

REGION 2:

UNIVERSITY TRANSPORTATION RESEARCH CENTER

(UTRC)

DRAFT STRATEGIC PLAN

CITY UNIVERSITY OF NEW YORK

Submitted to USDOT, UTC Program

Research and Innovative Technology Administration

Revised: August 7, 2007

TABLE OF CONTENTS

- I. Program Overview
 - A. Glossary
 - B. Center Theme
 - C. Center Director's Summary
- II. Program Activities
 - A. Research Selection
 - B. Research Performance
 - C. Education
 - D. Human Resources
 - E. Diversity
 - F. Technology Transfer
- III. Management Approach
 - A. Institutional Resources
 - B. Center Director
 - C. Center Faculty and Staff
 - D. Multiparty Arrangements
 - E. Matching Funds

Appendix - Baseline Measures

I. PROGRAM OVERVIEW

I-A Glossary

AITE	Advanced Institute for Transportation Education – Region 2 program for graduate scholarships
CAIT	Center for Advanced Infrastructure & Transportation, Rutgers University
CCNY	The City College of New York, a unit of the City University of New York system
CUNY	The City University of New York, the Center's lead institution
CUNY-ITS	The City University of New York Institute for Transportation Systems
EZPASS	The electronic toll collection system used on most toll bridges and toll roads in the northeastern United States
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
MPO	Metropolitan Planning Organization
MTA	Metropolitan Transportation Authority
NJDOT	New Jersey Department of Transportation
NJIT	New Jersey Institute of Technology
NYCDOT	New York City Department of Transportation
NYMTC	New York Metropolitan Transportation Council, a metropolitan planning organization
NYSDOT	New York State Department of Transportation
NYU	New York University
PANYNJ	The Port Authority of New York and New Jersey
RAC	Research Advisory Committee
RF-CUNY	The Research Foundation of the City University of New York, the organization which manages the research funds
RFP	Request for Proposals

RITA	Research and Innovative Technology Administration of USDOT
SUNY	State University of New York
STI	Summer Transportation Institute
UPR	University of Puerto Rico
USDOT	The United States Department of Transportation
UTC	University Transportation Center
UTRC	Region 2 University Transportation Research Center (The Center)
WTS	Women in Transportation Seminar

I-B Center Theme

The theme of this Center is Planning and Managing Regional Transportation Systems in a Changing World.

The Center's theme encompasses three broad components:

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).

Management 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 Metropolitan Transportation Council addressing technical issues and management. UTRC is also part of the national group of UTCs that will develop online leadership courses for the profession as a whole.

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 will partner with leaders in innovation and deployment, especially research labs that work outside the traditional boundaries of the transportation field such as the College of Nanoscale Science and Engineering of the University at Albany (Albany NanoTech). UTRC, through its continuing national leadership on new paradigms in transportation management, will continue 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 will be used to assist regional agencies (e.g., MTA, PANYNJ) 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. For example, the success of EZPass has lowered the barriers for the integration of real time system information. 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 will focus on research, education, and technology transfer initiatives that help advance the state of the practice in planning and management of regional transportation systems. Program focus areas have been identified that combine the diversity of UTRC knowledge, address the articulated problems facing our region, and respond to the UTRC theme. These areas include:

- a. Asset management and modernization
- b. Intelligent structures
- c. Advanced traveler guidance systems
- d. Advanced real-time traffic simulation
- e. Intermodal freight policy, planning, and logistics
- f. Economic and behavioral models and analysis
- g. Transportation and land use
- h. Safety
- i. Planning and management responses to security and environmental risks
- j. Building a 21st Century workforce

These areas are well-aligned with the strategic objectives of USDOT and its operating administrations as discussed in greater detail below. In addition, several of these areas are responsive to the USDOT's high-priority initiatives of Advanced Research and Congestion Chokepoints. The strategic objectives of the U.S. Department of Transportation and its administrations have been identified in three key places:

- The National Highway Research and Technology Partnership (*Highway Research and Technology: The Need for Greater Investment*, April 2002)
- The National Research and Technology Program of the Federal Transit Administration
- The U.S. Department of Transportation Research, Development, and Technology Strategic Plan: 2006-2010

UTRC's programs strongly support the objectives described by these documents. Table 1 identifies how UTRC's focus areas align with the key goals of each:

Table 1. Relationship of UTRC focus areas to USDOT objectives

UTRC Focus Area	National Hwy Research & Technology Partnership: Research Areas and Crosscutting Topics	FTA National Research and Technology Program Objectives	USDOT Research, Development, and Technology Plan Goals
1. Asset Management and Modernization	“Infrastructure Renewal – Asset Management & Pavements”	“3.4 Improve transit infrastructure maintenance”	Reduced Congestion
2. Intelligent Structures	“Infrastructure Renewal – Structures” (Information and Automation)	“4.3 I improve transit emergency preparedness”	Security, Preparedness and Response / Reduced Congestion
3. Advanced Traveler Guidance Systems	“Operations & Mobility” (ITS, monitoring facility performance, relationship between information and traveler behavior)		Reduced Congestion
4. Advanced real-time traffic simulation	“Operations & Mobility” (ITS, monitoring facility performance, relationship between information and traveler behavior)		Reduced Congestion
5. Intermodal freight policy, planning, and logistics	“Policy Analysis, Planning, & Systems Monitoring” (Goods movement planning); “Operations and Mobility (Intermodal interfaces)		Reduced Congestion
6. Economic and behavioral models and analysis	“Policy Analysis, Planning, & Systems Monitoring” (Economic and demographic interactions, link between investment and benefits)	“2.1 Identify best practices and technologies to increase transit ridership”	“Global Connectivity” and Reduced Congestion
7. Transportation and land use	“Planning and Environment” (Land Use)	“2.1 Identify best practices and technologies to increase transit ridership”	Reduced Congestion
8. Safety	“Safety” (Driver Competency, High-Risk Driving, Lighting, Work Zones, Ped & Bike Safety, Post-Crash Management)	“4.1 Identify solutions to improve transit safety”	“Safety”
9. Planning & mgmt. responses to security	“Transportation Security” and “Planning &	“4.3 Identify solutions to improve transit	“Security” and “Environmental

& environmental risks	Environment”	emergency preparedness”	Stewardship”
10. Building a 21 st Century workforce	“Workforce Training”	“3.5 Improve the capacity of the transit industry and workforce”	Reduced Congestion

A cross cutting element of the USDOT Strategic Plan concerns preparing the transportation workforce to plan and manage the complex transportation systems of the next decades. It is impossible for new students in Region 2 to be isolated from transportation system events that have an impact on their daily lives. Many students in graduate, undergraduate and certificate programs are also employed by agencies that work on regional problems; simultaneously, these agencies, as well as firms and stakeholder groups demand training concerning modern transportation planning, policy, operations, technology, management, finance and social impacts. UTRC provides through its programs a dynamic, real time link between state of the art theory and current and evolving concerns of actual practice.

UTRC’s network of more than 150 participating faculty stands ready to work with its public sector partners on topics of strategic interest. But the above focus areas represent the topics on which UTRC will concentrate its cooperative program development efforts.

I-C Center Director’s Summary

Center Director’s Summary. The vision of The University Transportation Research Center (UTRC) is that UTRC will serve as the regional source for preparing new professionals for the twenty first century transportation workplace; and, as important, provide the tools and setting for practicing professionals, and key stakeholders to understand and address these changes as they plan and manage the region’s complex transportation systems.

