



**REGION II
UNIVERSITY TRANSPORTATION
RESEARCH CENTER**

PROGRAM PROGRESS PERFORMANCE REPORT

REGION II
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Puerto Rico, Virgin Islands

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Signature: 
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, 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

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This report will cover UTRC's three mission areas: Research, Technology Transfer, and Education for activities that occurred under the Grant# DTRT13-G-UTC32 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

New Projects

Investigation of the Best Practices for the Reduction, Reuse, and Recycling of Vehicle Wash Water for NYSDOT - Stony Brook

- Evaluation of Light Emitting Surface (LES) and Light Emitting Diode (LED) Roadway Luminaire (RPI)
- Effects of a Modified Mowing Regime in NYSDOT ROWs on Pollinators and Vegetation (RIT)
- Biological Control of Invasive Black and Pale Swallow-Worts (ESF)

Ongoing Projects

The following projects continued during the reporting period

- Accelerated Aging of Asphalt by UV-Oxidation (Manhattan College)
- Accommodating Freight in Complete Streets Guidebook (CUNY)
- An Agent-Based Disaster Response Inference Model for Assessment of Transportation Risk under Extreme Events (CCNY)
- An Examination of Commercial Vehicle Access to Residential Buildings in NYC (CUNY)
- Phase 2 Biological Control of Invasive *Phragmites australis* (Cornell)
- Calibration / Development of Safety Performance Functions for New Jersey (NYU Tandon School of Engineering)
- CMAQ Performance Plan (CUNY)

- Connected, Autonomous, and Shared Vehicle Impacts study (CUNY)
- Crowdshipping: Evaluating its Impacts on Travel Behavior (CUNY)
- Deaf and Hard-of-Hearing Drivers: Making the Highways Safer for Everyone (RIT)
- Development of a new connected eco-driving system at signalized intersections with adaptive signal control (NYU Tandon School of Engineering)
- Development of Software for Analysis of Traffic Signal Support Structures (RPI)
- Drone/Unmanned Aircraft System Regulation and Policies in New Jersey
- Dynamic Bus Routing Problem for Evacuation (SUNY Buffalo)
- Investigation of Boundary Pressures and Internal Stresses in Geofoam Blocks (Syracuse)
- LED Roadway Lighting Benefits and Costs Collaboration (RPI)
- NJDOT Traveler Info Application- Route 1 and Route 18 Corridors (SUNY at Albany)
- Securing Inter-Vehicular Networks with Time and Driver Identity Considerations (NYIT)
- Virtual Transportation Management Strategies Demonstration (CUNY)

Completed Projects

The following projects were completed during this reporting period:

- Adaptive Evacuation Transportation Planning Under Uncertainty (SUNY at Buffalo)
- Approach to Blast Resistant Design of Aging Transportation Structures with Little or No Stand-Off Distance (Manhattan College)
- Development of a New, Effective and Low-cost Media for Sustainable Management of Polluted Road Stormwater in Highly Urbanized Areas: Wood Mulch Coated with Aluminum and Iron-Based Water Treatment Residuals (Manhattan College)
- Impact of Optimization Strategy and Adoption Rate of V2X Technology on Environmental Impact (Cornell)
- Improve Congestion Performance Measures via Conflating Private & Public Information Sources (NJIT)
- Investigating Public Opinion Towards Emerging Transportation Technologies and Service Forms (RPI)
- Locating Portable Stations to Support the Operation of Bike Sharing Systems – SUNY at Buffalo)
- Mitigation of Transportation Induced Vibration Using Seismic Metamaterials(SUNY StonyBrook)
- Mobile Bridge Scour Monitoring Using Autonomous Underwater Vehicle (Manhattan College)
- Portable and Integrated Multi-Sensor System for Data-Driven Performance Evaluation of Urban Transportation Networks (NYU)
- Potential Hydrodynamic Loads on Coastal Bridges in the Greater New York Area due to Extreme Storm Surge and Waves (CUNY)
- Road Weather Information Systems for Winter Road Maintenance (Rowan University)
- The Socialization of Travel: The Effects of Traveler Social Networks on Resiliency in Traffic Networks (RIT)

- The Spatial Effect of Socio-Economic Demographics on Transit Ridership: a Case Study in New York (Manhattan College)

Examples of Activity this period

The following are examples of project progress during the reporting period.

