

We open this special edition with a message from CIUS board member, Dr. Richard Hanley, PhD, founding editor of the *Journal of Urban Technology* and professor of English, New York City College of Technology:

Greetings CIUS Board Members and friends!!! Issues of "Smart Growth" and "Sustainability" are tied to efforts to direct new development to existing areas of urban density and already-existing infrastructure. However, no such efforts will be successful without an appreciation of the role played by urban systems in the urban environment. These systems must be reconfigured and in some cases reinvented if they are going to contribute to the creation of "green" cities. Key components of that reconfiguration are new methods of construction and "deconstruction" and the use of "green" materials.

This is the first of three CIUS newsletters that will be devoted to the nexus of sustainability, infrastructure, and new technologies. While this edition focuses on education and research efforts, the next will look at programs attempting to make existing urban systems more sustainable, and the third will investigate how urban development can be accomplished in a sustainable manner. As always we value your ideas and appreciate your comments!!!

Richard Handley, PhD.

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The Sustainability Education Center

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CIUS newest senior fellow

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Mission impossible

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CIUS Board Member's projects

Contact Us!!!

We want to hear from you!!



**"Sustainability" Integrated into NYC Public Education System at Higher and Lower Levels.**

We are happy to announce that such efforts are under way. New York's Sustainability Education Center has been contracted to create several special education programs for CUNY as well as standard curriculum for the New York Public Education System, particularly at the high school level.



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We are happy to introduce our newest CIUS fellow, Hillary Brown, AIA. Ms. Brown is a principal with the firm of New Civic Works, consulting with governments and institutions to help mainstream green building practices. Previously, Hillary was the founding director of the City of New York's Office of Sustainable Design where she was an Assistant Commissioner in the Department of Design and Construction (DDC).



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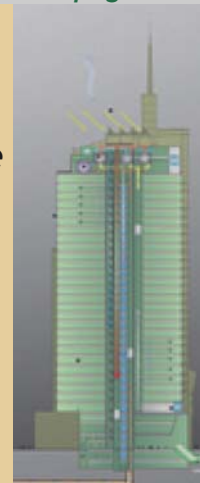
**"Liberate the Streets": A Plan to Reduce NYC Traffic Congestion via "Value Pricing."**

No effort to foster sustainability is complete without addressing the tremendous traffic problems faced by any city today. CIUS and one of its Senior Fellows, Al Appleton, are currently researching this issue via a generous grant from the Kaplan Foundation.

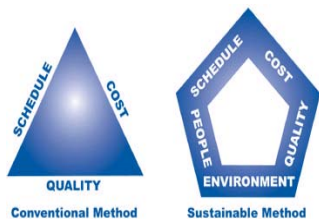


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Several CIUS Board members are involved in studies that will further our knowledge on how to achieve "sustainability" in an integrated manner in our dense urban environment.



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CIUS supports comprehensive sustainability education efforts that include both higher and lower levels of the New York City public education system. We are happy to announce that such efforts are under way. New York's Sustainability Education Center has been contracted to create special education programs for CUNY as well as standard curriculum for the New York Public Education System, particularly at the high school level. These programs are described below:

#### The Sustainability Education Center: Continuing Education & Public Programs at The CUNY Graduate Center.

**Spring Series** (Each Program Day within the series will take place on Saturday from 8:30 am to 3:00 pm in Manhattan at The CUNY Graduate Center, 365 Fifth Avenue @34<sup>th</sup> St.)

- March 1 Interdisciplinary Problem Solving: Managing and Maintaining the Commons (Jonathan Rowe, Speaker)
- March 29 Interconnectedness: Exploring System Dynamics (Patterns, Changes and Movements) (John Heinbokel and Jeff Potash from The Center for System Dynamics at The Vermont Commons School)
- April 12 Places and Regions: Investigating and Documenting the Communities in Which We Live (Speaker TBA)
- May 3 Analysis, Inquiry and Design: Inventing the Future through Sustainable Design (Speaker TBA)
- May 17 Civics, Citizenship, and Government: Exploring and Understanding Multiple Perspectives (Speaker TBA)

**Who should attend:** Teams of secondary school teachers and administrators, activists, practitioners, university faculty, community organizers, business people and other interested people

**Participants Are Encouraged to Attend the Entire Program Series.**

**Advanced Registration strongly encouraged. For additional program information contact:**

Jaimie Cloud or Tina Carr at The Sustainability Education Center at 212-645-9930 ext. \*823 or ext. \*827 Or David Levine, Continuing Education & Public Programs, The Graduate Center, CUNY at 212-817-7292

**For registration information and fees, please contact:** 212-817-8215 Or [continuinged@gc.cuny.edu](mailto:continuinged@gc.cuny.edu)

#### Programs Created for New York City Public High School System

**BEE 21/Business and Entrepreneurship Education for the 21st Century** is a full-year introduction to entrepreneurship and business. This full-year standards-based course has been developed with the pedagogical wisdom of the Center for Expertise in Teaching and Learning, launched in New York City in the fall of 2002.

