UTRC

# RESEARCH NEWS

*A Publication of the Region 2, University Transportation Research Center* *Winter 2003*

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## New York in The New World Economy: The Route I-87 Corridor.

The University Transportation Research Center together with Michael Gallis Associates, recently completed a major study of the Route I-87 corridor for the New York State Department of Transportation. The I-87 Corridor Report was completed to document the study.

The Route I-87 corridor, the New York State Thruway from New York to Albany and the Northway from Albany to the New York Canadian Border defines a major transportation corridor promoting commerce, tourism, commuting and a range of other activities. The corridor lies in the Eastern part of New York State; it links New York City to Canada and serves as crossroad points to New England, the Midwest and the South. This report will define this prominent corridor in some detail, highlighting the roles of urbanization and economic activity, the impacts of landform, and the role of transportation. By examining how the corridor responds to activities in three distinct regions, New York City, I-84 to the Capital District and the Capital District to the Canadian Border, the report will discuss transportation issues and opportunities. The report is organized to examine the corridor in terms of its connections, globally as well as locally. It then describes the environment the corridor traverses. It then examines economic opportunities and issues, relating these to the three segments of the corridor. The report discusses issues raised in discussions with a body of professionals regarding moving goods and people in and through the corridor. The report concludes with a discussion of opportunities that can enhance both the population and economic activity within this corridor.

*This study was funded by the New York State Department of Transportation, Resource and Risk Management Bureau.*

## Salutary J. Meja Massawe Receives NJDOT Award

Mr. Salutary J. Meja Massawe, Research Assistant and graduate student at the Institute of Transportation Systems at City College of New York, recently received Certificate of Recognition, from the New Jersey Department of Transportation, for his outstanding contributions in transportation research. Prior to attending The City College, Mr. Massawe was employed by The Ministry of Works – Department of Transportation in Tanzania. He received the Bachelor of Science - Engineering Degree in Civil Engineering in 1989 from University of Dar-Es Salaam Tanzania . A multifaceted professional with excellent organizational, interpersonal, communications and problem-solving skills, he was awarded a joint sponsorship from the International Road Federation (IRF) and the Government of Tanzania, for his post-graduate training at The City College of New York in 2000.

Mr. Massawe was awarded the Best Engineer Award by Tanzania President, Honorable Ali Hassan Mwinyi in 1994. He was the first Tanzanian engineer to plan, design and construct small (15m span) and medium (30m span) size bridges by utilizing locally available resources. Mr. Massawe is a Registered Engineer in the United Republic of Tanzania.

# Calendar

TransAction 2003, *27th Annual New Jersey State Transportation Conference & Expo*
April 7, 8, & 9, 2003
Tropicana Resort Hotel
Casino & Conference Center
Atlantic City, NJ

UTC Directors Meeting 2003 & CUTC Summer Annual Meeting,
June 6—8, 2003
UT Center for Tennessee Research ,
University of Tennessee
Knoxville, TN

A Breakfast with Joseph H,. Boardman, Commissioner of the New York State Department of Transportation
February 13, 2003
8:00—9:30 AM
Rudin Center for Transportation Policy and Management,
New York University
Elmer Holmes Bobst Library
70 Washington Sq. South
New York, NY
Tel. 212-998-7545

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**www.utrc2.org**

# Director's Message

**Robert "Buz" Paaswell, Ph.D.**
**Director & Distinguished Professor**

Well into the debate about rebuilding lower Manhattan has arisen a number of factors that brings to mind the diversity and diversity of interests of the region. First, while planning for lower Manhattan, the City won the first round for consideration to host the 2012 Olympics. The pressure to meet the intense demands of urban revitalization, new transportation linkages, and long term development opportunities shift focus from Lower Manhattan. We recently participated in a seminar co-sponsored by the Newman Real Estate Institute ( A CUNY Institute). The focus of this seminar was the changing real estate market in NYC. Always a number one New York discussion item, the seminar noted the changing economics of commercial and residential real estate, together with the overall changes in the economic drivers of NYC and particularly Manhattan. And, of course, central to all these themes is transportation. What is the value we get for new investments? Will there always be matches of jobs and workers. Meanwhile, plans are moving for the 2nd Avenue Subway and the East Side Connector; yet extending the No. 7 line West seems to fit into all the plans that do not involve lower Manhattan. These are the Capital plans.