The vision and the challenge: Region 2 faces enormous transportation challenges. Among them are the need to replace, upgrade or modernize billions of dollars of infrastructure; the need to upgrade its port to world class standards; the enormous need to improve rail-truck movements and reduce the cost of moving goods in the region; the urgent need to contain sprawl and meet air quality standards; and the cross cutting need of changing institutional culture to define and solve these challenges. In the period 2007-2010 Region 2 must address the problems of growth – congestion, environment, equity, energy use, economic sustainability and quality of life; these problems must be addressed at a time when there are enormous environmental challenges. And they come at a time when every transportation plan or investment must consider security. There is not one single organization that can address all of these problems in their enormity and complexity. Even a University Consortium such as UTRC, with the richness of faculty of all disciplines and students of boundless energy, can deal only with selected aspects of such problems. UTRC will focus on enriching Region 2 human resources—enabling our professionals and citizens to get their arms around such seemingly intractable regional problems and have confidence in the decisions they will make.

The vision of the University Transportation Research Center (UTRC) is that:

1. UTRC will serve as the regional source for preparing new professionals for the 21st Century transportation workplace; and will provide the tools and setting for practicing professionals, and key stakeholders to better understand and address emerging changes as they plan and manage the region's complex transportation systems. The Center will provide both innovation and continuity in transportation theory and practice; advance long-range and multi-disciplinary perspectives; and act as unbiased evaluators of problems and issues facing the regions and the nation. In doing so, UTRC recognizes that the tools of instruction, from classroom to on-line, must be as innovative and relevant to the user as are the new technologies being addressed.
2. UTRC forges partnerships among universities, public agencies and the growing cadre of transportation related private sector firms and entrepreneurs to address Region 2's transportation needs. It promotes collaborative interdisciplinary and inter-campus partnerships that foster research, education, and training in all transportation-related fields, and that assist the public sector with its research, training, and strategic policy development needs. Central to this vision are efforts to break down barriers to research, cooperation, and innovation in the transportation field, by fostering partnerships across intellectual fields, across academic institutions, and across the university-government-private sector divides.
3. UTRC, a consortium of academic institutions, will integrate the long term strategic perspective characteristic of universities with the critical, often immediate needs of transportation agencies and professionals in the region and nationally. It will do so recognizing that the changes in the operations and delivery of transportation systems are dynamic, fostered by the rapid integration of new technologies. The UTRC vision is to be a partner with private sector innovators and, simultaneously a partner with the agencies adopting new tools to address critical problems such as congestion, environmental strains and security. UTRC must respond to the needs of a new set of regional transportation leaders in forming agency-university committees, task forces and commissions.
4. A key measure of success is seeing ideas generated from research – or transmitted through education and technology transfer programs – implemented in the solution of critical transportation problems.

Details of the vision. UTRC will realize this vision through multi-university education, training, and research programs that build on traditional strengths and develop into emerging areas; through a strategic planning process tied to performance measures; and by creating a lasting legacy. Success will be measured by implementation of ideas – from research, technology exchanges and from the work of our graduates.

Region 2 serves as a global headquarters for multinational firms and non-governmental organizations; it also serves to attract major transportation firms and entrepreneurs, and has public agencies staffed by highly trained professionals. Yet the large size of these agencies and

firms means that professionals can easily become tracked into very narrow areas of specialization. Global competition demands that these professionals stay current, and add skills as new technologies and multi disciplinary approaches to management and operations become available. It is in this demanding milieu that the Region 2 UTC must accomplish its vision of educating and training professionals and other transportation stakeholders.

UTRC will build on its role as a regional and national leader. In its education programs, UTRC will train undergraduates and graduates, stimulate high school students, and provide training and workforce development to practicing professionals and those interested in dealing with transportation problems. In its research programs, it will add value to the co-funding agencies and develop the cutting edge of research through well-coordinated multi-disciplinary projects and through the addition of new private sector partners such as those involved in nanotechnology and photonics. UTRC's programs are closely aligned to both USDOT's strategic objectives and regional needs. The UTRC theme, "Planning and Managing Regional Transportation Systems in a Changing World," focuses programs on challenges such as congestion and the environment, funding, technology integration, system operations and workforce development. The diversity of UTRC's faculty enables it to put strong teams in place to address each of these issues. UTRC will enhance its transfer of knowledge in multiple ways. It will continue its informal "brown baggers" at agency conference rooms, and its seminars, public meetings, and regional forums. It will also disseminate information through the web, newsletters, journal publications and reports at technical meetings. And it will place a new emphasis on assisting the public sector with the implementation of research results.

Achieving the vision. The universities that form the UTRC consortium have a strong track record of cooperating to implement this vision, and have developed a reputation for being able to deliver on these objectives. UTRC will maintain the tradition of setting a standard for excellence in terms of the number and quality of its peer reviewed research products, the number of students and professionals it is able to reach with educational and training programs, and the degree of innovation with which it assists its public sector partners. UTRC members will be seen as key participants in State and Local Commissions, Task Forces and Committees.

By the end of the grant period, UTRC will achieve successes in three areas:

First, UTRC will develop new programs under the proposed grant period that emphasize its traditional strengths and build new capabilities. UTRC's programs in education, research, and technology transfer are discussed in Section D below. In addition, through new initiatives, UTRC will:

- Provide increased support for research by junior faculty -- an emerging issues research competition will also be held among junior faculty who, at the end of the grant period, will be leading their generation of transportation professionals.
- Increase funding support for doctoral students, linked to dissertations addressing regional and national issues.

- Develop innovative strategies (both technological and institutional) to help public agencies implement and integrate research results into planning and operations.
- Foster new partnerships with the private sector and advanced technology research centers so that nanotechnology, laser optics, information technology and other technologies can be more rapidly and effectively applied and adopted in the transportation industry.
- Encourage and promote new national research partnerships with other UTCs around the country to address complex national problems (e.g., freight movement and congestion).

Second, UTRC will form partnerships at the agencies it serves and collaborative relationships with the private sector to bring innovative ideas and practices to solve the region's costly and continuing transportation problems. UTRC will encourage these partners to look toward the universities for problem-solving, policy advisement, and assistance with training, education, research and technology transfer.

Third, UTRC will leave a continuing legacy at each of the participating universities. Strong academic programs and dedicated faculty lead to motivated students, and ultimately a better work force. UTRC will enable its members to continually improve their transportation capabilities through the enhancement of their junior faculty members' prospects for tenure and obtaining research funding, the building of stronger transportation research centers and educational programs, the fostering of greater institutional support for smaller transportation programs from their university administrations and the greater inclusion of diverse disciplines to deal with complex 21st Century transportation problems.

Success will be measured by the performance of graduates and retrained staff at the workplace and the quality of planning and management decisions they make; the degree to which UTRC has been successful in the implementation of research findings and recommendations; the ability of consortium members to expand their transportation programs, advance their junior faculty to tenure, and compete for high-quality graduate students; and the extent to which the results of research and the emerging ideas that are reshaping transportation practice are presented in the classroom. And, collectively, UTRC will measure success in contributions made towards meeting USDOT strategic objectives.

Where will we be in five years? The test will be in the performance of graduates and retrained staff at the workplace and the quality of planning and management decisions they make. A measure of our success will be an increase in the support by our customers and partners for our programs and for the products of our programs and the use of these programs on a 24-hour per day basis. Our partners, state, regional, federal agencies as well as private organizations, will provide support to sustain UTRC on an ongoing basis.

II. PROGRAM ACTIVITIES

II-A Research Selection

Research Selection Goal: An objective process for selecting and reviewing research that balances multiple objectives of the program. The main objectives of the research selection program are to define, develop and implement a theme based research program that maintains a strategic focus while remaining responsive to the needs of the UTC program, the region, and our partner agencies.

1. Baseline Measures.

To establish the point from which progress will be measured with respect to the Center's research selection program, information about the research projects for the grant period is provided as Baseline Measures 1 and 2 in Appendix A.

2. Research Selection Program Outcome.

The main objective of the research selection program is to devise, implement, and institutionalize an objective process for selecting and reviewing the research projects that meet the goals of UTRC and UTC program requirements. Selection of the research projects will be based on sponsors' interests, thematic relevance, modal balance, regional needs and national priorities, basic and applied research needs, student, faculty and research staff involvement, project size and complexity.

