:  
<https://ite-metsection.org/index.php>

## UTRC BOOK TALK: ROAD TRAFFIC CONGESTION; AN EXAMINATION OF THE CAUSES, CONSEQUENCES, AND POSSIBLE CONGESTION RELIEF STRATEGIES

UTRC organized a book talk on: Road Traffic Congestion on February 26th, 2016 at the New York Institute of Technology. The book is authored by UTRC's Board Chair, Dr. John Falcocchio, Professor of Transportation Planning & Engineering at the NYU Tandon School of Engineering and UTRC's Icon Mentor, Herbert Levinson.

In their joint presentation, both authors discussed how traffic congestion has been a part of city life since ancient times. They mentioned how today, traffic congestion is found in cities throughout the world. It continues to increase as cities' population and motorization grow, and public investments in roads and public transportation infrastructure have not adequately kept up with this growth. The current focus on the applications of advanced technologies (ITS) in the real-time management of transportation networks and travel demand, as well as the emerging promise of autonomous vehicles, offer near future expectations for greater transportation efficiency and for a more sustainable traveler and freight mobility.

This book describes the causes, characteristics, and consequences of road traffic congestion and describes effective supply adaptation and demand mitigation strategies to relieve recurring and nonrecurring congestion in cities and suburbs.

The book is useful for a wide audience – including students, researchers, and practitioners in a variety of professional endeavors including: traffic engineers, transportation planners and engineers, urban planners, public administrators, and private enterprises that depend on transportation for their activities. The book is available for purchase at:

<http://www.springer.com/us/book/9783319151649>



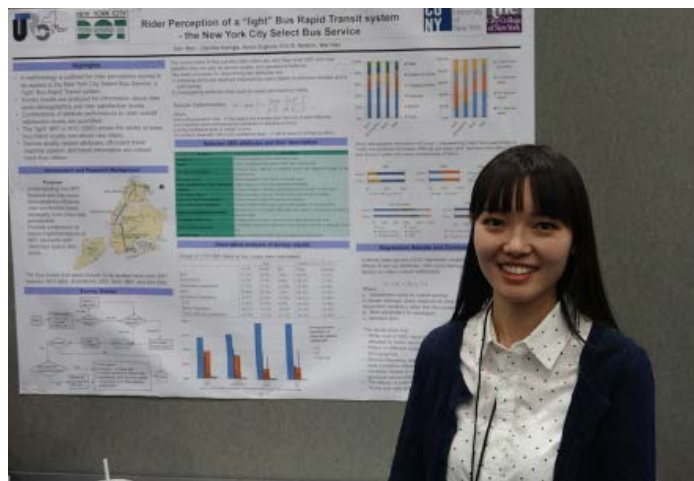
From (L) to (R): Dr. Robert E. Paaswell, UTRC's Director Emeritus; Herbert Levinson, UTRC Icon Mentor; Dr. John Falcocchio, UTRC's Board Chair and Professor at NYU Tandon School of Engineering

## TRANSPORTATION RESEARCH BOARD 95TH ANNUAL MEETING

University Transportation Research Center (UTRC) was well represented at the Transportation Research Board (TRB) 95th Annual Meeting held from January 11-15, 2015 in Washington, D.C. UTRC faculty researchers and students delivered 110 presentations.

Tenzin Getso at the City College of New York was awarded the CUTC Outstanding Student of the year from Region 2.

UTRC in-house Ph.D. students also presented their research during the TRB poster sessions.



Dan Wan, Ph.D. Student in the Transportation Program at the City College of NY presenting at the poster session at the 95th TRB Annual Meeting



# Plan 2045

NYMTC's Next Regional Transportation Plan

## Help Plan the Region's Transportation Future at Upcoming Community Workshops!

### Share your ideas and comments on Plan 2045

Plan 2045 will guide the future use of federal transportation funding in NYMTC's planning area, which includes the five boroughs of New York City; the lower Hudson Valley counties of Putnam, Rockland and Westchester; and Nassau and Suffolk counties on Long Island.