**IF/Inventing the Future: Leadership and Participating in the 21st Century** This course is designed to replace, and fulfill the requirement of the Participation in Government course, a high school graduation requirement of the state of NY. The students will have the opportunity to understand social and economic change in the context of ecological systems upon which their lives depend. All 9th grade social studies courses in The Alternative High Schools will teach "the first 24 hours" of Inventing the Future in the 9th grade. Subsequently, the Alternative and Queens High School Superintendency plan to complete the 9th grade with this course, while in other schools, it will be taught in the 12th grade as a capstone course. In both cases, a commitment has been made to having a pilot course in September 2003 in at least fifteen schools with a minimum of two social studies teachers in each school.



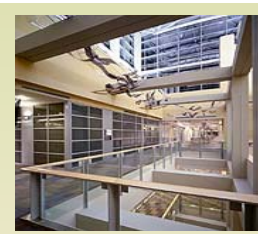
**JAIMIE P. CLOUD** is the founder and president of the Sustainability Education Center in New York City. Ms. Cloud teaches extensively, writes and facilitates the collaborative development of numerous instructional units and programs which are designed to teach topics across the disciplines through the lens of sustainability. Examples include, Ecological Economics; Civics and Sustainable Communities; Model UN-Commission on Sustainable Development; Indicators of Sustainability; Changing Consumption Patterns, Travel and Tourism and Sustainable Food Systems. Ms. Cloud serves as Chair of the Green Map System, Vice Chair of the Center for the Study of Expertise in Teaching and Learning, and is Co-Chair of the Board of the Global Information Network (the US distributor of news from the Inter Press Service (IPS)). She also serves as a member of the Fleet Youth Entrepreneur Day Planning Committee and is a Judge for the Quality of Life Competition for young people sponsored by Working in Support of Education (WISE), NY.

#### The Sustainability Education Center – BACKGROUND

The Sustainability Education Center (SEC) was created in 1995 in response to the growing need for educational materials, professional development and community education focused on sustainability. The goal of The Sustainability Education Center is to increase knowledge and understanding of the concept and process of sustainability among pre-collegiate teachers (K-12), their students, administrators, teacher educators and community members. Sustainability is an *evolving paradigm* for planning and decision-making. It is a *dynamic condition*, which requires a basic understanding of the interconnections and interdependency among and between ecological, economic and social systems. The professional development programs and educational materials developed by SEC help these groups to understand these connections, and provide them with the skills to find integrated solutions to the challenges of the 21st Century. The Center pilots its programs and materials in NYC public and private schools before extending them nationally and internationally.







CIUS is proud to announce the addition of our latest CIUS Fellow:

### Hillary Brown, AIA, New Civic Works

Hillary Brown, AIA, is a principal with the firm of New Civic Works, consulting with governments and institutions to help mainstream green building practices. Previously, Hillary was the founding director of the City of New York's Office of Sustainable Design where she was an Assistant Commissioner in the Department of Design. Her office facilitated over a dozen green public works projects, developing sustainable design policy, and performing education and outreach. Her office produced NYC's High Performance Building Guidelines, recognized for its comprehensive approach to green building practices. Prior to this appointment, she served for seven years as the agency's director of design.



Ms. Brown has been on the national Board of Directors for the U.S. Green Building Council, and is now Vice Chair of the Board of the New York Regional Chapter. She currently teaches courses in sustainable design at Columbia University, School of Architecture, Planning and Preservation, and Princeton University School of Architecture. She is also Affiliated Faculty with Bard College, Center for Environmental Policy.

In 1999, Ms. Brown was a Loeb Fellow at Harvard University Graduate School of Design, where she organized a major public symposium (co-sponsored by Harvard's Kennedy School of Government and the School of Public Health) called Building Green: smart places for the public realm. In 2000, she received the NY Chapter of the American Institute of Architect's Public Architect Award for "creating an institutional platform for policy development that serves as a national model to encourage environmental stewardship in quality design." In spring 2001, she was a Bosch Public Policy Fellow at the American Academy in Berlin examining green building practices in Germany.

