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PROGRAM PROGRESS PERFORMANCE REPORT

*Submitted to the Office of the Assistant Secretary for
Research and Technology*

Federal Grant # DTRT12-G-UTC02

Project Title: University Transportation Research Center – Region 2

Name of Grant: University Transportation Center

Program Director: Camille Kamga, Ph.D, Director UTRC, Assistant Professor of
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Project/Grant Period: Start Date: January 1, 2012 End Date: January 31, 2017

Reporting Period Start Date: January 1, 2016

Reporting Period End Date: June 30, 2016

Report Term or Frequency: six months


Signature _____

Penny Eickemeyer, Associate Director for Research, UTRC

CONSORTIUM MEMBERS

City University of New York, Clarkson University, Columbia University, Cornell University, Hofstra University, Manhattan College, New
Jersey Institute of Technology, New York Institute of Technology, New York University, Polytechnic Institute of NYU, Rochester Institute of
Technology, Rowan University, Rensselaer Polytechnic Institute, Rutgers University*, State University of New York, Stevens Institute of
Technology, Syracuse University, The College of New Jersey, University of Puerto Rico

*Member under SAFETEA-LU Legislation

Table of Contents

1. ACCOMPLISHMENTS.....	3
A. GOALS AND OBJECTIVES:	3
B. ACCOMPLISHMENTS UNDER THESE GOALS:	3
<i>a) Research</i>	<i>3</i>
<i>b) Education and workforce development</i>	<i>5</i>
<i>c) Technology Transfer.....</i>	<i>6</i>
<i>d) Opportunities for Training and Development</i>	<i>10</i>
C. DISSEMINATION OF RESULTS:	10
D. PLANS FOR NEXT REPORTING PERIOD:	10
3. PARTICIPANTS AND COLLABORATING ORGANIZATION....	11
4. IMPACT	22
5. CHANGES/PROBLEMS	22
6. SPECIAL REPORTING REQUIREMENTS.....	22

This report will cover UTRC's three mission areas: Research, Technology Transfer, and Education for activities that occurred under the Grant# DTRT12-G-UTC02 during this reporting period.

1. ACCOMPLISHMENTS

A. Goals and objectives:

- a) Research: To support the USDOT Strategic Goals and to advance the state of practice in planning and management of regional transportation systems; the research program consists of both agency-initiated and faculty-initiated studies
- b) Education and workforce development: To improve the knowledge base and approach to problem solving of the region's transportation workforce
- c) Technology transfer: To increase the awareness and level of information concerning transportation issues facing Region 2 to the education, research and practicing community; disseminate project reports, studies, analysis, and use of tools to the community; and provide unbiased information and testimony to decision-makers concerning regional transportation issues consistent with the UTRC theme.

B. Accomplishments under these goals:

a) Research

Ongoing projects under Grant# DTRT12-G include:

- Impacts of Freight Parking Policies in Urban Areas: the Case of New York City
- Laser Scanning Aggregates for Real Time Property Identification –Rowan
- Truck Driver Fatigue Assessment using a Virtual Reality System-Rowan
- Shared Multi-Modal Urban Infrastructure: Part I - International Synthesis of Practice – Kamga/Conway
- Real-time Estimation of Transit Origin-Destination Patterns and Delays Using Low-Cost Ubiquitous Advanced Technologies-NYU

Completed Projects during this period include:

- Development of the Household Activity Pattern Problem as an Activity-Travel Simulator-UB
- Demonstrations of Urban Outdoor Lighting for Pedestrian Safety and Security
- Optimizing Work Zones for Highway Maintenance with Floating Car Data (FCD) – NJIT
- Panama Canal Expansion and the Economic Impacts on New York and New Jersey States –UB
- Nondestructive Evaluation of Pavement Structural Condition for Rehabilitation Design - Rutgers
- Relationships between public-private financing, speed, and rail infrastructure development