### We are holding community workshops in the following locations:

### Join us at a Workshop to...

NEW YORK CITY	LONG ISLAND				
<b>Bronx (Completed)</b> April 28 <sup>th</sup> , 3pm and 6pm Bronx Museum of Arts, 2 <sup>nd</sup> Floor, North Wing, 1040 Grand Concourse, Bronx, New York 10456	<b>Suffolk (West)</b> May 9 <sup>th</sup> , 3pm and 6pm Republic Airport, 7150 Republic Airport, Farmingdale, NY 11735				
<b>Manhattan (Uptown)</b> <b>NEW DATE</b> May 26 <sup>th</sup> , 3pm and 6pm Adam Clayton Powell State Office Building, 8th Floor, 163 West 125th Street, NY, NY 10027	<b>Suffolk (East)</b> May 11 <sup>th</sup> , 3pm and 6pm Riverhead Legislative Auditorium, Suffolk County Legislature, Evans K. Griffing Building, 300 Center Drive, Riverhead, NY 11901				
<b>Queens</b> May 2 <sup>nd</sup> , 3pm and 6pm Harvest Room, 90-40 160th St, Jamaica, NY 11432	<b>Nassau</b> May 12 <sup>th</sup> , 3pm and 6pm Nassau County Legislature Chamber, 1550 Franklin Avenue, Mineola, NY 11501				
<b>Manhattan (Downtown)</b> May 23 <sup>rd</sup> , 3pm and 6pm NYMTC Office, 25 Beaver St, 2nd Fl, NY, NY 10004 (These meetings will be available as webinars)	<b>LOWER HUDSON VALLEY</b>				
<table border="1"> <tr> <th>3:00 pm</th><th>6:00 pm</th></tr> <tr> <td> <a href="http://bit.ly/Plan20453PM">http://bit.ly/Plan20453PM</a>                      ID: 646 088 788                      Password: Plan20453PM                 </td><td> <a href="http://bit.ly/Plan20456PM">http://bit.ly/Plan20456PM</a>                      ID: 647 429 391                      Password: Plan20456PM                 </td></tr> </table>	3:00 pm	6:00 pm	<a href="http://bit.ly/Plan20453PM">http://bit.ly/Plan20453PM</a> ID: 646 088 788 Password: Plan20453PM	<a href="http://bit.ly/Plan20456PM">http://bit.ly/Plan20456PM</a> ID: 647 429 391 Password: Plan20456PM	<b>Rockland</b> May 17 <sup>th</sup> , 3pm and 6pm Palisades Mall, 4th Floor Community Room, 1000 Palisades Center Drive, West Nyack, NY 10994
3:00 pm	6:00 pm				
<a href="http://bit.ly/Plan20453PM">http://bit.ly/Plan20453PM</a> ID: 646 088 788 Password: Plan20453PM	<a href="http://bit.ly/Plan20456PM">http://bit.ly/Plan20456PM</a> ID: 647 429 391 Password: Plan20456PM				
<b>Brooklyn</b> May 3 <sup>rd</sup> , 3pm and 6pm National Grid Conference Center, One Metro Tech Center, Brooklyn, NY 11201	<b>Putnam</b> May 18 <sup>th</sup> , 3pm and 6pm Cornerstone Park, 1 Fair Street, Carmel, NY 10512				
<b>Staten Island</b> May 5 <sup>th</sup> , 3pm and 6pm Office of the Borough President, Room 125, 10 Richmond Terrace, Staten Island, NY 10301	<b>Westchester</b> May 19 <sup>th</sup> , 3:30pm and 6:30 pm White Plains Library, 100 Martine Avenue, White Plains, NY 10601				

- Share ideas that could help to shape the Plan
- Provide comment on trends and issues related to the Plan
- Tell us what you think of proposed projects, proposals & studies
- Review proposed regional goals and desired outcomes
- Learn more about the Council's Shared Vision

Starting **April 21st**, you can also share your comments, ideas and suggestions on our interactive website [www.nymtc.mysidewalk.com](http://www.nymtc.mysidewalk.com) and learn more about the plan at [www.nymtc-rtp.org](http://www.nymtc-rtp.org)

Facebook.com/NYMTC

@NYMTC

For more information please contact:  
**NYMTC-Web@dot.ny.gov | 212-383-7200**

The New York Metropolitan Transportation Council complies with the Americans with Disabilities Act and federal Limited English Proficiency guidelines. If you need special accommodations to participate in any of these workshops, or translation services into Spanish, Russian or Chinese, please contact [Andrea.Miles-Cole@dot.ny.gov](mailto:Andrea.Miles-Cole@dot.ny.gov) at least 72 hours before the meeting date.