### Work as CIUS Fellow

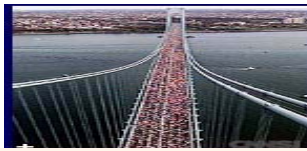
As the newest CIUS fellow, Ms. Brown has embarked on a special project to study how municipalities might broaden the definition of sustainable design and construction - from buildings to other components of urban infrastructure. This project has been initiated by the Design Trust for Public Space, in creative partnership with NYC's Department of Design and Construction and CIUS. Environmental performance objectives will be introduced into street/ sidewalk/ and infrastructure design of new public right-of-way for a development in Brooklyn. The goal of this research and pilot project will be to ensure that to the greatest extent possible, infrastructure investment incorporates sustainable design criteria in addition to the traditional goals of longevity, aesthetics, functionality and economy. Practices being emphasized will likely include reducing storm water run-off, reducing the 'embodied energy' of materials, increasing recycled content, eliminating use of toxic materials in infrastructure components, and reducing the 'urban heat island' effect. It is hoped that this project can begin to demonstrate ways that improved infrastructure investment can improve public health, reduce detrimental impacts of air, soil and water pollution, serve multiple functions where possible, and instruct citizens about functional and aesthetic connections between the city and the natural resources that sustain it.

**GREEN, A SURVEY ON ECO-DESIGN EDUCATION IN NEW YORK** is an exhibit of student eco-projects from New York's top design schools, spanning the design disciplines of architecture, planning, product/industrial design, fashion, graphics and communications design. From a coat made from recycled plastics to a room divider designed from film canisters, this exhibition is a witness to the shaping of the future of design and the environment.



This exhibit, sponsored by the Municipal Art Society, will be on view March 13 through April 29 at:  
 Urban Center Galleries  
 457 Madison Avenue, (between 50th and 51st Streets)  
 New York, NY 10022  
 212-935-3960





**Al Appleton, Infrastructure Senior Fellow at the Regional Plan Association (RPA):** As a CIUS Senior Fellow, Al Appleton is currently conducting research that will yield a concept paper on the challenges and need for restructuring that managerial institutions in the fields of energy, water, and transportation will face during the next generation of infrastructure investment if New York is to maintain its competitive edge in the global economy.



### “Liberate the Streets:” CIUS Has a Plan to Reduce NYC Traffic Congestion via “Value Pricing”

In conjunction with CIUS fellow Al Appleton, Infrastructure Senior Fellow at the Regional Plan Association (RPA) in New York City and former NYC commissioner of the New York City Department of Environmental Protection, the CUNY Institute for Urban Systems (CIUS) a CUNY wide institute based at City College, has received a generous grant from the J. M. Kaplan Fund for a project entitled “Liberate the Streets.” The project is designed to reduce traffic congestion in the Greater Metropolitan Area by studying ways of improving mass transit, and through “value pricing.”



Value pricing is a method of road pricing that would impose tolls based on the economic value of road access to the driver, and to society, according to CUNY Distinguished Professor of Civil Engineering Robert E. Paaswell, Director of CIUS. “Better mass transit alternatives to car use are the carrot in the effort to prevent a congestion crisis and liberate city streets,” Dr. Paaswell said. “But there needs to be the proverbial stick as well to offset the many advantages society confers car users, such as free roads,” he added. “The stick is value pricing.”

Value pricing should not be confused with traditional road and bridge tolls, Dr. Paaswell said. “Unlike tolls, which are usually the same at all times, value pricing operates on the principal that road space during rush hours is worth more than road space during non-rush hours, so tolls should be higher during rush hours,” he added.

The Port Authority, the New Jersey Turnpike Authority and the New York Thruway Authority already use premium rush hour tolls to induce car users to switch to mass transit, or alter their hours of road use from peak to non-peak times. Dr. Paaswell wants to apply the system to New York City and the Greater Metropolitan Area. “Though there are still some problems with implementation,” he said, “E-Z Pass systems are rapidly addressing them. The main obstacle is tradition.” There is a century old American tradition that roads should be free to any driver who wants to use them, at any time.

“In fact they aren’t free,” Dr. Paaswell said. “They are paid for through a variety of direct and indirect funding methods but the driver is not required to calculate whether a particular trip is worth it to him, or not. In terms of road use, the marginal trip cost is completely free.”