- Techniques for Information Extractions from Compressed GPS Traces - Albany
- Smarter Multi-modal Traffic Signal Control with Both Floating Sensor Network and Fixed Sensor Network
- The Ties that Bind: Developing a Bi-national Transportation-Combined Economic Simulation Model to Assess Security and Policy Implications of US-Canada Border Bridges-UB
- Nitrogen Dioxide Sequestration Using Demolished Concrete and Its Potential Application in Transportation Infrastructure Development –Stony Brook
- Modeling Disaster Operations from an Interdisciplinary Perspective in the New York-New Jersey Area –NYU –(waiting for deliverable)
- Empirical Analysis of Consumer Aspects of Autonomous Cars - SUNY New Paltz
- Integrating Real-time GIS and Social Media for Qualitative Transportation Data Collection- Hunter – (done in draft)
- IIMS Staten Island Web and Smartphone Development, Deployment and Evaluation –UB
- Broadband Hybrid Electromagnetic and Piezoelectric Energy Harvesting from Ambient Harvesting - Stony Brook (expanded quarterly report in lieu of final report)
- Freight Demand Forecasting in the Context of the Built Environment: An Integrated Land Use-UB –(deliverable never received)
- Major Workforce Challenges Confronting New York City’s Transit Industry - CUNY Graduate Center- (deliverable never received)
- Integration of Bus Stop Count Data with Census data for Improving Bus Service – Albany (deliverable under review)
- Street Standards under the Category of Emerging Investigators Program-NYU(waiting for deliverable)
- Metrics, Models and Data for Assessment of Resilience of Urban Infrastructure Systems - NJIT (deliverable never received)

Almost all projects on grant # DTRT12-G-UTC02 are complete with some deliverables still outstanding. Work on most of the ongoing projects listed above involves completing the final project reports.

As examples of project progress, excerpts from these written reports for several projects are provided below.

Impacts of Freight Parking Policies in Urban Areas: The Case of NYC

This project focuses on the issue of parking for freight vehicles in Manhattan. In most city centers and business districts (including Manhattan), parking is very limited which causes truck drivers to double park, idle, circle blocks, or extend into sidewalks and roadways while using undersized loading areas. Ideal policy should maximize the net social benefits of freight activity by ensuring efficient freight flows, while mitigating the negative impacts associated with freight activity. This study will assess the conditions and policies in Manhattan related to parking and freight vehicles. The process involves close collaboration with the NYCDOT. During the past reporting period, the following was accomplished:

- The survey has been finished and parsed into several questionnaires. A website is being developed which will provide details about the survey. A handout for truck drivers was also developed. The survey is in the stage of being implemented and discrete choice parameters will be estimated.
- RPI expanded the Freight Microsimulation (FM) framework. Preliminary results from the previous versions show that the framework is computationally efficient, resulting in fast execution times that allows to expand the model to study a larger sample of facilities. The new version of the framework can simulate the parking behavior of all traffic generators in the study area, their freight trip generation rates have been estimated using FTG Models Database developed at RPI [1].
- The next step is to incorporate the discrete choice parameters that are being developed into the simulation framework, in order to predict the behavior of carriers and assess the outcomes of the different policy levers and parking schemes.

Laser Scanning Aggregates for Real Time Property Identification

- In total, thirty five rocks have been used for calibration. The data collected has been analyzed with a PLS regression algorithm.
- It has been found that using LIBS technology to identify mineralogy is accurate and feasible.
- The portable laser system has been assembled and its configuration within the crate system has been finalized. **The GUI program has been validated.** The GUI test results have been compared with previous test results and the new laser test setup and have been found to work accurately. The testing with anti-freeze as the cooling agent has also been investigated and found to have no negative effects on the results. Demonstrations on laser technology have been given to NJDOT personnel intermittently
- The final report is in review at NJDOT

b) Education and workforce development

- 2015-2016 NYMTC/UTRC September 11th Memorial Program interns continued. Plans and preparation for the interns' final presentations are underway. Presentation will be at NYMTC Brown Bag lunch on September 14, 2016.

The selection process for 2016-17 (Year 11) of the program is complete. Two students were selected and will begin their internships in September. These internships include:

- *Automatic Vehicle Location Data Mining, Visualization, and Dashboard Functionality at the New York City Department of Transportation*
- *Transit Signal Priority Report at the New York Metropolitan Transportation Council*
- The AITE scholarship awardees for the 2015 year continued their studies. For the 2016 scholarship award, eleven new recipients were selected out of seven institutions from our consortium.
- Professional development in collaboration with the New York State Association of MPOs continued. The initial course has been completed. Additional courses are in the process

of selection in collaboration between NYSAMPO, UTRC, and the CUNY School of Professional Services.

c) Technology Transfer

- **MetroFreight Collaboration**

As part of UTRC's ongoing involvement in MetroFreight, a Volvo Research Educational Foundations Center of Excellence led by the University of Southern California, several faculty and staff traveled to Seoul, South Korea to participate in a business meeting on July 6, 2016 with the MetroFreight participants from USC/UC Long Beach, IFFSTAR (Paris), and KOTI (Seoul). In addition, they participated in an "International Seminar on City Logistics: *Challenges and Strategies for Sustainable Urban Freight*," which was co-sponsored by MetroFreight, KOTI, the Korea Logistics Society, and Hongik University.