For translated documents go to [www.nymtc.org](http://www.nymtc.org)

Para los documentos traducidos ir a [www.nymtc.org](http://www.nymtc.org)

對於翻譯文件去 [www.nymtc.org](http://www.nymtc.org)

對於翻譯文件去 [www.nymtc.org](http://www.nymtc.org)

Для получения переведенных документов перейти на [www.nymtc.org](http://www.nymtc.org)



## SECOND ANNUAL SYMPOSIUM ON TRANSPORTATION INFORMATICS



The Second Annual Symposium on Transportation Informatics will be held from on August 4-5, 2016 at George Mason University, Arlington Campus. The symposium will provide an opportunity for stakeholders in the big data and transportation analytics sectors to gain recognition and visibility through various sponsorship opportunities. Researchers, developers and practitioners are invited to submit an abstract of up to a 500 words. Select papers will be eligible for publication in a special issue of the ASCE Journal of Computing in Civil Engineering.

Topics of interest:

- Advances in computing technologies and methods applied to transportation data analytics;
- New tools, algorithms and software to support big data analytics in transportation;
- Emerging data sources and innovative applications of big data analytics in transportation;
- Advanced transportation data collection, storage, management and processing systems;
- Advanced data fusion and integration methods applied to address transportation challenges;
- Other contributions containing new insights and findings in transportation big data research

Submissions are due no later than April 30, 2016.

Submission can be made at: <https://www.buffalo.edu/transinfo/Events/2016Symposium/abstracts.html>

## 2016 ITS-NY TWENTY-THIRD ANNUAL MEETING AND TECHNOLOGY EXHIBITION



ITS-NY will hold its 23rd Annual Meeting on June 9-10, 2016 at Gideon Putnam Hotel and Conference Center. The theme of this year's conference is Transforming Transportation – Meeting the Challenge of Expanding Horizons.

Highly informative speakers and panel sessions will be addressing:

- Connected Vehicles and Connected Corridors;
- Drones and Transportation Applications;
- Real-Time Data for Transit Mobility;
- Smart Cities;
- Things are Moving Quickly – How Do We Keep Up?;
- Roadmap for the Future; and more.

For more information, please visit ITS-NY website at: <http://www.its-ny.org/>

# COMPLETED PROJECTS



**UTRC**  
Sponsored  
Research

## ■ Optimizing Work Zones for Highway Maintenance with Floating Car Data (FCD)

**Principal Investigator(s):** Dr. Steven I-Jy Chien, Dr. Kyriacos Mouskos

**Institution(s):** New Jersey Institute of Technology

**Sponsor(s):** University Transportation Research Center (UTRC)

One of the main tools that the Department of Transportation (DOT) of each state in the United States should have to support their work zone activities is a sound model that produces adequate work zone schedules for roadway maintenance and construction projects; this should be able to produce reliable estimates of the impacts on traffic flow characteristics due to work zone activity. Existing analytical models used by DOTs have been developed based on traditional volume/capacity formulas with deterministic traffic queuing theory. However, the shortcomings of these models often result in inaccurate estimates of traffic flow delay, speed and associated costs.

Access the full report at:

[http://www.utrc2.org/sites/default/files/pubs/Final-Report-Optimizing-Work-Zones-for-Highway-Maintenance\\_0.pdf](http://www.utrc2.org/sites/default/files/pubs/Final-Report-Optimizing-Work-Zones-for-Highway-Maintenance_0.pdf)

## ■ The Economy of Preventive Maintenance of Concrete Bridges

**Principal Investigator(s):** Dr. Riyad S. Aboutaha

**Institution(s):** Syracuse University

**Sponsor(s):** University Transportation Research Center (UTRC)

The most economical approach to maintain existing concrete bridges is by adopting an active preventive maintenance approach. An in-depth investigation of the combined deterioration effects of various deterioration mechanisms is needed to establish sound thresholds for harmful chemicals in concrete bridge elements. Such established thresholds are critical for cost-effective maintenance of concrete bridges. This study investigated the economy of preventive maintenance for concrete bridges. This report presents an in-depth chemical evaluation and preventive maintenance of existing highway concrete bridges.