NYSDOT-Sponsored

- **LED Roadway Lighting Benefits and Costs Collaboration**

The objective of this project is to validate and understand issues related to the design, installation and performance of light emitting diode (LED) roadway lighting and use this information to help inform practical tariff mechanisms in New York State. The New York State Department of Transportation (NYSDOT) has identified Central Avenue (NYS Route 5), in the Town and Village of Colonie in Albany County, NY as a location where there have been concerns about pedestrian safety (CDTC). LED roadway lighting to evaluate performance will be installed during the next reporting period.

NYSERDA Sponsored

- **Connected, Autonomous and Shared Vehicle Impacts Study**

Connected and automated vehicles (CAVs) and shared mobility transitions are increasingly recognized as having potential to transform energy consumption and mobility dynamics through mechanisms such as improved efficiency, better routing, and lower traffic congestion, and by enabling advanced technologies. This project aims to assess the impacts of self-driving vehicles within and across the state of New York, with emphasis on synergies between automated, shared and electric vehicle transportation transformations. The output will be a final report that summarizes the project activities, findings and results.

The Project team hosted the brainstorming and ‘datathon’ event, “Reinventing Mobility in New York State” on May 11, 2018. The event had approximately 50 participants including CAV-related service providers, manufacturers, government and non-government organizations, researchers, and mobile application developers. A ‘data-thon’ focused brainstorm and strategy session for next steps was designed as a part of the workshop to inform understanding of available data to explore: potential changes in behavior and decisions related to mobility; infrastructure, technology integration and policy concepts; scenarios and analysis to inform pilot ideas; and mobility metrics for rural-suburban-to urban integration synergies for improving service access. A questionnaire was sent to all workshop attendees to explore the roles of multiple institutions, long-term impacts and rates of adoption for informing futures of connected, automated and shared mobility in New York State within the next 5, 10, 15, 20 years. The team also hosted a similar brainstorming event aligning with the NY Upstate APA Conference on October 5, 2018 at Ithaca, NY to generate Upstate perspectives.

- **Virtual Transportation Management Strategies Demonstration**

The project aims to demonstrate a Virtual Transportation Management (VTM) strategy for the City of Mount Vernon, NY. This will include the demonstration of underutilized strategies and policies related to advanced traffic management and integrated corridor management by deploying wireless communication technologies, dynamic video detection and monitoring units, and a cloud-based

ATMS solution. The output will be a final report that summarizes the project activities, findings and results.

Seven test locations have been selected based on the integration with recommended technologies and the cost of equipment. Miovision and Live Traffic Data are the two partners that will be providing the hardware for the selected intersections. The project team has issued the purchase orders to both vendors for the procurement of the selected hardware. All devices have been received by the City of Mt. Vernon. Miovision has successfully installed its devices at four intersections. The devices will be configured for the intersections before data are to be collected for the existing conditions. A training for the platform and the data will be performed by Miovision. Live Traffic Data (LTD) will be installing devices as well at three intersections. Upon installation, devices will be calibrated and integrated for data capture.

NJDOT Sponsored

- **Calibration / Development of Safety Performance Functions for New Jersey**

Motor vehicle crashes have always been a leading safety issue for our highways. To provide data regarding crashes, the Highway Safety Manual (HSM) was published in 2010 by the American Association of State and Highway Transportation Officials (AASHTO), providing a comprehensive approach and a set of analytical tools and methods for the integration of safety into highway planning, design, operations and maintenance.

Because the SPFs provided in the Highway Safety Manual are developed using data from other states, they often cannot be transferred directly to other locations and times. The HSM-based predictive model often needs to be calibrated to capture local state or geographic conditions. Also, accident frequencies for similar facility types can also vary from one jurisdiction to another, since their locations differ in climate, driver population and characteristics, accident reporting threshold, accident reporting practices and other contributing factors. It is therefore important to take strategies to let the SPFs better accommodate local data. This study is undertaken to develop those strategies for New Jersey. Therefore, the main objective of this study is to either calibrate the SPFs provided in the HSM using New Jersey data or develop new New Jersey-specific SPFs for at least twenty different facility types.

During this reporting period, the researchers compiled all of the available databases. The calibration of SPFs for rural two lane intersections and segments, multilane intersections and urban intersections and the development of SPFs for rural and urban intersections have been completed.