The critical part of the research selection program will be the competitiveness and the peer review of all research projects either initiated by public agency partners through the issuance of RFPs or by faculty through the UTRC Research Initiative program. These peers include members of academic institutions from outside Region 2, members of sponsoring agencies, members of the Research Advisory Committee, members of USDOT, including both offices of the New York and the New Jersey Division Administrator of FHWA, and the office of the Regional Administrator of FTA.

3. Planned Activities.

Required Activities.

The procedure for selection of projects is conducted by identifying and reviewing potential projects that are relevant to the UTRC Theme, and consistent with the priorities set in the USDOT Strategic Plan. UTRC has two key processes for the selection of research projects.

A.3.1. Agency-initiated research. The majority of UTRC's projects arise directly out of the needs of the region's public agencies. We take great pride in running an open, transparent, and competitive process that encourages the participation of new players. We see this process as essential to maintaining the trust and support of such a large consortium of universities and array of research partners. The steps in this process include:

- a. A sponsoring agency issues an RFP for a specific research project. Upon receiving the RFP, UTRC reviews it for clarity and appropriateness for a university consortium. In most cases, the RFPs are well defined statements of the work that needs to be completed. Occasionally, however, the work products or objectives of the project are poorly defined, in which case UTRC staff provide recommendations to the issuing agency for how the RFP could be refined to improve the relevance of proposals received.
- b. UTRC circulates the RFP to its entire network of Principal Investigators (now over 150 faculty members at the 12 member institutions) by email and by posting a notice on its website. In cases where a project requires specialized expertise not necessarily found within our network of self-identified transportation researchers, such as a project examining the impact of roads on natural ecosystems, we take the extra step of sending the announcement to all relevant university departments in our consortium.
- c. After all proposals are received, UTRC reviews the proposals to ensure that their budgets meet UTRC criteria and use equivalent assumptions. UTRC then forwards the proposals to the sponsoring agency.
- d. The sponsoring agencies conduct their own, internal processes for selecting the winning proposal. Our major partners, the New Jersey and New York Departments of Transportation (and the agencies they support, such as New Jersey Transit and the New York Metropolitan Transportation Council) have very strict procurement procedures that involve prohibiting contact between the time of RFP issuance and proposal selection; extensive internal review of proposals; and separation of the proposal review team from the unit in the agency requesting the project.

A.3.2. Faculty-initiated research. UTRC is working to develop a range of other programs to support faculty-initiated research. The flagship program is the UTRC Research Initiative, which is similar to the NCHRP and TCRP IDEAS programs, and seeks to stimulate new ideas and their implementation. The selection process for this program works as follows:

- a. UTRC issues an annual Request for Proposals, defining the objectives and rules for the UTRC Research Initiative. Proposals considered for support are required to identify matching funds or in-kind contributions from their own institutions or elsewhere to match the UTRC available funding. Collaborative proposals from multiple institutions are encouraged.
- b. Proposals will be sent for peer- review by researchers at the nine other regional UTCs, and by practicing professionals at agencies within Region 2. The proposals will be accompanied by scoring forms that list criteria for selection and the Center mission and priorities. The proposals are evaluated on the quality and originality of the proposed research plan, the relationship to the USDOT strategic plan, the agency and industry interests, the academic and scientific merit, relevance to Region 2's needs and UTRC's Theme, and the degree of student involvement.

- c. Reviewers' scores are compiled and submitted by UTRC staff to the UTRC Research Advisory Committee. The RAC will deliberate and recommend research projects for approval to the Director who will make the final decision for funding.
- d. UTRC reach out to public agency partners to assess their interest in selected projects, to determine if they would like to contribute funding to enable the scopes of these projects to be expanded. In the past, this program has stimulated strong interest by regional agencies, which have in some cases provided support for projects selected through this process.

Other Activities.

Beyond administration of the above project selection processes, UTRC engages in a wide range of strategic programs designed to foster the development of new research ideas and partnerships in Region 2. These programs will support national transportation needs by addressing high-priority areas identified by USDOT and its Operating Administrations. These programs include:

A.3.3. Advanced Technology Initiative. UTRC is developing a program focused on innovative technologies with applications in the transportation field. UTRC is building relationships with several advanced technology centers in the region – including the New York State Center for Advanced Technology in Photonics Applications at CUNY, the Center for Advanced Technology in Nanomaterials and Nanoelectronics at SUNY at Albany, and the Lighting Research Center at RPI – whose function is to form university-private sector partnerships aimed at developing and commercializing innovative technologies. UTRC will lend its expertise in working with public agencies that build and operate transportation infrastructure to open channels for discussion of how these emerging technologies can be applied in the transportation arena. UTRC will convene a new Entrepreneurs Advisory Council to advise and guide its efforts to generate creative new partnerships for the research and commercialization of advanced technologies in the transportation field.

In the selection of projects to fund, the Advanced Technology Initiative will operate in a manner similar to the Faculty-initiated research described in A.3.2 above. The aim of the program will be to fund University-based projects that develop and demonstrate new technologies in the transportation field. To date, the program has funded a pilot initiative – the development of field-mobile petrochemical contamination sensors to facilitate faster and lower-cost site assessments for highway construction projects.

A.3.4. Region 2/Region 9 Freight Research Initiative. Region 2 is developing a special partnership with Region 9 to promote innovative, collaborative research on freight issues in the nation's two leading port regions. The partnership will involve two regional UTCs (UTRC in Region 2 and the University of California Transportation Center in Region 9) as well as two Tier I UTCs (the Center for Advanced Infrastructure and Transportation at Rutgers University and the METRANS Transportation Center at the University of Southern California and California State University, Long Beach). The initial purpose of the initiative will be to bring together the leading researchers on freight issues in the two regions, along with their counterparts at state and regional transportation agencies and the port authorities, to develop a shared agenda for research and collaboration. Among other topics, this effort will address how public policies can support

sustainable freight logistics strategies, as well as how to address freight-related congestion issues in the regions.

A.3.5. Agency outreach. UTRC staff work closely with public agencies in Region 2, both to understand their needs, and to help them formulate research problem statements. When the nature of problems faced by agencies is complex, UTRC works with agency staff over an extended period of time to develop appropriate problem frames and methodological approaches that can later become the basis for agency-generated research projects.

A.3.6. Research Conferences. To ensure that the Center's research program is responsive to national and regional needs, formal meetings and a research conference will be held to update the research agenda, discuss research results, and evaluate the effectiveness of the program. The highlight of these exchanges will be the Bi-annual Research Conference, which will bring together top technical and managerial staff from all major transportation agencies and other sponsors, faculty from the 12 member universities, and high-level managers of national transportation programs. At the Research Conference, high priority regional concerns and proposed research initiatives will be identified.

A.3.7. Research Focus Teams. The Center will begin to develop collaborative Research Focus Teams consisting of faculty drawn from throughout the UTRC consortium. The purpose of these teams will be to promote dialogue among the universities and transportation professionals in the region by developing consensus statements of research needs, educational and curriculum development projects, and technology transfer initiatives in collaboration with the region's public agencies. The initial list of research focus groups we will establish include:

- a. Asset management and modernization.
- b. Intelligent structures.
- c. Advanced traveler guidance systems
- d. Advanced real-time traffic simulation
- e. Intermodal freight policy, planning, and logistics.
- f. Economic and behavioral models and analysis.
- g. Transportation and land use.
- h. Building a 21st Century workforce.
- i. Safety.
- j. Planning and management responses to security and environmental risks.

4. Performance Indicators.

UTRC staff and designated Principal Investigators will compile data to meet requirements of Performance Indicators 1 and 2 as set forth in Exhibit A of the UTC Reporting Requirements. Also, the Associate Director for Administration and Assistant Director for Program Management will prepare and submit appropriate financial reports on the research activities.