On July 7, the participants visited and observed operations at several logistics distribution facilities in South Korea. The first site that was visited was located in the southeast section of the City of Seoul, Seoul Integrated Terminal. It was located near highways that connected the City Center with locations outside Seoul and was also served by metro stations. The facility was approximately 400,000 square meters and had 2 basement floors and eight additional floors. The second site was the Korea Integrated Freight Terminal, which is responsible for four regional districts in Korea. It supports multimodal transport in connection with rail service. Another facility visited was the Uiwang ICD (Inland Container Depot), which is located inland and not at a seaport, and performs consolidated logistic functions including storing, transporting, and customs clearance of containers and warehousing and distribution of imports and exports

- **WCTR Conference**

Two UTRC researchers attended and presented at the 2016 World Conference in Transport Research in Shanghai on July 11 – 14. A paper, *Cargo Cycles for Local Delivery in New York City: Performance and Impacts*, was awarded the Best Paper Award in the Freight and Logistics topic area, out of about 100 submissions. This paper was written by PI Alison Conway, Assistant Professor of Civil Engineering at the City College of New York (CCNY) and Co-PI Camille Kanga, Assistant Professor of Civil Engineering at CCNY and Director of UTRC. Former Ph.D. student Jialei Cheng and current Ph.D. student Dan Wan were also co-authors.

- **TRB 2016 Presentations**

UTRC Faculty from each of the 17th institutions were involved in presenting at the 2016 TRB Annual Meeting. UTRC has developed a compendium of all of these presentations that involve UTRC faculty. Please follow the link to access this resourceful compendium. <http://files.ctctcdn.com/08b78404201/ae7d750b-b562-4862-89ba-b0c19666dbeb.pdf>

In addition to that, UTRC staff and in-house researchers actively participated in the TRB meetings.

- **UTRC Book Talk: Road Traffic Congestion; An Examination of the Causes, Consequences, and Possible Congestion Relief**

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.

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

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

- **Technical Summit on Smart Cities and Transportation**

ITE Met Section in coordination with UTRC hosted a ½ day summit on Smart Cities and Transportation on March 30, 2016 at NYIT. More than 200 professionals attended the summit to share knowledge, exchange ideas, and to network. Technology, city planning, and transportation have merged at the intersection of Smart Cities. This half-day summit was organized to provide the attendees with a glimpse of Smart Cities and how the Transportation field is adapting to this changing environment. This conference brought to life the current topics of Intelligent Transportation System (ITS), NYCDOT's connected vehicles program, and how the tech industry is finding solutions to integrate the existing infrastructure to the connected world.

- **Nexus Of Roads And Water Resources: Emerging Issues And Approaches For Urban Stormwater Management**

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

1. Research and demonstration on porous pavements at a USEPA parking lot by Tom O'Connor, PE, US Environmental Protection Agency, Office of Research and
2. Development, Urban Watershed Management Branch, Edison, NJ
3. Performance of green stormwater control measures by Franco Montalto, Ph.D, PE, Drexel University, Department of Civil, Architectural and Environmental Engineering, and 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.

- **UTRC Board of Director's Meeting**

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

Under the MAP 21 grant, the UTRC consortium includes eighteen (18) universities. The meeting attendees included Dr. John Falcocchio, Board's Chairman and Professor of Transportation Planning and Engineering at the Polytechnic Institute of NYU, Dr. Robert E. Paaswell, UTRC Director Emeritus and Distinguished Professor of Civil Engineering at CCNY, Dr. Camille Kanga, UTRC Director and Assistant Professor of Civil Engineering at CCNY, UTRC staff members, and representatives from each of the eighteen consortium universities.

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

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

The conference proceeding is available on the event's website at:

www.utrc2.org/events/transportation-transformed-advancing-eco-friendly-mobility

- **Car Free NYC: Panel on Impacts and Research Opportunities**

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

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

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

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

- **UTRC Provided Assistance To NYMTC For The Plan 2045; Long Term Regional Transportation Plan Through Public Outreach**

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

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

- **NYIT & UTRC Organized a workshop on Innovations for Road and Mobility Safety**

UTRC co-sponsored a workshop that was organized by NYIT on Innovations for Road & Mobility Safety. The workshop was held on May 26, 2016 at the New York Institute of Technology. This workshop focused on innovations to reduce transportation-related deaths and injuries, whether they involve pedestrians, cyclists, passengers or motorists. Presenters highlighted innovations - novel policies, strategies and technologies - that address the current safety transportation challenges. They discussed innovations that align well with current transportation plans.

