The preparation of this report was funded by The CUNY Institute for Urban Systems (CIUS). This document is disseminated under the sponsorship of The City University of New York (CUNY) in the interest of information exchange. The City University of New York assumes no liability for its contents or use thereof.
CIUS Annual Report
2004 - 2005

Table of Contents

Message from the Chairman and the Director ......................... 4
Theme .................................................................................. 6
Staff .................................................................................... 7
Board Members ..................................................................... 8
Financial Report ................................................................... 10
Research Projects ............................................................... 12
Collaborative Initiatives ...................................................... 14
Events .................................................................................. 16
Education Programs ............................................................ 19
Senior Fellows ..................................................................... 20
CIUS Newsletter .................................................................. 23

...A catalyst for the next generation of urban infrastructure investment...
CIUS has been aptly named. As CUNY’s Institute for Urban Systems, the organization has a purview beyond “hard” urban infrastructures. The Institute combines interests in the built environment, energy, and physical infrastructure with regional economic analysis and the myriad of community-based organizations that constitute New York City’s social infrastructure. These things combined produce one of the world’s best and most complicated urban systems.

The CIUS cooperative undertaking with the CUNY Graduate School’s Department of Continuing Education and other CUNY units to form a Sustainable Construction Initiative, which evolved out of last year’s CIUS-sponsored Green Design and Building Conference, is an example of focusing on what is traditionally seen as an urban system. A key part of the effort this year focused on exploring energy-efficient, high-performance building operations and bringing an expert in this area in as a CIUS fellow. We hope that this effort will lead to curriculum initiatives, the development of a Sustainable Building Laboratory, and the use of CUNY buildings as models for sustainable energy use.

This year also saw the graduation of the first student enrolled in the CIUS-developed CUNY Baccalaureate in Community Development and Technology (CDT). CIUS is now working closely with nonprofit organizations to recruit others into the program. CDT is designed to have students understand the role in civil society of community-based organizations (CBOs) and allow them to learn the role of technologies in fulfilling the missions of CBOs. The students will then be able to apply that knowledge in the organizations in which they work.

So, with its efforts in systems “hard” and “soft” and its development of various curriculum projects, CIUS is carving a place for itself in the city and the university.

Richard Hanley, Ph.D.
Professor of English, New York City College of Technology, CUNY
Chair of the Board, CIUS
This year, we are seeing a test of how our infrastructure holds up and responds to a series of critical events: the ability of our energy providers to keep up with demand during hot spells; the ever increasing cost of gasoline and home heating fuel; and the need to find new ways to be diligent to the threats of terrorism. Through its multi-disciplinary approach towards understanding modern infrastructure issues, CIUS seeks to address these challenges, by both identifying policy and technology solutions, and by helping to build the capacity of the agencies that manage our public infrastructure.

CIUS began to address the issues of sustainable infrastructure with its 2004 Conference on Green Buildings and aggressive follow-ups directed at implementing conference findings. Through the CUNY Graduate Center, CIUS is helping coordinate University and region wide efforts to improve both current operating procedures and new construction for energy conservation and environmental quality. CIUS has been working with NYC Department of Environmental Protection to improve the quality of a great regional resource – our estuaries. Working with our CIUS fellows we have reached out to Latin America and China to address issues of global water supply. We have been working with a number of agencies addressing the costs and benefits of infrastructure investment – and the impacts of escalating maintenance costs on the ability to improve or even continue to operate our infrastructure in an efficient manner.

CIUS is committed to being about change and adaptation of our infrastructure to the culture and needs of the 21st Century. We invite you to continue to contact us and discuss your ideas, our work – and, of course, the role our students will play as they become leaders in modern infrastructure design, planning, operations and management.

Robert E. Paaswell, PhD, PE
Director, CIUS
Distinguished Professor of Civil Engineering, City College, CUNY
Providing guidance for the next generation of infrastructure investment

Transportation, water, energy, and communications systems have supported New York City’s position as a world capital in business, media, and the arts. Now these systems are showing signs of strain, threatening the region’s ability to meet the evolving demands of its changing economy. To help the region retain its competitive position, infrastructure management must adapt to changing realities in three areas:

TECHNOLOGY: The emerging wide scale applications of computers and communications technologies are enabling more centralized control and more real-time information that can be used by infrastructure managers and users.