Access the full report at:

<http://www.utrc2.org/sites/default/files/Economy-of-Preventive-Maintenance.pdf>

## ■ Techniques for Information Extraction from Compressed GPS Traces

**Principal Investigator(s):** Dr. Catherine T. Lawson, Feng Chen, Dr. Jeong-Hyon Hwang, Dr. Sekhariquram S. Ravi

**Institution(s):** State University of New York (SUNY)

**Sponsor(s):** University Transportation Research Center (UTRC)

Developing techniques for extracting information requires a good understanding of methods used to compress the traces. Many techniques for compressing trace data consisting of position (i.e., latitude/longitude) and time values have been developed. Since current vehicles are equipped with many on-board instruments, traces generated by such vehicles contain many attributes in addition to position and time. The problem of compressing such multi-attribute traces is currently being studied by a number of researchers.

Access the full report at:

<http://www.utrc2.org/sites/default/files/Economy-of-Preventive-Maintenance.pdf>

## Suburban Poverty, Public Transit, Economic Opportunities, and Social Mobility

**Principal Investigator(s):** Dr. Rae Zimmerman, Carlos E. Restrepo

**Institution(s):** New York University

**Sponsor(s):** University Transportation Research Center (UTRC)

Recent demographic trends suggest an increasing suburbanization of poor populations. Given that poor households are often unable to afford increasing housing prices in many urban areas they are increasingly moving to the suburbs. At the same time, suburbs often do not support the public transit needs of poor populations and access to jobs often with increasing commute time. Insufficient transit can also exacerbate recovery times after extreme weather events for vulnerable populations. Three areas within New York State with transit facilities and areas of poverty were evaluated with respect to the proximity of transit (distance to bus stops), use of transit, and commuting time. Some of the results indicated that certain poor populations in low density areas use transit less and have longer commutes. Historic and projected weather extremes and climate changes could also pose substantial threats to transportation and its users, particularly the poor.

Access the full report at:

<http://www.utrc2.org/sites/default/files/Final-Report-Surburban-Poverty-Public-Trans-Eco-Opportunities.pdf>

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## Performance Measures To Characterize Directional Corridor Travel Time Delay Based On Probe Vehicle Data

**Principal Investigator(s):** Dr. Thomas M. Brennan, Jr.

**Institution(s):** The College of New Jersey

**Sponsor(s):** University Transportation Research Center (UTRC)

Recent demographic trends suggest an increasing suburbanization of poor populations. Given that poor households are often unable to afford increasing housing prices in many urban areas they are increasingly moving to the suburbs. At the same time, suburbs often do not support the public transit needs of poor populations and access to jobs often with increasing commute time. Insufficient transit can also exacerbate recovery times after extreme weather events for vulnerable populations. Three areas within New York State with transit facilities and areas of poverty were evaluated with respect to the proximity of transit (distance to bus stops), use of transit, and commuting time. Some of the results indicated that certain poor populations in low density areas use transit less and have longer commutes. Historic and projected weather extremes and climate changes could also pose substantial threats to transportation and its users, particularly the poor.

Access the full report at:

<http://www.utrc2.org/sites/default/files/Final-Report-Performance-Measures-Probe-Vehicle-Data.pdf>

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## On-Road Energy Harvesting from Running Vehicles

**Principal Investigator(s):** Dr. Lei Zuo, Dr. Xuegang (Jeff) Ban

**Institution(s):** State University of New York (SUNY), Rensselaer Polytechnic Institute

**Sponsor(s):** University Transportation Research Center (UTRC)

A new type of large-scale on-road energy harvester to harness the energy on the road when traffic passes by is developed. When vehicles pass over the energy harvesting device, the electrical energy can be produced by the mechanical motion even after the vehicle passed by, which solves the difficulty in regeneration energy from impulse vibration. Design approach and dynamics modeling are presented to reveal the working mechanism of the energy conversion. In-field test with a sedan car is carried out and the regenerated power up about 24 Watts can be produced, which is much larger than the existing highway energy harvester in the published literature. This large-scale energy harvesting mechanism using the proposed MMR mechanism can help to develop harvesting device to build up self-power energy source for highway transportation monitoring system.