II-B Research Performance

Research Performance Goal: an ongoing program of basic and applied research, the products of which are judged by peers or other experts in the field to advance the body of knowledge in transportation. UTRC will seek to ensure that its research reflects the highest academic and professional standards, and to the extent feasible, produces outcomes that clearly specify how the lessons learned in the research can be implemented in practice.

1. Baseline Measures.

The information about the number of published research reports and the number of papers presented at academic/professional meetings is provided in Baseline Measures 3 and 4 of Appendix A.

2. Research Performance Program Outcome.

UTRC's main objectives with regard to research performance are to:

- a. Ensure that UTRC-funded research is conducted at the highest standards of academic and professional practice.
- b. Ensure that externally-funded research is conducted in close cooperation with sponsoring agencies.
- c. To ensure the efficient completion of projects, so that faculty have the time needed to develop the results of their research into publishable papers and conference presentations.

Region 2 UTRC will conduct both basic and applied research, the products of which are judged by peers or other experts in the field to advance the body of knowledge in transportation.

By the end of the current funding cycle, we will have procedures in place to ensure that research teams maintain closer contact with their sponsors, so that they can detect and resolve any potential conflicts or differences of vision as early as possible.

3. Planned Activities.

Major elements of UTRC's program to ensure a high quality of research performance include the following:

B.3.1. Project Oversight and Monitoring. All research will require an active and involved external project manager and periodic briefings. PIs will be responsible for a timely and high quality approach to their work as specified upon award of the research project. Each agency-sponsored research project will have a project manager based at that agency, who will meet with Principal Investigators on a quarterly basis. Each faculty-initiated project will be managed by a person on the technical staff of UTRC or a regional agency with expertise in the subject area.

Each Principal Investigator will be responsible to brief not only the prime agency supporting the work, but all interested organizations in the region.

B.3.2. Conflict Prevention and Resolution. One challenge in linking university faculty and agency professionals is that while both may agree on research needs and methods, there may occasionally be differences of opinion about the nature or content of the final product. Ideally, these conflicts would be detected and resolved in the initial proposal and post-proposal negotiation stages of the project development process. But differences that may not have been apparent early on can emerge while research is in progress: faculty may feel compelled to focus the work that addresses the demands of peer reviewed publications, or factors related to the tenure process; and agency staff may become constrained by political considerations outside their control. When this happens, the research project may become stalled. Building on its long-time experience anticipating and avoiding these problems, UTRC will continue to use its quarterly monitoring of research progress to detect and resolve these situations before they can derail a research project. This will help ensure that projects reach a conclusion satisfactory and useful to all parties.

B.3.3. Implementation. All proposals responding to agency RFPs will include an implementation component, which the sponsoring agencies can decide whether to fund upon completion of the project's final report. Principal investigators will propose ways to extend their research results in ways that can assist sponsoring agencies with implementation efforts. The nature of this implementation phase will vary according to the type of project and the agency's needs, but can range from organizing a seminar or workshop at the agency's offices to the development of a step-by-step plan for how the agencies might adopt a new practice.

B.3.4. Emerging Investigators Program. UTRC has traditionally worked to assist junior faculty at its member institutions to learn to write competitive research proposals and to develop relationships with funding agencies. Beginning this cycle, UTRC will also establish a new program to help fund exploratory research being done by junior faculty. This program would support faculty with the rank of Assistant Professor throughout the UTRC Consortium on a competitive basis. Assistant Professors will apply for a small (\$5,000) grant to develop a white paper on an emerging transportation issue of their choice. The resulting papers will be peer-reviewed by people outside of Region 2. Each year, the authors of the best one or two papers would receive a grant to serve as Principal Investigator for a year-long study on their topics.

B.3.5. Peer Review. All UTRC research projects are subject to external peer review. Agency-funded projects are reviewed by the sponsoring agency and any other reviewers they care to consult with. Faculty-initiated research is reviewed by external faculty designated by the UTRC Executive Director, as well as the peer-reviewed journal that the resulting papers are submitted to.

B.3.6. Research Dissemination. All research will be reported and disseminated through the production of 1-page Research Briefs, articles in the UTRC newsletter, announcements in the weekly TRB Research email, and through the UTRC website, and the Research in Progress database. As appropriate, UTRC will also organize seminars for the staff of regional agencies.

4. Performance Indicators.

UTRC staff and designated Principal Investigators will collect data to meet requirements of Performance Indicators 3 and 4 as set forth in Exhibit A of the UTC Reporting Requirements.

II-C Education

Education Goal: A multidisciplinary program of course work and experiential learning that reinforces the transportation theme of the Center.

1. Baseline Measures.

To establish the point from which the progress will be measured with respect to the Center's education program, information about the transportation curriculum at City College is provided in Baseline Measures 5 and 6 of Appendix A. The information in the Appendix A includes: lists of undergraduate and graduate courses, data on student enrollment, and student involvement in transportation research projects for the twelve schools in the UTRC consortium.

2. Education Program Outcome.

The primary educational objective of the Center is to develop an educational program that will enable current and future transportation professionals and researchers to be responsive to changes in the transportation field. The program is aimed at both students who are just entering the transportation arena and at professionals already working in transportation. At the end of the grand period, UTRC will be training and educating 215 persons annually.

3. Planned Activities.

C.3.1. Multidisciplinary Coursework. The Center will expand upon its multidisciplinary course work by the continuous reassessment of the needs of transportation professionals and an evaluation of how well the curricula of the consortium schools meet regional needs and state of the art knowledge. This will be done through frequent discussions with regional agencies and faculty meetings. For example, within the City University of New York system, UTRC is working to build stronger links among engineering, planning, economics, and geography in order to provide a more comprehensive and broadly available transportation program.

C.3.2. Student Participation. Students will be involved in transportation research through required student projects and roles in Center research projects. All full time students receiving Advanced Institute for Transportation Education Scholarships will be required to participate in a research project and to present their work to their peers and the transportation faculty. All students involved in the September 11th Memorial Program will be required to conduct an independent research project, or undertake an independent professional project at a transportation agency in the region. In addition, all projects funded through the UTRC Research Initiative are required to make research opportunities available for students.

C.3.3. Student of the Year. Each consortium institution will have the opportunity annually to choose a student for an outstanding student certificate. The consortium representatives will select, using appropriate criteria, the best student to receive a \$1000 award and the costs for the student to attend an award ceremony in Washington, DC, during the annual winter meeting of the Transportation Research Board (TRB).

C.3.4. Curriculum Development. Through its research focus groups, UTRC will assist its member universities to evaluate how their curricula might better meet regional needs and state of the art knowledge on topics of emerging interest. As appropriate, curricula workshops will be held and proceedings circulated to have broad reach for this important discussion. One of the objectives of the committee is to address educational objectives that have been identified as important both regionally and at a national level.

4. Performance Indicators.

The data from registrar and alumni offices of each consortium school will be compiled annually to meet requirements of Performance Indicators 5 and 6 as set forth in Exhibit A of the UTC Reporting Requirements.

II-D Human Resources

Human Resources Goal: An increased number of students, faculty and staff who are attracted to and substantially involved in undergraduate, graduate, and professional programs of the Center.

1. Baseline measures.

The information about the number of students at the City College and the number of students in transportation programs at the master's and doctoral is provided in Baseline Measures 7, 8, and 9 of Appendix A. UTRC institutions offer nine Master programs and seven Ph.D. programs in transportation-related areas (CUNY, SUNY, Rutgers, Cornell, RPI, Polytechnic, and University of Puerto Rico)

2. Human Resources Program Outcome.

There will be a continuous pipeline from high school through doctoral transportation programs and professional technical workshops and seminars to attract young people into careers in transportation and to provide the means for transportation professionals to continuously upgrade and extend their knowledge and abilities. The intent of the pipeline and seminars is to increase the number of students and professionals involved in the field of transportation. Better quality programs will attract more students. Increasing student demand will, in turn, create the need for new faculty. The UTRC programs as a whole will provide incentive for new faculty to participate in the programs. The Center's transportation education and training programs will be known to both UTRC Consortium members and transportation agencies and firms as the regional transportation education resource.

