

ANNUAL REPORT 2016

UNIVERSITY TRANSPORTATION RESEARCH CENTER • REGION 2



Coney Island, Stillvell Ave Station, NY





This report represents the activity of the UTRC from January 1, 2016 – December 31, 2016.

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DIRECTOR'S MESSAGE



CAMILLE KAMGA

Director
Assistant Professor,
Civil Engineering
The City College
of New York, CUNY

This is the time of year where we take a moment to highlight our Center's activities over the past year and identify areas where we can improve.

This message comes at the dawn of the announcement of the recipients of the 2016 University Transportation Center Grants by USDOT. We congratulate two members of our consortium for their successful applications to lead two Tier 1 University Transportation Centers (UTC). Professor Kaan Ozbay at New York University will lead the Connected Cities for Smart Mobility towards Accessible and Resilient Transportation (C2SMART), a consortium that includes The City College of New York and Rutgers University. Professor Oliver Gao at Cornell University will lead the Center for Transportation, Environment, and Community.

As we applaud the success of these members in their receipt of the rightly-earned awards, we are also disappointed with the general results of this competition. In our region, two existing centers; the National UTC led by CAIT at Rutgers University and the Tier 1 UTC - Transportation Informatics (TransInfo) hosted by the University at Buffalo, were not renewed. We are also aware of institutions within our consortium that submitted new proposals that we feel deserved positive consideration, but were not selected.

In regard to our application to continue to serve as the Regional UTC for Region 2, we were very dissatisfied to learn that USDOT decided not to make the award in three of the Federal regions, (Regions 1, 2, and 3) and instead, plans to re-issue a limited competition for these regions. Since the inception of the UTC program in 1987, our

UTRC consortium has successfully competed in every UTC grant competitions to be designated as the UTC for Region 2. We have always developed a strong proposal to meet the vision of USDOT while addressing the needs and challenges of our region. Our membership has grown from 10 universities to 18 major universities as indicated in our 2016 application. Our regional program is well known and respected within the UTC community and by our regional and local transportation agencies and stakeholders.

We look forward to the opportunity to resubmit our proposal and in doing so, will address the varied and complex transportation needs of the New York region while also meeting the priorities of USDOT and the new administration.

I trust that as you look through the pages of this report, you will agree with me that 2016 has been a very productive year for the Center, owing to all of the significant events that took place. We hosted and co-hosted many events including seminars, workshops, symposiums, summits, and conferences. We partnered with the ITE Metropolitan Section of New York and New Jersey to organize and host the Technical Summit on Smart City and Transportation. This half-day conference, attended by more than 250 persons provided a glimpse of Smart City and how the Transportation field is adapting to this changing environment. With support from NYSERDA and NYS-DOT, we organized a one-day symposium on Transportation Transformed: Advancing Eco-Friendly Mobility. This symposium attracted more than 200 persons with the objective to reflect on the challenges and potential for encouraging preferred driving behaviors in New York State. We successful-

ly organized our 4th Annual Transportation Technology Summit: Innovative Mobility Solutions attended by more than 400 persons and our 5th Automated & Connected Vehicles (ACV) Symposium, a two-day event with more than 350 participants and hosted at the New York University's campus in Brooklyn.

With funding from USDOT and our local transportation agency-partners, we have initiated a substantial amount of new research projects, continued investigation through ongoing research, and successfully completed and disseminated final reports of completed research projects. We proudly awarded scholarships to many students by providing financial support towards their education and professional development. These are only some of the achievements we attained during the year 2016 and there are many others, too numerous to mention in these few words.

As I conclude, in light of the arrival of a new president and a new administration, we are determined to take our exceedingly successful organization to the next level of excellence. The activities illustrated in this annual report are part of the process and contribute to the fulfillment of our vision. We are looking forward again with much optimism to resubmit an application for federal funding under the upcoming limited solicitation to be issued by USDOT.

CHAIRMAN'S MESSAGE



JOHN C. FALCOCCHIO

**Chairman
Professor, Transportation
Planning and Engineering
NYU Tandon School of
Engineering**

UTRC has served Region 2 since 1987, in a strong and positive way. Over this 29 year period, the number of Academic Institutions in our consortium has increased from ten in 1987, to eighteen in 2016. This growth has enlarged the talent pool of faculty and student resources participating in regional and national research projects and initiatives – as described in this annual report.

When UTRC Region 2 was first established 29 years ago, the involvement of university faculty in the transportation activities of State and regional agencies was very minimal, as these entities tended to view academic research with a skeptical eye. Today, thanks to UTRC this is no longer the case. UTRC'S accomplishments have been well received by our industry and governmental partners as evidenced by their increasing reliance on UTRC faculty for the supply of new students entering the transportation field (through our education and training program), for undertaking research projects to meet their work needs (through our research support program) and for bringing to their attention new transportation technol-

ogy applications that improve transportation efficiency and safety (through our technology transfer program).

In a future where disruptive technologies will predominate our toolboxes, transportation solutions to challenges in urban mobility, safety, financing, and equity, will become more complex. UTRC's future activities will need to adapt to meet these challenges. And I am confident the UTRC Region 2 model that served us so well in the past will be adapted to fit these new requirements.

DIRECTOR EMERITUS'S MESSAGE



ROBERT E. PAASWELL

**Director Emeritus, UTRC
Distinguished Professor
of Civil Engineering
The City College of New York, CUNY**

In 1987, Congress, in approving the Surface Transportation Act, established the University Transportation Centers Program. Previously, University Research had been carried out under an assortment of programs run by OST, UMTA and FHWA. The large problems then were still adapting to the auto and its environmental consequences and the need to build new infrastructure and beginning to address the roles that technology were to play. USDOT, to carry out the mandate of Congress asked TRB to establish a task force to develop the program (then seen as 10 Centers, 1 in each USDOT region, funded at \$1 million/year which was to be matched). I had the honor of being asked to serve on that task

force and we designed a program that sought excellence, proof of capability, and new ways to define and approach the pressing problems as USDOT saw them. Region 2 responded with a number of proposals and the winning one (I was still at CTA, no thought of The City College of New York (CCNY) in my future – just making daily service!) was CCNY as the lead Institution, with Milton Pikarski as Director. CCNY responded with research and studies on a number of problems facing NY, NJ and Puerto Rico, and began to establish its reputation of being a go-to Center for regional transportation issues. I mention this because we have come a full generation from that initial program and UTRC's birth; the UTC program has since come through many changes, many administrations and now must address issues not yet conceived of in 1987 (the first iPhone was brought out in 2007!). While the problems of the late 1980s and 90s were still addressing costs and benefits of supply and

renewal, the problems of today –as now addressed continually - are of using information to understand the linkages between mobility (physical and social), quality of life and the pressing intervention of a new era of global issues; no longer do we have simpler problems with optimal answers. I take great joy in working with and being mentored by my newest young colleagues and by the new generation of those working at our transportation perspective. In the era of ubiquitous and seemingly endless data, social media and smart devices, problem definition and solving demand new thinking, integrative courses and programs and faster integration into practice. The role of the Universities are to develop (and they will, because the new faculty don't speak the old languages) new programs; the transportation programs must develop infrastructure solutions (too narrow? –urban design solutions?) that meet the needs of the emerging generations in this era of complexity.



CENTER'S THEME

Marshak Science Building at City College,
Photo by: Carlos Parker

Planning and Managing a Regional Transportation System in a Changing World

UTRC's primary focus is the stewardship, management, and future evolution of its already mature transportation systems, in the face of emerging policy challenges. The region's transportation agencies must continually adjust to the nature of the economy and its evolving transportation requirements; their emerging understanding of what is required to protect public safety and security; and new challenges, such as global climate change. As advances in technology continually redraw the boundaries of what is possible, transportation agencies also face the daunting challenge of revisiting how they define their missions, serve the public and conduct their routine business. Because this region has historically faced so many transportation challenges, it has a tradition of innovation in transportation. Yet as the early solutions it adopts become institutionalized, it tends to be slow to absorb and implement lessons from innovators elsewhere in the U.S. and abroad, and thus often falls behind the curve. To become a region that can plan and manage its systems effectively in the face of change, it must become more dynamic in its approaches to the management of information and technology.



PLANNING TODAY

Planning today in Region 2 requires knowledge of multi-modal and intermodal systems serving both freight and passenger movements. Planning in the region involves not only MPOs, but all of the many agencies taxed with the need to move people and goods 24/7. Planning is constrained by institutional mandate and history, the need to catch up with a backlog of capital needs, and a chronic shortage of adequate funds for both maintaining and building the infrastructure. UTRC's role is to provide through academic programs, a solid base on which planning decisions can be made; yet UTRC has the capability to provide "instantaneous programs" in response to critical needs (such as the conference organized for New York State on public-private partnerships).

MANAGING TODAY

Managing today in Region 2 means knowledge of interaction among complex multi modal systems, budgeting, system operations and performance targets, customer needs, the need to address security, and – when fighting fires stops – a sense of vision of system performance and regional change. Management takes place at every level: from Board Chairpersons to line operators. UTRC has initiated and will develop programs ranging from Authority Board Member Training, to training in high technology for Transit workers. UTRC will develop a major training program for the New York City MPO addressing technical issues and management. UTRC is also part of the national group of UTCs that have developed online leadership courses.

RESPONSES TO CHANGE

As the world changes, the demands on the transportation system change as well. Tomorrow's transportation systems will need to be more secure, more resilient to natural hazards, less damaging to the environment, and better able to use available capacity efficiently. Emerging transportation systems rely on real time technology and rapid transfer of operational information. UTRC partners with leaders in innovation and deployment, including research labs and private firms. UTRC, through its continuing national leadership on new paradigms in transportation management, continues to integrate technology into transportation systems. This is also an era of meeting financial needs through new – and proven – fiscal approaches, many of which include Public-Private Partnerships. UTRC's strong economic capability has made national (and international) impacts and is used to assist regional agencies to address investment impacts. The institutions that have traditionally operated the regional assets must, themselves, begin to change. They must think multimodally, with integrated operating systems. UTRC, with its strategic capability, can assist the regional agencies (and be a model for national success) in organizational change responsive to new missions.

UTRC has adopted a corporate style of management. In this style, the UTRC Board provides policy guidelines, and approval of UTRC activities.

Dr. Camille Kamga, Assistant Professor of Civil Engineering at The City College of New York, serves as the Director, overseeing day-to-day operations and providing a bridge between UTRC policies and the activities and resources used to carry out those policies. The Board of Directors, with representatives from consortium universities, is chaired by Dr. John Falcocchio of NYU Tandon School of Engineering and conducts its business through a well-organized committee structure. The full Board reviews Center objectives and programs, approves budgets, and reviews and recommends actions forwarded by its two major working committees.

BOARD OF DIRECTORS

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Dr. Elliott Sclar - Urban and Regional Planning

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Dr. Richard Geddes - Cornell Program in Infrastructure Policy

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Dr. Joyoung Lee - Civil & Environmental Engineering

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Dr. Marta Panero - Engineering & Computing Sciences

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Dr. Rae Zimmerman - Planning and Public Admin

(NYU TANDON SCHOOL OF ENGINEERING)

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Dr. Kaan Ozbay - Civil Engineering
Dr. Elena Prassas - Civil Engineering

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Dr. William "Al" Wallace - Civil Engineering

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Dr. Beena Sukumaran - Civil Engineering

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Dr. Catherine T. Lawson - City & Regional Planning
Dr. Adel W. Sadek - Transportation Systems Engineering
Dr. Shmuel Yahalom - Economics & Maritime

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Dr. Thomas H. Wakeman III - Civil Engineering

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Dr. Riyadh S. Aboutaha - Civil Engineering
Dr. O. Sam Salem - Construction Engineering and Management

THE COLLEGE OF NEW JERSEY, NEW JERSEY

Dr. Thomas M. Brennan, Jr. - Civil Engineering

UNIVERSITY OF PUERTO RICO - MAYAGÜEZ, PUERTO RICO

Dr. Didier M. Valdes-Diaz - Civil Engineering
Dr. Ismael Pagan-Trinidad - Civil Engineering

STAFF



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Assistant Professor
of Civil Engineering



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Distinguished Professor
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Research Associate
(Graduated in Spring'16,
Employed at SIMCO
Engineering, P.C.)



Oti Agyenim

Research Assistant
(Moved to NYSDOT)

MEMBER UNIVERSITIES



The City University of New York



1 CITY UNIVERSITY OF NEW YORK

The City University of New York is the nation's largest urban university: 11 senior colleges, 6 community colleges, a graduate school, a law school and a school of biomedical education. More than 450,000 degree-credit students and adult, continuing and professional education students are enrolled at campuses located in all New York City boroughs. CUNY, with more than 100 nationally recognized research centers, institutes and consortia, is also one of the nation's major research institutions. Because of its urban context, many of CUNY's campuses are involved in transportation research and education.

2 CLARKSON UNIVERSITY

We are the institution of choice for 3,000 enterprising, high-ability students pursuing degrees in 50+ rigorous academic programs of study. Our faculty are on the leading edge of research of international relevance and we offer focused graduate programs in select disciplines, however, our primary mission is undergraduate education. Across the institution, faculty and students develop close, mentoring relationships and make lifelong connections that guide career success.

3 COLUMBIA UNIVERSITY

Columbia University was founded in 1754 as King's College by royal charter of King George II of England. It is the oldest institution of higher learning in the state of New York and the fifth oldest in the United States. Today it has an enrollment of over 23,000 students in 16 schools and colleges. Columbia conducts transportation-related research through its strong departments of Urban Planning, Civil Engineering, and Industrial Engineering and Operations.

4 CORNELL UNIVERSITY

Founded in 1868 by Andrew White and Ezra Cornell as an institution where "any person can find instruction in any study," Cornell University today encompasses thirteen undergraduate, graduate, and professional colleges and schools. Cornell is a unique combination of public and private divisions, being both a private, nonsectarian university and the land-grant institution of New York State.