INSTITUTIONS: Organizations developed in the 20th century to build infrastructure now must transform themselves to operate, control and finance the next generation of infrastructure more effectively.

FINANCE: Modernization and capital expansion demanded by new technologies and institutional change will call for new methods of financing infrastructure, as well as new strategies for financial planning and management within infrastructure agencies.

The CUNY Institute for Urban Systems (CIUS) seeks to help New York and other urban regions shape and adapt to their changing infrastructure needs through research, education, policy advisement, and advancement of the state of professional practice. CIUS actively works to bridge the professional and academic realms in its efforts to identify innovative solutions to the problems of aging infrastructure. It draws its strength and depth from CUNY’s distinguished faculty in engineering, architecture, economics, urban planning, law and management., as well as from affiliated experts in professional practice.

CIUS promotes interdisciplinary and inter-campus collaboration on infrastructure education and research. It also aims to serve public agencies with its unique array of research and technology transfer capabilities.
Dr. Robert E. Paaswell
CIUS Director
Distinguished Professor of Civil Engineering, City College of New York

Dr. Todd Goldman
Associate Director for Research

Camille Kamga
Associate Director for Administration

Lena Marvin
CIUS Newsletter Editor/Research Assistant

Chris Andrichak
CIUS Newsletter Editor/Research Assistant
**CIUS BOARD MEMBERS**

Ethan Cohen  
Director, City College Architectural Center (CCAC)

Dr. Cameron Gordon  
Assistant Professor of Finance, College of Staten Island

Dr. Richard Hanley  
Professor of English, New York City College of Technology

Dr. Martin D. Hanlon  
Director, Social Science Master's Degree Program, Queens College

Dr. Lily Hoffman  
Director of the Rosenberg/Humphrey Program in Public Policy, City College

Dr. Susan Turner-Meiklejohn  
Associate Professor, Dept. of Urban Affairs and Planning, Hunter College

Dr. Stanley Moses  
Professor and Chair, Dept. of Urban Affairs and Planning, Hunter College
CIUS Board Members

Dr. Neville Parker  
Prof. Of Civil Engineering and Director of the CUNY Inst. for Transportation Systems (ITS)

Dr. Jonathan Peters  
Associate Professor of Finance, College of Staten Island

Dr. Laxmi Ramasubramanian  
Assoc. Professor, Dept. of Urban Affairs and Planning, Hunter College

Michael Sorkin  
Director, Urban Design Program, School of Architecture, Urban Design and Landscape Architecture

Dr. Ross Weiner  
Associate Professor, Economics Department, City College

Henry Wollman  
Director, Steven L. Newman Real Estate Institute, Baruch College

Also on the Board:

Dr. James Cohen  
Associate Professor, Economics and Public Management, John Jay College

Dr. John Seley  
Professor, Environmental Psychology, The Graduate Center
The following chart summarizes the combined CIUS fiscal year 2003–2004 and fiscal year 2004-2005.

The CUNY Institute for Urban Systems allocated 58 percent to research projects. Twelve percent was used to support student interns for temporary services. The Research Fellows was allocated 5% and the development of educational programs were allocated 7% of the total revenue.
Financial Report

- Administration: $48400 (13%)
- Otps: $18200 (5%)
- Program Development: $26250 (7%)
- Temporary Service: $44550 (12%)
- Research Fellows: $16750 (5%)
- Research Projects: $210850 (58%)
- Total: $581000 (100%)
New York Harbor Estuary Watershed Study  
**Sponsor: New York City Department of Environmental Protection**

CIUS is conducting a feasibility study of developing a watershed strategy for the Hudson-Raritan estuary. One of the goals of this study is to determine whether a watershed approach to environmental protection investments could provide greater environmental improvement at less cost and with increased economic and social benefits than within the current categorical framework of the Clean Water Act.