In the middle of dreaming and planning comes the current fiscal crisis; it seems that even funds to meet current operations of the transit are in jeopardy. High increases in fares (about 33%) are being proposed in order to meet – not build on – current levels of service. If this fare increase comes about, questions of where the financing of new debt for expansion projects come up. Yet – seemingly to the rescue – comes the ideas of East River Bridge Tolls, road pricing, new parking and auto registration fees and perhaps, even new taxes.

UTRC is engaged in a number of these debates, as well as carrying out projects on analytic back up support: ITS capability, dynamic modeling, behavioral modeling, private buses, BRT, innovative financing, and we are also doing workforce training for the next generation of transportation workers. UTRC likes working on the tough problems.

***Dr. Robert E. Paaswell***
***UTRC Director***

***Robert F. Baker***
***Research & Technology Transfer***

***Camille Kamga***
***Administrator & Information Technology***

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# Articles

***You Can Learn on the Erie Canal*** by Catherine T. Lawson, Assistant Professor, State University of New York, TR NEWS, Transportation Research Board, National Research Council. July-August 2002, Number 221.

New York's Erie Canal, connecting Buffalo on Lake Erie with Albany on the Hudson River, brought new dimensions to the planning and building of inland waterways, as well as new appreciation of the associated benefits of accessibility and mobility. The implementation of the Erie Canal plan was remarkable because the state received no financial assistance from the federal government. The canal not only provided connections to expand westward but also promoted economic activities, improved mobility for goods, and opened new opportunities for passenger travel. The history of the canal offers unique lessons for transportation planning on the role of education, the use of financing strategies. The impact on economic activities, and the opportunity to serve passengers.

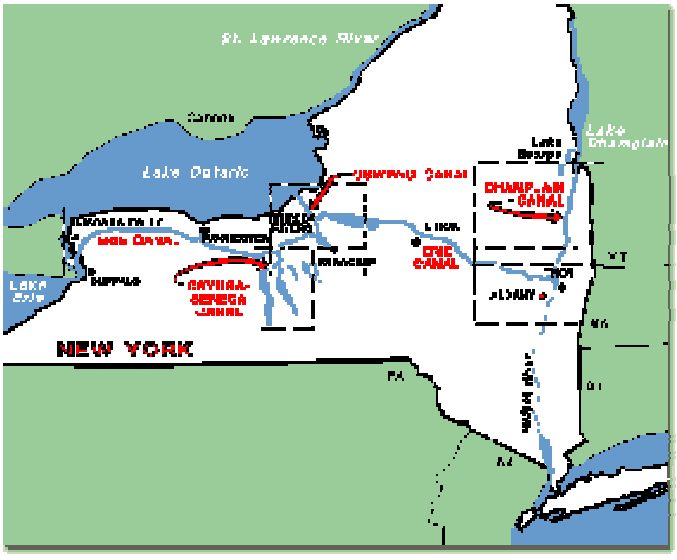
Building the infrastructure required the vision of a single facility to connect Lake Erie with the Hudson River and beyond is an early example of long-range planning in the United States. The concept also took advantage of a phasing strategy-the project did not begin at one destination point and move progressively to the other. The planning of the infrastructure was distinguished by a willingness to begin without detailed plans for the many sections.

The lack of interest from the federal government and the keen competition among states and cities to capture a share of future growth led New York State to several financing innovations for the canal project. The state championed the project, instead of allowing the canal to become an entirely private venture. Private investors, however, were welcome to invest in the new infrastructure. The toll system and the pent-up demand for services immediately created a surplus of cash, allowing the state to deal with other financial crises.

Although built to move freight, the Erie Canal attracted passengers. Canal travel offered a smooth riding means of transportation, compared with horse- drawn modes over terrain. Passengers sought a variety of services-short trips, long trips, trips for leisure, trips for business, trips to gain knowledge of the natural features of the West, and trips that never ended for households that lived on canal boats.

Presenting many learned lessons, the Erie Canal is a fascinating story of achievements, rewards, and reuse of a transportation facility. The story also offers today's transportation planning community several lessons: (1) Education is a critical link to real-world applications, (2) Creative financing strategies should involve a broad set of stakeholders, and (3) Understand the range of trip purposes and potential uses.