5 HOFSTRA UNIVERSITY

Hofstra University can help you get where you want to go, with small classes, dedicated faculty and a beautiful, energized campus, plus all the opportunities of New York City within easy reach. Find your future by choosing from about 150 undergraduate and about 160 graduate programs, in Liberal Arts and Sciences, Business, Communication, Education, Health and Human Services and Honors studies, as well as a School of Law and School of Medicine. The student-faculty ratio of 14 to 1 and a priority on teaching excellence ensures you're part of creating your own success.

6 MANHATTAN COLLEGE

Manhattan College is a Lasallian educational institution founded in 1853 by the De La Salle Christian Brothers, a Catholic religious teaching order started by Saint John Baptist de La Salle, the patron saint of teachers. De La Salle is known as the innovator of modern pedagogy for his work establishing schools to educate disadvantaged children in 17th century France.

7 NEW JERSEY INSTITUTE OF TECHNOLOGY (NJIT)

The New Jersey Institute of Technology (NJIT) is a public research university enrolling nearly 8,100 students in 92 degree programs. NJIT has built its research program around multi-disciplinary centers that encourage partnerships among various disciplines, as well as with other educational institutions, private enterprise and government agencies. NJIT hosts a number of publicly and privately funded research initiatives.

8 NEW YORK INSTITUTE OF TECHNOLOGY (NYIT)

A global, private institution of higher education, NYIT has 14,000 students on campuses in North America, China, the Middle East, and online. Since 1955, NYIT has pursued its mission to: Provide career-oriented professional education. Give all qualified students access to opportunity. Support applications-oriented research that benefits the larger world.

9 NEW YORK UNIVERSITY (NYU)

Founded in 1831, New York University is one of the largest private universities in the United States, with nearly 51,000 students. NYU is home to the Tandon School of Engineering and the Robert F. Wagner Graduate School of Public Service. The Tandon School of Engineering specializes in Transportation areas; Urban Intelligent Transportation Systems, Transportation Systems Engineering, and Management of Congested Urban Networks. The Wagner Graduate School engages transportation issues through programs in Urban Planning, Public Management and Finance, and Negotiation and Conflict Resolution.

MEMBER UNIVERSITIES

10 RENSSELAER POLYTECHNIC INSTITUTE (RPI)

RPI was established in Troy, NY in 1824. It has the oldest program in Civil Engineering in the English-speaking world. Today the university has 7,000 students and schools of Architecture, Engineering, Humanities, Management, and Science. RPI provides regional, national, and international leadership in research relating to intelligent transportation systems, transportation modeling, traffic operations, intermodal freight transportation, transportation economics, and analytical approaches to emergency management.

11 ROCHESTER INSTITUTE OF TECHNOLOGY (RIT)

RIT is a place where brilliant minds assemble and collaborate, where they pool together their individual talents across disciplines in service of big projects and big ideas. It is a vibrant community teeming with students collaborating with experts and specialists: a hub of innovation. It is an intersection of disciplines, a launching pad for a brilliant career, and a highly unique state of mind. It is a perfect environment in which to pursue your passion. Here, the future is envisioned each day. And remade each day after.

12 ROWAN UNIVERSITY

Established as a normal school in 1923, today Rowan is a comprehensive public university serving nearly 10,000 students in a Graduate School and colleges of Business, Communication, Education, Engineering, Fine & Performing Arts, and Liberal Arts & Sciences. Rowan's Civil and Environmental Engineering Department conducts transportation research in the areas of pavement design, materials, rail crossing safety,

structural design of bridges, and structural design and testing of transit vehicles.

13 RUTGERS UNIVERSITY*

From its roots as a colonial college (chartered in 1766) and land-grant institution, Rutgers has developed into one of America's leading public research universities. New Jersey's state university fulfills its three-part mission of instruction, research and service by educating a diverse student body of over 48,000 on its three campuses, by creating new knowledge, and by contributing to the economic and cultural vitality of the state.

*Member Under SAFETEA-LU

14 STATE UNIVERSITY OF NEW YORK (SUNY)

The State University of New York's 64 geographically dispersed campuses bring educational opportunity within commuting distance of virtually all New Yorkers and comprise the nation's largest comprehensive system of public higher education. Across this network, SUNY has many capabilities that relate directly and indirectly to transportation research. In addition to the major research clusters described below, UTRC works with individual faculty members at SUNY Colleges at Oneonta, Farmingdale, and Alfred.

15 STEVENS INSTITUTE OF TECHNOLOGY

Founded in 1870 in Hoboken, New Jersey, the Stevens Institute of Technology is one of the leading technological universities in the country. It is named for a distinguished family in American engineering, dating back to the early days of the Industrial Revolution, that helped pioneer the development of the steamboat and railroad

technology. Research at Stevens Institute includes structural dynamics, soil-structure interaction, freight transportation, and embedded, real-time, intelligent infrastructure systems.

16 SYRACUSE UNIVERSITY

From its founding in 1870, Syracuse University has been the embodiment of Scholarship in Action-education that transcends traditional boundaries through a combination of innovative thinking, daring choices and entrepreneurial attitude. The iconic campus is nestled amongst the rolling hills of Central New York-itself a crucible of historic change and progress. Building on that foundation, SU continues to create opportunities for students and faculty to push limits, build pathways, and make connections that lead to new discoveries and transformational change.

17 THE COLLEGE OF NEW JERSEY

The College of New Jersey (TCNJ) is a highly selective institution that has earned national recognition for its commitment to excellence. Founded in 1855, TCNJ has become an exemplar of the best in public higher education and is consistently acknowledged as one of the top comprehensive colleges in the nation. TCNJ currently is ranked as one of the 75 "Most Competitive" schools in the nation by Barron's Profiles of American Colleges and is rated the No. 1 public institution in the northern region of the country by U.S. News & World Report.

18 UNIVERSITY OF PUERTO RICO - MAYAGÜEZ (UPR)

The University of Puerto Rico was established in 1903. Transportation research at UPR is concentrated on its Mayagüez cam-

pus, which serves over 12,000 students in colleges of Agricultural Sciences, Engineering, Arts and Sciences, and Business Administration. Its Department of Civil Engineering has an active program in natural hazards research with applications in transportation, including research in structures, advanced materials, earthquake engineering, and construction management issues. Its Civil Infrastructure Research Center is funded by FEMA, FHWA, and the Puerto Rico Department of Transportation, and other partners.



Rensselaer



SYRACUSE UNIVERSITY



HIGHLIGHTS

University Transportation Research Center Involved in the Connected Vehicle Pilot Deployment Program



From (L to R): Dr. Kaan Ozbay, New York University; Dr. Mohamad Talas, New York City Department of Transportation; and Dr. Camille Kamga, UTRC/CCNY

Dr. Camille Kamga at The City College and Dr. Kaan Ozbay at NYU are leading the University Transportation Research Center team in the New York City Connected Vehicle (CV) Pilot Deployment Program.

New York City (NYC) is one of three sites selected in the U. S. Department of Transportation's Connected Vehicle (CV) Pilot Deployment Program to demonstrate the benefits of CV technology. The New York City Department of Transportation (NYCDOT) leads the NYC pilot which is primarily focused on safety and will employ CV technology to improve the safety of travelers within the city. This project will be the largest CV technology deployment so far and will present the opportunity to evaluate the performance of this technology in a dense urban transportation network. Most importantly, it will help NYC to move closer to reaching the Vision Zero goal of eliminating fatalities and injuries caused by traffic accidents.

The project will be undertaken in three phases. In the first phase, which was completed in September 2016, a comprehensive deployment plan was developed for the rapid and efficient roll-out of the CV technology. The second phase, lasting 20 months, is currently underway and involves the designing, building, and testing of the deployment of integrated wireless in-vehicle devices, mobile devices, and roadside infrastructure. The third phase will be an 18-month operational period when the technology is active and data is collected for the evaluation of the system's benefits and overall operations.

To enable Vehicle-to-Vehicle (V2V) and Vehicle-to-Infrastructure (V2I) communications in this pilot project, CV technology will be installed in several vehicle fleets and in road infrastructure at various locations across the city. A total of about 8,000 vehicles from four different fleets including taxicabs, MTA buses, commercial delivery trucks, and city-owned vehicles will be equipped with CV

Drs. Conway and Kamga Awarded the Best Paper in Freight Track at WCTR 2016

July 14, 2016, Shanghai China

UTRC's Associate Director for Education, Dr. Alison Conway; UTRC Director, Dr. Camille Kamga and their students received the best paper award for the Freight Transport and Logistics track at the 14th World Conference in Shanghai from July 10-14. The co-authors of the paper titled; Cargo cycles for local delivery in New York City: Performance and impacts include Jialei Cheng and Dan Wan. Dr. Conway presented the paper on July 14, 2016 during the Electric Vehicles, Alternative Fuels and Cargo Bikes Session. The paper describes a research effort to estimate and compare the traffic performance and externalities generated from human-powered cargo cycles and motorized vehicles conducting last mile deliveries in NYC. Professor Conway's paper was selected from 113 papers presented in the freight track. The WCTR is an international association of transport researchers. The triennial meeting attracts over 1,000 researchers from around the world. The 2016 meeting was held in Shanghai, from July 10 – 14.

technology. This large fleet size will give the technology a chance to perform over a wide area and in many different roadway conditions, including surface streets, tunnels and bridges, and higher speed, limited access highways.

For the infrastructure side of communications, over 300 roadside units (RSU) will be installed in three deployment sites in Manhattan and Brooklyn, on a segment of the FDR Drive on the east side of Manhattan, along four avenues in Midtown Manhattan, and on a segment of Flatbush Avenue in Brooklyn. Other locations that will be equipped include fleet terminal facilities, airports, and bridges and tunnels where the fleet vehicles frequently travel. These diverse locations present different challenges for CV technology to deal with.

HIGHLIGHTS

UTRC Provided Assistance to NYMTC; the Metropolitan Planning Organization (MPO) for New York City, Long Island and the lower Hudson Valley for the Plan 2045; Long Term Regional Transportation Plan through Public Outreach

As an academic partner of NYMTC, the University Transportation Research Center (UTRC) was chosen to serve in a liaison capacity and work in close collaboration with NYMTC staff and the New York City Planning (NYCP) group to lead the outreach activities. As a team, all participating members coordinated with external stakeholders, including a broad array of constituencies and civic organizations, in statewide planning.

The following tools were used to for the public outreach:

- **RTP Website**

With UTRC assistance, NYMTC launched an RTP website (www.nymtc-rtp.org) which served as a major conduit for disseminating information on the RTP plan development.

- **Drivers of Change Survey**

In January 2016, UTRC, in close collaboration with NYMTC staff, developed a “Drivers of Change” survey through Survey Monkey service. This component of the outreach process laid out a foundation for the future outreach processes. The survey received a tremendous response of about 900 people.

- **Interactive Virtual Website; My Sidewalk**

Anticipating the modern growing trend of virtual presence, UTRC also assisted NYMTC with the launch of an interactive website; MySidewalk (<https://nymtc.mysidewalk.com/>) to engage diverse groups of people throughout the metropolitan area in a robust discussion forum.

- **Plan 2045 Open Houses/Public Workshops**

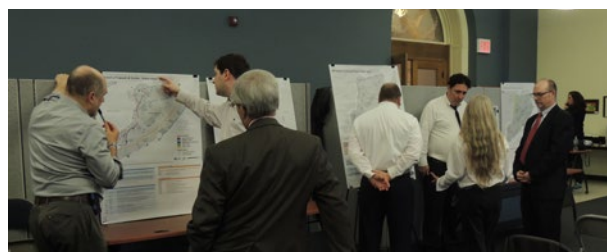
For the Plan 2045, NYMTC organized 12 public workshops (between April 28 – May 19, 2016) in each of 10 counties within the NYMTC region which includes the five boroughs of New York City; the lower Hudson Valley counties of Putnam, Rockland and Westchester; and Nassau and Suffolk counties on Long Island.

- **Visualization Techniques**

NYMTC staff started each workshop with a five minute introductory video of the NYMTC planning and public outreach process followed by a PowerPoint presentation. The PowerPoint presentation was followed by display materials on five stations at each workshop, built on the same topics as on the online forum (Mysidewalk)

- **NYMTC Focus Groups**

UTRC, in close consultation with NYMTC staff, recruited a consultant to hold the NYMTC focus groups. The consultant conducted five focus groups of 12-13 qualified persons age 21-70 to establish their opinions and suggestions relating to the proposed NYMTC 2045 Plan. The Focus group facilitator asked a series of questions which were aligned with all topics that were available on NYMTC’s online channels for the Public Outreach. The facilitator submitted a final reports of all comments, suggestions, and recommendations that were collected through these focus groups.



NYMTC Staff at the Staten Island Open House

- **UTRC Is Also 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 non-attainment 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 review 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 Board of Director's Meeting

February 19, 2016 at The City College of New York, CUNY



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 consists 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 NYU Tandon School of Engineering, 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 be achieved through center's programs.

HIGHLIGHTS

UTRC, in Coordination with IGLUS, Assisted in Developing a One Week Training Program for City Managers September 12-19 at The City College of New York, CUNY



IGLUS (Innovative Governance of Large Urban Systems) initiative at École polytechnique fédérale de Lausanne (EPFL) (lead by Dr. Matthias Finger) in Switzerland (ranked 15th world best university) and UTRC at City University of New York (CUNY) developed and presented a one week training program about the governance of sustainable urban systems from September 12-19, 2016. This program was designed to train city managers from all over the world - from South Africa to Bahrain to Mexico City - on best urban governance practices in order to help them make their own cities reach desired measures of efficiency, resilience and sustainability.

Under the theme of urban sustainability, the four main themes covered during the CCNY training were:

1. Municipal and metropolitan financing for sustainable urban systems
3. Sustainable mobility challenges
4. Green infrastructures
5. Waste management and circular economy

The program included experts from Academia and the Public Sector who gave presentations on a number of critical urban topics including transport and land use, sustainable design, governance, finance and renewable materials. In addition, there were a number of field trips including one to the famous High Line and the Sims Recycling Center. The CCNY program was coordinated by Professors Robert Paaswell and Camille Kamga and by Nadia Aslam.