Bus Rapid Transit  
**Sponsor: J. M. Kaplan Fund**  

With the support of the JM Kaplan Fund, CIUS has developed a comprehensive strategy for introducing Bus Rapid Transit (BRT) into New York. This report includes details of the many elements that make up a Bus Rapid Transit (BRT) system and recommendations for immediately implementing two BRT corridors along First and Second Avenue in Manhattan and along Northern Boulevard in Queens. Also discussed are important approaches to interagency cooperation, necessary with a new initiative such as BRT. CIUS has now turned its attention to some of the difficult unresolved barriers to the implementation of BRT on New York City’s streets, particularly the regulation and enforcement of bus lanes, and structures for interagency management of a bus priority network.
Evaluation of NY’s Full Freight Access Program and Harlem River Intermodal Rail Yard Project
**Sponsored By CIUS**
CIUS commissioned Senior Fellow Benjamin Miller to provide an analysis of New York State’s Full Freight Access Program. The program began planning in 1975, was completed in 1997 and involved expenditures of over $300 million in public funds to upgrade rail routes into NYC from the north and the west to provide the clearance needed for modern cars and to reduce conflicts with passenger trains. Miller’s paper concluded that the program overall failed to reach its original objectives but that it has nonetheless helped to stem the decline of rail-hauled goods east of the Hudson and has provided a platform of usable infrastructure that can be built on in the years ahead.

Evaluation and Testing of Regional Models
**Sponsored by the New York Metropolitan Transportation Council**
In partnership with the University Transportation Research Center and Rutgers University, CIUS is assisting the New York Metropolitan Transportation Council to provide the first independent tests of its new “Best Practices Model” for regional travel demand forecasting. The project will also identify needed improvements in the model, and help the agency prioritize its future investments in transportation and land use models and data system improvements.

Analysis of Capital Cost Elements for Light Rail Transit
**Sponsored by the Federal Transit Administration**
Rising light rail capital costs are a significant concern for the Federal Transit Administration and for its partner agencies at the local level. This report analyzes the specific factors driving capital costs of light rail projects. It concludes that costs have not increased in real terms over the past decade, but that individual projects are susceptible to sharply higher than anticipated costs, and that overall inflationary pressures are beginning to be seen although they do not yet show up in available data. The study recommended management strategies that are being used around the country to contain the costs of projects, and also recommended that costs be analyzed on a lifecycle basis.
Center for Regional Economic Analysis

CIUS continued to prepare the groundwork for a launch of its new initiative, the Center for Regional Economic Analysis (CREA). CREA will draw upon the diverse expertise of CUNY faculty and CIUS Senior Fellows to form a center of excellence in regional modeling to serve the region’s policymakers and public agencies. Over time, it will seek to develop a battery of models that examine the impacts of public infrastructure investment from many perspectives — the strength of individual sectors and the region’s economy as a whole; and land use, transportation and environmental impacts within the region. CREA will provide an important analytic component to the research themes of CIUS. CIUS is working to develop projects with the New York Metropolitan Transportation Council and the Port Authority of New York and New Jersey that will help launch the new initiative.

High Performance Infrastructure Guidelines

The nonprofit Design Trust for Public Space and the New York City Department of Design and Construction culminated an unusual collaboration by publishing the nation’s first sustainable design guidelines for infrastructure in the public right-of-way. The guidelines address many components of public right of ways, including streets and sidewalks, storm water management infrastructure, utilities and landscaping. The Guidelines bring these issues together and that helps diverse stakeholders make coordinated infrastructure improvements according to a long term shared vision. The project was led by CIUS Senior Fellow Hillary Brown, and assisted by two student interns funded by the CUNY Institute for Urban Systems.
CUNY Building Performance Lab
CIUS has helped lead efforts to pull together resources from across the CUNY system to help CUNY become a leading provider of education and training within the Green Buildings industry. A daylong conference entitled "Fostering a Sustainable Construction Industry in the NYC Region" organized by CIUS and Continuing Education & Public Programs, The Graduate Center, initiated the effort. Soon after, the CUNY Sustainable Building Initiative (CUNY-SBI) was launched, to begin the process of identifying existing CUNY resource people; surveying existing courses, trainings and programs; cultivating relationships with industry; developing structures to enable ongoing collaboration between CUNY and industry; surveying business and industry's education and training needs in this field; identifying credit and non-credit educational programs, training workshops, and professional development; and forming new programs, workshops and other development vehicles.
Transportation, Border Control and Homeland Security
Stephen E. Flynn, Former Coast Guard commander and director of the Council on Foreign Relations’ task force on homeland security, spoke about what can be done in ports in the face of a war and an environment of terrorism. He explained why current approaches have difficulty balancing the imperatives of security and commerce, and suggested alternative strategies. (February 6th, 2004)