Access the full report at: <http://www.utrc2.org/sites/default/files/Final-Report-On-Road-Energy-Harvesting.pdf>



## Analyzing Willingness to Improve the Resiliency of New York City's Transportation System

**Principal Investigator(s):** Dr. Ricardo A. Daziano

**Institution(s):** Cornell University

**Sponsor(s):** University Transportation Research Center (UTRC)

The goal of this project is to provide statistical inference for the community's willingness to pay for improvements in the resiliency to extreme events of the transportation system in New York City. This objective seeks to provide better tools for better informing planning investments to improve both resilience and security of transportation infrastructure and services. A fundamental, specific goal is to collect microdata using a choice-experiment based specifically designed for this project. The population of interest for this study is those coastal communities in the NYC area facing increased risks of flood damage.

Access the full report at:

<http://www.utrc2.org/sites/default/files/Final-Report-Analyzing-Willingness-to-Improve-Resiliency.pdf>

## Effective and Equitable Supply of Gasoline to Impacted Areas in the Aftermath of a Natural Disaster

**Principal Investigator(s):** Dr. Rajan Batta, Dr. Changhyun Kwon, Alok Baveja

**Institution(s):** State University of New York (SUNY), Rutgers University

**Sponsor(s):** University Transportation Research Center (UTRC)

The focus of this project was on supplying gasoline after a natural disaster. There were two aspects for this work: determination of which gas stations should be provided with generators (among those that do not have electric power) and determination of a delivery scheme that accounts for increased demand due to lack of public transportation and considerations such as equity. A Mixed-Integer Mathematical formulation was developed for this situation. Two case studies based on Hurricane Sandy in New Jersey are developed and solved in CPLEX. This project utilized the limited supply of back-up generators and optimized the generators assignment and truck deliveries to the gas stations to achieve maximum gasoline delivery, while ensuring equity factor across the different regions. The model works effectively to locate generators to gas stations and assigns delivery trucks to gas stations. Via the New Jersey 2-county case study our study shows that different combinations of two types of trucks can affect the performance significantly. Different input parameters, e.g. available resource, number of generators, equity parameter affect the deliverable results. From the large case-study we conclude that our model is quite efficient and useful to manage gasoline delivery in the aftermath of a natural disaster.

Access the full report at:

<http://www.utrc2.org/sites/default/files/Final-Report-Effective-and-Equitable-Supply.pdf>

## Demonstrating Urban Outdoor Lighting for Pedestrian Safety and Security

**Principal Investigator(s):** Dr. John Bullough

**Institution(s):** Rensselaer Polytechnic Institute

**Sponsor(s):** University Transportation Research Center (UTRC)

Pedestrian safety is a critical element of urban transportation. A review of published literature, as well as real-world demonstration activities, indicate that bollard-level crosswalk lighting has excellent potential for enhancing pedestrian visibility and improving safety at crosswalks, particularly where the presence of a crosswalk might not be expected by approaching drivers. Such locations include midblock crossings, roundabouts and locations near schools and other public venues that might experience high levels of pedestrian traffic at sporadic or unexpected times. The light levels produced by the system and measured during a nighttime demonstration installation were sufficient to achieve high levels of visual performance. Access the full report at: <http://www.utrc2.org/sites/default/files/Final-Report-Demonstrating-Urban-Outdoor-Lighting-Pedestrian-Safety.pdf>

# News from the UTRC Consortium Faculty

## James Cohen, Professor Emeritus Presented at the 20th Anniversary of the Opening of the Channel Tunnel

Jim Cohen, Professor Emeritus, was the only American, among 15 British, French, Italian and other European policy-makers, transport professionals, and academics, invited to present a paper at a Conference commemorating the 20th anniversary of the opening of the Channel Tunnel. Held in London, in December, 2015, the Conference was jointly sponsored by British and French public and private organizations, and focused mostly on the unique aspects of Channel Tunnel financing. Cohen spoke about U.S. attempts to finance high speed rail in Florida, Texas, and California, 1980 to the present, and ways in which Channel Tunnel financing affected American projects (which it did, particularly in Florida and Texas). The French ambassador to England hosted attendees at the French Embassy at the end of the conference.