UTRC Co-Hosted the TransportationCamp NYC 2016 September 24, 2016 at The City College of New York, CUNY



Photo by Tina Quach

University Transportation Research Center and Young Professionals in Transportation hosted the TransportationCamp NYC 2016 at the City College of New York on September 24, 2016. The TransportationCamp NYC 2016 fostered open conversation and collaboration between all parties interested in mobility and the radical changes that the near-future promises in transpor-

tation. The TransportationCamp assembled planners, software developers, engineers, students, dreamers, and professionals for an exciting day of “un-conferencing.” Unlike a traditional conference, the specific session topics were determined by participants, which provided each attendee an opportunity to lead and shape the event.



Photo by Tina Quach



Photo by Joseph Chan

HIGHLIGHTS

2016 Transportation Technology Summit: Innovative Mobility Solutions

November 15, 2016 at the New York Institute of Technology

UTRC's 4th Annual Transportation Technology Summit was held on November 15, 2016 at the New York Institute of Technology. The summit's recurring theme was the Innovative and Mobility Solutions. The symposium's growing success had made it a big platform for transportation researchers, public and private agencies, and consultants to showcase their work by presenting to a broader audience. UTRC's distinguished lecturer Matthew W. Daus was the chair of the organizing committee. The keynote address was delivered by Mr. Rohit T. Aggarwala, Chief Policy Officer from the Google Sidewalk Labs. To view the video of this speech, please see the following link: vimeo.com/192139924.

The summit's program included:

- **Plenary Session 1** - Future Modes & Emerging Transportation Technologies
- **Breakout Session 2** - Transportation Data Modeling, Analysis & Applications
- **Breakout Session 3** - Transportation Technology for Traffic & Mobility Management
- **Breakout Session 4** - Transportation Technology & Data to Achieve Equity & Accessibility for All
- **Breakout Session 5** - Transportation Technology for Safety & Security
- **Plenary Session 6** - Shared Mobility Technology

All these sessions were moderated by highly skilled transportation professionals and featured presentations from impeccable speakers throughout the public and private sector, conducting transportation related research addressing data issues.



Matthew W. Daus, UTRC's Distinguished Lecturer Delivering the Welcoming Remarks at the Summit



From L to R: Dr. Camille Kamga, UTRC/CCNY; Rohit T. "Rit" Aggarwala Chief Policy Officer, Sidewalk Labs (Keynote Speaker); and Matthew W. Daus, UTRC/CCNY



Panelists from Plenary Session 1:
From L to R: Bill Long, Mobility Mines; Tracy Lamb, SGS HART Aviation; Dr. Robert E. Paaswell, UTRC/CCNY; and Dr. Catherine Lawson, University at Albany, SUNY



Panelists from Breakout Session 2
From L to R: Josh DeLaRosa, Abt SRBI; Nikhil Puri, Cambridge Systematics, Inc.; Niloofar Ghahramani, CCNY/CUNY; and Dr. Hongmian Gong, Hunter College, CUNY

This unique summit brought together leading experts, academics, practitioners, industry stakeholders and advocates to discuss the rapidly changing and expanding world of transportation technology innovative solutions. The presenters explored the cutting edge intelligent transportation systems, big data aggregation, and innovative transportation technology solutions to promote efficiency, safety, security and sustainability goals, as well as the impact on broader inter-modal and multimodal transportation considerations.

The event aimed to encourage future and forward thinking innovative concepts and the pragmatic political reality of various movements (such as climate change/environmental policies and safety initiatives for reduced traffic fatalities).

The symposium proceedings including presentations, videos, and images are available on the UTRC's website at: www.utrc2.org/events/2016-transp-tech-summit



Panelists from Plenary Session 6
From L to R; Dr. Camille Kamga, UTRC/CCNY; Tim Frisbie, The Shared-Use Mobility Center (SUMC); Daniel Peterson, Dewberry; Matthew W. Daus, UTRC/CCNY; S. Maurice Rached, Maser Consulting; and Andrei Greenawalt, VIA



Panelists from Breakout Session 3
From L to R: Dr. Nidhal Bouaynaya, Rowan University; Mengzhe Huang, New York University; Weinan Gao, New York University; Dr. Camille Kamga, UTRC/CCNY; Jeevanjot Singh, NJDOT; Dr. Sandeep Mudigonda, UTRC/CCNY; and Dr. Parth Bhavsar, Rowan University



Panelists from Breakout Session 4: From L to R: Rodney Stiles, NYC TLC; Cecilia Feeley, Rutgers/CAIT; Matthew W. Daus, UTRC/CCNY; Dr. Joyoung Lee, NJIT; and Maureen Koetz, Koetz and Duncan LLC



Dr. Marta Panero at NYIT Delivering the Welcoming Remarks



Rodney Stiles, NYC TLC



Tracy Lamb, SGS HART Aviation

The 5th Automated & Connected Vehicles Symposium

December 8-9, 2016 at the New York University

UTRC's held the fifth annual Automated and Connected Vehicle (ACV) conference in New York City from December 8-9 at the Pfizer Auditorium at the New York University. This year's symposium theme was Social, Economic, Environmental & Safety Benefits of Autonomous and Connected Vehicles. The symposium had the greatest number of registrations to date with approximately 300 attendees from all over the nation.

In the symposium's welcoming session, Dr. Camille Kamga; UTRC's Director and Dr. Kaan Ozbay, Professor at the New York University welcomed the participants and provided a brief history of the conference and the on-going developments which resulted from previous conferences.

The symposium's first day included the following sessions:

1. Update on Connected Vehicle Pilot Deployment Projects
2. Partner Alignment Strategies for Success
3. Automated Mobility
4. Safety and Long Term Impacts of and Connected and Autonomous Vehicles
5. Automated and Connected Vehicles for Freight
6. Autonomous Vehicle Policy Issues
7. Automated Vehicles: Principles for Testing in Urban Centers

In addition to panel sessions, Bern Grush; Transportation Innovator, Writer, Speaker; Adam Jonas; Managing Director, Morgan Stanley | Research, and Raymond Martinez, New Jersey Motor Vehicle Commission Chair & Chief Administrator also delivered presentations to discuss the subject matter.



From L to R: Hon. Ydanis Rodriguez, New York City Council Member, Chair of Committee on Transportation; Hon. Martin Golden, New York State Senator, Chair of Science, Technology, Incubation And Entrepreneurship Committee; Matthew W. Daus, UTRC/CCNY; Michael Replogle, Deputy Commissioner for Policy, NYC Department of Transportation; Rodney Stiles, Assistant Commissioner for Data & Technology, NYC Taxi and Limousine Commission; and Dr. Camille Kamga, UTRC/CCNY



A Panel on Partner Alignment Strategies for Success

From L to R: Courtney Ehrlichman, Deputy Executive Director, Traffic21, Carnegie Mellon University; Aaron Simkin, General Manager of Mtuity; Ohad Snir, Growth & Operations, Nexar Inc.; Paul Brubaker – Alliance for Transportation Innovation; and Michael Fancher, SUNY Poly

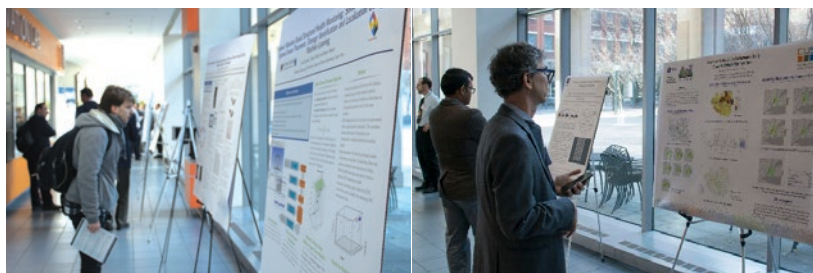
After the panel sessions, UTRC faculty researchers were given an opportunity to showcase their research through the poster sessions. The posters covered a wide range of topics related to the Autonomous and Connected Vehicles technologies.

We look forward to next year's Symposium, which will continue to bring transportation experts together to look at emerging ACV projects, technologies, and the development of regulations for safer and smarter transportation. In the meantime, we will be gathering insights and research to learn more about the subject.

The summary of the conference, videos and photos are available on the event's website at: www.connectedvehicleworkshop.com



*A Panel on Autonomous Vehicle Policy Issues
From L to R: Steve Madra, Founder, The Madra Law Firm;
Joah Sapphire, Columbia University; and Hugo Zylberberg, Columbia University*



Poster Session at the UTRC's 5th Automated & Connected Vehicles (ACV) Symposium



Raymond Martinez, New Jersey Motor Vehicle Commission Chair & Chief Administrator



Dr. Mohamad Talas, New York City Department of Transportation



Paul Brubaker, Alliance for Transportation Innovation



Adam Jonas, Managing Director Morgan Stanley | Research



Stephen Buckley, WSP | Parsons Brinckerhoff



Courtney Ehrlichman, Traffic21, Carnegie Mellon University



Tom Kearney, Senior Freight Specialist- USDOT



Bern Grush, Transportation Innovator, Writer, Speaker

HIGHLIGHTS

UTRC Organized a NYSERDA/NYS DOT Sponsored Conference; Transportation Transformed: Advancing Eco-Friendly Mobility

April 7, 2016 at the New York Institute of Technology (NYIT)



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

UTRC hosted a full day conference, sponsored by the New York State Energy and Research Development Authority (NYSERDA) and New York State Department of Transportation (NYS DOT) 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.

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, there were a number of impressive speakers from

academia and industry 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



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



Mr. Jamil Ahmad, United Nations



Gabriel Pacyniak, Georgetown Climate Center

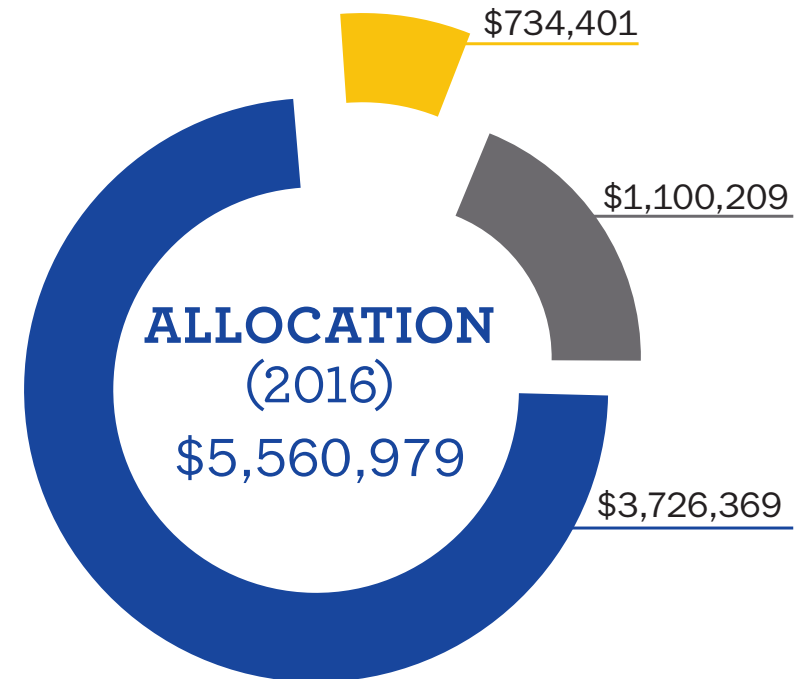
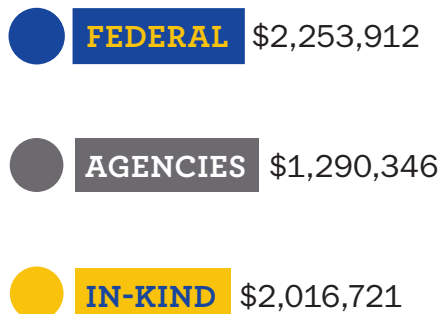
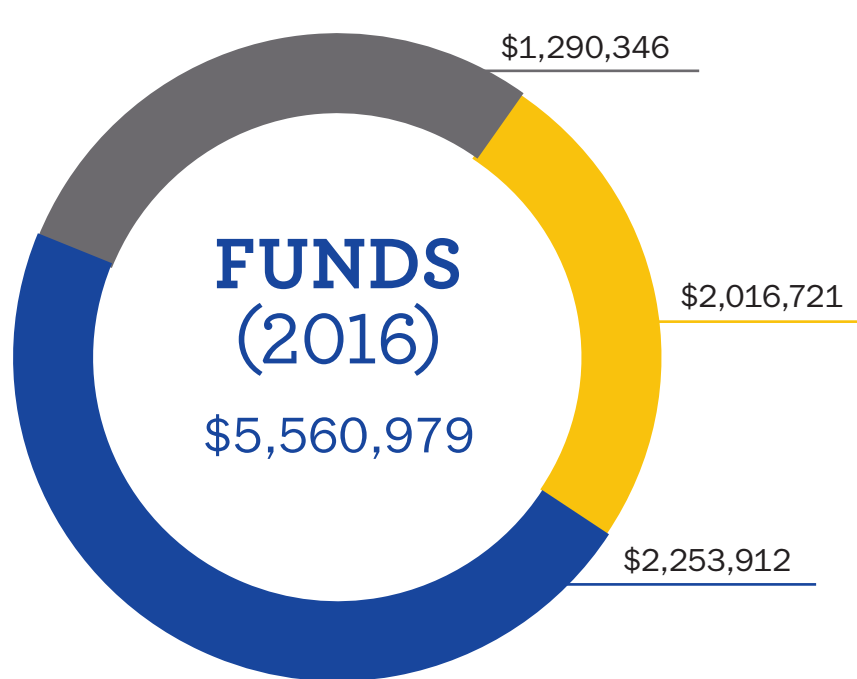


Dr. Alison Conway, Assistant Professor at CCNY, Moderating a Panel on Goods Movement and Eco-driving

FINANCIAL REPORT

The following charts summarize the UTRC funding and allocations for the calendar year 2016. The University Transportation Research Center Region 2 has continued to support its core programs with funding from grants under The Moving Ahead for Progress in the 21st Century Act (MAP-21). During this year, the annual Federal grant allocated to our programs was approximately \$2,25M with around \$1.3M support from regional public agencies and \$2M cost share from academia institutions and other

entities. Continuing with its tradition, strong partnerships, and solid financial commitment from federal, state, and local transportation agencies, UTRC allocated 13 percent of its total budget to our educational initiatives and 68% to support and carry out many research projects. The remaining 19 percent was applied to support administration and technology transfer programs.