- **NJDOT Traveler Info Application- Route 1 and Route 18 Corridors**

The New Jersey Department of Transportation (NJDOT) seeks to develop a hands-free Mobile Application (app) platform to aid travelers by offering travel information that utilizes the data it currently collects from its real-time transportation information systems (bus/train) and includes additional travel related information such as transit and shuttle schedules and availability of parking. Dr. Catherine T. Lawson and her team at the Albany Visualization and Informatics Lab (AVAIL), in partnership with Information Logistics (ILOG), are developing a Mobile Application platform that builds upon ILOG's GeoTalker™ Platform, by integrating travel time and delay related information from the NJ DOT central data fusion engine, parking information from various sources, transit/shuttle

schedule information in real time from NJ TRANSIT and MTA, and utilizes the commercially available real-time routing technology of Google Maps.

Significant work progressed during this reporting period including data discovery, developing specifications based on Best Practices, data processing of parking data from existing software data bases (Parkwhiz and Parkmobile) and from the Rutgers shuttle data (Nextbus). The project team identified all of the data elements from each of the parking and transit APIs for inclusion in the travel app.

- **Drone/Unmanned Aircraft System Regulation and Policies in New Jersey**

Inspection of transportation infrastructures, such as bridges, high mast poles, railroad tracks, etc., is carried out visually and is significantly affected by the access to these infrastructures and traffic control requirements. Unmanned aircraft systems (UAS), commonly called drones or Unmanned Aerial Vehicles (UAVs), operate under remote control without any pilot onboard. Their operation relies mostly through real-time control by humans. Efforts have been ongoing for applying use of UAS in numerous operations including potential for improving the reliability and speed of inspections of bridges, railroad tracks, construction projects, etc. Besides inspection of infrastructures, UAS can also be used for many applications related to infrastructure management.

For this study, The New Jersey Department of Transportation (NJDOT) listed 38 such areas where UASs could improve efficiency of agency activities such as carrying out infrastructure inspection, management and operations. Currently, there is guidance for developing operational programs specific to small unmanned aircraft, associated, with system equipment and operation, but it does not provide a legal interpretation of the regulations. Therefore, the purpose of this study is to conduct an extensive review of the literature. This literature review will focus on several aspects including: UAS Operations, applicable NJ State/Local laws, UAS Regulations, Risk Management and Safety Procedures, review of current NJDOT Aeronautical policies and regulations, and survey of public airports.

Deliverables submitted during this reporting period include a review of current NJDOT aeronautical Policies and Regulations, a survey of public airports and the literature search.

UTRC-Sponsored:

- **Crowdshipping: Evaluating its Impacts on Travel Behavior (CUNY)**

In recent years, direct-to-home deliveries of household and consumer products have grown rapidly, requiring more vehicles carrying smaller shipment sizes to complete increasingly time-constrained movements to disparate destinations. This study explores crowdshipping as a means to reduce inefficiencies and redundancies in these local and last-mile deliveries.

The survey data was collected during the reporting period. Most of the remaining UTRC faculty-initiated projects are nearing completion and are in the final report stage at this time.

b) Education and workforce development

During this period, UTRC accomplished the following:

NYMTC/UTRC September 11th Memorial Program Academic Initiative:

- The New York Metropolitan Transportation Council (NYMTC) established the September 11th Memorial Program for Regional Transportation Planning to honor the memory of Ignatius Adanga, Charles Lesperance, and See Wong Shum, the three employees it lost during the attack on the World Trade Center. The program was established to educate and motivate people interested in transportation technology and planning and to encourage innovations in planning activities throughout the NYMTC region. The Program's Academic Initiative is designed to foster the academic and professional development of students by providing them with opportunities to participate in innovative research and planning projects. It is administered by the University Transportation Research Center (UTRC).

The NYMTC Brownbag final presentation for the 2017-18 internships was held on September 12, 2018. The two interns, Siddharth Shah of NYU/Wagner School of Public Service and Shirin Najafabadi of the Grove School of Engineering at the City College of New York, presented the final results of their research. Shirin discussed methods to encourage the Vertical Integration of Land Use and Planning within the NYMTC planning area and Siddharth discussed the New York City Department of Transportation's updated Vision Zero Borough Pedestrian Safety Action Plans. Additional information is available at [shirin-najafabadi presentation and report](#).