3. Planned Activities.

D.3.1. Summer Transportation Institute. The Center will also provide partial support for the ITS Summer Transportation Institute at CCNY, a four week summer program on transportation for high school students in the New York City school system, which will involve field trips to transportation related sites, computer workshops, four days a week internships at transportation agencies, college and career guidance. The students will study land, air, and water transportation systems.

D.3.2. AITE Graduate Fellowships. The Advanced Institute for Transportation Education program will offer ten fellowships per year to graduate students in consortium transportation programs. The undergraduate scholarships will allow talented students to pursue either a traditional civil engineering degree leading to a graduate transportation program or an undergraduate program in a related field (e.g., planning, public administration) tailored to transportation. The graduate scholarships will attract both bright students finishing up bachelor degrees and working transportation professionals who want to expand their transportation expertise. Approximately half of the recipients will be employees of regional agencies, and will receive release time to enable them to continue working while pursuing their studies.

D.3.3. NJDOT Student of the Year. Each year, a student involved in a UTRC research project co-sponsored by the NJDOT is recognized by the Department during the NJDOT Annual Research Showcase.

D.3.4. WTS fellowship. Each year, UTRC will provide a \$1,000 fellowship in partnership with the Women's Transportation Seminar of Greater New York.

D.3.5. September 11th Memorial Program for Regional Transportation Planning. The New York Metropolitan Transportation Council established this program to honor the memory of three employees who died during the attacks 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. UTRC co-sponsors and administers the program's Academic Initiative, which funds innovative research and internships by graduate students throughout Region 2.

D.3.6. AITE Dissertation Year Fellowships. UTRC plans to launch a new program aimed at assisting outstanding students who have advanced to candidacy and are beginning their dissertation work. Students selected for this competitive program will receive one year of funding support.

D.3.7. Icon Mentor Program. Region 2 is rich in professionals who have devoted their careers towards advancing transportation theory and practice. UTRC will designate a prominent professional to serve as an Icon Mentor, to meet with students and faculty at each institution and, literally, give out pearls of wisdom. The current Icon Mentor is Herbert S. Levinson, a planning innovator and member of the National Academy of Engineering.

D.3.8. Distance Learning. UTRC will work with the nine other regional UTCs to develop a cooperative distance learning program featuring for-credit courses taught by leading transportation educators from across the nation.

D.3.9. Professional Training. The demand for training and retraining has increased significantly over the past five years and will be a focus of UTRC in the years to come. In partnership with the NYMTC, UTRC will develop a professional training program addressing both technical and management skills. Courses will emphasize new paradigms and technologies in transportation system planning and management, as well as the development of general professional skills.

D.3.10. Transportation Worker Training. UTRC will continue its cooperation with Transit Workers Union Local 100 and other labor unions to provide career ladder training on the impact of new technologies on operations.

4. Performance measures.

The Center will collect enrollment figures from consortium schools and from the training and other educational programs that it supports to meet requirements of Performance Indicators 7, 8, and 9 as set forth in Exhibit A of the UTC Reporting Requirements.

II-E Diversity

Diversity Goal: Students, faculty and staff who reflect the growing diversity of the US workforce and are substantively involved in the undergraduate, graduate and professional programs of the Center.

1. Baseline Measures.

Because of privacy concerns raised by grantees who received UTC Program grants in prior years, RITA no longer requires the collection of performance measurements regarding diversity.

2. Diversity Program Outcome.

Perhaps the most important resource that the City University of New York (CUNY), the lead institution, brings to the Center is its highly diverse student body. CUNY is home to students deriving from over 125 countries outside the U.S. It reflects the current population dynamics of Region 2.

The lead institution will continue to seek out and train minority, women and new immigrant populations for careers in transportation. At the end of the grant period it is envisioned that a large number of these students will have moved into major management positions and other leadership positions in transportation agencies and firms.

To further this vision, UTRC will increase, on a yearly basis, the number of students who intern at agencies and firms and who gain “workplace training” in addition to their formal classroom training. The Center will work with Community Colleges to alert them to opportunities at UTRC, will work with labor unions to attract students to training programs, and will use meetings with the Advisory Committee to discuss diversity targets.

The faculty, staff, and student body will continue to take advantage of the diversity at the lead institution and the Center will continue to be active in attracting minorities and women to transportation and to the educational program.

3. Planned Activities.

E.3.1. Professional Organizations Support. UTRC will support the scholarship activities of minority professional associations, including Conference of Minority Transportation Officials, and Women in Transportation Seminar. Through the University of Puerto Rico, we will also work with Hispanic groups such as Association of Colleges and Universities and Society for Hispanic Professional Engineers. We will also seek to work with Historically Black Colleges and Universities, National Society of Black Engineers, Society of Women Engineers, Latin American Engineering Student Association and the Association of Dominican Engineers.

E.3.2. Recruitment. The Center will recruit through personal visits, brochures, forums, and website from groups with a high proportion of minorities and women and will ensure that the programs provide a supportive atmosphere for both groups. Minorities and women will be sought out and encouraged to apply for the applicable scholarships.

II-F Technology Transfer

Technology Transfer Goal: Availability of research results to potential users in a form that can be directly implemented utilized or otherwise applied.

1. Baseline Measures.

Current data on technology transfer activities is shown in Baseline Measures 10 and 11 of Appendix A.

2. Technology Transfer Program Outcome.

The main objectives of the Technology Transfer program are: (1) to increase the awareness and level of information concerning transportation issues facing Region 2 for all within the region; (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 levels of managing the system; 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 dissemination of research and project reports, studies, analysis and use of tools to the education, research and practicing community; (5) to provide unbiased information and testimony to decision-makers concerning regional transportation issues consistent with the UTRC theme. By making partners and stakeholders more aware and better concerned on issues relating to the UTRC theme, the Strategic Goals noted in the above sections will be addressed.

3. Planned Activities.

UTRC's Technology Transfer Program goes beyond what might be considered "traditional" technology transfer activities. The Center will continue its Technology Transfer Program—one of the most broad-based and successful outreach programs in Region 2—and will continue to increase its recognition as a regional resource through the following activities:

F.3.1. Web page: UTRC maintains an interactive web page, with pages for all 150 and more faculty members affiliated with the consortium, information on research and educational funding opportunities, announcements of upcoming events and resources related to past events, and all available research reports. This site also allows for automated event registration, and will soon include a feature for online proposal reviews. UTRC also plans to begin experimenting with on-demand, streaming video content from conferences and other key events.

F.3.2. National Research Meetings. The UTRC will participate in occasional meetings of UTC and/or DOT experts on high-priority topics, or to provide expert advice to DOT on technical or education topics. We have recently participated in meetings hosted by the FHWA and the FTA.

F.3.3. Visiting Scholar Seminar Series. UTRC will continue its flagship Visiting Scholar Seminar Series. This series features cutting edge scholars and practitioners presenting talks

before large audiences of regional professionals and lay people. All Visiting Scholar Seminars are videotaped and made available to the public without charge.

F.3.4. Technology Transfer Seminars. UTRC works closely with its regional partners to identify speakers who can address topics of interest to their leadership and their workforces. UTRC provides speakers for ongoing seminar series at NJDOT headquarters in Trenton; at NYMTC in Lower Manhattan; and at NYSDOT headquarters in Albany.

F.3.5. Visiting Fellows in Practice. UTRC plans to begin a new program providing exceptional practitioners from throughout the region with an opportunity to formulate and conduct research relevant to their work, in conjunction with students at UTRC institutions.