EDUCATION & WORKFORCE DEVELOPMENT





UTRC prepares the workforce needed to plan and manage the complex transportation systems of the future.

The modern professional must combine the technical skills of engineering and planning with knowledge of economics, environmental science, management, finance, and law as well as negotiation skills, psychology and sociology. She/he must be computer literate, wired to the web, and knowledgeable about advances in information technology. UTRC's education and training efforts provide a multi-disciplinary program of course work and experiential learning to train students and provide advanced training or retraining of practitioners to plan and manage regional transportation systems. UTRC must meet the need to educate the undergraduate and graduate student with a foundation of transportation fundamentals that allows for solving complex problems in a world much more dynamic than even a decade ago. Simultaneously, the demand for continuing education is growing – either because of professional license requirements or because the workplace demands it – and provides the opportunity to combine State of Practice education with tailored ways of delivering content.

SEPTEMBER 11th MEMORIAL PROGRAM SCHOLARSHIP

The NYMTC/September 11th Memorial Program Academic Initiative continued its 11th year of the program in September 2016. In August, a selection committee, comprised of representatives from NYMTC and its members, awarded two students with internship positions for the 2016 – 2017 academic year. The awardees included:



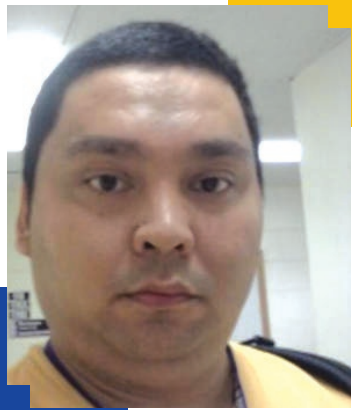
Bahman Moghimi

The City College of New York, CUNY

Bahman Moghimi is a Ph.D. student in Transportation Engineering at the City College of New York. Mr. Moghimi has started his internship at the NYMTC office in September 2016 under the supervision of Mr. Ali Mohseni, Acting Manager, Model Development. During his internship, Bahman will work on a full documentation and reporting on the impact of Transit Signal Priority (TSP) on travel speeds, travel time, congestion, delay, and air quality. He will also evaluate how these factors would play an important role in the transportation planning in the New York Metropolitan area. The overall internship process will be about surveying of the TSP projects done in NYMTC region, the TSP tactics used and how much they could reach the objective function, also studying planning tools of NYBPM, PPS-AQ and CMP and run the applications to find how these tools can potentially be used for TSP at

the regional level, and furthermore, suggesting the potential scenarios to utilize the benefits of TSP in the NYBPM modeling process, performing a pilot test and prepare the final report on all of the findings.

Bahman Moghimi has received his master's degree from Northeastern University in Boston. He was a recipient of the Dean's Fellowship award. He has also worked as a Research Assistant at the Northeastern University for two years working on the project; Self-Organizing Traffic Control and Signal Priority for Transit, prior to joining CCNY for his Ph.D. His research work includes actuated traffic signal control, transit signal priority, traffic simulation, data analysis, and transportation network analysis. He has published many journal and conference papers in these research areas.



Patricio Vicuna,

The City College of New York, CUNY

Mr. Patricio Vicuna is a Ph.D. student enrolled in the transportation program in the Civil and Environmental Department at the City College of New York. Mr. Vicuna has received his B.Sc. in Statistics and Computer Science, M.Sc. in Operation Research, and Advanced Diploma in Data Mining and Project Management. His research is focused in the Development of a Decision Support Tool to Evaluate Transit Improvements Using a Metaheuristic based Model, At the City College, his advisor is Dr. Camille Kamga and co-advisor Dr. Kyriacos Mouskos. During his internship at the New York State

DOT (NYCDOT), Mr. Vicuna will work on Automatic Vehicle Location Data Mining, Visualization, and Dashboard Functionality for the New York Metropolitan Transportation Council, under the supervision of Ms. Susan McSherry, Program Manager, NYCDOT.

UTRC AWARDS 2016 AITE SCHOLARSHIP

UTRC's AITE Scholarship program aims to increase the knowledge and capabilities of transportation professionals by providing master's level education in transportation and related fields. The program provides scholarships to full-time students as well as to agency employees endeavoring to increase their knowledge and skills at UTRC

member Universities. The program requires matching resources to be contributed either by the participating university for full-time student recipients, or by the employer agency for employee applicants. The University match can be provided in the form of tuition support, non-federally funded fellowship or scholarship support, or faculty release time to sup-

port the student's research. The agency match is provided in the form of work-release-time valued by the employee's salary.

Twelve scholarships were awarded in the Fall 2016 semester. Detailed information on the Fall 2016 AITE Scholarship recipients is provided below:



George Golub

Hunter College, CUNY

George Golub is an incoming graduate student at Hunter College, where he is studying for his M.A. in Geography with a concentration in transportation. Interested broadly in

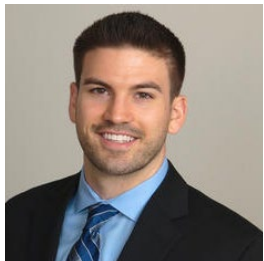
themes dealing with intelligent transportation systems, "smart" vehicle technology, and changing travel patterns, George's graduate work seeks to identify these shifting dynamics and to better understand their implications for the region.



Jamie Konkoski

State University of New York (SUNY), Albany

Jamie is currently enrolled in the Masters in Regional Planning Program at the University at Albany. Her studies and professional work are focused on exploring the links between active transportation and health. For the last nine years she has worked at a public health agency to create and implement Complete Streets programs in small towns and rural communities in northern New York. As a graduate student she is interested in how bicycle, pedestrian and public transit needs can be better integrated into the planning process to create more equitable, health promoting transportation systems. Through her graduate research she will evaluate how small cities and rural areas may be impacted by proposed performance measures and attempt to identify alternative measurements that could lessen negative impacts. She intends to identify a set of measures that can meet the triple goal of moving freight efficiently, improving the health of rural residents, and protecting the community identity and economic viability of rural downtowns. In addition to her professional work and studies Jamie serves as chair of the Parks and Trails Advisory Board in her hometown of Saranac Lake. Through this role she coordinates community bike rides, traffic calming initiatives, and implementation of the local bike and pedestrian plan.



Daniel Johnson

State University of New York (SUNY), Albany

Daniel Johnson is currently enrolled in the Master of Regional Planning Program at the University at Albany and plans to specialize in transportation planning. Daniel received a bachelor's degree in Economics from Connecticut College and currently works as a Transportation Analyst for the Mid-Hudson South Transportation Coordinating Committee (MHSTCC), of the New York Metropolitan Transportation Council (NYMTC). As part of the MHSTCC, he is responsible for maintaining and building the Transportation Improvement Program (TIP), assisting in the development of the Transportation Conformity Determination, participating in the development of the Long Range Transportation Plan, and serving as an active member

of various subcommittees. Daniel's greatest interest is in the future of our transportation systems and recognizes that we are in a time when much of our transportation infrastructure has reached the end of its useful life as our federal transportation dollars decline. As the population grows, ages, and becomes more reliant on technology, Daniel identifies that the need for dynamic solutions to the evolving landscape of our transportation systems has never been greater.

He hopes to facilitate millennial input into the transportation planning process in a way that best prepares them for potential challenges "down the road".



Sofia Kyle

Rensselaer Polytechnic Institute

As a research assistant at RPI, Sofia is working on three projects related to freight. In collaboration with the Inter-American International Bank, freight routes in developing countries are being studied for their cost effect on the supply chain as well as their environmental impacts due to congestion. On this project she is in charge of using TransCAD (a GIS software) to position and analyze the routes. Closer to home, a survey is being conducted targeting carriers making deliveries to Manhat-

tan NY in order to create a discrete choice model to model parking behavior. This model will be run with several simulations to understand the impacts that different policies could have. Lastly, Sofia is contributing to the formatting of a program to be implemented in New York City that facilitates the use of trusted vendors to make unassisted off hour deliveries. A lot of previous work has been done to prove this project's effectiveness and they are creating a platform that will allow receivers to make informed decisions about trusted vendors. As a master's student, Sofia will be developing and finishing a thesis this year. While

still in the beginning stages, Ms. Kyle will be working on a spatial econometric model to model the production of freight trips from different types of businesses. The model will be created using economic and geographic factors for each business. The final model will about able to estimate the freight production in specified areas using available information from the US Census and GIS data. These estimations can be used to model truck trips in transportation networks and estimate their impacts on systems.



Lior Melnick

New York University

Lior Melnick is pursuing a Master of Science degree in Transportation Planning and Engineering at New York University. The program stresses the design of transportation systems with an in-depth understanding of the public policies and economic forces that drive them as well as the safety of such systems and their ability to meet the public's needs. Lior received a Bachelor Degree from the University of Pennsylvania,

where he majored in Architecture. While pursuing his Master's Degree, he is working part-time with VHB in New York City (formerly Eng-Wong, Taub, and Associates). Prior to his work with VHB, Lior worked for LiRo Engineers in their role in New York State's Hurricane Sandy reconstruction project. He is very interested in resiliency efforts in transportation, and is passionate about upgrading and designing transportation infrastructure so as to survive severe natural disasters and facilitate the recovery of impacted regions. Through this scholarship, Lior's graduate studies

will help him refine and expand on the skills he acquires through his work, and introduce him to a wide range of transportation topics and issues. His degree will provide him with the theoretical knowledge as well as practical training that will ultimately help him succeed as a professional transportation engineer. Furthermore, this scholarship will provide him with the opportunity to conduct research with esteemed faculty, and to delve deeply into his passion for transportation resiliency.



Jenny O'Connell

New York University

Jenny O'Connell is a second-year urban planning student at NYU's Robert F. Wagner Graduate School of Public Service. She is in the environment, infrastructure, and transportation concentration, and is working as a researcher at the Rudin Center for Transportation. At the Rudin Center, Jenny is investigat-

ing the impact of roadway treatments (e.g., bicycle lanes, crosswalks, curb extensions, etc.) and police enforcement on pedestrian and bicyclist injuries and fatalities. Jenny is also an intern with the NYC Department of Transportation in the Research, Implementation, and Safety group. There, she works on Street Improvement Projects that aim to reduce pedestrian and bicyclist fatalities and injuries. Before enrolling in the MUP program at NYU, Jenny was

the Program Coordinator for Environment at the American Association of State Highway and Transportation Officials (AASHTO) in Washington, DC. After completing her Master's degree, Jenny hopes to continue working the transportation field, with a particular focus on safe, accessible, and equitable active transportation networks.



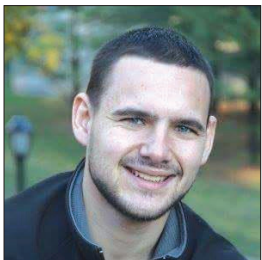
Abraham Oyewole

Rowan University

Abraham Oyewole is currently pursuing a Masters of Electrical and Computer Engineering (ECE) at Rowan University Glassboro New Jersey. His primary research area is real-time transportation data analytics. His master's research focuses on developing reservation-based traffic network optimization (RTNO) that will combine traffic related data collected by the existing road network infrastructures with user specific data, such as social network data and GPS travel information, to solve traffic congestion. His research is co-advised by Dr. Parth

Bhavsar, an Assistant Professor in the Civil and Environmental Engineering (CEE) and Dr. Nidhal Bouaynaya, an Associate Professor in ECE. Dr. Nidhal Bouaynaya is the Graduate Coordinator in the ECE Department. She is very active in the field of signal processing, particularly image processing and signal optimization. Dr. Parth Bhavsar's research interests include Intelligent Transportation System (ITS), connected vehicle technology and transportation data analytics. Mr. Oyewole's masters research is multidisciplinary and focuses on transportation data collection, processing and providing real-time solutions. Specifically, he will develop and evaluate a mathematical model to optimize signal

timing based on information provided by users and other data sources. Furthermore, he will develop a user specific position estimation model that will be integrated with the optimization model for the overall RTNO framework. With RTNO, a road user can have accurate time-estimate for the journey, real-time safe driving tips, including road incident alerts. The final outcome of the research will be an application that gives speed recommendations to users and updates signal timing at the same time. Mr. Oyewole is looking forward to successfully complete the research and start his career in transportation.



Stefan Pougatchev

New York Institute of Technology

Stefan Pougatchev is currently pursuing his Master's in Energy Management from New York Institute of Technology. His goal is to

become proficient in understanding transportation hubs. This includes energy usage, emissions rates, and the overall environmental impact it has on the earth. His research will include collecting the necessary data and documentation including routes, usage patterns, and congestion levels for

a transportation study of the Nassau Hub in Long Island, NY. In addition, he will prepare a comprehensive report which includes strategies for reducing emissions and improving transportation within the Hub.



Zach Powell

State University of New York (SUNY), Albany

Zach is currently enrolled in the graduate planning program at SUNY Albany, with a concentration in transportation. His research interests include accessibil-

ity, geo-crowdsourcing, and traffic behavior. He received a bachelor's degree in psychology from the University of Colorado at Boulder, while working in research labs that focused on neurological responses to perception, and identifying regional patterns of alternative transportation.