Two students were selected as interns for the 2018-19 academic year. The students are Amirhossein Baghestani, a Ph.D. candidate at the Grove School of Engineering at the City College of New York and Nury-Martinez Gutiérrez, a Master of Science candidate in Sustainability in the Urban Environment at the City College of New York.

c) Technology transfer

Events that took place during this period included:

- **April 16, 2018: Car Free Day – Steps & Strides Towards a Sustainable Future**
UTRC hosted an academic forum to highlight the different ways the city can use its streets. This Earth Day (April 22nd), New York City had its third Car Free Day. UTRC hosted an academic forum on April 16, 2018 at NYIT to highlight the different ways the city can use its streets. Dr. Camille Kamga, Director UTRC/Professor CCNY/CUNY delivered the welcoming remarks. Honorable Ydanis Rodriguez, NYC Council Transportation Committee Chair, delivered the opening keynote speech.
- **April 17, 2018: 2018 Transaction Conference**
UTRC's researchers presented at the 2018 NJ TranAction Conference that took place on April 17-19, 2018. This conference featured 70 workshop sessions specializing in bus, rail, roads, bridges, goods movement, pedestrian/bicycle, paratransit, community transportation, ports and more. The workshop included presentations and a panel discussion with New Jersey experts on autonomous vehicles, from universities, transit and regulators. Topics included: State of the art – Where we are and what's coming in autonomous vehicles, Transit – Disrupting an industry and saving lives, regulatory matters, and Why NJ needs places to test autonomous driving. Camille Kamga from UTRC moderated and

Matthew Daus from UTRC spoke, along with Alain Kornhauser from Princeton University and Jerome Lutin, formerly of NJIT.

- **May 11, 2016 Reinventing Mobility In New York State**

University Transportation Research Center and National Renewable Energy Laboratory organized a workshop on May 11, 2018 at NYIT, supported by a grant from New York State Energy Research & Development Authority (NYSERDA) and New York State Department of Transportation (NYSDOT). The workshop aimed to inform future mobility systems design and reinvention, integrated data modeling, and applied research on the associated impacts to help shape a better future for New York.

- **May 15-16 – 2018 Smart Driving Car Summit**

UTRC co-sponsored this year's 2018 Smart Driving Car Summit, held on May 15-16, 2018 at Princeton University. This annual conference brings together the buyers, sellers and facilitators of SmartDrivingCars, trucks and buses. The purpose of the event is to move past the hype and accelerate the commercialization and deployment of SmartDriving technology so that society can begin to capture its benefits. More information at:

<http://summit.smartdrivingcar.com/>

- **May 16, 2018 –NYMTC's Peer Exchange On Transportation Performance Management Requirements**

The University Transportation Research Center (UTRC) coordinated with the New York Metropolitan Transportation Council (NYMTC) to host a peer exchange workshop on requirements of transportation performance management (TPM). The workshop was held on May 16, 2018 at NYMTC's office. The primary purpose of this workshop was to bring together MPOs from around the nation to discuss how various agencies are planning to meet the recent regulation on TPM (Metropolitan Planning Regulations (23 CFR 450) passed by the federal government to be active after May 27, 2018. Six MPOs (including NYMTC) participated in the workshop, namely, Atlanta Regional Commission (ARC), Capital District Transportation Committee (CDTC), Delaware Valley Regional Planning Commission (DVRPC), Maricopa Association of Governments (MAG), and North Jersey Transportation Planning Authority (NJTPA).

- **ITS-NY 25th Annual Meeting – June 14**

UTRC participated at this year's ITS-NY's 2018 Annual Meeting and Technology Exhibition ITS-NY is celebrating its 25th Year Silver Anniversary! The Conference Theme was ITS Connections: 25 Years and Beyond. Many highly informative speakers and panel sessions addressed transportation issues like; All Electronic Tolling; NYC Connected Vehicles; Natural Disasters, Resiliency, and Emergency Operations; Big Data – The Good, the Bad, and the Beautiful; Technologies for the next 25 years – A Look Ahead; and more.

- **2018 IATR 31st Annual Conference - Philadelphia Regulatory Freedom! – Sept 14**

UTRC participated at the 31st Annual IATR conference, held on September 14-17, 2018 at the Logan Hotel in Philadelphia, PA. The theme of this year's conference was "Regulatory Freedom". The conference was well attended by national and international regulators. For the conference proceedings, please visit www.iatr.global.