*(The author is Assistant Professor, Geography and Planning, and Interim Director of the Masters in Urban and Regional Planning Program , State University of New York at Albany, and a member of the University Transportation Research Center, City College of New York.)*




***"Planning and Management of Regional Transportation Systems"***

# Articles

***Improving U.S. Passenger Train Performance*** By Anthony Perl, Ph.D. CUNY Institute for Urban Systems. TR NEWS, Transportation Research Board, National Research Council. July-August 2002, No. 222

To achieve long-term success in meeting intercity travel needs, Amtrak decision makers must design a new passenger rail policy. This effort could go in several directions but would enable new approaches to moving people by rail. Policy research that revisits and seeks to overcome the political impasse blocking innovation in organizing and funding passenger rail service is an essential complement to any commercial and technical research. Policy changes will stimulate passenger rail to make the kind of analytical, organizational, and technical innovations that have enabled the success of other passenger modes. New public policy must address three challenges to the future of passenger rail: 1. Institutional isolation, 2. Flawed corporate structure, and 3. Atrophy of the supporting industry.

Amtrak is institutionally isolated from the fiscal partnerships of federal and state governments that bind the rest of the U.S. passenger transportation infrastructure. The Federal Railroad Administration (FRA) plays only a modest role in planning and financing passenger rail systems, compared with the roles that the Federal Highway Administration, the Federal Aviation Administration, and the Federal Transit Administration play in advancing the development of their modes. Finding a way for public investment in mainly privately owned rail rights-of-way is therefore critical policy problem to resolve before progress can be made in restructuring and revitalizing passenger train service.

The second policy challenge is Amtrak's organizationally flawed corporate structure. Amtrak's structure does not allow an effective focus on the commercially viable services that could compete with airlines and bus companies or that could develop new travel market niches. The structure also prevents management from addressing the inherently unprofitable operations that are preserved through government subsidy and justified by public interest criteria similar to those applied to public transit.

The third and perhaps most daunting policy challenge is that America's passenger trains have been industrial orphans since the 1970s. The network of technical skills and design capacities in passenger railroading that once supported American railroads has dwindled away. Public support for research and development through FRA or through partnerships with industry must be scaled up to advance the industrial development necessary for passenger rail renewal.

The options for organizing and delivering more effective passenger trains must connect into the framework of American governance. In the rush to create Amtrak-and subsequently to attack or defend its performance-fundamental relationships between federal and state governments, as well as between government and private industry, were neglected. Making these connections is essential if policy innovations are to enable successful passenger rail. Two key questions must be answered: 1. Where should the primary responsibility for passenger rail policy be located within the American political system? 2. What relationship should business-or the private sector-have with the government in delivering passenger rail services? The principles that guide industry success in transportation and other sectors depend on coherent answers to these political and economic questions.

(*Dr. Perl is author of New Departures: Rethinking Passenger in the 21st Century, and a member of the University Transportation Research Center, City College of New York)*

# Research

***Nondestructive Technique For Monitoring Strength Gain In Concrete Structures*****,** by Kolluru Subramaniam, Ph.D., City College of New York ,

In this article a nondestructive technique for monitoring the setting and hardening process of Portland cement concrete is presented. Preliminary results show that the technique can sensitively monitor changes in the material properties of concrete resulting from hydration. The WRF technique appears to be promising for developing tools for assessing the in-situ gain of strength in structures.

Concrete gains strength over time because of hydration of cement. Typically concrete gains its design strength in 28 days. In order to evaluate the in-situ strength gain, cores are often removed, which can result in damage to the structure. The techniques based on compressive strength do not produce reliable results at early ages, during the initial setting and hardening of concrete.

The rate of strength gain of concrete determines the time required to opening the structure for use. The early strength development is intimately related to the hydration reaction in the first 48 hours. Unfortunately, an in situ sensor that is able to follow the cement setting in continuous manner does not exist currently. There is hence a need for developing in-situ monitoring techniques for the hardening and setting process of portland cement concrete. Tools that can assess the in-place properties of concrete at early age in a non-invasive manner are required.