Time Use and Travel Behavior: Modeling the Connection
Ram Pendayala, Associate Professor of Civil Engineering at the Univ. of South Florida, explained how time use can be better incorporated into urban travel demand models. More realistic approaches to how individuals schedule their daily activities can enable these models to provide better insights into how alternative policies and investment strategies will affect travel patterns and traffic congestion. (April 2nd, 2004)

The Automobile in the City: New Views of an Old Problem
David Gurin, city planner and former Metropolitan Toronto Planning Commissioner, discussed the essence of the conflict between car and city and what measures can be taken to achieve transportation that is democratic, aesthetic and safe. (May 14th, 2004)

Green Building Conference
CIUS and Continuing Education & Public Programs, The Graduate Center, CUNY held an all-day conference on sustainable construction in the New York Metropolitan Region. The conference was co-sponsored by the CUNY Urban Consortium, the City College Architectural Center (CCAC), the Steven L. Newman Real Estate Institute, the New York Building Congress, and the NYC Department of Environmental Protection. The conference led directly to the launching the CUNY Sustainable Construction Initiative. (May 14, 2004)
The No. 7-Line Extension: Which Route? Can Penn Station Be Ignored?
A Stephen L. Newman Real Estate Institute/CIUS breakfast seminar. Speakers included Sandy Hornick, NYC Department of City Planning; Vern Bergelin, Parsons Brinckerhoff; Tom Schulze, New Jersey Transit Capital Planning; and Jeffrey M. Zupan, Regional Plan Association. (May 21, 2004)

Cars and Communities
Ben Hamilton-Baillie, an architect and specialist in urban design and traffic engineering, described some remarkable new approaches to safety and traffic management emerging across Europe. These approaches reduce reliance on signage and hard engineering solutions, and instead emphasize driver-pedestrian communication (Sept. 17th, 2004).

Integrating Aviation Security and Technology in the Post-9/11 Era
The second annual CUNY Aviation Institute Seminar. Speakers included James M. Begley and Alan Reiss, Port Authority; William Hooper, Gensler Architects; Joseph S. Paresi, L-3 Communications; and Mark Torbeck, U.S. Transportation Security Administration. (Nov. 3, 2004)

Express Bus Services: A Case Study of the San Francisco Bay Area
Elizabeth Deakin, a Professor of City and Regional Planning at the Univ. of California at Berkeley, discussed recent efforts to design and implement a new system of regional express buses in the Bay Area. One of the issues discussed was the rising number of urban areas where express bus and rail services are key components of the transportation system (April 1, 2005).
The High Cost of Free Parking

Donald Shoup, a professor of Urban Planning at UCLA, and author of *The High Cost of Free Parking*, discussed how free parking distorts transportation choices, warps urban form, and degrades the environment. He presented case studies of how downtown areas have used market-priced parking as a key element in revitalization and economic development strategies (Dec. 16, 2005).

The Management of Road Safety: Risk Compensation Vs. Obedient Automaton Theory of Human Behaviour

John Adams, professor of geography at UCL, was a member of the original board of directors of Friends of the Earth in the early 1970s and is the author of a book titled Risk. His presentation centered on the following concept, whenever there is a perceptible change in the safety environment, but no change in propensity to take risk, there is a behavioral response. Potential safety benefits get consumed as a performance benefit. The lecture will discuss the widespread denial of this phenomenon and its potential, if acknowledged, to create more civilized urban environments. (June 24, 2005)

Transit Oriented Development: Transportation Solution, Real Estate Challenge

Robert T. Dunphy, Senior Resident Fellow at the Urban Land Institute, highlighted how urban projects can yield the greatest leverage to expand transit ridership and support transit services. One difficulty discussed is that established urban areas that are transit friendly are development unfriendly, while in contrast the suburbs are developer friendly, but generally transit unfriendly. It was the challenges of remaking the suburbs to support desired transit services and more urban growth were also presented that were at the center of Dunphy's presentation. (September 9, 2005)
Course on Airport Access
In the spring of 2004, graduate students in the Advanced Transportation Planning class in the graduate Transportation Engineering program at City College examined alternate visions of a transit connection from downtown Manhattan to JFK airport. The students divided into three groups with different design mandates: one emphasizing integration with the NYC subway system; another favoring compatibility with the Long Island Railroad; and a third extending the current JFK to Jamaica AirTrain system. CIUS Director Dr. Robert Paaswell and Dr. Todd Goldman led the students through an extensive planning process that examined multiple alternatives. The students were able to present their designs at the LMDC and to a panel of transportation experts at the end of the semester, emphasizing problems and opportunities that have been overlooked in the public debates over this project.