- **Joint Tran-set Webinar Series: Transportation Infrastructure Resilience – Sept. 19**

UTRC partnered with the UTC from Region 6, Tran-SET (Transportation Consortium of South Central States) to present on "Transportation Infrastructure Resilience to Extreme Weather Events." Dr. Jon Miller of the Stevens Institute of Technology represented UTRC as he discussed the impacts of sea storms due to climate change, realtime forecasting of flooding, and living shorelines.

Publications

Newsletter

The Summer 2018 newsletter was released during this reporting period. <http://www.utrc2.org/Newsletter>

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:

Approximately 70% of the studies funded under this grant have been completed to date with final reports submitted.

D. Plans for next reporting period:

Final Reports to be submitted

2. PRODUCTS

Final reports, press releases, newsletter, research briefs

3. PARTICIPANTS AND COLLABORATING ORGANIZATIONS

Partner (University)	Agency Sponsor	Location	Project(s) (#funded)	Contribution	Other Collaborators	Role
Clarkson	N/A	Potsdam, NY	Faculty initiated -1(27),	Research		
Cornell	N/A	Ithaca, NY	Faculty- initiated -2 (26) complete, 1 (27)	Research		Research
Cornell	NYMTC	Ithaca, NY	Agency-initiated-1(26)	Technical support		
Cornell	N/A	Ithaca, NY	Agency-initiated-1(28)	Research		
Columbia	N/A	New York, NY	Faculty-initiated 1 (27) 1 (26)	Research	Manhattan	Research
CUNY:						
CCNY	N/A	New York, NY	Faculty-initiated 1(28)	Emerging scholar		
CCNY	N/A		Faculty-initiated-3(27) 1(28) 2(26) complete,	Research	RPI	Research
CCNY	NJDOT	New York, NY	Agency initiated-2	Research		
CCNY	NYSERDA		Agency-initiated -3 (26), 1 (28)	Research	SUNY StonyBrook	Research
CCNY	NYSERDA		Agency-initiated (complete)	tech transfer		
CCNY	NYSDOT/NYSERDA		Agency-initiated	Research	StonyBrook, Maritime	Research, CIDNY
CCNY	NYMTC	New York	Agency	Tech support		
CSI/CUNY	NYMTC	New York	Agency-Initiated-1(27)	Research		
CSI/CUNY	N/A	New York	Faculty-initiated-(28)	Research		

John Jay College	N/A	New York	Faculty-initiated-(28)	Research		
CUNY SPS	NYSAMPO		Agency-initiated	Workforce development		
Manhattan College	N/A	Bronx, NY	Faculty-initiated 3 (26), 1(28)	Research		
Manhattan College	N/A	Bronx, NY	Faculty-initiated-4(28)	Emerging investigator		
NJIT	NYMTC	New York	Agency	Tech-Support		
NJIT	N/A	Newark, NJ	Faculty-initiated 1(27), 1 (28)	Research		
NJIT	NJDOT	Newark NJ	Agency initiated-1(26)	Research		
NYIT	N/A	New York, NY	Faculty-initiated- 1 (26). 1(28)	Research		
NYU	N/A	New York, NY	Faculty- initiated 1-(27) 1 (26)	Research		
NYU		New York	1(27), 1 (28)	Ed/Tech		
NYU/Tandon Sch. Engr.	NYCDOT, NYS DOT, NJDOT	New York, NY	Agency initiated-5	Research, CIDNY	CCNY(1), UB(1)	Research
NYU/Tandon Sch. Engr	N/A	New York, NY	Faculty-initiated (28) 1(26)	Research		
RIT	N/A	Rochester, NY	Faculty-initiated-1 1(28)			
RIT	N/A	Rochester, NY	Fac. initiated. (2) -28	Emerging Invest.		
RIT	N/A	Rochester, NY	Fac. Initiated-1(27)	Edu/Tech		
Rowan University	N/A	Glassboro, NJ	Faculty initiated-, 1 (27), 1 (28) 1 (26)	Research		
Rowan University	N/A	Glassboro, NJ	Faculty-initiated	Ed-tech		