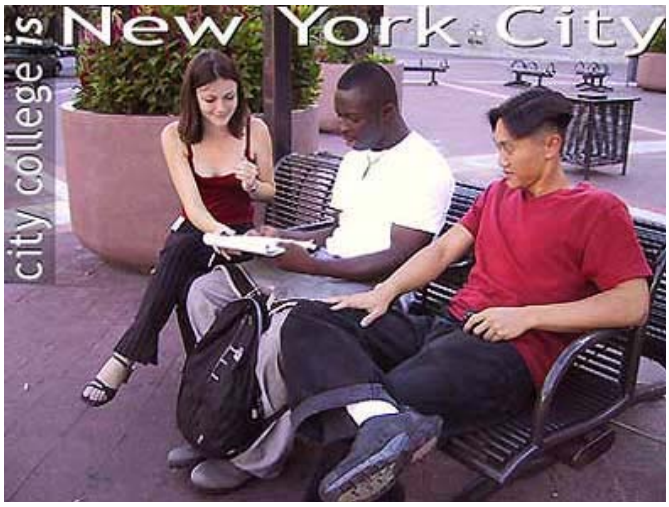
***Handbook of Scour Countermeasures,*** by Anil K. Agrawal, Ph.D. Associate Professor, City College of New York, University Transportation Research Center.

The New Jersey Department of Transportation has requested that the UTRC conduct research to focus on the identification of technologies and solutions most appropriate for scour countermeasures of bridges in New Jersey. The selection of identified technologies will depend on factors such as structural type, stream geometry, stream soil conditions, and environmental constraints.

Economic and cost effective technologies of countermeasures will be determined to match New Jersey resources and scour countermeasures for both existing structures and new bridge constructions. Identification of additional new technologies and innovative concepts, e.g., Gabion wire basket anchor block, Gabion mat, flexible channel liner, geo-textile containers, delta-wing-like-fin in front of bridge piers, slot through piers, submerged vanes, training walls, etc., will be investigated to analyze their potential of scour mitigation and cost-effectiveness. Appropriate guidelines for these additional countermeasures will be developed based on existing theoretical and experimental knowledge.

The main goal of the "Handbook of Scour Countermeasures Designs" is to present practical solutions in a concise manner for use by a bridge design engineer.

# Education




## Undergraduate Program in Transportation

The University Transportation Research Center and the Institute for Transportation Systems at the City University of New York offer an undergraduate program in transportation.

The objective of the program is to encourage undergraduates, especially women and minorities, to pursue studies in transportation, planning, urban affairs and economic development.

The program is available to both students currently matriculated at a college or university, in an Associates or Bachelors degree program, as well as transportation agency/industry employees who demonstrate an interest in furthering their education. Scholarships are earmarked in amounts up to a maximum of $2,500. Scholarship recipients must include internships, and research assistantships as well as course work in their programs of study, and are awarded pro-rated payments from the overall award when they achieve grades of B+ or higher in those studies.

Contact: 212-650-8050.

## Advanced Institute for Transportation Education

**Graduate Scholars Program**
**Sponsored by:**
**Region II University Transportation Research Center**
**and**
**U.S. Department of Transportation**

Financial support for Masters students in transportation is available for outstanding students who attend a participating university; see list below. Scholarships are available both to people entering the transportation field for the first time and to people already working for transportation agencies and companies. The scholarship provides:

**For full time students:**

- Free tuition for three semesters or up to a value of $10,000
- Monthly stipend for one year (total value not more than $10,000)
- Experience in transportation research
- Professional exposure and recognition

**For employees of participating agencies:**

- Free tuition for four semesters or up to a value of $10,000
- Ten hour per week paid work release during semester

For further information, contact Dr. Claire McKnight, AITE Coordinator at (212) 650-8050 or:

AITE Graduate Scholars Program
University Transportation Research Center
City College of New York
New York, New York 10031

# Technology Transfer

## .Rudin Center and UTRC Sponsor Events

The Rudin Center for Transportation Policy & Management at NYU's Robert F. Wagner Graduate School of Public Service held 2 major symposia this year. On May 7, 2002, in conjunction with the Port Authority of New York and New Jersey, the Rudin Center held The Second Annual New York/New Jersey Regional Aviation Symposium titled, "Rebuilding Air Travel after September 11th: Integrating Security and Service." Close to 200 individuals attended the event, conducted in partnership with the New York Metropolitan Transportation Council, the University Transportation Research Center, and the CUNY Institute for Urban Systems. The symposium offered fresh information and timely evaluations on the airlines, airports, travel patterns, and security.