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## News from the New York University

### Dr. Joseph Chow's New Appointments at New York University

Professor Joseph Chow joined New York University in Fall 2015 as an Assistant Professor in the Department of Civil & Urban Engineering, and an Associated Faculty of CUSP. Prior to NYU, he was the Canada Research Chair in Transportation Systems and an Assistant Professor at Ryerson University in Toronto. He received his PhD from University of California, Irvine, in 2010, and has several years of industry experience in NYC. Professor Chow is a fellow New Yorker who attended Stuyvesant High School and obtained his BS and MEng at Cornell University. For more information, his website is here: <http://engineering.nyu.edu/people/joseph-yj-chow>.

### Dr. Joseph Chow's New Election as the Vice Chair at TSL

Professor Joseph Chow of New York University was elected to the Vice Chair position of the Urban Transportation Special Interest Group in INFORMS Transportation Science and Logistics (TSL) Society. INFORMS is the largest society in the world for professionals in the field of operations research, management science, and analytics, and TSL is among the organization's major sub-groups. <https://www.informs.org/Community/TSL/Special-Interest-Groups>

### Dr. Joseph Chow Publishes Study on Vehicle to Grid Technology

Professor Joseph Chow recently published a new study with collaborators from the University of Toronto entitled 'Equilibrium scheduling of vehicle-to-grid technology using activity based modelling'. <http://www.sciencedirect.com/science/article/pii/S0968090X16000395> In this research, the authors deal with the question of quantifying long term impacts of allowing Vehicle-to-Grid technology on electricity prices by time of day and from travelers' activity scheduling behavior. This is important because as the population continues to switch to electric vehicles, the share of the load on the smart grid will increasingly come from the transportation sector. By modeling the effects of V2G against a benchmark simulated scenario, the authors found that V2G policy can potentially decrease locational marginal prices for a distribution network operator, and lead to a substantial 20% increase in social welfare.

### NYU Re-launches the Center for Urban Intelligent Transportation Systems (UrbanITS)

Researchers at New York University have re-launched the Center for Urban Intelligent Transportation Systems (UrbanITS). UrbanITS is a research center in the Tandon School of Engineering. It is comprised of a number of faculty and researchers from several departments led by the Department of Civil & Urban Engineering. The mission of the center is to support and lead in research, education, and technology transfer of global state of the art engineering of transportation systems with an urban emphasis. A link to the website can be found here: <http://urbanits.engineering.nyu.edu/>

In addition, UrbanITS has launched a LinkedIn group for transportation alumni and students of NYU Tandon and formerly Polytechnic Institute. Alumni who are interested in receiving news and updates from the group are encouraged to join. A link to the group can be found here: <https://www.linkedin.com/groups/7040021>

# News from the UTRC Consortium Faculty

## New from the Lighting Research Center, RPI

### Lighting Research Center Researcher Shares Latest on Adaptive Headlights

John Bullough, Director of Transportation and Safety Lighting Programs at the Lighting Research Center (LRC), Rensselaer Polytechnic Institute, shared the results of the LRC's recent research investigations of adaptive driving beam (ADB) headlights. ADB headlights allow drivers to use their high beams but without the guilt of creating excessive glare, because these systems automatically detect and dim their output in the direction toward other vehicles while maintaining higher output everywhere else on the road. In November 2015, Bullough presented "Adaptive Headlight Systems" at the Society of Automotive Engineers Active Safety Systems Symposium, discussing safety impacts of these headlights. At the Transportation Research Board Annual Meeting in January 2016, Bullough presented "Assessment of an Adaptive Driving Beam Headlighting System: Visibility and Glare," describing a field study designed to measure people's ability to identify pedestrians using ADB headlights compared to conventional low-beam headlights. In April 2016, Bullough will discuss light level measurements made to verify the performance of an ADB headlighting system in a presentation entitled "Assessment of Adaptive Driving Beam Photometric Performance," at the Society of Automotive Engineers World Congress. The LRC's studies of ADB system performance were supported by the members of the Transportation Lighting Alliance (TLA), including Audi, Automotive Lighting, Hella, Lumileds, OSRAM SYLVANIA and Varroc Lighting.