RPI	NYSDOT, NJDOT	Troy, NY	Agency-initiated 2(27),	Research		
RPI	N/A	Troy, NY	Faculty- initiated-1(27), 1 (28) 1(26)	Research		
SUNY:						
Albany	NYMTC NYSDOT	Albany, NY	Agency-initiated-3	Research/ technical support		
Buffalo		Buffalo, NY	Faculty-initiated- 1(27)	Research		
Buffalo		Buffalo, NY	Faculty-initiated 1(27)-2 (28)	Emerging invest		
Buffalo		Buffalo, NY	Fac. Initiated - 2 (28), 1(26)	Educ/tech trans		
Buffalo	NYSDOT/NYCDOT		Agency-initiated 1 (26)			NYU
Binghamton		Binghamton, NY	Faculty-initiated-1	Research		
Binghamton		Binghamton, NY	Faculty-initiated-1(28)	Emerging invest		
New Paltz		New Paltz, NY	Faculty-initiated-1(complete)	Research		
New Paltz	N/A	New Paltz, NY	Faculty-initiated-1(28)	Emerging invest.		
Stonybrook	N/A	Stonybrook, NY	Faculty-initiated-1 (27), 1-(28)	Research		
Stonybrook	NYSDOT/NYCDOT	Stonybrook, NY	CIDNY 2 (26)	Research		
Stonybrook	N/A	Stonybrook, NY	Faculty-initiated(28)-1	Emerging Invest		
Maritime	NYSERDA	Throggs Neck, NY	Agency-initiated-2(26)	Research	CCNY	Research
Maritime	N/A	Throggs Neck, NY	Faculty-initiated-1	Research		
Syracuse	N/A	Syracuse, NY	Faculty -initiated-), 1 (28)	Research		

Syracuse	N/A	Syracuse, NY	1(28)	Ed/tech		
The College of New Jersey	NJDOT	Trenton, NJ	Agency- initiated -1(27)	Research		
The College of New Jersey	N/A	Trenton, NJ	1(28)	Emerging invest.		
University of Puerto Rico	N/A	Mayaguez PR	Faculty-initiated- 1 (27), 1 (26)	Research		
UPR	N/A	Mayaguez, PR	Faculty initiated 1 (28)	Emerging invest		

Agency Partners:

NYSERDA		Albany, NY				
NYMTC		New York, NY				
NYMTC		New York, NY				
NYSDOT		Albany, NY				
NJDOT		Ewing, NJ				
NYCDOT		New York, NY				
Port Authority of NY and NJ		New York, NY				
ITS-New York						
NYSAMPO						

Partners and Location

Partner	Street	City, State, Zip
Clarkson	8 Clarkson Avenue	Potsdam, NY 13699
Cornell	Cornell University	Ithaca, NY 14853
CCNY	160 Convent Avenue	New York, NY 10031
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
NYIT	1855 Broadway	New York, NY 10023
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
SUNY Binghamton	4400 Vestal Parkway East	Binghamton, NY 13902
SUNY Buffalo	12 Capen Hall	Buffalo, NY 14260
SUNY New Paltz		
Stony Brook	100 Nicolls Rd	Stonybrook, NY 11794
SUNY Maritime	6 Pennyfield Avenue	Throggs Neck, NY 10465
Stevens Institute of Technology	9th Street	Hoboken, NJ 07030
Syracuse University	303 University Pl #335	Syracuse, NY 13244
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

Projects by Partner

Partner	Projects					
USC/Volvo						
Clarkson	Alkali Silica Reaction (ASR) in Cement Free Alkali Activated					
Columbia	Characterization and Modeling of Photon Absorption in Asphalt Materials	Understanding Transit Finance: An Analysis of Transit Funding Around the World	Intelligent Wireless Charging for Electric Buses in Smart City			
Cornell	Evaluating the Role of Private Investment in Life Cycle Management of NYS Infrastructure Assets	Analyzing Willingness to Improve the Resiliency of New York City's Transportation System	PPS-AQ and PPS-CMP hosting, maintenance, backup and technical support	Phase 2 Biological Control of Invasive Phragmites australis	Using visual information to determine the subjective valuation of public space for transportation: application to subway crowding costs in NYC	
CCNY	Feasibility of Lane Closures Using Probe Data	Freight Costs at the Curbside	Assessing NJ Transit's Mobile App for Users' Receptiveness	CIDNY Task 2 Develop a multi-agency/multi modal construction management tool	Task 6- Strategic ITS Deployment Plan for New York City	Transportation Infrastructure Robustness: Analysis and Measurement