F.3.6. Research Results Workshops. Our public sector partners have asked for a renewed emphasis on the implementation of research results. In response we will begin designing into research projects an “implementation phase” designed to help agency personnel fully understand the research results and recommendation. This could include workshops designed to communicate the research findings to agency personnel. As appropriate, UTRC will reach out to Local Technical Assistance Program centers at Cornell University, Rutgers University, and the University of Puerto Rico to ensure that research results reach local practitioners.

F.3.7. Research briefs. UTRC staff will work with research teams to prepare a one-page summary of all research results that can be distributed to a broader audience.

F.3.8. UTRC Research News, a quarterly newsletter published by UTRC, featuring a new column on technology and system management issues.

F.3.9. Assistance to Stakeholder Groups. Many organizations in the region, including citizens groups, business groups, and government agencies, look toward UTRC as an independent source of expertise and advice on the complexities of transportation planning and policy. UTRC will continue its strong tradition of public service, assisting any stakeholders who seek informal briefings or policy advice.

Performance Indicators.

The Center will track the progress of the Technology Transfer Program by collecting data from the Consortium members to meet requirements of Performance Indicators 10 and 11 as set forth in Exhibit A of the UTC Reporting Requirements through the following activities:

F.4.1. Requesting from consortium members annually updates on number of outreach events for pre-college students;

F.4.2. Tracking the number of students participating in outreach events through annual reports from consortium members;

F.4.3. Maintaining a registration process at each event and compiling data of all consortium members annually;

F.4.4. Documenting annually, the number of newsletters and other periodicals published;

F.4.5. Tracking the number of newsletter issues circulated based on database mailings and issues distributed at transportation events.

III. Management Approach

This section of the Strategic Plan describes the Center Director's management plan for meeting all of the requirements of the Grant, specifically managing the personnel and activities of the UTRC. A brief overview of the UTRC operation identifies the institutional resources that are available through UTRC, the responsibilities assigned to the Director of UTRC, a description of the staff, and funding sources.

III-A Institutional Resources

UTRC is not just a set of twelve schools, but a true Center that provides appropriate teams and resources to meet the region's needs. UTRC will draw upon the substantial collective resources in its consortium, including faculty, research and training facilities, laboratories, libraries, computational capabilities and equipment. The consortium members draw on a history of transportation research, education and training. All twelve of the consortium members offer graduate and undergraduate programs in transportation-related areas such as civil engineering, public administration, and public policy.

UTRC is housed at the City University of New York, the lead institution, in a suite of offices, transportation library, computer laboratory, and conference room it shares with the CUNY Institute for Transportation Systems on the campus of The City College 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. CUNY supports a pavement management laboratory and a new state of the art transportation model simulation center at the City College of New York. CUNY is host to many specialized centers and institutes involved to research and education closely related to highway and public transportation. Baruch College houses several institutes that work in the transportation field, including the Steven L. Newman Real Estate Institute and the Center for Logistics and Transportation. Bronx Community College is home to the Center for Sustainable Energy, which conducts research and training on alternative fuel vehicles, solar photovoltaics, and other technologies. John Jay is home to the new Center on Terrorism, which includes research on transportation security.

As the lead institution, CUNY contributes \$405,000 in direct and indirect costs each year to the Transportation Program from its Organized Research budget. The University also contributes more than \$700,000 per year in faculty salaries at the CUNY Institute for Transportation Systems. The college also supports a summer transportation program for high school students. In addition, faculty from CUNY colleges in the departments of Electrical Engineering, Computer Science, Economics, Business and Finance, Urban Affairs and Planning, Geography, Public Administration, and Architecture are actively involved in transportation research and the activities of UTRC. Perhaps the most important resource that CUNY brings to the Center is its

talented and highly diverse student body. CUNY is home to students from over 125 countries outside the U.S. It reflects the current population dynamics of Region 2.

The resources of the consortium are summarized in Table 2. As that table illustrates, there are already many academic centers of transportation research within the UTRC consortium. Besides UTRC itself, only one of these – the Center for Advanced Infrastructure and Transportation at Rutgers University – is officially designated as a UTC. UTRC does not aim to duplicate the work of these many centers. Instead, it aims to help its consortium members do what they’re already doing better, by giving them access to mechanisms for cooperation across political and institutional boundaries, and by helping them ensure that the results reach a broad audience.

Table 2. Resources of the UTRC Consortium

Institution	Related Academic Programs	Other Resources and Specializations
City University of New York (CUNY)	Civil and Environmental Engineering (City College), Urban Affairs and Planning (Hunter College), Public Policy (Baruch College), Public Management (John Jay College), Business (College of Staten Island)	Institute for Transportation Systems, Universal Transportation Model Simulation Center, Center for Logistics and Transportation, Center for Sustainable Energy, Center on Terrorism, CUNY Aviation Institute, Pavement Management Laboratory, transit operations, economic modeling, asset management
Columbia University	Civil Engineering, Industrial Engineering and Operations Research, Urban Planning	Earth Institute, Center for Sustainable Urban Development, hazard occurrence and impact on infrastructure models, risk models of hazard assessment, infrastructure behavioral models
Cornell University	Civil and Environmental Engineering, Regional Planning, Design and Environmental Analysis	Transportation Infrastructure Research Center, Cornell Local Roads Program (LTAP), lifeline engineering, planning models, non destructive testing
New Jersey Institute of Technology	Civil and Environmental Engineering, Interdisciplinary Transportation Studies, Infrastructure Planning, Management	National Center for Transportation and Industrial Productivity, International Intermodal Transportation Center, TIDE (Transportation Information and Decision Engineering) Center, dynamic systems modeling, travel behavior modeling, ITS, safety
New York University	Planning and Public Administration	Institute for Civil Infrastructure Systems, Rudin Center for Transportation Policy and Management, Conflict Resolution Program
Polytechnic University	Civil Engineering, Transportation Mgmt., Transportation Planning and Engineering, Urban Systems Eng.	Urban ITS Center, traffic models, highway capacity and traffic operations
Rensselaer Polytechnic Institute	Civil and Environmental Engineering	Center for Infrastructure and Transportation Studies, Intermodal Center for Freight Security, Academy of Education Media, Lighting Research Center, materials science and geotechnical labs, ITS labs
Rowan University	Civil and Environmental Engineering	Pavement design; materials; rail crossing safety; structural design of bridges; structural design and testing of transit vehicles
Rutgers University	Civil and Environmental Engineering, City and Regional Planning, Public Administration, Maritime Infrastructure Engineering & Mgmt.	Center for Advanced Infrastructure and Transportation, Voorhees Transportation Center, Local Technical Assistance Program, National Transit Institute, ITS lab, Pavement Resource Program lab

State University of New York	Civil and Structural Engineering (Buffalo), Urban Planning (Albany, Buffalo), Environmental Sciences (Syracuse), Materials Sciences (Stony Brook), Nanoscience (Albany)	Albany Nanotech, Multidisciplinary Center for Earthquake Engineering Research (Buffalo), Center for Transportation Injury Research (Buffalo), International Transportation Research Center (Maritime College), New York State Strategic Center for Port and Maritime Security (Maritime College), Center for Thermal Spray Research (Stony Brook)
Stevens Institute of Technology	Civil, Ocean, and Environmental Engineering	Structural engineering, soils engineering
University of Puerto Rico	Civil Engineering and Surveying	Civil Infrastructure Research Center, Puerto Rico Transportation Technology Transfer Center (LTAP), safety, traffic simulation and control, transit planning

Please see <http://www.utrc2.org/proposal.php> for more details on the resources of the Consortium.