- **Newsletter publications released**

The winter 2016 Newsletter was released during this reporting period. Please follow the link to access this edition: <http://www.utrc2.org/sites/default/files/Winter-2016-Research-News.pdf>

- Brief video clips of interviews with PIs during this reporting period

- d) Opportunities for Training and Development

Our seminars and workshops are designed to educate the transportation community on current issues in policy and best practices as well as foster meaningful discussion on these topics. We also provide funding to the September 11th Memorial Program to select current students to serve in internship positions in regional and local agencies to enhance their educational experience.

C. Dissemination of results:

- **Compendium of TRB presentations**

A Compendium was produced to highlight all TRB presentations made by UTRC faculty at TRB's 95th Annual meeting, January 10, 2016 – January 15, 2016. Over 100 sessions included presentations made by one or more UTRC researchers.

- Final Reports

UTRC produced, posted, and circulated final reports for the projects completed during this reporting period (see research section B-a above)

D. Plans for next reporting period:

UTRC is planning additional events for the 2016-17 academic year.

2. PRODUCTS

Products this period

Products this period have included newsletters, press releases announcing final reports that were submitted, and short interviews of PIs regarding completed projects (see technology transfer section above).

3. PARTICIPANTS AND COLLABORATING ORGANIZATIONS

Partner (University)	Agency Sponsor	Location (see attached)	Project(s) (# funded)	Contribution	Other Collaborators	Role
Clarkson	N/A	Potsdam, NY	Faculty-initiated (1)	Research		
Columbia						
Cornell	N/A	Ithaca, NY	Faculty-initiated (2)	Research		
Cornell		Ithaca, NY	Agency Initiated (1)			
CUNY:						
Queens College	N/A	Flushing, NY	Faculty-initiated (1)	Research		
John Jay	N/A	New York, NY	Faculty-initiated (1)	Research		
CCNY		New York, NY	Faculty-initiated (3)			
CUNY Graduate Center NYC Labor Information Service		New York, NY	Faculty-initiated	Research		
Manhattan College		Bronx, NY				
NJIT	N/A	Newark, NJ	Faculty Initiated (3)	Research		
NJIT	NYS DOT			Research		
NYIT	N/A	New York, NY				
NYU	N/A	New York, NY	Faculty Initiated (3)	Research		

RIT	N/A	Rochester, NY	Faculty-initiated (1)	Research		
Rowan University		Glassboro, NJ	Faculty-initiated (2)	Research		
RPI	N/A	Troy, NY	faculty initiated (6)	Research	NYSDOT	
RPI	NYSDOT			Research	Siemens, Sensys,	technology/ devices
Rutgers	N/A	New Brunswick, NJ	Faculty-initiated (6)	Research		
Rutgers	NJDOT				For Landfill Closure: Birdsall and the Richard Stockton College Coastal Research Center,	
SUNY:						
Albany		Albany, NY	Faculty-Initiated (1)	Research		
Albany	NJDOT	Albany-NY	Agency-sponsored	Research		
Buffalo	NYSDOT			Research	NYU/Poly, General Dynamics Information Technology	research, technology
Stonybrook	N/A	Stonybrook, NY	faculty Initiated (2)	Research		

Maritime	N/A	Throgs Neck, NY	faculty Initiated (1)	Research	Halcrow, Douglas Westwook, CWS and NYU	
Maritime	NJDOT	Throgs Neck, NY	agency-initiated	Research		
New Paltz	N/A	New Paltz, NY	Faculty-initiated (1)	Research		
Stevens Institute of Technology	N/A	Hoboken, NJ	Faculty-initiated (1)	Research		
Syracuse		Syracuse, NY	Faculty-initiated(2)	Research		
The College of New Jersey	N/A	Ewing Township, NJ	Faculty-initiated (1)	Research		
University of Puerto Rico		Mayaguez PR				
Agency Partners:						
NYSERDA				Research sponsor	CCNY	
NYMTC		New York, NY		education (Sept. 11th Memorial Program)	UTRC	
NYMTC		New York, NY		Sponsor	UTRC	
NYSDOT		Albany, NY		research	UTRC	
NJDOT		Ewing, NJ		Research sponsor, tech transfer	UTRC	
NYCDOT		New York, NY			UTRC	
Port Authority of NY and NJ		New York, NY		General sponsor collaboration	UTRC	