CCNY Continued	Hunts Point Terminal Market: The Feasibility of Waterborne Transportation	Induced Emissions and Energy Use in Transportation: Use of Social Media Feeds as an IM Support Tool	An Agent-Based Disaster Response Inference Model for Assessment of Transportation Risk under Extreme Events	An Examination of Commercial Vehicle Access to Residential Buildings in New York City	Evaluating the Impacts of Real-Time Information on Subway Ridership in New York City	Potential Hydrodynamic Loads on Coastal Bridges in the Greater New York Area due to Extreme Storm Surge and Wave -
CCNY Continued	Accommodating Freight in Complete Streets Guidebook	Potential Hydrodynamic Loads on Coastal Bridges in the Greater New York Area due to Extreme Storm Surge and Wave	Crowdshipping: Evaluating its Impacts on Travel Behavior-	Activity-Based Approach for the Design of Sustainable Area and Cordon Pricing Schemes	Utilizing Digital Exhaust from Smartphone Applications for Transportation Planning, Continuous Measurement and Market Analysis	NYC Connected Vehicle Deployment Project
	Online Learning Program for Staff of New York State's Metropolitan Planning Organizations	Drone/UnManned Aircraft (UAS) System Regulations and Policies for Use in New Jersey	Virtual Transportation Management Strategies Demonstration	Making Transportation Smart and Sustainable-AV Energy Impacts		

The College of Staten Island	Regional Financing Options Study	Utilizing Digital Exhaust from Smartphone Applications for Transportation Planning, Continuous Measurement and Market Analysis				
Manhattan College	Characterization and Modeling of Photon Absorption in Asphalt Materials	Development of a New, Effective and Low-cost Media for Sustainable Management of Polluted Road Storm-water in Highly Urbanized Areas	A Probability-Based Approach for Assessment of Roadway Safety Hardware	Approach to Blast resistant Design of Aging Transportation Structures with Little or No Stand - Off Distance	The Spatial Effect of Socio-Economic Demographics on Transp. Ridership: A case study in New York	
NJIT	Hosting, maintenance and support for NYMTC PIMS	Feasibility of Lane Closures Using Probe Data	Smart Bus System under Connected Vehicles Environment	Improve Congestion Performance Measures via Conflating Private and Public Information Sources		
NYIT	Traffic Prediction using Wireless Cellular Network	Secure and Private Sensing for Driver Authentication and Transportation Safety	Securing Inter-Vehicular Networks with Time and Driver Identity Considerations			

NYU (includes NYU/Poly)	Development of a new connected eco-driving system at signalized intersections with adaptive signal	Measuring Parking Intrusion in New York City Neighborhoods Using Parking Tickets	CIDNY Task 2 Develop a multi-agency/multi modal construction management tool	CIDNY Task 5 - Develop a Comprehensive Guide to Signal Timing, New Detection and Advanced Signal	CIDNY Task 7 - Research on Pedestrians and Cyclists Safety Using ITS Technology in NYC	
NYU (Continued)	CIDNY Task 8- Develop Data Storage and Access Platform for MTA BusTime Data	CIDNY Task 5- Develop a Comprehensive Guide to Signal Timing, New Detection and Advanced Signal	Public Transit and Mandatory Evacuations Prior to Extreme Weather Events in New York City	Portable and Integrated Multi-Sensor System for DataDriven Performance Evaluation of Urban Transportation Networks -CUSP	Calibration/Development of Safety Performance Function for NJ	
RPI	Investigating Temporal Effects on Truck Accident Occurrence and Severity Level in NYC	Freight Costs at the Curbside	Analysis of Energy Efficient Highway Lighting Retrofits	Optimizing Work Zone Lighting	Developing A Macroscopic Decision Making Tool For Emergency Evacuation Planning	LED Roadway Lighting Benefits and Costs Collaboration
RIT	Building a Sense of Place in an Information Era: Accessibility, Connectivity and Travel	The Effect of Optimization Strategy and Adoption Rate on V2X Technology Environmental Impact	The Socialization of Travel: The Effects of Traveler Social Networks on Resiliency in Traffic Networks			