Currently, he is interning as a transportation program associate at the New York State Developmental Disabilities Planning Council. His research will investigate the use of data feeds in creating dynamic speed limits and signage that can improve safety and reduce congestion.



Paul Rivers

Hunter College, CUNY

Paul Rivers is enrolled in Hunter College's M.A program in Geography with a concentration in Urban Studies. Paul intends to

utilize the degree to further understand the complexities in resilience planning and urban development, and provide transitional consulting to political bodies within city governance. The program focuses on multi-disciplinary geographic theory, preparation for doctoral study, and opportunities for advanced Geographic Information Systems coursework. Paul's experiences at the CUNY Institute for Sustainable Cities, the Environmental Defense Fund, and the Clinton Foundation have inspired him to use public policy as a tool for environmental stewardship. He has presented at the McNair Scholar's Research Conference in Washington D.C on the utility of the multi-purpose levee

development proposal 'Seaport City' to address impacts from storm surge and flooding. He has also presented at the Roosevelt House in NYC on the ability for greenroof policy to mitigate urban heat island in urban areas. These focus points have allowed Paul to pinpoint transportation as an area of immense importance in the urban response to climate change. His graduate thesis responds to this by proposing the quantification of carbon emissions impacts by transportation sector in NYC, and the construction of a design set of urban pilot programs designed to reduce emissions locally. The programs will aim to educate the public about their transportation derived carbon footprints, and advise city governments on cleaner transport options. The underlying motivations in the thesis stem from Paul's passion to further understand aspects of reliable transportation, economic restraint, spatial fixity and the role of cognitive dissonance. Mr. Oyewole's masters research is

multidisciplinary and focuses on transportation data collection, processing and providing real-time solutions. Specifically, he will develop and evaluate a mathematical model to optimize signal timing based on information provided by users and other data sources. Furthermore, he will develop a user specific position estimation model that will be integrated with the optimization model for the overall RTNO framework. With RTNO, a road user can have accurate time-estimate for the journey, real-time safe driving tips, including road incident alerts. The final outcome of the research will be an application that gives speed recommendations to users and updates signal timing at the same time. Mr. Oyewole is looking forward to successfully complete the research and start his career in transportation.



Eric Weprin

New York University

Eric Weprin is pursuing his Masters of Science degree in Transportation Management at New York University Tandon School of Engineering.

The program focuses on management and the economics at play for public and private sector agencies, and how transportation projects can be optimized. Eric is an experienced Information Technology Executive and is currently the Director of Performance Analysis and Service Quality at the Metropolitan Transportation Authority (MTA), where he develops, plans, and executes strategic initiatives and goals to deliver measurable and sustainable Continuous

Improvement results in support of the overall Business Strategy. Eric has 15+ years of Information Technology experience and has earned a number of major professional certifications in the technology field, as well as a Bachelor's Degree from The State University of New York at Oneonta. During his professional career, Eric has played a key leadership role in the launch of the MTA Business Service Center (BSC). The MTA BSC initiative is the largest public sector Enterprise Resource Planning (ERP) program in the US. The implementation created a common ERP system that provides Human Resources and Financial functions to the organization's 70,000 active employees and 40,000 retirees. A number of the projects Eric led has enabled a great deal

of cost savings for the MTA, while also driving the organization to new heights in effectiveness and efficiency. The MTA is dedicated to delivering safe, reliable, and efficient public transportation via subways, buses, and trains with 8.7 million customers every day. Eric, in his professional capacity as Director of Performance Analysis and Service Quality, plans to drive this pledge even further and implement technology solutions at the MTA to address current concerns, while also enhancing the customer experience in the future.

UTRC AWARDS 2016 AITE SCHOLARSHIP



Jianghai Zhu

New York University

Jianghai Zhu is pursuing a Master of Science degree in Applied Urban Science and Informatics at NYU Center for Urban Science and Progress. Jianghai has a Bachelor of Science degree in Civil Engineering from SUNY Buffalo, and is currently working as a Civil Engineer at the New York State Department of

Transportation. Jianghai is responsible for regular bridge maintenance projects, in addition to bridges inspection and safety assurance projects at the Department. The experience of working at the New York State Department of Transportation allowed him to observe current methods and practices and look for ways to improve them. Jianghai is looking to find a simple approach but optimized solution for the complex transportation system in the city.

He believes the application of Big Data technology would transform the current transportation system to be more efficient, reliable, intelligent, and safe. Through his graduate study, Jianghai will learn to utilize data analytics to discover and solve critical transportation system issues.

NYMTC BROWN BAG SEMINAR

September 14, 2016, NYMTC Office, NY

On September 14th, 2016, NYMTC hosted its 10th annual September 11th Memorial Brown Bag Lunch student presentations. September 11th Program Scholars Sabiheh Faghih and Di Liu presented the results of the research they each conducted for NYMTC over the 2015-16 academic year. The September 11th Memorial Program for Regional Transportation Planning is a living memorial to the three NYMTC staff members – Ignatius Adanga, Charles Lesperance and See Wong Shum -- who died in the terrorist attacks on the World Trade Center on September 11th, 2001. The program provides financial assistance to students for projects and research beneficial to NYMTC's planning process. The Program is a means to educate and motivate those who are interested in transportation technology and planning.

Di Liu recently received a Master's Degree from New York University's Robert F. Wagner School of Public Service. She presented her research on enhanced integration of regional

environmental planning and transportation planning. The tangible result of her work is a resource document that will assist NYMTC's staff and members with that integration as a means of streamlining the programming and implementation of transportation improvement projects.

Sabiheh Faghih, currently a Ph.D. candidate in Transportation Engineering at the City College of New York, presented her research on the challenges of conducting surveys for activity based models. As part of this work, she contacted MPOs and state transportation departments across the nation in order to understand how they conduct their travel surveys. Through her investigations, Sabiheh has provided NYMTC with valuable recommendations on how to improve the effectiveness of its future travel surveys. NYMTC thanks both Di Liu and Sabiheh Faghih for their contributions to the regional planning process.



Di Liu
New York University



Sabiheh Faghih
The City College of New York, CUNY

UTRC SUPPORTED THE 2016 ITS-NY BEST STUDENT PAPER ESSAY AWARD



From L to R: Jeff Randall, ITS-NY President; Xhenhua Zhang, 2016 ITS-NY Best Essay Award Winner; Dr. Camille Kamga, Director/UTRC; and Chris Jones, ITS-NY Vice President

UTRC has sponsored the 2016 ITS-NY Best Student Paper Essay award. This year's winner was Mr. Zhenhua Zhang, a Ph.D. candidate at the University at Buffalo, SUNY. The winner was announced at the ITS-NY 23rd Annual Meeting and Technology Exhibition in Saratoga Springs, NY, held on June 9-10, 2016.

His winning essay entitled, "On-site Traffic Accident Detection with Both Social Media and Traffic Data" was selected as the winner of the ITS-NY 2016 Best Student ITS Paper Competition. In this paper, researchers investigated traffic accident detection models based on traffic and tweet data separately, and generated three important features: single token, paired token and 36 traffic-related data to achieve a more accurate and effective on-site traffic accident detection.

Zhenhua Zhang is currently a Ph.D. candidate in the Department of Civil, Structural and Environmental Engineering at the University at Buffalo, SUNY. He has received his B.S. and M.S. degree in Mechanical and Transportation Engineering from the Beijing Institute of Technology, Beijing, China, in July 2010 and February 2013 respectively. Since 2013, he has been working towards the Ph.D. degree in Transportation Engineering at University at Buffalo.

His research interests include traffic data analysis, social media analytics, traffic signal control, etc. In addition to a networking experience with transportation experts, Mr. Zhang received a scholarship along with a complimentary 2016 ITS-NY Annual Meeting registration, travel and lodging benefits to attend all technical sessions presented at the Annual meeting.

UTRC SUPPORTED THE 2016 WTS'S LEONARD BRAUN MEMORIAL GRADUATE SCHOLARSHIP



Ms. Megan Young at the 2016 WTS's Annual Awards Ceremony

The 2016 Leonard Braun Memorial Graduate Scholarships was awarded to Ms. Megan Young. Megan is pursuing a Master of Business Administration from the New York University Stern School of Business. She is expected to graduate in December 2017. She is currently working as a structural engineer at Hardesty & Hanover, LLC; a bridge-design firm. As an engineer, she has worked on developing feasible engineering solutions for major infrastructure undertakings including the Kew Gardens Interchange and RFK Triborough Bridge Projects. Through her business administration degree, Megan desires to develop a superior delivery process to reduce the danger for organizations and the public and generate a group of competent engineers to ensure future industry sustainability.

Her ultimate goal is to become the first female principal at her firm to guide strategic decisions. She aspires to learn new techniques and acquire knowledge from other engineers, planners, designers, and officials to fully comprehend industry inner workings.

She joined WTS to learn from many talented, intelligent, successful women through her position on the Membership Committee.

We wish Ms. Young good luck for her future endeavors and congratulate her for receiving the scholarship.

Cheers!

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 have selected Tenzin Getso for the 2015 USDOT Outstanding Student of the Year award. Getso of the City College of New York was honored with this award at the Council of University Transportation Centers banquet on January 9, 2016 during the TRB 95th Annual Meeting.

Tenzin 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 interest include plastic behavior of steel members, behavior of concrete elements in general, and finite element modeling of concrete slabs.

RESEARCH





The UTRC research program addresses the needs of regional transportation.

The research program objectives are (1) to develop a theme based transportation research program that is responsive to the needs of regional transportation organizations and stakeholders, and (2) to conduct that program in cooperation with the partners. The program includes both studies that are identified with research partners of projects targeted to the theme, and targeted, short-term projects. The program develops competitive proposals, which are evaluated to insure the most responsive UTRC team conducts the work. The research program is responsive to the UTRC theme: "Planning and Managing Regional Transportation Systems in a Changing World." The complex transportation system of transit and infrastructure, and the rapidly changing environment impacts the nation's largest city and metropolitan area. The New York/New Jersey Metropolitan has over 19 million people, 600,000 businesses and 9 million workers. The Region's intermodal and multimodal systems must serve all customers and stakeholders within the region and globally.

Under the current grant, the new research projects and the ongoing research projects concentrate the program efforts on the categories of Transportation Systems Performance and Information Infrastructure to provide needed services to the New Jersey Department of Transportation, New York City Department of Transportation, New York Metropolitan Transportation Council, New York State Department of Transportation, and the New York State Energy and Research Development Authority and others, all while enhancing the center's theme.

UTRC HAS FUNDED THE FOLLOWING PROJECTS IN RESPONSE TO ITS 2016 REQUEST FOR PROPOSALS

The available funding categories were:

Faculty initiated research

Emerging investigators

Research cluster teams

Education/technology transfer

Faculty Initiated Research Projects

The primary purpose of this program is to fund novel and exciting ideas from faculty in the area of transportation.

The projects funded should seek to promote excellent and innovative research on transportation problems relevant to U.S. DOT's Region 2.

**Catherine Lawson
Feng Chen**

University at Albany, SUNY

Techniques for Efficient Detection of Rapid Weather Changes and Analysis of their Impacts on a Highway Network

**Qing He
Jing Gao**

University at Albany, SUNY

Inferring High-Resolution Individual's Activity and Trip Purposes with the Fusion of Social Media, Land Use and Connected Vehicle Trajectories

**Mahdieh Allahviranloo
Alison Conway**

The City College of New York/CUNY

Crowdsourcing: Evaluating its Impacts on Travel Behavior

**Jonathan Peters
Candace Brakewood**

The College of Staten Island, CUNY
The City College of New York, CUNY

Utilizing Digital Exhaust from Smartphone Applications for Transportation Planning, Continuous Measurement and Market Analysis

James Cohen

John Jay College, CUNY

Effects of Foreign Participation in U.S. High Speed Rail Projects

**Ricardo Daziano
Linda Nozick**

Cornell University

Using Visual Information to Determine the Subjective Valuation of Public Space for Transportation: Application to Subway Crowding Costs in NYC

**Brent Horine
Mehdi Omidvar**

Manhattan College

Mobile Bridge Scour Monitoring Using Autonomous Underwater Vehicle

**Wenjia Li
Jonathan Vorriss
N. Sertac Artan**

New York Institute of Technology

Securing Inter-Vehicular Networks with Time and Driver Identity Considerations

Kaan Ozbay

New York University

Portable and Integrated Multi-Sensor System for Data-Driven Performance Evaluation of Urban Transportation Networks

Martin Gordon

Rochester Institute of Technology

Deaf and Hard-of-Hearing Drivers: Making the Highways Safer for Everyone

**Rouzbeh Nazari
Hao Wang**

Rowan University

Evaluation of Simulation Models for Road Weather Information System

**Lifeng Wang
Lei Zuo**

Stony Brook University, SUNY

Mitigation of Transportation Induced Vibration Using Seismic Metamaterials

Faculty Initiated Research Projects

Rachel Liu
Weimin Huang

New Jersey Institute of Technology

Improve Congestion Performance Measures via Conflating Private and Public Information Sources

Dawit Negusse

Syracuse University

Investigation of Boundary Pressures and Internal Stresses in Geofoam Blocks

Daniel Rodriguez-Roman
Mahdieh Allahviranloo

University of Puerto Rico
The City College of New York, CUNY

Activity-Based Approach for the Design of Sustainable Area and Cordon Pricing Schemes

Cara Wang

Rensselaer Polytechnic Institute

Investigating Public Opinions towards Emerging Transportation Technologies and Service Forms

Emerging Investigators

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

Sung Hoon Chung

Binghamton University, SUNY

Adaptive Evacuation Transportation Planning Under Uncertainty

Jamie Kang

University at Buffalo, SUNY

Dynamic Bus Routing Problem for Evacuation

Jose Walteros

University at Buffalo, SUNY

Managing the Daily Operations of a Bike Sharing System Using Mobile Stations

Hansong Tang

The City College of New York, CUNY

Potential Hydrodynamic Loads on Coastal Bridges in the Greater New York Area due to Extreme Storm Surge and Wave

Reeves Whitney
Nicole Leo Braxtan

Manhattan College

Recommendations for Improving Fire Performance of Steel Bridge Girders

Yongwook Kim
Qian Wang

Manhattan College

Approach to Blast Resistant Design of Aging Transportation Structures with Little or No Stand-Off Distance

Daniel Hochstein

Manhattan College

Accelerated Aging of Asphalt by UV-Oxidation

Matthew Volovski

Manhattan College

The Spatial Effect of Socio-Economic Demographics on Transit Ridership: a Case Study in New York.