III-B Center Director

Center Director. The UTRC Director, Dr. Robert E. Paaswell, is responsible for implementing the Center’s Strategic Plan and ensuring compliance with all other UTC Program requirements. Dr. Robert E. Paaswell is an experienced transportation professional, having worked in the private sector, the public sector and academia. He is a Distinguished Professor of Civil Engineering at the Lead Institution, City College of New York. Acting as Chief Executive Officer, he will have overall Center responsibility, including the conduct of all programs, development of new initiatives and public presentation of UTRC business and accomplishments.

The Center Director serves as liaison with USDOT, sponsors and other groups. He will convene meetings with other UTC members in Region 2 and will attend meetings held by DOT with other Center Directors. The Center Director will be responsible for the initiation and conduct of the “Icon Mentor Program”.

The Center Director oversees day to day operations and the progress of research activities, and provides a bridge between UTRC policies. Working with Committee Chairs and UTRC staff, the Center Director develops the annual plan, keeps records of all activities and action, provides administrative management of all projects, sets agendas for all meetings, and insures budget compliance.

III-C Center Faculty and Staff

UTRC will be organized in a business like manner. It will be served by a Board of Directors who sets policy and insures that Center operations meet the objectives of the UTC program while conducting programs that are responsive to the UTC theme and regional transportation needs. The Center will be managed by a Director, the CEO, who oversees a staff to assure day to day operations and compliance with the collective requirements of USDOT, the other co-sponsors, the Consortium members and the Lead Institution, City University of New York are

met. Administrative work will be conducted by Center Staff. Programmatic work will be directed by Consortium Board Committees, and administered by the Center Staff.

All the current positions are carried over from the existing Center as follows:

Associate Director for Administration (ADA). The ADA will be working with the UTRC Director to develop programs as new opportunities arise. With the Director, he will oversee all the activities of the center and will manage the day to day operations of the center. He will manage the financial accounts to insure smooth program flow and serve as a link to RITA. The ADA will be responsible for the maintenance of personnel records as well as procurement records. The ADA will be Dr. Camille Kamga, who has a doctorate in Intelligent Transportation Systems and Civil Engineering from The City University of New York.

Associate Director for New Initiatives (ADNI). The ADNI works to develop closer collaborative ties between academic researchers and transportation policy and engineering professionals. He also assists with the professional development of junior faculty in the UTRC consortium and works to develop research teams across academic institutions. The ADNI also works to form partnerships with local and regional transportation agencies that have not traditionally been as active participants in UTRC's programs. The ADNI will be Dr. Todd Goldman, who holds a Ph.D. in City and Regional Planning from the University of California, Berkeley.

Assistant Director for Program Management (ADPM). The Assistant Director for program Management will administer UTRC's various research, education, and technology transfer programs. The ADPM will be working to bridge disciplinary and geographic barriers in transportation research within USDOT Region 2 by coordinating interdisciplinary multi-campus working groups of faculty involved in specific areas of research.

He will be responsible to issuing of Requests for Proposals and coordinating proposal, submission and review processes, tracking and monitoring research in progress by meeting quarterly with sponsoring agencies, maintaining and meeting the University Transportation Center reporting requirements, assisting in the development of new outreach activities and publications, and working with research teams to ensure that final reports are edited to the highest professional standards. The position is currently vacant.

Assistant Director for Education and Training (ADE). The ADE will oversee the Administration of the Education and Training programs including the Graduate and Undergraduate fellowship programs, the assessment programs, and the professional training efforts. The position of ADE is held by a faculty member and will not be compensated from the UTRC budget. The current ADE is Dr. Claire McKnight, Professor of Civil Engineering at City College.

Senior Research Fellow. UTRC employs postdoctoral research fellows to provide in-house expertise on areas of strategic importance to the Center. There is currently one Senior Research Fellow, Dr. Ellen Thorson, who is a specialist in freight modeling and travel demand modeling.

She has a doctorate in Civil and Environmental Engineering from Rensselaer Polytechnic Institute.

Communication and Outreach Coordinator. The Communication and Outreach Coordinator is responsible for maintaining the Center's database; preparing the Annual Directory; disseminating UTRC information; assisting in the production of quarterly reports, annual plans, summaries and other requests for information; handling the logistics of the Center's conferences, training programs, mailings and registration, and maintaining the UTRC Web site. The current Communications and Outreach Coordinator is José Pillich, a graduate student in Urban Planning at Hunter College.

Administrative Assistant. The Administrative Assistant is responsible for all administrative aspects of running an efficient and organized front office. The Administrative Assistant will assist with daily tasks, various projects, reports, and any other projects deemed necessary by supervisor. Answers telephones, opens and distributes mail and provides routine administrative support functions. The position will involve some management of students working on these projects. Ms. Aslam Nadia, an alumni from The City College of New York is the current Administrative Assistant.

Operation of Programs. The programmatic elements of the Center will be coordinated with the Committees of the UTRC Board. The Research Advisory Committee will recommend themes and budget targets for the various research programs, and to the technology transfer program. The Education and Training Committee will recommend budget targets for the various education programs. These will be accomplished by semi annual meetings of the committees and more frequent meetings of the Center Director with Committee Chairs. The programs will be administered by UTRC staff as noted above.

Interns. UTRC utilizes the strong skills of student interns who assist in preparing documents for publication, all aspects of computer management and web page design and maintenance. They also assist in day to day operational functions.

III-D Multiparty Arrangements

UTRC Consortium. A multiparty structure is essential to carrying out UTRC's vision. No single institution has the range of capabilities that is possible with a collaborative partnership. This structure brings to the Center a rich and extensive diversity of talented faculty. It allows the Center to address regional issues from a local perspective as well as a national perspective and simultaneously to employ the most qualified experts in the region on any given issue. Thus, the majority of research projects will be joint ventures involving two or more member institutions.

The UTRC Consortium is the policy body of the Center. The list of consortium members and their representatives on the Board of Directors Members of UTRC appear in Table 3. The UTRC Board of Directors, which meets semi-annually, consists of one or two members from each Consortium school (each school receives two votes regardless of the number of representatives on the board). The Center Director is an ex-officio member of the Board and The

Center management team serves as staff to the Board. The City University of New York, through its Research Foundation, is the formal contractor for the grant.

The Center Director, Robert E. Paaswell, P.E., Ph.D., will maintain leadership of Center activities through coordination of the advisory committees of the Center. These are the Advisory Committee, the Research and Technology Transfer Committee, and the Education and Training Committee (one faculty member from each consortium school). As the Principal Investigator for this grant, the Center Director will have managerial and fiscal responsibility for all UTRC programs and funds through the Research Foundation of the City University of New York.

Table 3. Directors of the UTRC Consortium

Institution	Board of Directors – Names and Fields
City University of New York (CUNY), New York	Dr. Neville Parker, Civil Engineering Dr. Claire McKnight, Civil Engineering
Columbia University, New York	Dr. Soulaymane Kachani, Operations Research Dr. Elliott Sclar, Urban Planning
Cornell University, New York	Dr. Oliver Gao, Civil Engineering Dr. Arnim Meyburg, Civil Engineering
New Jersey Institute of Technology, New Jersey	Dr. Priscilla P. Nelson, Provost Dr. Lazar Spasovic, Civil Engineering
New York University, New York	Dr. Allison L. C. de Cerreño, Planning and Public Admin. Dr. Rae Zimmerman, Planning and Public Admin.
Polytechnic University, New York	Dr. John Falcocchio, Civil Engineering Dr. Richard Wener, Psychology
Rensselaer Polytechnic Institute, New York	Dr. José Holguin-Veras, Civil Engineering Dr. William Wallace, Systems Engineering
Rowan University, New Jersey	Dr. Douglas Cleary, Civil Engineering Dr. Yusuf Mehta, Civil Engineering
Rutgers University, New Jersey	Dr. Daniel G. Chatman, Planning and Public Policy Dr. Ali Maher, Civil Engineering
State University of New York, New York	Dr. Catherine Lawson, Geography and Planning Dr. Shmuel Yahalom, Economics
Stevens Institute of Technology, New Jersey	Dr. Henry Dobbelaar, Civil Engineering Dr. Sophia Hassiotis, Civil Engineering
University of Puerto Rico, Puerto Rico	Dr. Ismael Pagán-Trinidad, Civil Engineering Dr. Didier M. Valdés-Díaz, Civil Engineering

Council on Transportation. The principal advisory body to UTRC will be the Council on Transportation. The Council is a body of the leading transportation professionals from the public sector, private sector and academia in the Region, formed to address critical regional issues and state of practice. UTRC has requested that the Executive Director, Elliot Sander, former Commissioner of Transportation for New York City, and Director of the NYU Rudin Center for Transportation Policy and Management, form a UTRC Task Force of non-academic

members to serve as an external advisory board. Because of an ongoing working relationship between the current UTRC and the Council, this step will provide significant input from regional professionals into the development, co-sponsorship and implementation of UTRC programs.