Four-year Baccalaureate Degree program in “Community Development Technology”
CIUS and the CUNY Baccalaureate Program have joined together to offer B.A. and B.S. degrees in Community Development and Technology. The aim of this degree program is to give future leaders a solid background in urban theory, programs, and policies, as well as in the new and emerging technologies that will support the growth and future of our cities. Students may select relevant courses throughout CUNY, work individually with faculty members, and participate in internships that focus on applying technology to community development. The program will have its first graduate at City Tech this May. Additionally CIUS has teamed up with NPWner NY a technology consultancy which offers a 12 week technology training program (TSC) for high school or GED graduates. Many of those graduating from TSC want to begin or return to college, (and some to enter the CIUS Community Development and Technology program). To help those TSC students who are not yet ready for college CIUS has made contact with Brooklyn Economic Opportunity Corporation's (BEOC) pre-college academy. The Graduates of TSC can enter the BEOC program and successful graduates are primed to begin college careers, and with skills and a direction--Community Development and Technology.
Tony Hiss
Tony Hiss along with Christopher Meier, published in 2004, H2O: Highlands to Ocean, a close look at the landscapes and waterscapes of the region. Tony is currently working on a new book on the experience of travel. He is also working on developing an easy-to-understand metric system that will provide quality rating information and indicators that will both help travelers choose between trip options, and will point travel providers toward popular new services to develop and manage in the generation ahead.

Benjamin Miller
Benjamin Miller is the author of Fat of the Land: Garbage in New York, the Last Two Hundred Years and of numerous articles related to infrastructural planning. His work as an independent consultant has included conducting environmental policy analyses for a variety of public- and non-profit agencies. Ben’s latest project is a book on the history and politics of New York’s proposed cross-harbor rail freight tunnel. For CIUS, Ben has written a paper that examines New York's Full Freight Access Program for rail freight.

Harry Schwartz
Harry Schwartz, AICP, played a central role in the development of 2020 Vision: Smart Growth For The New York Metropolitan Region At The Start Of The 21st Century. Mr. Schwartz brought to the project a wealth of knowledge regarding transportation, urban and community development, open space preservation, regional planning, as well as previous best practices and model legislation, incentives and budget-priority setting models.
Al Appleton

Al Appleton is working on several projects that address the challenge of restructuring regional policies and institutions in the areas of water, energy, transportation and environmental management to modernize the New York City region’s infrastructure systems to meet the challenges of sustainability and to fund and manage the infrastructure and environmental services New York City needs to remain competitive in the global economy and enhance its quality of life.

Michael Bobker

Michael Bobker is a Energy Engineer and is coordinating the CUNY Sustainable Building Initiative and is also working to help CUNY establish the "Building Performance Lab" as a permanent focal center for the study and practice of enhanced building performance.

Hillary Brown

Hillary Brown, AIA, LEED A.P., Principal, New Civic Works has finished “High Performance Infrastructure Guidelines: best practices for the public right of way” a study about how municipalities might broaden the definition of sustainable design and construction – from buildings to other components of urban infrastructure.

William B. Shore

William B. Shore is a researcher in the area of public administration with extensive experience in government and non-profit organizations. Bill is also currently serving as acting director of the Nature Network, a consortium of environmental organizations in the New York metropolitan region.
Issue 1: General Introduction to CIUS
Issue 2: Review of activities of CIUS Board members
Issue 3: CIUS responds to the 9/11 tragedy
Issue 4: Comprehensive summary of post-9/11 efforts in NYC
Issue 5: Updates on post-9/11 efforts in NYC
Issue 6: CIUS Educational initiatives
Issue 7: The new Penn Station; New York’s water supply
Issue 8: Introducing CIUS Senior Fellows and Board Members
Issue 9: Smart growth: Education and research
Issue 10: Smart growth: Adaptive reuse
Issue 11: Smart growth: Urban development
Issue 12: Transportation
Issue 13: Water
Issue 14: Energy & Sustainable Infrastructure

To subscribe, please send your email address to cius@ccny.cuny.edu