Scott LeVine

New Paltz University, SUNY

Simulation of Automated Vehicles' Drive Cycles

Katie McConky

Rochester Institute of Technology

The Effect of Optimization Strategy and Adoption Rate on V2X Technology Environmental Impact

Roger Chen

Rochester Institute of Technology

The Socialization of Travel: the Effects of Traveler Social Networks on Resiliency in Traffic Networks

Anil Yazici

Stony Brook University, SUNY

Urban Travel Time Reliability: Spatio-Temporal Analysis for New York City

Thomas Brennan

The College of New Jersey

Incorporating Probe Vehicle Data to Analyze Evacuation Route Resiliency

Education/Technology Transfer

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

JiYoung Park

University at Buffalo, SUNY

Educating Binational Transportation Networks, Freight Movements, and Economic Impacts

Yusuf Mehta Ayman Ali

Rowan University

Heavy Vehicle Simulator and Full-Scale Accelerated Pavement Testing Workshop at Rowan University: A Collaborative Effort between Rowan University, Virginia Transportation Research Council and Florida Department of Transportation

Baris Salman Ossama Salem

Syracuse University

A Workshop on Implementation of Asset Management Principles for Local Street Networks

Mitchell Moss

New York University

Preparing Emerging Leaders in Transportation Innovation



Completed Research Projects

For the year 2016, UTRC has completed the following projects and published their final reports online which are available for a free download on the UTRC's website.

Project Title / PI(s) / Institution(s)	Sponsor(s)
<p>Optimizing Work Zones for Highway Maintenance with Floating Car Data (FCD) Dr. Steven I-Jy Chien, Dr. Kyriacos Mouskos New Jersey Institute of Technology</p>	UTRC
<p>The Economy of Preventive Maintenance of Concrete Bridges Dr. Riyad S. Aboutaha Syracuse University</p>	UTRC
<p>Techniques for Information Extraction from Compressed GPS Traces Dr. Catherine T. Lawson, Feng Chen, Dr. Jeong-Hyon Hwang, Dr. Sekhariquram S. Ravi State University of New York (SUNY)</p>	UTRC
<p>Suburban Poverty, Public Transit, Economic Opportunities, and Social Mobility Dr. Rae Zimmerman, Carlos E. Restrepo New York University</p>	UTRC
<p>Performance Measures To Characterize Directional Corridor Travel Time Delay Based On Probe Vehicle Data Dr. Lei Zuo, Dr. Xuegang (Jeff) Ban State University of New York (SUNY), Rensselaer Polytechnic Institute</p>	UTRC
<p>Innovative Travel Data Collection-Planning for the Next Two Decades Dr. Catherine T. Lawson The State University of New York (SUNY)</p>	NYMTC UTRC
<p>Effective and Equitable Supply of Gasoline to Impacted Areas in the Aftermath of a Natural Disaster Dr. Rajan Batta, Dr. Changhyun Kwon, Alok Baveja State University of New York (SUNY), Rutgers University</p>	UTRC
<p>Demonstrating Urban Outdoor Lighting for Pedestrian Safety and Security Dr. John Bullough Rensselaer Polytechnic Institute</p>	UTRC

Project Title / PI(s) / Institution(s)	Sponsor(s)
<p>Laser Scanning Aggregates for Real Time Property Identification Dr. Beena Sukumaran Rowan University</p>	NJDOT UTRC
<p>Modeling Emissions and Environmental Impacts of Transportation Activities Associated with High Volume Horizontal Hydraulic Fracturing Operations in the Marcellus Shale Formation Dr. Karl Korfmacher Rochester Institute of Technology</p>	UTRC
<p>Finite Element Simulation of Truck Impacts on Highway Bridge Piers Dr. Anil Agrawal The City College of New York</p>	UTRC
<p>Nondestructive Evaluation of Pavement Structural Condition for Rehabilitation Design Dr. Hao Wang Rutgers University</p>	UTRC
<p>Environmental Impacts of Oil and Gas Brine Applications for Dust and Ice Control in New York Jessica Wilson Manhattan College</p>	UTRC
<p>Analysis of Curved Weathering Steel Box Girder Bridges in Fire Reeves Whitney Manhattan College</p>	UTRC
<p>Port Resilience: Overcoming Threats to Maritime Infrastructure and Operations from Climate Change Dr. Thomas H. Wakeman III, Dr. Jon Miller Stevens Institute of Technology</p>	UTRC
<p>Analyzing Willingness to Improve the Resiliency of New York City's Transportation System Dr. Ricardo A. Daziano Cornell University</p>	UTRC

Completed Research Projects

Project Title / PI(s) / Institution(s)	Sponsor(s)
Traffic Prediction Using Wireless Cellular Networks Dr. Sabiha Wadoo New York Institute of Technology	UTRC
Integration of Bus Stop Count Data with Census Data for Improving Bus Service Dr. Catherine T. Lawson State University of New York (SUNY)	NJDOT UTRC
A Case Study of High Speed Rail in Florida: Implications for Financing Passenger Railways Dr. James K. Cohen City University of New York	UTRC
Characterizing and Quantifying the Shrinkage Resistance of Alkali Activated (Cement Free) Concrete Dr. Sulapha Peethamparan Clarkson University	UTRC
Development and Evaluation of Smart Bus System Joyoung Lee New Jersey Institute of Technology	UTRC
Effect of Implementing Lean-On Bracing In Skewed Steel I-Girder Bridges Dr. Andrew J. Bechtel The College of New Jersey	UTRC
Effect of Plug in Hybrid Electric Vehicle Adoption On Gas Tax Revenue, Local Pollution And Greenhouse Gas Emissions Dr. William T. Riddell Rowan University	UTRC
Empirical Analysis of Consumer Aspects of Autonomous Cars Scott LeVine State University of New York (SUNY)	UTRC
Evaluation of Public-Private Partnership Contract Types for Roadway Construction, Maintenance, Rehabilitation, and Preservation Panagiotis Ch. Anastasopoulos State University of New York (SUNY)	UTRC

Project Title / PI(s) / Institution(s)	Sponsor(s)
Feasibility of Lane Closures Using Probe Data Dr. Neville A. Parker The City College of New York	NJDOT UTRC
Alkali Silica Reaction (ASR) in Cement Free Alkali Activated Sustainable Concrete Dr. Sulapha Peethamparan Clarkson University	UTRC
Nitrogen Dioxide Sequestration Using Demolished Concrete and its Potential Application in Transportation Infrastructure Development Dr. Alexander Orlov Stony Brook University (SUNY)	UTRC
Freight Costs at the Curbside Dr. Alison Conway The City College of New York	UTRC
Modeling Disaster Operations from an Interdisciplinary Perspective in the New York-New Jersey Area Dr. Kaan Ozbay New York University	UTRC
Monitoring Infiltration Capacity of Different Types of Permeable Pavement Dr. Kirk Barrett Manhattan College	UTRC
Truck Driver Fatigue Assessment using a Virtual Reality System Dr. Yusuf Mehta Rowan University	UTRC
A Random Utility Based Estimation Framework for the Household Activity Pattern Problem Dr. Jee Eun Kang State University of New York (SUNY)	UTRC

To read about these projects, please visit our website at:
www.utrc2.org/research/projects-all-completed

FEATURED PROJECTS AT UTRC IN THE YEAR 2016

A Case Study of High Speed Rail in Florida: Implications for Financing Passenger Railways Hunter College, CUNY

Completed

Principal Investigator(s): **Dr. James Cohen**
Institution(s): **The City University of New York**
Sponsor(s): **University Transportation Research Center (UTRC) – Region 2**

This research investigates the uses of public-private partnerships (P3's) to finance infrastructure improvements for passenger trains running at "high speed." It answers the following questions:

- Is P3 financing best suited to construction of very high speed (vhs) rail projects or can it also be applied to projects that achieve "higher," but not "very high" speed?
- If best suited to vhs development, why?
- If more broadly applicable, what precedents exist for applying P3 finance to less than vhs rail projects and in what specific circumstances?

By answering these questions, the study aims to enhance the utilization of P3 financing for rail improvement projects. The research on the relationships between high speed and finance involves looking at the history of passenger rail projects in Florida, Texas, and California, primarily from the mid-20th century to the present. Though this research mainly focuses on the State of Florida, researcher also gathered consideration information and data on Texas and California, to develop a powerful, comparative analysis of the history and political economy of high speed rail in the three States, which will include significant policy implications for Region 2.

This project discusses the history of relationships between high speed and financing for passenger rail projects. The research examined relationships between speed of certain levels, and financing of certain types and amounts, which are conducive to successful implementation of improvements in American passenger railways. To do so, the research primarily focused on the history of High Speed Rail in Florida which dates back to the 1980's, culminating in the current project, All Aboard Florida. This project proposes a plan to operate moderately high speed trains between Miami and Orlando.

Access the full report at: www.utrc2.org/research/projects/public-private-financing-rail-infrastructure



Stock Photo

Freight Costs at the Curbside

Completed

Principal Investigator(s): **Dr. Alison Conway and Dr. Xiaokun (Cara) Wang**
Institution(s): **City University of New York and Rensselaer Polytechnic Institute**
Sponsor(s): **University Transportation Research Center (UTRC) – Region 2**



Selected Census Tracts in NYC

This research aims to evaluate the different parking conditions that drivers face in critical areas of New York City, to examine the variables that impact their curbside behavior, and to develop recommendations to improve curb management. To accomplish this task, this study includes three major components: (1) an international review of literature and best practices; (2) a case study investigating existing parking availability and parking violation behavior in varying land use areas of Manhattan, New York City using available datasets from the NYC Department of City Planning, NYC Department of Finance and the NYC Department of Transportation; and (3) a case study employing a survival analysis modeling approach to investigate the relationship of parking duration with operator and regulatory factors using field data collected from a related study.

Results from these analyses suggest that there are overall, spatial, and temporal mismatches between parking supply available to commercial vehicles in NYC and modern freight demands. The report identifies a number of specific considerations that should be taken into account when determining zoning requirements, curb regulations, and street designs in an urban area with limited curbside space.

Access the full report at:
www.utrc2.org/publications/freight-costs-curbside

Coordinated Intelligent Transportation Systems Deployment in New York City

Completed (Partially)

The FHWA through its New York Division/New York City Metropolitan office is promoting programs pertaining to urban Intelligent Transportation Systems (ITS) in the region. The NYCDOT and NYSDOT-Region 11 Planning have taken the initiative in working with FHWA to take advantage of this FHWA program. NYCDOT and NYSDOT have developed the Training Courses, Research and Development Programs for NYCDOT and NYSDOT Coordinated Intelligent Transportation Systems Deployment in New York City (CIDNY) which is a set of multi studies (task assignments) toward the fulfillment of the objectives of these programs.

The 2013 studies are being performed by institutions of the Region 2 University Transportation Research Center (UTRC). The purpose of these multi-year UTRC studies are to provide ongoing training courses, research and development pertaining to urban Intelligent Transportation Systems (ITS) deployment. The studies focus on the following program areas: Construction Management, Traffic Demand Management, Dynamic Data Collection, Traffic Incident Management, Traffic Signal Timing and Detection Technologies, Strategic ITS Deployment Plan, Pedestrians and Cyclists Safety, Data Storage and Access Platform for MTA Bus Time Data.

The following tasks have been completed under this project.

Task 2 – Develop a multi-agency/multi modal construction management tool to enhance coordination of construction projects citywide during planning and operation phases to improve highway mobility and drivers experience.

Principal Investigator(s): **Dr. Kaan Ozbay and Dr. Camille Kamga**
Institution(s): **New York University and The City College of New York (CUNY)**

This task involved the development of recommendations for a construction management tool for NYCDOT. The study involved review of current NYCDOT workzone and emergency management practice, reviewing the Construction Impact Analysis and Work Zone Impact Strategy Estimator tools, and developing functional requirements of NYCDOT for customizing these tools.

Task 5 – Develop a Comprehensive Guide to Signal Timing, New Detection and Advanced Signal.

Principal Investigator(s): **Dr. Elena Prassas**
Institution(s): **New York University**

The work included in this task involved the development of a Guide to be used in-house by NYCDOT traffic engineers documenting all the necessary steps in requesting and approving traffic signals, with a focus on traffic signal control principles, practices, and technologies.

Task 6 – Strategic ITS Deployment Plan For New York City.

Principal Investigator(s): **Dr. Camille Kamga, Dr. Anil Yazici, Dr. Paul Corrigan, and James Sorensen**
Institution(s): **The City College of New York (CUNY), Stony Brook (SUNY), and IBI Group**

This task involved inclusive and comprehensive ITS Deployment Planning. The objective of this study was to combine NYCDOT developments in ITS Master Planning, ITS Implementation Strategies, and NYC's Sub-Regional Architecture and provide clear traceability from the ITS Deployment Plan to the region's technical goals, objectives and strategies, in a manner consistent with system capabilities, complexity, and interfaces.

Task 7 – Research on Pedestrians and Cyclists Safety Using ITS Technology in NYC.

Principal Investigator(s): **Dr. Elena Prassas**
Institution(s): **New York University**

This task involved producing a report to recommend criteria for implementation of applicable countermeasures for New York City using Advanced APS technologies. In doing so, information was collected from developing and implemented candidate measures outside of New York City.

Task 8 – Develop Data Storage and Access Platform for MTA Bus Time Data.