Value pricing would change that, Dr. Paaswell noted. “It represents the most profound change in generations in America’s car culture, a culture that, it has often been observed, is tied woof and warp into basic concepts of American identity,” he added. According to Dr. Paaswell, value pricing would offer enormous net benefits to virtually all drivers. The reason is that relatively small changes in volumes of road use translate into large changes in traffic conditions. In other words, free roads are essentially a false economy. “If America’s key traffic systems were being managed with value pricing tools, whose funds were being used to support the steady articulation of a series of travel alternatives, the country would travel farther, faster, more comfortably and more productively for considerably less cost,” he added. “The challenge is to get the auto-driving public to understand that, as they have come to understand it in Hong Kong, Singapore, Oslo and London.”

After a decade of debate, value pricing is now a widely accepted concept in good government and civic community transportation circles. Older ideas about highways being free public goods are on the defensive and in retreat. But among the larger public, value pricing is still a fragile and poorly understood concept. CIUS proposes to encourage and organize several critical steps towards value pricing. One is to provide a voice in the East River toll debate for value pricing as beneficial to both the auto user and the City, and to introduce value pricing to East River bridges. The proceeds would be used to help finance long term investment in mass transit alternatives to car use. CIUS also plans to educate a public that is still largely resistant to value pricing, viewing it, in many cases, as “a fancy name for raising money through car tolls.” We plan to present value pricing as an indispensable tool in resolving New York City’s endemic car congestion crisis,” Dr. Paaswell said. CIUS will attempt to assemble a broad ideological spectrum of interest groups behind an endorsement of value pricing, and try to alter current climates of opinion about free use of highways. It will also attempt to encourage the political system to take the necessary steps toward solving New York’s congestion crisis.

CIUS was established to give CUNY an inter-disciplinary tool to address problems in the management of urban areas. It is linked to City College’s University Transportation Research Center (UTRC), one of ten federally sanctioned centers for transportation research throughout the United States. Professor Paaswell, the Director of CIUS, is the former head of the Chicago Transit Authority. He is a member of the National Research Council Transportation Research Board and a former member of its Executive Committee. He is also Director of UTRC.



A major cornerstone of "Smart Growth" and "Sustainability" is directing new development to existing areas of density and infrastructure so as to preserve existing virgin green areas. However, living in density is not enough as evidenced by any number of polluted cities jammed with traffic that make terribly inefficient use of resources. Urban centers and urban systems must be reconfigured and in some cases reinvented to promote urban 'green' living.

No such efforts will be successful without a comprehensive understanding of the many tangencies of urban systems and urban life in today's environment. The foundation of such efforts must begin with education and research. **We are proud of our many CIUS Board members who are involved in studies that will further our knowledge on how to achieve "sustainability" in an integrated manner in our dense urban environment . Below are three current efforts worth noting.**

**Ethan Cohen is the Director of the City College Architectural Center and an Assistant Professor in the School of Architecture, Urban Design and Landscape Architecture at The City College of New York/CUNY.** Before joining the Architectural Center in 2000, Ethan worked in both private architectural practice and non-profit community development with a focus on low-income and

special needs housing. His private-sector experience includes project management positions with the firms of Ehrenkrantz and Eckstut Architects, Richard Gluckman Architects, and Wormser + Associates Architects in New York City, in addition to freelance commercial and residential commissions.

The CCAC is providing ongoing support to the Cherry Tree Association with its goal of acquiring a building from the City and creating "Casa del Sol Future City," an indigenous-community cultural center to be located at Cypress Avenue and 136th Street in the South Bronx. In 2001, working with the New York Institute of Technology School of Architecture and the firm of Brooklyn Architects Collective, CCAC assisted Cherry Tree in developing proposals for designs and building systems that integrate sustainability principles. Cherry Tree has secured funding from NYSERDA and Clean Air Communities for the first phase of renovations, which will entail securing the building and installing an array of photovoltaic solar panels on the roof, allowing the organization to occupy the ground-floor space as a storefront office. CCAC has been working on a publication documenting the design process and Cherry Tree's vision for the project.

The Cherry Tree Association Inc.'s (CTA) Casa del Sol will demonstrate sustainable urbanism in the context of a reevaluation of our contemporary way of life. Using traditional and new energy conserving strategies, CTA will renovate their existing headquarters, Casa del sol, as an indigenous cultural center, serving the needs of all native cultures and the adjacent community. Preserving an important remnant of once vibrant urban fabric, the renovation will knit together old and new to create a powerful aesthetic for a sustainable future. Casa del Sol's crystal roof of photovoltaic cells, tilted towards the sun and towards New York's city's Major Deegan and Bruckner Expressways will be visible to thousands of commuters daily. It will symbolize the organization's philosophy: respect for people, their communities, the earth and its renewable resources.