ITS-New York				education, tech transfer	UTRC	
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<u>Partner addresses</u> <u>Partner</u>	<u>Street</u>	<u>City, State, Zip</u>
Clarkson	8 Clarkson Avenue	Potsdam, NY 13699
Columbia	116 th Street and Broadway	New York, NY 10027
Cornell	Cornell University	Ithaca, NY 14853
CCNY	160 Convent Avenue	New York, NY 10031
Hunter College	695 Park Avenue	New York, NY 10065
John Jay College	524 W. 59th Street	New York, NY 10019
Queens College	65-30 Kissena Blvd	Flushing New York 11367
CUNY Graduate Center	365 5th Avenue	New York, NY 10016
NJIT	323 Martin Luther King Blvd	Newark, NJ 07103
NYU	726 Broadway #350	New York, NY 10003
NYU/POLY	6 Metrotech Center	Brooklyn, NY 11201
RPI	110 8th Street	Troy, NY 12180
RIT	One Lomb Memorial Dr	Rochester, NY 14623
Rowan	201 Mullica Hill Rd	Glassboro, NJ 08028
Rutgers	57 US HWY 1	New Brunswick, NJ 08901
SUNY Albany	1400 Washington Avenue	Albany, NY 12222
SUNY Buffalo	12 Capen Hall	Buffalo, NY 14260
Stony Brook	100 Nicolls Rd	Stonybrook, NY 11794
SUNY Maritime	6 Pennyfield Avenue	Throggs Neck, NY 10465
SUNY New Paltz		
Stevens Institute of Technology	9th Street	Hoboken, NJ 07030
Syracuse University	303 University Pl #335	Syracuse, NY 13244
The College of New Jersey	2000 Pennington Rd.	Ewing Township, NJ 08618

University of Puerto Rico	Puerto Rico, 65	Mayaguez 00860
Agencies:		
NYSDOT	50 Wolf Road	Albany, New York 12205
NYSERDA	17 Columbia Circle	Albany, New York 12203-6399
NYMTC	199 Water Street	New York, New York 10038
NYCDOT	55 Water Street	New York, New York 10041
NJDOT	1035 Parkway Avenue	Trenton, NJ 08625
NYCDOT	55 Water Street	New York, NY
PANYNJ	225 Park Avenue South	New York, NY 10003
ITS-NY	14 Loveland Court	Cranbury, NJ 08512
NYCT	2 Broadway	New York, NY 10004
USC/Volvo		Los Angeles, CA

PROJECTS BY PARTNERS

<u>Partner(s)</u>	<u>Project(s)</u>		
Clarkson	Characterizing and Quantifying the Shrinkage Resistance of Alkali Activated (Cement Free) Concrete		
Columbia			
Cornell	The Effects of Public-Private Partnerships on Traffic Safety: Evidence From Mexico	PPS-AQ and PPS-CMP hosting, maintenance, and technical support	Street Standards as Parking Policy: Identifying Residents' Willingness to Pay
CCNY	Support for NYMTC for CMAQ Application and Documentation	Adaptive Traffic Signal Control System (ACS-Lite) for Wolf Road	
Hunter College	Empowering Individuals to Make Environmentally Sustainable and Healthy Transportation Choices in Mega-Cities through a Smartphone App		
John Jay College	Relationships between public-private financing, speed, and rail infrastructure development		
Queens College	Empowering Individuals to Make Environmentally Sustainable and Healthy Transportation Choices in Mega-Cities through a Smartphone App		
CUNY Graduate Center			
NJIT	Optimizing Work Zones for Highway Maintenance with Floating Car Data (FCD)	Metrics and Performance Response Functions for Assessment and Resilience of Urban Infrastructure Systems	Requirements, Model and Prototype for a Multi-Utility Locational and Security Information Hub