Principal Investigator(s): **Dr. Claudio Silva and Dr. Kaan Ozbay**
Institution(s): **New York University**

The objective of this research project was to develop efficient data acquisition, storage, maintenance and querying procedures to automate and improve the overall process of using MTA bus data. The project also created a web-based application that can take advantage of the MTA's on-going in-house data development efforts as well NYU CUSP's extensive resources and expertise in the area of big data. This web-based application will allow users access to the MTA data and include functionalities to create customized reports that can be used for planning and eventually real-time or near real-time travel time estimation or congestion management projects. Finally, a set of recommendations were provided to incorporate this web-based application and its functionalities into existing NYCDOT protocols and operations.

Assessing NJ TRANSIT's Mobile App for Users' Receptiveness to Geo-targeting

Active

Principal Investigator(s): **Dr. Candace Brakewood**
Institution(s): **The City College of New York, CUNY**
Sponsor(s): **New Jersey Department of Transportation (NJDOT)**
University Transportation Research Center (UTRC) – Region 2

NJ TRANSIT has been developing a suite of features to be released as part of a comprehensive mobile app. Some features include: MyTix, Schedules, MyBus, Departure Vision, Trip Planner, Security and Technical Notifications. With the release of the mobile app, NJ TRANSIT was also interested in exploring opportunities to use geo-targeting to offer customized advertising messages and promotional information to app users who opt in to the service. Geo-targeting refers to the practice of offering customized content to users based on the location of the device used to access the application or website. While geo-targeting is often used in internet advertising, NJ TRANSIT is particularly interested in the potential to send customers who opt in to the service more targeted, relevant service alerts, advertisements, promotions and other targeted information. This study involved conducting a survey of current NJ TRANSIT app/MyTix users to understand customer reactions and receptiveness to geo-targeting through its mobile app. On behalf of NJ TRANSIT, the survey explored whether customers have concerns about privacy or intrusiveness or whether certain types of notifications within this platform would be more or less acceptable. The research also tried to identify whether customers would be receptive to having the option to opt in to receiving notifications containing a coupon or promotion for an establishment located nearby as they arrive at a station or major terminal.

Access the final report at: www.utrc2.org/research/projects/assessing-nj-transit%E2%80%99s-mobile-app

Self-Heated Pavements

Completed

Principal Investigator(s): **Dr. Sherif Abdelaziz, Dr. Jon Longtin, Dr. Huiming Yin, Dr. David Orr**
Institution(s): **State University of New York (SUNY), Columbia University, Cornell Local Roads Program (CLRP)**
Sponsor(s): **University Transportation Research Center (UTRC) – Region 2**

Loss of vehicle's control in NY State during winter time increases transportation-related fatalities and injuries. In fact, fatalities and injuries due to icy roads are more than four times those from natural disasters at the national level. In addition to their high safety hazards, icy roads limit the growth of the economy in New York State - and other northern states - since they reduce the capacity of major highways due to slow traffic, accidents, or road closures. Further, road closures in extreme snowstorms constrain the mobility and accessibility of people, public transit, and emergency vehicles which

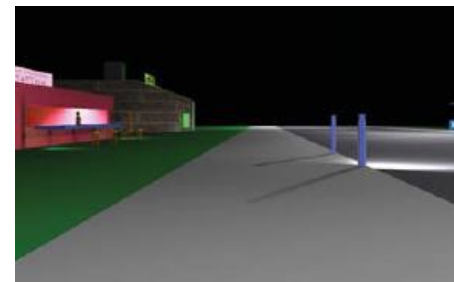
increases the social hazards. Aiming to overcome all hazards associated with icy-roads, New York State implements various techniques for highway deicing such as (1) spreading roads with deicing salts which deteriorate pavement materials and increase the salinity of ground water streams, (2) using the extremely expensive porous asphalts for better vehicle control and faster snow and ice clearing compared to conventional pavements. Without the environmentally hazardous deicing salts or the expensive asphalt mixes, this project presents another technique to ensure ice-free surfaces in winter time.

Demonstrating Urban Outdoor Lighting for Pedestrian Safety and Security

Completed

Principal Investigator(s): **Dr. John Bullough and Dr. Mark Rea**
Institution(s): **Rensselaer Polytechnic Institute**
Sponsor(s): **University Transportation Research Center (UTRC) – Region 2**

This research focuses on the pedestrian safety issue as being 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 mid-block 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.



Rendering of a Bollard Based Crosswalk Lighting System Providing Vertical Illumination on Pedestrians Crossing the Street

The push button control used by the prototype bollard system allowed the luminaires to produce a relatively low, glare-free light level when not in use, while still making them highly visible to pedestrians and drivers. The temporary cycling between low and high light levels that occurred when the button was pressed could act as a visual alert to warn drivers that a pedestrian is present and waiting to cross the street, and the higher light level of at least 10 vertical lux in the crosswalk resulted in high levels of visibility.

Access the full report at: www.utrc2.org/research/projects/urban-outdoor-lighting-pedestrian-safety



LED Bollard Luminaires Tested in Colorado

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

Completed

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

Institution(s): **New Jersey Institute of Technology and The City College of NY, CUNY**

Sponsor(s): **University Transportation Research Center (UTRC) – Region 2**

The objective of this research is to develop a methodology that accomplishes the following:

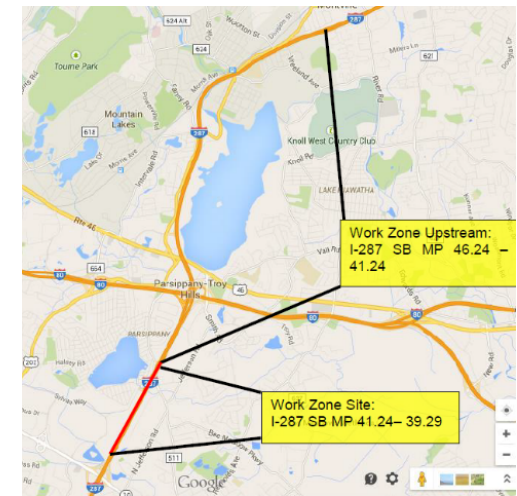
- 1) Estimates the traffic flow characteristics in work zones using Floating Car Data (FCD) also known as vehicle-probe data.
- 2) Minimizes the impact of work zones on traffic flow characteristics.
- 3) Minimizes the total work zone impact cost (including maintenance cost, idling cost, vehicle emissions, and user cost) yielded by the optimized work zone lengths and the associated schedule.

The developed methodology takes advantage of the fact that the majority of freeways throughout the United States are now monitored through vehicle probe data that are based on the following technologies:

- 1) The proliferation of a GNSS (Global Navigation Satellite System) in vehicles and cellular phones that provide vehicle location and speed data every second.
- 2) The proliferation of Bluetooth Technology (BT), in which vehicle location and speed/travel time are estimated using BT installed at the side of the roadway – while BT is currently under more limited coverage, which is expanding rapidly.

These FCD technologies provide an added dimension to the estimation of traffic flow characteristics in work zones, namely travel time, speed, and associated delay. To test this methodology, two case studies were conducted using a real work zone on a segment of Interstate I-287 in New Jersey.

Access the full report at: www.utrc2.org/research/projects/optimizing-work-zones



Location of Work Zone Site on I-287

Empirical Analysis of Consumer Aspects of Autonomous Cars

Completed

Principal Investigator(s): **Dr. Scott LeVine**

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

Sponsor(s): **University Transportation Research Center (UTRC) – Region 2**

The objective of this research is to advance the state-of-knowledge regarding vehicle automation technologies by:

- 1) Identifying theoretical issues raised by Vehicle Automation, and;
- 2) Supporting the collection of empirical evidence (through a Stated Preference survey instrument) to characterize consumer preferences for emerging Vehicle Automation concepts.

This research incorporated the Assured Clear Distance Ahead legal standard into the context of Autonomous Cars, which extends from earlier simulation of traffic streams of Autonomous Cars in that the vehicles are specified to follow Defensive Driving principles. The researchers also identified and tested novel attributes of Automated Cars in the context of Mode Choice modeling.

Access the full report at: www.utrc2.org/research/projects/empirical-analysis-consumer-aspects



Stock Photo

Innovative Travel Data Collection-Planning for the Next Two Decades

Completed

Principal Investigator(s): **Dr. Catherine T. Lawson**

Institution(s): **University at Albany, SUNY**

Sponsor(s): **New York Metropolitan Transportation Council (NYMTC)
University Transportation Research Center (UTRC) – Region 2**

The purpose of this study, as specified by New York Metropolitan Transportation Council (NYMTC), is to identify and describe rapidly emerging new methods of personal travel data collection, a first step in the development of travel models relevant to the mid-21st Century.

This task assignment has the following objectives:

- 1) To identify and clarify these two emerging effects – real time data and changing culture,
- 2) To identify the shifts in data collection and transportation modeling that must take place to assist in identifying and forecasting travel behavior, and
- 3) To discuss the impacts of such operational shifts, both in cost and outcomes to provide NYMTC with the cost and efficacy impacts of incorporating these emerging tools.”

To address these objectives, the research team at Albany Visualization and Informatics Lab (AVAIL), led by Dr. Catherine Lawson, PhD., from the University at Albany, conducted a literature review; a cost benefit analysis of current and emerging transportation data surveying and modeling methodologies; and produced a set of recommendations for the near-term and the longer-term. The literature review and cost benefit analysis revealed certain facts about the state of travel data collection in the United States.

The research suggests three orientations toward travel data collection, each with their own risks and advantages that could satisfy NYMTC’s modeling needs, while enabling future cost savings and/or increases in data quality. Two of these three orientations (or pathways) emphasize Active Data Collection strategies while the third emphasizes Passive Data Collection. These pathways are fluid and dynamic. They are not intended as a step-by-step guide to the future. Instead, they are intended to illuminate the data collection trajectory, highlighting opportunities and delineating the consequences, both positive and negative, of various data collection decisions.

For more information, please visit the project’s webpage at: www.utrc2.org/research/projects/innovative-travel-data-collection-planning

Using Mobile Computers to Automate the Change Order Decision Making Process and Improve Total Time and Cost Predictions on Highway Construction Projects

Active

Principal Investigator(s): **Dr. José L. Perdomo Rivera and Dr. Didier M. Valdés-Díaz**

Institution(s): **University of Puerto Rico - Mayagüez**

Sponsor(s): **University Transportation Research Center (UTRC) – Region 2**

Currently the university is working on a mobile computing application for automating the collection process of field inspection data using iPads or Android Tablets. The application contains standard forms of the specifications that appear in the Standard Specification of Road and Bridge Construction book. With these forms the application intends to provide a method of uniform inspection that assures the quality of highway projects. At the same time, the application will be able to automatically send deficiency reports to the parts affected when a certain item doesn’t comply with the specification.

This proposal presents an extension to the application in development by automating the prediction of the project cost by the implementation of change orders and extra work in highway construction projects. The proposed prediction models would allow the officers along the decision making chain of command to consider not only the technical aspect of a required change order but also the opportunity cost of their timely decision. This would streamline the decision process and has the capability to generate important cost and time-saving scenarios to finish highway construction projects in a timely manner and within the expected budget including changes. The development of this application could result in faster transfer of information between the parties along the decision making chain of command in a highway construction project, therefore improving the current communication process. In addition, automating the change order process and subsequent reporting and information transfer flow could result in improvements in the overall process, reducing the overall project delivery cycle and improve the current methodology to consider and approve change order and extra work.

For more information, please visit the project’s webpage at: www.utrc2.org/research/projects/using-mobile-computers

An aerial night view of a city, likely Singapore, featuring a prominent skyscraper and a multi-lane highway with light trails. The image is overlaid with a network of white and yellow lines and circles, suggesting a digital or technological theme. The text 'TECHNOLOGY TRANSFER' is prominently displayed in the upper left quadrant.

TECHNOLOGY TRANSFER



UTRC's Technology Transfer program goes beyond what might be considered traditional.

UTRC's Technology Transfer Program goes beyond what might be considered "traditional" technology transfer activities.

Its main objectives are (1) to increase the awareness and level of information concerning transportation issues facing Region 2; (2) to improve the knowledge base and approach to problem solving of the region's transportation workforce, from those operating the systems to those at the most senior level of managing the system; and by doing so, to improve the overall professional capability of the transportation workforce; (3) to stimulate discussion and debate concerning the integration of new technologies into our culture, our work and our transportation systems; (4) to provide the more traditional but extremely important job of disseminating research and project reports, studies, analysis and use of tools to the education, research and practicing community both nationally and internationally; and (5) to provide unbiased information and testimony to decision-makers concerning regional transportation issues consistent with the UTRC theme.

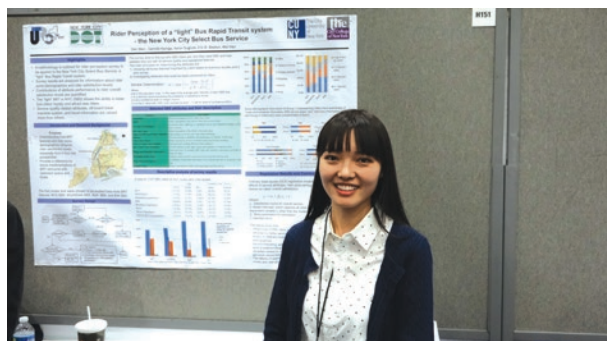
TRANSPORTATION RESEARCH BOARD 95th ANNUAL MEETING

January 10-14, 2016, Washington, DC

University Transportation Research Center (UTRC) was well represented at the Transportation Research Board (TRB) 95th Annual Meeting which was held from January 10-14, 2016 in Washington, D.C. UTRC faculty researchers and students actively participated in this annual meeting. Mr. 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.