**CIUS Board Member Martin Hanlon is an associate professor in the Department of Urban Studies at Queens College of the City University of New York, where he teaches public management, public policy, and urban transportation policy.** Dr.

Hanlon is the director of the M.A. in Social Sciences program and graduate advisor for the M.A. in Urban Affairs program at Queens. He is a former chair of the Urban Studies department and currently serves on the board of the Business and Liberal Arts program.

**Project Title: Highway Demolition and Neighborhood Renewal: Creating Community through Freeway Demolition** The construction of urban freeways under the interstate highway program had a devastating impact on cities throughout the United States. Upwards of one million people were displaced by highway construction, many of whom were low-income residents of minority communities. A new research project directed by CIUS board member, Dr. Martin D. Hanlon of the Urban Studies Department of Queens College, will examine efforts by urban communities to heal the wounds of urban freeway construction. Some community groups have called for the demolition of underutilized freeways, replacing them with needed parkland such as with the Sheridan Expressway in the Bronx. Others have called for replacing blight-inducing elevated freeways with tunneled segments, as with the Gowanus Expressway in Brooklyn or covering depressed freeways with landscaped decks as with the Cross Bronx Expressway. Many other U.S. cities have already pioneered such efforts as with the Embarcadero in San Francisco and Boston's "Big Dig." This research project will provide the first systematic analysis of this important trend in neighborhood revitalization.



**For the past two fall seasons, CIUS has been proud to sponsor The Green Lecture Series, a special project of CIUS board member Michael Sorkin (Director, CCNY/SAUDLA graduate Urban Design program).**

**The Green City Lectures have brought a range of voices to City College to address questions regarding the nature, design, and implementation of sustainable practices in city making.** The series has been informed by the notion of the urban "ecological footprint", the idea that a city must be measured not simply in terms of conventional political or density boundaries but by its impact on the larger global environment that it requires for its food, oxygen, and water supplies and for the take-up of its carbon dioxide and wastes. The lectures themselves have sought to provide a broad perspective on the technical, conceptual, formal, economic, cultural, and political bases for creating an urbanism in harmony with the planet as well to review current best practices in green urban design. The lecture sequence forms a critical bedrock for the research that Graduate Program in Urban Design is conducting into the character of the new urbanity that is necessary to support the breathless urbanization of the world. Participating speakers have included: Jeff Miles ,Tim Beatley, Jean Gardner, Margie Ruddick, David Eisenberg,, Hillary Brown, Michael Rios, and Robert E Paaswell.

## CUNY Institute for Urban Systems ( CIUS )



### THREE CORNERSTONES OF CIUS

**TECHNOLOGY:** The emerging wide scale applications of computers and communications technologies will create more centralized control and more real-time information to be used by infrastructure managers and users.

**INSTITUTIONS:** Institutions developed in the 20th century to build infrastructure now must transform to operate, control and finance the next generation of infrastructure.

**FINANCE:** Modernization and capital expansion demanded by new technologies and institutional change will call for new methods of financing, which itself will impact infrastructure institutions.

The CUNY Institute for Urban Systems (CIUS) has as its primary goal the shaping of these forces and their impacts, while simultaneously providing leadership through policy advisement and practice.

CUNY is a natural home for the Institute. The Institute's Board of Directors is composed of distinguished faculty from a number of CUNY campuses. With strong schools of engineering and architecture, and noted programs in urban planning, law and management, CIUS is linking academic and business to provide solutions to the problems of aging infrastructure.



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### Mission of the CUNY Institute for Urban Systems (CIUS)

#### WHAT WE DO

**I. RESEARCH:** CIUS is conducting research in current investment in infrastructure and how it is affected by new technology, institutional change and innovative financing.

Under the guidance of distinguished faculty, CUNY graduate and undergraduate students conduct research and participate in the work of the Institute, which enriches their academic experience, preparing them for careers in urban planning, transportation management, infrastructure financing and other related fields.

**II. EDUCATION / TRAINING:** In addition to research, an integral CIUS objective is to provide education and training for new infrastructure professionals. This objective will be achieved in two ways:

- a) **academic programs** to prepare students, from certificate programs to four-year degree programs,
- b) **infrastructure training** through professional development programs to aid employers train or retrain both management and labor.

**III. CIUS FELLOWS:** a prominent group of regional professionals work with CIUS faculty and students defining the cutting edge of infrastructure uses.