Rowen	Impact of Polymer Modification on Mechanical and Viscoelastic Properties of Binders	Risk analysis of autonomous vehicles in mixed traffic streams				
SUNY:						
StonyBrook	CIDNY Task 6- Strategic ITS Deployment Plan for New York City	Induced Emissions and Energy Use in Transportation: Use of Social Media Feeds as an IM Support Tool	Self-heated Pavements	Computational Synthesis of High-Performance Non-Pneumatic Tires	Nano-modified geopolymers for concrete infrastructure rehabilitation	Mitigation of Transportation Induced Vibration using Seismic Metamaterials
	Urban Travel Time Variability: Spatio-Temporal Analysis for New York City					
Buffalo	CIDNY Task 5- Develop a Comprehensive Guide to Signal Timing, New Detection and Advanced Signal	Market Potential For Battery Electric Vehicles Based On Multi-Day Activity-Travel Patterns	Heterogeneous Regional Traffic Signal Control	Dynamic Bus Routing Problem for Evacuation,	Educating binational transportation networks, freight movements, and economic impacts	Managing the Daily Operations of Bike Sharing System Using Mobile Stations

Maritime	Hunts Point Terminal Market: The Feasibility of Waterborne Transportation	Spectral Based Controllability-preserving Pedestrian Evacuation Network Synthesis Using Multilayered Estimation Models in Real-time				
Albany	Innovative Travel Data Collection - Planning for the Next Two Decades	Technical Support for Use of National Performance Management Research Data Set	Techniques of Efficient Detection of Rapid Weather Changes and Analysis of their Impacts on a Highway Network			
Binghamton	Disaster Relief Vehicle Routing Under Uncertainty	Adaptive Evacuation Transportation Planning Under Uncertainty				
New Paltz	Simulation of Automated Vehicles Drive Cycles					
Syracuse University	Innovative Techniques for Maintenance, Repair and Reconstruction (MRR) of Asphalt Roadways	A Workshop on Implementation of Asset Management Principles for Local Street Network	Investigation of Boundary Pressures and Internal Stresses in Geofam Blocks			

University of Puerto Rico	Developing generalized linear mixed models for the strategic highway safety planning process	Using Mobile Computers to Automate the Change Order Decision Making Process and Improve Total Time and Cost Predictions on Highway Construction Projects	Activity-Based Approach for the Design of Sustainable Area and Cordon Pricing Schemes			
The College of New Jersey	Worker Safety Issues of WIFI Devices	Improving Cross-Frame Design to Reduce the Effects of Skew in Steel I-Girder	Incorporating Probe Vehicle Data to Analyze Evacuation Route Resiliency			
Agencies:						
NYSDOT	Analysis of Energy Efficient Highway Lighting Retrofits	Technical Support for Use of National Performance Management Research Data Set	CIDNY Task 2 Develop a multi-agency/multi modal construction management tool			
NYSERDA	Hunts Point Terminal Market: The Feasibility of Waterborne Transportation	Induced Emissions and Energy Use in Transportation: Use of Social Media Feeds as an IM Support Tool	Eco-Driving Conference	Virtual Transportation Management Strategies Demonstration	Smart and Sustainable AV Energy Impacts	

NYCDOT	Task 6- Strategic ITS Deployment Plan for New York City	CIDNY Task 5 - Develop a Comprehensive Guide to Signal Timing, New Detection and Advanced Signal	CIDNY Task 7 - Research on Pedestrians and Cyclists Safety Using ITS Technology in NYC	CIDNY Task 8- Develop Data Storage and Access Platform for MTA Bus Time Data		
NJDOT	Assessing NJ Transit's Mobile App for Users' Receptiveness	Optimizing Work Zone Lighting	Worker Safety Issues of WIFI Devices	Drone/Unmanned Aircraft System Regulations & Policies for Use in NJ	Traveler Information Application for RT 1 and 18 Corridor	Calibration/ Development of Safety Performance in NJ
NYMTC	Hosting, maintenance and support for NYMTC PIMS	Innovative Travel Data Collection - Planning for the Next Two Decades	PPS-AQ and PPS-CMP hosting, maintenance, backup and technical support	Regional Financing Options Study		

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.

Impacts are expected from our new research projects as work continues.

5. CHANGES/PROBLEMS

Nothing to Report.

6. SPECIAL REPORTING REQUIREMENTS

Nothing to report