Entrepreneurs Council. As discussed earlier, UTRC will convene a new Entrepreneurs Council to advise and guide its new Advanced Technology Initiative. They will meet semi annually and plan an annual advanced technology conference. The committee will be led by Prof. Michael Fancher of Albany NanoTech.

Partnerships. Over the years, UTRC has developed strong relationships with local organizations, public and private, throughout the entire region, by being responsive to their needs. As a result, state and local transportation agencies are seeking the Center's help, on a regular basis, to deal with research and training problems that require academic inputs, or the application of state-of-the-art technologies. UTRC has entered into multi-year contracts with the New Jersey Department of Transportation, the New York State Department of Transportation and the New York Metropolitan Transportation Council to conduct transportation research and training for these agencies. The New York City Department of Transportation is in the process of developing a long term basic agreement with the UTRC. These organizations are the major source of matching funds for UTRC's programs. Under the basic agreements, agencies develop Requests for Proposals and send them to the UTRC for dissemination to consortium members. After a competitive selection and budget share negotiations, task orders are executed between the agency and UTRC to perform the study or training.

In addition, UTRC has entered into Memorandum of Understanding (MOU) with other partners to cooperate and develop activities to meet both parties' objectives, most recently with the NanoTech Center at Albany. This MOU aims to maximize leveraging of industry and government investments to pursue joint cooperative programs in the area of innovative next generation transportation technologies that exploit the prevailing technological paradigms and business models of the nanoelectronics industry to demonstrate commercial transportation applications.

Table 4 lists UTRC's partners and co-sponsors. These partners have co-sponsored and provided resources for activities in all three major programs—education and training, research and technology transfer. Letters of support from many UTRC partners are on file and available for reference.

Table 4. UTRC Partners and Co-Sponsors

	Education & Training	Research	Tech. Transfer
Regional Transportation Agencies			
Departamento de Transportación y Obras Públicas de Puerto Rico	X	X	X
Metropolitan Transportation Authority	X	X	X
New Jersey Department of Transportation		X	X
New Jersey Transit		X	
New York City Department of Transportation	X	X	

New York Metropolitan Transportation Council	X	X	X
New York State Department of Transportation	X	X	X
Port Authority of New York and New Jersey	X	X	
Other Partners			
Albany Nanotech		X	X
Intelligent Transportation Society of New York			X
J.M. Kaplan Fund		X	
National Science Foundation		X	
Partnership for New York City		X	X
Regional Plan Association		X	
Transport Workers Union Local 100	X		
Other University Transportation Centers	X	X	X

Over the next several years, UTRC plans to seek additional partnerships with the New York State Energy Research and Development Authority, as well as metropolitan planning organizations throughout Region 2.

Associated Centers. UTRC also plays a leadership role in other regional academic transportation centers and institutes. There are 27 other transportation-related centers in the region, and UTRC works to ensure that they know what the others are doing in transportation research. UTRC served as a model for the structure of several of these organizations as they were founded. It has also provided leadership and technical support to help some of these Centers mature.

Table 5 provides examples of some centers with which UTRC has close working relationships:

Table 5. Examples of working relationships with other transportation centers

Center	Lead Institution	UTRC Role
Universal Transportation Model Simulation Center	City University of New York	UTRC will provide financial support and other resources
Urban ITS Center	Polytechnic University	UTRC members sit on Policy Committee; UTRC now hosts the grant for this center from NYC
Rudin Center for Transportation Policy and Management	New York University	UTRC members helped organize, serve on all committees, including Executive Committee
CAIT (Center for Advanced Infrastructure Technology)	Rutgers University	UTRC assisted in founding, serves on Executive Committee

Please see <http://www.utrc2.org/proposal.php> for a complete list of Region 2 transportation centers.

III-E Matching Funds

The prospective amounts and source of the Center's matching funds for the 2007-08 fiscal year are as follows:

Table 6. Matching Funds

Source	Amount
NJDOT	\$200,000
NYC Agencies	\$200,000
NYMTC	\$420,000
NYS DOT	\$400,000
OTHER (PANY&NJ, MTA, etc.,)	\$75,000
IN KIND (UNIVERSITIES)	\$589,680
Total	\$1,884,680

IV. BUDGET DETAILS

The Budget Plan for the first year of the Center's operation, reflecting the amount of Federal funding and amount of non-Federal matching funds, is shown in Tables 6 and 7.

Table 7. Budget Plan
University Transportation Research Center (UTRC) Budget Plan
Name of Grantee: Research Foundation of the City University of New York
Grant Year: October 1, 2007 – September 30, 2008

CATEGORIES	Budgeted Amount	Explanatory Notes
Center Director Salary	\$122,562	Release time and summer salaries
Faculty Salaries	\$500,000	Principal Investigators salaries
Administrative Staff Salaries	\$330,000	
Other Staff Salaries	\$230,000	
Student Salaries	\$210,000	
Staff Benefits	\$376,172	Benefits of faculty, staff, and students
Total Salaries and Benefits	\$1,668,734	
Scholarships/Tuition	\$350,000	
Permanent Equipment	\$25,000	Printing, postage, telephone, meetings
Expendable Property, Supplies, and Services	\$163,000	
Domestic Travel	\$75,000	
Foreign Travel	\$0	
Other Direct Costs (Specify)	\$0	
Total Direct Costs	\$2,281,734	
F&A (Indirect) Costs	\$1,236,146	Institutions and grant admin. Overhead
TOTAL COSTS*	\$3,517,880	
Federal Share	\$1,633,200	
Matching Share (if applicable)	\$1,884,680	

Includes Federal and Matching Shares

Appendix A—BASELINE MEASURES FOR REGION 2 UTRC

Research Selection

1. Number of transportation research projects selected for funding: 8

Number of those projects that you consider to be:

Basic research: 1

Advanced research: 2

Applied research: 6

Projects may be included in more than one category if applicable.

2. Total budgeted costs for the projects reported in 1 above: \$1,500,000

Research Performance

3. Number of transportation research reports published: 8

4. Number of transportation research papers presented at academic/professional meetings: 10

Education

5. Number of courses offered that you consider to be part of a transportation curriculum. Report courses shown in the university course catalog as being offered, whether or not they were conducted during the academic year being reported.

Undergraduate: 50

Graduate: 120

6. Number of students participating in transportation research projects. Count individual students (one student participating in two research projects counts as one student).

Undergraduate: 80

Graduate: 120

Human Resources

7. Number of advanced degree programs offered that you consider to be transportation-related.

Master's Level: 20

Doctoral Level: 5

8. Number of students enrolled in those transportation-related advanced degree programs.

Master's Level: 300

Doctoral Level: 50

9. Number of students who received degrees through those transportation-related advanced degree programs.

Master's Level: 350

Doctoral Level: 10

Technology Transfer

10. Number of transportation seminars, symposia, distance learning classes, etc. conducted for transportation professionals: 100

11. Number of transportation professionals participating in those events: 5,000