### Lighting Research Center's Bullough Discusses Safety Technologies in TRB Webinars

John Bullough from the Lighting Research Center recently participated as a panelist in two webinars produced by the Transportation Research Board of the National Academies. In the first, "Applications of Adaptive Lighting on Roadways," Bullough discussed the relationships among roadway lighting, visual performance, and nighttime traffic safety, demonstrating how increasing light levels during busier periods of the night and reducing them during less busy periods can improve safety without increasing the costs of operating roadway lighting. In the second, "Implementing Energy Efficient Technologies for Cost-Savings at Airports," Bullough described light-emitting diode (LED) airfield lighting systems and shared airports' experiences with LED lighting on taxiways and runways, including energy and maintenance cost savings.

Details on these webinars can be found at the following URLs:

<http://www.trb.org/Main/Blurbs/173200.aspx>

<http://www.trb.org/ElectronicSessions/Blurbs/173635.aspx>

## New From State University of New York (SUNY)

### UTRC Sponsored Research Study on Self-Driving Cars was Published in the January 2016 Issue of the Prestigious Journal Transportation Research Part C: Emerging Technologies

The paper, lead-authored by Dr. Scott Le Vine (SUNY New Paltz), is titled Automated cars: Queue discharge at signalized intersections with 'Assured-Clear-Distance-Ahead' driving strategies. The research demonstrates the improvements in traffic flow at traffic lights that self-driving cars can deliver, even if driving defensively (rather than cooperatively). Dr. Le Vine commented that "we discovered a number of unanticipated findings, including that traffic with Self-Driving Cars may actually flow more smoothly on a rainy day than when roads are dry". The study is ongoing, with completion planned for mid-2016, and comprises part of a broader research program that is adapting standard traffic-flow-analysis techniques to account for the capabilities of Self-Driving Cars.

### Recent Publications by Dr. Daniel Hess, University at Buffalo, SUNY

Hess, Daniel Baldwin and Christina M. Farrell. 2016. Evacuation from Disaster Zones: Lessons from Recent Disasters in Australia and Japan. Securing Transportation Systems. Simon Hakim, Gila Albert, and Yoram Shiftan, eds. London: John Wiley and Sons. pp. 315-344. ISBN-13: 978-111897793

Hess, Daniel Baldwin and Alex Bitterman. 2016. Branding and Selling Public Transit in North America: An Analysis of Recent Messages and Methods. Research in Transportation Business and Management. (forthcoming, in press)



## Recently Published Video Briefing on the UTRC Funded Completed Projects



With:  
**Dr. Jeffrey Wojtowicz**

**The Role of Social Media in Improving the Safety and Efficiency of Traffic Operations during Non-Routine Events such as Incidents and Planned Special Events**

UTRC Region II  
Video Briefing  
On the UTRC  
Funded Project



With:  
**Dr. Yusuf A. Mehta**

**Impact of Polymer Modification on Mechanical and Viscoelastic Properties**

UTRC Region II  
Video Briefing  
On the UTRC  
Funded Project



With:  
**Dr. John Bullough**

**Analysis of Energy Efficient Highway Lighting Retrofits**

UTRC Region II  
Video Briefing  
On the UTRC  
Funded Project



With:  
**Dr. Xuegang (Jeff) Ban**

**Investigating the Network System Effects of Mileage Fee**

UTRC Region II  
Video Briefing  
On the UTRC  
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With:  
**Dr. Xiaokun (Cara) Wang**

**Assessing Behavior Changes under the Influence of Travel Demand Management Strategies**

UTRC Region II  
Video Briefing  
On the UTRC  
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- ▶ Columbia University
- ▶ Cornell University
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- ▶ New Jersey Institute of Technology
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