NYU	Suburban Poverty, Public Transit, Economic Opportunities and Social Mobility		Real-time Estimation of Transit Origin-Destination Patterns and Delays Using Low-Cost Ubiquitous Advanced Technologies		Street Standards as Parking Policy: Identifying Residents' Willingness to Pay	
NYU(formerly NYU/POLY)	Subsurface Imaging of Corrosion in Painted Steel Bridges			IIMS Staten Island Web and Smartphone Development, Deployment and Evaluation Modeling Disaster Operations		
RPI	Improving Freight System Performance in Metropolitan Areas	The Role of Social Media in Improving the Safety and Efficiency of Traffic Operations	Investigating the Network System Effects of Mileage Fee	Demonstrations of Urban Outdoor Lighting for Pedestrian Safety and Security	Adaptive Traffic Signal Control System (ACS-Lite) for Wolf Road	Impacts of Freight Parking Policies in Urban Areas: the Case of New York City
RIT	Modeling Emissions and Environmental Impacts of Transportation Activities Associated with High Volume Horizontal Hydraulic Fracturing Operations in the Marcellus Shale Formation					
Rowan	Effect of plug in hybrid electric vehicle adoption on gas tax revenue, local pollution, and greenhouse gas emissions			Truck Driver Fatigue Assessment using a Virtual Reality System		
Rutgers	Omitted variable bias in crash data analysis Non-destructive Evaluation of Pavement Structural	Effectiveness Based Pavement Preservation Selection Based on Statistical Analysis of Long-Term Payment Performance Data		Real-time Estimation of Transit Origin-Destination Patterns and Delays Using Low-Cost Ubiquitous Advanced Technologies	Landfill Closure With Dredged Materials	Impact Analysis of Recreational Transit Services on Local Community Economic Development, Employment and Spending

	Condition for Rehabilitation Design							
SUNY Albany	Integration of Bus Count Data with Census Data							
SUNY Buffalo	Freight Demand Forecasting in the Context of the Built Environment: An Integrated Land Use IIMS Staten Island Web & Smartphone Development, Deployment and Evaluation	Real-time Dynamic Pricing for Bicycle Sharing Programs Evaluation of Public-Private Partnership Contract Types for Roadway Construction, Maintenance, Rehabilitation, and Preservation	National Aviation Security to Cyber-terrorism: An Integrated Framework to Quantify the Economic Impacts of Cyber-terrorist Behavior	Panama Canal Expansion and the Economic Impacts on New York and New Jersey States	Smarter Multi-modal Traffic Signal Control with Both Floating Sensor Network and Fixed Sensor Network	The Ties that Bind: Developing a Bi-national Transportation-Combined Economic Simulation Model to Assess Security and Policy Implications of US-Canada	A GIS-based Performance Measurement System for Assessing Transportation Sustainability and Community Livability	Development of the Household Activity Pattern Problem as an Activity-Travel Simulators

SUNY New Paltz	Empirical Analysis of Consumer Aspects of Autonomous Cars							
Stonybrook	Broadband Hybrid Electromagnetic and Piezoelectric Energy harvesting from Ambient Vibrations and Pneumatic Vortices Induced by Running Subway Trains				On-Road Energy Harvesting for Traffic Monitoring			
Maritime	Real-time Estimation of Transit Origin-Destination Patterns and Delays Using Low-Cost Ubiquitous Advanced Technologies							
Stevens Institute of Technology	Port Resilience: Overcoming Threats to Maritime Infrastructure and Operations from Climate							
Syracuse University	Investigation of the Carrs Creek Geofoam Project				The Economy of Preventive Maintenance of Concrete Bridges			
The College of New Jersey	Characterizing Highway Corridor Length to Evaluate Travel Time Reliability using Probe Vehicle Data							
University of Puerto Rico								
Agencies:								

NYSDOT	IIMS Staten Island Web and Smartphone Development, Deployment and Evaluation	ACS-Lite for Wolf Road
NYSERDA		
NYCDOT		
NJDOT	Impact Analysis of Recreational Transit Services on Local Community Economic Development, Employment and Spending	Landfill Closure With Dredged Materials
NYMTC	PPS-AQ and PPS-CMP hosting, maintenance, backup and technical support	Support for NYMTC for CMAQ Application and Documentation

4. IMPACT

UTRC programs impact the transportation community in several ways. Through seminars, workshops, and conferences, information is disseminated and interdisciplinary discussions are fostered; which enable transportation professionals to gain knowledge and varying perspectives on issues. This, in turn, helps practitioners to implement policies that bring about efficient and effective solutions to meet local, regional, and national transportation needs. UTRC programs also have an impact on preparing the next generation of transportation professionals through internships and classroom-based instruction. Likewise, dissemination of research findings helps to foster collaboration between academic researchers and practitioners, which assists practitioners in implementing innovative solutions that meet their specific needs.

5. CHANGES/PROBLEMS

We are still trying to collect final reports for some projects that are overdue, but three PIs have been unresponsive in submitting deliverables.

6. SPECIAL REPORTING REQUIREMENTS

Nothing to report