On October 25, 2002, the Rudin Center co-hosted with the NYU-Wagner Institute for Civil Infrastructure Systems, the Third Annual Tri-State Transit Symposium, "MegaProjects within the NY Metropolitan Region and Abroad." The symposium offered a background and update on current capital projects in the NY metropolitan region; lessons learned and best practices from other regions in the United States and around the world; and discussion on the current reauthorization process at the federal level is likely to affect our region. Katherine Lapp, Executive Director of the Metropolitan Transportation Authority (MTA), and Emil Frankel, Assistant Secretary for Transportation Policy, U.S. Department of Transportation (DOT) provided the keynote and luncheon addresses. Over 225 individuals attended the event, which was conducted in affiliation with the Metropolitan Transportation Authority, the New York Metropolitan Transportation Council, and the University Transportation Research Center.

Proceedings of the Second Annual New York/New Jersey Regional Aviation Symposium are currently available on-line. Proceedings for the Third Annual Tri-State Transit Symposium will be available in print or on-line in several weeks. For copies of the proceedings, or additional information on the Rudin Center's research and other activities, visit our website at www.nyu.edu/wagner/rudincenter or call (212) 998-7545.

## VISITING SCHOLARS SEMINAR Series 2003

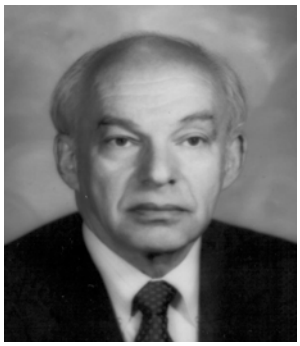
### VALUE PRICING On I-15 In SAN DIEGO: A SUCCESS STORY

Dr. Janusz Supernak
Professor, Department of Civil and Environmental Engineering, San Diego State University

The UTRC sponsored the first Visiting Scholars Seminar of the 2003 Series at the New York Technical College on November 12, 2002.

Dr. Supernak was Project Director on a comprehensive assessment of the Value Pricing project on I-15 in San Diego. This was a 3-year-long demonstration sponsored by FHWA to study various impacts of this project. The project converted the previously underutilized HOV lanes into HOT lanes allowing solo drivers to use the 8-mile long facility for a fee. The evaluation involved 12 separate studies, among them Traffic Study and Attitudinal Panel Study. Two versions of this project were studied: the ExpressPass phase when the program subscribers paid a monthly fee for unlimited use of the facility; and the FasTrak phase when the program participants paid variable, electronically collected fees for each use of the facility. The fee structure was dynamically adjusted by the traffic conditions on the Express Lanes to protect the state-mandated LOS C there.

The San Diego demonstration proved successful on several fronts. Program subscribers were able to avoid congestion on the main lanes when their on-time arrival was particularly important. The Value Pricing project was operationally and organizationally successful, and was able to generate enough money to fund a new bus service on I-15. The FasTrak version of the project was able to redistribute some traffic from the middle of the peak to its shoulders; the ExpressPass version was not. Traffic relief on the main lanes was small and short-lived. Equity problems did not surface. The media and the general public were supportive of the project.



# UTRC Icon Mentor:
## Herbert S. Levinson Designated National Associate

Mr. Herbert S. Levinson, the Region 2, University Transportation Research Center Icon Mentor, was designated a National Associate in honor of his past service. The Council of the National Academy of Science established the honorary title of "National Associate" to recognize extraordinary service to the National Academies. Herb is among the many people whose dedication to transportation work is truly extraordinary. His service is valued, honored, and appreciated both within the National Academies and by government and the public at large. The work of the National Academies in advising government and the public on matters of science, technology, and health would not be possible without this contribution.

For the past three years, the UTRC selected Herbert Levinson, as the icon mentor. Herbert Levinson is considered to be one of the fathers of modern transportation planning and has extensive knowledge of transportation activities and operations throughout the world. Herb is a planning innovator and also one of the major leaders and innovators in modern transportation planning. His knowledge about technique, practice and projects is without parallel. Herb is an invaluable resource to the region.

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