UTRC Staff and Colleagues at the 2016 CUTC Banquet



Ms. 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

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

February 26th, 2016 at the New York Institute of Technology



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

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:
www.springer.com/us/book/9783319151649

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

April 12, 2016 at Manhattan College, NY

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

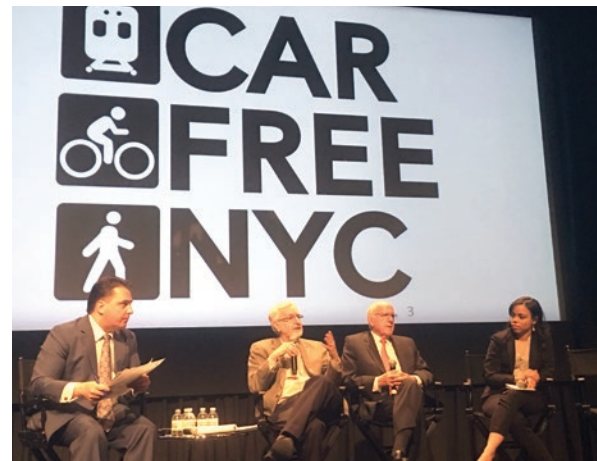
April 21, 2016 at the New York Institute of Technology

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.

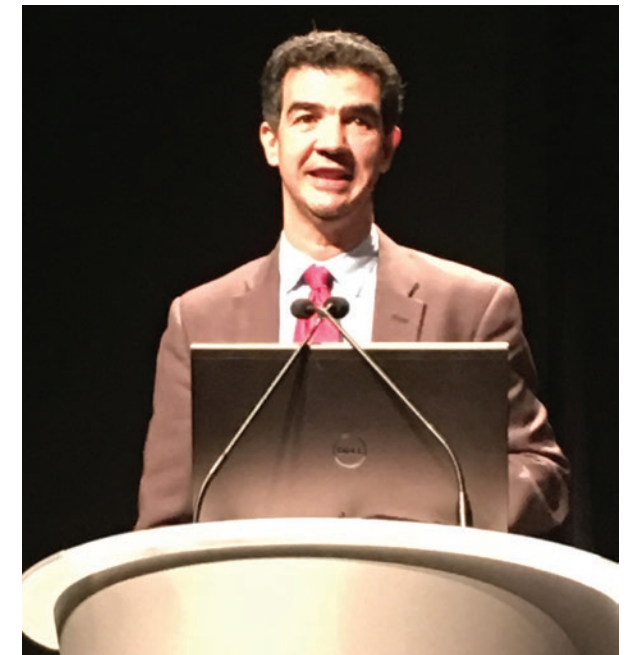
UTRC along with local transportation agencies co-sponsored a transportation research panel meeting on April 21st; a day before the Earth day. The panel was moderated by Matthew W. Daus; UTRC's Distinguished Lecturer. Panelists included Elliott Sclar; Professor of Urban Planning, Graduate School of Architecture,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

sity; 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 & Mitendorf, 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



NYC Councilman Hon. Ydanis Rodriguez

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

June 9-10, 2016 at the Saratoga Springs, NY

The Intelligent Transportation Society of New York (ITS-NY) held the 23rd ITS-NY annual meeting on June 9-10, 2016 at Saratoga Springs, NY. The meeting theme was Transforming Transportation-Meeting the Challenges of Expanding Horizon. UTRC Director; Dr. Camille Kamga attended the meeting and presented the ITS-NY Best Student ITS Essay Award to Mr. Zhenhua Zhang, a Ph.D. student in the Civil, Structural and Environmental Engineering at the University at Buffalo, The State University of New York, Dr. Kamga is also an active ITS-NY Board member. Highly informative speakers and panel sessions were presented. These sessions included topics on:

1. Drones and Transportation Applications;
2. Real-Time Data for Transit Mobility;
3. Connections: Connected Vehicles and Connected Corridors;
4. Transforming Infrastructure and Enhancing Sustainability
5. Where ITS is Headed...the Road to Tomorrow

The session presentations are available on the ITS-NY website at: www.its-ny.org/library.php

LIVE DEMONSTRATION OF CONNECTED & AUTOMATED VEHICLE OPERATIONS

June 9-10, 2016, Saratoga Springs, NY

UTRC organized a live demonstration of Connected & Autonomous Vehicle Operations on June 9-10, 2016 during the Intelligent Transportation Society of New York (ITS) annual conference.

Southwest Research Institute (SwRI) has developed innovative technology on the use of Connected and Automated Vehicles to enhance workzone safety. SwRI offered a VIP opportunity to ride along in fully automated SwRI vehicle during this demonstration.

UTRC also hosted an Unmanned Aerial System (UAS) demonstration on June 9th during the ITS annual conference. This demonstration was done by NUAIR Alliance, a collaboration of over 90 industry, government, and academic organizations working toward safe integration of Unmanned Aerial Systems into the US National Airspace System. Unmanned Aircraft Systems (UAS) increase human potential, allowing us to execute dangerous or difficult tasks safely and efficiently. Whether its improving agricultural output, helping first responders, or helping manage transportation infrastructure, UAS are capable of saving time, saving money, and most importantly, saving lives.

The videos of both of these demonstrations are available on UTRC's Vimeo Channel. vimeo.com/utrcregion2



UTRC AT THE NEW YORK METROPOLITAN TRANSPORTATION COUNCIL MEETING

September 7, 2016, Graduate Center, CUNY

The University Transportation Research Center's staff attended the NYMTC's Council Meeting that was held on September 7th, 2016 at the Graduate Center, CUNY. The Transportation Secretary Anthony Foxx delivered the keynote remarks at the meeting. The Secretary touched on the need for a regional approach which crosses jurisdictional and state boundaries. He indicated that such coordination was needed to develop working relationships and potential financial solutions.

During the meeting, UTRC's director, Dr. Camille Kamga NYMTC's delivered a presentation on the September 11th Memorial Program for Regional Transportation Planning, in recognition of its tenth year of providing financial assistance to students for projects in both academic and public policy arenas as a way to educate and motivate those who are interested in transportation technology and planning. 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. It is administered by the University Transportation Research Center (UTRC).

The program is a living memorial to the three NYMTC staff members who perished in the attacks on the World Trade Center on September 11, 2001: Ignatius Adanga, Charles Lesperance, and See Wong Shum.



Dr. Camille Kamga, UTRC's Director Presenting at the NYMTC Council Meeting

CITY LOGISTICS IN PRACTICE: THE UPS 43RD STREET DISTRIBUTION FACILITY, NEW YORK

September 20, 2016, UPS Distribution Facility

UTRC team; Dr. Camille Kamga, Dr. Alison Conway, Dr. Lisa Douglass, Penny Eickemeyer, and Dr. Jean-Paul Rodrigue visited the UPS 43rd Street Distribution Facility on September 20. UPS representatives; Timothy Banoff, Professional Services Marketing, Jerome Ferguson, Industrial Engineering, and Michelle Shen, Small Business Marketing welcomed the team and provided them a tour of the facility. The UPS site, which covers a full city block, is located on the block bound by West 44th Street to the north, West 43rd Street to the south, 11th Avenue to the east, and 12th Avenue to the west. The facility handles between 125,000 and 225,000 parcels per day depending on the time of the week and the seasonality of demand (peak retail season in November and December). It is in proximity to the Port Authority Bus Terminal and the Lincoln tunnel to New Jersey. The UPS facility is a seven-story enclosed building with no outdoor parking facility since parking space is at a premium in Manhattan (the facility was designed with this acute constraint in mind). The ground floor is accessible by UPS vehicles and is used for loading, unloading and vehicular storage.



The visit started up by a 2 hours meeting with 3 UPS representatives that provided an overview of the facility and key UPS strategies concerning urban freight distribution and the UTRC group presented some key objectives of the MetroFreight project. Then, a visit of the facility took place, including the loading and unloading docks, vehicle and sorting equipment and the main operational methods used by the facility. The facility is one of the oldest still in operation, using a combination of mechanized and labor sorting processes. The facility could be automated, but UPS is reluctant to do so since it would impact operations in a strategic market and the current operations are efficient and well-tuned. A line of communication has been established with UPS and it remains to be seen to what extent UPS will be able to provide information and data to assist city logistics research endeavors.

Photos Credit: John Lopez, NYMTC



Transportation Secretary, Anthony Foxx Delivering the Keynote Remarks at the NYMTC Council Meeting

NYIT WORKSHOP ON CYBER SECURITY AND PRIVACY FOR TRANSPORTATION WORKSHOP

September 22, 2016 at NYIT

UTRC co-hosted a workshop in conjunction with NYIT's Seventh Annual Cybersecurity Conference. It started with keynote remarks by Edward Fok, Transportation Technologies Specialist at the Federal Highway Administration of the U.S. Dept. of Transportation. He briefly described the cyber challenges faced by the transportation community, stating that many of the surface transportation systems are still protected by the same pin-type tumbler lock used when The Brady Bunch was on the air. In this presentation, Mr. Fok shared some initial ideas on how operating agencies and industry can address this highly dynamic challenge, including the implementation of open source computational platforms supervised by cloudbased, real-time predictive management systems. He also discussed how he is working with transportation agencies across the United States to guide them into implementing cybersecurity protocols and best practices.

Two sessions followed the keynote address, including one session on Cybersecurity for Smart and Safe Transportation chaired by Dr. Paolo Gasti, NYIT; which included presenters such as Laverne Sula at North America, Argus Cyber Security; Captain David Moskoff, US Merchant Marine Academy; and Jay Williams, ICS/SCADA, Cyber Infrastructure Protection, Parsons. This session was followed by a workshop on Vehicular Security and Privacy chaired by Dr. Jonathan Voris, NYIT, including presentations by Cagdas Karatas, WINLAB, Rutgers University; Dr. Yuan Hong, State University of New York at Albany; and Dr. Wenjia Li at NYIT.



Keynote Speaker –
Edward Fok,
FHWA, US DoT

UTRC CO-ORGANIZED THE 29TH INTERNATIONAL TRANSPORTATION REGULATORS (IATR) 2016 ANNUAL CONFERENCE

September 22-25, 2016, San Francisco, California

The International Association of Transportation Regulators (IATR) is a growing peer group of taxi, limousine and for-hire transportation regulators, dedicated to improving the practice of licensing, enforcement and administration of for-hire transportation through the sharing of information and resources.

UTRC staff actively participated in the organization and planning of the 2016 IATR annual conference. The conference was very well attended by international regulators and many presenters shared their best state/city practices with attendees.

During the conference, IATR also hosted its first ever Hack-a-thon. The IATR hack-a-thon theme was broad enough to cover many angles and issues, and was intended to involve broad data sets. The theme of the first-ever IATR hack-a-thon was based on the focus of the IATR's 29th Annual Conference being held in San Francisco and hosted by the San Francisco Municipal Transit Agency (SFMTA): "21st Century Transportation Regulation – A Vision for Shared Mobility, Multi-Modal Integration & Governance."

The participating organizing academic institutions included: The United States Department of Transportation's University Transportation Research Center (Region 2) at The City College of New York, The City University of New York; The University of California, Berkeley; NYIT (NYC and Abu Dhabi campuses), Purdue University, New York University. Government Agency & Municipal Supporters include: NYC Taxi & Limousine Commission; District of Columbia Department of For-Hire Vehicles; City of Calgary; Philadelphia Parking Authority; TransAd, Abu Dhabi, UAE; and San Francisco Municipal Transportation Agency (SFMTA). Private Company Sponsors & Other Organizations: International Road Transport Union (IRU); Flywheel; Zendrive; Datatrack 247; CabConnect; City Innovative Foundation; Karhoo. For more information on the IATR organization and its membership, please visit the website: www.iatr.global



IATR's First Hack-a-Thon Participants with IATR's Hack-a-Thon Committee Members
at the IATR's 29th Annual Conference

UTRC'S Newsletter

UTRC's Newsletter, Research News, is published quarterly and provides information to transportation professionals about research, education, and outreach activities in Region 2. Research news is available online.



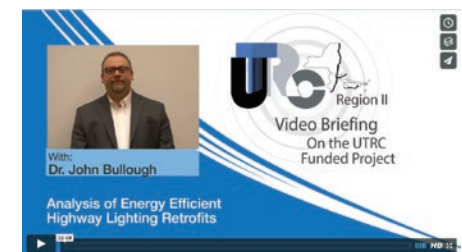
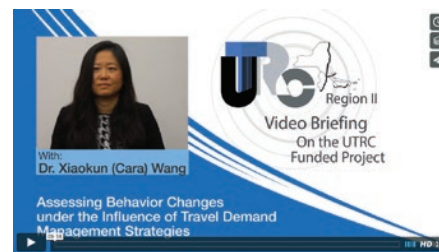
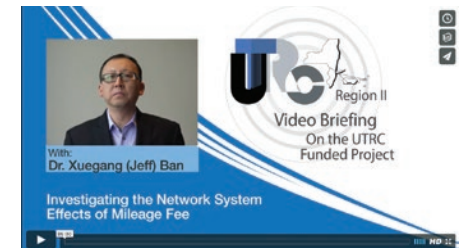
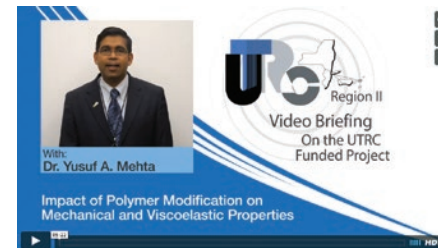
UTRC'S Video Briefings on Completed Research

UTRC is continuing the initiative on developing Video Briefing of Research Projects. This is one of our endeavour in meeting our commitment to broadly disseminate our research-related publication to the public, which already includes the following channels:

- Press Releases to our listserv of 5000+ people
- Website portal
- Social Media Sites
- Transportation Research Libraries

As a requirement of our new research grant under MAP 21, we must provide a research briefing on all completed research projects. UTRC has committed to accomplish this by disseminating research results through the posting of all project-related publications, written research briefs, and short video briefings. The intent of the video tool is to provide our interested readers/audience with a quick overview of the projects.

To view videos, please visit our Vimeo channel at: vimeo.com/utrcregion2



Intersection of 42nd street and 2nd Ave

